

CONDITION OF CHANNEL

OCT. - 1968
 AFTER DREDGING
 SCALE: 1" = 100'

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
RIVER ROUGE CHANNEL

REVISIONS		DATE	BY
NO.	DESCRIPTION		

B04 of 82071

BW-254

All depths are referred to Low Water Datum, elevation 570.55 ft. above Mean Water Level at Father Point, Quebec (I.G.L.D. 1955)
 Survey made by W. Roose, Oct. 1968
 21 ft. contour shown thus: - - - - -

The information depicted on this map represents the results of surveys made on the dates indicated and can only be considered as indicating the general conditions existing at that time.

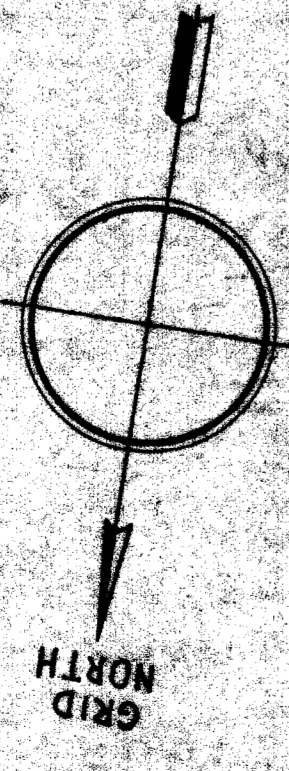
U.S. ARMY ENGINEER DISTRICT, DETROIT
 CORPS OF ENGINEERS
 DETROIT, MICHIGAN

OWNED BY
 TRUMBELL ASPHALT CO.
 PROJECT DEPTH 21 FT. BELOW L.W.D.
 OWNED BY
 FRY ROOFING CO.

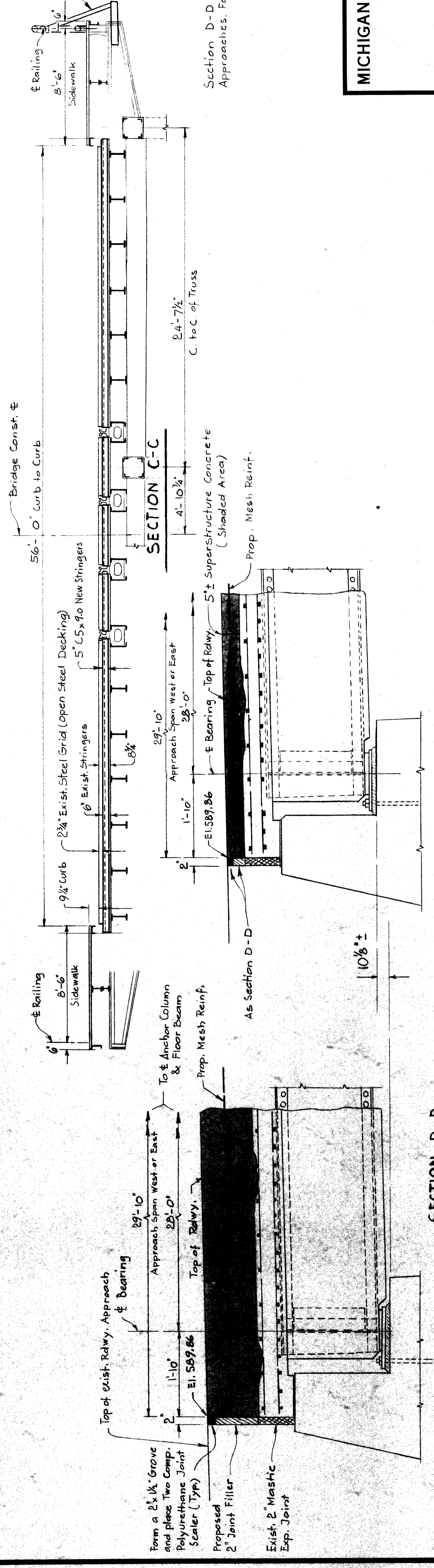
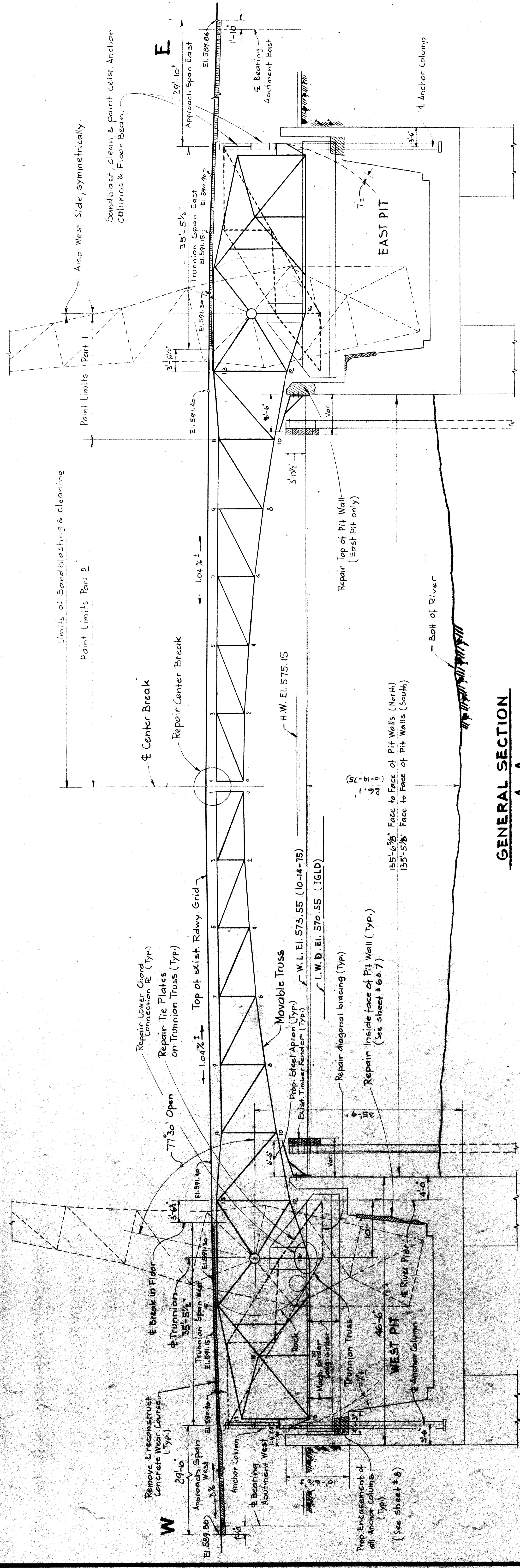
OWNED BY
 MARATHON OIL COMPANY
 OWNED BY
 DETROIT METRO WATER DEPT.

KOENIG COAL & SUPPLY CO.

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SCALE 1/8" = 1'-0"



NOTE

Section D-D & Section E-E applies to West and East Approaches. For location see Sheet # 4.

For Railing Repair see Sheet # 22

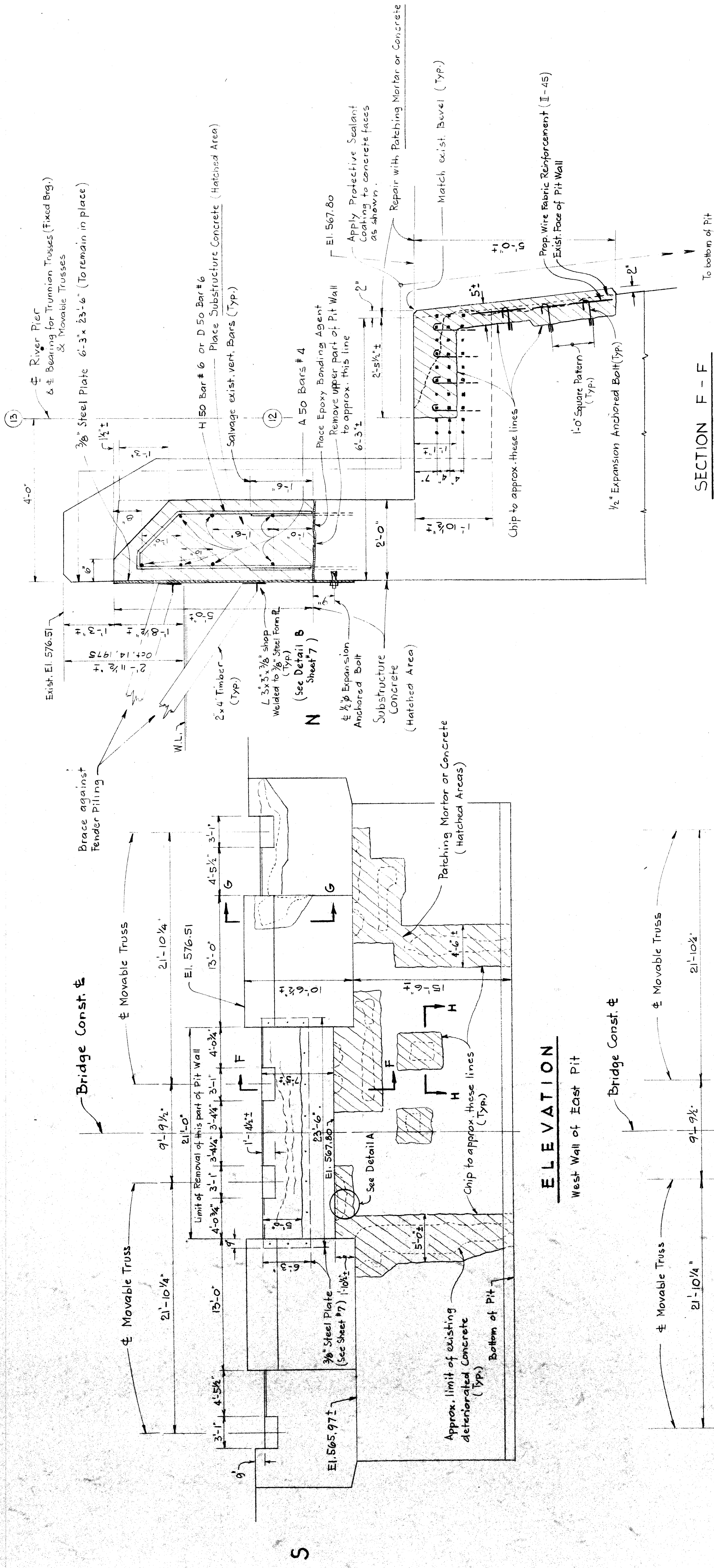
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GENERAL SECTION

REVISIONS

NO.	DESCRIPTION	DATE	BY

SHOULDER: W.D. Bulletin 13-8-76
 DRAWN BY: P.E.N. 11-3-75
 CHECKED BY: D.D.A. 3-8-76
 SHEET: 5 OF 5
 B04 of 82071



SECTION F - F

SECTION H - H

MISCELLANEOUS QUANTITIES		Unit	Amount
Patching Mortar or Concrete	Cu. Ft.	202	
1/2" Expansion Anchored Bolts	Each	485	
Wire Fabric Reinforcement	Sq. Ft.	490	
Protective Sealant Coating for Concrete	Sq. Ft.	1175	

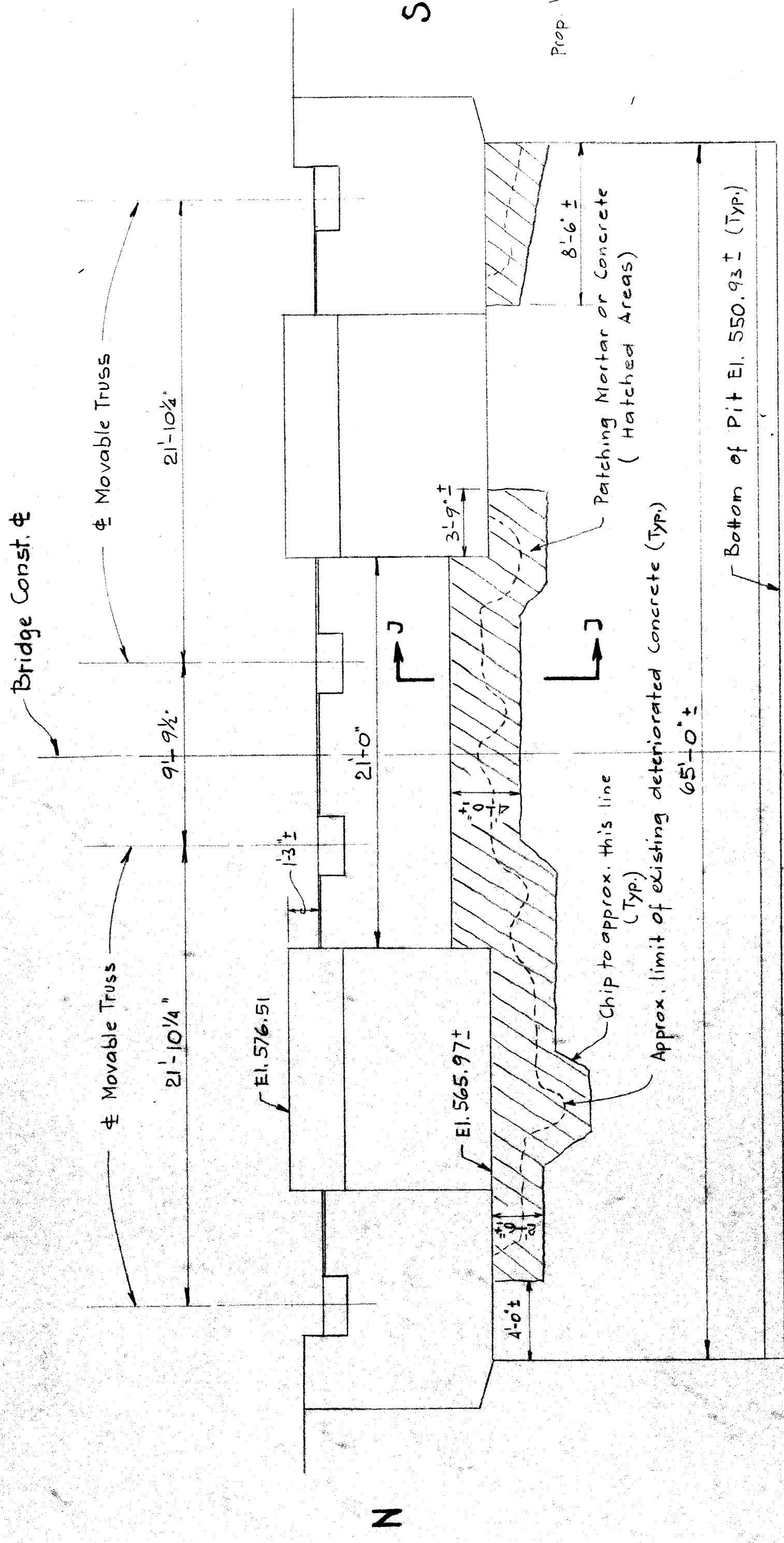
For Notes see sheet # 7

Table of Patching Mortar or Concrete

Location	Sq. Ft.	Avg. Thickness	Cu. Ft.
East Pit Wall	256	5"	107
West Pit Wall	225	5"	95
Patching Mortar or Concrete			202

ELEVATION

West Wall of East Pit



ELEVATION

East Wall of West Pit

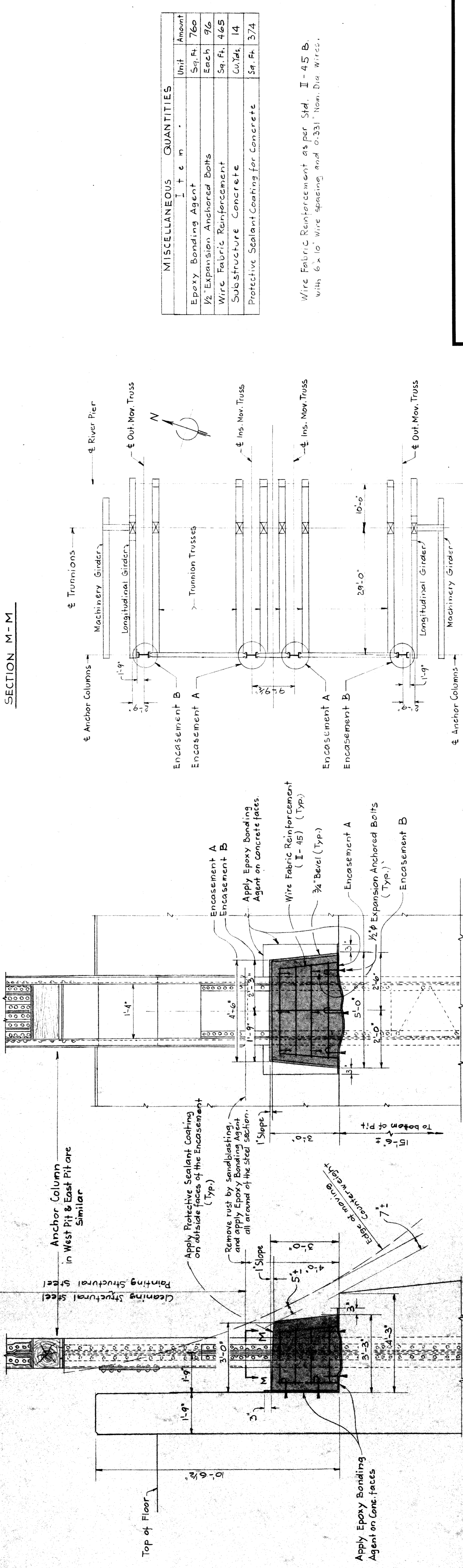
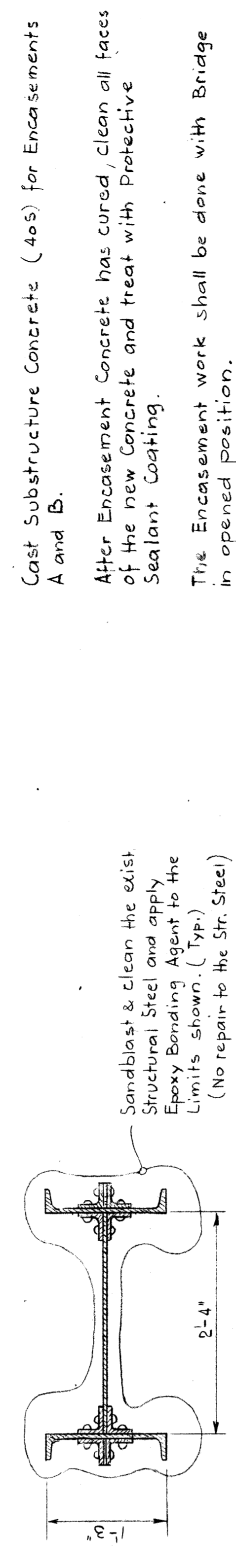
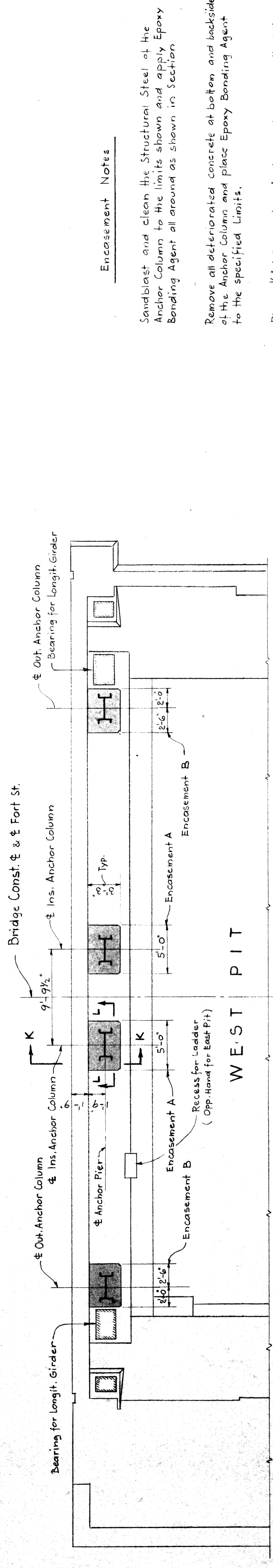
Work this sheet with sheet # 7

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

PIT WALL REPAIR

NO.	REVISIONS	DATE	BY
	DESCRIPTION		

DESIGNED BY	CHECKED BY	DATE	SHEET	OF
D. D. P.	D. D. P.	3-28-73	6	



Encasement Notes

- Sandblast and clean the Structural Steel of the Anchor Column and apply Epoxy Bonding Agent all around as shown in Section
- Remove all deteriorated concrete at bottom and backside of the Anchor Column and place Epoxy Bonding Agent to the specified Limits.
- Place 1/2" ϕ Expansion Anchored Bolts and the Wire Fabric Reinforcement as shown.
- Cast Substructure Concrete (40s) for Encasements A and B.
- After Encasement Concrete has cured, clean all faces of the new Concrete and treat with Protective Sealant Coating.
- The Encasement work shall be done with Bridge in opened position.

MISCELLANEOUS	QUANTITIES	Unit	Amount
Epoxy Bonding Agent		Sq. Ft.	760
1/2" Expansion Anchored Bolts		Each	96
Wire Fabric Reinforcement		Sq. Ft.	465
Substructure Concrete		Cu. Yds.	14
Protective Sealant Coating for Concrete		Sq. Ft.	374

Wire Fabric Reinforcement as per Std. I - 45 B. with 6" x 10" wire spacing and 0.331" Nom. Dia. Wires.

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

ANCHOR COLUMN ENCASEMENTS

REVISIONS

NO.	DESCRIPTION	DATE	BY

SHOWN BY: W.D.B. 3-8-76
 DRAWN BY: P.R.N. 12-5-75
 CHECKED BY: J.P.A. 2-2-76
 SHEET: 6 OF 6

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LOCATION DIAGRAM

West Pit shown
 East Pit the same

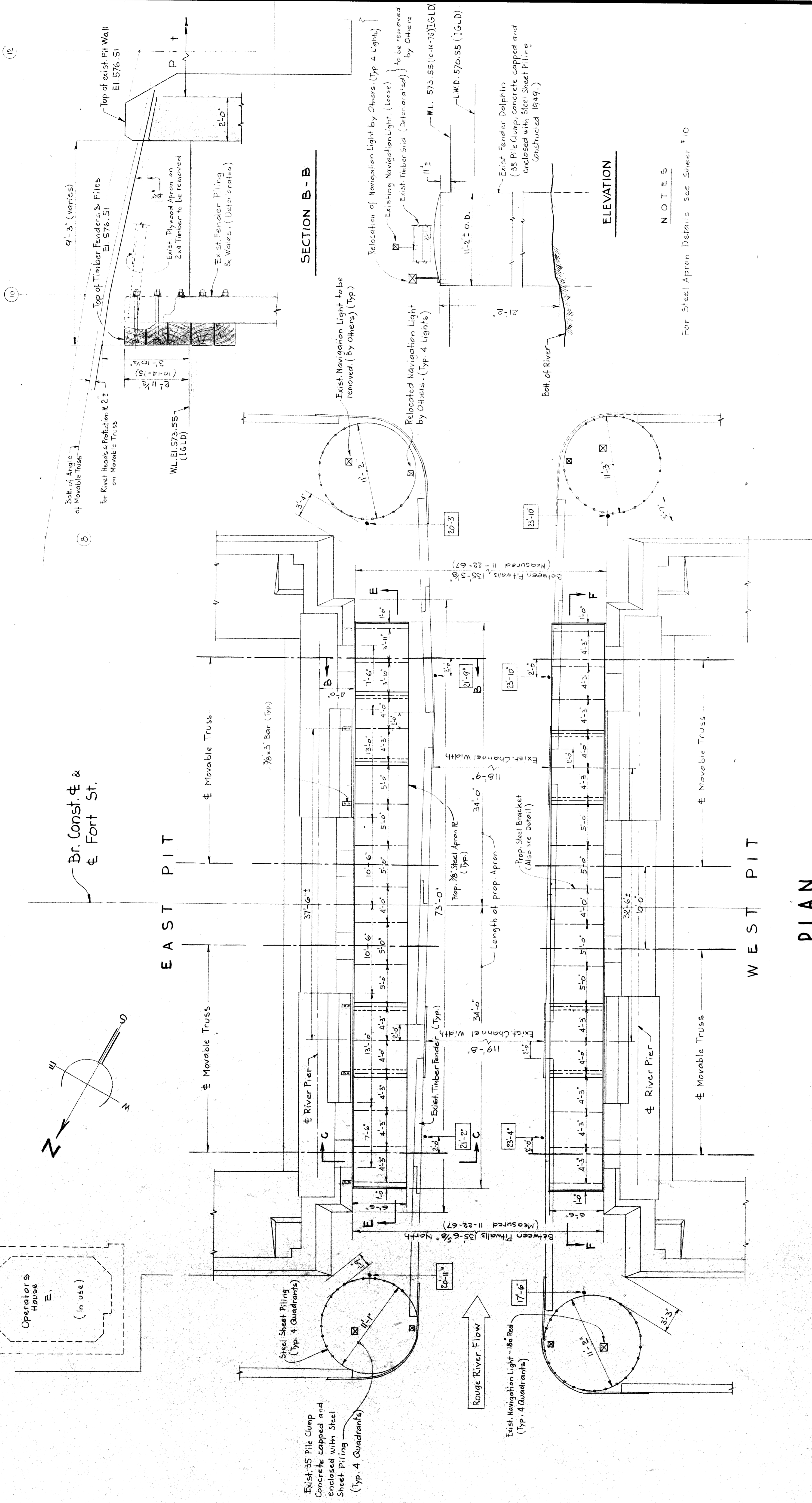
SECTION L-L

Scale: 1/2" = 1'-0"

SECTION K-K

Scale: 1/2" = 1'-0"

Encasement A shown
 (Encasement B is similar except as noted)



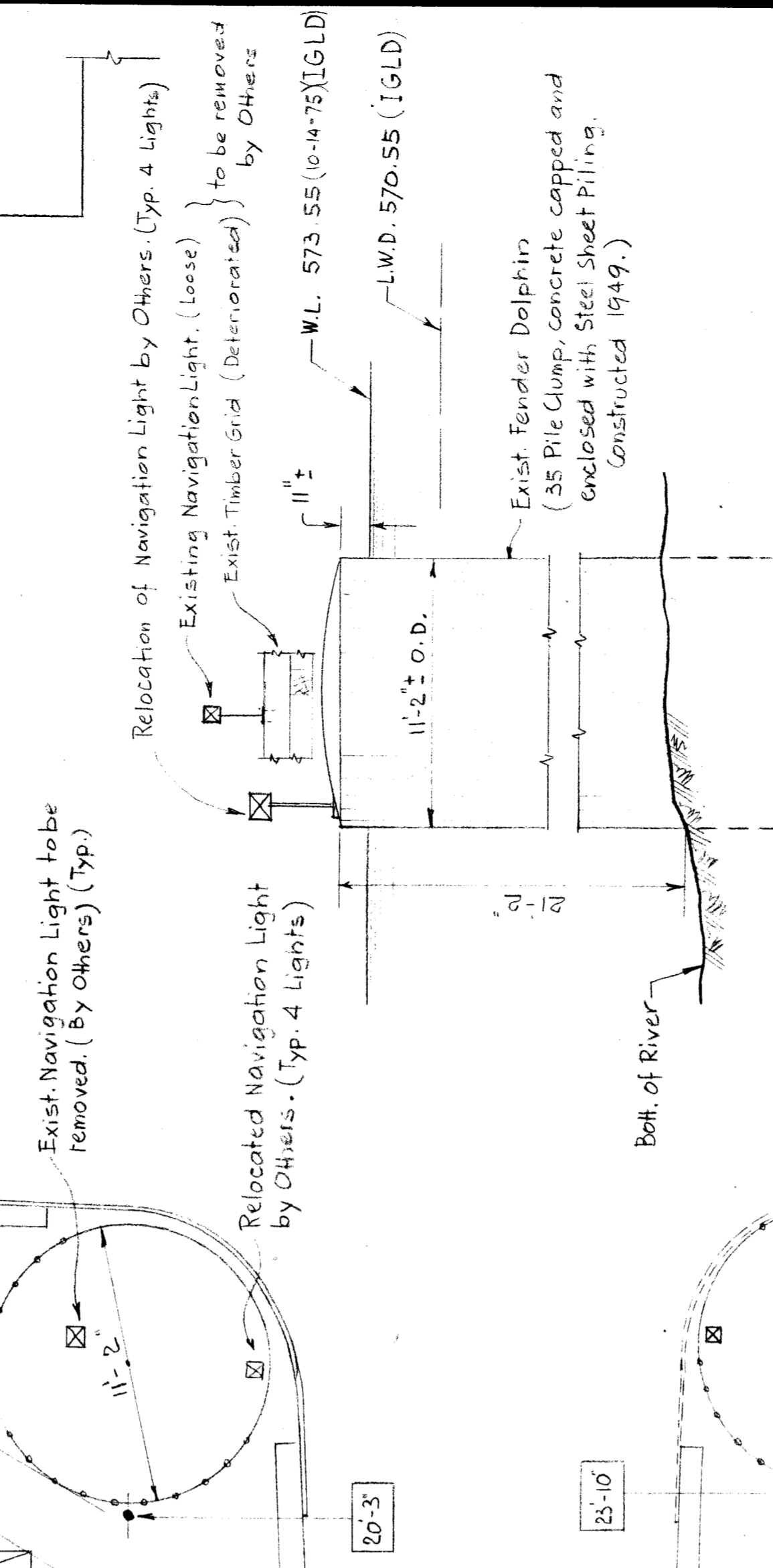
PLAN

Scale: 3/16" = 1'-0"

Showing Location of Prop. Apron Plates

□ = Soundings (IGLD 10-14-75)

SECTION B-B



ELEVATION

NOTES

For Steel Apron Details see Sheet # 10

Work this sheet with sheet # 10

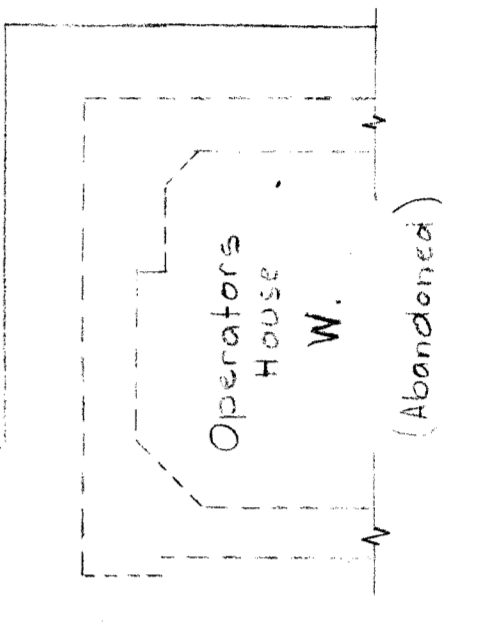
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

STEEL APRON LAYOUT

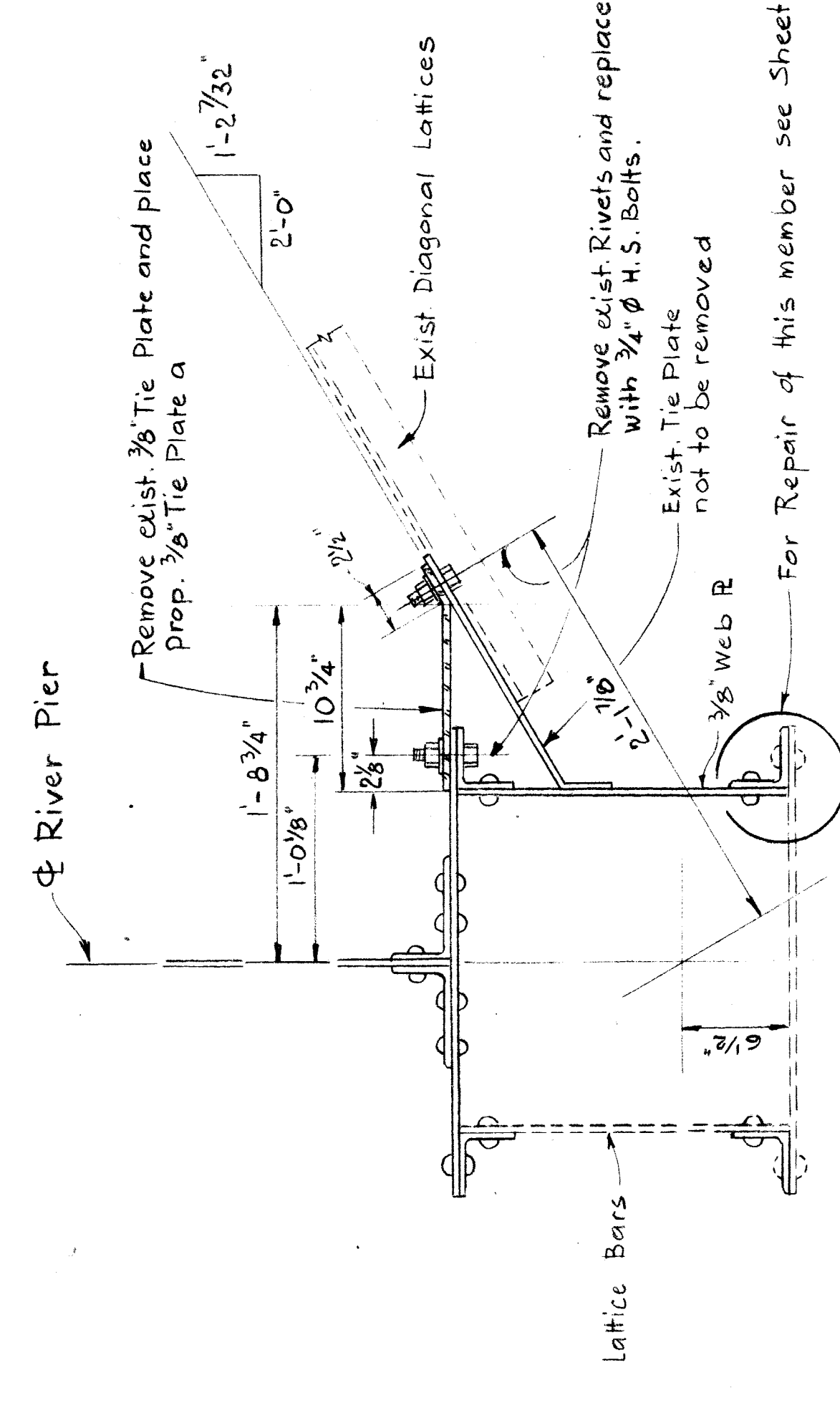
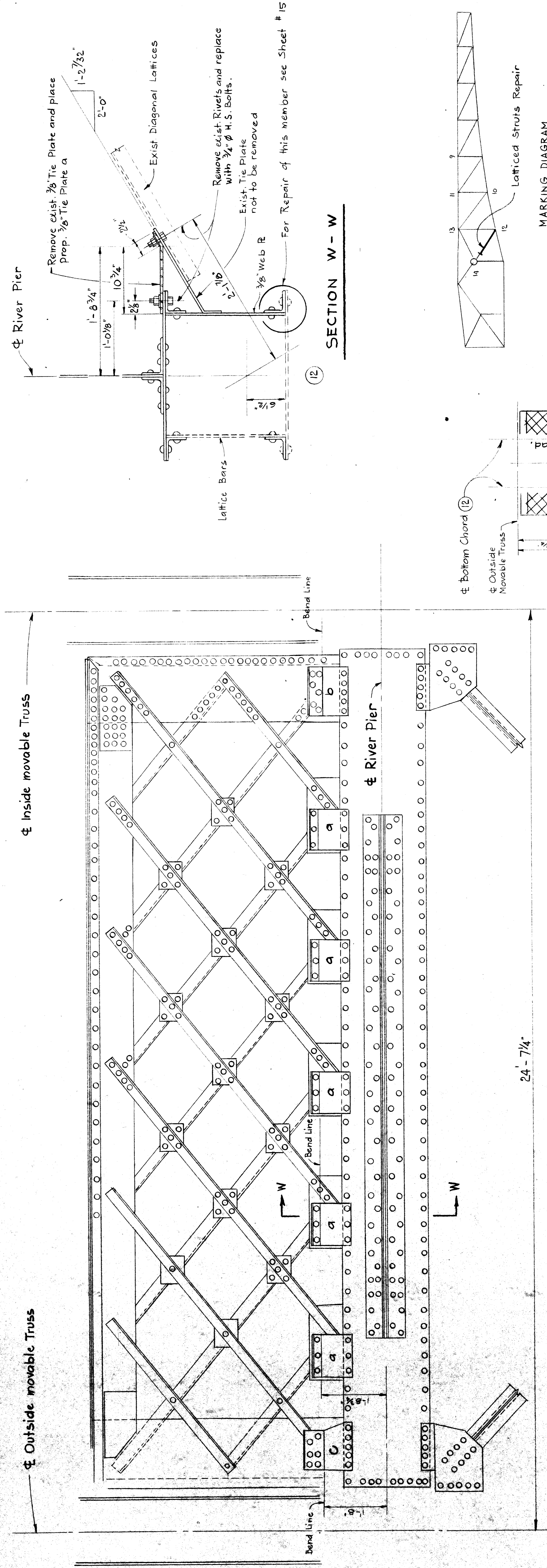
NO.	REVISIONS	DATE	BY

DRAWN BY	W.D.B.	3-8-76
CHECKED BY	P.R.N.	10-27-75
DESIGNED BY	D.L.P.	7-3-72
SHEET	9	OF

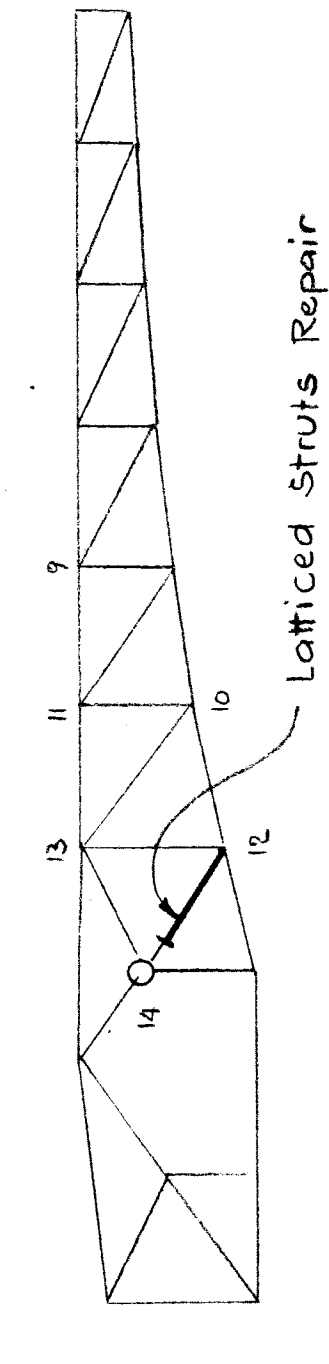
B04 OF 82071



448 51 523 5-76



SECTION W - W

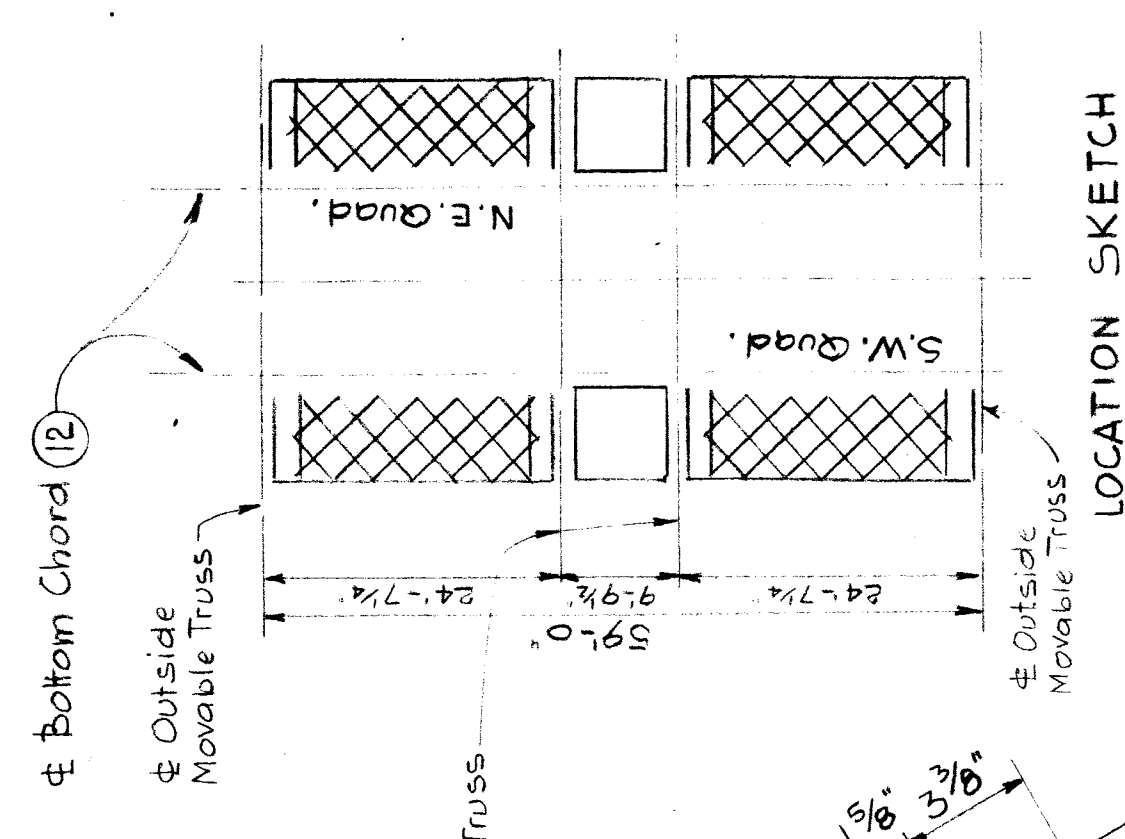


MARKING DIAGRAM

Sequence of Repairwork

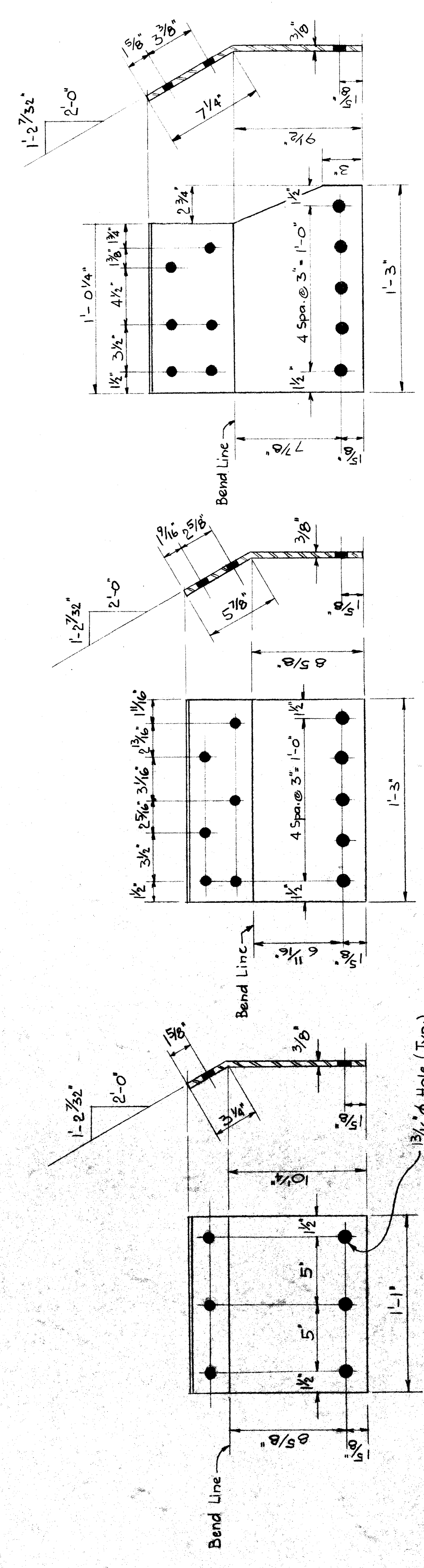
1. Remove and replace Tie R's b. & c.
2. Remove and replace two of the Tie R's a.
3. Remove and replace rest of Tie R's a.

Do not remove all exist. Tie R's at the same time



LOCATION SKETCH

ELEVATION



3/8" Tie Plate a. (15' x 3/8" x 1-1/2")
10 Req'd.

3/8" Tie Plate b. (15' x 3/8" x 1-1/2")
2 Req'd.

3/8" Tie Plate c. (15' x 3/8" x 1-4 1/4")
2 Req'd.

MISCELLANEOUS QUANTITIES			
I t e m	Unit	Amount	
Structural Steel - Furnishing & Fabricating	lbs.	276	
Structural Steel - Erection	lbs.	276	

See also Reference Sheets A64 & A66

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

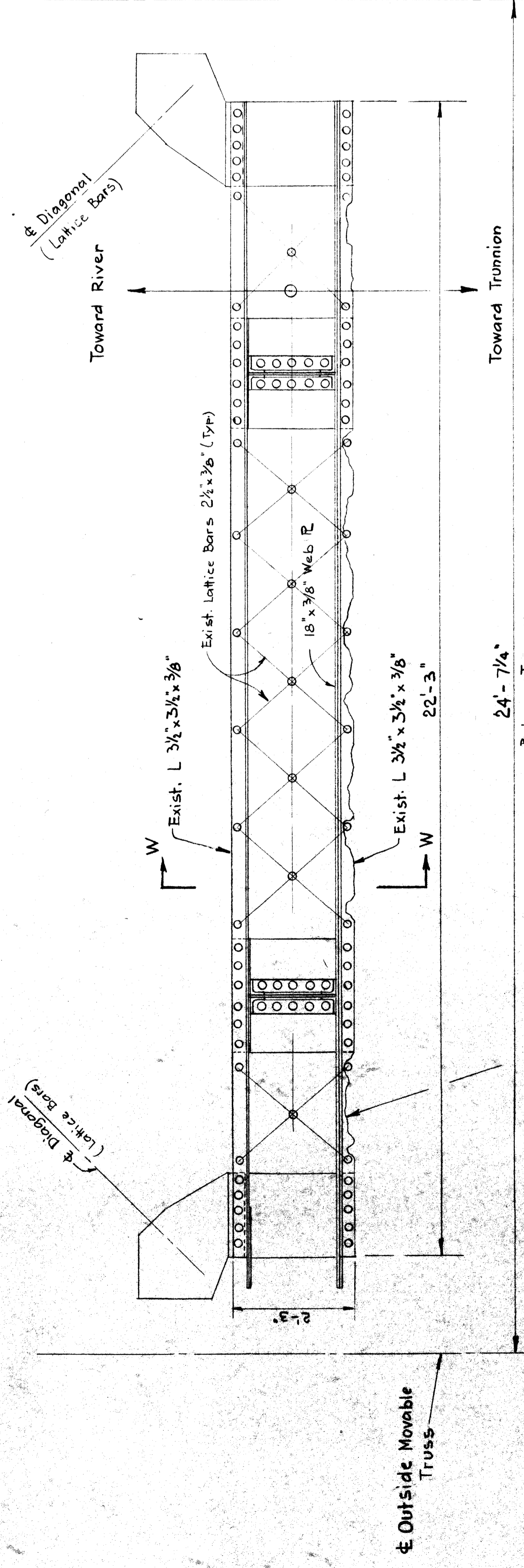
LATTICE STRUT REPAIR

REVISIONS		DATE	BY
NO.	DESCRIPTION		

PROJECT 14 OF

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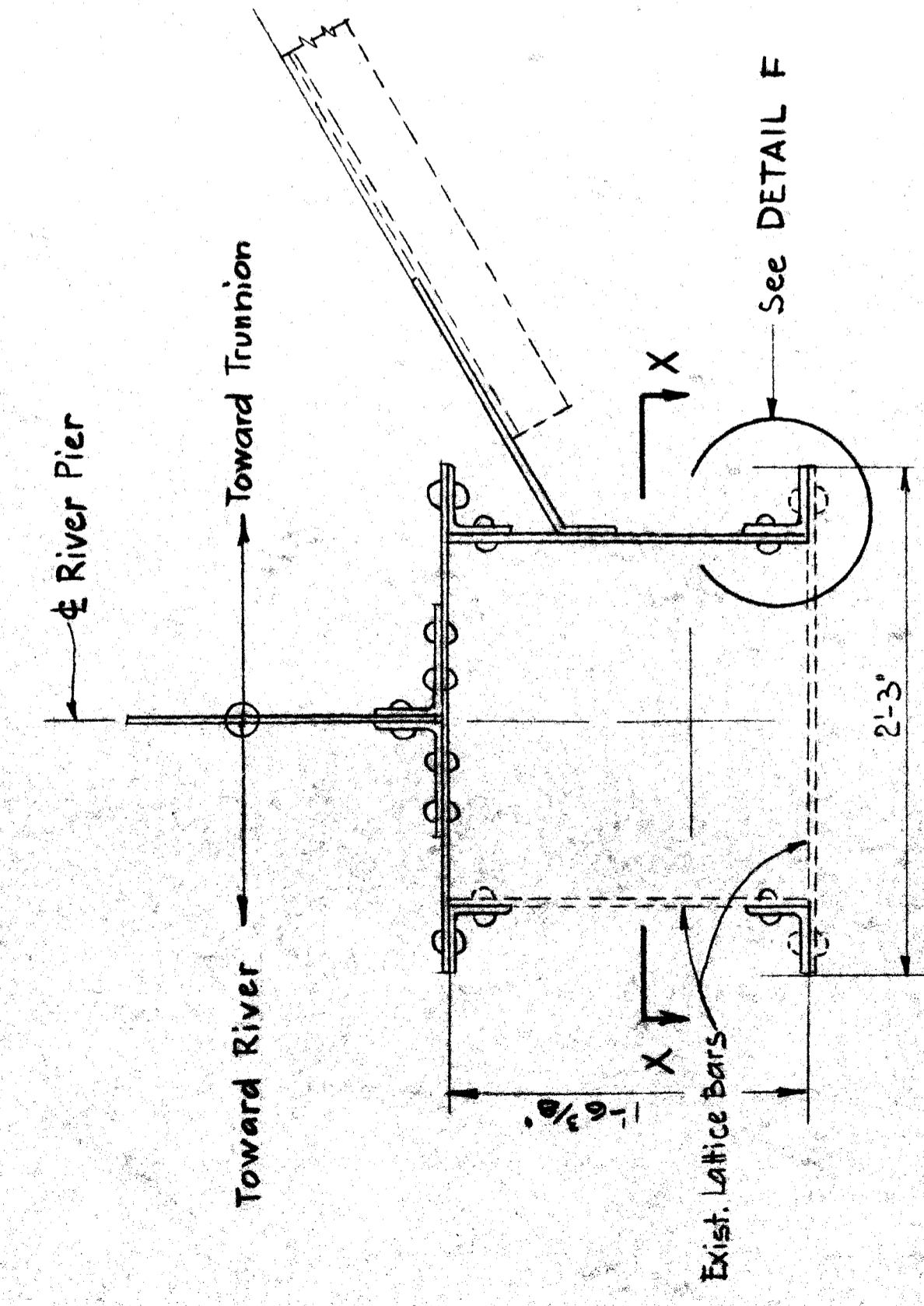
SCALE	DATE	BY	AMOUNT
3-3-76	3-3-76	P.R.N.	276
2-4-76	2-4-76	D.P.A.	276



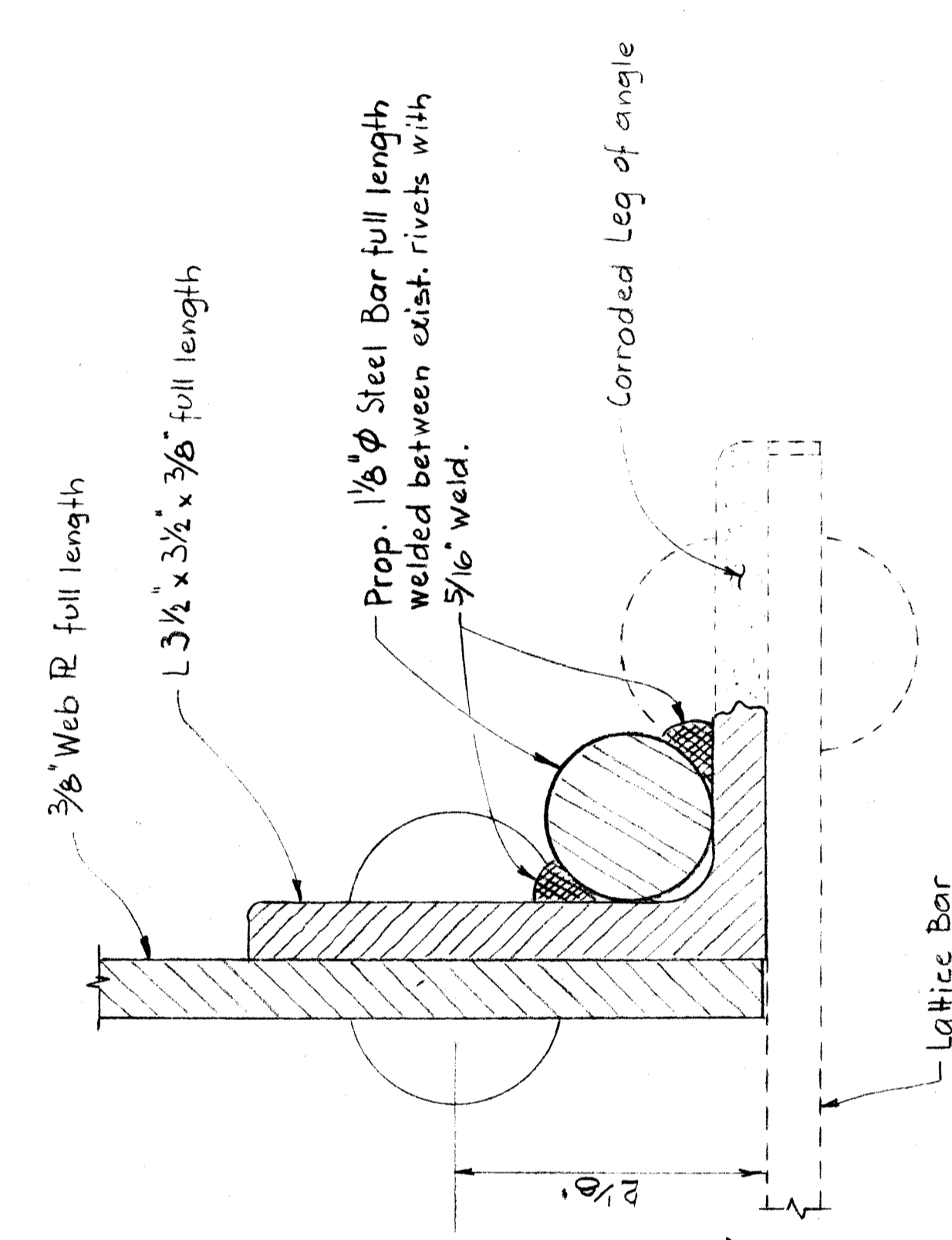
Keep all exist. Rivets in place
Loose Rivets shall be welded to
exist. steel where necessary.

SECTION X-X
(N.E. Quadrant shown)

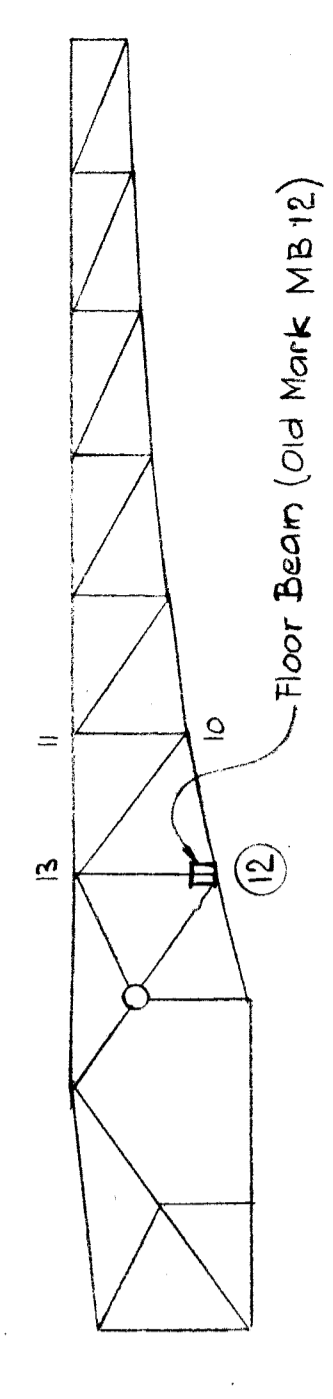
Heavily Corroded bottom angle
to be repaired as shown.



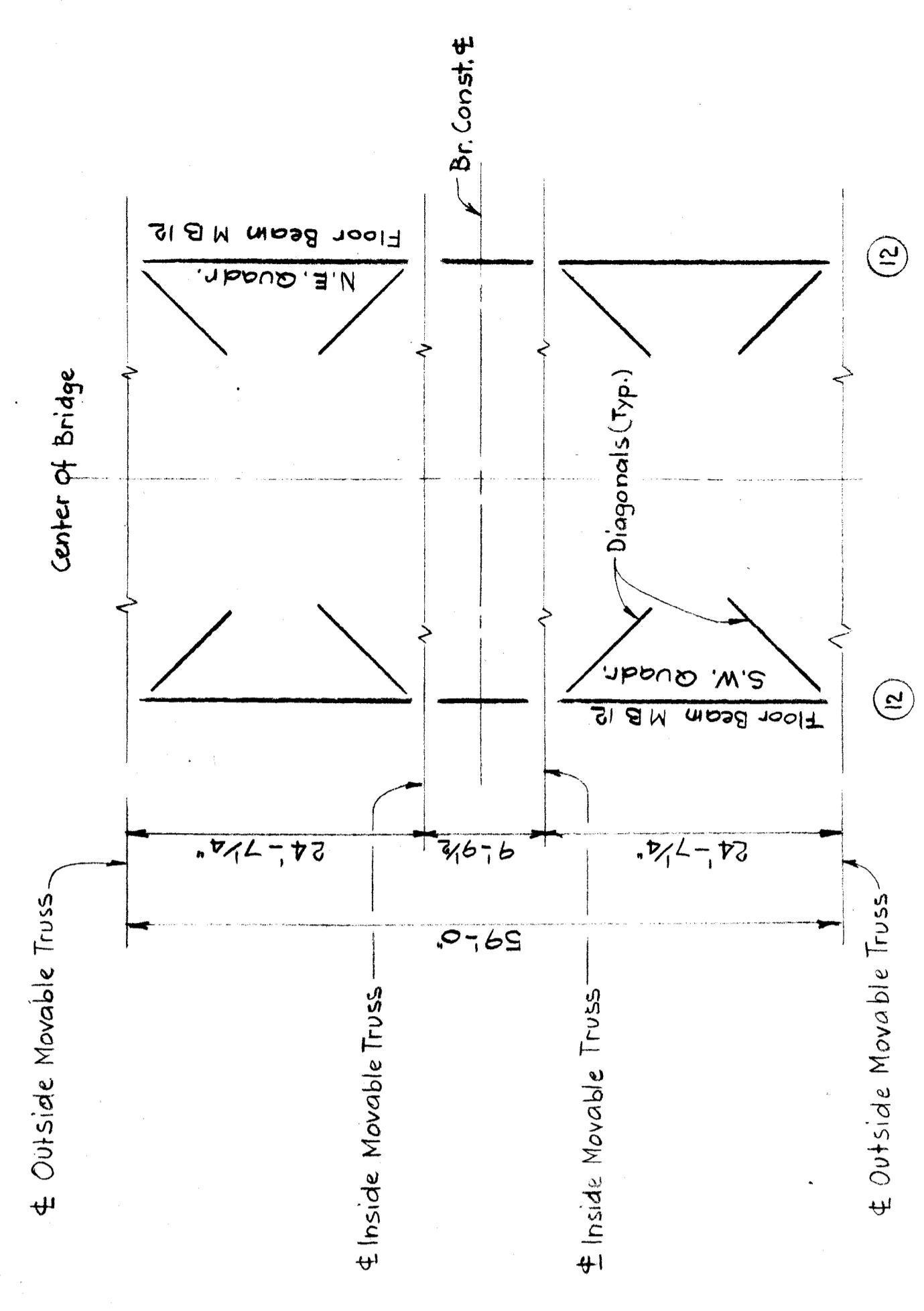
SECTION W-W



DETAIL F



MARKING DIAGRAM



LOCATION SKETCH

MISCELLANEOUS QUANTITIES		
Item	Unit	Amount
Structural Steel - Furnishing & Fabricating	lbs.	150
Structural Steel - Erection	lbs.	150

This Sheet

Also see Reference Sheet # A 66

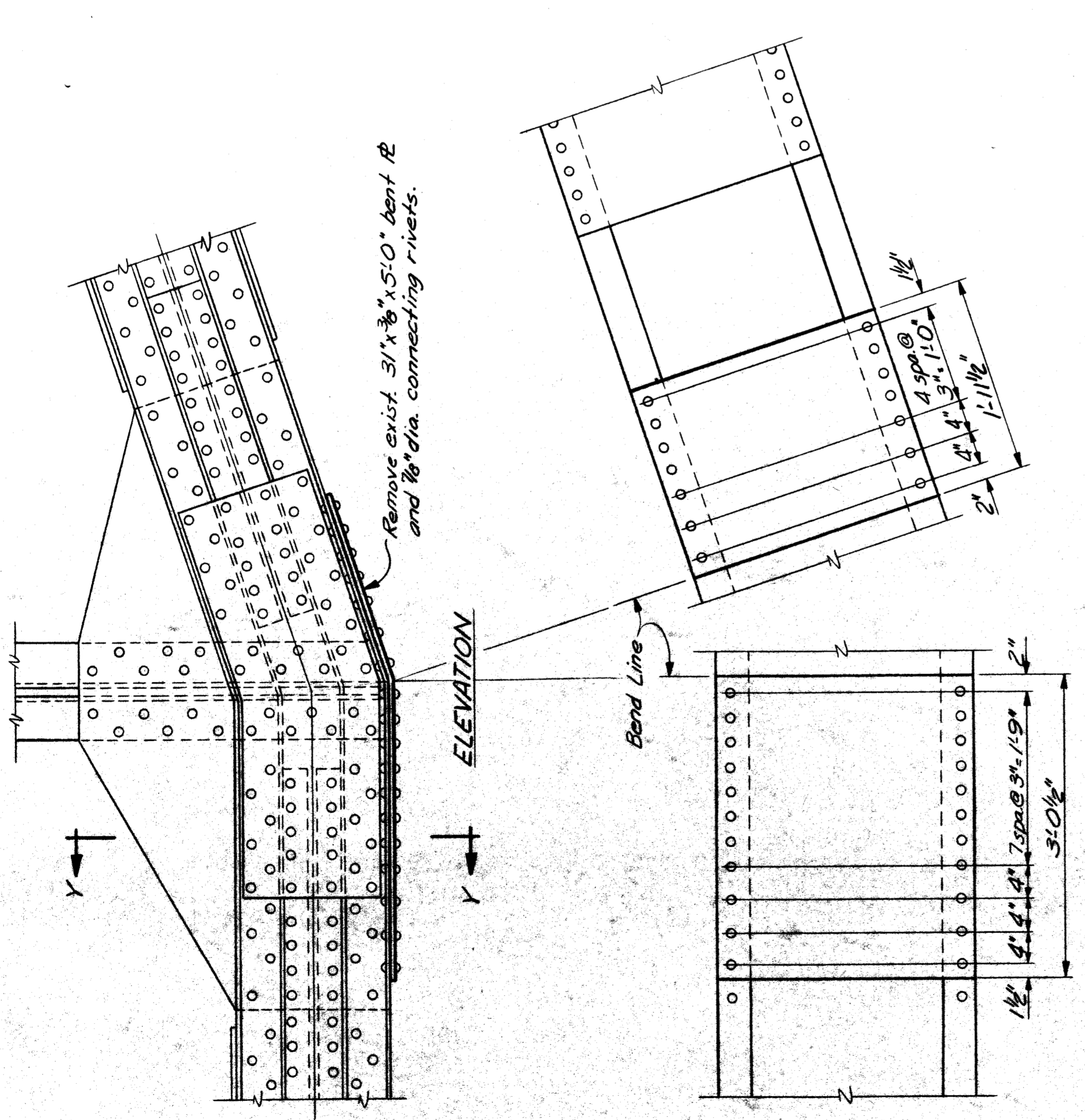
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

STRUT REPAIR AT 12

REVISIONS		DATE	BY
NO.	DESCRIPTION		

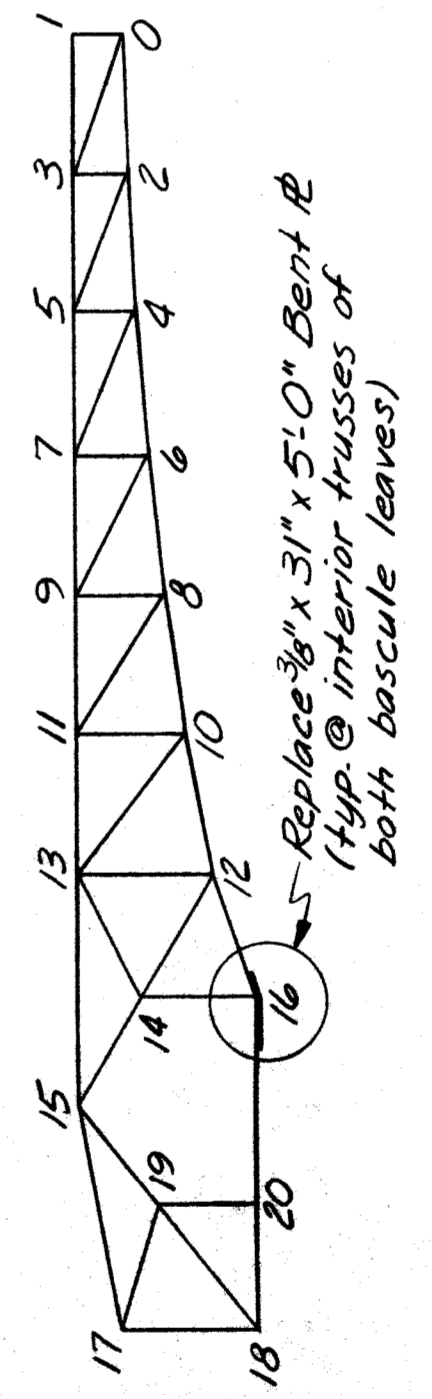
DESIGNED BY	WDB	3-8-76
DRAWN BY	P.R.N.	2-6-76
CHECKED BY	D.D.G.	3-8-76
APPROVED BY		
SHEET	15	OF

B04 of 82071

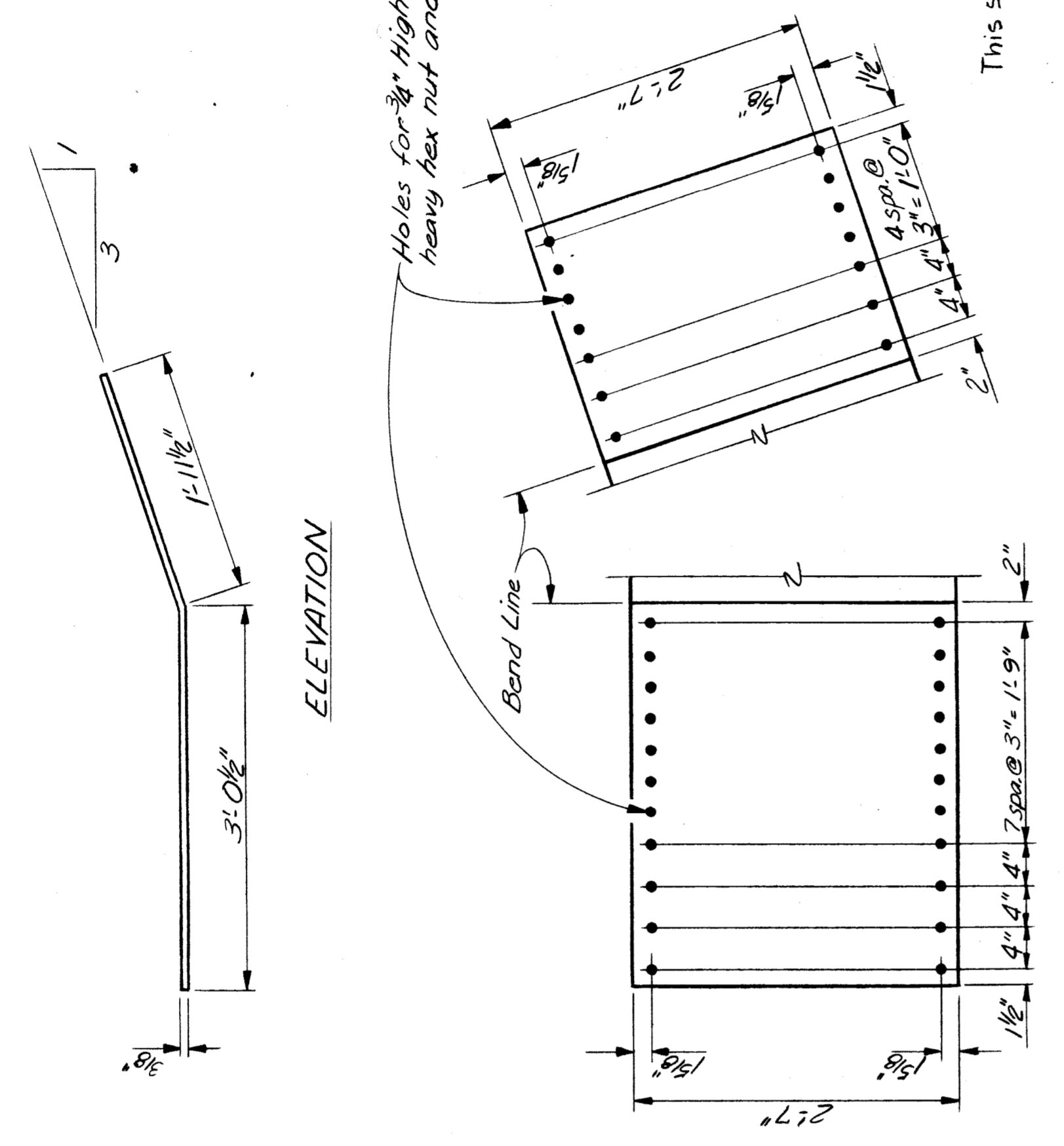


PLAN OF BOTTOM

DETAILS OF EXISTING STEEL AT POINT 16
(From Bethlehem Drawing ASD of 1926)

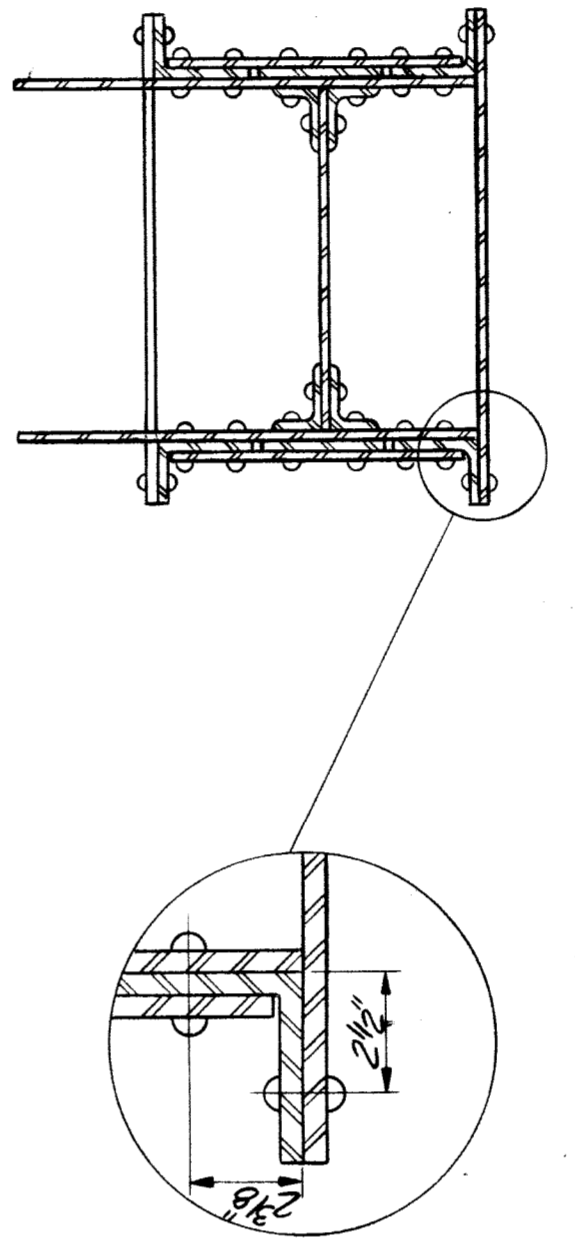


REPAIR LOCATION DIAGRAM



PLAN OF BOTTOM

BENT PLATE DETAILS
(4 req'd)



DETAIL G

SECTION Y-Y

MISCELLANEOUS QUANTITIES

Item	Unit	Amount
Structural Steel - Furnishing and Fabricating	lbs	750
Structural Steel - Erection	lbs	790

This sheet

NOTES:
Repair work may be done with bascule leaf in upright position at contractors option.

Work this sheet with reference sheet #A 50

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

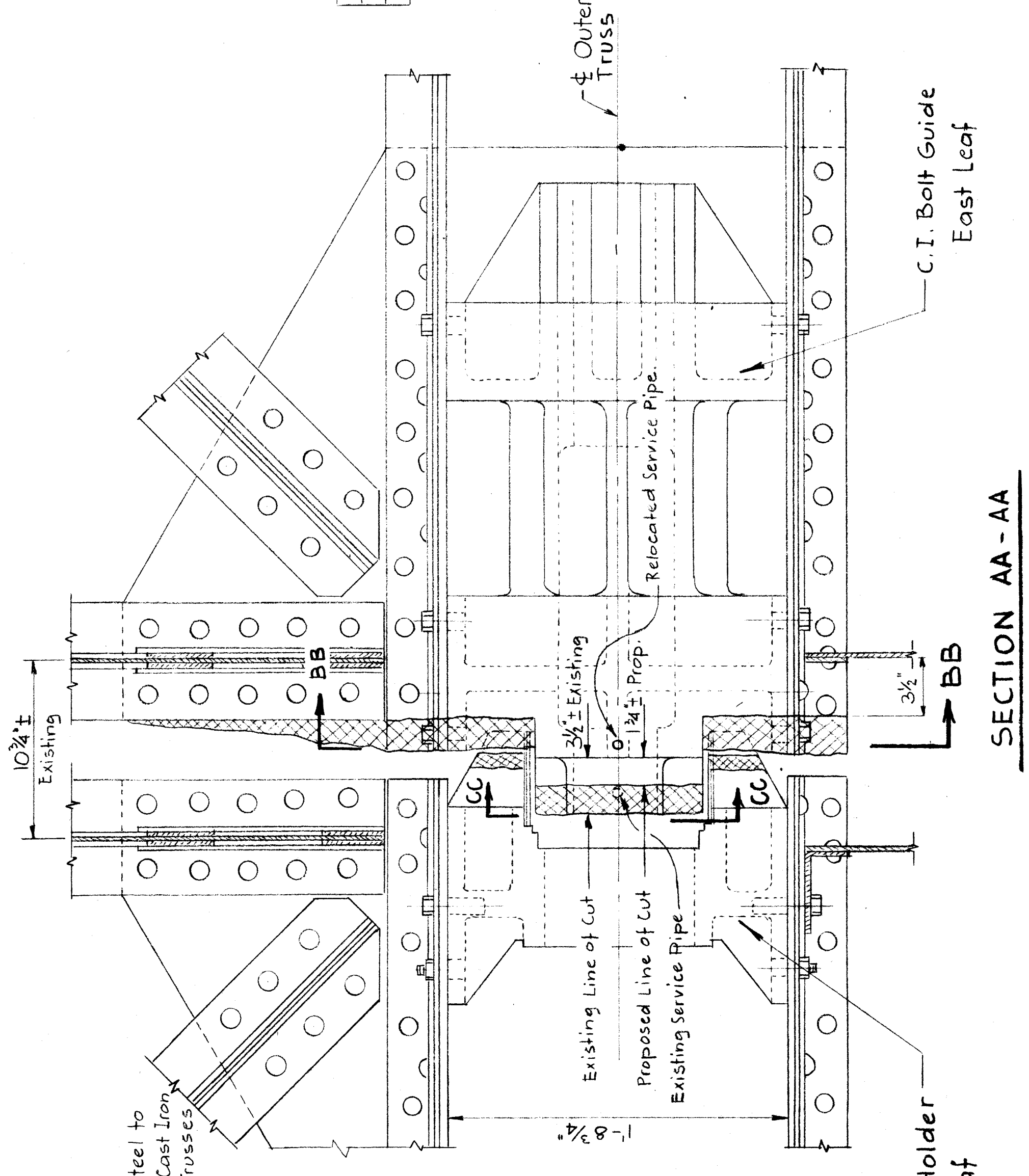
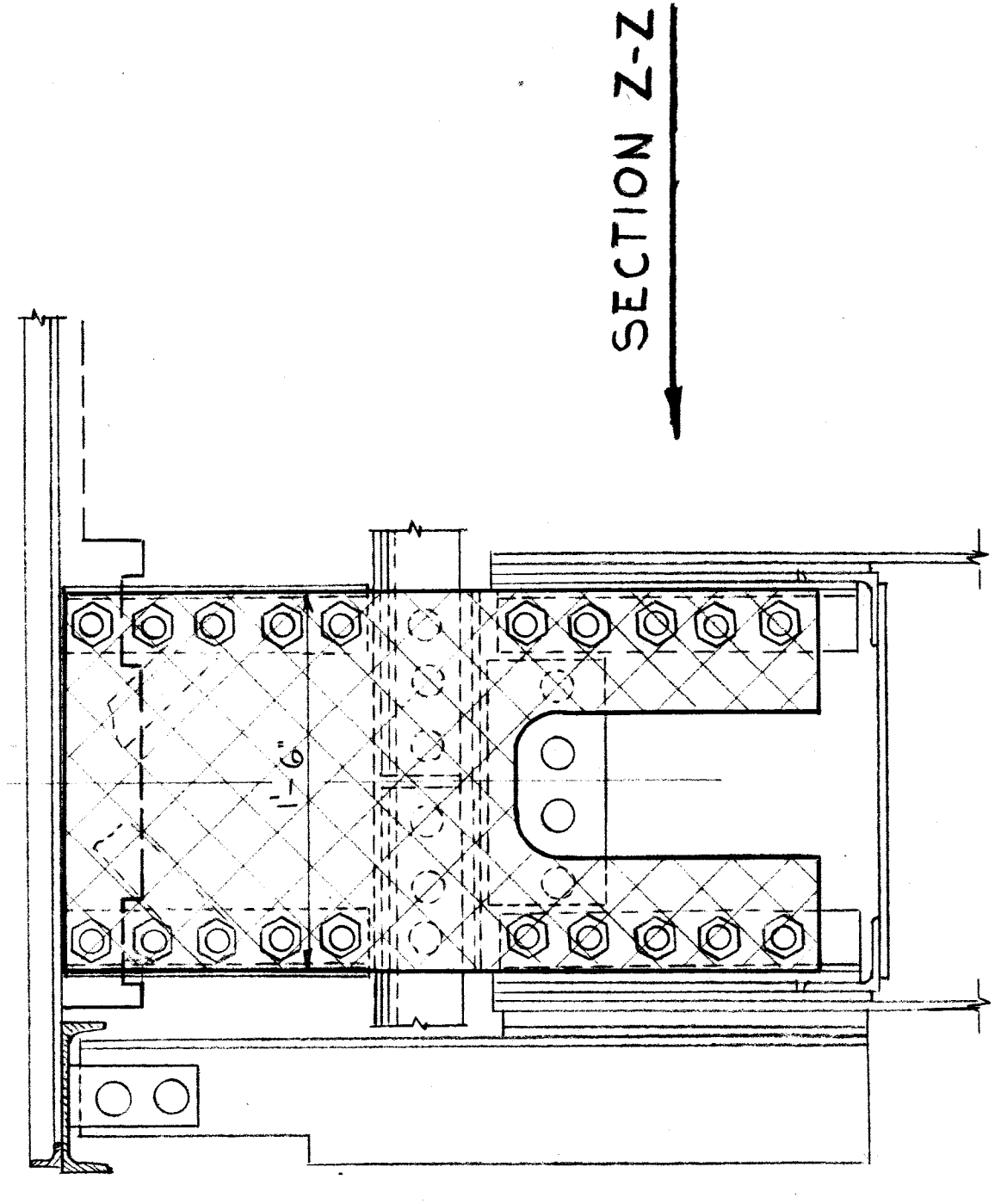
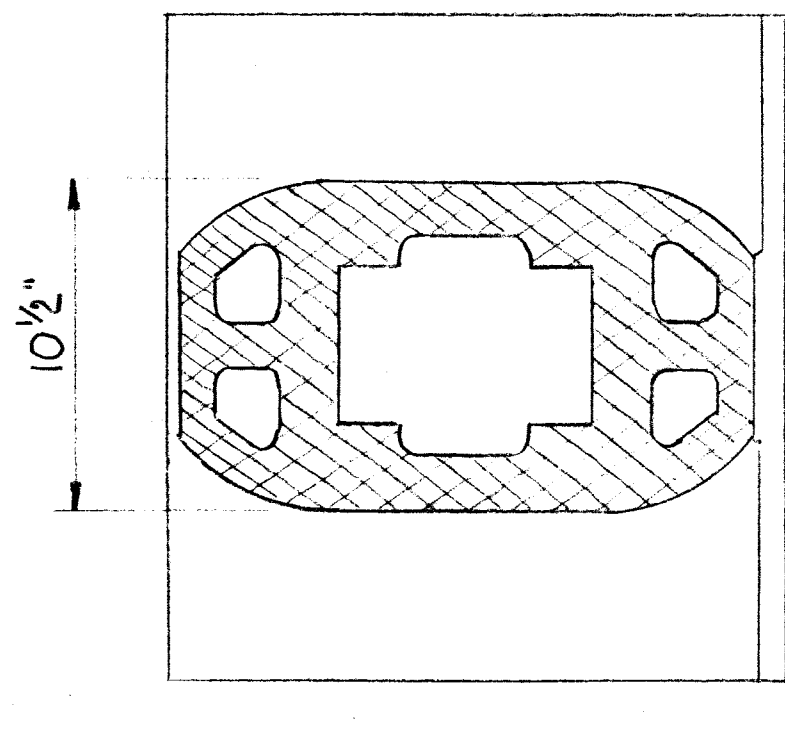
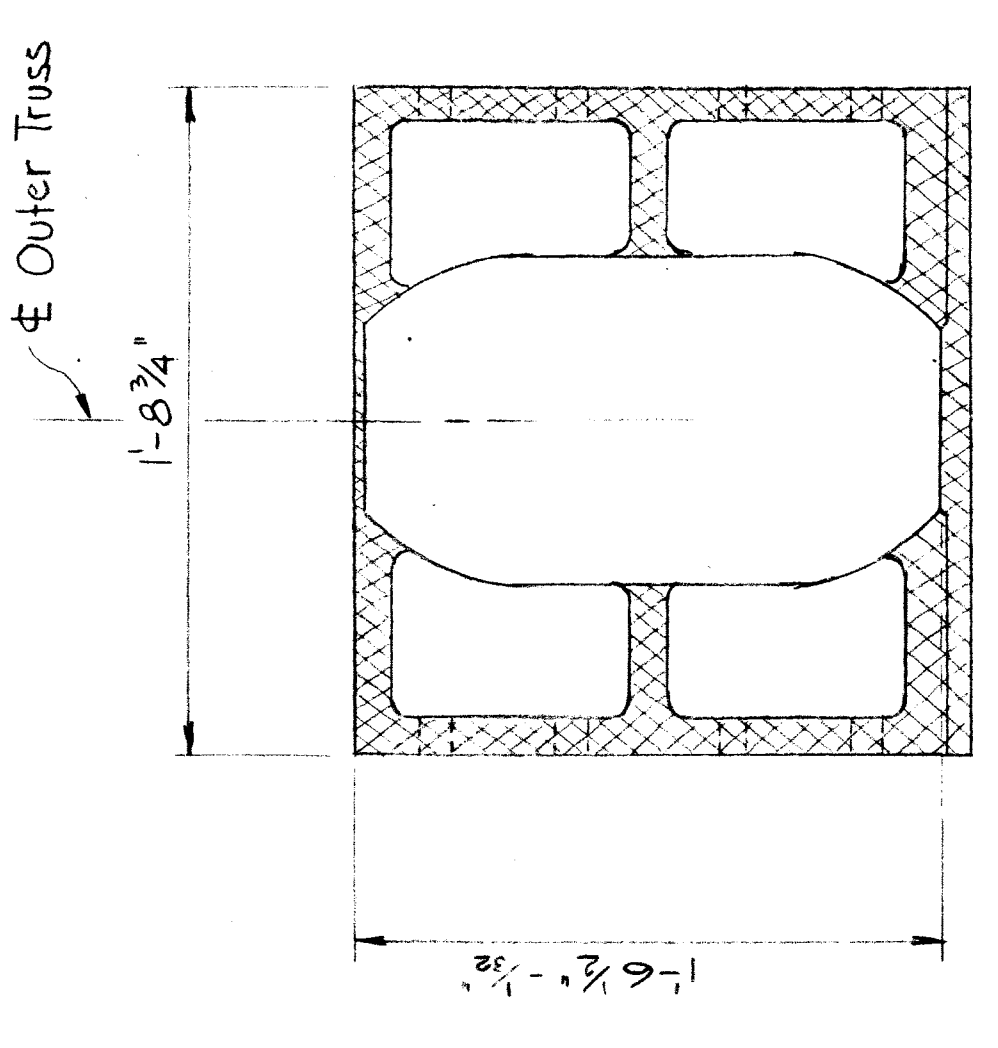
BENT PLATE REPAIR AT 16

REVISIONS		DATE	BY
NO.	DESCRIPTION		

DESIGNED BY	DATE	3. 5. 26.
CHECKED BY	DATE	
DRAWN BY	DATE	
SCALE		

SHEET 62 OF 62
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DATE: 10-15-76 BY: [Signature]



Remove the remainder of the Trolley Arch on both sides of the East Leaf only (Cross-Hatched Area)

The remainder of the Trolley Arch consists of angles & lacing Bars (Partly burned off in 1934) as shown in Section Z-Z and are not in connection with the sidewalk Grid.

The Contractor shall remove the remainder of the Trolley Arch from underneath the Sidewalk, omitting the removal of the Grid.

Remove exist. Structural Steel to approx. this line including Cast Iron Bolt Guide on both Outer Trusses at East Leaf only. (Cross-Hatched Area)

Remove exist. Structural Steel to approx. this line including Cast Iron Bolt Guide on both Outer Trusses at East Leaf only. (Cross-Hatched Area)

Remove exist. Structural Steel to approx. this line including Cast Iron Bolt Guide on both Outer Trusses at East Leaf only. (Cross-Hatched Area)

OUTER TRUSS - ELEVATION

Showing Section thru Sidewalk Bracket at Ctr. Break

MISCELLANEOUS QUANTITIES

Item	Unit	Amount
Center Break Adjustment	L. S. Lump Sum	

NOTE

All cross-hatched areas indicate Removal of Structural Steel without replacement. The Contractor shall achieve a fairly clean surface when flame cutting steel members.

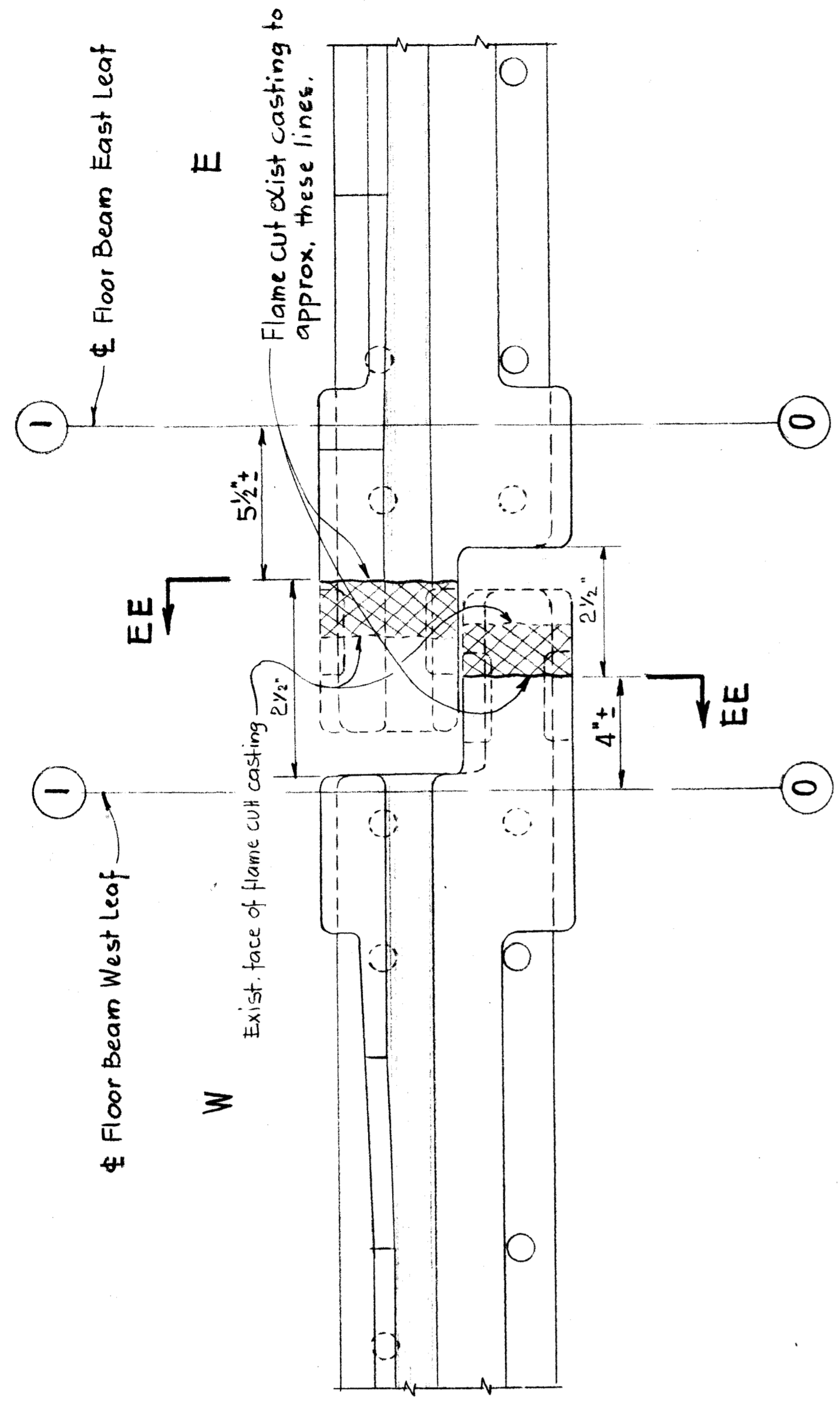
The adjustment of the Service Pipe on 4 Castings is included in the item of "Center Break Adjustment."

**MICHIGAN DEPARTMENT OF STATE HIGHWAYS
CENTER BREAK ADJUSTMENT**

NO.	REVISIONS	DATE	BY
	DESCRIPTION		

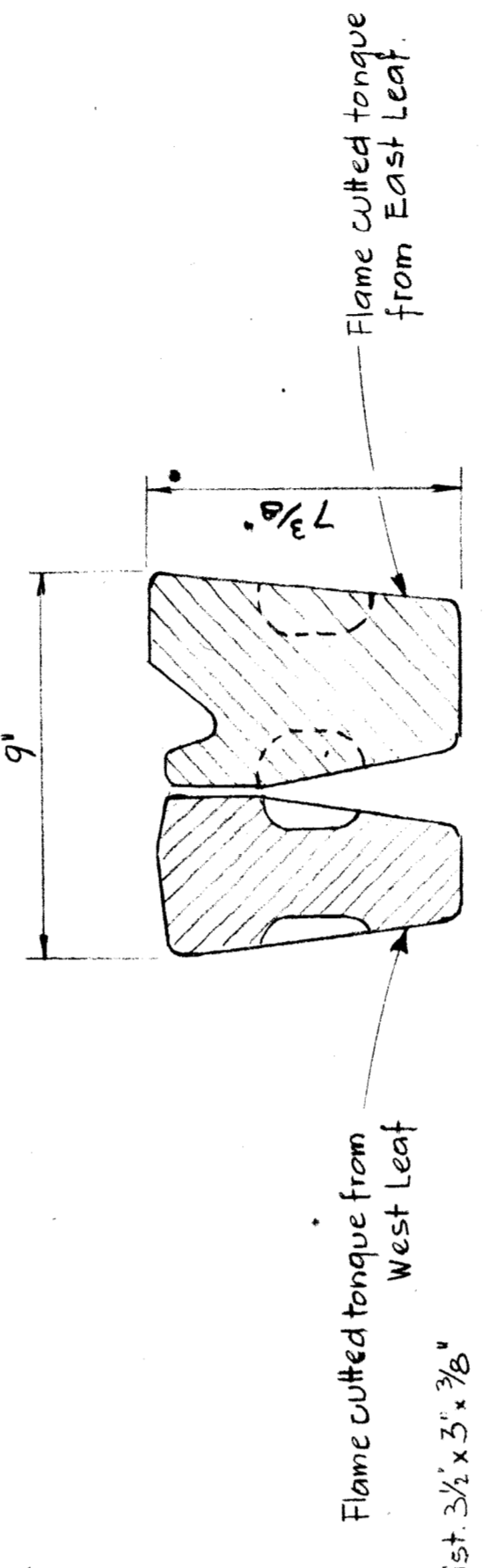
DRAWN BY: N.D.S. 3-8-76
 CHECKED BY: P.R.N. 2-10-76
 DESIGNED BY: D.P.A. 3-2-76
 SHEET 17 OF 3-2-76
B04 of 82071

448 10 1955 4275 80-1004



PLAN

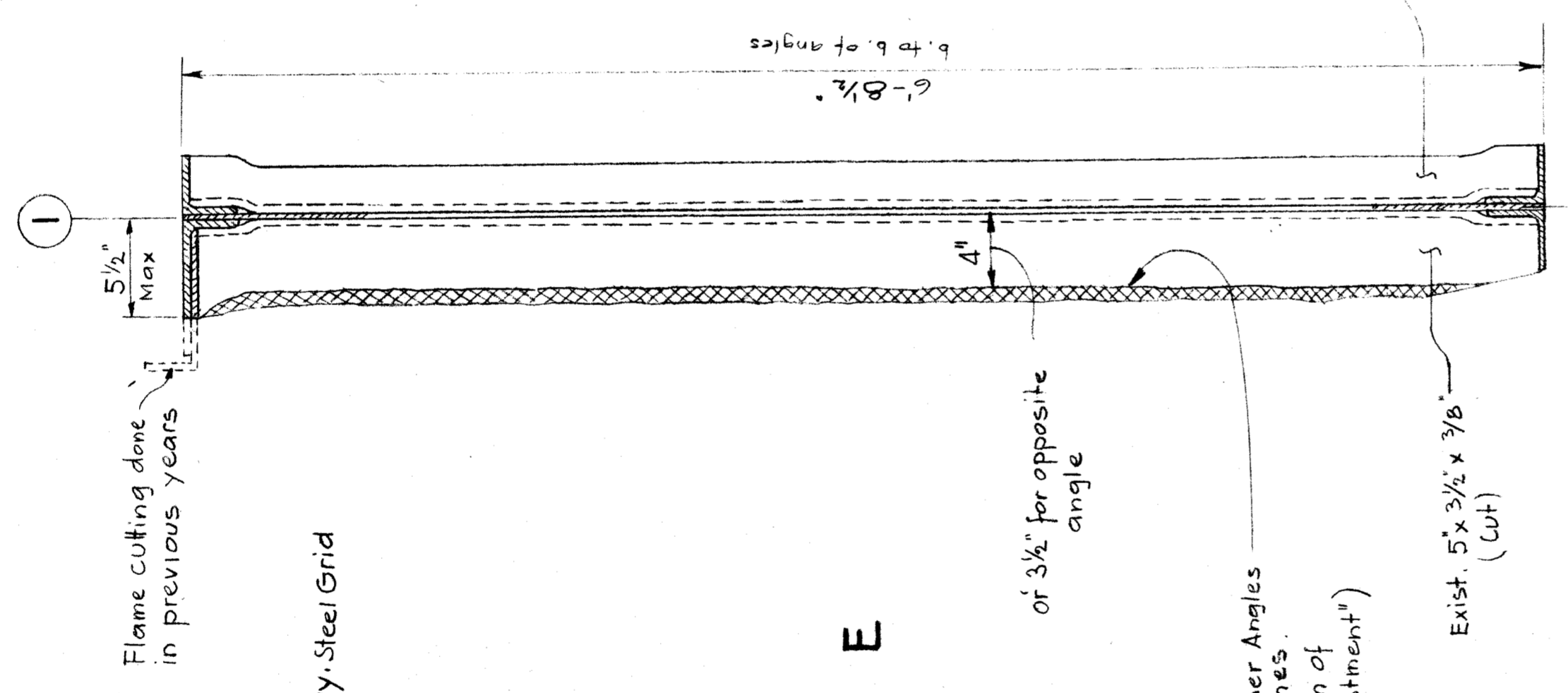
Showing the extent of flame cutting of the existing tongue of the Rail Casting on West & East Leaf at the Center Break.



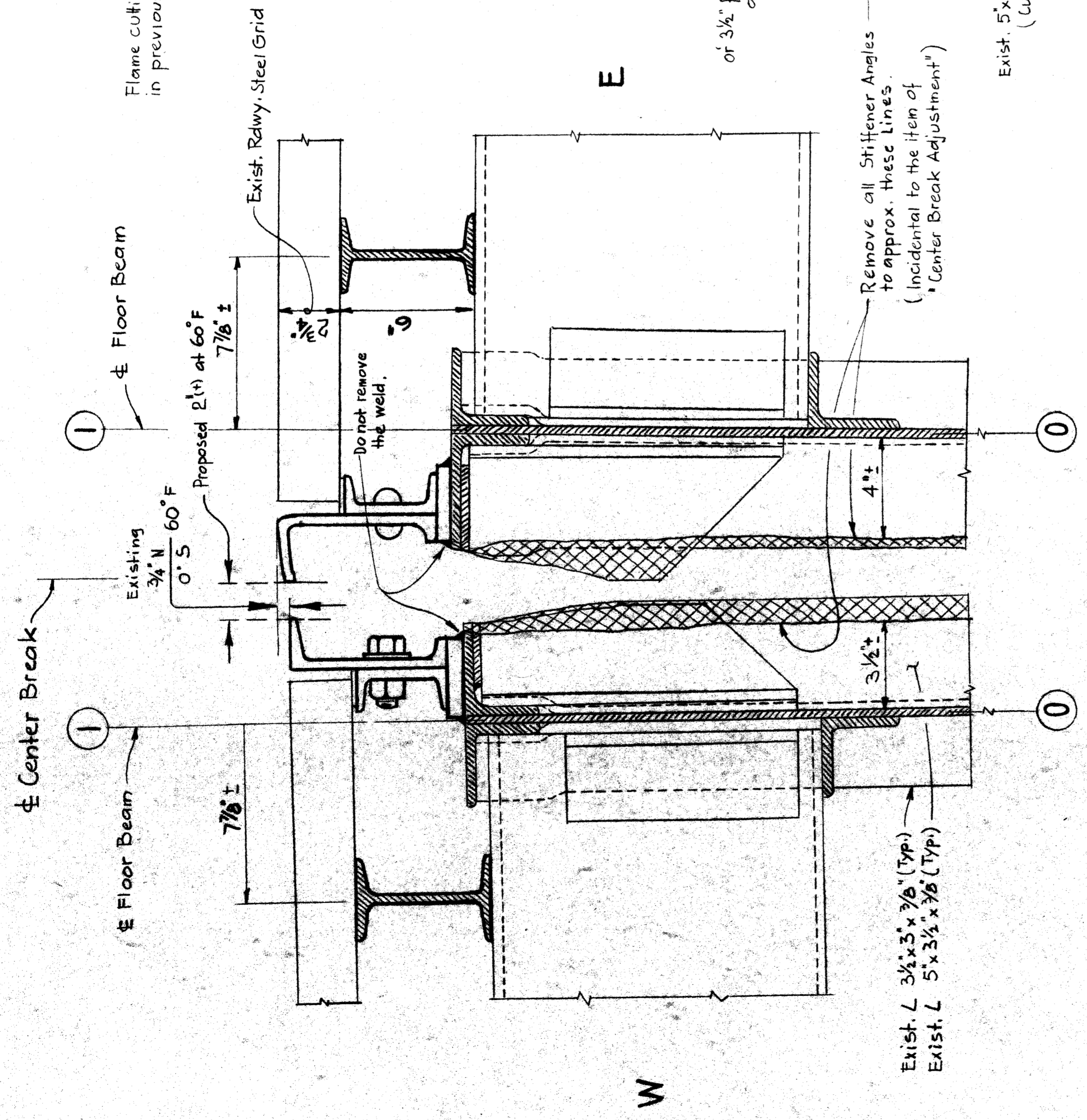
SECTION EE-EE

MISCELLANEOUS QUANTITIES

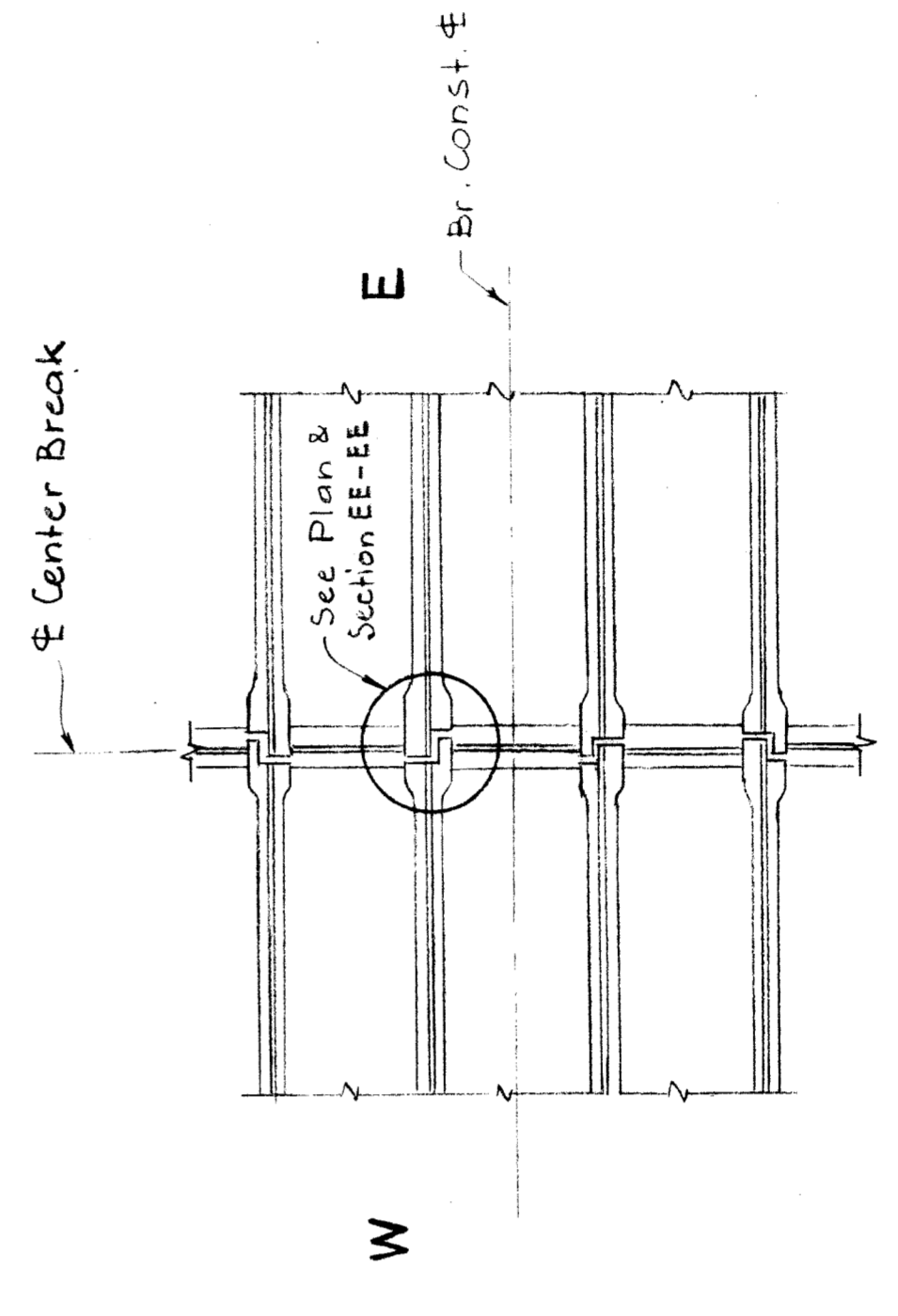
Item	Unit	Amount
Center Break Adjustment	L.S.	Lump Sum
Flame Cutting Rail Castings	Each	8



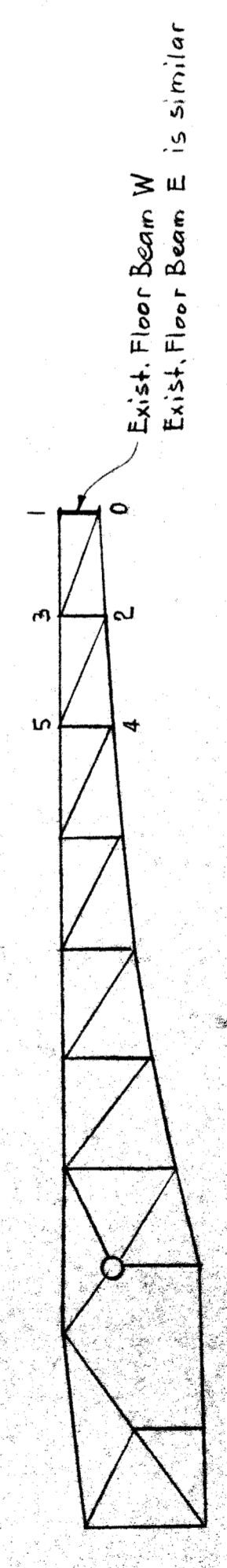
SECTION THRU FLOORBEAM 1-0
AT RDWY.



LONGITUDINAL SECTION THRU & RDWY.
AT CENTER BREAK



LOCATION DIAGRAM



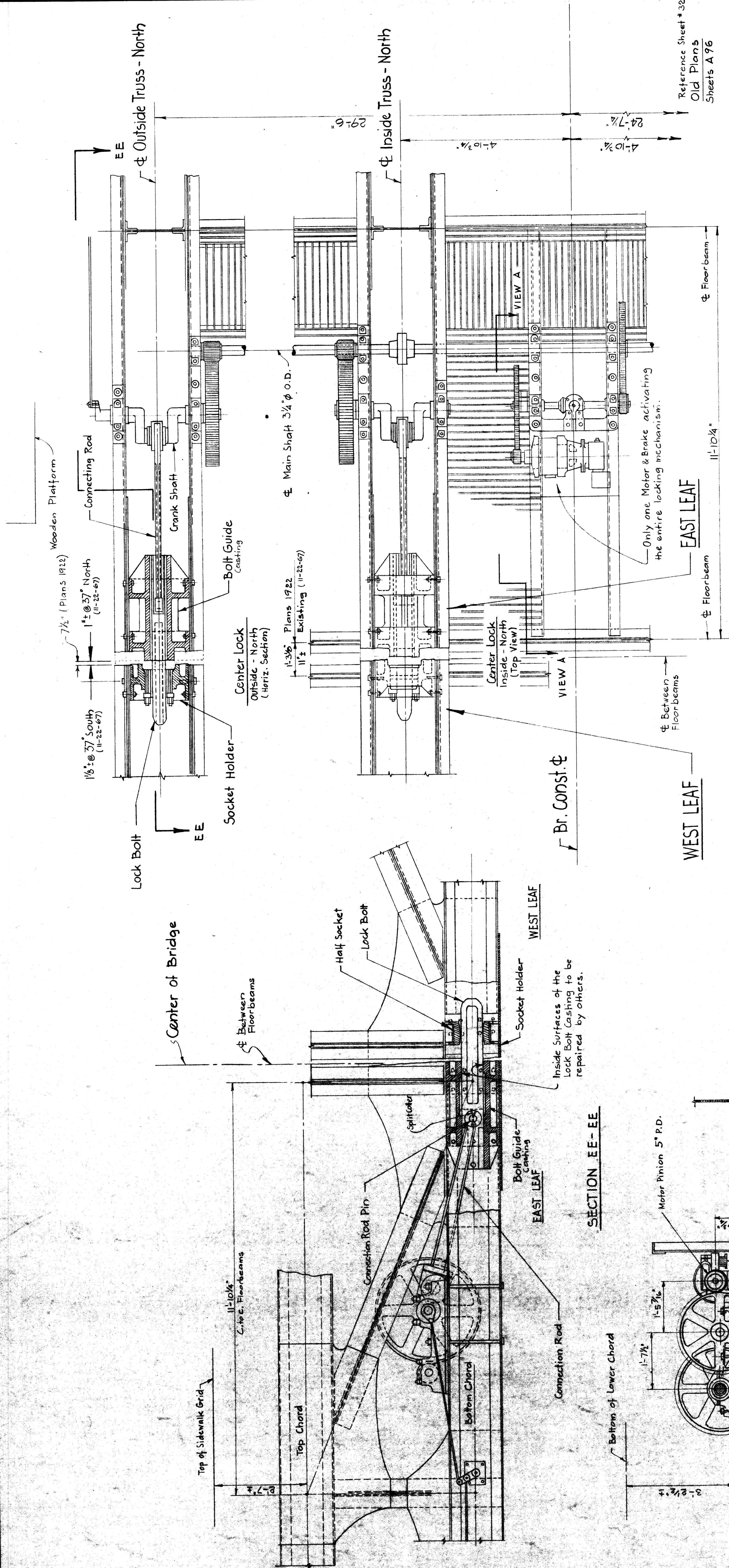
MARKING DIAGRAM

All Rails, Castings & Casting Supports to remain in place.

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
CENTER BREAK ADJUSTMENT

NO.	REVISIONS	DESCRIPTION	DATE	BY

DESIGNED BY: W.D.S. 3-2-77
 DRAWN BY: P.R.A. 3-1-76
 CHECKED BY: L.D.# 3-5-76
 SHEET 18 OF 18
B04 of 82071



Reference Sheet # 32
Old Plans
Sheets A 96

For Structural Steel Notes see sheet
For Center Lock Repair Notes see sheet

Work this sheet with sheets

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
CENTER LOCK ADJUSTMENT

REVISIONS

NO.	DESCRIPTION	DATE	BY

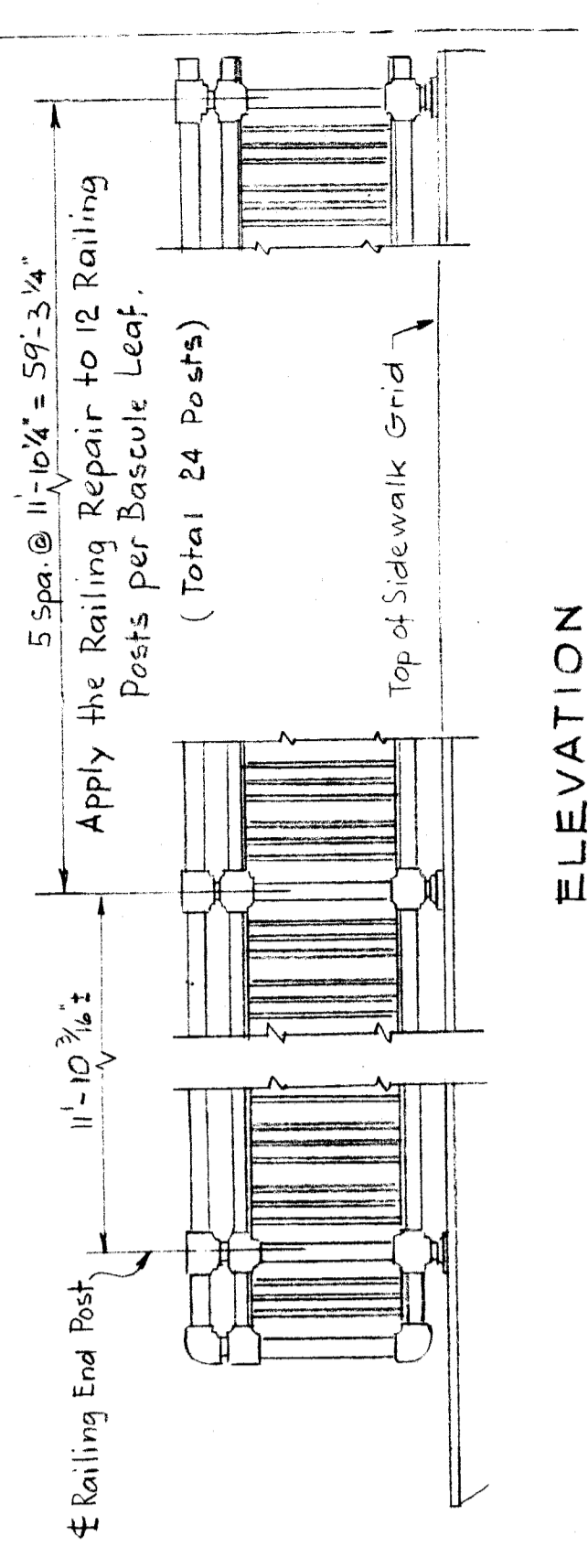
MISCELLANEOUS QUANTITIES

Item	Unit	Amount
Removal of Center Lock Motor & Brake	L. S.	Lump Sum
Motor & Brake, Furnished & Installed	L. S.	Lump Sum

PLAN
Scale: 3/4" = 1'-0"

VIEW A - A
Showing Motor & Brake Assembly of the Center Lock

Bridge Center



ELEVATION

STRUCTURAL STEEL NOTES

Design: Michigan Department of State Highways Specifications for Design of Highway Bridges - 1958 Edition and current AASHTO Standard Specifications for Highway Bridges, H20 Loading Fabrication: Michigan Department of State Highways Standard Specifications for Highway Construction - 1973 Edition. Field connections shall be bolted with 3/4" high-strength bolts except as noted. Finish coat of Field Paint for Structural Steel is to be green as per Standard.

Field reaming of holes or flame cutting of edges as required to fit, shall be included in the item "Structural Steel Erection".

All existing steel removed shall become the property of the Contractor. Debris shall not be disposed into the river or on embankment.

Dimensions given in these plans are based on the original fabricators drawings.

Balancing both Counterweights with additional weight to be done by Others. (Additional weight needed = lbs. / per Leaf.

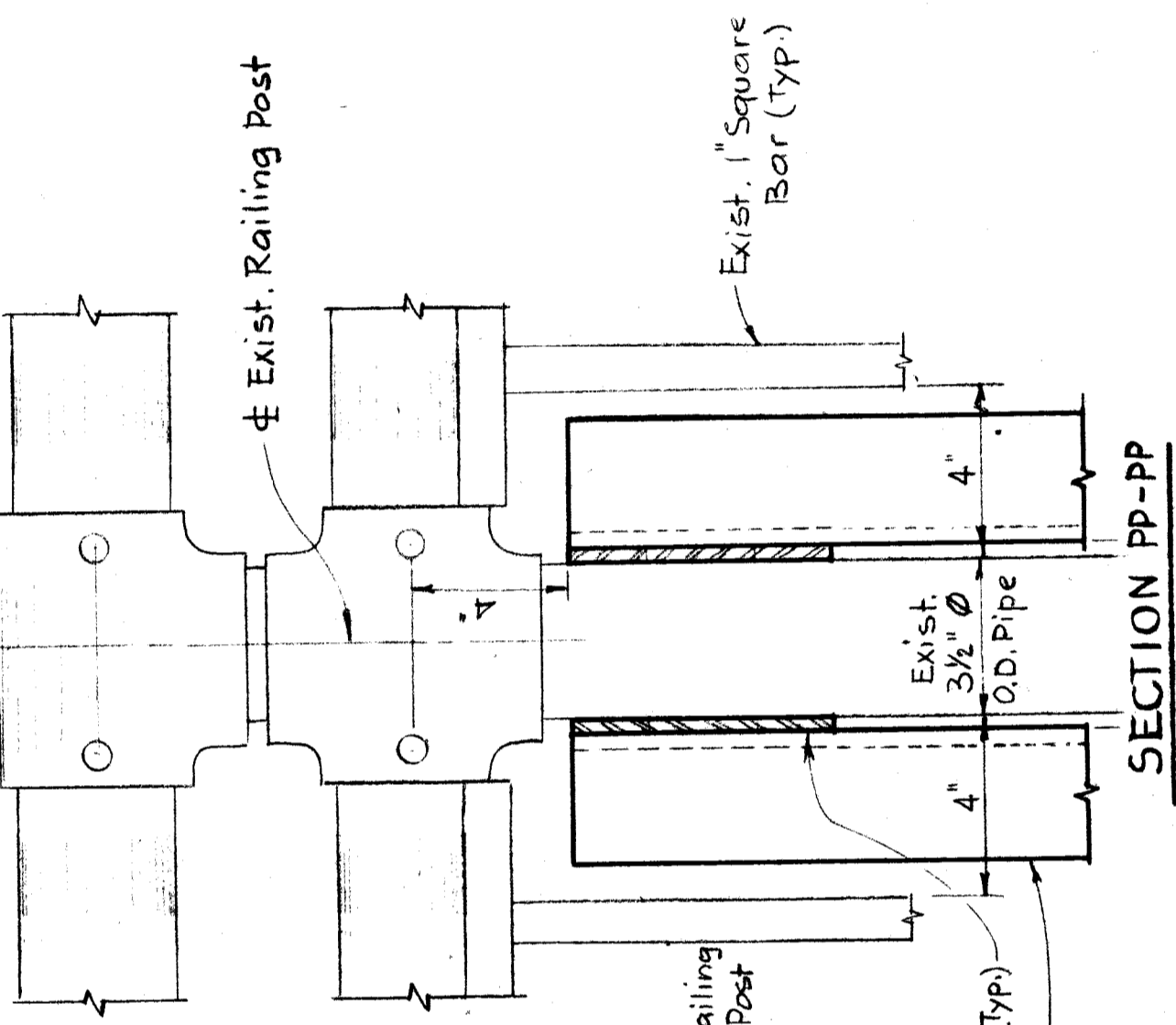
MISCELLANEOUS QUANTITIES		Unit	Amount
Structural Steel - Furnishing & Fabricating		lbs.	6316
Structural Steel - Erection		lbs.	6316
Cleaning Structural Steel		L.S. Lump Sum	
Painting Structural Steel		L.S. Lump Sum	
Field Painting		L.S. Lump Sum	

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

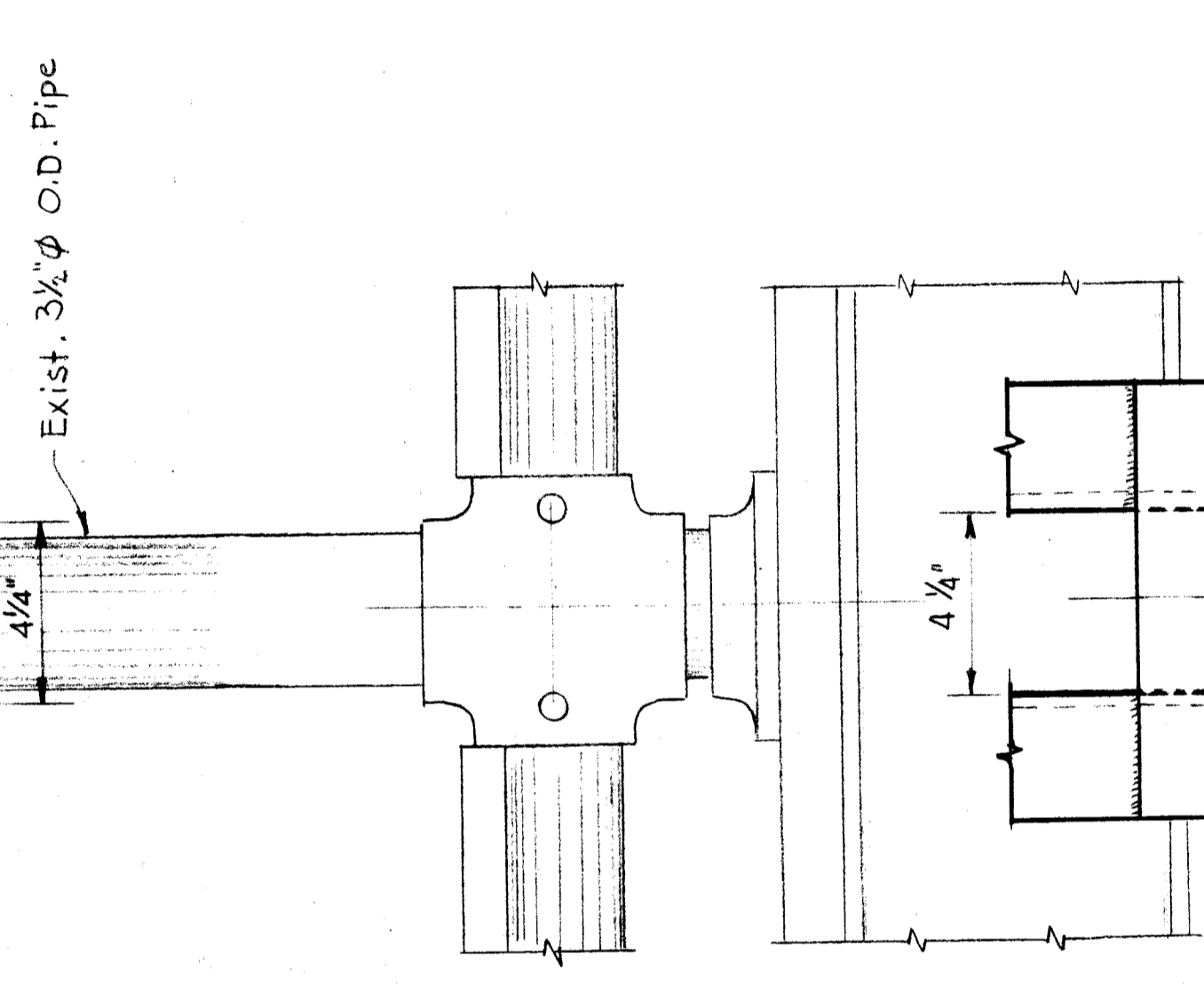
BRIDGE RAILING REPAIR

NO.	REVISIONS	DATE	BY

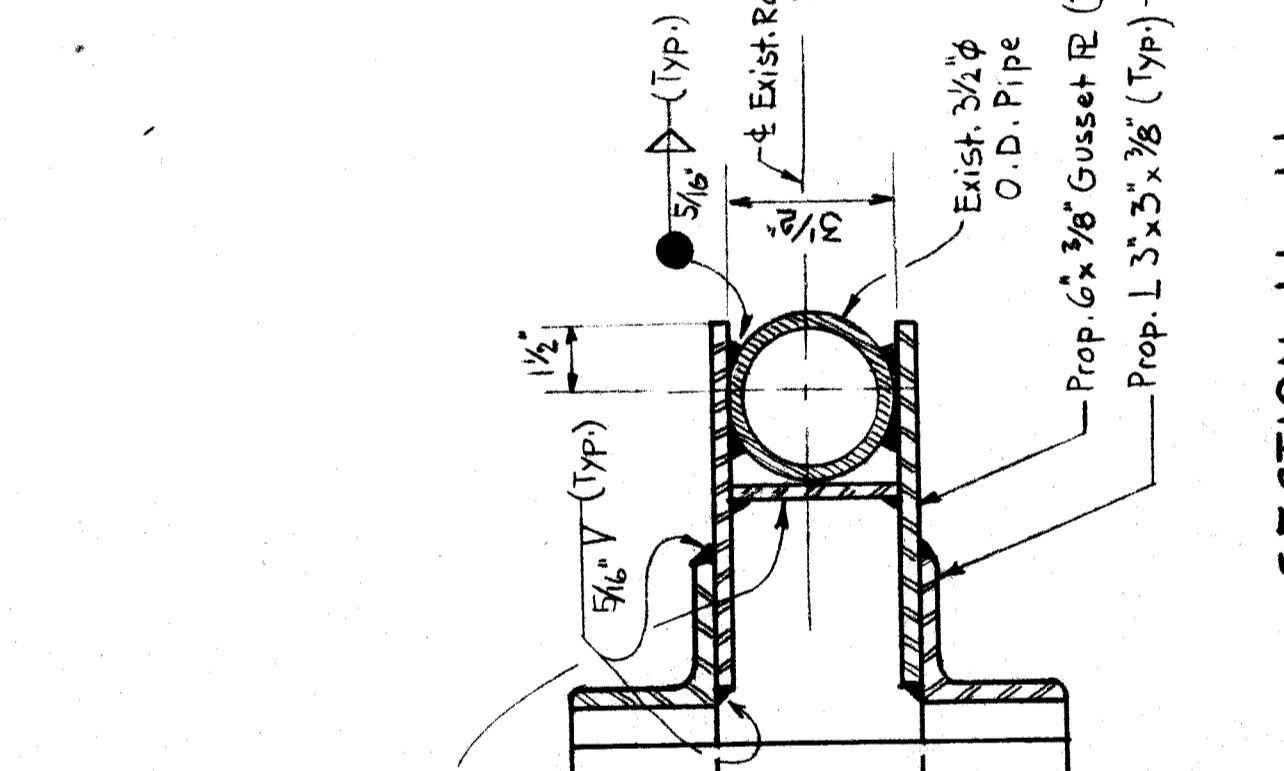
B04 OF 82071



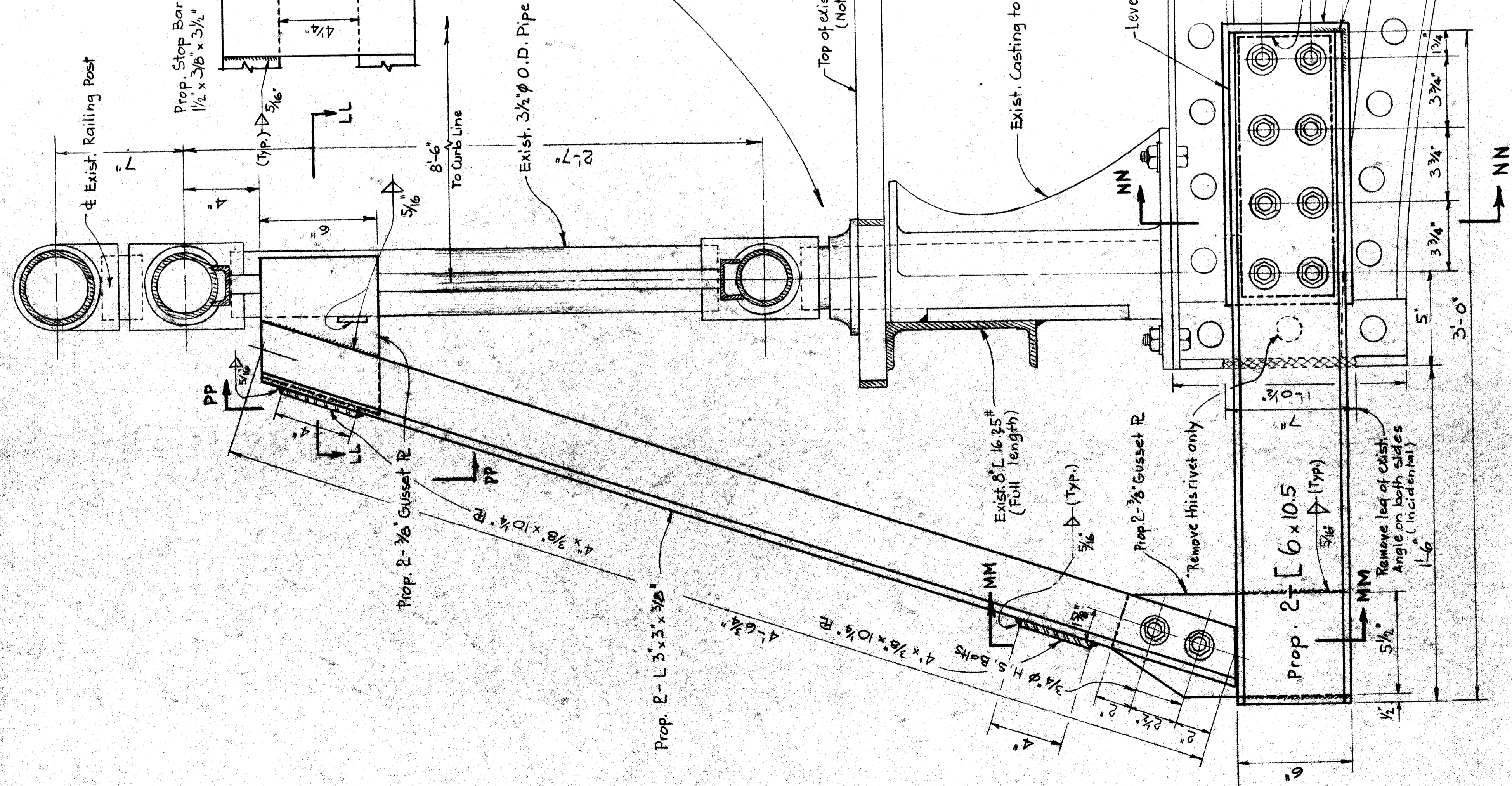
SECTION PP-PP



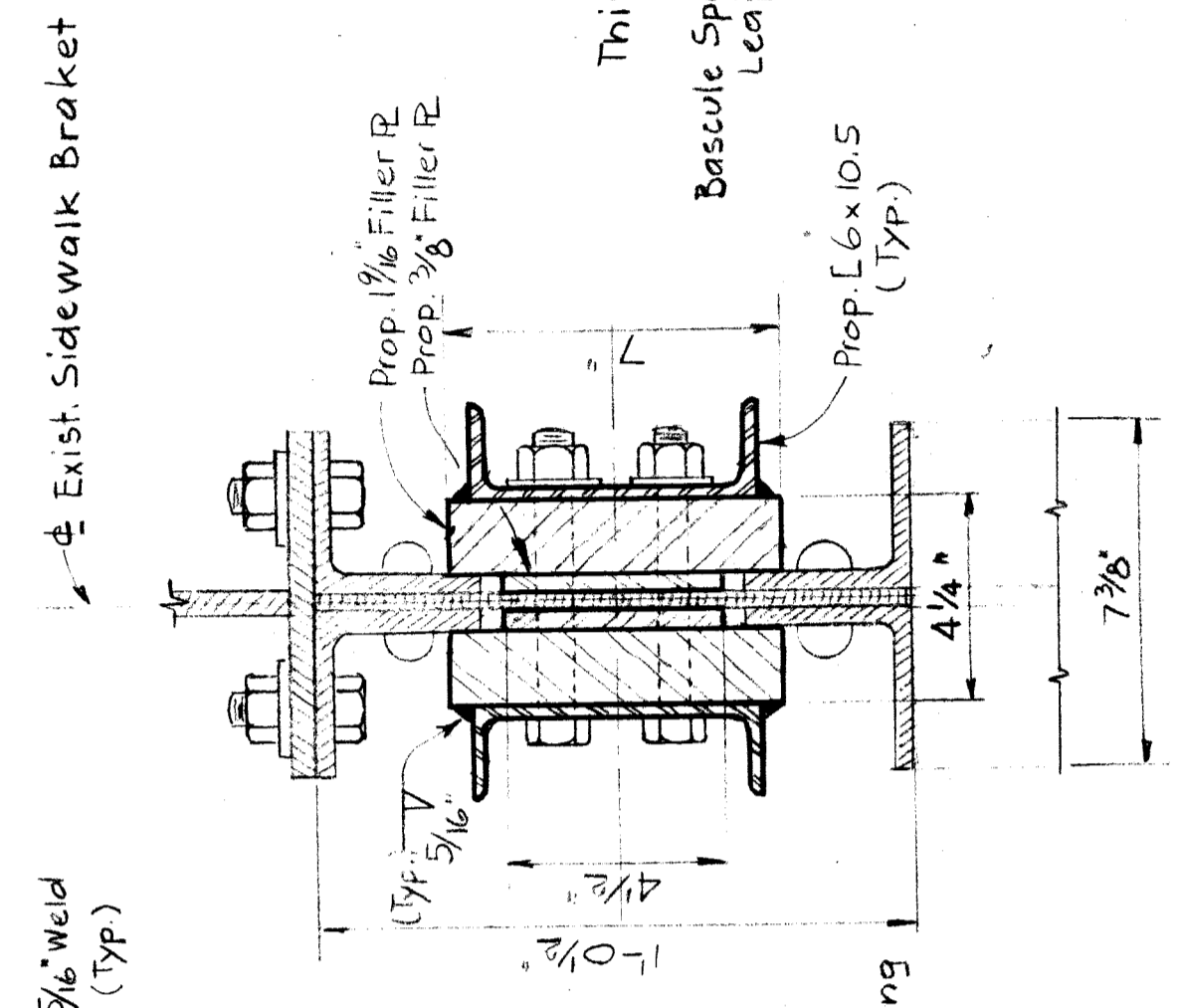
SECTION MM-MM



SECTION LL-LL



SIDE VIEW



SECTION NN-NN

The strengthening of all Railing Posts in this area to be done by others.

Top of exist. 1 1/2\"/>

Exist. Casting to remain in place

Level with floorbeam

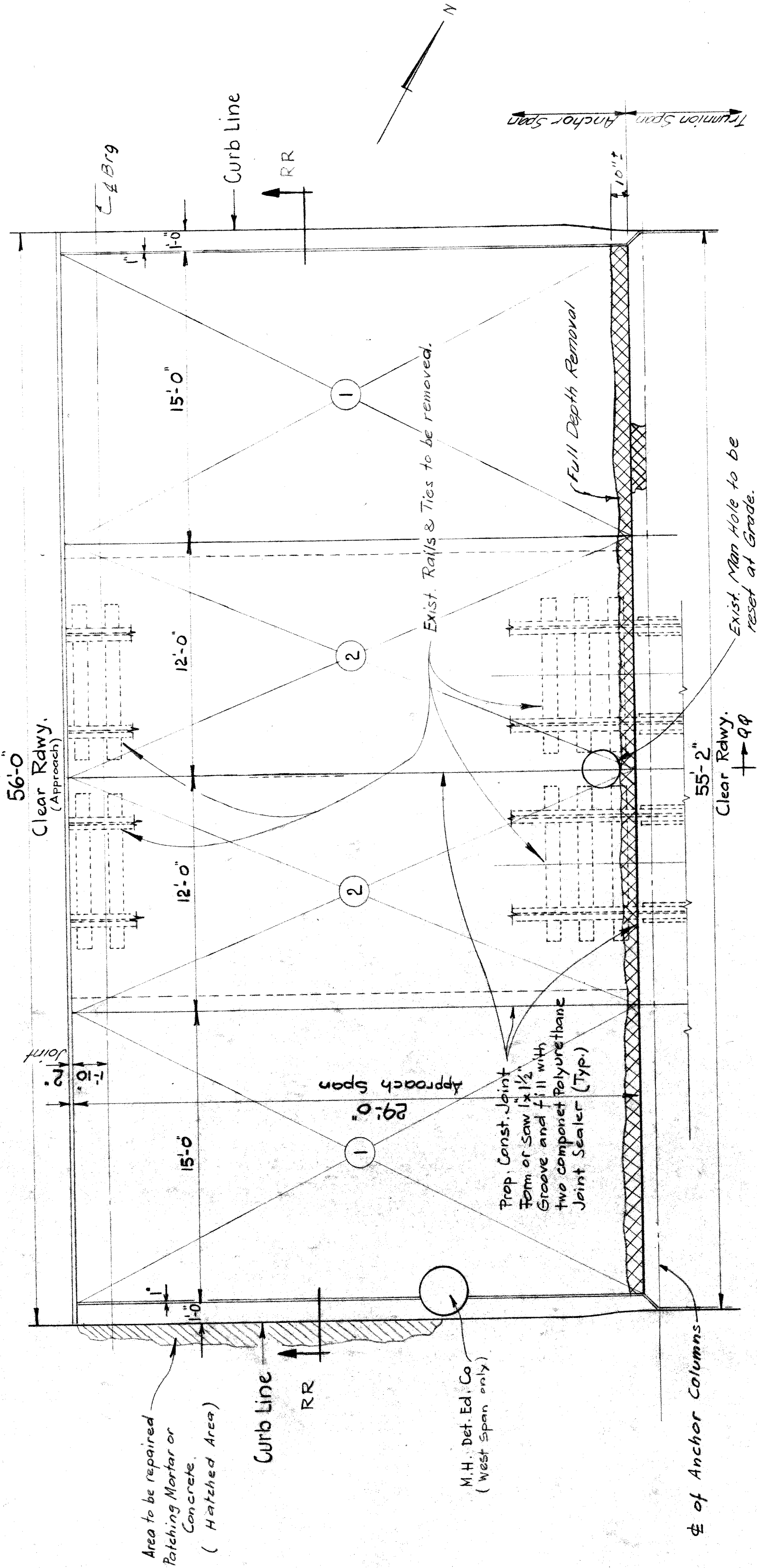
Remove lag of exist. Angles on both sides (incidental)

This Sheet Bascule Span both Leafs

SUPERSTRUCTURE CONCRETE	
Area	Location
①	West Approach Span S. West Approach Span N. East Approach Span S. East Approach Span N.
②	West Approach Span S. West Approach Span N. East Approach Span S. East Approach Span N.
① & ②	Approach Spans Total
Estimated for Handchipping Areas	
	CU.Yds.
	93.6
	2.0

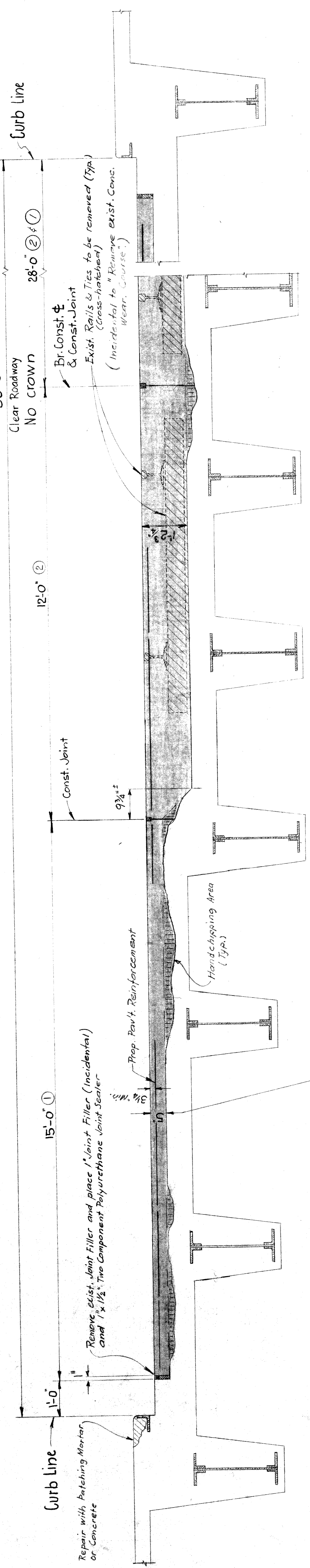
MISCELLANEOUS QUANTITIES		
Item	Unit	Amount
Remove Exist. Concrete Wearing Course	Lump Sum	95.6
Superstructure Concrete	Cu. Yds.	34.7
Pavement Reinforcement	Sq. Yds.	50.8
Two Component Polyurethane Joint Sealer	Lump Sum	42
Forming Finishing & Clearing Superstructure Concrete	Sq. Yd.	9.0
Handchipping	Cu. Yd.	9.0
Full Depth Superstructure Concrete	Sq. Ft.	3132
Protective Treatment For Bridge Deck		

* For all concrete in East and West Trunion and Approach Spans. Includes the removal of exist. Bit. Patches, Conc. Wearing Course, Rebar and Ties for East and West Trunion and Approach Spans. Full Depth Removal shall be measured and paid as equal in volume to Full Depth Superstructure Concrete.



PLAN OF APPROACH SPAN

Showing West Span. East Span similar except as noted



SECTION RR-RR

Remove existing Concrete Wearing Course and place Superstructure Concrete Grade 40 S (Shaded Area)

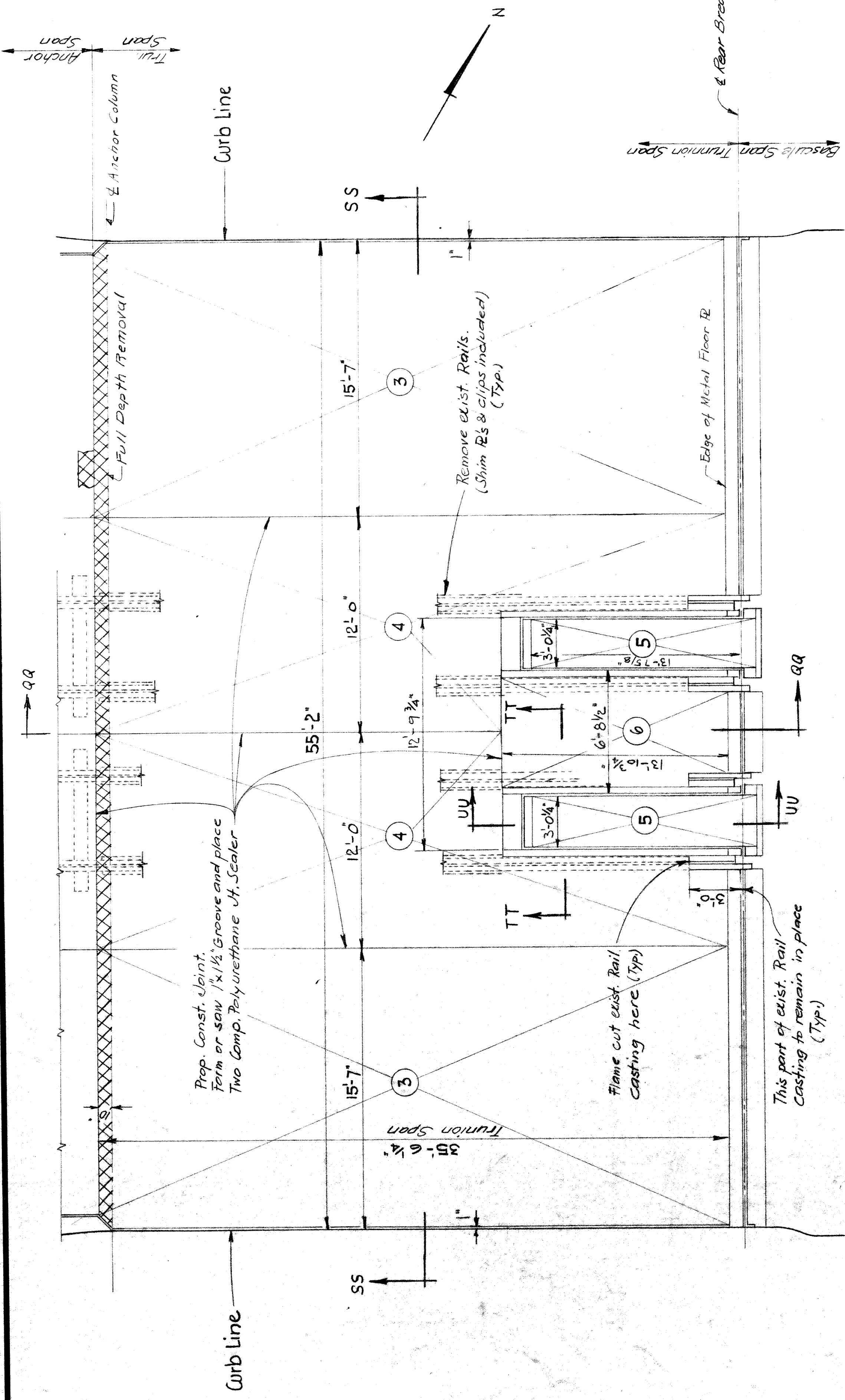
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

DECK REPAIR - APPROACH SPAN

NO.	REVISIONS	DATE	BY

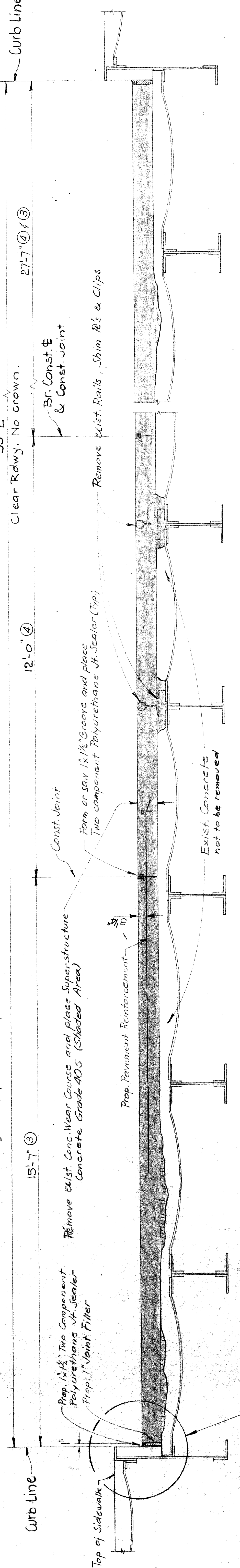
DESIGNED BY: DDB
CHECKED BY: DDB
DATE: 3-8-76
SHEET 23 OF 23

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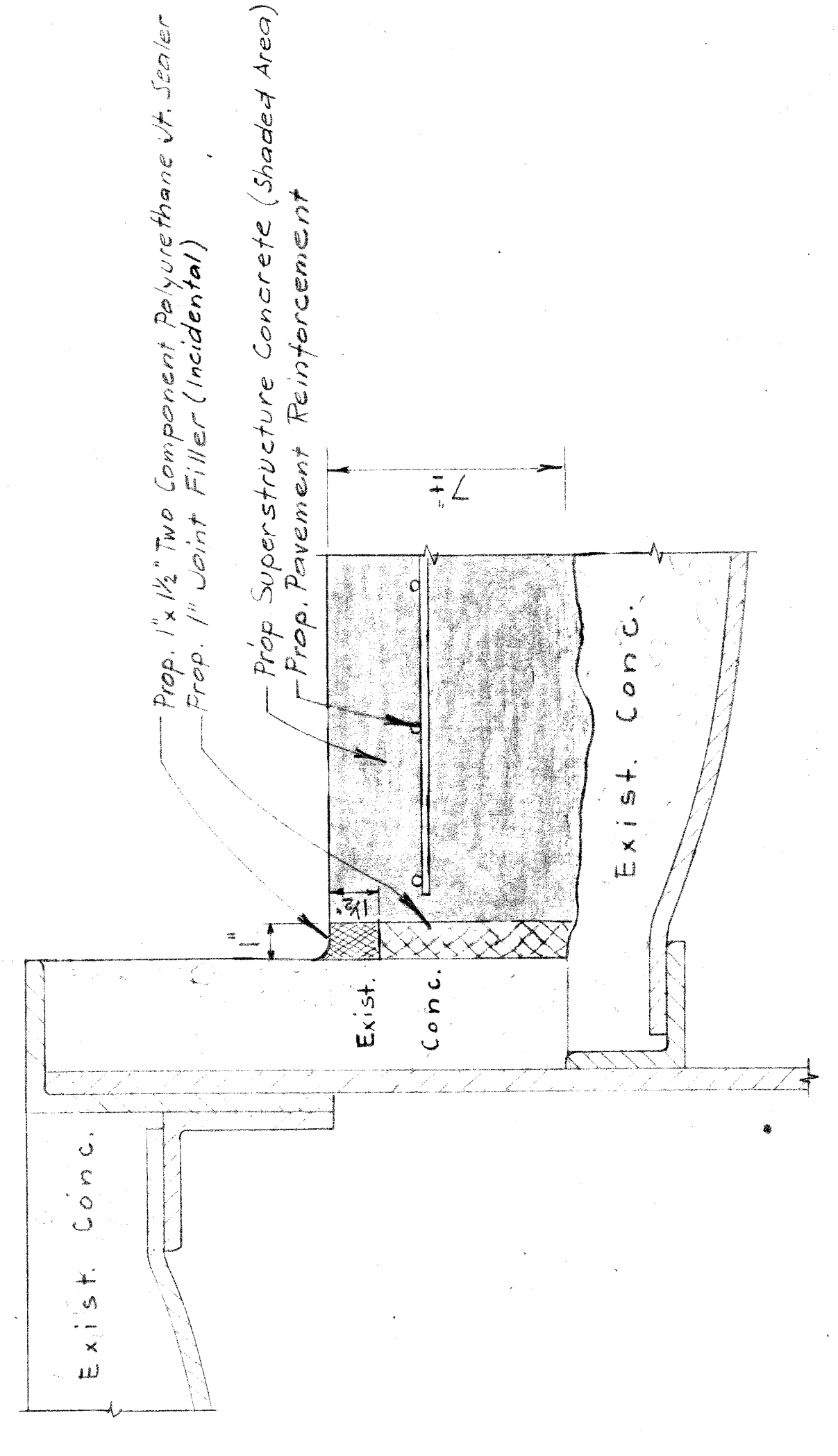
PLAN OF TRUNNION SPAN

Showing West Span. East Span similar except as noted.



SECTION SS-SS

DETAIL - K



Work this sheet with sheets 23, 25 & 26

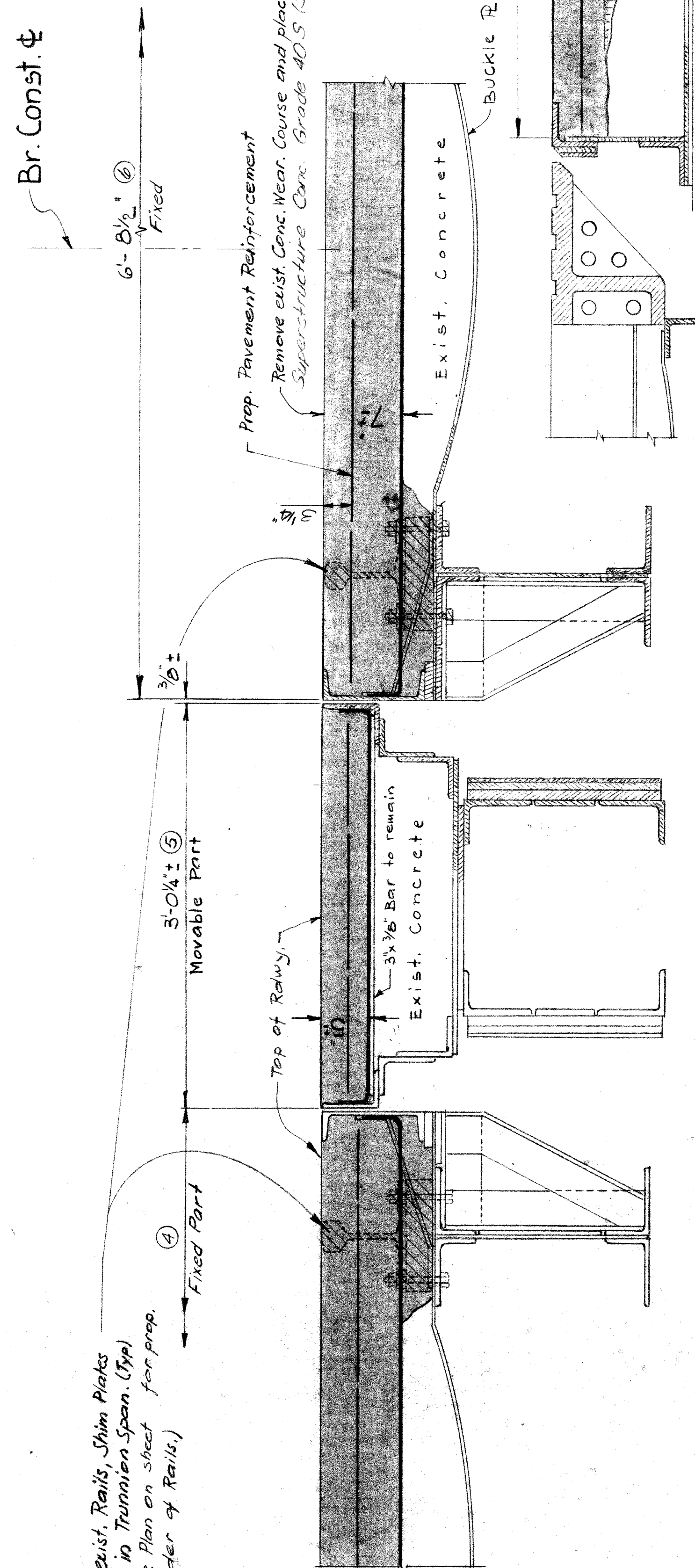
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

DECK REPAIR - TRUNNION SPAN

REVISIONS		DATE	BY
NO.	DESCRIPTION		

ROAD DIST.	W.D.E.	3-6-76
DRAWN BY	P.R.N.	9-26-65
CHECKED BY	D.C.A.	3-8-74
SHEET 24 OF		

B04 OF 8201

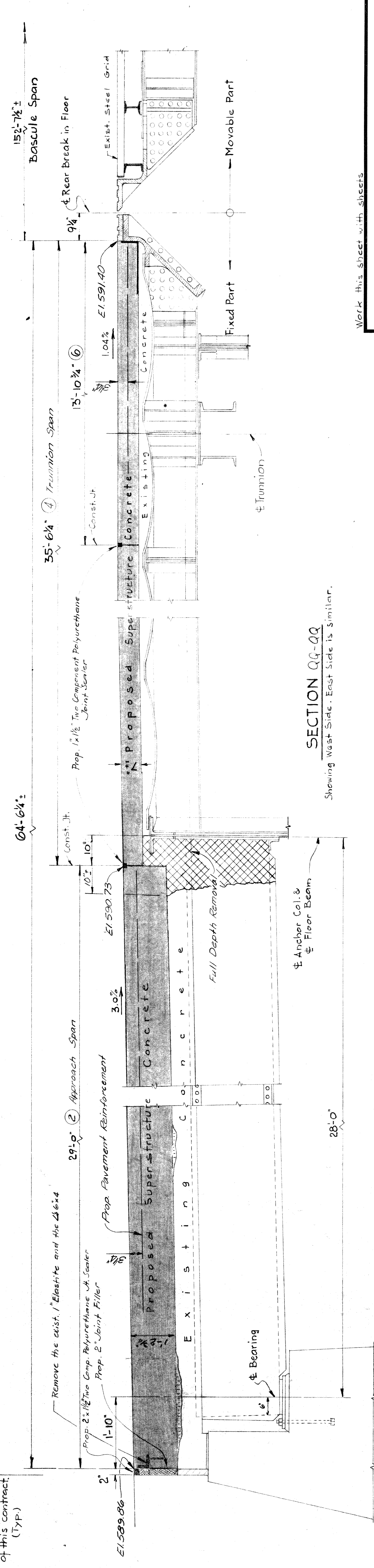


Remove exist. Rails, Shim Plates & Clips in Transition Span. (Typ)
(Also see Plan on sheet for prop. remainder of Rails.)

Approach Work is not a part of this contract. (Typ)

SECTION TT-TT

SECTION UU-UU



SECTION QQ-QQ

Showing West Side. East Side is Similar.

Work this sheet with sheets

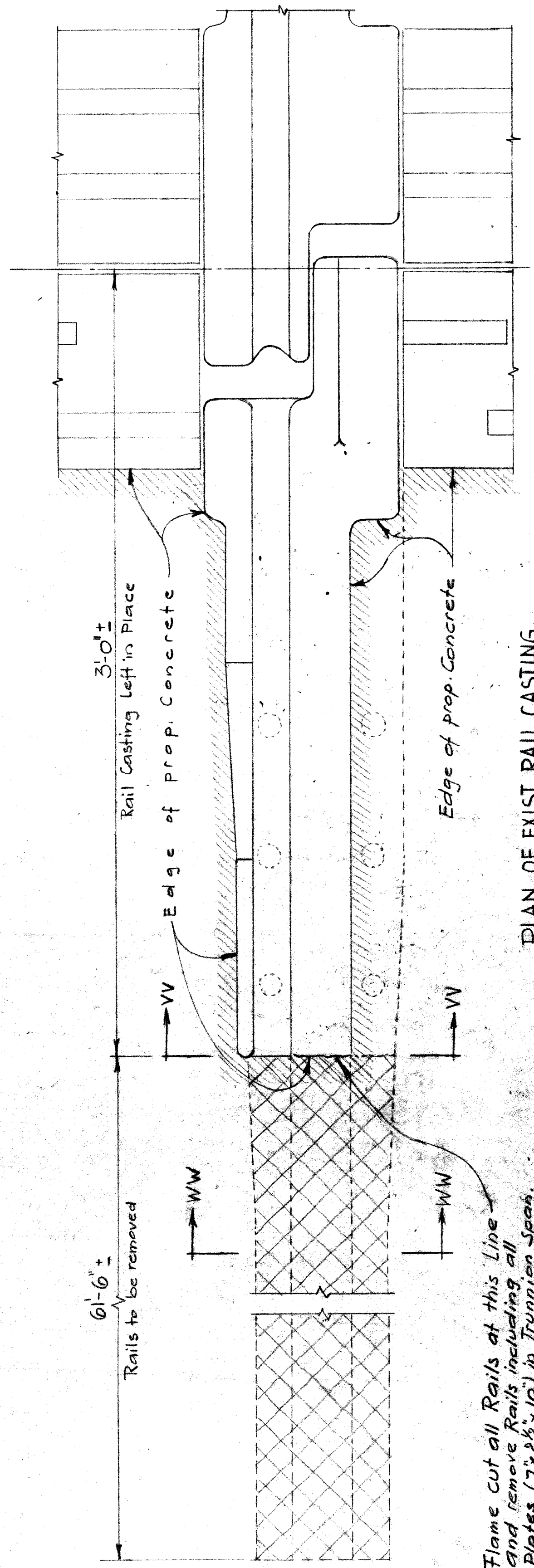
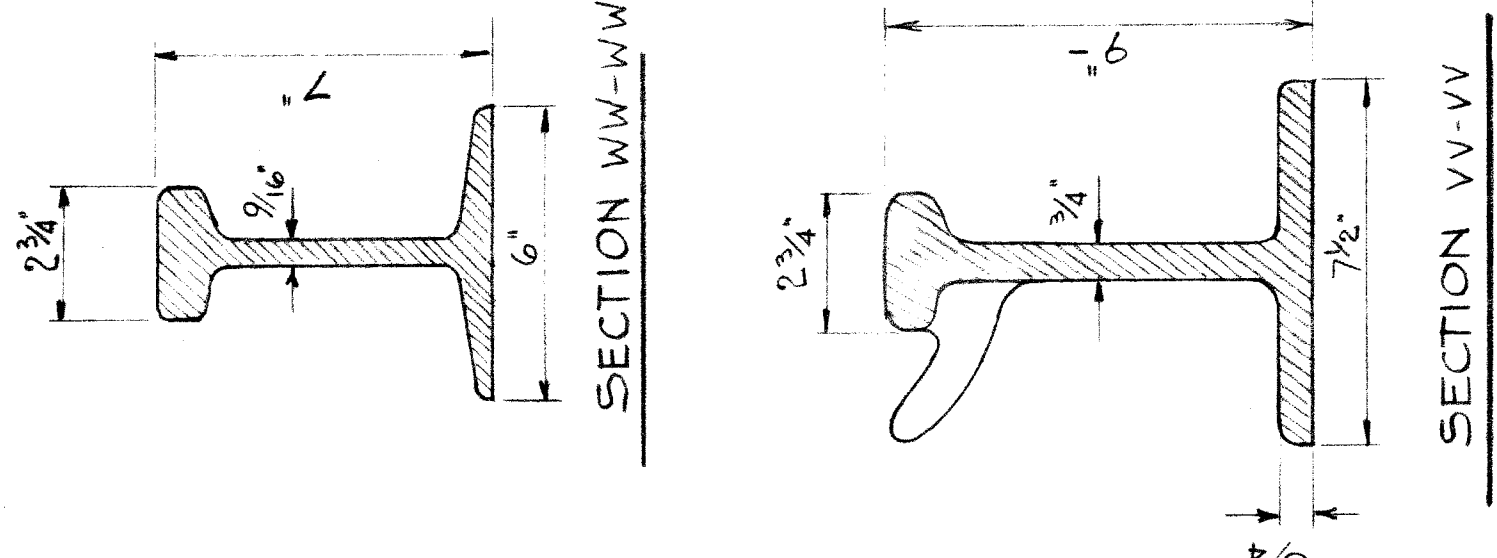
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

DECK REPAIR - SECTIONS

NO.	REVISIONS	DATE	BY

B04 OF 82071

DESIGNED BY	W.D.S.	3-8-74
CHECKED BY	P.R.V.	7-17-68
DATE	3-9-74	
SHEET	25	OF



PLAN OF EXIST. RAIL CASTING

Showing the 3'0" Casting Left in Place in the Trunnion Span.

Flame cut all Rails at this Line and remove Rails including all Plates (7'2 1/2 x 10) in Trunnion Span. (Cross-hatched area) The Contractor is responsible for not damaging the structural steel below the Rails when flame cutting.

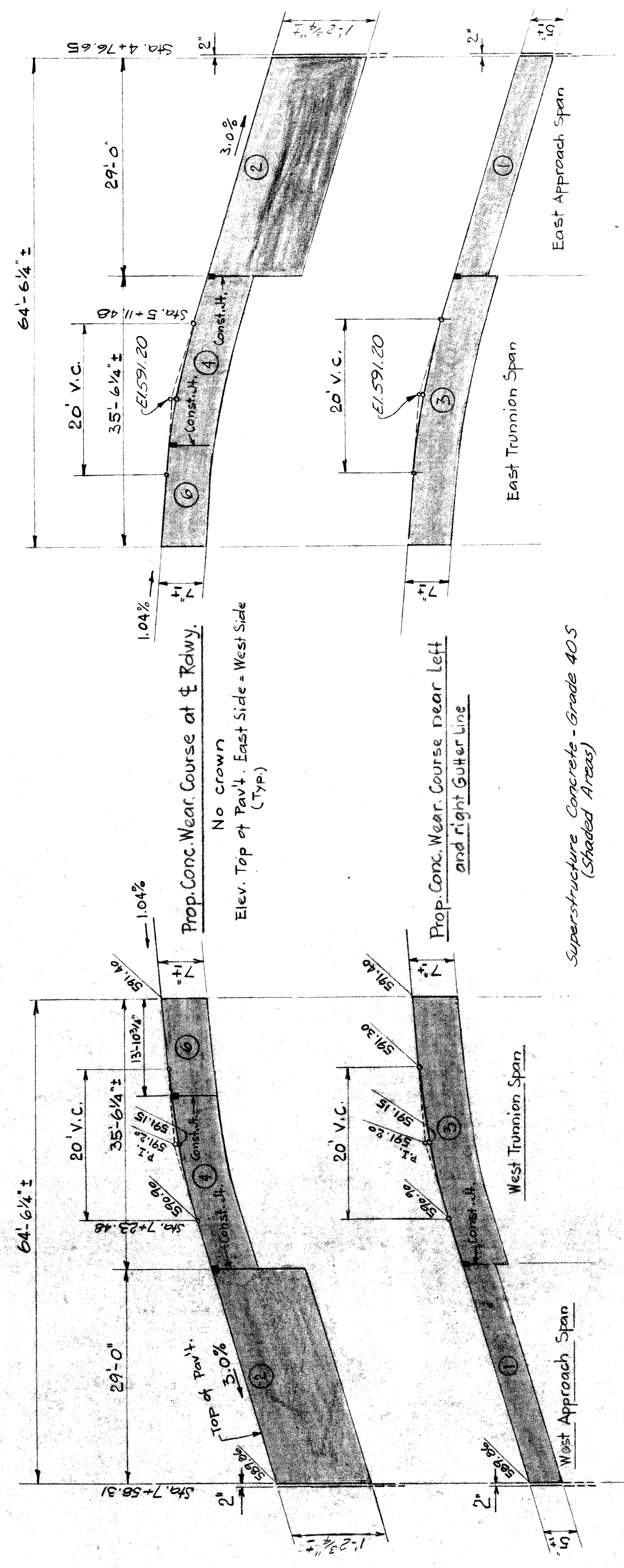
SUPERSTRUCTURE CONCRETE - GRADE 40S		
Area	Location	Cu. Yds.
③	West Trunnion Span S.	
	West Trunnion Span N.	
	East Trunnion Span S.	
④	West Trunnion Span N.	
	West Trunnion Span S.	
	East Trunnion Span N.	
⑤	West Trunnion Span S. Rdwy. Slot	
	West Trunnion Span N. Rdwy. Slot	
	East Trunnion Span S. Rdwy. Slot	
⑥	West Trunnion Span between Slots	
	East Trunnion Span between Slots	
West Trunnion Span underneath Rails		
East Trunnion Span underneath Rails		
West & East Trunnion Span Total		83.2
Estimated for Handchipping Areas		2.7

MISCELLANEOUS QUANTITIES		
Item	Unit	Amount
Handchipping	Sq. Yd.	43.0
Superstructure Concrete	Cu. Yd.	85.9
Protective Treatment for Bridge Deck	Sq. Ft.	3228
Pavement Reinforcement	Sq. Yds	434
Two Component Polyurethane Joint Sealer	Lin. Ft.	340

Deck Repair Notes

- The removal of the exist. Concrete Wearing Course (Areas ① thru ⑥) shall be done in such way as to make sure that the structural slab underneath, the Wearing Course will not be damaged.

- Remove exist. Rails, Ties & Plates as shown, leaving the rail casting only as shown on sheet NE. The removed Rails, Ties & Plates shall become the property of the Contractor. Pavement Reinforcement shall be as shown on Standard II - 45.



Superstructure Concrete - Grade 40S (Shaded Areas)

Work this sheet with sheet # 232425

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

DECK REPAIR - DETAILS

REVISIONS		DATE	BY
NO.	DESCRIPTION		

B04 of 82071