

76857

JER MADISON

#5

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-(10,11)RS	MADISON	158	1

158 Total Sheets

3-9-07 Letting, Item 005

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

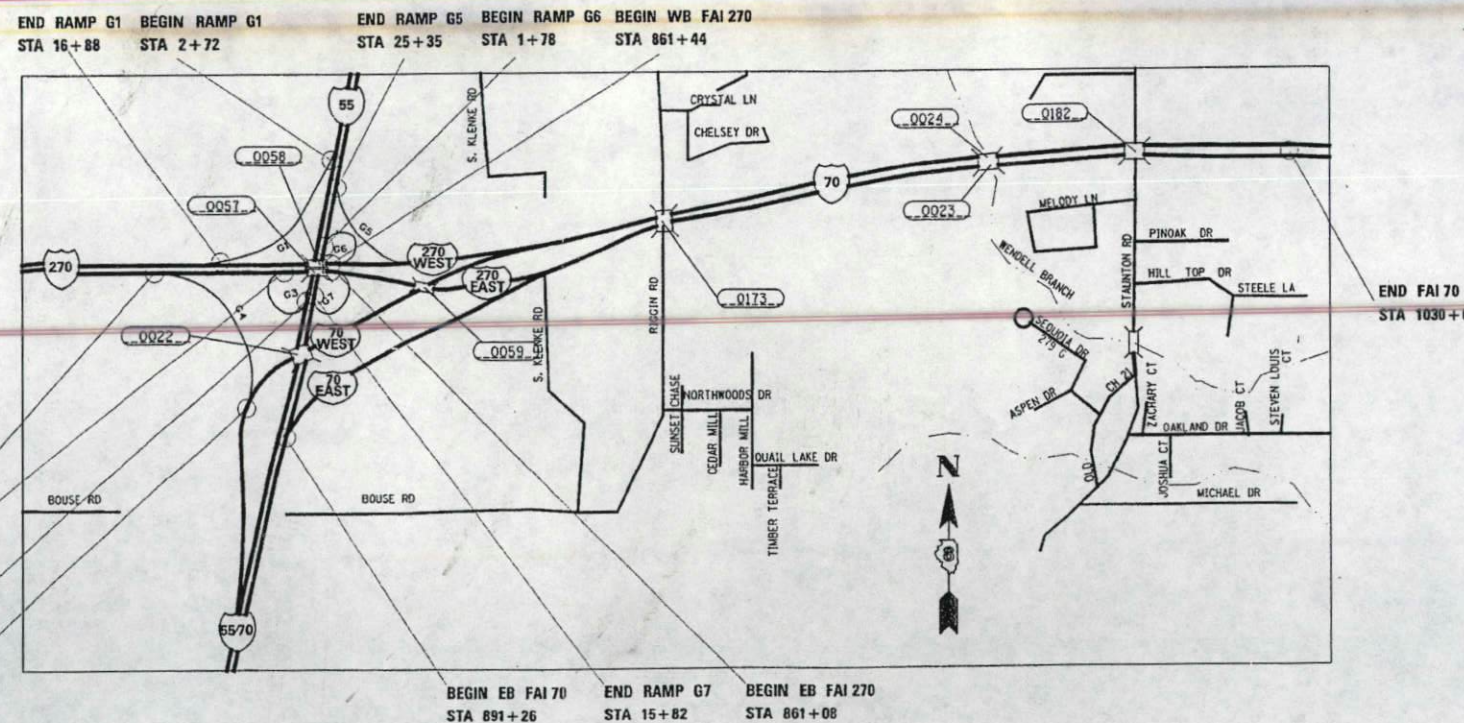
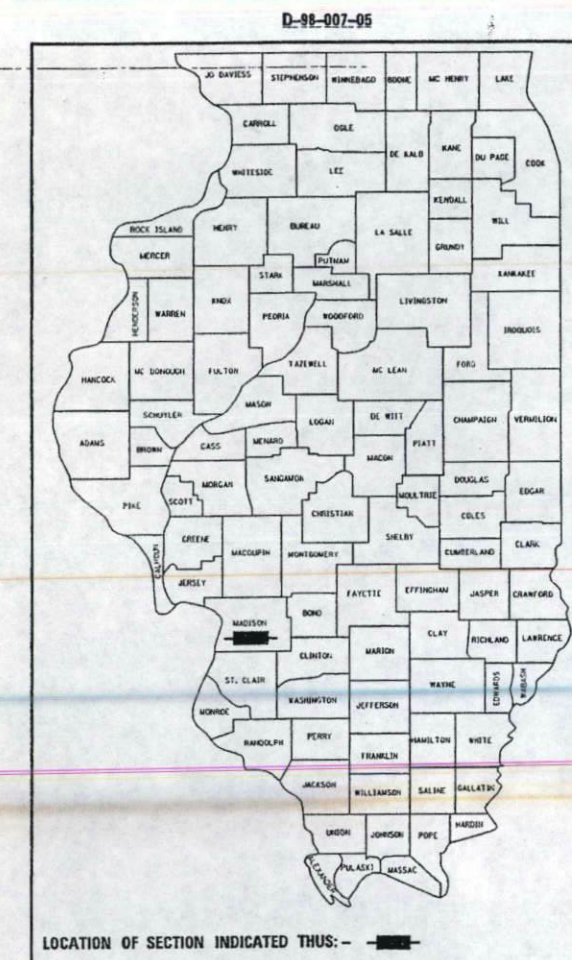
PROPOSED HIGHWAY PLANS

FAI ROUTE 70
SECTION 60-(10,11)RS
PROJECT: ACIM-070-1(181)018
MADISON COUNTY

C-98-025-05

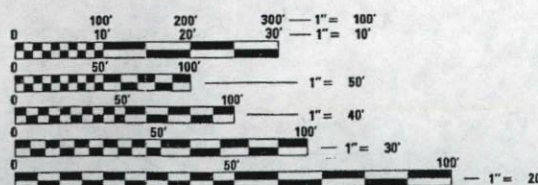
FOR INDEX OF SHEETS, SEE SHEET NO. 2

99%
5-24-2008



MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____

AS BUILT CHANGES WERE MADE
ON THE FOLLOWING SHEETS

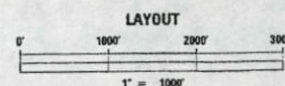


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

2007 ADT - 31700
2027 ADT - 38700
MU% - 27.3, SU% - 4.9

GROSS LENGTH - 12959'
NET LENGTH - 12959'



FUNCTIONAL CLASSIFICATION - INTERSTATE

CONTRACT NO. 76857

060-0059

COUNTY MADISON SECTION 60-(10,11)RS FAI ROUTE 70

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Dec 15, 2006
May C. Lami
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER

February 2, 2007
Eric E. Hauer
ENGINEER OF DESIGN AND ENVIRONMENT

February 2, 2007
Milton R. Sear, P.E.
DIRECTOR, DIVISION OF HIGHWAYS

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

6500-090

PROJECT ENGINEER: PATTI LEBEAU (618)346-3179
SQUAD LEADER: CHERYL KEPLAR (618)346-3186

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Sheet No.
1

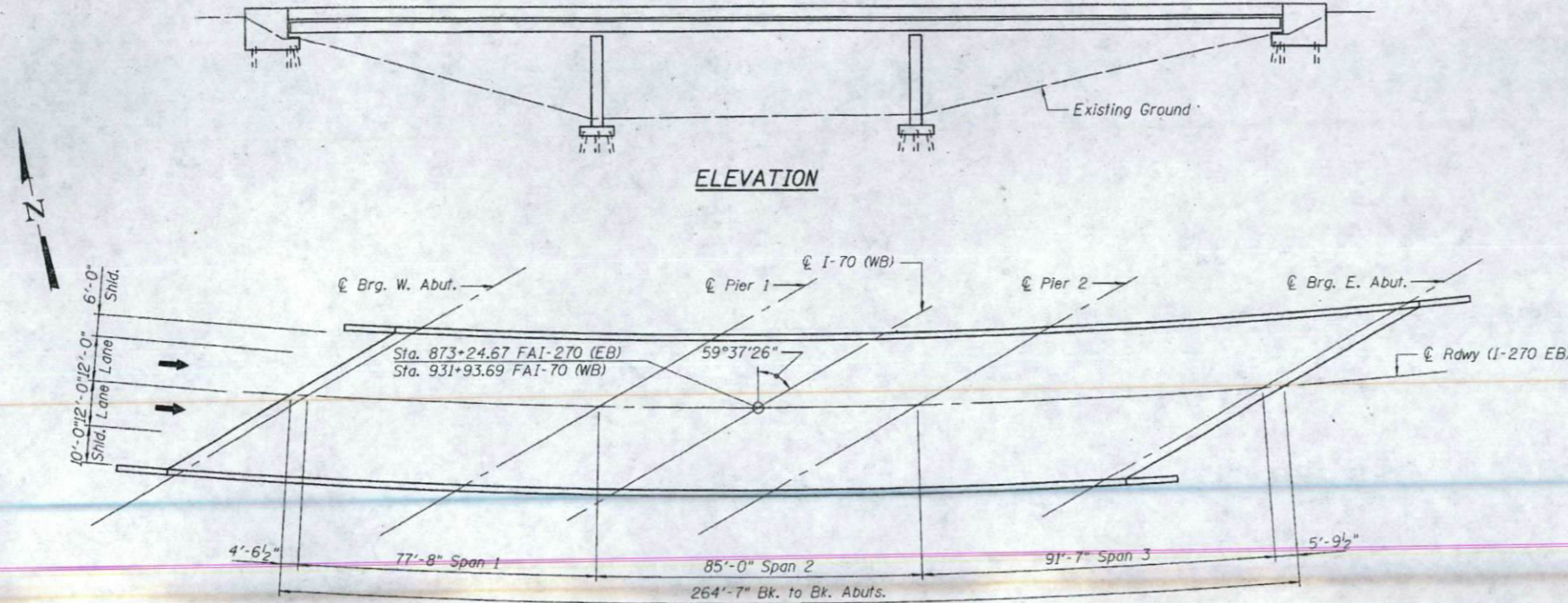
INDEX OF SHEETS

Description

Gen. Plan, Gen. Notes & Total Bill of Mat'l

SHEET 1
OF 1

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-6HB-1	MADISON	156	94
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 76857	

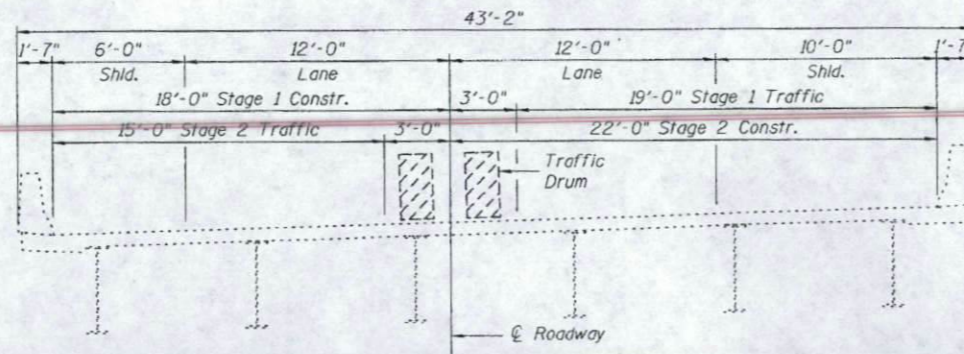


ELEVATION

PLAN

GENERAL NOTES

A Concrete Sealer shall be applied to the surfaces of the deck and parapets, including wings. (See Special Provisions for BRIDGE DECK CONCRETE SEALER.)



CROSS SECTION
(Looking East)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Sealer	Sq Ft	12735	--	12735



LOCATION SKETCH

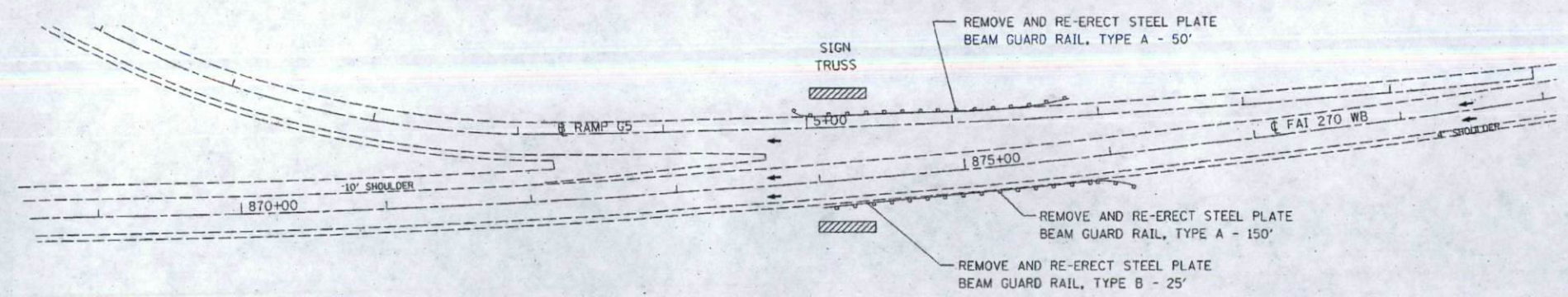
GENERAL PLAN
INTERSTATE 270 (EB) OVER
INTERSTATE 70 (WB)
FAI ROUTE 270 SECTION 60-6HB-1
MADISON COUNTY
STATION 873+24.67
STRUCTURE NO. 060-0059

DESIGNED: CDB	DRAWN: SJS
CHECKED: DCD	CHECKED: CDB/DCD

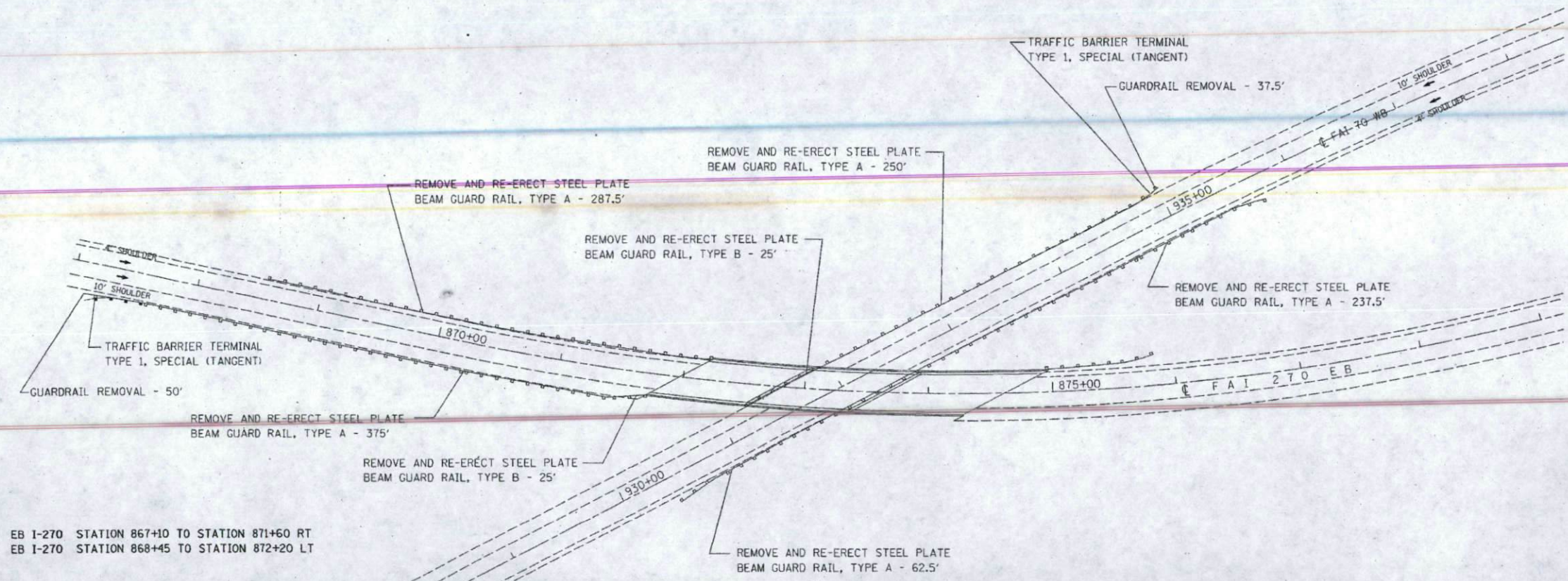
Signed: *David Depp*
Date: 12-1-2008
Lic. Expires: 11-30-2008

FILE: J:\JDD\1142 IL-08WV45 I-70 Bridge Repair\4-SM060-0059 I-270eb\06plan.dgn
USER: DCD
DATE: 11/30/2006 - 10:29:00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-(10,11)RS	MADISON	156	149
STA. _____ TO STA. _____		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		



WB I-270 STATION 873+90 TO STATION 875+75 RT
 WB I-270 STATION 874+00 TO STATION 876+12 LT



EB I-270 STATION 867+10 TO STATION 871+60 RT
 EB I-270 STATION 868+45 TO STATION 872+20 LT

WB I-70 STATION 931+00 TO STATION 931+80 LT
 WB I-70 STATION 931+80 TO STATION 934+86 RT
 WB I-70 STATION 932+60 TO STATION 936+70 RT

- HAZARD
- EXISTING GUARDRAIL
- PROPOSED GUARDRAIL

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
GUARDRAIL DETAILS
 AT SN 060-0059
 EB I-270 OVER WB I-70
 FAI 70
 SECTION 60-(10,11)RS
 MADISON COUNTY

SCALE: VERT. _____
 HORIZ. _____
 DATE _____

DRAWN BY _____
 CHECKED BY _____

PLOT DATE * DATE *
 FILE NAME * FILE *
 PLOT SCALE * SCALE *
 REFERENCE * REF *

95%
11-16-96

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

FAI. 270 & FAI. 70				
F.A. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
*	**	MADISON	228	1

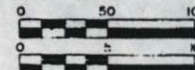
SEE SHEET 2 FOR INDEX OF SHEETS AND STANDARDS

MTA, INCORPORATED
Consulting Engineers
SPRINGFIELD, ILLINOIS

PLANS FOR PROPOSED FEDERAL AID INTERSTATE HIGHWAY

SCALE IN FEET

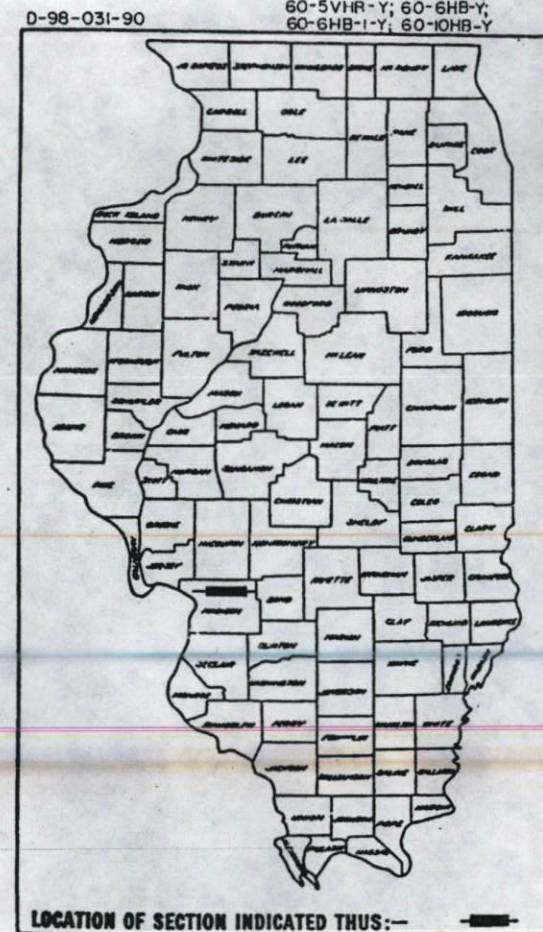
PLAN 1 INCH = 50 FEET
PROFILE HORIZ. 1 INCH = 50 FEET
PROFILE VERT. 1 INCH = 5 FEET



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

MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____
AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS

FA.I. ROUTE 270/70 SECTION 60-4VB-Y-1, 60-5VBR, 60-5HVB-Y, 60-6HB-1-Y, 60-6HB-Y, 60-10HB-Y



LOCATION OF SECTION INDICATED THIS: -

CONSTRUCTION LOCATION NO. 2

SECTION 60-5VBR Includes the replacement of the existing steel WF beam structures carrying FAI. 270 over Abandoned I.C.G.R.R. and Judy's Branch with twin, 4-span P.R.C. I-Beam superstructures on integral abutments and solid wall pile bent piers carrying FAI. 270 over a Proposed Bicycle Path and Judy's Branch at Sta. 687+63.00 and Roadway Sta. 683+90 to Sta. 690+90.

CONSTRUCTION LOCATION NO. 1

SECTION 60-4VB-Y-1 Includes the deck replacement, widening and rehabilitation of two (2) parallel, twin, 5-span continuous steel WF beam structures carrying FAI. 270 over the C.A.H.W.R.R. (2 Lines) and a stream on R.C. piers and pile bent abutments at Sta. 646+74.00 and Roadway Sta. 644+40 to 649+00.

CONSTRUCTION LOCATION NO. 3

SECTION 60-5VHB-Y Includes the deck replacement, widening and rehabilitation of two (2) parallel, twin, 4-span continuous steel WF beam structures carrying FAI. 270 over the N.W. R.R. and County Highway 67 on R.C. piers and pile bent abutments at Sta. 796+28.69 and Roadway Sta. 793+55 to 798+50.

CONSTRUCTION LOCATION NO. 6

SECTION 60-10HB-Y Includes the deck replacement, beam replacement and rehabilitation of one (1) 4-span continuous welded composite girder bridge carrying Westbound FAI. 70 over FAI. 55 on R.C. piers and pile bent abutments at Sta. 913+23.71 and Roadway Sta. 910+10 to Sta. 916+40.

PROJECT IM-270-6(91)49 MADISON COUNTY

C-98-056-94



LOCATION MAP

APPROXIMATE SCALE: 1 INCH = 1 MILE



NET LENGTH OF SECTION 60-4VB-Y-1	460.00 FEET	0.087 MILES
NET LENGTH OF SECTION 60-5VBR	700.00 FEET	0.133 MILES
NET LENGTH OF SECTION 60-5VHB-Y	495.00 FEET	0.094 MILES
NET LENGTH OF SECTION 60-6HB-Y	264.00 FEET	0.050 MILES
NET LENGTH OF SECTION 60-6HB-1-Y	476.00 FEET	0.090 MILES
NET LENGTH OF SECTION 60-10HB-Y	630.00 FEET	0.119 MILES
TOTAL NET LENGTH OF SECTIONS	3,025.00 FEET	0.573 MILES

CONSTRUCTION LOCATION NO. 4

SECTION 60-6HB-Y Includes the deck overlay replacement and rehabilitation of two (2) non-parallel, similar, 4-span continuous steel WF beam structures carrying FAI. 270 over FAI. 55 on R.C. piers and pile bent abutments. Eastbound at Sta. 859+48.98 and Westbound at Sta. 859+81.62 and Roadway Sta. 858+36 to 861+00.

CONSTRUCTION LOCATION NO. 5

SECTION 60-6HB-1-Y Includes the deck replacement, beam replacement and rehabilitation of one (1) 3-span continuous welded composite girder bridge carrying FAI. 270 over FAI. 70 on R.C. piers and pile bent abutments at Sta. 873+24.63 and Roadway Sta. 870+75 to Sta. 875+51.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 11/9 1994
DATE: Dale Klob
DISTRICT ENGINEER

PASSED 11/16 1994
DATE: Dale Klob
ENGINEER OF DESIGN & ENVIRONMENT

APPROVED 11/16 1994
DATE: Dale Klob
DIRECTOR OF HIGHWAYS

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____
DATE _____

DIVISION ADMINISTRATOR _____
DATE _____



Dennis A. Huckaba 1-26-94
Dennis A. Huckaba Illinois P.E. 062-038612 Date
Expires 11-30-94

8-214

CONTRACT NO. 96647

MADISON COUNTY SECTION ** FA. ROUTE 270 & 70

060-0059 600059

SQUAD LEADER: DAVID MARTH PHONE 618-346-3191

PROJECT ENGINEER: WILLIAM ULIVI PHONE 618-346-3180

B.M.: #2 1 Chiseled "□" at top of W. Abut., So. end of Bridge (060-0059).
 Station 871+60 Elevation 569.58

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
E.A.I. 270	60-6HB-1-Y	MADISON	228	174
PROJ. NO. 060-0059				Sheet 1 of 25

EXISTING STRUCTURE

Sta. 873+24.67 of East bound F.A.I.-270 in Madison County was built in 1964 as Structure number 060-0059. The superstructure consists of 3 spans of 7" R.C. deck on 49" Web Steel Girders. The Substructure consists of two, 4 Column Piers and 2 Open Abutments. Superstructure to be removed and structure widened. Traffic to be maintained utilizing Stage Construction. Existing Structure Length = 264'-7" Bk. to bk. of Abutments Existing Structure Width = 36'-0" out to out.

GENERAL NOTES

The Inorganic Zinc-silicate/Acrylic Paint System shall be used for shop and field painting of new structural steel. The color of the acrylic finish coat shall be Munsell No. 7.64/8 Interstate Green. See Special Provisions. Fasteners shall be high strength bolts. Bolts 3/8", open holes 1/2", unless otherwise noted. Calculated weight of Structural Steel = 302,420 Lbs. M270 Grade 50 Field welding of construction accessories will not be permitted to the bottom flange of 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 cross frames over supports. The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50. The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These Components are the tension flanges, webs, and all splice plate materials except fill plates.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60. Slope wall extension shall be reinforced with welded wire fabric, 6" x 6" W4.0 x 4.0, weighing 58 lbs. per 100 sq. ft. 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 actually furnished at the unit price bid for the work.

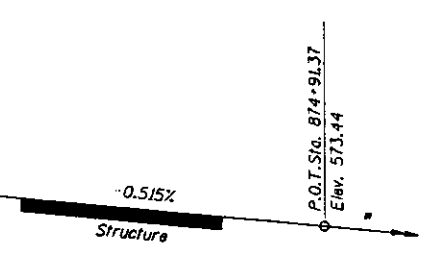
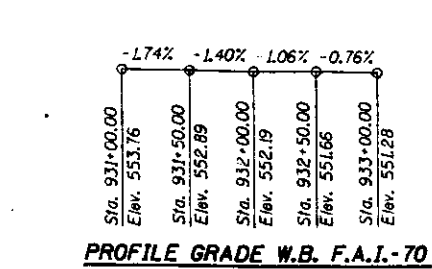
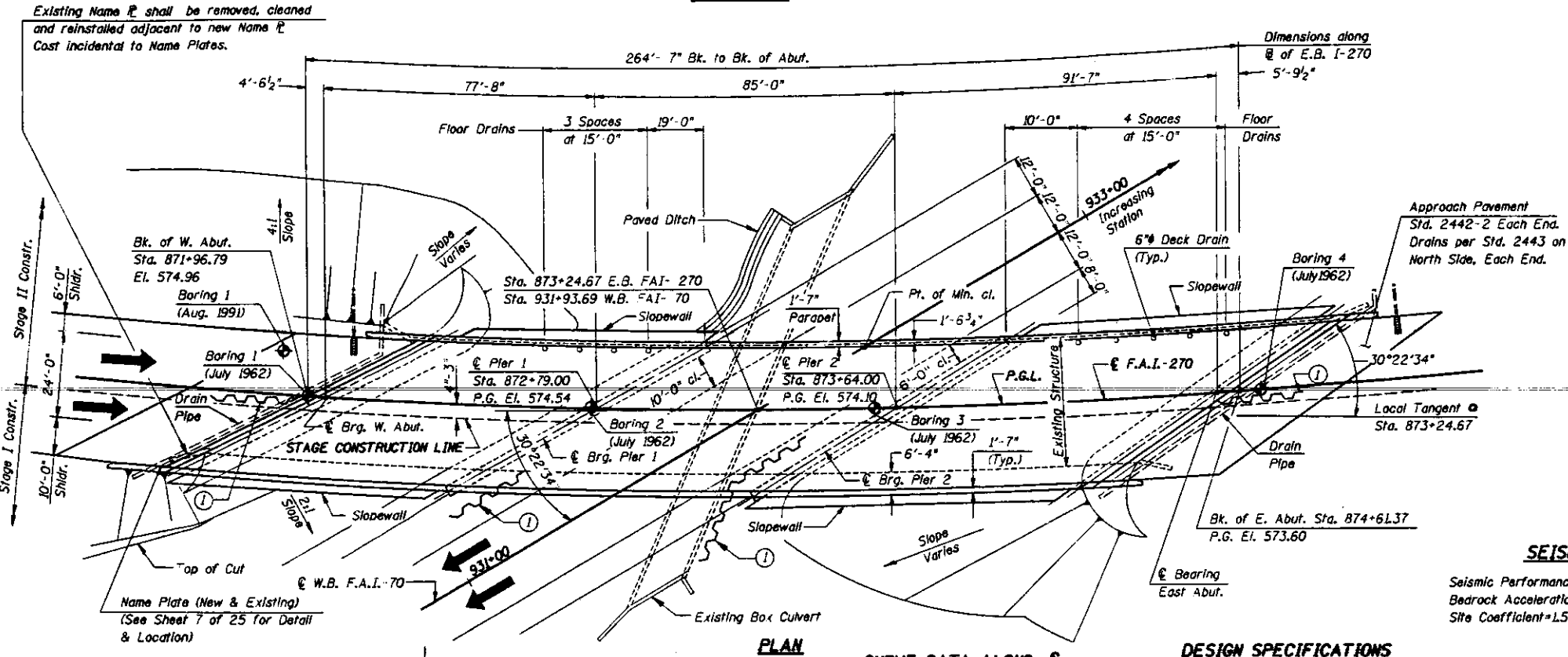
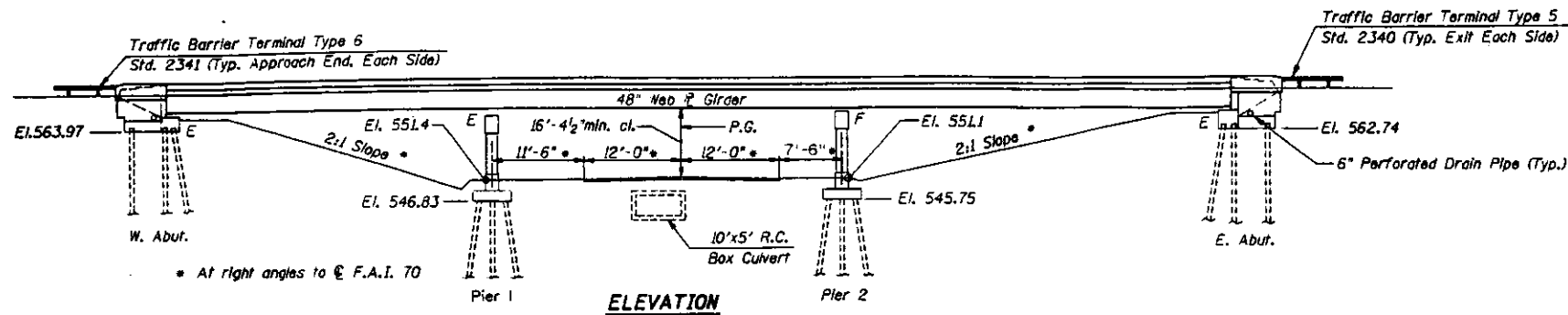
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, shims of the dimensions of the top plate shall be provided and placed as detailed.

The contractor shall drive 2-HP 10 x 42 test piles in a permanent location at Pier 2 and West Abutment as directed by the Engineer before ordering the remainder of piles.

The concrete, for bridge floors finished in accordance with Article 503.17 of the Standard Specifications, shall be placed and compacted parallel to the skew in uniform increments along centerline of the bridge. The finishing machine, when required, shall be set parallel to the skew for striking off and screeding the concrete.

Bridge Seat Sealer shall be applied to the seat area of the Abutments.

Ⓢ Temporary Sheet Piling See Sheet 21 for Details



CURVE DATA ALONG E EASTBOUND F.A.I.-270

PI= 875+61.17
 P.C.= 870+24.98
 P.T.= 880+70.44
 Δ= 31°-21'-50"
 D= 3°-00'-00"
 T= 536.19'
 L= 1045.46'
 R= 1909.86'
 E= 73.84'
 S= 0.059'/FT.

DESIGN SPECIFICATIONS

1992 AASHTO Standard Specifications for Highway Bridges and 1993 Interim Specifications, 1993 Guide Specifications for Horizontally Curved Highway Bridges, FHWA/RD 83/007 Seismic Retrofitting Guidelines for Highway Bridges.

DESIGN STRESSES

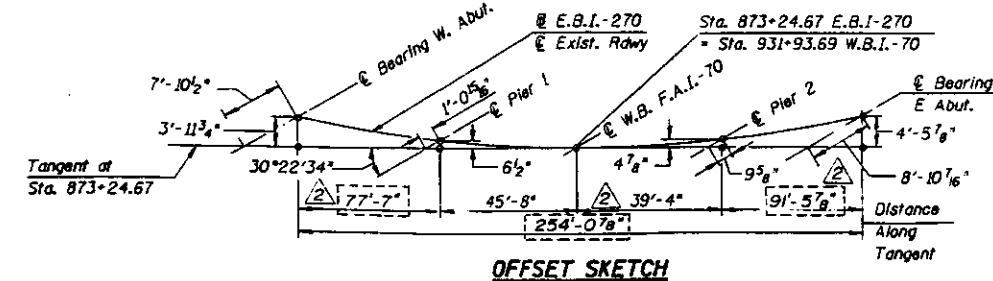
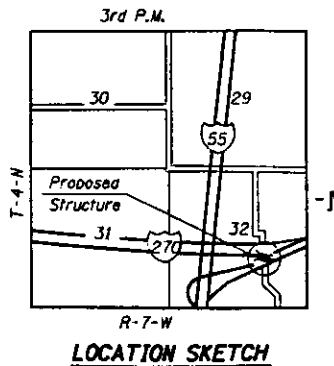
fc=3,500 psi
 fs = 20,000 psi (Exist. Reinf.)
 fy =60,000 psi (New Reinf.)
 fy = 50,000 psi (Structural Steel)

SEISMIC DATA

Seismic Performance Category (SPC)=B
 Bedrock Acceleration Coefficient (A)=0.10
 Site Coefficient=L5

LOADING HS 20-44 AND ALTERNATES

Allow 25 psf for future Wearing Surface



David Booher, Illinois S.E. 081-004775 Date Expires 11-30-94

David Booher
 7-26-94

GENERAL PLAN & ELEVATION
 E.B. F.A.I. RTE. 270 OVER W.B. F.A.I. RTE. 70
 F.A.I. RTE. 270 SECTION 60-6HB-1-Y
 STA. 873+24.67 F.A.I. 270
 STA. 931+93.69 F.A.I. 70
 MADISON COUNTY
 S.N. 060-0059

MTA INCORPORATED
 DESIGNED: CMS CHECKED: GBM
 DRAWN: THW DATE: JULY, 1994 NO. S133

B.M.: #2 at Chiseled "□" at top of W. Abut., So. end of Bridge (060-0059).
 Station 871+60 Elevation 569.58

EXISTING STRUCTURE

Sta. 873+24.67 of East bound F.A.I.-270 in Madison County was built in 1964 as Structure number 060-0059. The superstructure consists of 3 spans of 7" R.C. deck on 49" Web Steel Girders. The Substructure consists of two, 4 Column Piers and 2 Open Abutments. Superstructure to be removed and structure widened. Traffic to be maintained utilizing Stage Construction. Existing Structure Length = 264'-7" Bk. to bk. of Abutments. Existing Structure Width = 36'-0" out to out.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
E.A.I.270	60-6HB-1-Y	MADISON	228	174
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT			Sheet 1 of 25

GENERAL NOTES

The Inorganic Zinc-silicate/Acrylic Paint System shall be used for shop and field painting of new structural steel. The color of the acrylic finish coat shall be Munsell No. 7.G4/8 Interstate Green. See Special Provisions. Fasteners shall be high strength bolts. Bolts 3/8" open holes 15/16" unless otherwise noted. Calculated weight of Structural Steel = 302,420 Lbs. M270 Grade 50 Field welding of construction accessories will not be permitted to the bottom flange of 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 cross frames over supports. The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50. The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the tension flanges, webs, and all splice plate materials except fill plates. Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60. Slope wall extension shall be reinforced with welded wire fabric. 6" x 6" W4.0 x 4.0, weighing 58 lbs. per 100 sq. ft. 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 actually furnished at the unit price bid for the work. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, shims of the dimensions of the top plate shall be provided and placed as detailed. The contractor shall drive 2-HP 10 x 42 test piles in a permanent location at Pier 2 and West Abutment as directed by the Engineer before ordering the remainder of piles. The concrete, for bridge floors finished in accordance with Article 503.17 of the Standard Specifications, shall be placed and compacted parallel to the skew in uniform increments along centerline of the bridge. The finishing machine, when required, shall be set parallel to the skew for striking off and screeding the concrete. Bridge Seat Sealer shall be applied to the seat area of the Abutments.

SEISMIC DATA

Seismic Performance Category (SPC)=B
 Bedrock Acceleration Coefficient (A)=0.10
 Site Coefficient=1.5

DESIGN SPECIFICATIONS

1992 AASHTO Standard Specifications for Highway Bridges and 1993 Interim Specifications, 1993 Guide Specifications for Horizontally Curved Highway Bridges, FHWA/RD 83/007 Seismic Retrofitting Guidelines for Highway Bridges.

DESIGN STRESSES

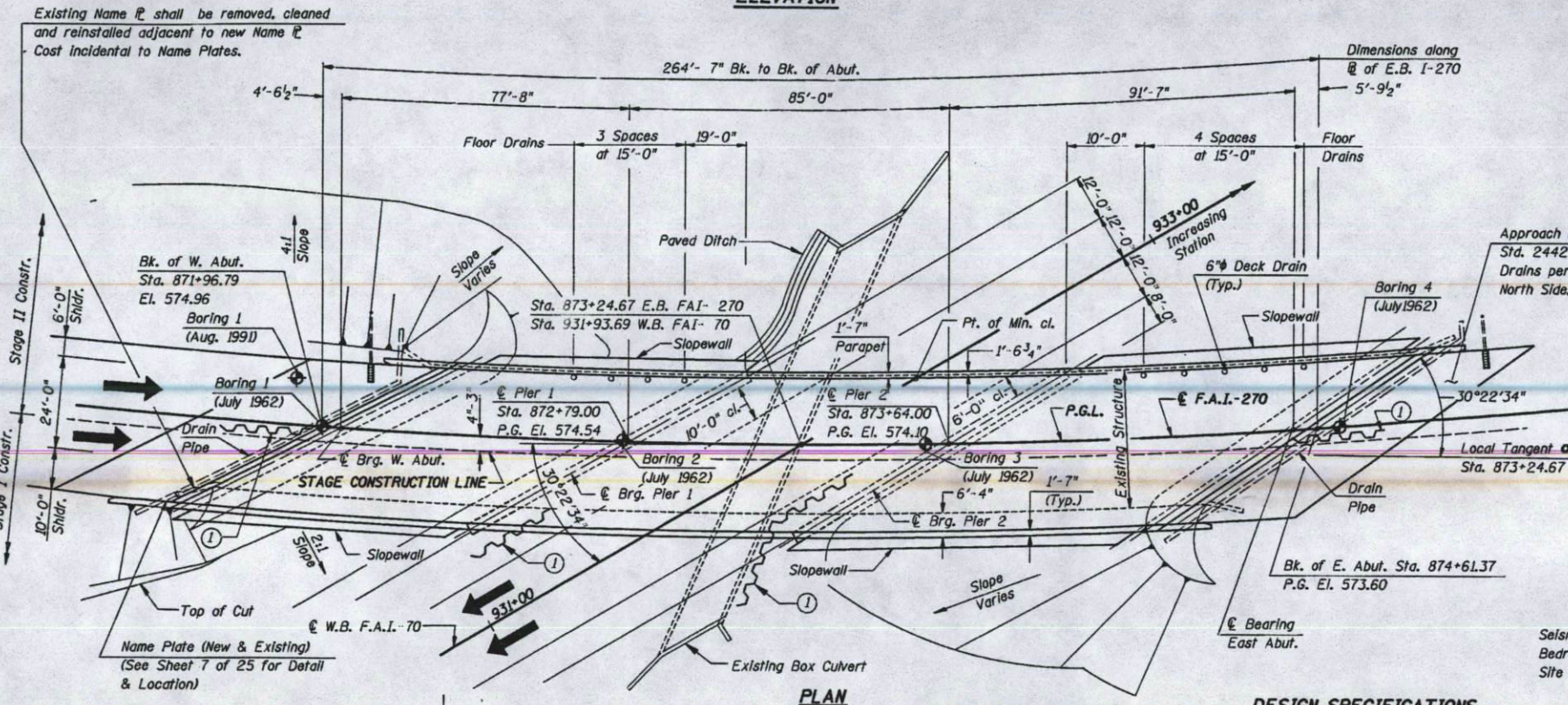
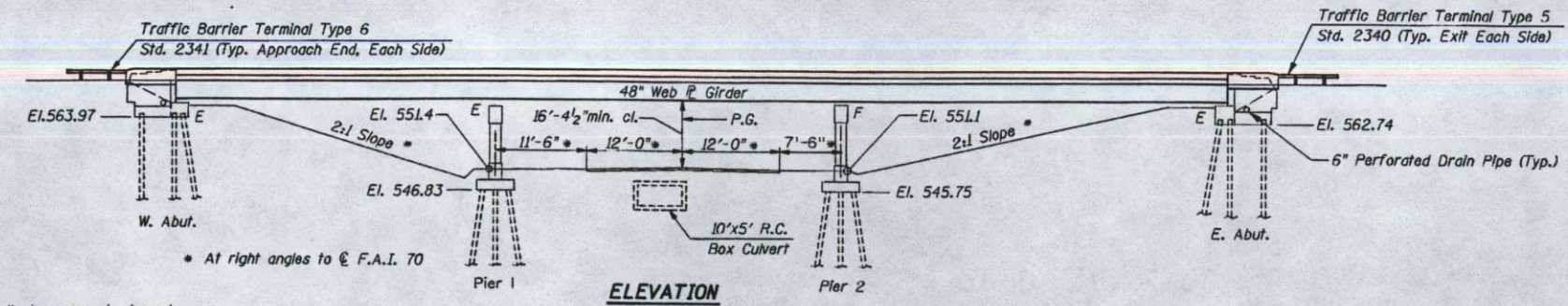
$f_c = 3,500$ psi
 $f_s = 20,000$ psi (Exist. Reinf.)
 $f_y = 60,000$ psi (New Reinf.)
 $f_y = 50,000$ psi (Structural Steel)

LOADING HS 20-44 AND ALTERNATES

Allow 25 psf for future Wearing Surface

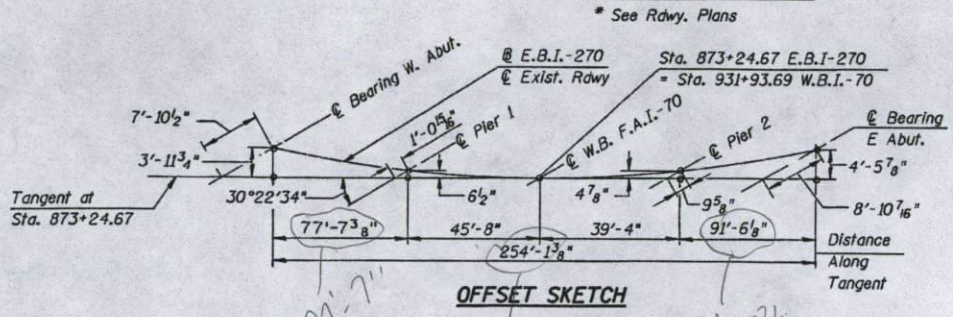
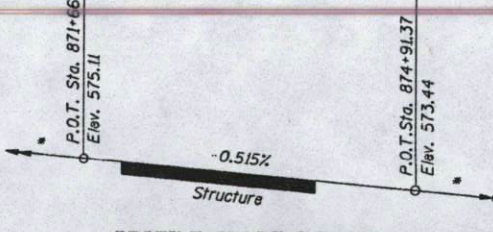
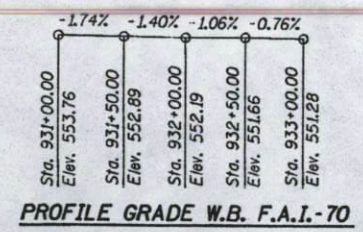
Bridge Seat Sealer shall be applied to the seat area of the Abutments.

① Temporary Sheet Piling See Sheet 21 for Details

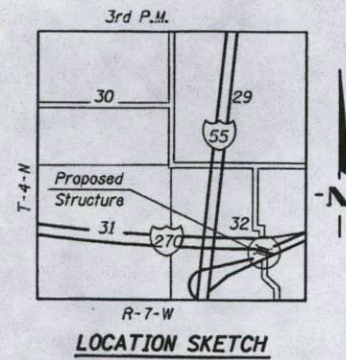


CURVE DATA ALONG E EASTBOUND F.A.I.-270

PI= 875+61.17
 P.C.= 870+24.98
 P.T.= 880+70.44
 $\Delta = 31^\circ-21'-50"$
 D= 3'-00'-00"
 T= 536.19'
 L= 1045.46'
 R= 1909.86'
 E= 73.84'
 S= 0.059'/FT.



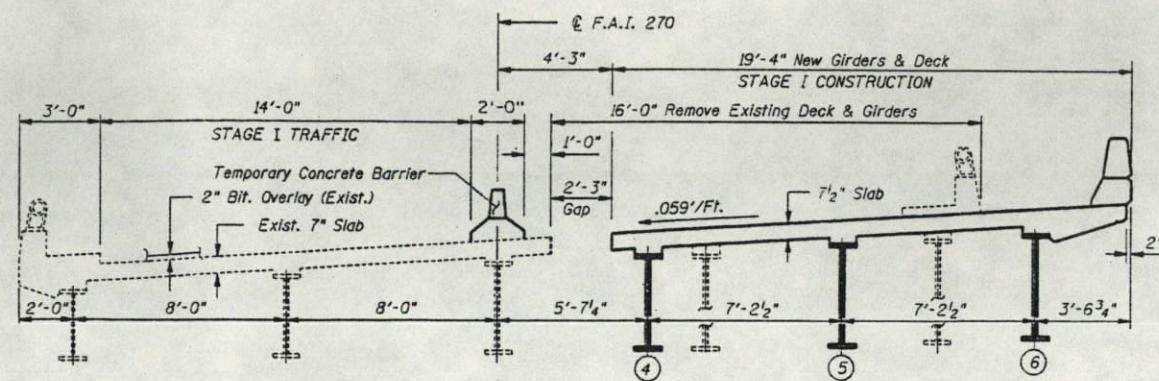
David Bocher, Illinois S.E. 081-004775 Date 7-26-94 Expires 11-30-94



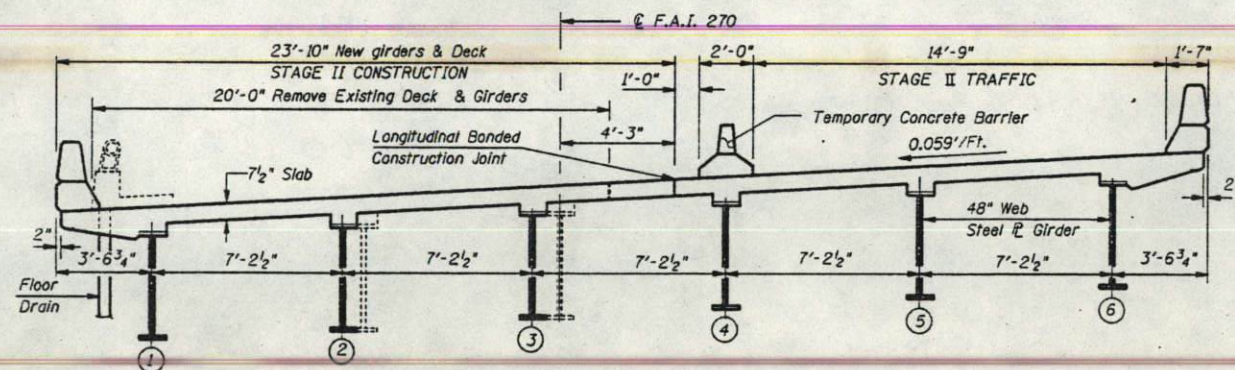
GENERAL PLAN & ELEVATION
 E.B. F.A.I. RTE. 270 OVER W.B. F.A.I. RTE. 70
 F.A.I. RTE. 270 SECTION 60-6HB-1-Y
 STA. 873+24.67 F.A.I. 270
 STA. 931+93.69 F.A.I. 70
 MADISON COUNTY
 S.N. 060-0059

MTA INCORPORATED	
DESIGNED: CMS	CHECKED: GBM
DRAWN: THW	DATE: JULY, 1994 NO. S133

LOCATION NO. 5



STAGE I
Looking East



STAGE II
Looking East

STAGE I CONSTRUCTION

1. Set Temporary Concrete Barrier as Shown.
2. Establish STAGE I Traffic Control and Install Protective Shield under South half of superstructure.
3. Remove Existing Concrete Parapet, Deck, and Approach Slab on South Portion.
4. Install Temporary Sheet Piling.
5. Remove Two Girders, South End of both Abutments and portions of the Pier Caps as shown on the Pier Sheets. Cut existing Anchor Bolts flush with concrete & grind smooth.
6. Drive Additional Piles, Construct Extension of South End of Piers and Abutments.
7. Construct Girders 4, 5, and 6, and South Portion of Approach Slab, Concrete Deck, and Parapets.

STAGE II CONSTRUCTION

1. Set Temporary Concrete Barrier as Shown.
2. Establish STAGE II Traffic Control and Install Protective Shield under North half of Superstructure.
3. Remove Temporary Sheet Piling.
4. Remove Remaining Portion of Existing Deck, Parapets, Approach Slabs, Wing Walls, the 3 remaining existing girders and portions of the Pier Caps as shown on the Pier Sheets. Cut existing Anchor Bolt flush with concrete & grind smooth.
5. Construct new portions of the North Pier Caps.
6. Construct New Girders 1, 2, & 3, and remaining portion of New Deck, Parapets, Approach Slab and Wing Wall.
7. Open Both Lanes to Traffic.

TOTAL BILL OF MATERIALS

ITEM	UNITS	SUPER	SUB	TOTAL
• Removal of Existing Superstructure No. 2	Each	1		1
Concrete Removal	Cu. Yds.		99.2	99.2
Structure Excavation	Cu. Yds		268.8	268.8
Neoprene Expansion Joint 2.5"	Foot	166		166
Concrete Superstructure	Cu. Yds.	332.9		332.9
Elastomeric Bearing Assembly Type I	Each	12		12
Elastomeric Bearing Assembly Type II	Each	6		6
Floor Drains	Each	9		9
① Protective Coat	Sq. Yds.	232		232
Concrete Structures	Cu. Yds.		215.7	215.7
• Formed Concrete Repair (Depth < 5")	Sq. Ft.		54	54
• Furnishing and Erecting Structural Steel	L.S.	1		1
Stud Shear Connectors	Each	4,422		4,422
Reinforcement Bars, Epoxy Coated	Pound	81,900	25,750	107,650
Furnishing Steel Piles HP 10x42	Foot		688	688
Driving Steel Piles	Foot		688	688
Test Pile HP 10x42	Each		2	2
Name Plates	Each	1		1
* Temporary Sheet Piling	Sq. Ft.		1934	1934
Bridge Seat Sealer	Sq. Ft.	493		493
Epoxy Crack Sealing	Foot		318	318
Slope Wall Removal	Sq. Yds.		75	75
Slopedwall 4 inch	Sq. Yds.		247	247
Bridge Deck Grooving	Sq. Yds.	1144		1,144
Pipe Underdrains, 6"	Foot		255	255

• See Special Provisions
① Quantity does not include Bridge Deck Surface

NOTE
For Quantity of Temporary Concrete Barrier,
See Roadway Plans.

NOTE: "In addition to all other requirements of section 5/2 of the standard Specifications, splices for (Steel Piles) shall develop the full capacity of the steel's cross sectional area of the pile for tension, shear and bending forces. One approved method of achieving this requirement is full penetration butt welding of the entire cross section. Other types of splices meeting the full capacity requirement may be allowed subject to the approval of the Engineer. Any proposal by the Contractor to use an alternate splice method must include adequate documentation demonstrating that the full tension, shear and bending capacities will be met. Appropriate welder qualifications will be required for the positions and processes used in splicing all piles. Nondestructive testing of completed welds will be limited to visual inspection."

INDEX OF SHEETS

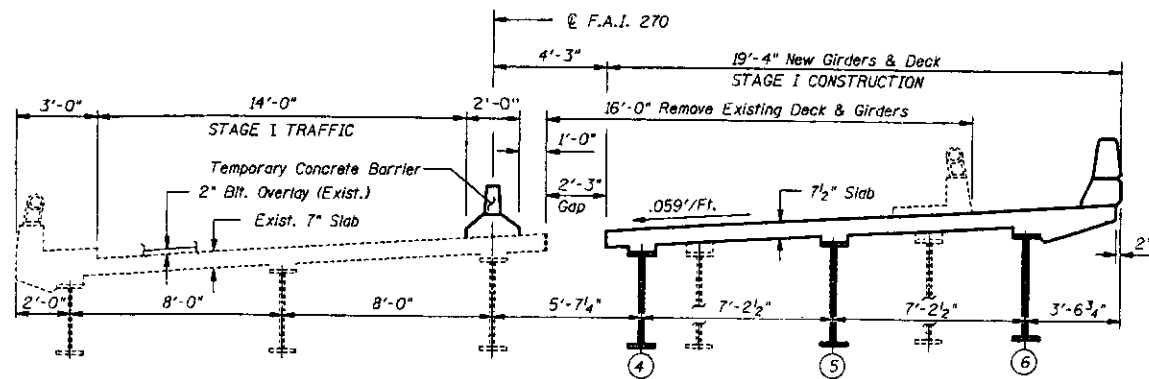
Sheet No.	Description
1.	General Plan and Elevation, General Notes
2.	Bill of Material & Stage Construction Details
3, 4, 5	Deck Elevations
6.	Deck Details
7.	Parapet Details
8.	Girder Details
9.	Steel Details
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20.	Substructure Repair
21.	Temporary Sheet Piling
22.	Expansion Joint Details
23.	Anchor Bolt Details
24.	Temporary Concrete Barrier
25.	Soil Boring Details

STAGE CONSTRUCTION DETAILS
E.B. F.A.I. 270 OVER W.B. F.A.I. RTE. 70
F.A.I. RTE. 270 SECTION 60-6HB-1-Y
STA. 873+24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
S.N. 060-0059

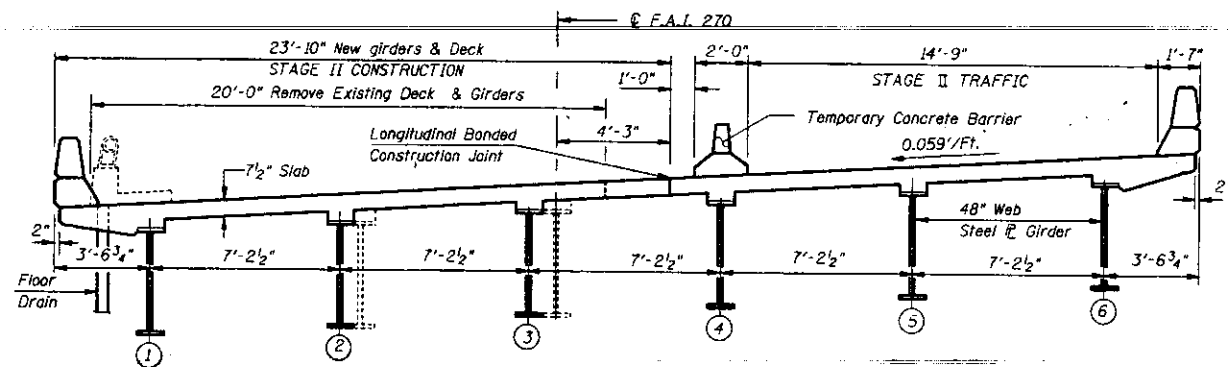
MTA INCORPORATED
DESIGNED: CMS CHECKED: GBM
DRAWN: TNJr. DATE: July, 1994

12-28-94

LOCATION NO. 5



STAGE I
Looking East



STAGE II
Looking East

STAGE I CONSTRUCTION

1. Set Temporary Concrete Barrier as Shown.
2. Establish STAGE I Traffic Control and Install Protective Shield under South half of superstructure.
3. Remove Existing Concrete Parapet, Deck, and Approach Slab on South Portion.
4. Install Temporary Sheet Piling.
5. Remove Two Girders, South End of both Abutments and portions of the Pier Caps as shown on the Pier Sheets. Cut existing Anchor Bolts flush with concrete & grind smooth.
6. Drive Additional Piles, Construct Extension of South End of Piers and Abutments.
7. Construct Girders 4, 5, and 6, and South Portion of Approach Slab, Concrete Deck, and Parapets.

STAGE II CONSTRUCTION

1. Set Temporary Concrete Barrier as Shown.
2. Establish STAGE II Traffic Control and Install Protective Shield under North half of Superstructure.
3. Remove Temporary Sheet Piling.
4. Remove Remaining Portion of Existing Deck, Parapets, Approach Slabs, Wing Walls, the 3 remaining existing girders and portions of the Pier Caps as shown on the Pier Sheets. Cut existing Anchor Bolt flush with concrete & grind smooth.
5. Construct new portions of the North Pier Caps.
6. Construct New Girders 1, 2, & 3, and remaining portion of New Deck, Parapets, Approach Slab and Wing Wall.
7. Open Both Lanes to Traffic.

TOTAL BILL OF MATERIALS

ITEM	UNITS	SUPER	SUB	TOTAL
* Removal of Existing Superstructure No. 2	Each	1		1
Concrete Removal	Cu. Yds.		99.2	99.2
Structure Excavation	Cu. Yds.		268.8	268.8
Neoprene Expansion Joint 2.5"	Foot	166		166
Concrete Superstructure	Cu. Yds.	332.9		332.9
Elastomeric Bearing Assembly Type I	Each	12		12
Elastomeric Bearing Assembly Type II	Each	6		6
Floor Drains	Each	9		9
① Protective Coat	Sq. Yds.	232		232
Concrete Structures	Cu. Yds.		215.7	215.7
* Formed Concrete Repair (Depth < 5")	Sq. Ft.		54	54
* Furnishing and Erecting Structural Steel	L.S.	1		1
Stud Shear Connectors	Each	4,422		4,422
Reinforcement Bars, Epoxy Coated	Pound	81,900	25,750	107,650
Furnishing Steel Piles HP 10x42	Foot		688	688
Driving Steel Piles	Foot		688	688
Test Pile HP 10x42	Each		2	2
Name Plates	Each	1		1
* Temporary Sheet Piling	Sq. Ft.		1934	1934
Bridge Seat Sealer	Sq. Ft.	493		493
Epoxy Crack Sealing	Foot		318	318
Slope Wall Removal	Sq. Yds.		75	75
Slope Wall 4 inch	Sq. Yds.		247	247
Bridge Deck Grooving	Sq. Yds.	1144		1,144
Pipe Underdrains, 6"	Foot		255	255

- * See Special Provisions
- ① Quantity does not include Bridge Deck Surface

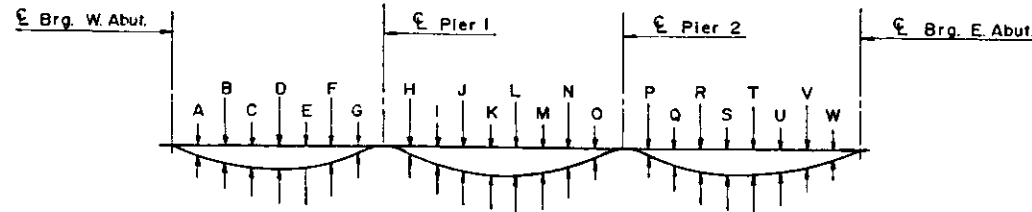
NOTE
For Quantity of Temporary Concrete Barrier,
See Roadway Plans.

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Sheet No.	Description
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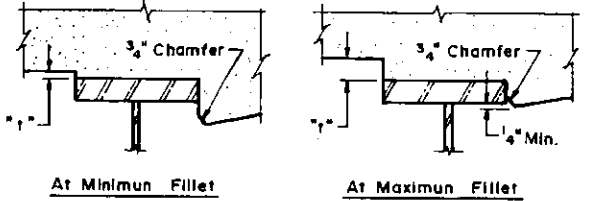
STAGE CONSTRUCTION DETAILS
E.B. F.A.I. 270 OVER W.B. F.A.I. RTE. 70
F.A.I. RTE. 270 SECTION 60-6HB-1-Y
STA. 873+24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
S.N. 060-0059

MTA INCORPORATED
DESIGNED: CMS CHECKED: GBM
DRAWN: TNJR. DATE: July, 1994



DEAD LOAD DEFLECTION DIAGRAM

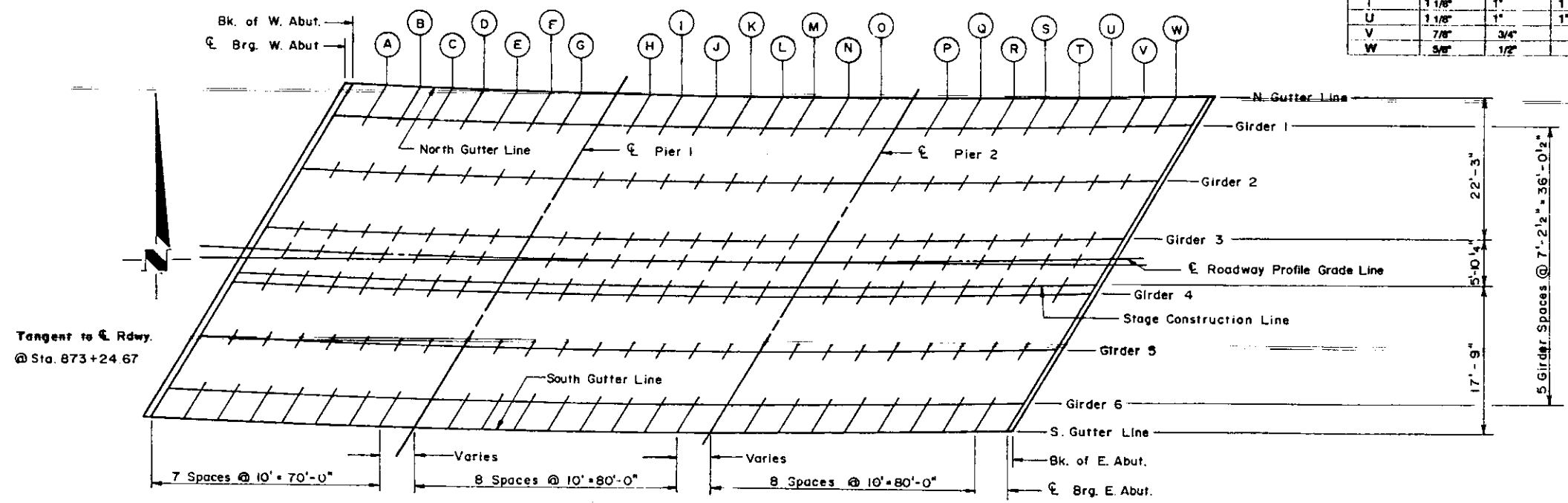
(Includes weight of concrete slab only)
 NOTE: The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown.



To determine "t" after all structural steel has been erected, elevations of the top of flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection", minus slab thickness equals the Fillet heights "t" above top flange of girders.

TABLE OF DEAD LOAD DEFLECTION

LOCATION	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5	GIRDER 6
A	1/4"	1/4"	3/8"	1/4"	1/4"	1/4"
B	1/2"	1/2"	5/8"	1/2"	3/8"	1/2"
C	5/8"	5/8"	3/4"	1/2"	1/2"	5/8"
D	5/8"	5/8"	3/4"	1/2"	1/2"	5/8"
E	1/2"	1/2"	5/8"	3/8"	3/8"	1/2"
F	1/4"	3/8"	1/2"	1/4"	1/4"	1/4"
G	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"
H	0	0	0	0	0	0
I	0	0	0	0	0	0
J	0	0	0	0	0	0
K	0	0	0	0	0	0
L	0	0	0	0	0	0
M	0	0	0	0	0	0
N	0	0	0	0	0	0
O	0	0	0	0	0	0
P	1/4"	1/4"	1/4"	1/4"	1/8"	1/4"
Q	1/2"	1/2"	1/2"	1/2"	3/8"	1/2"
R	3/4"	3/4"	3/4"	3/4"	5/8"	3/4"
S	1"	7/8"	1"	7/8"	7/8"	7/8"
T	1 1/8"	1"	1 1/8"	1"	7/8"	1"
U	1 1/8"	1"	1"	7/8"	3/4"	7/8"
V	7/8"	3/4"	7/8"	3/4"	5/8"	5/8"
W	5/8"	1/2"	1/2"	3/8"	3/8"	5/8"



PLAN

NOTE: Tabulated deck elevations are given at 10' intervals along each designated centerline girder or pavement line. The 10' intervals for each span are laid out beginning at the centerline brg. to the west and extend eastward. All stations and offser shown are to the baseline (Centerline of Roadway).

DECK ELEVATIONS
 E.B.F.A.I. RTE.270 OVER W.B.F.A.I. RTE. 70
 F.A.I. RTE.270 SECTION 60-6HB-I-Y
 STA. 873+24.67 F.A.I. 270
 STA. 931+93.69 F.A.I. 70
 MADISON COUNTY
 S.N.060-0059

MTA, INCORPORATED
 DESIGNED G.B.M. CHECKED F.T.T.
 DRAWN T.N.J. DATE 7/94

GIRDER 1

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	872+20.78	-16.02	573.89	573.89
CL. BRG. W. ABUT.	872+25.44	-16.02	573.87	573.87
A	872+35.53	-16.02	573.82	573.84
B	872+45.61	-16.02	573.76	573.80
C	872+55.70	-16.02	573.71	573.76
D	872+65.78	-16.02	573.66	573.71
E	872+75.87	-16.02	573.61	573.65
F	872+85.95	-16.02	573.56	573.58
G	872+96.04	-16.02	573.51	573.51
CL. PIER 1	873+05.41	-16.02	573.46	573.46
H	873+15.49	-16.02	573.41	573.41
I	873+25.58	-16.02	573.35	573.35
J	873+35.66	-16.02	573.30	573.30
K	873+45.74	-16.02	573.25	573.25
L	873+55.83	-16.02	573.20	573.20
M	873+65.91	-16.02	573.15	573.15
N	873+76.00	-16.02	573.09	573.09
O	873+86.08	-16.02	573.04	573.04
CL. PIER 2	873+93.31	-16.02	573.00	573.00
P	874+03.40	-16.02	572.95	572.97
Q	874+13.48	-16.02	572.90	572.94
R	874+23.57	-16.02	572.85	572.91
S	874+33.65	-16.02	572.80	572.88
T	874+43.74	-16.02	572.74	572.84
U	874+53.82	-16.02	572.69	572.78
V	874+63.91	-16.02	572.64	572.71
W	874+73.99	-16.02	572.59	572.64
CL. BRG. E. ABUT.	874+88.63	-16.02	572.51	572.51
BK. OF E. ABUT.	874+94.69	-16.02	572.48	572.48

GIRDER 2

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	872+09.88	-8.81	574.37	574.37
CL. BRG. W. ABUT.	872+14.49	-8.81	574.35	574.35
A	872+24.53	-8.81	574.30	574.32
B	872+34.58	-8.81	574.25	574.29
C	872+44.62	-8.81	574.20	574.24
D	872+54.67	-8.81	574.14	574.19
E	872+64.72	-8.81	574.09	574.13
F	872+74.76	-8.81	574.04	574.07
G	872+84.81	-8.81	573.99	574.00
CL. PIER 1	872+94.39	-8.81	573.94	573.94
H	873+03.44	-8.81	573.89	573.89
I	873+13.49	-8.81	573.84	573.84
J	873+23.53	-8.81	573.79	573.79
K	873+33.58	-8.81	573.74	573.74
L	873+43.62	-8.81	573.69	573.69
M	873+53.67	-8.81	573.63	573.63
N	873+63.72	-8.81	573.58	573.58
O	873+73.76	-8.81	573.53	573.53
CL. PIER 2	873+79.96	-8.81	573.50	573.50
P	873+90.00	-8.81	573.45	573.46
Q	874+00.05	-8.81	573.39	573.43
R	874+10.10	-8.81	573.34	573.40
S	874+20.14	-8.81	573.29	573.37
T	874+30.19	-8.81	573.24	573.32
U	874+40.24	-8.81	573.19	573.26
V	874+50.28	-8.81	573.14	573.20
W	874+60.33	-8.81	573.08	573.12
CL. BRG. E. ABUT.	874+73.54	-8.81	573.02	573.02
BK. OF E. ABUT.	874+79.47	-8.81	572.99	572.99

GIRDER 3

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	871+99.15	-1.60	574.85	574.85
CL. BRG. W. ABUT.	872+03.70	-1.60	574.83	574.83
A	872+13.71	-1.60	574.78	574.81
B	872+23.72	-1.60	574.73	574.78
C	872+33.73	-1.60	574.68	574.74
D	872+43.74	-1.60	574.63	574.69
E	872+53.75	-1.60	574.57	574.63
F	872+63.75	-1.60	574.52	574.56
G	872+73.76	-1.60	574.47	574.48
CL. PIER 1	872+81.59	-1.60	574.43	574.43
H	872+91.60	-1.60	574.38	574.38
I	873+01.61	-1.60	574.33	574.33
J	873+11.62	-1.60	574.28	574.28
K	873+21.62	-1.60	574.22	574.22
L	873+31.63	-1.60	574.17	574.17
M	873+41.64	-1.60	574.12	574.12
N	873+51.65	-1.60	574.07	574.07
O	873+61.66	-1.60	574.02	574.02
CL. PIER 2	873+66.87	-1.60	573.99	573.99
P	873+76.88	-1.60	573.94	573.96
Q	873+86.89	-1.60	573.89	573.93
R	873+96.89	-1.60	573.84	573.90
S	874+06.90	-1.60	573.79	573.87
T	874+16.91	-1.60	573.73	573.82
U	874+26.92	-1.60	573.68	573.77
V	874+36.93	-1.60	573.63	573.70
W	874+46.94	-1.60	573.58	573.62
CL. BRG. E. ABUT.	874+58.80	-1.60	573.52	573.52
BK. OF E. ABUT.	874+64.62	-1.60	573.49	573.49

GIRDER 4

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	871+88.59	5.61	575.33	575.33
CL. BRG. W. ABUT.	871+93.09	5.61	575.31	575.31
A	872+03.06	5.61	575.26	575.28
B	872+13.03	5.61	575.21	575.25
C	872+23.00	5.61	575.16	575.20
D	872+32.97	5.61	575.11	575.15
E	872+42.95	5.61	575.05	575.09
F	872+52.92	5.61	575.00	575.02
G	872+62.89	5.61	574.95	574.96
CL. PIER 1	872+69.99	5.61	574.92	574.92
H	872+79.96	5.61	574.86	574.86
I	872+89.93	5.61	574.81	574.81
J	872+99.91	5.61	574.76	574.76
K	873+09.88	5.61	574.71	574.71
L	873+19.85	5.61	574.66	574.66
M	873+29.82	5.61	574.61	574.61
N	873+39.79	5.61	574.56	574.56
CL. PIER 2	873+44.04	5.61	574.48	574.48
P	873+54.01	5.61	574.43	574.45
Q	873+64.01	5.61	574.38	574.42
R	873+73.98	5.61	574.33	574.38
S	873+83.95	5.61	574.28	574.35
T	873+93.92	5.61	574.23	574.30
U	874+03.89	5.61	574.17	574.24
V	874+13.86	5.61	574.12	574.18
W	874+23.83	5.61	574.07	574.10
CL. BRG. E. ABUT.	874+33.80	5.61	574.02	574.02
BK. OF E. ABUT.	874+44.40	5.61	573.99	573.99

GIRDER 5

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	871+78.21	12.81	575.81	575.81
CL. BRG. W. ABUT.	871+82.66	12.81	575.79	575.79
A	871+92.59	12.81	575.74	575.76
B	872+02.53	12.81	575.69	575.72
C	872+12.46	12.81	575.64	575.68
D	872+22.39	12.81	575.59	575.63
E	872+32.33	12.81	575.53	575.56
F	872+42.26	12.81	575.48	575.50
G	872+52.19	12.81	575.43	575.44
CL. PIER 1	872+58.61	12.81	575.40	575.40
H	872+68.54	12.81	575.35	575.35
I	872+78.48	12.81	575.30	575.30
J	872+88.41	12.81	575.25	575.25
K	872+98.34	12.81	575.19	575.19
L	873+08.28	12.81	575.14	575.14
M	873+18.21	12.81	575.09	575.09
N	873+28.14	12.81	575.04	575.04
CL. PIER 2	873+41.47	12.81	574.97	574.97
P	873+51.40	12.81	574.92	574.94
Q	873+61.33	12.81	574.87	574.90
R	873+71.27	12.81	574.82	574.87
S	873+81.20	12.81	574.77	574.83
T	873+91.13	12.81	574.72	574.79
U	874+01.07	12.81	574.67	574.73
V	874+11.00	12.81	574.61	574.66
W	874+20.93	12.81	574.56	574.59
CL. BRG. E. ABUT.	874+30.34	12.81	574.51	574.51
BK. OF E. ABUT.	874+35.94	12.81	574.49	574.49

GIRDER 6

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	871+67.97	20.02	576.29	576.29
CL. BRG. W. ABUT.	871+72.37	20.02	576.27	576.27
A	871+82.27	20.02	576.22	576.24
B	871+92.16	20.02	576.17	576.20
C	872+02.06	20.02	576.12	576.16
D	872+11.95	20.02	576.06	576.11
E	872+21.85	20.02	576.01	576.05
F	872+31.75	20.02	575.96	575.98
G	872+41.64	20.02	575.91	575.92
CL. PIER 1	872+47.40	20.02	575.88	575.88
H	872+57.30	20.02	575.83	575.83
I	872+67.19	20.02	575.78	575.78
J	872+77.09	20.02	575.73	575.73
K	872+86.98	20.02	575.68	575.68
L	872+96.88	20.02	575.63	575.63
M	873+06.78	20.02	575.58	575.58
N	873+16.67	20.02	575.53	575.53
CL. PIER 2	873+29.11	20.02	575.46	575.46
P	873+39.01	20.02	575.41	575.43
Q	873+48.91	20.02	575.36	575.40
R	873+58.80	20.02	575.31	575.37
S	873+68.70	20.02	575.26	575.33
T	873+78.59	20.02	575.21	575.28
U	873+88.49	20.02	575.16	575.22
V	873+98.39	20.02	575.10	575.16
W	874+08.28	20.02	575.05	575.08
CL. BRG. E. ABUT.	874+16.55	20.02	575.01	575.01
BK. OF E. ABUT.	874+22.06	20.02	574.98	574.98

DECK ELEVATIONS
E.B. F.A.I. RTE. 270 OVER W.B. F.A.I. RTE. 70
F.A.I. RTE. 270 SECTION 60-6HB-1-Y
STA. 873+24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
S.N. 060-0059

MTA INCORPORATED
DESIGNED: FTT CHECKED: GBM
DRAWN: TNJr. DATE: July, 1994

NORTH GUTTER LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	872+23.80	-18.00	573.76	573.76
CL. BRG. W. ABUT.	872+28.48	-18.00	573.74	573.74
A	872+38.58	-18.00	573.68	573.71
B	872+48.67	-18.00	573.63	573.67
C	872+58.77	-18.00	573.58	573.63
D	872+68.86	-18.00	573.53	573.58
E	872+78.96	-18.00	573.48	573.52
F	872+89.05	-18.00	573.42	573.45
G	872+99.15	-18.00	573.37	573.38
CL. PIER 1	873+08.74	-18.00	573.32	573.32
H	873+18.84	-18.00	573.27	573.27
I	873+28.93	-18.00	573.22	573.22
J	873+39.03	-18.00	573.17	573.17
K	873+49.12	-18.00	573.12	573.12
L	873+59.22	-18.00	573.06	573.06
M	873+69.31	-18.00	573.01	573.01
N	873+79.41	-18.00	572.96	572.96
O	873+89.51	-18.00	572.91	572.91
CL. PIER 2	873+97.03	-18.00	572.87	572.87
P	874+07.13	-18.00	572.82	572.83
Q	874+17.22	-18.00	572.76	572.81
R	874+27.32	-18.00	572.71	572.78
S	874+37.41	-18.00	572.66	572.74
T	874+47.51	-18.00	572.61	572.70
U	874+57.60	-18.00	572.56	572.64
V	874+67.70	-18.00	572.50	572.58
W	874+77.79	-18.00	572.45	572.50
CL. BRG. E. ABUT.	874+92.84	-18.00	572.37	572.37
BK. OF E. ABUT.	874+98.93	-18.00	572.34	572.34

SOUTH GUTTER LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	871+65.19	22.00	576.42	576.42
CL. BRG. W. ABUT.	871+69.57	22.00	576.40	576.40
A	871+79.46	22.00	576.35	576.37
B	871+89.34	22.00	576.30	576.34
C	871+99.23	22.00	576.25	576.29
D	872+09.12	22.00	576.20	576.24
E	872+19.00	22.00	576.15	576.18
F	872+28.89	22.00	576.09	576.11
G	872+38.77	22.00	576.04	576.05
CL. PIER 1	872+44.35	22.00	576.01	576.01
H	872+54.24	22.00	575.96	575.96
I	872+64.13	22.00	575.91	575.91
J	872+74.01	22.00	575.86	575.86
K	872+83.90	22.00	575.81	575.81
L	872+93.78	22.00	575.76	575.76
M	873+03.67	22.00	575.71	575.71
N	873+13.56	22.00	575.66	575.66
CL. PIER 2	873+25.76	22.00	575.60	575.60
P	873+35.65	22.00	575.54	575.56
Q	873+45.53	22.00	575.49	575.53
R	873+55.42	22.00	575.44	575.50
S	873+65.30	22.00	575.39	575.46
T	873+75.19	22.00	575.34	575.42
U	873+85.08	22.00	575.29	575.36
V	873+94.96	22.00	575.24	575.29
W	874+04.85	22.00	575.19	575.21
CL. BRG. E. ABUT.	874+12.82	22.00	575.15	575.15
BK. OF E. ABUT.	874+18.30	22.00	575.12	575.12

PROFILE GRADE LINE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	871+96.79	0.00	574.96	574.96
CL. BRG. W. ABUT.	872+01.33	0.00	574.94	574.94
A	872+11.33	0.00	574.89	574.91
B	872+21.33	0.00	574.84	574.89
C	872+31.33	0.00	574.78	574.85
D	872+41.33	0.00	574.73	574.80
E	872+51.33	0.00	574.68	574.73
F	872+61.33	0.00	574.63	574.67
G	872+71.33	0.00	574.58	574.59
CL. PIER 1	872+79.00	0.00	574.54	574.54
H	872+89.00	0.00	574.49	574.49
I	872+99.00	0.00	574.44	574.44
J	873+09.00	0.00	574.38	574.38
K	873+19.00	0.00	574.33	574.33
L	873+29.00	0.00	574.28	574.28
M	873+39.00	0.00	574.23	574.23
N	873+49.00	0.00	574.18	574.18
O	873+59.00	0.00	574.13	574.13
CL. PIER 2	873+64.00	0.00	574.10	574.10
P	873+74.00	0.00	574.05	574.07
Q	873+84.00	0.00	574.00	574.04
R	873+94.00	0.00	573.95	574.01
S	874+04.00	0.00	573.89	573.97
T	874+14.00	0.00	573.84	573.93
U	874+24.00	0.00	573.79	573.88
V	874+34.00	0.00	573.74	573.81
W	874+44.00	0.00	573.69	573.73
CL. BRG. E. ABUT.	874+55.58	0.00	573.63	573.63
BK. OF E. ABUT.	874+61.37	0.00	573.60	573.60

STAGE CONSTRUCTION LINE

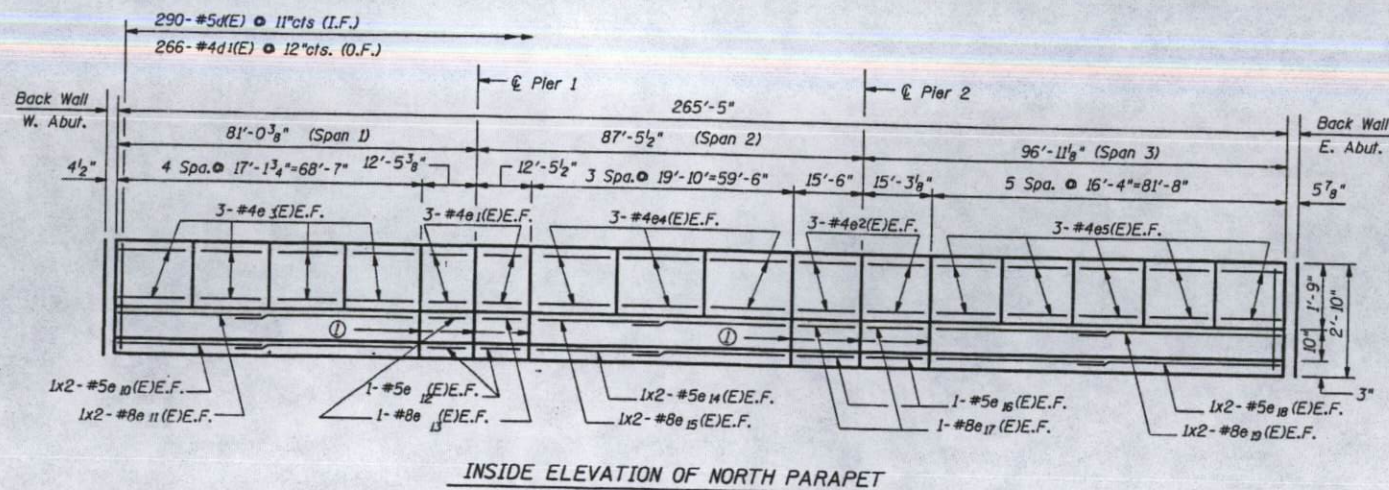
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEV'S ADJ. FOR D.L. DEFLECTION
BK. OF W. ABUT.	871+90.57	4.25	575.24	575.24
CL. BRG. W. ABUT.	871+95.08	4.25	575.22	575.22
A	872+05.06	4.25	575.17	575.19
B	872+15.04	4.25	575.12	575.16
C	872+25.01	4.25	575.07	575.11
D	872+34.99	4.25	575.02	575.06
E	872+44.97	4.25	574.96	575.00
F	872+54.95	4.25	574.91	574.93
G	872+64.93	4.25	574.86	574.87
CL. PIER 1	872+72.17	4.25	574.82	574.82
H	872+82.14	4.25	574.77	574.77
I	872+92.12	4.25	574.72	574.72
J	873+02.10	4.25	574.67	574.67
K	873+12.08	4.25	574.62	574.62
L	873+22.05	4.25	574.57	574.57
M	873+32.03	4.25	574.52	574.52
N	873+42.01	4.25	574.46	574.46
CL. PIER 2	873+56.44	4.25	574.39	574.39
P	873+66.42	4.25	574.34	574.35
Q	873+76.39	4.25	574.29	574.32
R	873+86.37	4.25	574.24	574.29
S	873+96.35	4.25	574.18	574.25
T	874+06.33	4.25	574.13	574.21
U	874+16.30	4.25	574.08	574.15
V	874+26.28	4.25	574.03	574.09
W	874+36.26	4.25	573.98	574.01
CL. BRG. E. ABUT.	874+47.09	4.25	573.92	573.92
BK. OF E. ABUT.	874+52.82	4.25	573.89	573.89

DECK ELEVATIONS
E.B. F.A.I. RTE. 270 OVER W.B. F.A.I. RTE. 70
F.A.I. RTE. 270 SECTION 60-6HB-1-Y
STA. 873+24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
S.N. 060-0059

MTA INCORPORATED
 DESIGNED: FTT CHECKED: GBM
 DRAWN: TNJr. DATE: July, 1994

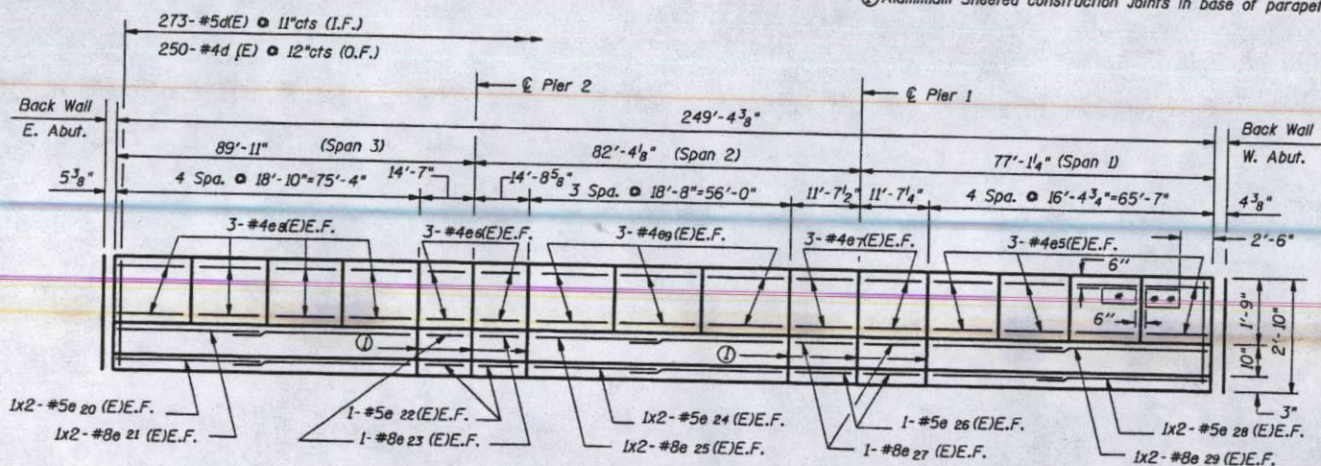
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 270	60-6HB-1-Y	MADISON	226	180
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT			

Sheet 7 of 25



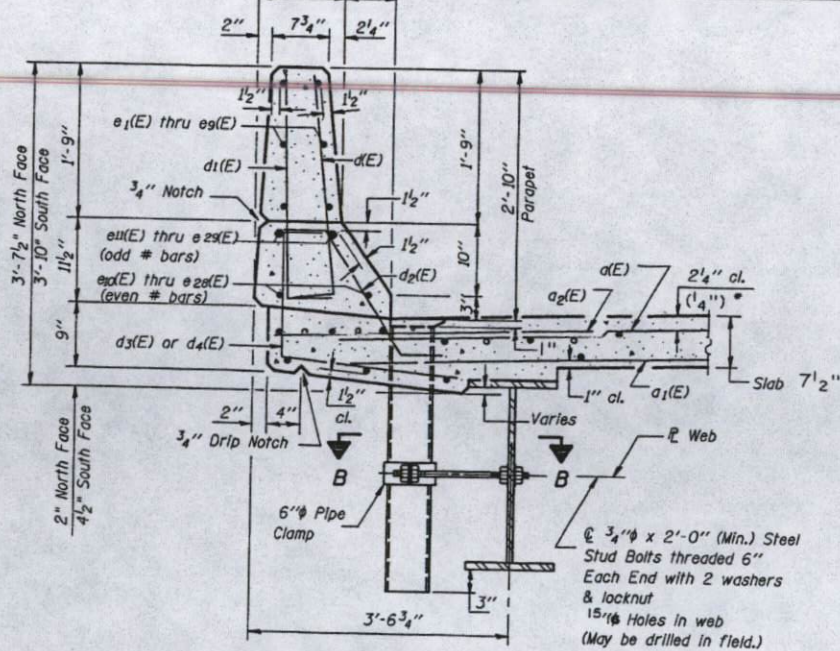
INSIDE ELEVATION OF NORTH PARAPET

① Aluminum Sheeted construction joints in base of parapet.



INSIDE ELEVATION OF SOUTH PARAPET

Existing Name Plate
New Name Plate

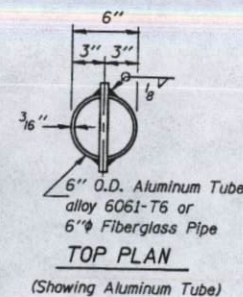
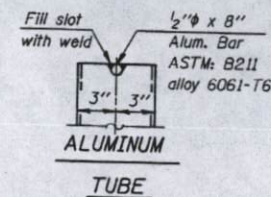
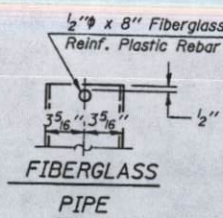


SECTION THRU PARAPET

Notes:

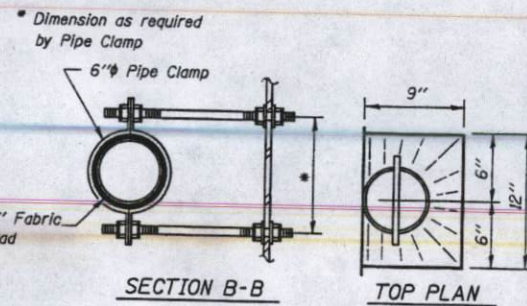
The exterior surfaces of the Floor Drain shall be painted with the finish coat of the paint system specified for Structural Steel. The exterior surfaces of the drain shall be cleaned and given a washcoat pretreatment in accordance with Steel Structural Painting Council's Spec. SSPC-SPI & SSPC-Paint 27 prior to painting.

Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. The surface of the Fiberglass pipe shall be free of bond inhibiting agents.



STATION 873+24.67
BUILT 199 BY
STATE OF ILLINOIS
F.A.I. RT. 270 SEC. 60-6HB-1
PROJ. IM-270-6(91)49
LOADING HS20 & ALT.
STR. NO. 060-0059

NAME PLATE
(Std. 2113)



MIN. LAP LENGTH

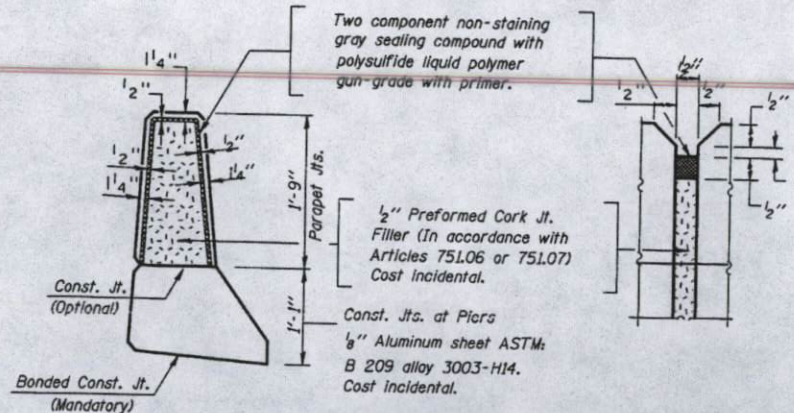
BAR	LAP
#8	4'-6"
#5	2'-2"

BILL OF MATERIALS

BAR	No.	SIZE	LENGTH	SHAPE
d (E)	563	#5	3'-0"	
d1 (E)	516	#4	3'-0"	
e1 (E)	12	#4	12'-1"	
e2 (E)	12	#4	15'-0"	
e3 (E)	24	#4	16'-10"	
e4 (E)	18	#4	19'-6"	
e5 (E)	54	#4	16'-0"	
e6 (E)	12	#4	14'-4"	
e7 (E)	12	#4	11'-2"	
e8 (E)	24	#4	18'-6"	
e9 (E)	18	#4	18'-4"	
e10 (E)	4	#5	35'-3"	
e11 (E)	4	#8	36'-5"	
e12 (E)	4	#5	12'-1"	
e13 (E)	4	#8	12'-1"	
e14 (E)	4	#5	30'-8"	
e15 (E)	4	#8	31'-10"	
e16 (E)	4	#5	15'-0"	
e17 (E)	4	#8	15'-0"	
e18 (E)	4	#5	41'-9"	
e19 (E)	4	#8	43'-10"	
e20 (E)	4	#5	38'-7"	
e21 (E)	4	#8	39'-9"	
e22 (E)	4	#5	14'-4"	
e23 (E)	4	#8	14'-4"	
e24 (E)	4	#5	28'-11"	
e25 (E)	4	#8	30'-1"	
e26 (E)	4	#5	11'-2"	
e27 (E)	4	#8	11'-2"	
e28 (E)	4	#5	33'-9"	
e29 (E)	4	#8	34'-11"	
ITEM	UNITS	QTY.		
Reinforcement Bars, Epoxy Coated	Pound	8,790		
Concrete Superstructure	Cu. Yds.	52.0		

Reinforcement Bars designated (E) shall be Epoxy Coated.
Bars indicated 1 x 3-#5 etc. indicates 1 line of bars with 3 length per line.

PARAPET JOINT DETAILS



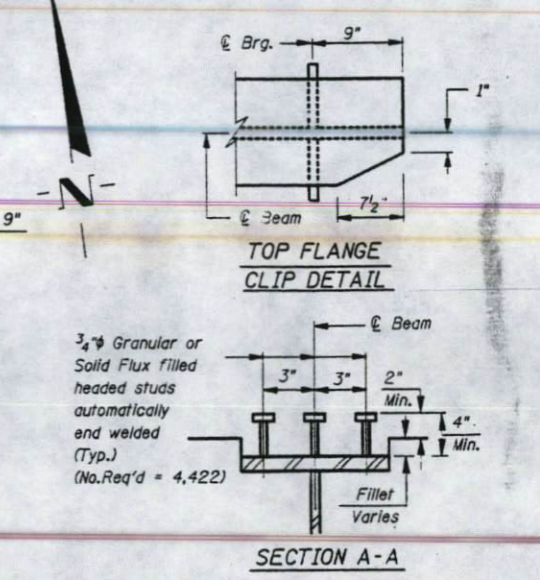
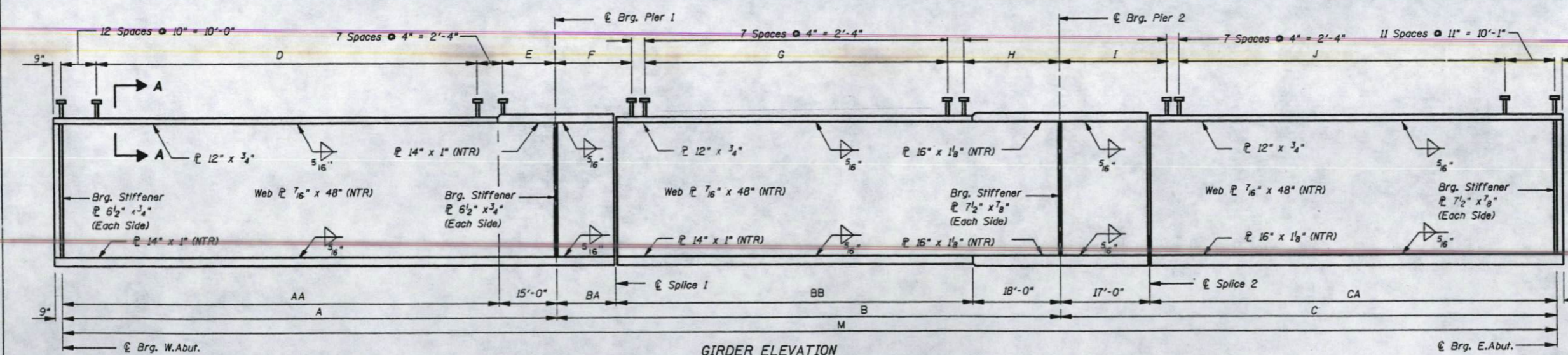
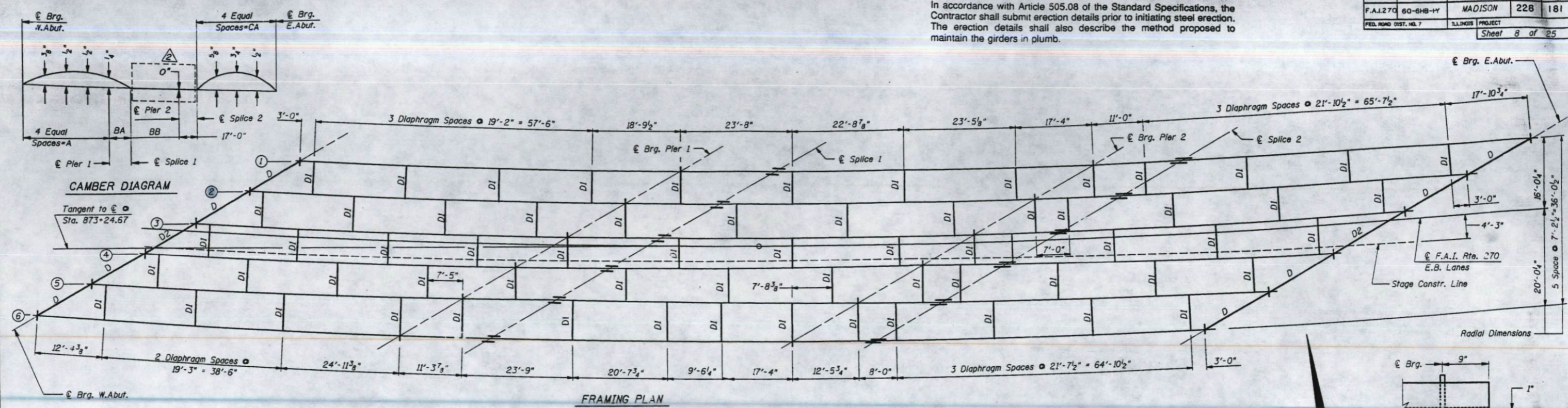
BARS d(E) & d1(E)

PARAPET DETAILS
E.B. F.A.I. RTE.270 OVER W.B. F.A.I. RTE.70
F.A.I. RTE.270 SECTION 60-6HB-1-Y
STA.873+24.67 F.A.I. 270
STA.931+93.69 F.A.I. 70
MADISON COUNTY
S.N.060-0059

MTA INCORPORATED
DESIGNED: CMS CHECKED: GBM
DRAWN: TNJr. DATE: July, 1994

LOCATION NO. 5

In accordance with Article 505.08 of the Standard Specifications, the Contractor shall submit erection details prior to initiating steel erection. The erection details shall also describe the method proposed to maintain the girders in plumb.



GIRDER GEOMETRY

LOCATION	A	AA	B	3A	BB	C	CA	M	RADIUS
GIRDER 1	79'-3 1/2"	64'-3 1/2"	87'-2"	19'-9"	49'-5"	94'-6 1/4"	77'-6 1/4"	260'-11 3/4"	1893.84'
GIRDER 2	78'-6 1/2"	63'-6 1/2"	86'-2"	19'-6"	48'-8"	93'-1 1/8"	76'-1 1/8"	257'-10 3/8"	1901.05'
GIRDER 3	77'-9 1/8"	62'-9 1/8"	85'-2 1/2"	19'-3"	47'-11 1/2"	91'-10 1/4"	74'-10 1/4"	254'-10 3/8"	1908.26'
GIRDER 4	77'-1 1/2"	62'-1 1/2"	84'-3 1/2"	19'-0"	47'-3 1/2"	90'-7 5/8"	73'-7 5/8"	252'-0 5/8"	1915.46'
GIRDER 5	76'-5 1/2"	61'-5 1/2"	83'-5"	18'-9"	46'-8"	89'-5 3/8"	72'-5 3/8"	249'-4 1/8"	1922.67'
GIRDER 6	75'-9 3/4"	60'-9 3/4"	82'-5 1/8"	18'-6"	46'-0 1/8"	88'-4 1/4"	71'-4 1/4"	246'-8 1/8"	1929.88'

LAYOUT DIMENSIONS
(In Ft. from Local Tangent)

LOCATION	E. Brg. W. Abut.		E. Brg. Pier 1		E. Splice 1		E. Brg. Pier 2		E. Splice 2		E. Brg. E. Abut.	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
GIRDER 1	-98.35	18.58	-19.10	16.12	.65	16.02	68.05	17.24	85.04	17.93	162.39	22.99
GIRDER 2	-109.62	11.97	-31.13	9.06	-11.63	8.85	55.03	9.61	72.02	10.17	148.04	14.58
GIRDER 3	-120.78	5.43	-43.04	2.09	-23.79	1.75	42.16	2.07	59.15	2.52	133.91	6.30
GIRDER 4	-131.86	-1.07	-54.83	-4.83	-35.84	-5.27	29.45	-5.38	46.45	-5.05	120.00	-1.85
GIRDER 5	-142.83	-7.50	-66.49	-11.66	-47.75	-12.22	16.91	-12.74	33.91	-12.51	106.32	-9.87
GIRDER 6	-153.73	-13.89	-78.06	-18.44	-59.57	-19.10	4.49	-20.01	21.49	-19.90	92.91	-17.79

SHEAR STUD

GIRDER DESIGNATION	SPAN 1				SPAN 2				SPAN 3	
	D		E		F		G		H	
	Spa. @ 12"	Dimension	Dimension	Dimension	Spa. @ 5"	Dimension	Dimension	Dimension	Spa. @ 12"	Dimension
GIRDER 1	53	53'-0"	13'-11 1/2"	20'-11"	81	33'-9"	27'-10"	18'-1 1/4"	64	64'-0"
GIRDER 2	53	53'-0"	13'-2 1/2"	21'-1"	80	33'-4"	27'-1"	17'-8 7/8"	63	63'-0"
GIRDER 3	52	52'-0"	13'-5 1/8"	20'-9"	79	32'-11"	26'-10 1/2"	17'-5 1/4"	62	62'-0"
GIRDER 4	51	51'-0"	13'-9 1/2"	20'-5"	78	32'-6"	26'-8 1/2"	17'-2 3/8"	61	61'-0"
GIRDER 5	50	50'-0"	14'-1 1/2"	20'-2 1/2"	77	32'-1"	26'-5 1/2"	17'-0 3/8"	60	60'-0"
GIRDER 6	50	50'-0"	13'-5 1/4"	20'-1"	77	32'-1"	25'-8 7/8"	16'-11 1/4"	59	59'-0"

TOP OF WEB ELEVATIONS
(FOR FABRICATION ONLY)

	W. ABUT.	PIER 1	SPLICE 1	PIER 2	SPLICE 2	E. ABUT.
GIRDER 1	573.08	572.65	572.51	572.18	572.10	571.72
GIRDER 2	573.56	573.13	573.00	572.68	572.59	572.23
GIRDER 3	574.04	573.62	573.49	573.17	573.09	572.73
GIRDER 4	574.52	574.11	573.98	573.66	573.58	573.23
GIRDER 5	575.00	574.59	574.47	574.15	574.06	573.72
GIRDER 6	575.48	575.07	574.95	574.64	574.56	574.22

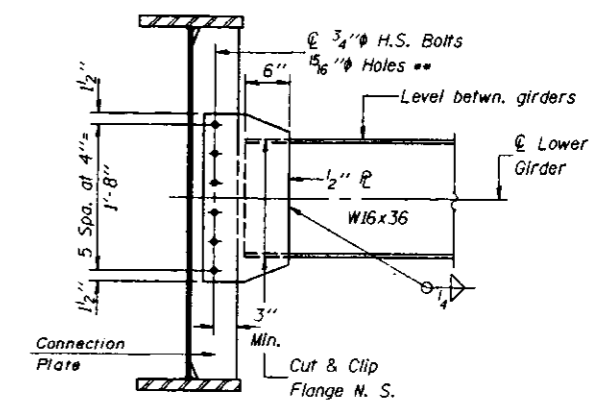
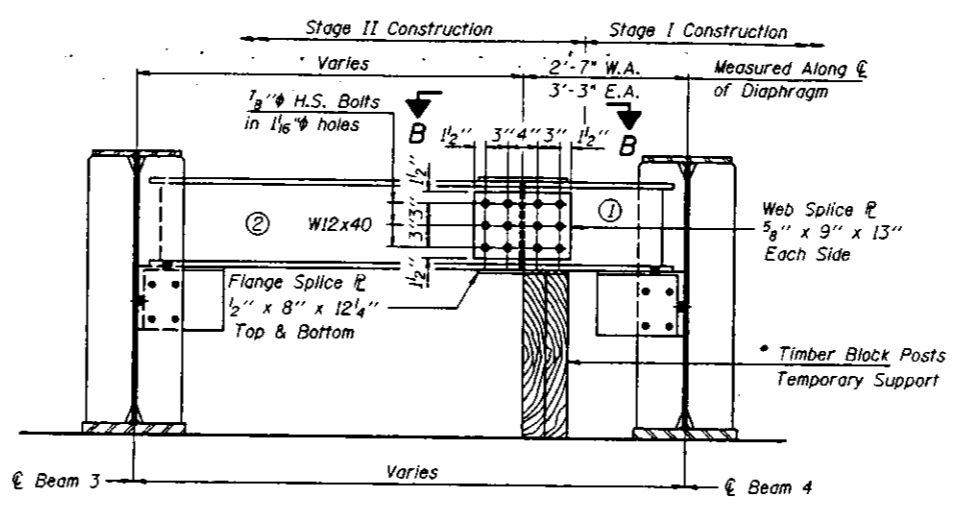
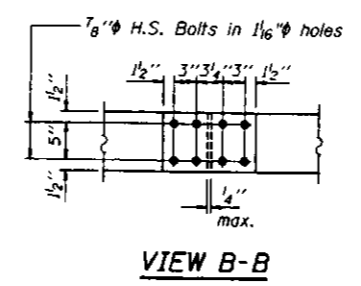
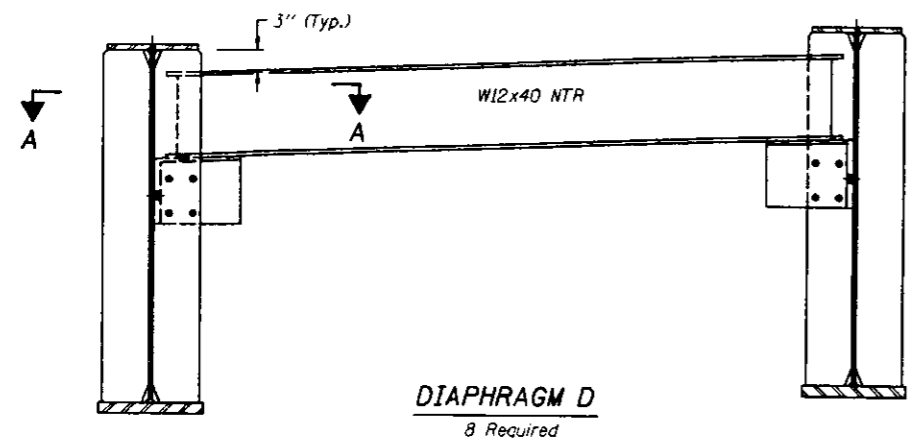
GIRDER DETAILS
E.B. F.A.I. RTE. 270 OVER W.B. F.A.I. RTE. 70
F.A.I. RTE. 270 SECTION 60-6HB-1Y
STA. 873+24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
S.N. 060-0059

MTA INCORPORATED
 DESIGNED: GBM CHECKED: BGH
 DRAWN: THW DATE: July, 1994

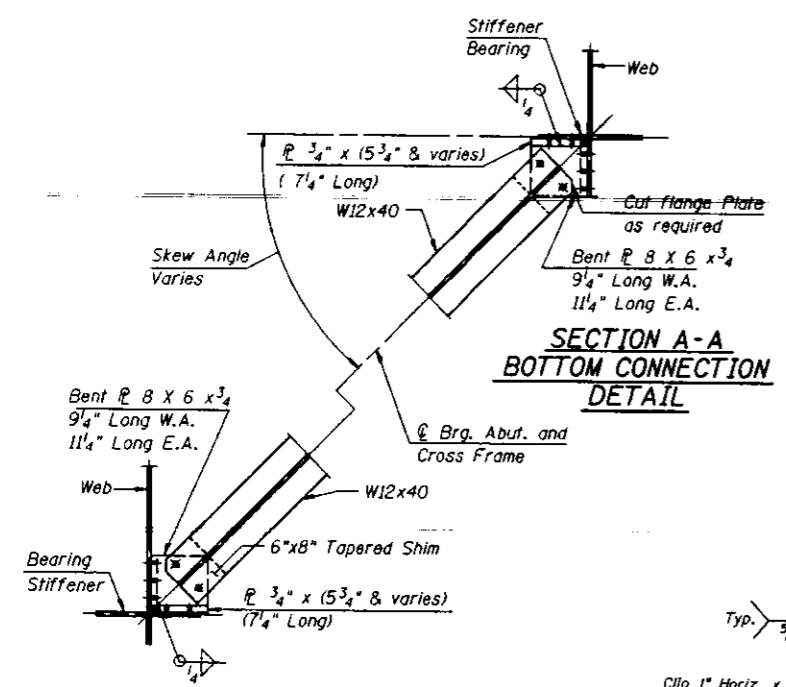
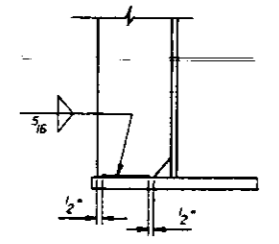
Work this Sheet with Sheets 9 & 10 of 25

AS REVISED 4-20-95

LOCATION NO. 5



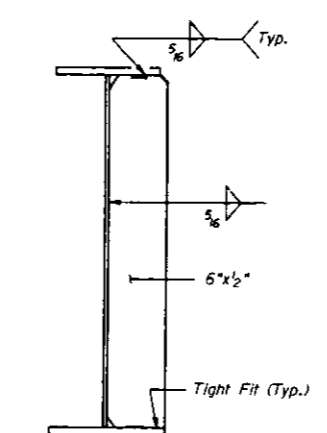
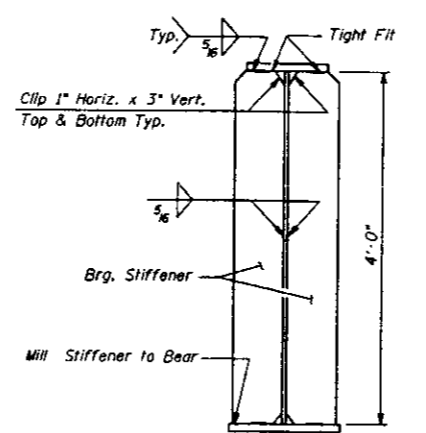
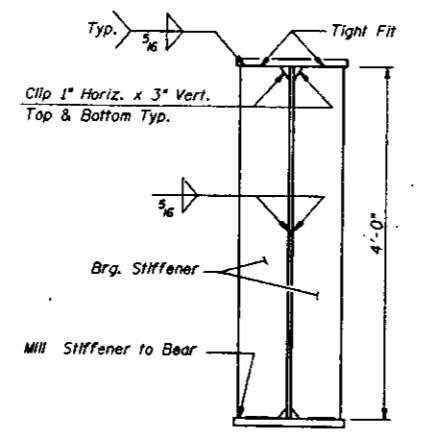
** Use vertically oriented long slotted 3/16 inch x 1 1/2 inch holes in Web Stiffeners on Girder 4 North side and Girder 3 South side. Use Structural Plate Washers over holes.



DIAPHRAGM D 2 CONSTRUCTION SEQUENCE

- 1.) Order Diaphragm D 2 in two sections.
- 2.) Attach section ① of Diaphragm to Beam 4 and top flange splice during Stage I Construction.
- 3.) Place Timber Block Posts between section ① of diaphragm and abutment bearing seat.
- 4.) Attach section ② of diaphragm to both Beam 3 and section ① of diaphragm during Stage II Construction.
- 5.) Attach all remaining splice plates to sections ① and ② of diaphragms.
- 6.) Remove Timber Block Posts.

NOTE:
Unless otherwise noted, all Bolts are 3/4 inch High Strength AASHTO M164 (ASTM A325) with 5/16 inch holes.
Two Hardened Washers shall be required over all oversize holes.
Bolts on Diaphragm D1 between Girders 3 & 4 shall be finger tight only prior to the Deck Slab pouring and shall be fully tightened immediately after Deck Slab is poured.

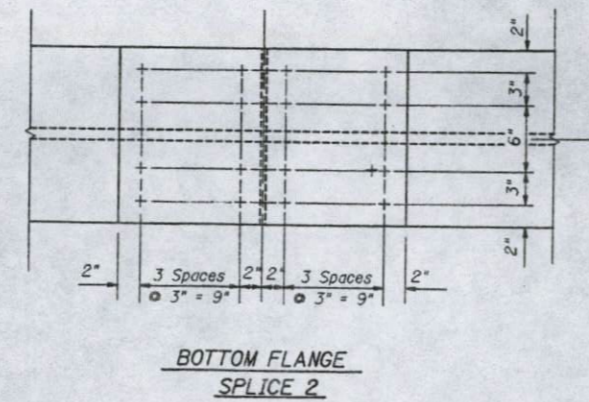
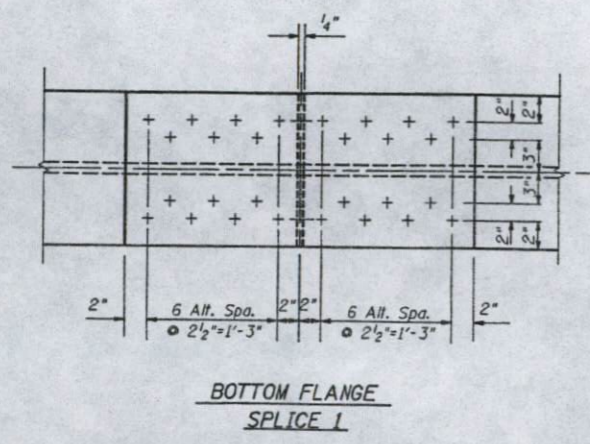
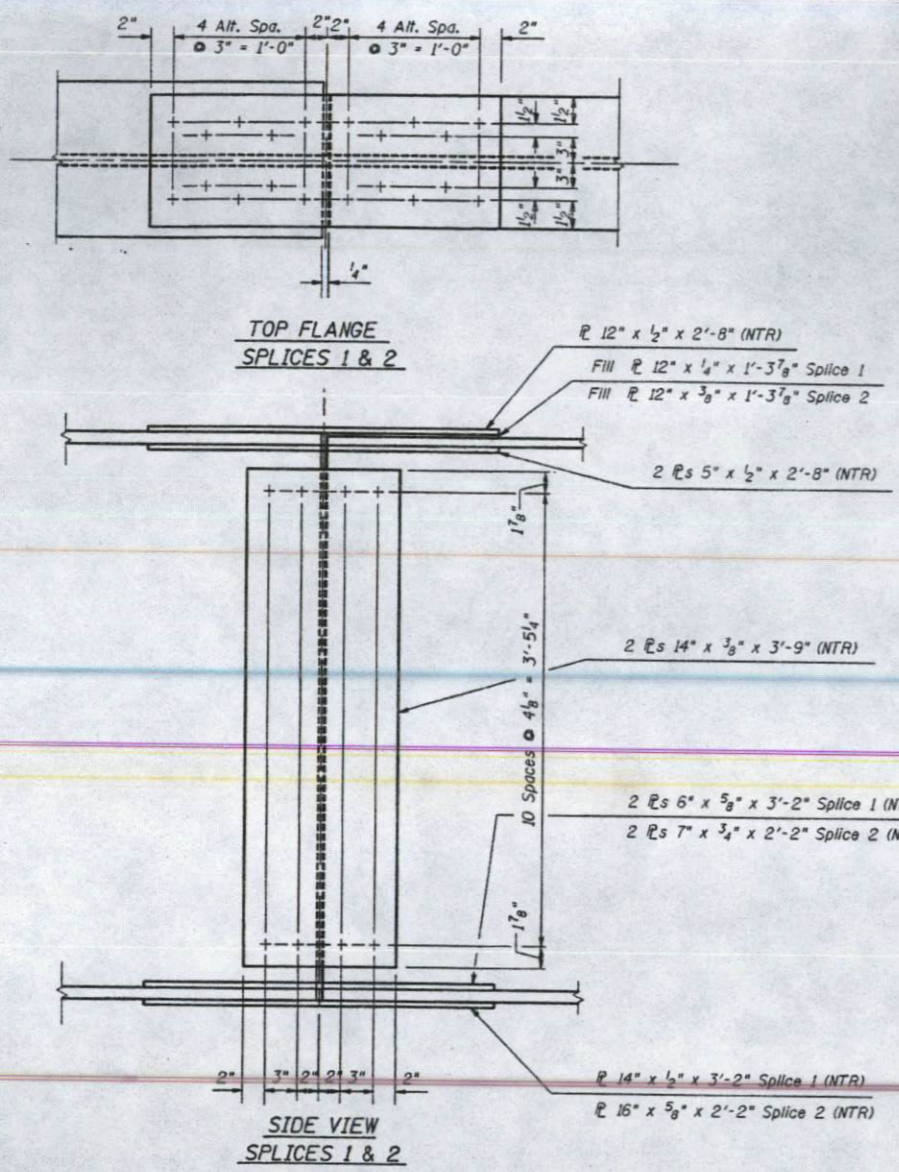


STEEL DETAILS
E.B. F.A.I. RTE. 270 OVER W.B. F.A.I. RTE. 70
F.A.I. RTE. 270 SECTION 60-6HB-1-Y
STA. 873+24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
S.N. 060-0059

MTA INCORPORATED
DESIGNED: GBM CHECKED: BGH
DRAWN: TNJR. DATE: July, 1994

WORK THIS SHEET WITH SHEETS 8 & 10.

LOCATION NO. 5



INTERIOR MOMENT TABLE

	.4 Span 1	Pier 1	.5 Span 2	Pier 2	.6 Span 3
<i>I</i> _s (in. 4)	17,437	20,841	17,437	25,755	19,208
<i>S</i> _s (TOP) (in. 3)	633	834	633	1,025	654
<i>S</i> _s (BOTTOM) (in. 3)	786	834	786	1,025	938
<i>I</i> _c (3n) (in. 4)	32,367		32,367		36,373
<i>S</i> _c (TOP) (3n) (in. 3)	1,911		1,911		1,935
<i>S</i> _c (BOTTOM) (3n) (in. 3)	987		987		1,170
<i>I</i> _L (n) (in. 4)	44,387		44,387		50,896
<i>S</i> _L (TOP) (n) (in. 3)	5,240		5,240		5,137
<i>S</i> _L (BOTTOM) (n) (in. 3)	1,075		1,075		1,273
<i>S</i> _w (TOP) (in. 3)	18	33	18	48	18
<i>S</i> _w (BOTTOM) (in. 3)	33	33	33	48	48
<i>Q</i> (K/)	.853	.858	.863	.866	.869
<i>M</i> _Q (K)	425.6	569.3	122.4	841.4	608.3
<i>f</i> _s (TOP) (Ksi)	8.07	8.19	2.32	9.85	11.16
<i>f</i> _s (BOTTOM) (Ksi)	6.50	8.19	1.87	9.85	7.78
<i>S</i> _D <i>L</i> (K/)	.310	.310	.310	.310	.310
<i>M</i> _s <i>Q</i> (K)	162.5	178.3	80.5	249.4	232.4
<i>f</i> _s (TOP) (Ksi)	1.02	2.57	0.51	2.92	1.44
<i>f</i> _s (BOTTOM) (Ksi)	1.98	2.57	0.98	2.92	2.38
<i>M</i> _L (K)	645.3	403.5	581.2	501.1	797.2
<i>M</i> _I (K)	158.1	96.8	137.2	116.2	181.8
5/3 (<i>M</i> _L + <i>I</i>) (K)	1,339.0	833.8	1,197.3	1,028.8	1,631.7
<i>f</i> _s (TOP) (Ksi)	3.07	12.0	2.74	12.05	3.81
<i>f</i> _s (BOTTOM) (Ksi)	14.95	12.0	13.37	12.05	15.38
<i>M</i> _a (K)	2,505.2	2,055.8	1,820.3	2,755.5	3,214.1
<i>M</i> _w (TOP) (K)	-2.2	13.4	1.0	16.0	4.0
<i>M</i> _w (BOTTOM) (K)	9.8	13.4	10.7	16.0	16.3
<i>f</i> _w (TOP) (Ksi)	1.47	4.87	.67	4.00	2.67
<i>f</i> _w (BOTTOM) (Ksi)	3.56	4.87	3.89	4.00	4.08
(<i>f</i> _s + <i>M</i> _a /3)(OVERLOAD) (TOP) (Ksi)	13.29	26.51	6.09	27.90	18.46
(<i>f</i> _s + <i>M</i> _a /3)(OVERLOAD) (BOTTOM) (Ksi)	26.17	26.51	19.21	27.90	28.67
<i>f</i> _s (TOTAL) (TOP) (Ksi)		29.59		32.27	
<i>f</i> _s (TOTAL) (BOTTOM) (Ksi)		29.59		32.27	
<i>f</i> _s (TOTAL) + <i>f</i> _w (TOP) (Ksi)	17.28		7.92		18.46
<i>f</i> _s (TOTAL) + <i>f</i> _w (BOTTOM) (Ksi)	34.02		24.97		28.67
<i>F</i> _b (TOP) (Ksi)	37.99	50.00	29.15	50.00	31.93
<i>F</i> _b (BOTTOM) (Ksi)	50	37.97	50	41.69	50
<i>V</i> _r (K)	54.9		58.5		50.0

NOTE: Steel Sections in positive moment areas are controlled by fatigue criteria.

DEFINITIONS

*I*_s and *S*_s are the moment of inertia and section modulus of the steel section used in computing *f*_s from the non-composite dead loads.

*I*_c and *S*_c are the moment of inertia and section modulus of the composite section used in computing *f*_s from the composite dead loads.

*I*_L and *S*_L are the moment of inertia and section modulus of the composite section used in computing *f*_s from the live loads and impact.

*S*_w is the section modulus for one flange plate for lateral flange bending.

*M*_w is the factored lateral bending moment on the flange.

*f*_w is the calculated normal stress at the edge of flange due to lateral bending.

(*f*_s + *M*_a/3)(OVER) is the sum of the stress due to *M*_Q + *M*_s *Q* + 5/3(*M*_L + *I*) + *M*_w/1.3

*f*_s(TOTAL) is the sum of the stress due to 1.3 [*M*_Q + *M*_s *Q* + 5/3(*M*_L + *I*)] + *M*_w

*F*_b is the maximum allowable stress *F*_{bu} or *F*_{bu} computed according to AASHTO "Guide Specifications for Horizontally Curved Highway Bridges", Section 2.12 (B) and 2.16.

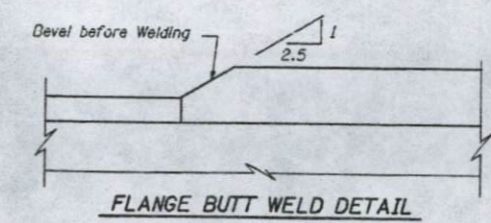
*R*_Q is the reaction due to dead load.

*R*_L is the reaction due to live load.

*R*_{imp} is the reaction due to impact.

*M*_L & *R*_L include the effects of centrifugal force and superelevation.

*f*_s (TOTAL) + *f*_w is the sum of the stress due to 1.3 [*M*_Q + *M*_s *Q* + 5/3(*M*_L + *I*)] + *M*_w



REACTION TABLE

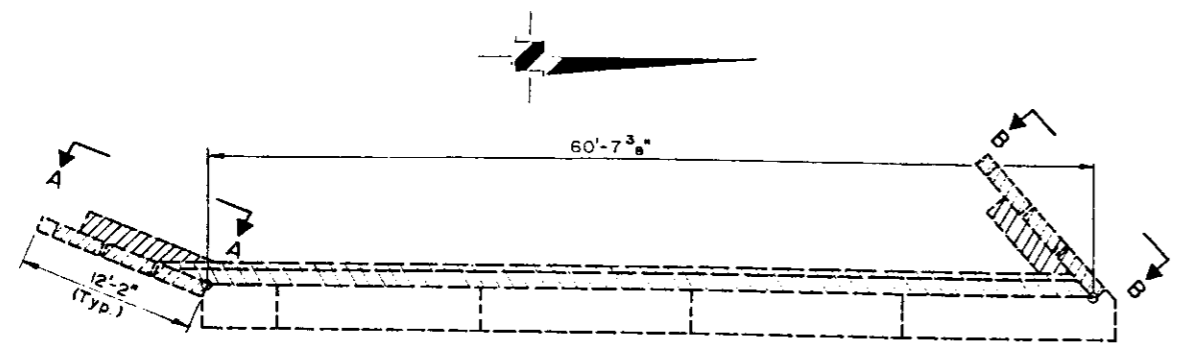
	W. Abut.	Pier 1	Pier 2	E. Abut.
<i>R</i> _Q (K)	37.2	104.0	124.4	44.8
<i>R</i> _L (K)	40.7	56.9	61.5	41.8
<i>R</i> _{imp} (K)	10.0	13.7	14.2	9.5
<i>R</i> TOTAL (K)	87.9	174.6	200.1	96.1

Work this Sheet with Sheets 8 & 9

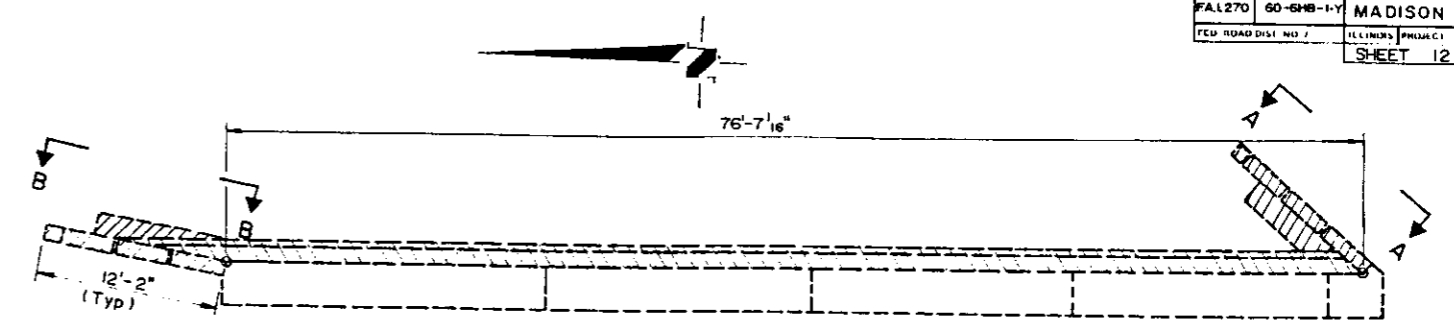
SPLICE DETAILS
E.B. F.A.I. RTE 270 OVER W.B. F.A.I. RTE 70
F.A.I. RTE. 270 SECTION 60-6HB-1-Y
STA. 873+ 24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
STR. NO. 060-0059

MTA INCORPORATED
 DESIGNED: GBM CHECKED: BGH
 DRAWN: TNJr. DATE: July, 1994

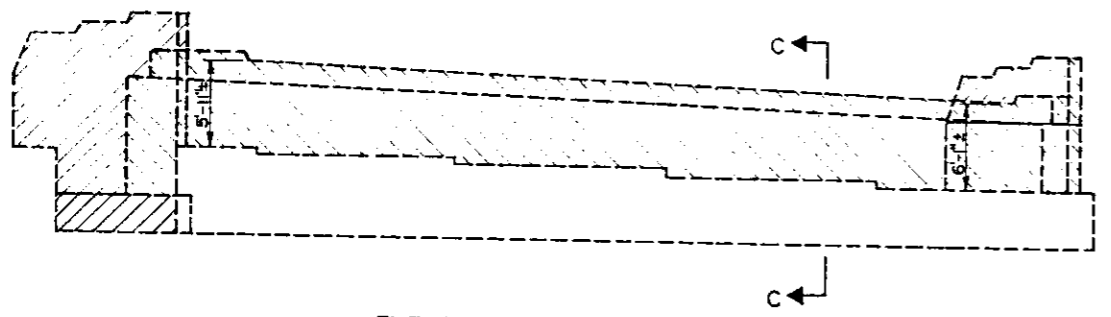
LOCATION NO. 5



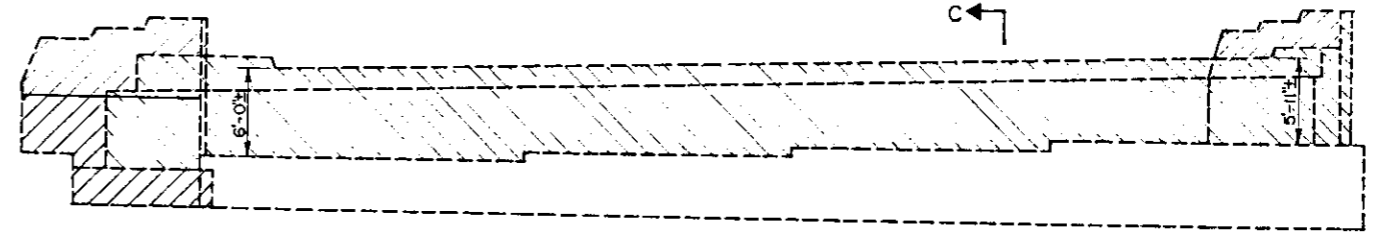
PLAN-WEST ABUTMENT
(Looking West)



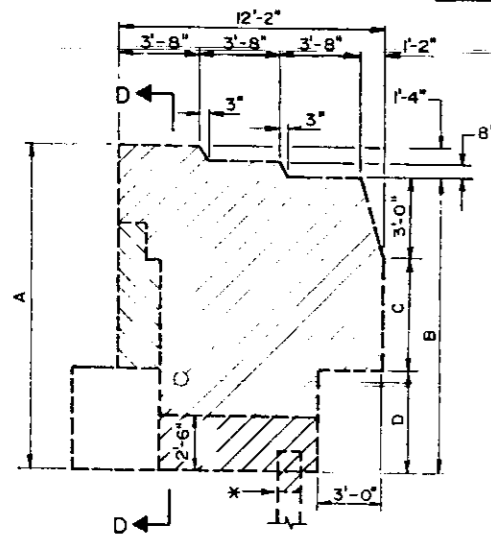
PLAN-EAST ABUTMENT
(Looking East)



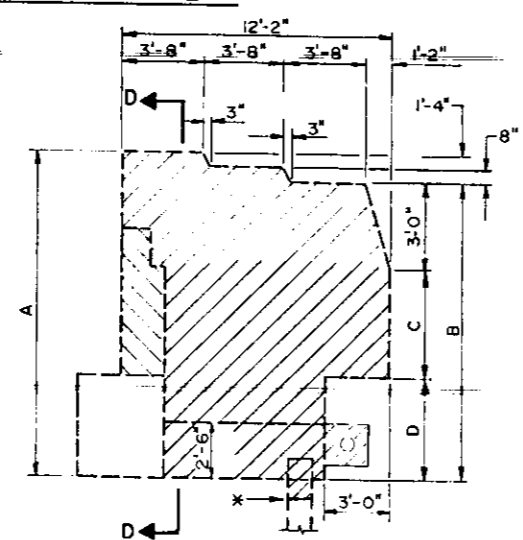
ELEVATION-WEST ABUTMENT



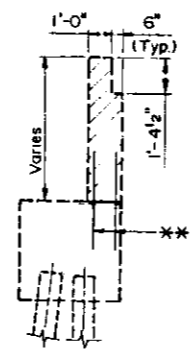
ELEVATION-EAST ABUTMENT



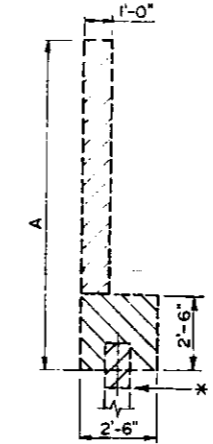
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

	A	B	C	D
WEST ABUT. NORTH WINGWALL	12'-9 3/4"	11'-5 3/4"	4'-11 3/4"	3'-6"
WEST ABUT. SOUTH WINGWALL	14'-9 1/2"	13'-5 1/2"	4'-10 3/16"	5'-7 5/16"
EAST ABUT. NORTH WINGWALL	12'-9 5/8"	11'-5 5/8"	4'-11 3/8"	3'-6"
EAST ABUT. SOUTH WINGWALL	14'-10 3/16"	13'-6 3/16"	4'-9 15/16"	5'-8 1/4"

* When existing pile interferes with proposed ~~footing construction~~, cut off existing pile to 1 foot below proposed footing elevation and backfill to the satisfaction of the Engineer. Cost incidental to "Concrete Removal".

BILL OF MATERIALS

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	69.8

** Existing # 4 Bars to be Cleaned Straightened, and Incorporated into New Construction. Cost incidental to "Concrete Removal".

Note: Hatched area indicates "Concrete Removal".

CONCRETE REMOVAL AT ABUTMENTS
E.B. F.A.I. RTE. 270 OVER W.B. F.A.I. RTE. 70
F.A.I. RTE. 270 SECTION 60-6HB-1-Y
STA. 873+24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
S.N.060-0059

MTA, INCORPORATED
DESIGNED C.M.S. CHECKED GBM
DRAWN T.N.J. DATE 7/94 NO.

WEST ABUTMENT BILL OF MATERIALS

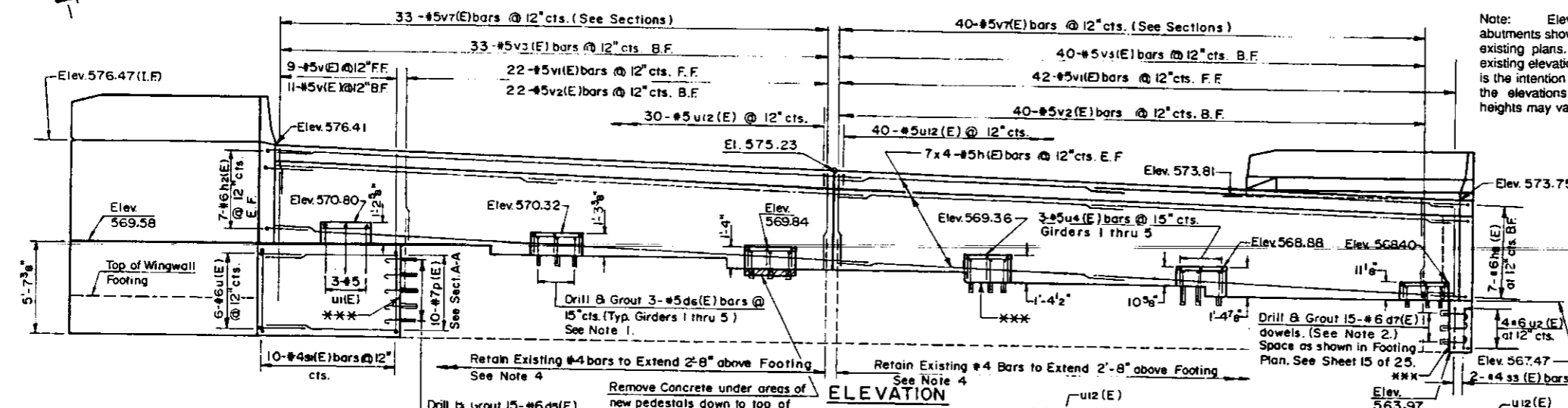
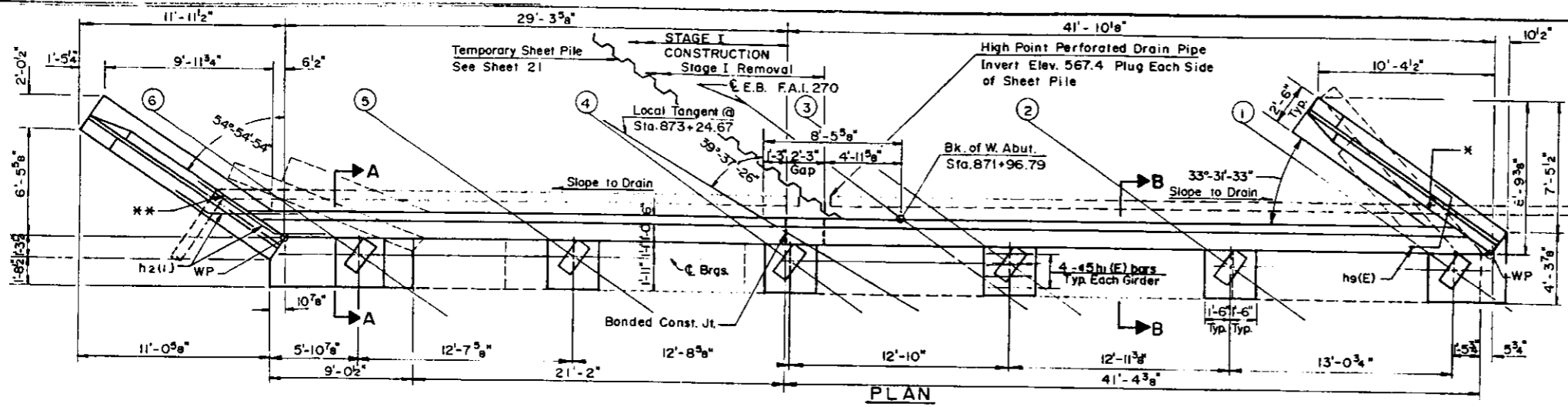
Bar	No.	Size	Length	Shape
d5(E)	15	#6	3'-9"	U
d6(E)	15	#5	2'-4"	U
d7(E)	15	#6	2'-8"	U
h(E)	56	#5	21'-9"	U
h1(E)	24	#5	2'-8"	U
h2(E)	14	#6	8'-6"	U
h3(E)	23	#4	13'-2"	U
h7(E)	23	#4	13'-2"	U
h9(E)	7	#6	5'-3"	U
h10(E)	3	#4	15'-0"	U
h11(E)	3	#4	15'-0"	U
n1(E)	11	#6	17'-9"	U
n2(E)	6	#6	9'-0"	U
n3(E)	7	#6	11'-9"	U
n4(E)	10	#5	6'-5"	U
p(E)	10	#7	9'-8"	U
p2(E)	3	#7	12'-6"	U
p3(E)	3	#7	13'-2"	U
p4(E)	6	#7	15'-0"	U
s1(E)	10	#4	19'-7"	U
s2(E)	24	#4	9'-5"	U
s3(E)	2	#4	15'-1"	U
u(E)	6	#6	9'-3"	U
u1(E)	3	#5	8'-4"	U
u2(E)	4	#6	7'-5"	U
u4(E)	15	#5	5'-6"	U
u12(E)	70	#5	1'-11"	U
v(E)	20	#5	8'-3"	U
v1(E)	64	#5	5'-11"	U
v2(E)	62	#5	4'-5"	U
v3(E)	73	#5	4'-3"	U
v4(E)	22	#6	8'-8"	U
v5(E)	28	#6	8'-9"	U
v6(E)	6	#6	8'-9"	U
v7(E)	73	#5	2'-3"	U
ITEM	UNITS	QTY.		
Structure Excavation	Cu. Yds.	97.1		
Reinforcement Bars, Epoxy Coated	Pound	6,100		
Concrete Structures	Cu. Yds.	59.0		
Bridge Seal Sealer	Sq. Ft.	219		
Steel Piles, HP 10x42	Foot	180		
Test Piles, HP 10x42	Each	1		

A 6" Perforated Drain Pipe shall be situated at the bottom of an approximate 2'x2' area of Porous Granular Embankment. The 2'x2' area shall be wrapped completely in Geotechnical Fabric for French Drains. Cost included in "Pipe Underdrains, 6"

* Perforated Drain Pipe Invert Elev. 563.0 @ Inside Face W.W.
 ** Perforated Drain Pipe Invert Elev. 563.0 @ Inside Face W.W.
 *** Bonded Construction Jt. in accordance with Art. 503.09(a)(2) of the Std. Specs.
 Reinforcement Bars designated (E) shall be Epoxy Coated.

SEE SHEET 23 OF 25 FOR BEARING GEOMETRY & ANCHOR BOLT LAYOUT

Note: Elevations and Dimensions of existing piers and abutments shown in these Plans are based on field surveys and existing plans. It is the Contractor's responsibility to verify existing elevations and dimensions before ordering materials. It is the intention of the Plans to construct Proposed Pedestals to the elevations shown, therefore actual Proposed Pedestal heights may vary slightly from those shown.



- NOTES:
- Epoxy grout d₆(E) bars in 7/8" dia. x 9" minimum drilled holes.
 - Epoxy grout d₅(E) + d₇(E) bars in 1" diameter x 9" minimum drilled holes.
 - Use a grout approved by the Department. Epoxy grout in accordance with Section 584 of Standard Specifications. The method of grout application shall be approved by the Engineer.
 - The Contractor shall verify elevations and dimensions of existing piers and abutments before ordering materials.
 - The Contractor shall use care in the salvage of existing reinforcement bars. Existing bars shall be cleaned, straightened and incorporated into new construction. See Sheet 12 of 25.
 - Space reinforcement in cap to miss anchor bolts.
 - All edges shall have standard 3/4" chamfers except as noted.

Drill & Grout 15-#6d₅(E) dowels. (See Note 2). Space as shown in Footing Plan. See Sheet 15 of 25.

Remove Concrete under areas of new pedestals down to top of existing reinforcement. (Typ. Girders 1 thru 5) Maximum Hammer Wt = 10 lbs. Cost incidental to Concrete Structures.

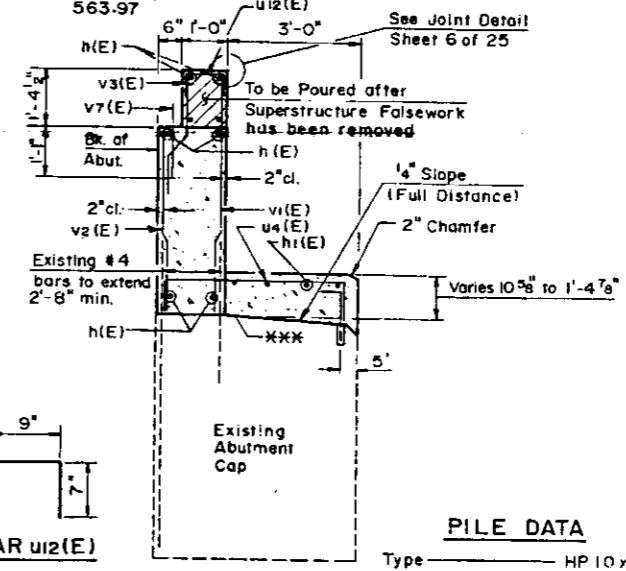
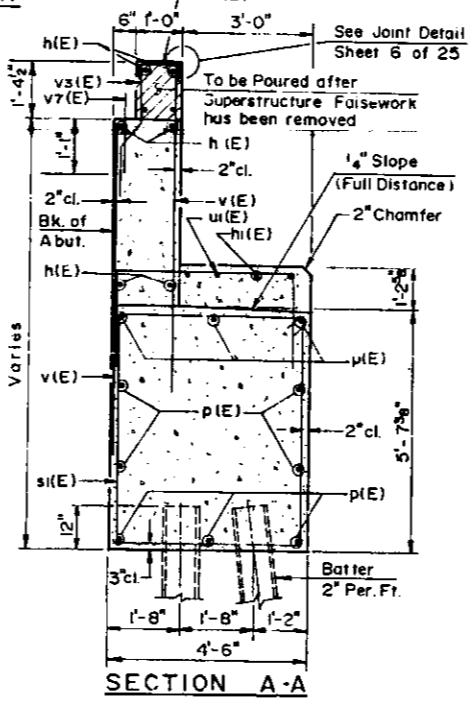
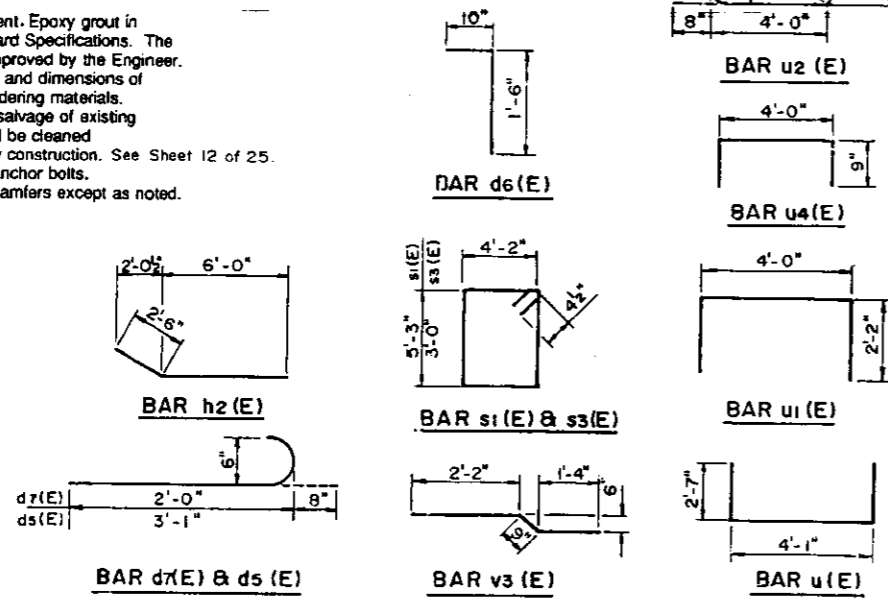
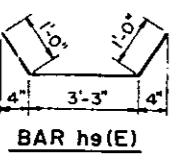
Retain Existing #4 bars to Extend 2'-8" above Footing See Note 4

Drill & Grout 15-#6d₅(E) dowels. (See Note 2). Space as shown in Footing Plan. See Sheet 15 of 25.

Drill & Grout 15-#6d₇(E) dowels. (See Note 2). Space as shown in Footing Plan. See Sheet 15 of 25.

BAR LAP

#4	1'-8"
#5	2'-2"
#6	2'-7"

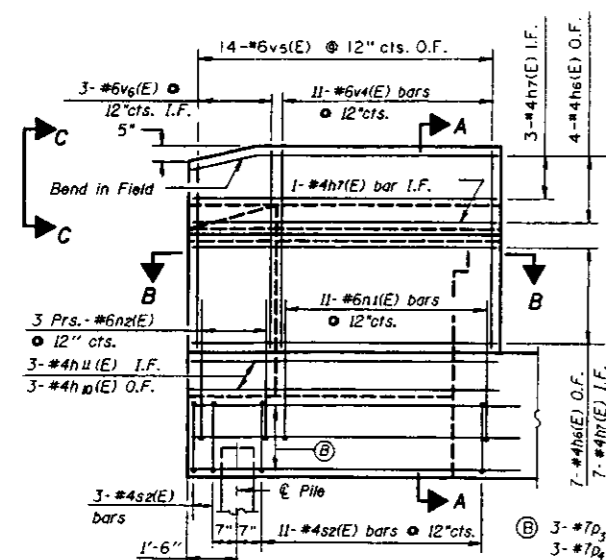


PILE DATA
 Type — HP 10 x 42
 Capacity — Drive to Refusal
 Estimated Length — 45'
 Number Required — 5 (Includes 1 Test Pile)

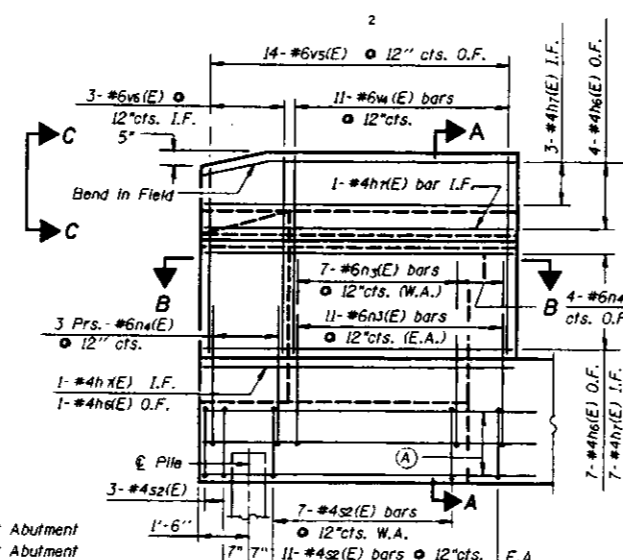
See Sheet 15 for Wingwall Details, Footing Plan and Bar Details.

WEST ABUTMENT
 E.B. F.A.I. RTE. 270 OVER W.B. F.A.I. RTE. 70
 F.A.I. RTE. 270 SECTION 60-6HB-I-Y
 STA. 873+24.67 F.A.I. 270
 STA. 931+93.69 F.A.I. 70
 MADISON COUNTY
 S.N. 060-0059

MTA, INCORPORATED
 DESIGNED GBM
 DRAWN TNV.
 CHECKED CMS
 DATE 7/94

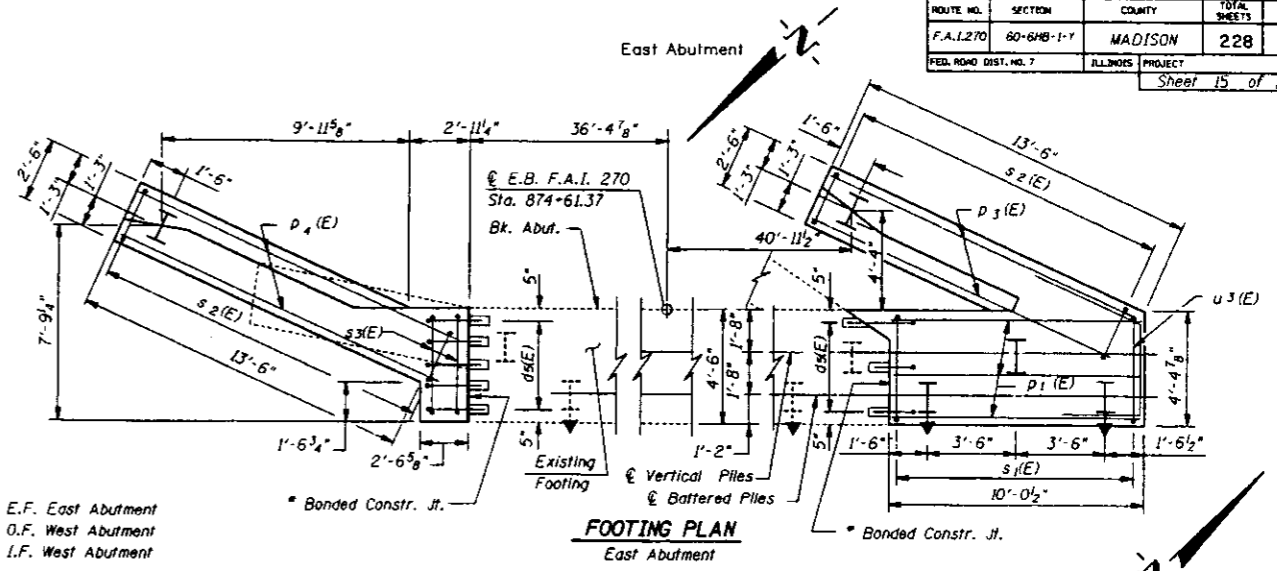


SOUTH WINGWALL ELEVATION
West Abutment Shown
East Abutment Similar

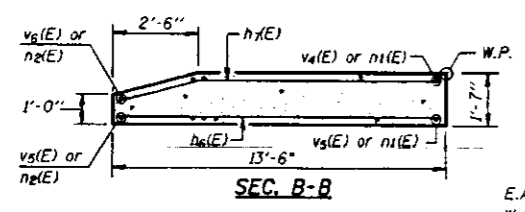


NORTH WINGWALL ELEVATION
East Abutment Shown
West Abutment Similar

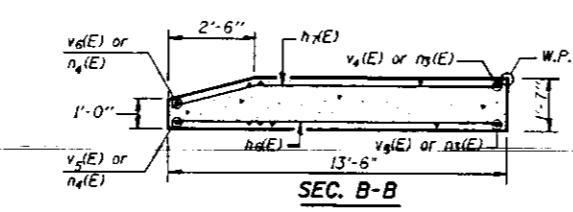
- 3- #7p₄(E) bars E.F. East Abutment
- 3- #7p₃(E) bars O.F. West Abutment
- 3- #7p₂(E) bars I.F. West Abutment



FOOTING PLAN
East Abutment

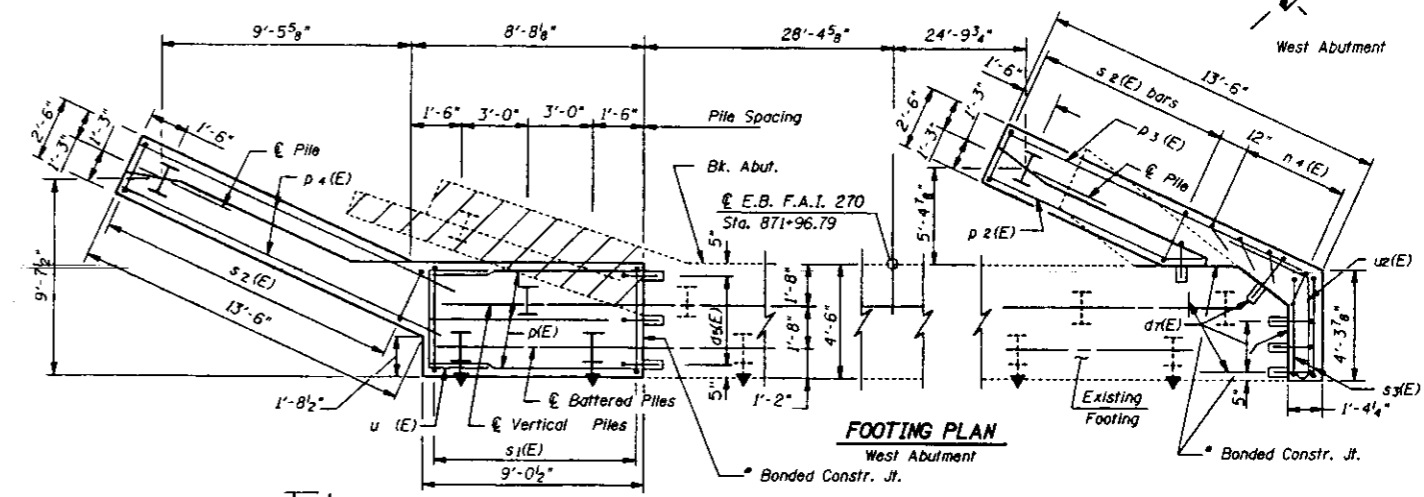


SEC. B-B



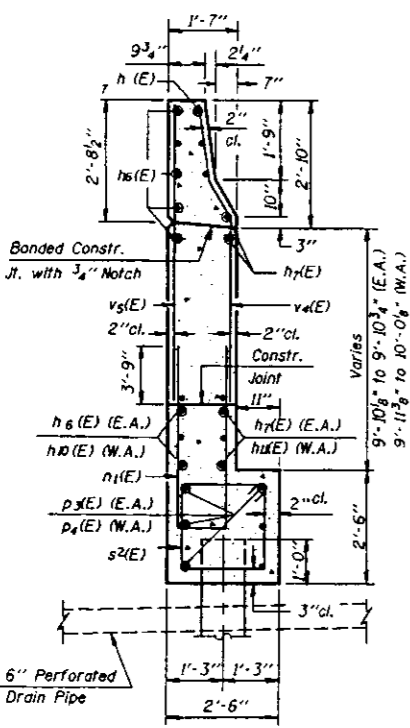
SEC. B-B

- E.A. = East Abutment
- W.A. = West Abutment
- E.F. = Each Face
- O.F. = Outside Face
- I.F. = Inside Face

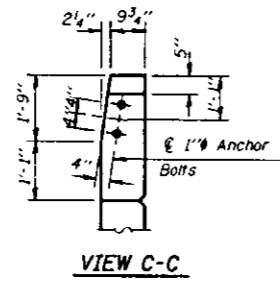


FOOTING PLAN
West Abutment

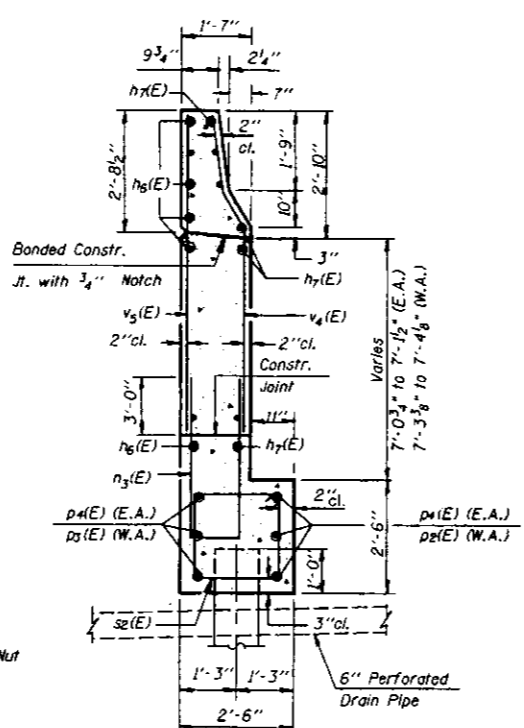
* Bonded Constr. Jt. in accordance with Art. 503.09 (a)(2) of the Std. Specs.



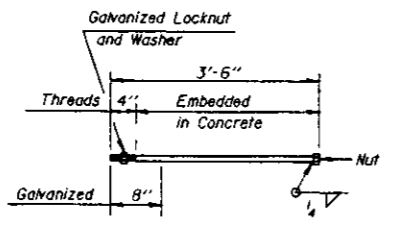
SEC. A-A
South Wingwall of West Abutment
South Wingwall of East Abutment



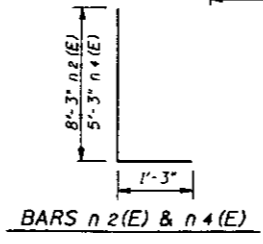
VIEW C-C



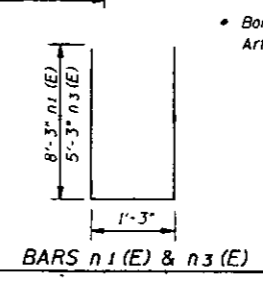
SEC. A-A
North Wingwall of West Abutment
North Wingwall of East Abutment



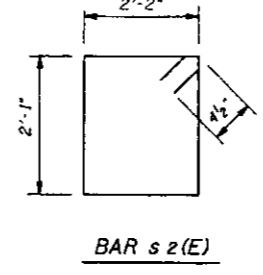
1" ANCHOR BOLT
Cost to be incidental to Bridge Structure



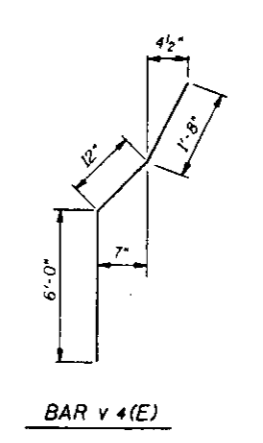
BARS n₂(E) & n₄(E)



BARS n₁(E) & n₃(E)



BAR s₂(E)



BAR v₄(E)

BAR h₇(E), h₈(E), p₂(E), v₆(E)

BAR	A	B	C
h ₇ (E)	10'-9"	2'-5"	7'
h ₈ (E)	13'-1"	2'-5"	7'
p ₂ (E)	9'-2"	3'-4"	1'-10"
v ₆ (E)	7'-1"	1'-8"	2'-4"

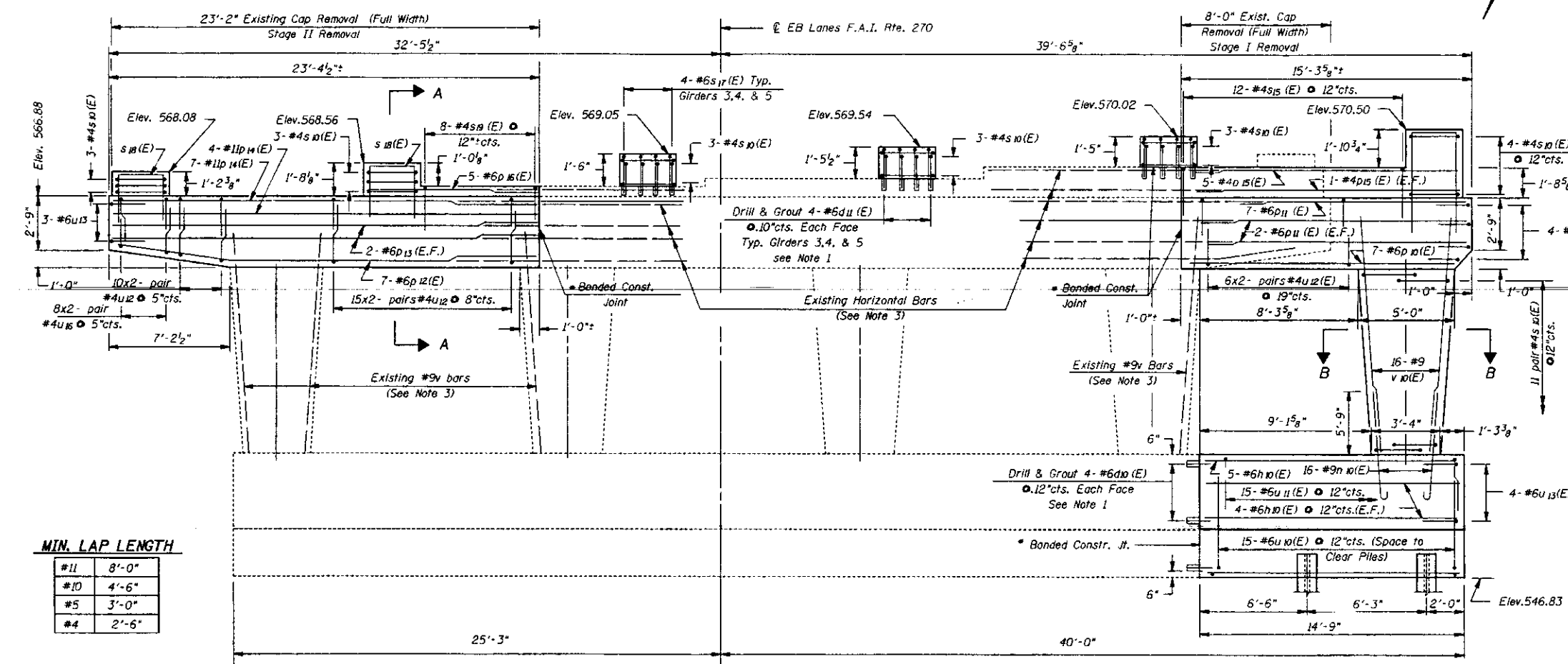
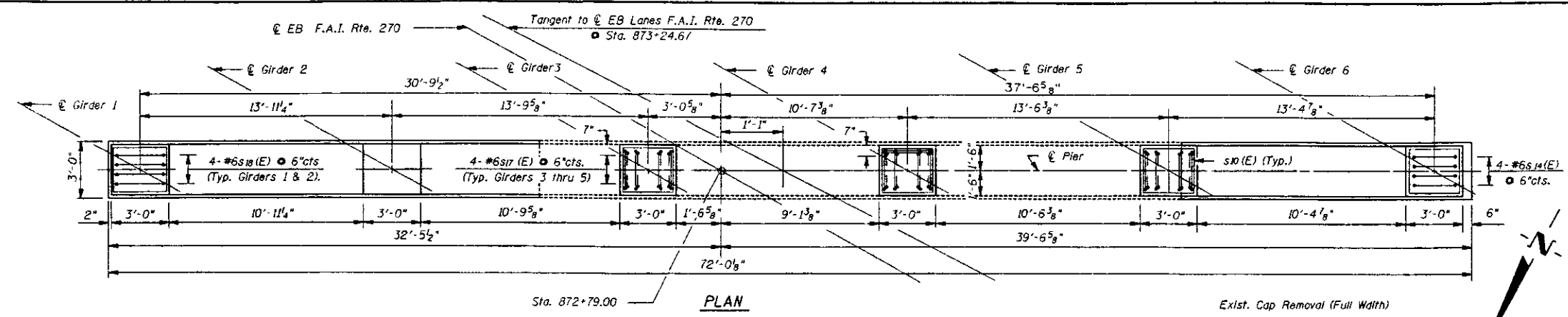
ABUTMENT WINGWALL DETAILS
E.B. F.A.I. RTE. 270 OVER F.A.I. RTE. 70
F.A.I. RTE. 270 SECTION 60-6HB-1-Y
STA. 873+24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
S.N. 060-0059

MTA INCORPORATED
DESIGNED: BGH CHECKED: GBW
DRAWN: TNJr. DATE: July, 1994

LOCATION NO. 5

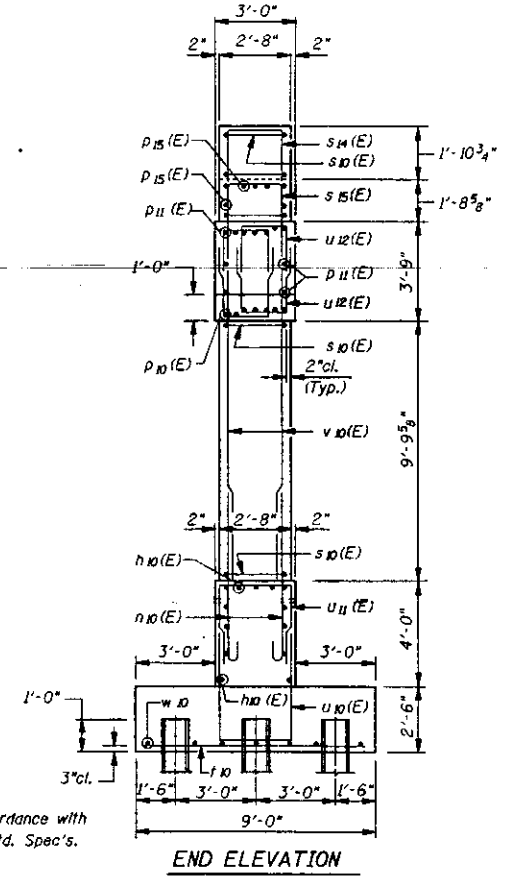
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 270	60-6HB-1-Y	MADISON	228	189
FED. ROAD DIST. NO. 7		ILL. DIST. PROJECT		
Sheet 16 of 25				

- NOTES:
- Epoxy grout bars in 1" dia. x 9" minimum drilled holes. Use a grout approved by the Department. Epoxy grout in accordance with Section 584 of Standard Specifications. The method of grout application shall be approved by the Engineer.
 - Elevations and dimensions of existing piers and abutments shown in these Plans are based on field surveys and existing plans. It is the Contractor's responsibility to verify existing elevations and dimensions before ordering materials. It is the intention of the Plans to construct Proposed Pedestals to the elevations shown, therefore actual Proposed Pedestal heights may vary slightly from those shown.
 - The contractor shall use care in the salvage of existing reinforcement bars. Existing bars shall be cleaned, straightened and incorporated into new construction.
 - Space reinforcement in caps to miss anchor bolts.
 - All edges shall have standard 3/8" chamfers except as noted.

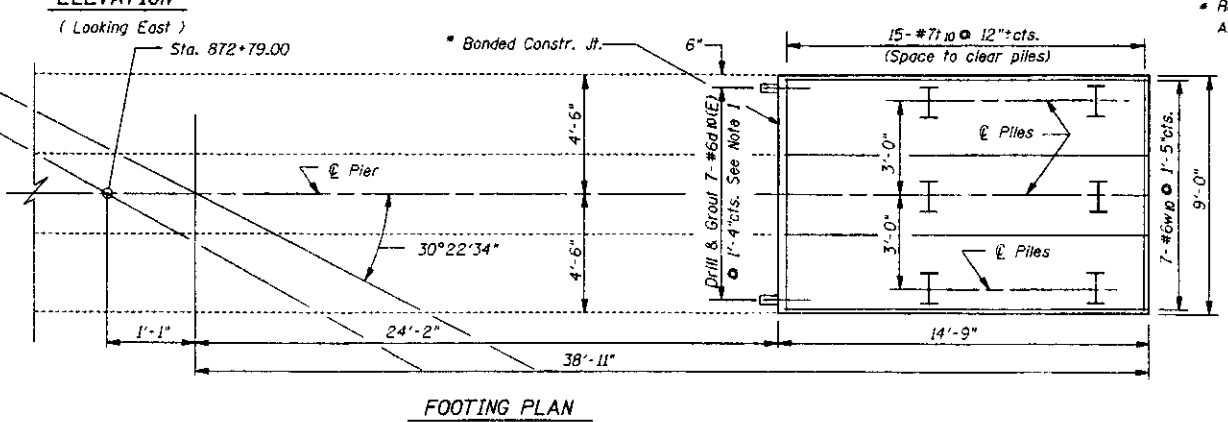
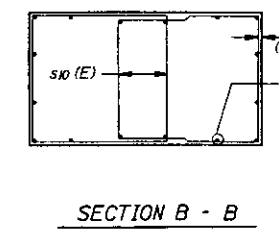
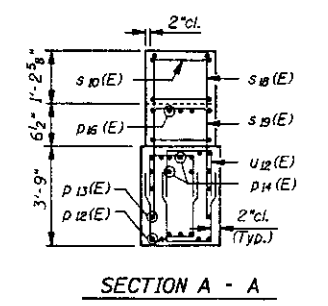


MIN. LAP LENGTH

#11	8'-0"
#10	4'-6"
#5	3'-0"
#4	2'-6"



PIER 1
E.B. F.A.I. RTE. 270 OVER W.B. F.A.I. RTE. 70
F.A.I. RTE. 270 SECTION 60-6HB-1-Y
STA. 873+24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
S.N. 060-0059

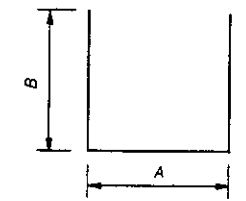


MTA INCORPORATED
 DESIGNED: G.B.M. CHECKED: CMS
 DRAWN: TNJr. DATE: July, 1994

LOCATION NO. 5

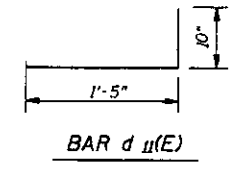
Work this Sheet with Sheet 17

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 270	60-6HB-1-Y	MADISON	228	190
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT			
Sheet 17 of 25				

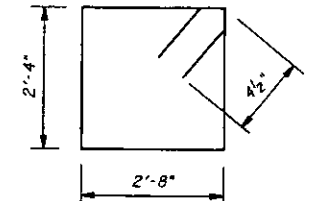


BAR u₁₀(E), u₁₁(E), u₁₂(E), u₁₃(E),
s₁₄(E), s₁₅(E), u₁₆(E), s₁₇(E),
s₁₈(E), s₁₉(E)

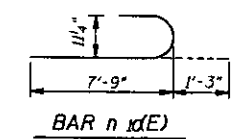
BAR	A	B
u ₁₀ (E)	2'-8"	4'-11"
u ₁₁ (E)	2'-8"	3'-8"
u ₁₂ (E)	1'-10"	2'-7"
u ₁₃ (E)	2'-6"	2'-9"
s ₁₄ (E)	2'-7"	5'-7"
s ₁₅ (E)	2'-3"	3'-3"
u ₁₆ (E)	1'-10"	2'-4"
s ₁₇ (E)	2'-7"	2'-0"
s ₁₈ (E)	2'-7"	3'-7"
s ₁₉ (E)	2'-3"	2'-3"



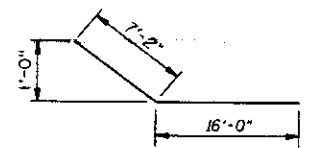
BAR d₁₁(E)



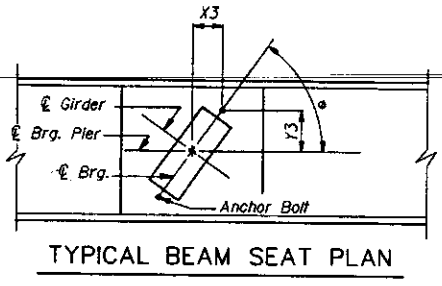
BAR s₁₀(E)



BAR n₁₀(E)



BAR p₁₂(E)



TYPICAL BEAM SEAT PLAN

PIER 1 BEARING GEOMETRY & ANCHOR BOLT LAYOUT

GIRDER	1	2	3	4	5	6
•	59°02'46"	58°41'08"	58°19'53"	57°59'01"	57°38'31"	57°18'21"
X3	6 5/8"	6 3/4"	6 3/4"	6 7/8"	6 7/8"	7"
Y3	11"	11"	11"	10 7/8"	10 7/8"	10 7/8"

PILE DATA

Type : HP 10x42
Capacity : Drive to Refusal
Estimated Length : 28'
No. Req.'d : 6

BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE
d ₁₀ (E)	15	#6	2'-6"	—
d ₁₁ (E)	24	#6	2'-3"	—
h ₁₀ (E)	13	#6	14'-6"	—
n ₁₀ (E)	16	#9	9'-0"	—
p ₁₀ (E)	7	#6	14'-0"	—
p ₁₁ (E)	11	#6	15'-0"	—
p ₁₂ (E)	7	#6	23'-2"	—
p ₁₃ (E)	4	#6	23'-0"	—
p ₁₄ (E)	11	#11	23'-0"	—
p ₁₅ (E)	7	#4	14'-3"	—
p ₁₆ (E)	5	#6	9'-0"	—
s ₁₀ (E)	41	#4	10'-9"	□
s ₁₄ (E)	4	#6	13'-9"	□
s ₁₅ (E)	12	#4	8'-9"	□
s ₁₇ (E)	12	#6	6'-7"	□
s ₁₈ (E)	8	#6	9'-9"	□
s ₁₉ (E)	8	#4	6'-9"	□
t ₁₀ (E)	15	#7	8'-6"	—
u ₁₀ (E)	15	#6	12'-6"	□
u ₁₁ (E)	15	#6	10'-0"	□
u ₁₂ (E)	124	#4	7'-0"	□
u ₁₃ (E)	11	#6	8'-0"	□
u ₁₆ (E)	32	#4	6'-6"	□
v ₁₀ (E)	16	#9	13'-0"	—
w ₁₀ (E)	7	#6	14'-6"	—
ITEM	UNITS	QTY.		
Structure Excavation	Cu. Yds.	32.7		
Reinforcement Bars, Epoxy Coated	Pound	6370		
Concrete Structures	Cu. Yds.	44.3		
Steel Piles, HP 10x42	Foot	168		
Concrete Removal	Cu. Yds.	14.3		

PIER 1 DETAILS
E.B. F.A.I. RTE.270 OVER W.B. F.A.I. RTE. 70
F.A.I. RTE. 270 SECTION 60-6HB-1-Y
STA. 873+24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
S.N. 060-0059

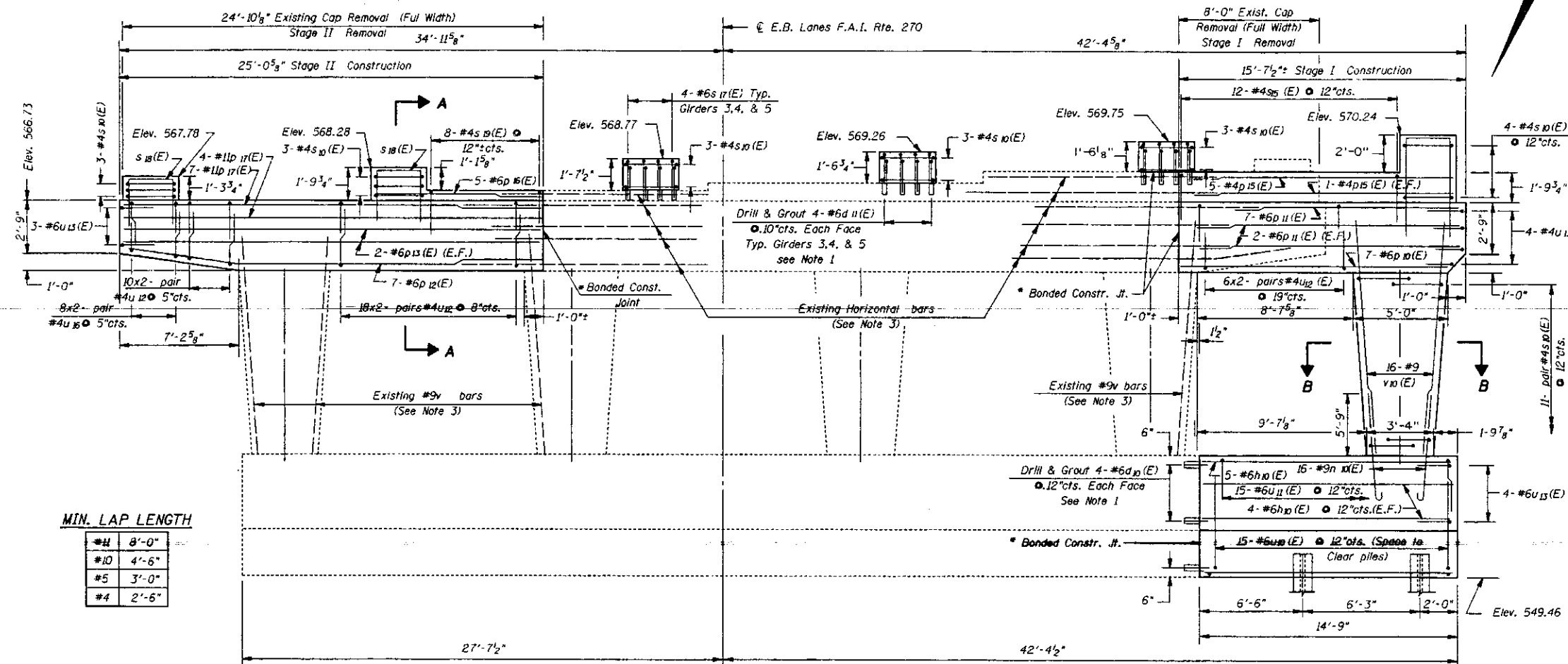
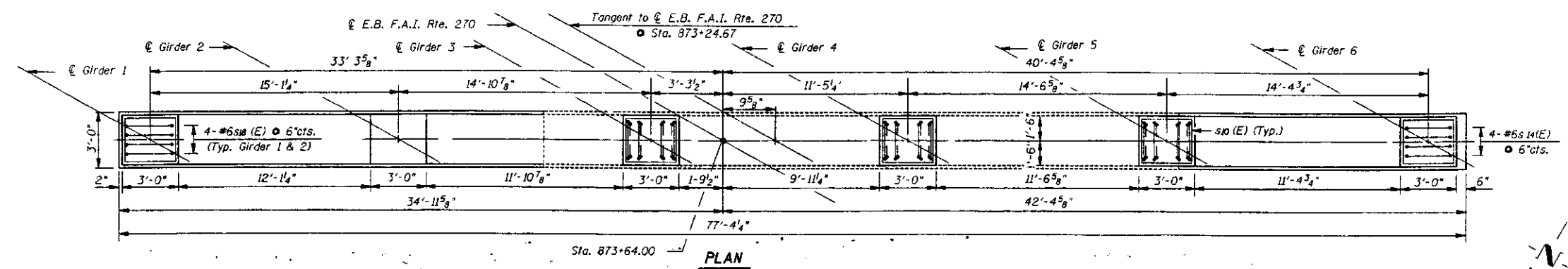
MTA INCORPORATED	
DESIGNED: G.B.M.	CHECKED: CMS
DRAWN: T.M.Jr.	DATE: July, 1994

Work this Sheet with Sheet 16

LOCATION NO. 5

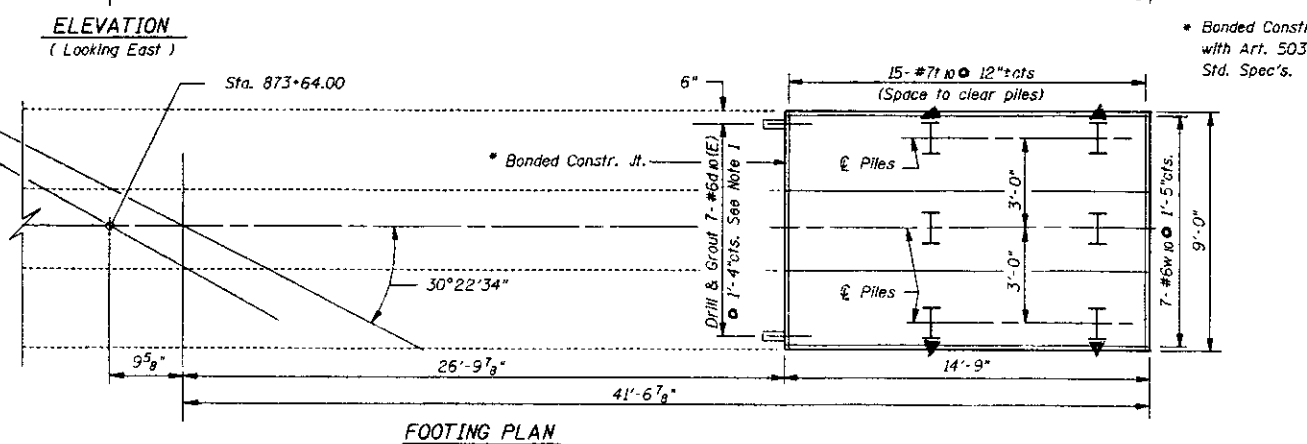
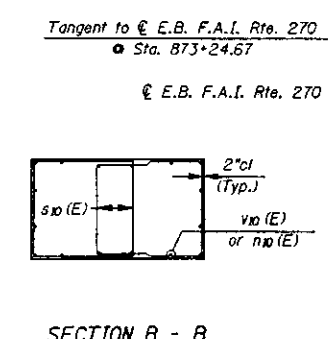
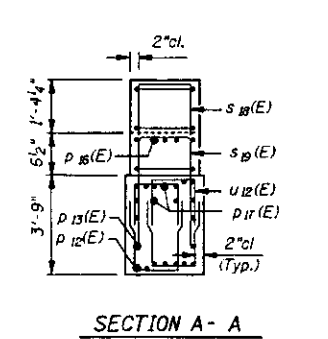
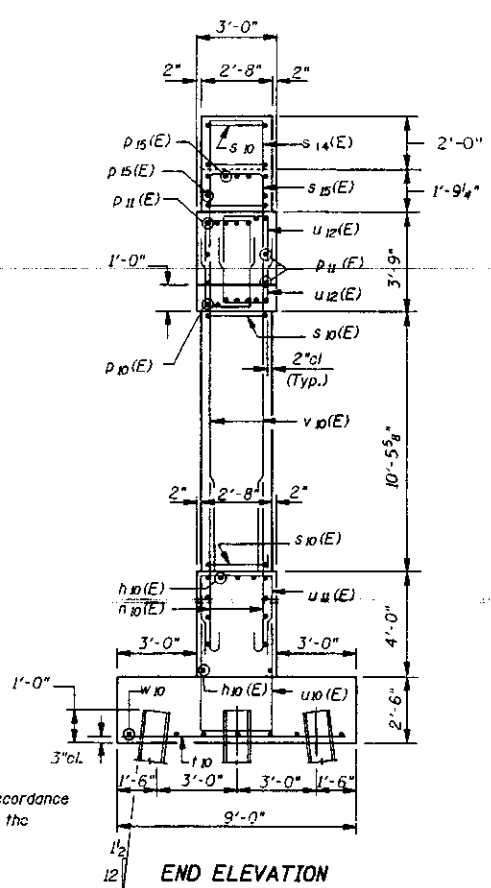
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 270	60-6HB-1-Y	MADISON	228	191
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT		Sheet 18 of 25	

- NOTES:
- Epoxy grout bars in 1" dia. x 9" minimum drilled holes. Use a grout approved by the Department. Epoxy grout in accordance with Section 584 of Standard Specifications. The method of grout application shall be approved by the Engineer.
 - Elevations and dimensions of existing piers and abutments shown in these Plans are based on field surveys and existing plans. It is the Contractor's responsibility to verify existing elevations and dimensions before ordering materials. It is the intention of the Plans to construct Proposed Pedestals to the elevations shown, therefore actual Proposed Pedestal heights may vary slightly from those shown.
 - The contractor shall use care in the salvage of existing reinforcement bars. Existing bars shall be cleaned, straightened and incorporated into new construction.
 - Space reinforcement in caps to miss anchor bolts.
 - All edges shall have standard 3/4" chamfers except as noted.



MIN. LAP LENGTH

#11	8'-0"
#10	4'-6"
#5	3'-0"
#4	2'-6"

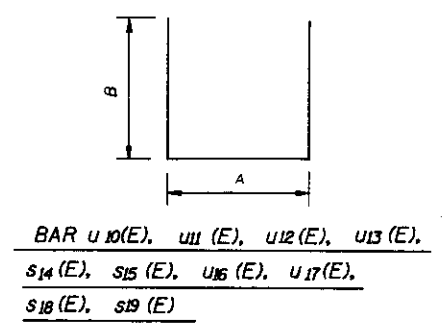


PIER 2
E.B. F.A.I. RTE. 270 OVER W.B. F.A.I. RTE. 70
F.A.I. RTE. 270 SECTION 60-6HB-1-Y
STA. 873+24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
S.N. 060-0059

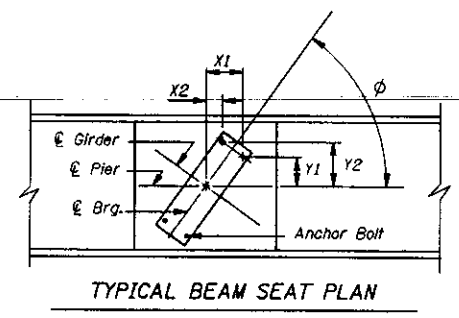
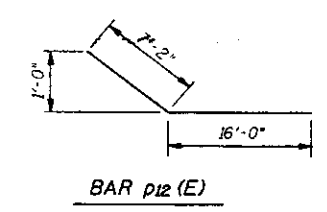
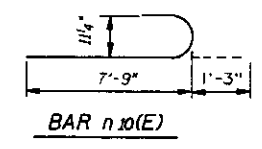
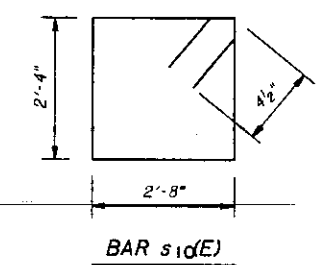
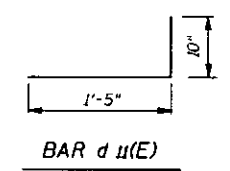
MTA INCORPORATED
 DESIGNED: G.B.M. CHECKED: CWS
 DRAWN: TNJR. DATE: July, 1994

LOCATION NO. 5

Work this Sheet with Sheet 19



BAR	A	B
u10(E)	2'-8"	4'-11"
u11(E)	2'-8"	3'-8"
u12(E)	1'-10"	2'-7"
u13(E)	2'-6"	2'-9"
s14(E)	2'-7"	5'-7"
s15(E)	2'-3"	3'-3"
u16(E)	1'-10"	2'-4"
s17(E)	2'-7"	2'-0"
s18(E)	2'-7"	3'-7"
s19(E)	2'-3"	2'-3"



PIER 2 BEARING GEOMETRY & ANCHOR BOLT LAYOUT

GIRDER	1	2	3	4	5	6
φ	61°41'00"	61°16'57"	60°53'24"	60°30'18"	60°07'40"	59°45'26"
X1	7"	7"	7 7/8"	7 7/8"	7 1/4"	7 1/4"
Y1	9"	9"	8 7/8"	8 7/8"	8 7/8"	8 3/4"
X2	3 3/8"	3 3/4"	3 7/8"	3 7/8"	4"	4"
Y2	10 3/4"	10 3/4"	10 3/4"	10 3/4"	10 3/4"	10 5/8"

PILE DATA

Type : HP 10x42
Capacity : Drive to Refusal
Estimated Length : 25'
No. Req'd : 6 (Include 1 Test Pile)

BILL OF MATERIALS

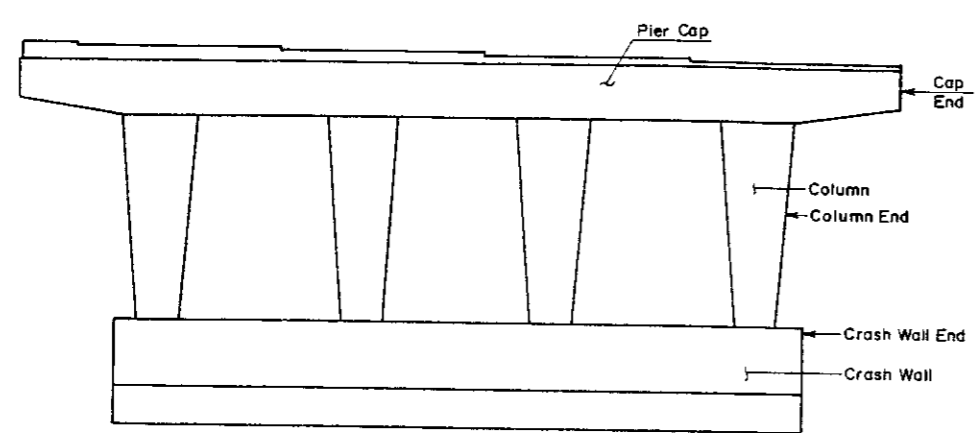
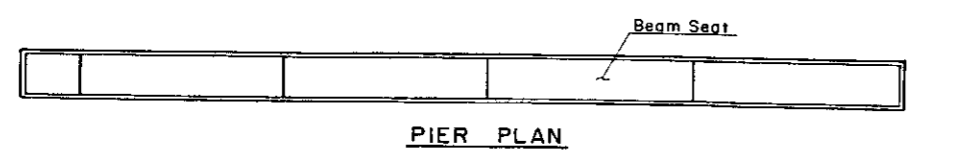
BAR	NO.	SIZE	LENGTH	SHAPE
d10(E)	15	#6	2'-6"	—
h10(E)	13	#6	14'-6"	—
n10(E)	16	#9	9'-0"	—
p10(E)	7	#6	14'-0"	—
p11(E)	11	#6	15'-0"	—
p12(E)	7	#6	23'-3"	—
p13(E)	4	#6	23'-0"	—
p15(E)	7	#4	14'-3"	—
p16(E)	5	#6	9'-0"	—
p17(E)	11	#11	24'-9"	—
s10(E)	41	#4	10'-9"	□
s14(E)	4	#6	13'-9"	□
s15(E)	13	#4	8'-9"	□
s17(E)	12	#6	6'-7"	□
s18(E)	8	#6	9'-9"	□
s19(E)	8	#4	6'-9"	□
t10(E)	15	#7	8'-6"	—
u10(E)	15	#6	12'-6"	□
u11(E)	15	#6	10'-0"	□
u12(E)	136	#4	7'-0"	□
u13(E)	11	#6	8'-0"	□
u16(E)	32	#4	6'-6"	□
v10(E)	16	#9	13'-0"	—
w10(E)	7	#6	14'-6"	—
ITEM	UNIT	QTY.		
Structure Excavation	Cu. Yds.	32.7		
Reinforcement Bars, Epoxy Coated	Pound	6530		
Concrete Structures	Cu. Yds.	45.7		
Steel Piles, HP 10x42	Foot	125		
Concrete Removal	Cu. Yds.	15.1		
Test Pile, HP 10x 42	Each	1		

PIER 2 DETAILS
E.B. F.A.I. RTE.270 OVER W.B. F.A.I. RTE. 70
F.A.I. RTE. 270 SECTION 60-6HB-1-Y
STA. 873+24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
S.N. 060-0059

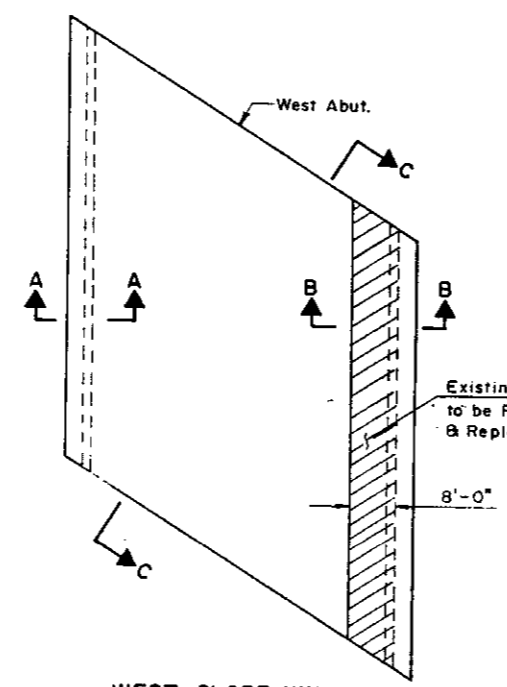
MTA INCORPORATED
DESIGNED: G.B.M. CHECKED: CMS
DRAWN: T.N.Jr. DATE: July, 1994

Work this Sheet with Sheet 18

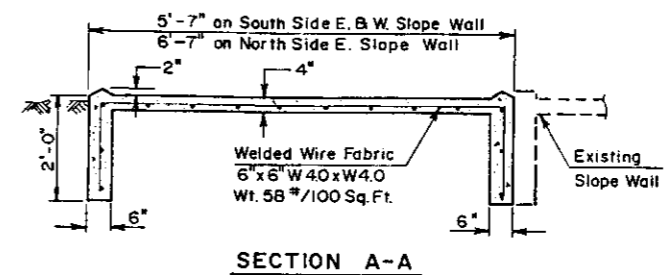
LOCATION NO. 5



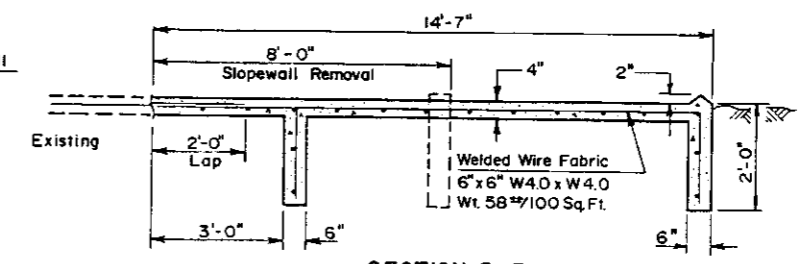
PIER ELEVATION



WEST SLOPE WALL (PLAN)



SECTION A-A

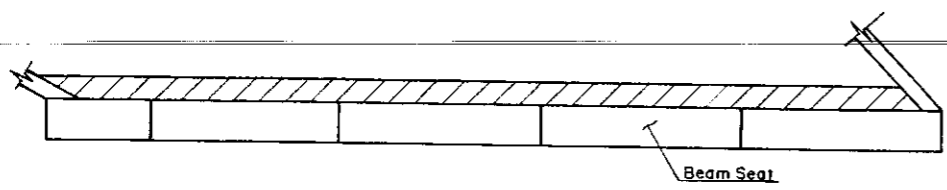


SECTION B-B

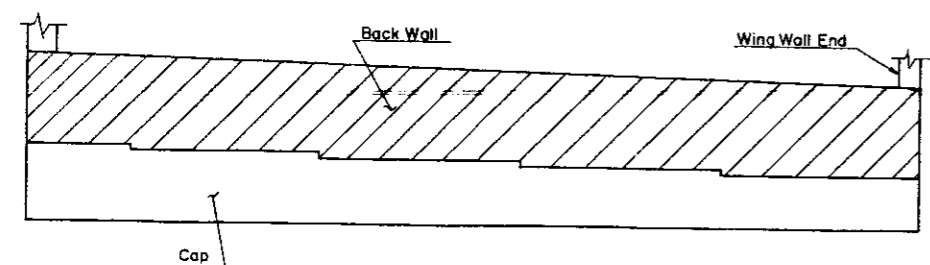
TABLE OF SUBSTRUCTURE REPAIRS

LOCATION	DAMAGE DESCRIPTION	Formed Conc. Repair (Sq. Ft.)	Epoxy Crack Sealing (Lin. Ft.)	High Perf. Enh. Shot. (Sq. Ft.)
West Abutment	Leaching Cracks in Cap		108	
West Abutment	Cracks in Beam Seat		60	
East Abutment	Leaching Cracks in Cap		88	
East Abutment	Cracks in Beam Seat		54	
Pier 1, East Face	Spall in Crashwall			8
Pier 2, East Face	Crack in Cap		8	
West Abutment	Spall in Beam Seat Edge	4		
Pier 2, West Face	Spall in Crashwall Edge	38		
Pier 2, South End	Spall in Cap			4
		42	318	12

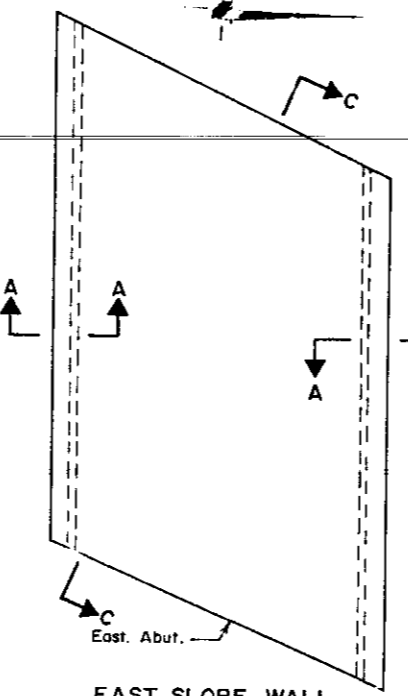
NOTE: Existing welded wire fabric to be incorporated into new construction shall be cleaned and lapped 2'-0" with new fabric. Cost incidental to concrete slope wall. Cost of slope wall shall be incidental to concrete slope wall.



ABUTMENT PLAN

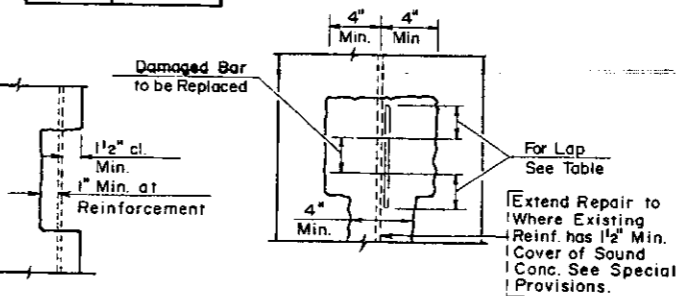


ABUTMENT ELEVATION



EAST SLOPE WALL (PLAN)

Bar Size	Bar Length
#4	1'-3"
#5	1'-7"

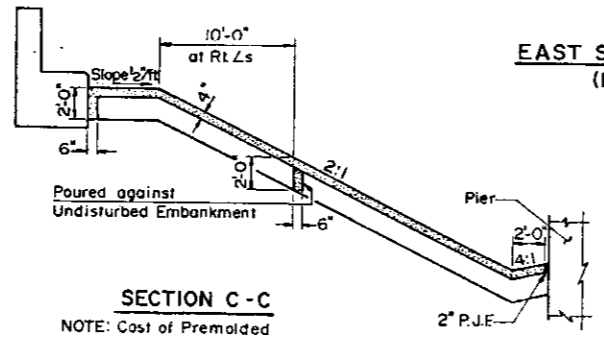


CONCRETE REPAIR DETAIL

NOTE: All repair dimensions are approximate. Existing reinforcement having 20% or more cross sectional area lost due to corrosion or damage during concrete removal shall be replaced by new reinforcement bar lapped as shown or noted. Cost of additional reinforcement will be paid for at the contract unit price for Reinforcement Bars, Epoxy Coated.

BILL OF MATERIALS

ITEM	UNIT	QUANTITY
Formed Conc. Repair (±5")	Sq. Ft.	42
High Performance Enhanced Shotcrete	Sq. Ft.	12
Slopewall 4 Inch	Sq. Yds.	247
Epoxy Crack Sealing	Lin. Ft.	318
Slopewall Removal	Sq. Yds.	75



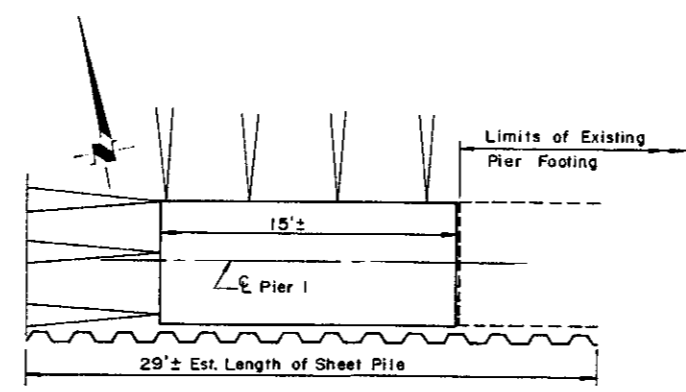
SECTION C-C

NOTE: Cost of Premolded Bituminous Joint Filler will be considered incidental to Slopewall

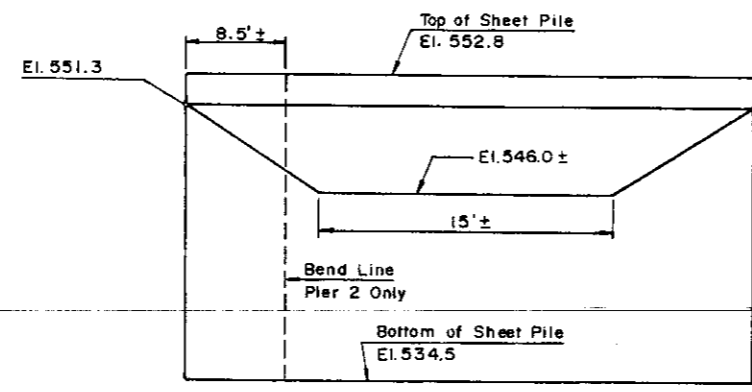
SUBSTRUCTURE REPAIR
E.B. F.A.I. RTE. 270 OVER W.B. F.A.I. RTE. 70
F.A.I. RTE. 270 SECTION 60-6HB-1-Y
STA. 873 + 24.67 F.A.I. 270
STA. 931 + 93.69 F.A.I. 70
MADISON COUNTY
S.N. 060-0059

MTA, INCORPORATED
 DESIGNED T.H.W. CHECKED C.M.S.
 DRAWN S.J.R. DATE 7/94 NO.

PROJECT NO.	SHEET NO.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI.270	60-6HB-I-Y	MADISON	228	194
STATE ROAD DIST. NO. / ILLINOIS PROJECT		SHEET 21 OF 25		

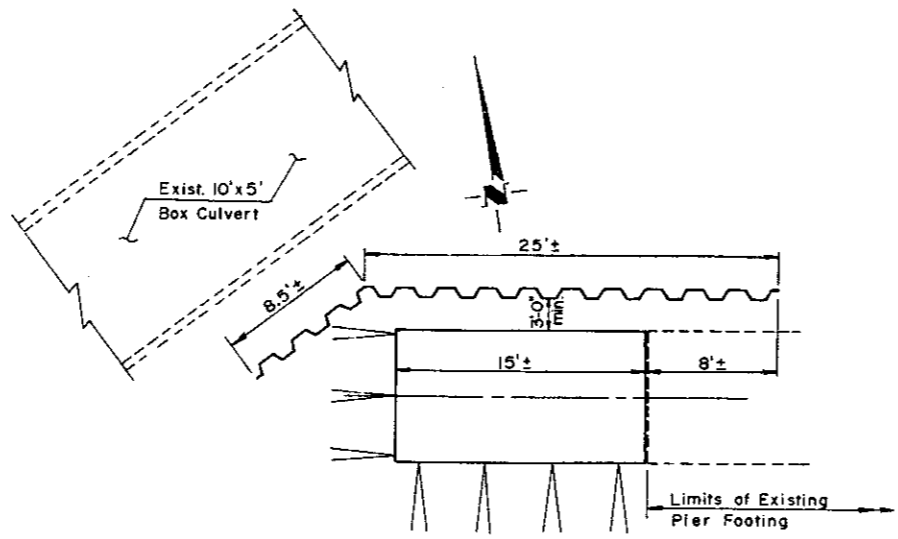


PLAN VIEW
(Sheet Pile at Pier 1)

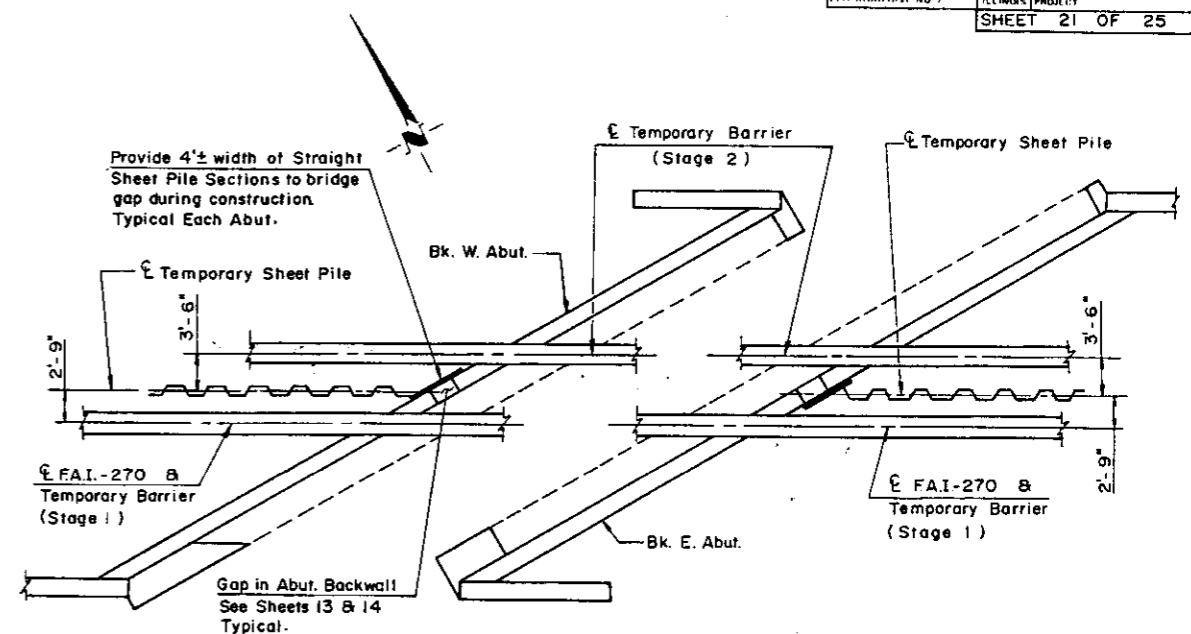


ELEVATION VIEW
(Sheet Pile at Pier 1 & 2)

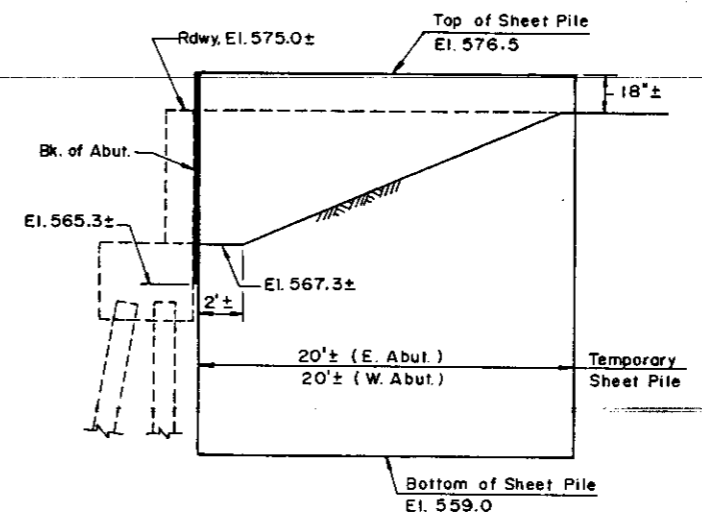
NOTE: The information shown for the Temporary Sheet Piling is estimated. It is the Contractor's responsibility to provide a design and computations of the Temporary Sheet Piling and associated members if required, subject to the approval of the Engineer.



PLAN VIEW
(Sheet Pile at Pier 2)



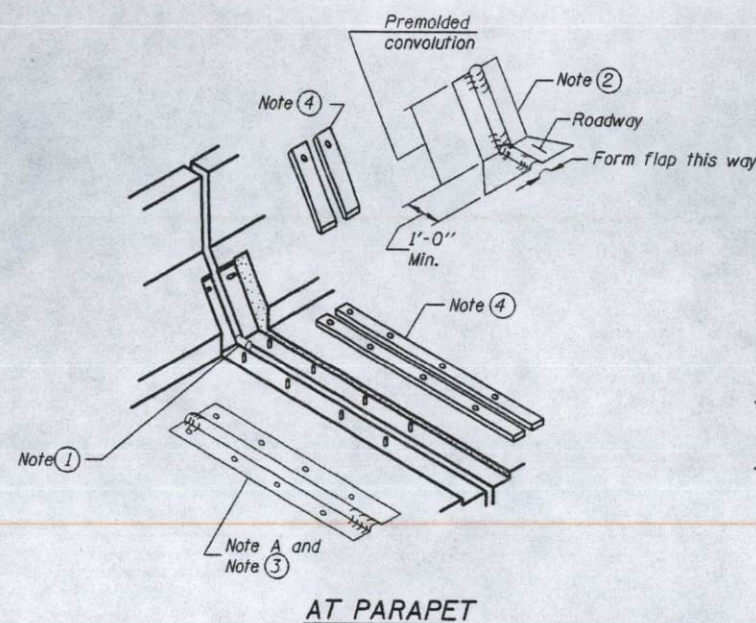
PLAN VIEW
(Sheet Pile at Abutments)



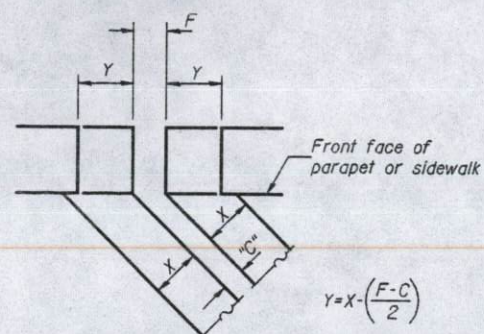
ELEVATION VIEW
(Sheet Pile at Abutments)

TEMPORARY SHEET PILE DETAILS
E.B. FAI. RTE.270 OVER W.B. FAI. RTE.70
FAI. RTE.270 SECTION 60-6HB-I-Y
 STA. 873+24.67 F.A.I. 270
 STA. 931+93.69 F.A.I. 70
MADISON COUNTY
S.N.060-0059

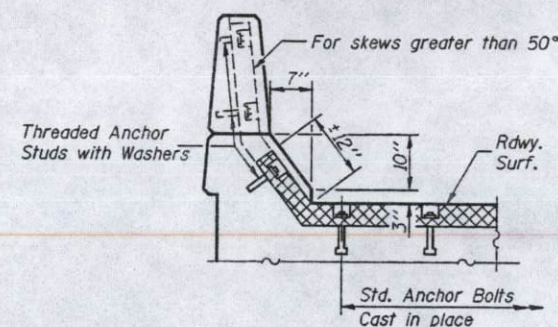
MTA INCORPORATED	
DESIGNED: D.R.B.	CHECKED: D.R.B.
DRAWN: J.P.H.	DATE: 7/94



AT PARAPET



FORMING BLOCKOUT SKETCH



AT PARAPET

Joint Size	"C" at 50°F	"D" at 50°F
2"	2"	1 1/2" Min.
2 1/2"	2 1/2"	1 3/4" Min.
4"	3"	2 1/2" Min.

INSTALLATION NOTES

- ① Install sponge mandrels into positions shown to form flap convolution.
- ② Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
- ③ Install continuous seal in roadway.
- ④ Install anchor blocks as indicated.

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

SKREW 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 in accordance with dimension "D", might require modifications to insure a minimum clearance of 1/2" 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.

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. See Special Provisions.

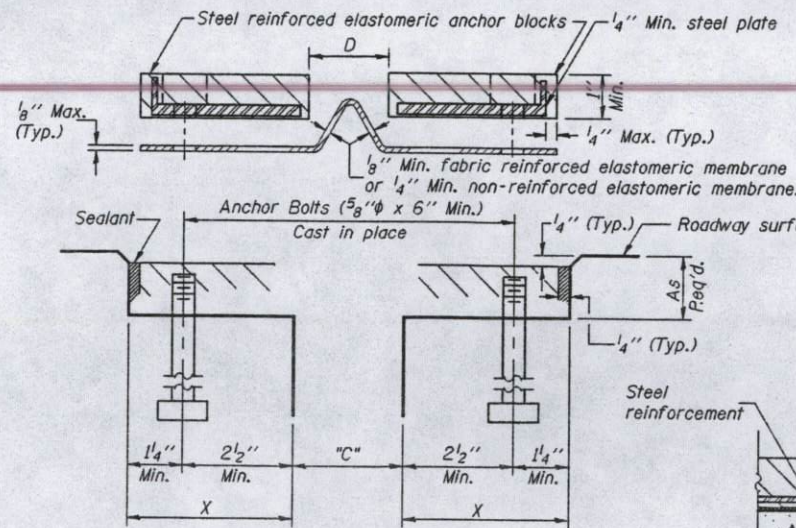
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

The steel reinforcement must extend up the back face of anchor blocks.

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 in accordance with Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.



CROSS SECTION

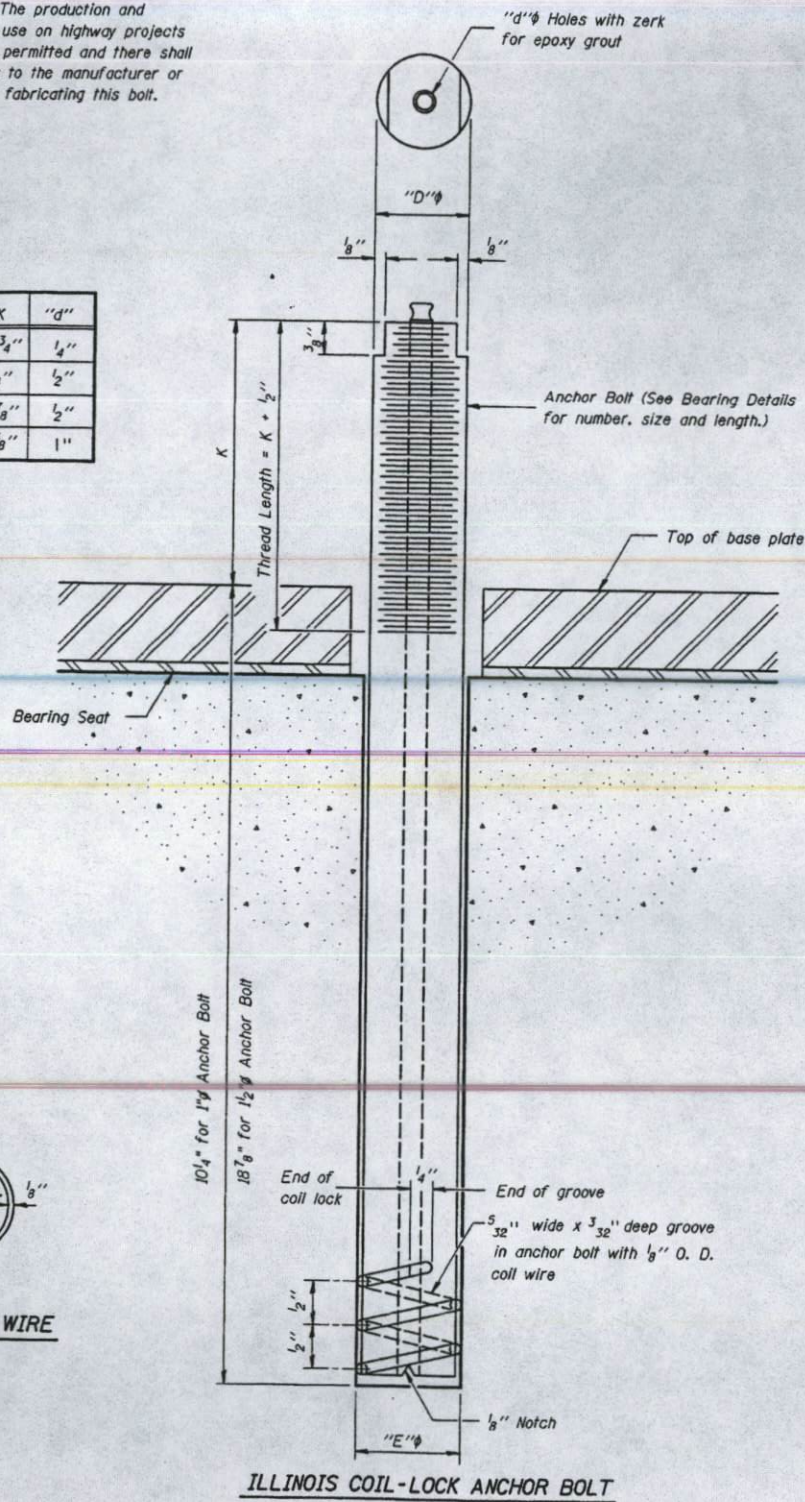
ANCHOR BLOCK REINFORCEMENT WITH ASPHALT SURFACE

EXPANSION JOINT DETAILS
E.B. F.A.I. RTE. 270 OVER W.B. F.A.I. RTE.70
F.A.I. RTE. 270, SEC 60-6HB-1-Y
STA. 873+24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
STR. NO. 060-0059

MTA INCORPORATED	
DESIGNED: GBM	CHECKED: BGH
DRAWN: THW	DATE: July, 1994

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

D	E	H	K	"d"
1"	1 1/8"	13 1/16"	1 3/4"	1/4"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 13/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



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 and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire. The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed. The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM 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.

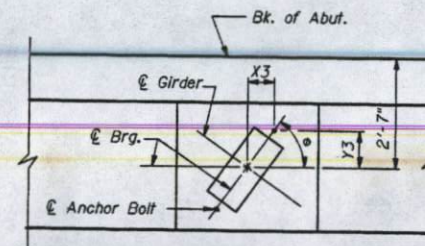
ALTERNATE ANCHOR BOLTS

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 conforming to ASTM A307.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

GENERAL NOTES

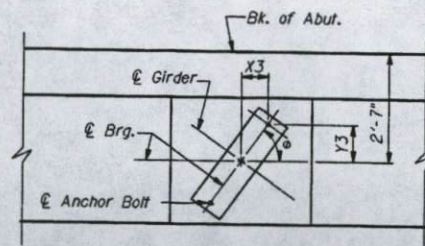
Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with the manufacturer's recommendation after beams or girders have been erected and adjusted. Prior to setting the bolts, the holes shall be dry and all dust and loose particles 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".



TYPICAL BEAM SEAT PLAN AT EAST ABUTMENT

EAST ABUTMENT BEARING GEOMETRY & ANCHOR BOLT LAYOUT

GIRDER	1	2	3	4	5	6
o	64° 32' 33"	64° 5' 25"	63° 39' 23"	63° 12' 26"	62° 47' 38"	62° 22' 49"
X3	4 3/8"	4 1/2"	4 1/2"	4 5/8"	4 5/8"	4 3/4"
Y3	9 1/4"	9 1/4"	9 1/8"	9 1/8"	9 1/8"	9 1/8"



TYPICAL BEAM SEAT PLAN AT WEST ABUTMENT

WEST ABUTMENT BEARING GEOMETRY & ANCHOR BOLT LAYOUT

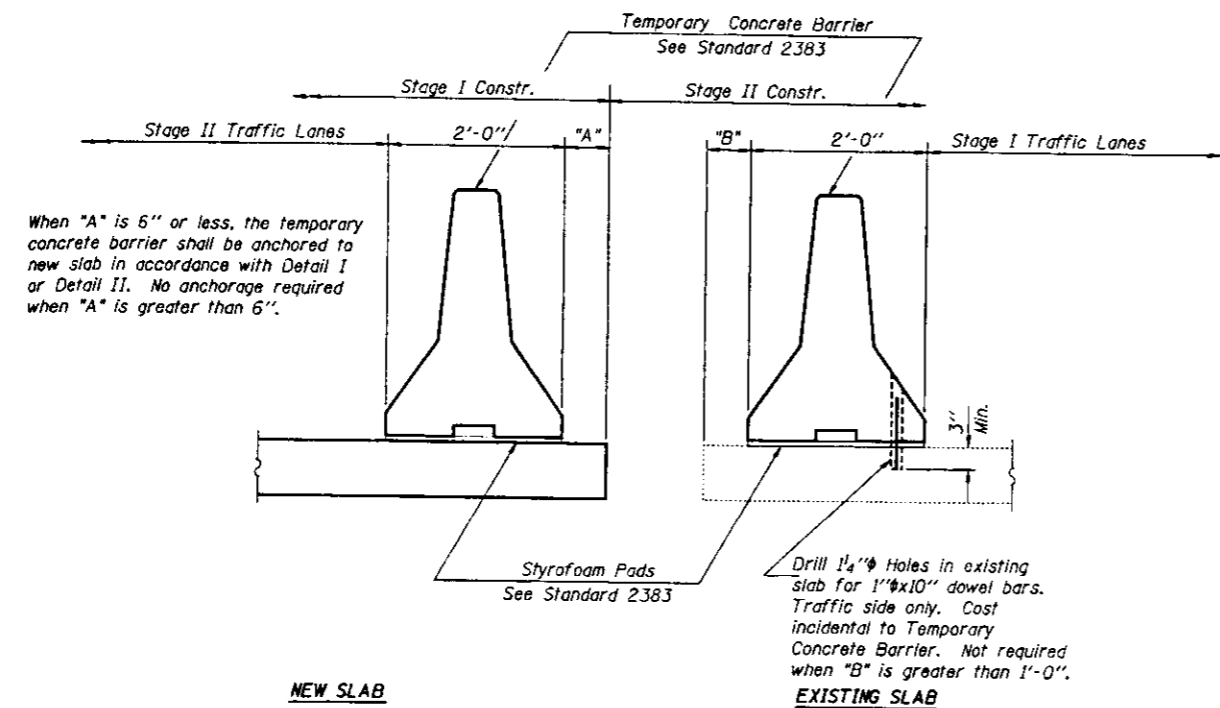
GIRDER	1	2	3	4	5	6
o	56° 38' 49"	56° 19' 7"	55° 59' 41"	55° 40' 35"	55° 21' 49"	55° 3' 18"
X3	5 1/8"	5 1/8"	5 1/8"	5 1/4"	5 1/4"	5 1/4"
Y3	7 3/4"	7 3/4"	7 5/8"	7 5/8"	7 5/8"	7 5/8"

ANCHOR BOLT DETAILS

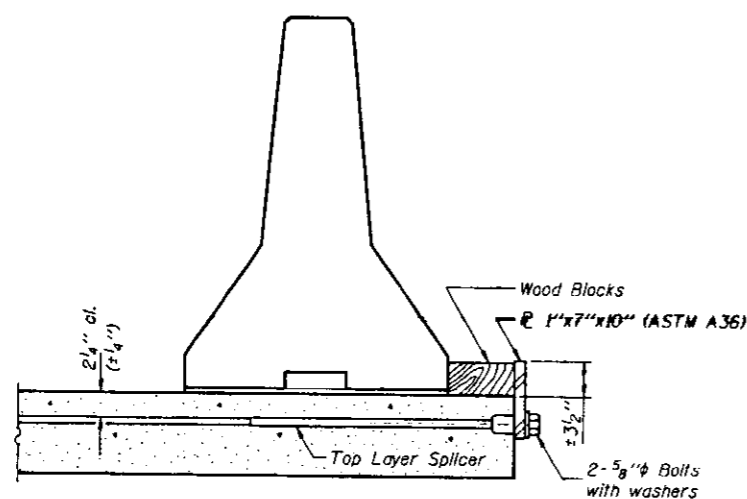
E.B. F.A.I. 270 OVER W.B. F.A.I. RTE. 70
 F.A.I. RTE. 270 SECTION 60-6HB-1-Y
 STA. 873+24.67 F.A.I. 270
 STA. 931+93.69 F.A.I. 70
 MADISON COUNTY
 S.N.060-0059

MTA INCORPORATED
 DESIGNED: G.B.M. CHECKED: CMS
 DRAWN: T.W.J. DATE: July, 1994

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 270	60-6HB-1-Y	MADISON	228	197
FED. ROAD DIST. NO. 7	PROJECT		Sheet 24 of 25	

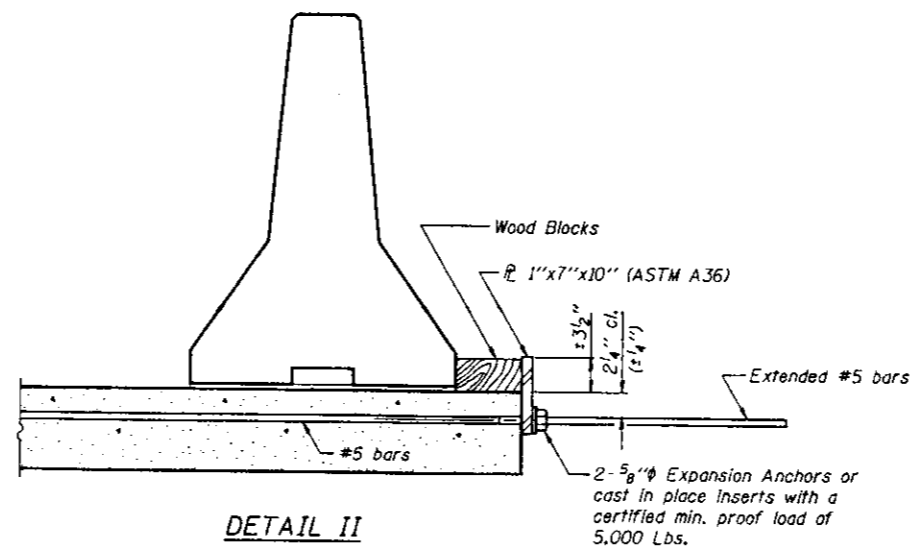


SECTIONS THRU SLAB



DETAIL I

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

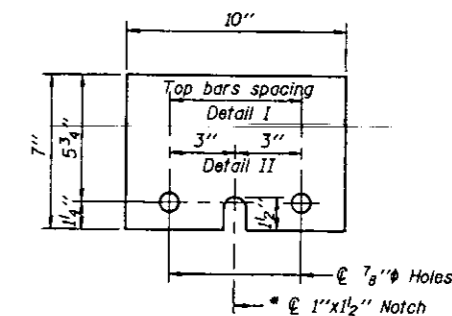


DETAIL II

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.

NOTES

- Detail I - With Bar Splicer or Couplers:
Connect one (1) 1'x7'x10" steel \bar{R} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each 10'-0" barrier panel.
 - Detail II - With Extended Reinforcement Bars:
Connect one (1) 1'x7'x10" steel \bar{R} to the concrete slab with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each 10'-0" barrier panel.
- Cost of anchorage is incidental to Temporary Concrete Barrier.



1'x7'x10"

* Required only with Detail II

**TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION**
E.B. F.A.I. RTE. 270 OVER W.B. F.A.I. RTE. 70
F.A.I. RTE. 270 SECTION 60-6HB-1-Y
STA. 873+24.67 F.A.I. 270
STA. 931+93.69 F.A.I. 70
MADISON COUNTY
S.N. 060-0059

MTA INCORPORATED	
DESIGNED: THW	CHECKED: GBW
DRAWN: THW	DATE: July, 1994

LOCATION NO. 5

HB-1

INDEX OF SHEETS ON SHEET NO. 5

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

FEDERAL-AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 270	60-6HB-1	MADISON	61	1
FED. NO. 4 DIST. NO. 7	ILLINOIS	PROJECT	I-270-6(30)13	

P-8-160-00

SET
NO
3

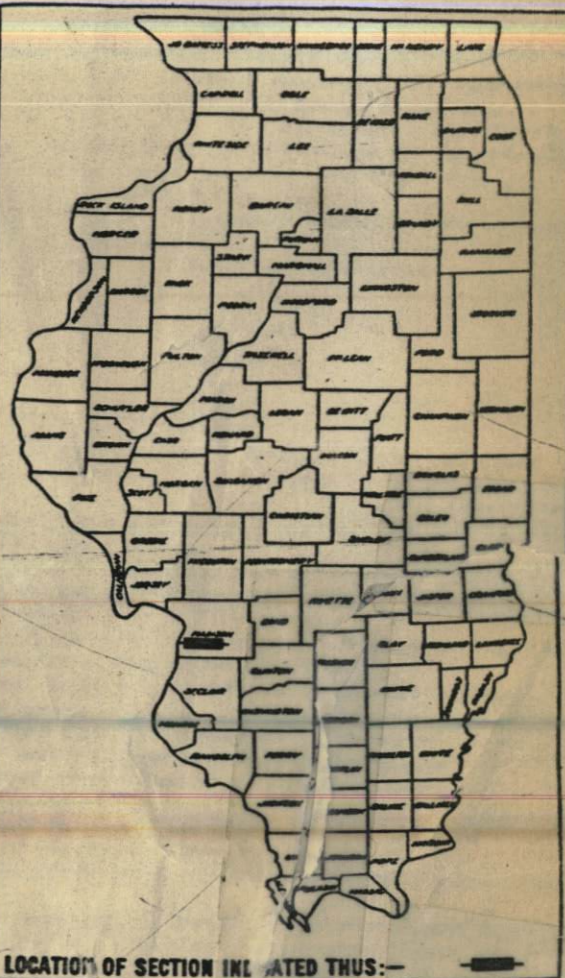
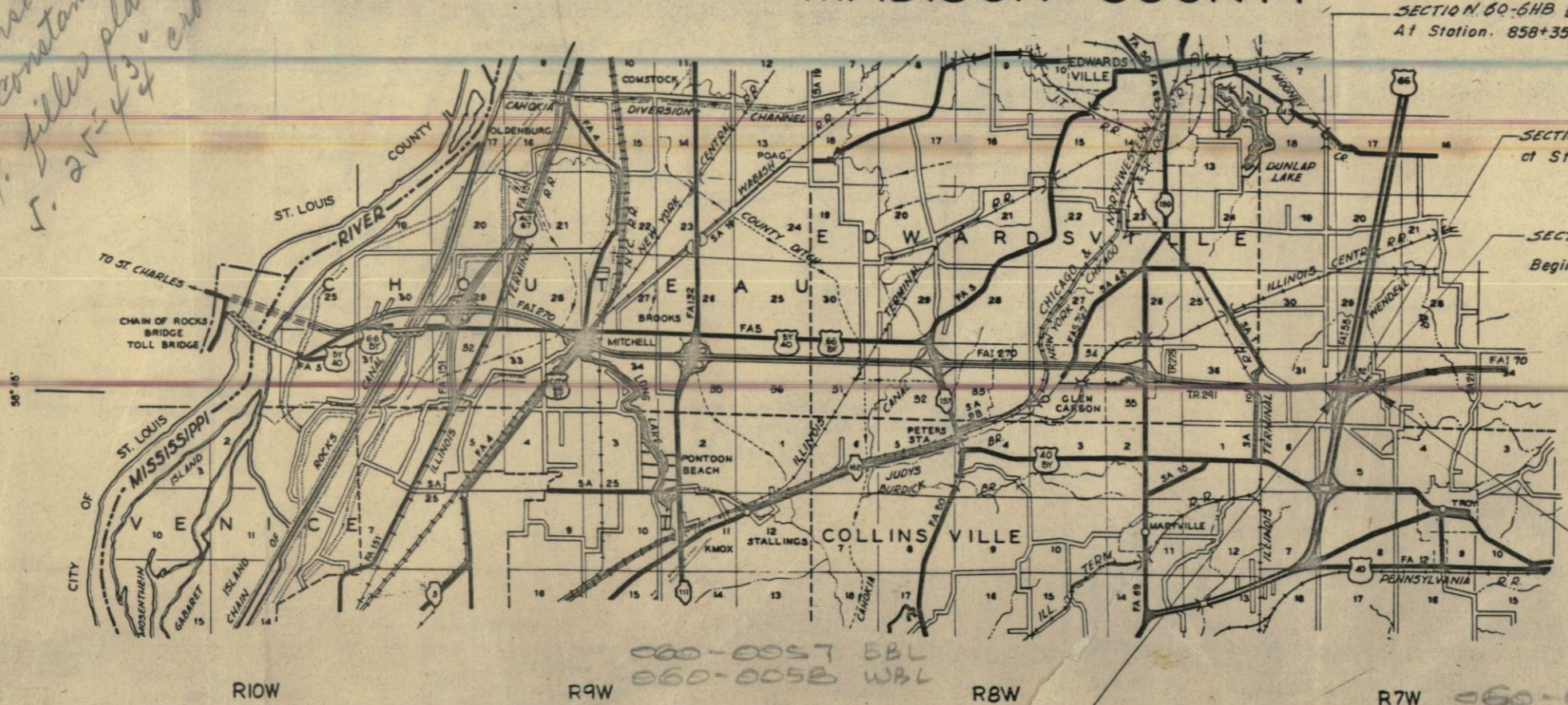
SCALES
 PLAN 1 INCH = 50 FT.
 PROFILE HOR. 1 INCH = 50 FT.
 PROFILE VERT. 1 INCH = 5 FT.
 CROSS-SECTIONS 1 INCH = 10 FT.

60-6HB
 60-6HB-1
 FAI ROUTE 270 SECTION
 PROJECT I-270-6(30)13

*Letter written Oct. 1, 1964 to Consultant
 1. no welding of stiffeners to flanges
 2. partial cutting of cross frames to provide extension of flange plates for section
 3. constant web depth in panels between splices
 4. filler plates for flange splices
 5. 25'-4 3/4" cross frame spacing @ in span*

CET set
97.3
6-5-64

MADISON COUNTY



APPROVED
 FOR STRUCTURAL ASSOCIATION
W. Bauman 9/15/63
 Engineer of Bridge & Traffic Structures

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
 DIVISION OF HIGHWAYS
 SUBMITTED *Aug 9 1963*
 DRAWN *W. Bauman*
 CHECKED *April 28 1964*
 PLANED *April 28 1964*
 APPROVED *April 28 1964*
 APPROVED *April 28 1964*

DEPARTMENT OF COMMERCE
 BUREAU OF PUBLIC ROADS
 APPROVED
 DIVISION ENGINEER DATE

ROAD CLASSIFICATIONS
 Bridge-Sec. 60-6HB.
 735-T-70 (E.B. FAI 270)
 372-T-70 (W.B. FAI 270)
 1624-T-70 (FAI 55)

Bridge Sec. 6-60-6HB-1
 276-T-70 (E.B. FAI 270)
 558-T-70 (W.B. FAI 70)

CONTRACT NO. 23340

SECTION 60-6HB includes the complete construction of two (2) WF Beam Bridges, one at Sta. 859+48.98 carrying Eastbound F.A.I. 270 over F.A.I. 55, having 4 continuous spans at 42'-6", 71'-0", 71'-0" and 42'-6", and one at Sta. 859+81.62 carrying Westbound F.A.I. 270 over F.A.I. 55, having 4 continuous spans of 43'-9", 64'-0", 69'-0" and 43'-9", the placement of the embankments at the abutments, and the construction of extensions at two existing double 36" pipe culverts.

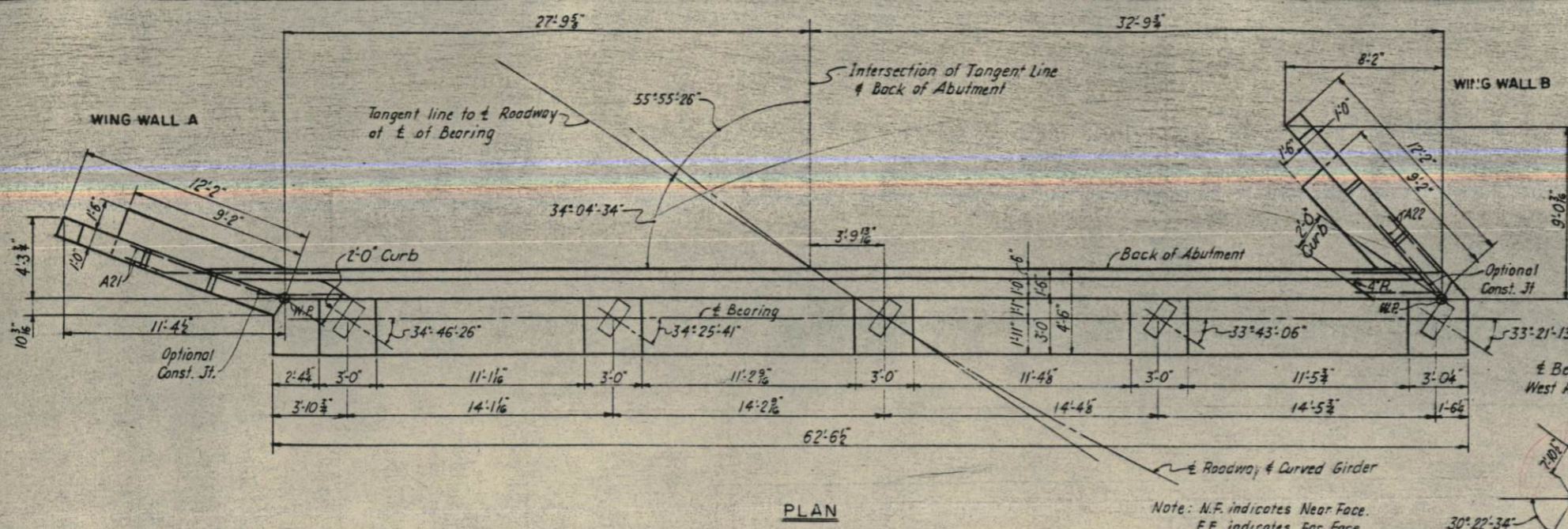
SECTION 60-6HB-1 includes the complete construction of one (1) Welded Composite Girder Bridge at Sta. 873+24.67 carrying Eastbound F.A.I. 270 over Westbound F.A.I. 70, having 3 continuous spans at 77'-8", 85'-0" and 91'-7", grading the road bed of Westbound F.A.I. 70 between Sta. 929+25 and Sta. 934+80 to obtain earth for the embankments and the construction of a 10x5' R.C. Box Culvert under Westbound F.A.I. 70 at Sta. 931+85 with entrance and outlet ditches.

LAYOUT APPROXIMATE SCALE: 0 1 MI. 2 MI. 3 MI.

NET LENGTH OF SECTIONS
 SECT. 60-6HB = 231.47 FT = 0.043 MILE
 SECT. 60-6HB-1 = 24.56 FT = 0.050 MILE
 NET LENGTH OF BRIDGES:
 W.B.-224.14 Feet (0.042 Miles)
 60-6HB-EB 270.66 Feet (0.046 Miles)
 60-6HB-1-EB-262.47 Feet (0.050 Miles)

John H. Conant
July 16, 1963

REEL 8-4
873+24.6

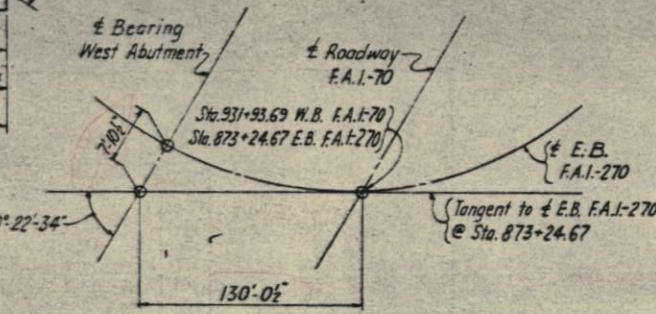


PLAN

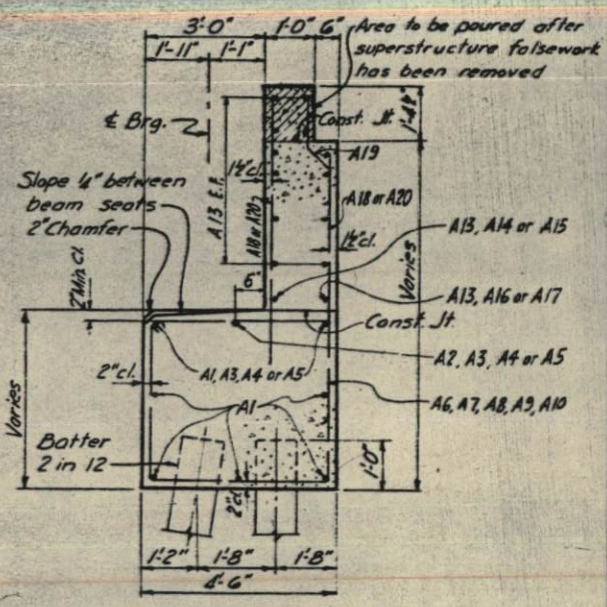
Note: N.F. indicates Near Face.
F.F. indicates Far Face.
E.F. indicates Each Face.

TYP. BEAM SEAT PLAN

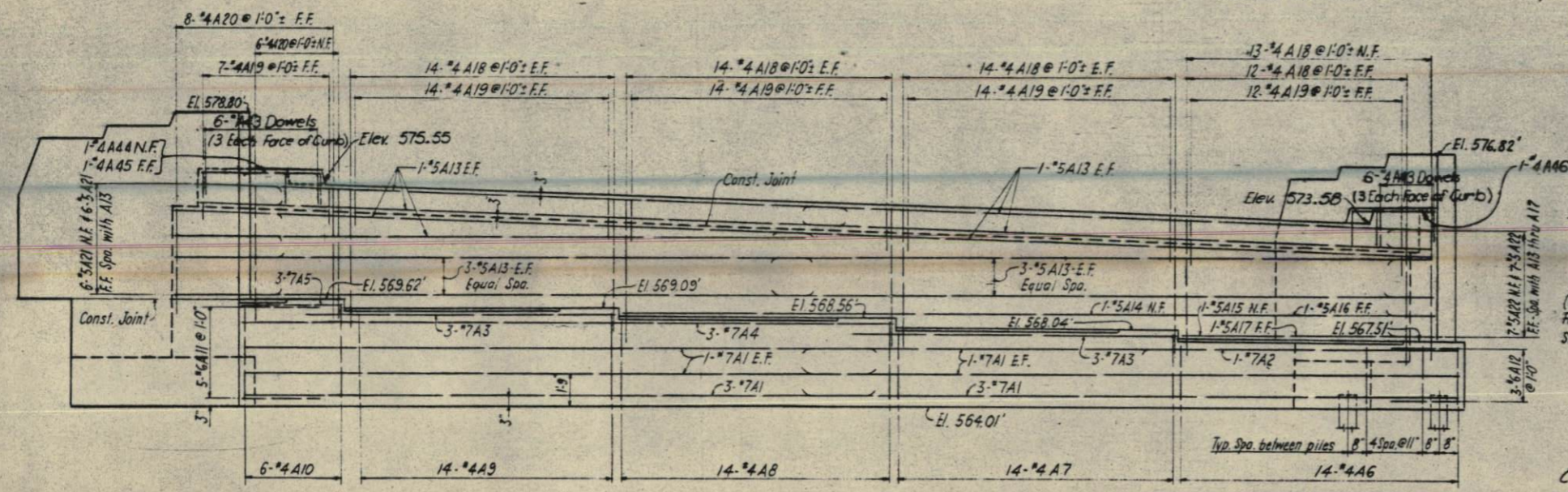
Angle β	X	Y
33°-21'-13"	5'	8 1/2'
33°-43'-06"	5'	8 1/2'
34°-04'-34"	5'	8 1/2'
34°-25'-41"	5'	8 1/2'
34°-46'-26"	5'	8 1/2'



KEY PLAN



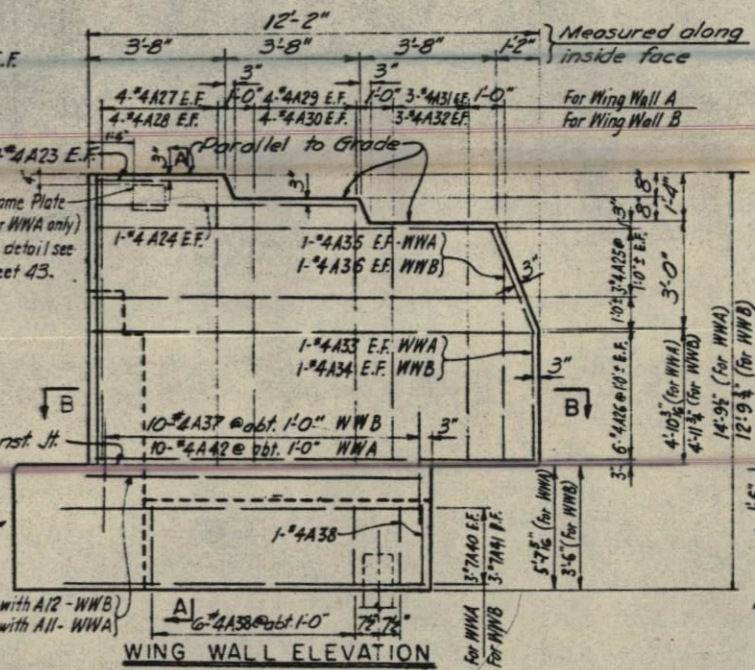
SECTION THRU ABUTMENT



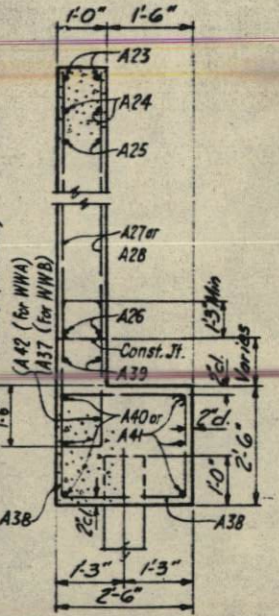
ELEVATION

Note: Space reinf. in Bridge Seat to miss anchor bolts

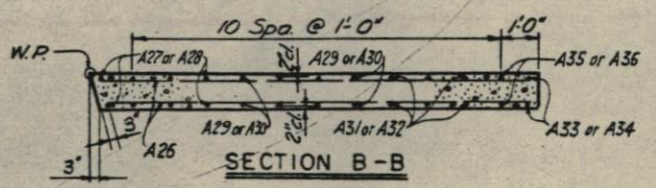
Note: WWA indicates Wing Wall A
WNB indicates Wing Wall B



WING WALL ELEVATION

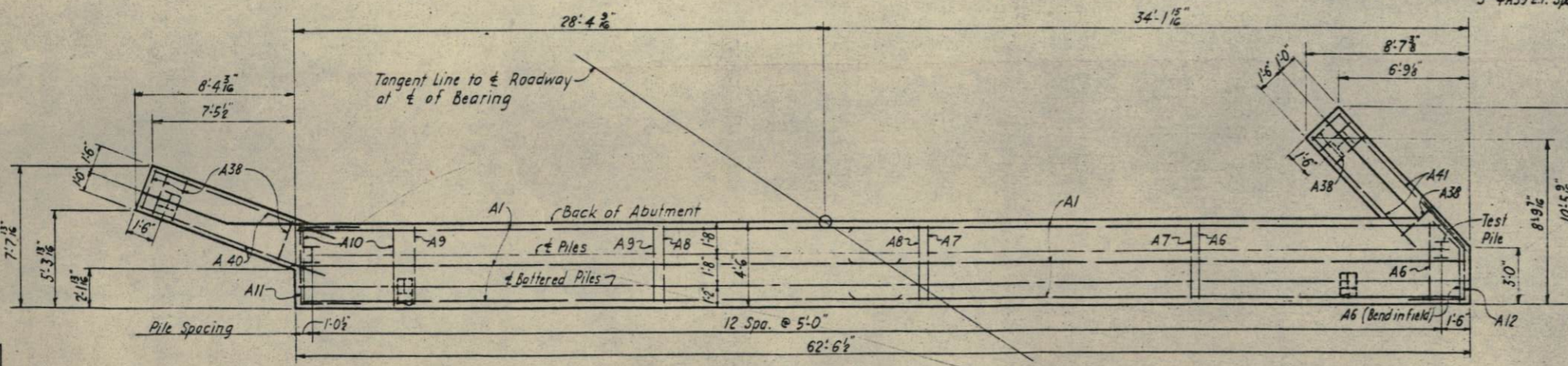


SECTION A-A



SECTION B-B

Note: See Sheet 34 for detail of Encasement of Steel Piles at Abutments.



PLAN-PILE CAP

Note: Do not scale this drawing. Follow dimensions.

Note: 15 Piles including one Test Pile to be 10BP42 (37 tons per pile capacity), estimated length - 46 Ft.

WEST ABUTMENT

BRIDGE OVER - WESTBOUND F.A.I.-70

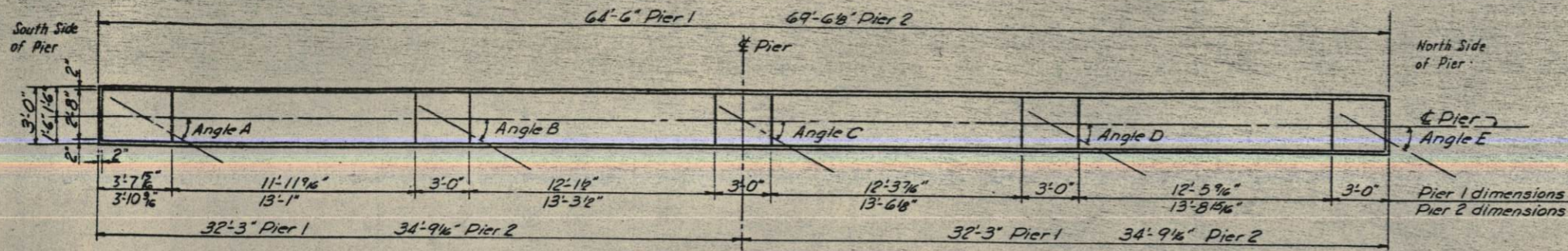
STATION - 873+24.67
F.A.I. ROUTE - 270
SECTION - 60-6HB-I
MADISON COUNTY, ILLINOIS

SCALE: NONE

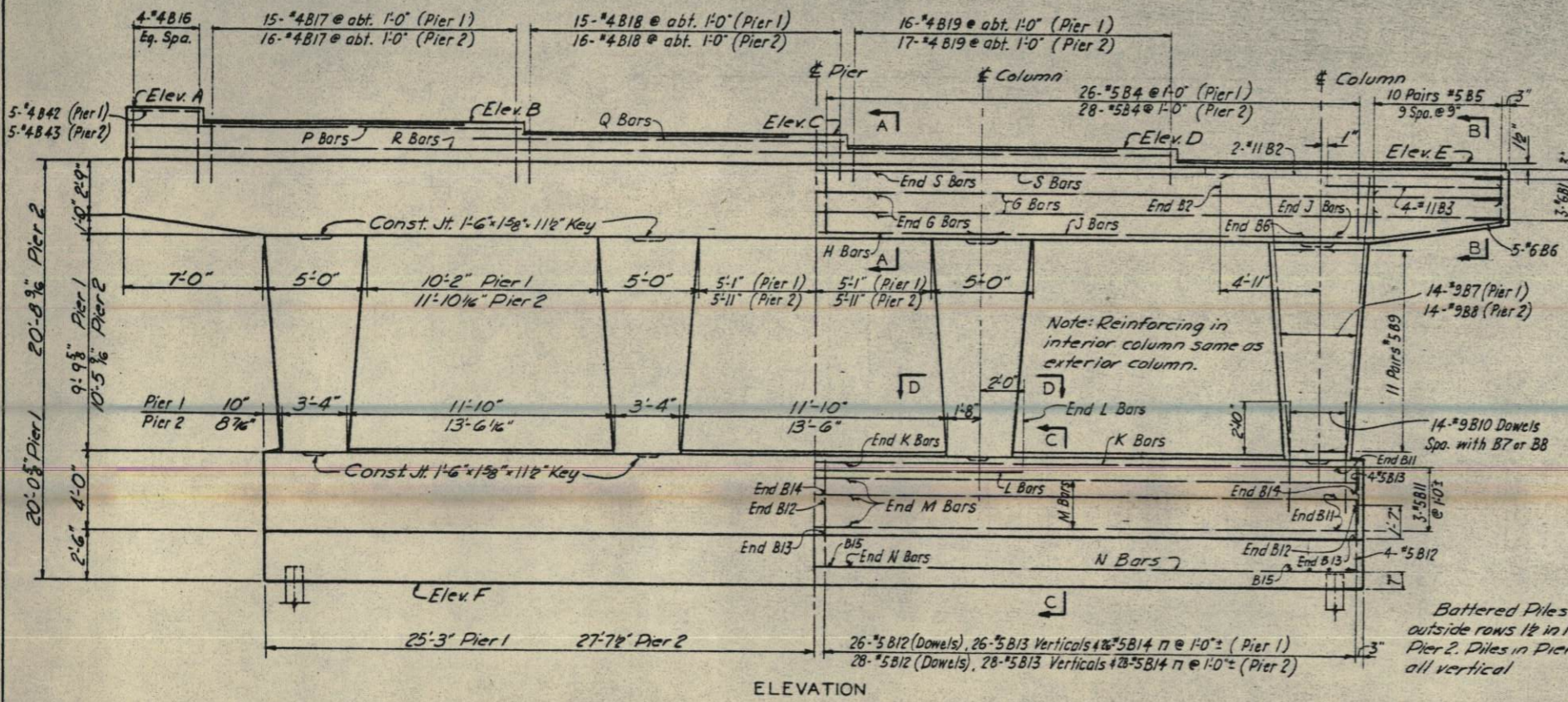
DRAWN: M. Levy - May 1963
TRACED: N. Miller - May 1963
CHECKED: Toporoff - June 1963

BYERDUP & PARCEL ENGINEERS CO.
ENGINEERS-ARCHITECTS
ST. LOUIS, MO.

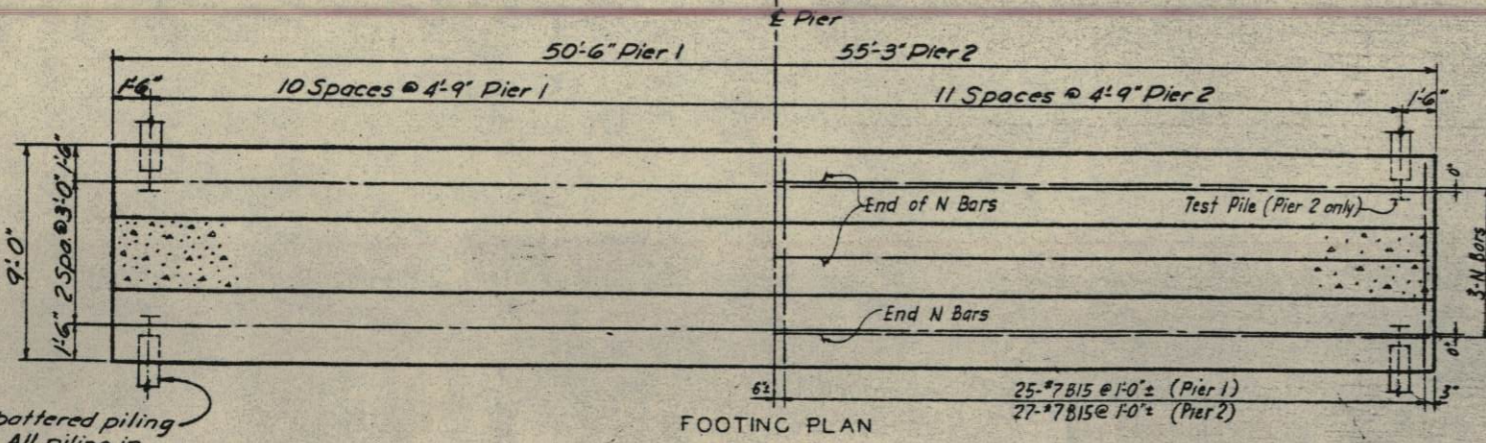
1850
63N31



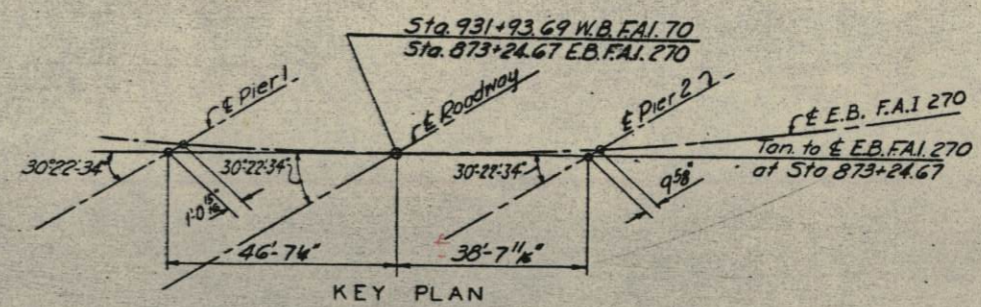
PLAN



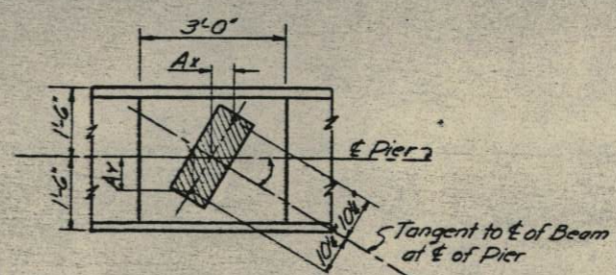
ELEVATION



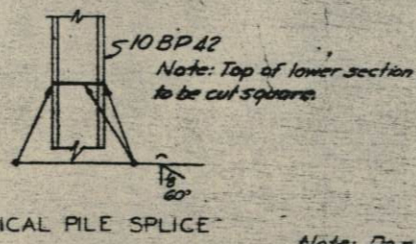
FOOTING PLAN



KEY PLAN



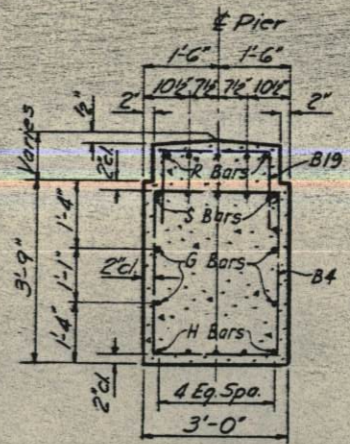
TYPICAL BEAM SEAT PLAN



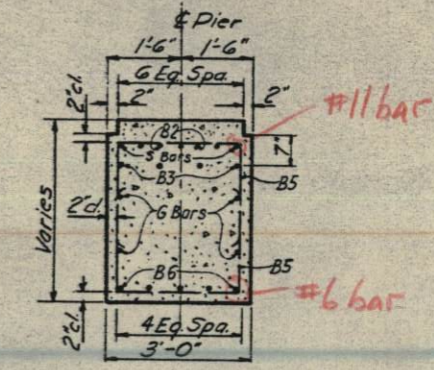
TYPICAL PILE SPLICE

PILING DATA		
	NO OF PILING	LENGTH
Pier 1	33	30 ft.
Pier 2	36 *	28 ft.

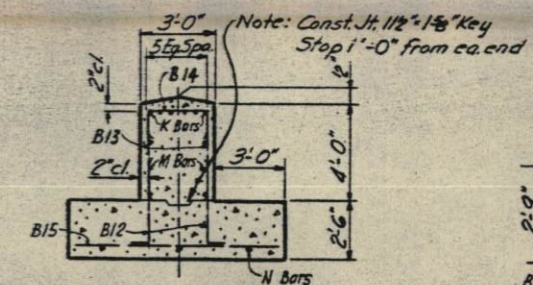
*Includes one (1) test pile
 Note: All piling are 10BP42, with a capacity of 37 tons per pile. Lengths are estimated.



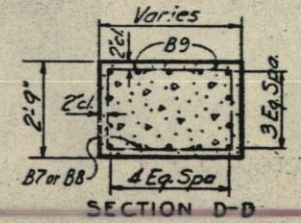
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

F.A.I. RT. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-6HB1	MADISON	61	37

FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJ. NO.

TABLE OF ELEVATIONS		
ANGLES	Pier 1	Pier 2
Elev. A	569.18	568.81
Elev. B	568.65	568.28
Elev. C	568.12	567.74
Elev. D	567.59	567.20
Elev. E	567.05	566.66
Elev. F	546.88	545.82
Angle A	32°30'-27"	30°02'-13"
Angle B	32°07'-50"	29°37'-16"
Angle C	31°44'-47"	29°11'-46"
Angle D	31°21'-16"	28°45'-43"
Angle E	30°57'-19"	28°19'-04"
Ax	5 1/2"	8 3/8"
By	5 7/8"	8 1/4"
Cx	5 3/8"	8 1/4"
Dx	5 3/8"	8 1/4"
Ex	5 1/4"	8 3/8"
Bars G	1-#5B20 E.F.	1-#5B21 E.F.
Bars H	5-#11B22	5-#11B23
Bars J	5-#10B24	5-#10B25
Bars K	6-#9B26	6-#9B27
Bars L	4-#9B28	4-#9B29
Bars M	1-#5B30 E.F.	1-#5B31 E.F.
Bars N	3-#5B32	3-#5B33
Bars P	5-#4B34	5-#4B35
Bars Q	5-#4B36	5-#4B37
Bars R	5-#4B38	5-#4B39
Bars S	5-#11B40	5-#11B41

NOTES
 E.F. indicates Each Face
 Spacing of reinforcement in pier cap to be adjusted as necessary to miss anchor bolts.
 W.B. indicates Westbound Roadway.
 E.B. indicates Eastbound Roadway.
 Reinforcing symmetrical about E of Pier except as shown or noted.

PIERS 1 & 2

BRIDGE OVER—WESTBOUND F.A.I.-70

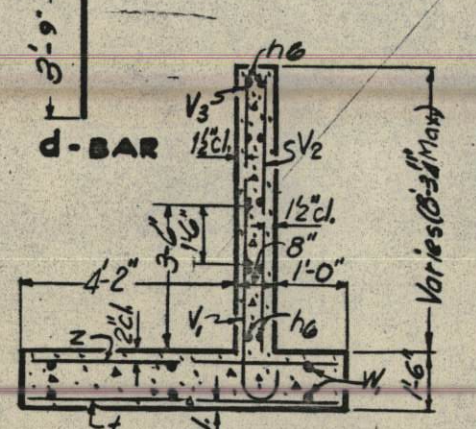
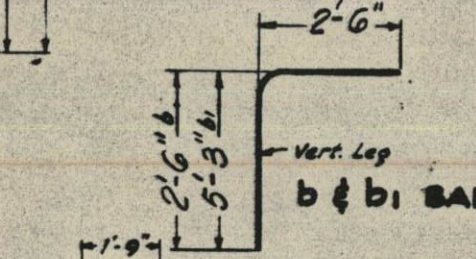
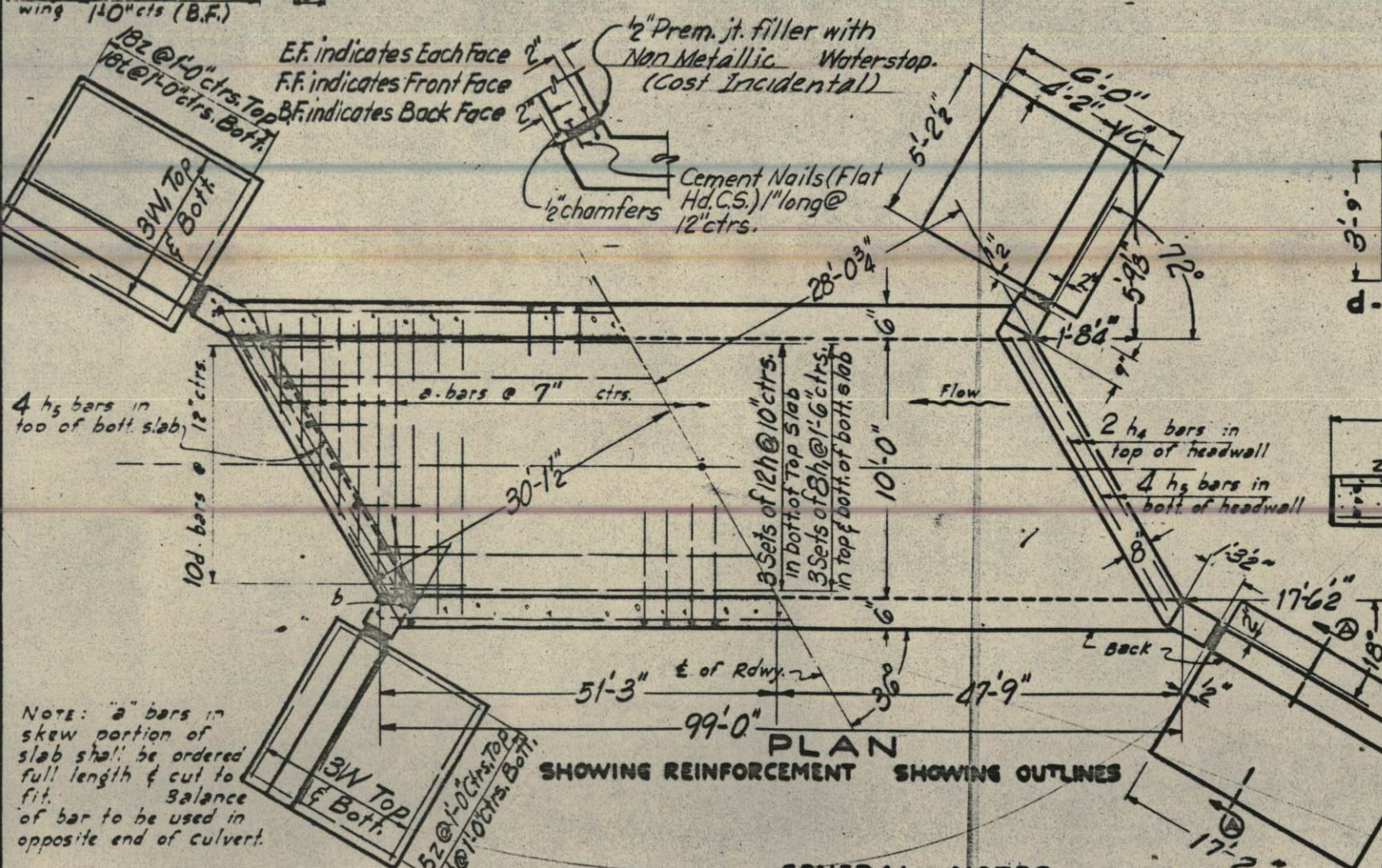
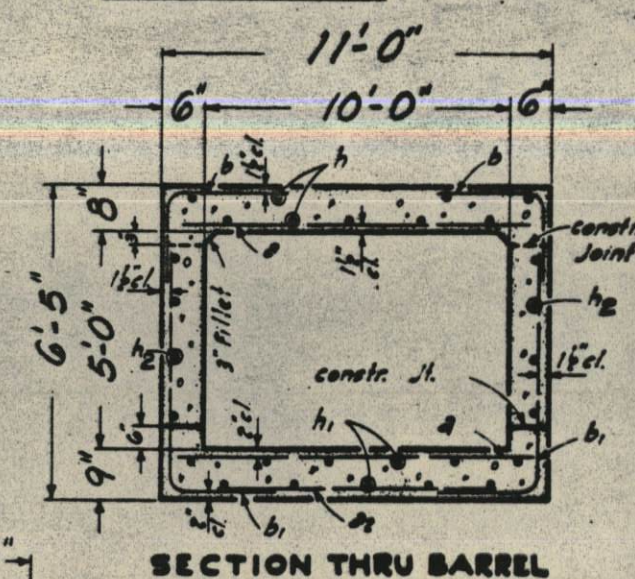
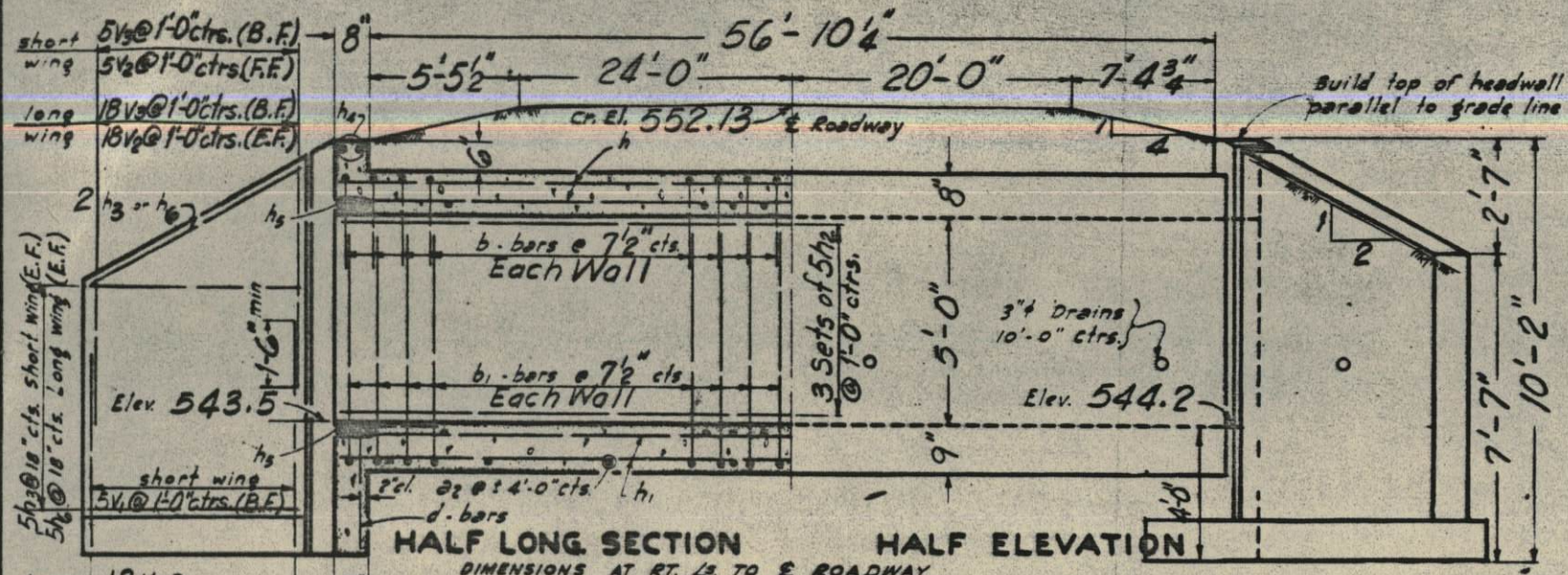
STATION—873+24.67
 F.A.I. ROUTE—270
 SECTION—60-6HB-1
 MADISON COUNTY, ILLINOIS

SCALE: NONE

DRAWN M. Levy - May 1963
 TRACED F. Ysleta - May 1963
 CHECKED Toporoff - June 1963

OVERDRUP & PARCEL ENGINEERS & ARCHITECTS
 ST. LOUIS, MO.

1850
 63N33



BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH
a	324	#7	10'-8"
z	26	#4	7'-0"
b	316	#5	5'-0"
b1	316	#5	7'-9"
d	20	#4	5'-6"
h	48	#5	34'-0"
h1	48	#5	34'-0"
h2	30	#5	34'-0"
h3	24	#4	4'-9"
h4	4	#7	17'-6"
h5	16	#7	17'-6"
h6	24	#4	17'-3"
v2	23	#4	14'-0"
v3	23	#4	10'-0"
t	46	#5	5'-8"
w	12	#5	5'-0"
w1	12	#5	16'-11"
z	46	#6	5'-8"
v1	46	#6	5'-6"

Note: "a" bars in skew portion of slab shall be ordered full length & cut to fit. Balance of bar to be used in opposite end of culvert.

GENERAL NOTES
Class X concrete shall be used thru-out.
Exposed edges shall be beveled 3/4".
For backfilling and embankment see std. spec's.
V2 & V3 bars to be cut to fit slope of wing wall and remainder to be used in diagonally opposite wing wall.
The top of the culvert, the backs of the exterior walls above the lower construction joint and the backs of wings above the tops of the footings shall be waterproofed in accordance with Std. Spec. Art. 51.21.

n = 10
fs = 20,000 #/in²
fc = 1,400 #/in² for Barrel
fc = 1,000 #/in² for Wingwalls
H20-516-44 Loading

W.B.F.A.I.-70
Sta. 931+85
Skew = 54° L.A.

Note: All bars shall be round ASTM A305-49. The size number is the number of 1/8 inches in the nominal diameter.

COMPUTED	H.L. King	EXAMINED	
CHECKED	H.E. Dunlap	PASSED	
DRAWN	J.D. Usher	APPROVED	
CHECKED	H.L. King		
SPECIAL	ASSEMBLED		
	CHECKED		