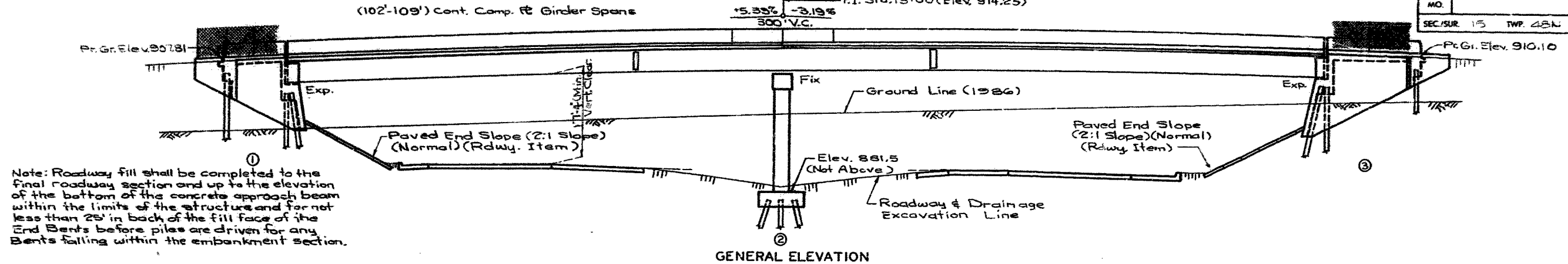


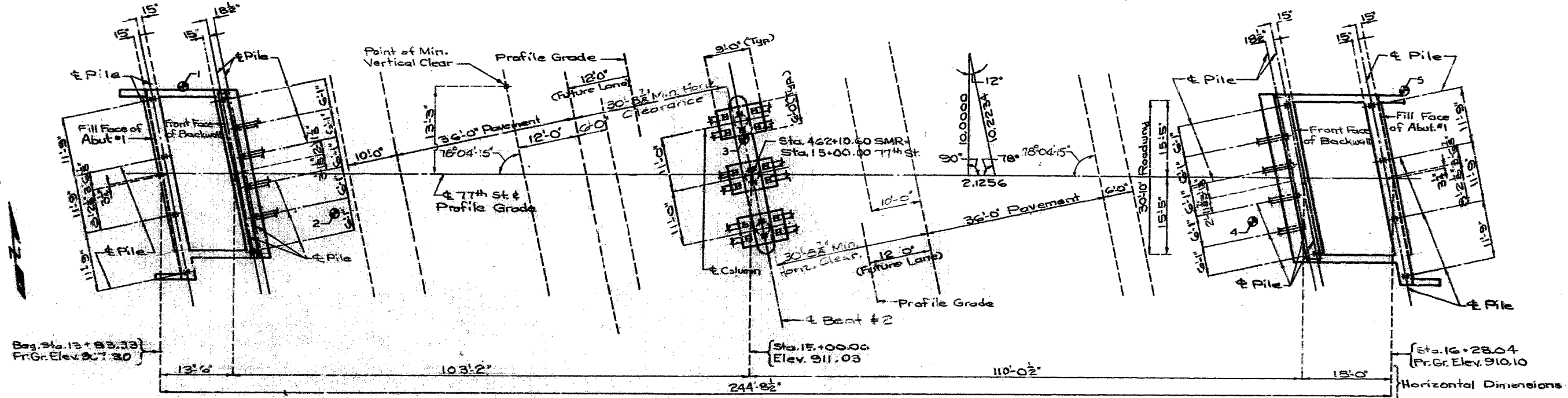
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET NO.
MO.		88
SEC./SUR. 15	TWP. 48N. RGE. 33W	



Note: Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom of the concrete approach beam within the limits of the structure and for not less than 25' in back of the fill face of the End Bents before piles are driven for any Bents falling within the embankment section.

GENERAL ELEVATION



PLAN

Note: For Boring Data see sheet No. 2. * indicates locations of boring.

GENERAL NOTES:

- Design Specifications: A.A.S.H.T.O.-1983 and Interims thru 1984, 1985, 1986 & 1987 LOAD FACTOR DESIGN
- Design Loading: HS20-44, 35/cu. ft. Future Wearing Surface, Earth 120#/cu. ft., Equivalent Fluid Pressure 45%/cu. ft., Fatigue Stress-Case II
- Design Unit Stresses: Class B Concrete (Substructure) f_c=3,000 psi, Class B1 Concrete (Safety Barrier Curb) f_c=4,000 psi, Class B2 Concrete (Superstructure except Safety Barrier Curb) f_c=4,000 psi
- Reinforcing Steel (Grade 60) F_y=60,000 psi, Structural Carbon Steel f_y=36,000 psi, Structural Steel (A.S.T.M. A572) Grade 50 F_y=50,000 psi, Steel Pile f_b=30,000 psi
- Fabricated Steel Connections: Field connection, High Strength Bolts 3/4", holes 1/8", except as noted.

- Joint Filler: All joint filler shall meet the requirements of Std. Spec. 1057.2A, except as noted.
- Reinforcing Steel: Minimum clearance to reinforcing steel shall be 1/2", unless otherwise shown.
- Paint: System C by contractor in accordance with Std. Spec. 712.12. (Color of the final field-coat shall be green.)

BENT NO.	PILE DATA					
	1		2		3	
Location	App. Em.	Org. Em.	Footing	App. Em.	Org. Em.	
Pile Type and Size	HP10x42					
Number	4	6	18	4	6	
Approximate Length	18	15	11	14	12	
Design Bearing	26	50	50	30	54	
Hammer Energy Required	7000	12400	11700	7000	3200	

B.M. No. 93 Elev. 892.94 "X" in top flange NE bolt of fire hydrant SE corner of 77th St. and Agnes

BRIDGE: 77 ST. OVER SOUTH MIDTOWN ROADWAY

STATE ROAD FROM 75th St. to 85th. STREET
IN KANSAS CITY
PROJECT NO. STA. 462+10.60

JOB NO. 4-U-71-2B
MCKSON

RTE. 71
COUNTY

STD. 611.60
STD. 706.35
A-4738

Minimum energy requirement of hammer is based on plan length and design bearing value of piles. All piles shall be driven to practical refusal.

SEE FINAL PLANS

DATE 7/25/88

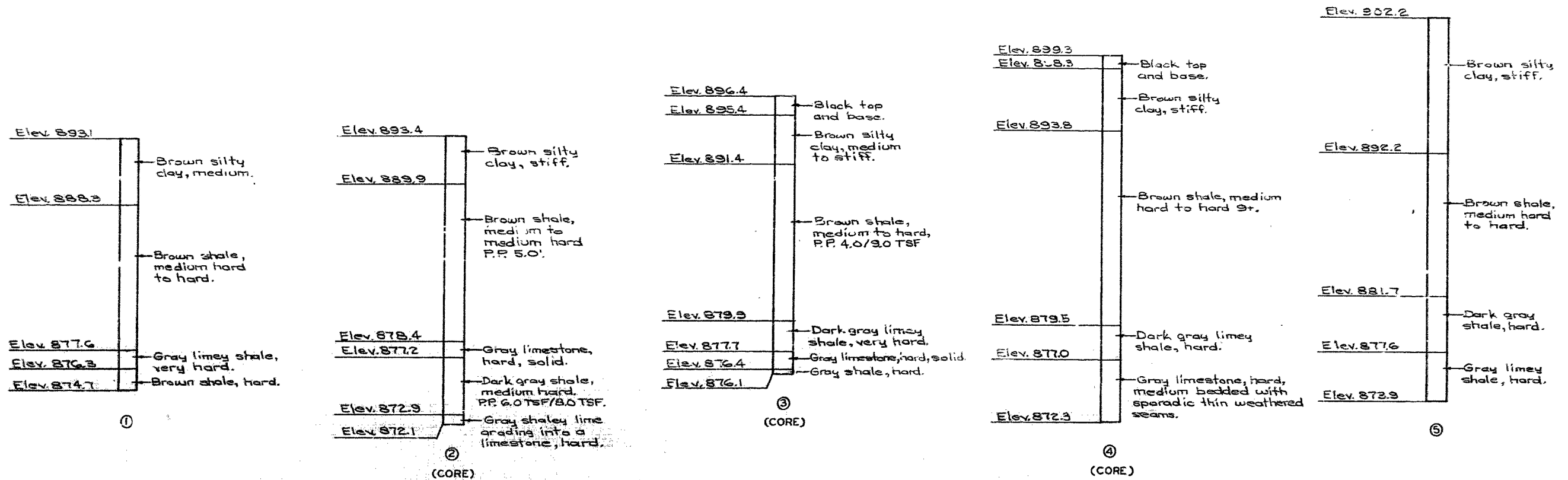
Sheet No. 1 of 24

Note: This drawing is not to scale. Follow dimensions.

DESIGNED FEBRUARY 1988
DETAILED MARCH 1988
CHECKED July 19 88

406 105

STATE	PROJ. NO.	SHEET NO.
MO.		89



BORING DATA

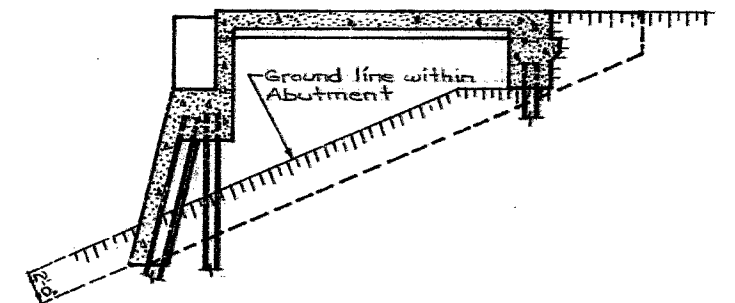
Note: For location of borings see sheet No. 1.

ESTIMATED QUANTITIES			
ITEM	SUBSTR.	SUPERSTR.	TOTAL
Class I Excavation	Cu. Yd.	110	110
(72 In.) Pedestrian Fence	Lin. Ft.	255	255
Structural Steel Pile (10')	Lin. Ft.	512	512
Pre-Bore for Piling	Lin. Ft.	303	303
Class B Concrete	Cu. Yd.	156.3	156.3
() Slab on Steel (See Spec. Provisions)	Sq. Yd.	792	792
Safety Barrier Curt.	Lin. Ft.	500	500
Slab on Semi-Deep Abutment	Sq. Yd.	117	117
Sidewalk	Sq. Ft.	1099	1099
Laminated Neoprene Bg. Fads (Steel Structures)	L.F.	12	12
Preformed Compression Exp. Jt. Seal (3.5 In.)	Lin. Ft.	63	63
Reinforcing Steel (Grade 60)	Lb.	15,780	15,780
Reinforcing Steel (Epoxy Coated)	Lb.	2,690	2,690
Fabricated Structural Carbon Steel (Plate Gdr.)	Lb.	135,600	135,600
Fabricated Structural Low Alloy Steel (Plate Gdr.)	Lb.	35,190	35,190
Slab Drains		12	12
Painting (System C) Green	Ton	94.9	94.9

Note: All concrete and reinforcing steel below top of slab and above Const. Joint under slab in Semi-Deep Abutments are included in superstructure quantities for Slab on Semi-Deep Abutments.
All concrete and reinforcing steel in the sidewalk are included in the superstructure quantities for sidewalks.

TYPE OF SLAB	SLAB ON STEEL		
	REINF. (LBS.)		
	PLAIN	POXY	
Cast-In-Place Conventional Forms	0	6,410	195.6
Precast Panel Forms	0	23,076	141.8
Stay-In-Place Forms	0	6,410	105.6

Note: The Table of Estimated Quantities for Alternate slabs represents the quantities used by the State in preparing the cost estimate for concrete slabs. Variations may be encountered in these estimated quantities but these variations cannot be used for an adjustment in the Contract Unit Price per square yard of Alternate slab used.
See Special Provisions for alternate methods forming slabs.
* Does not include concrete required to fill corrugations of S.I.P. forms.
** Does not include reinforcing bars used as bar supports.
Precast panel quantities are based on skewed end panels.

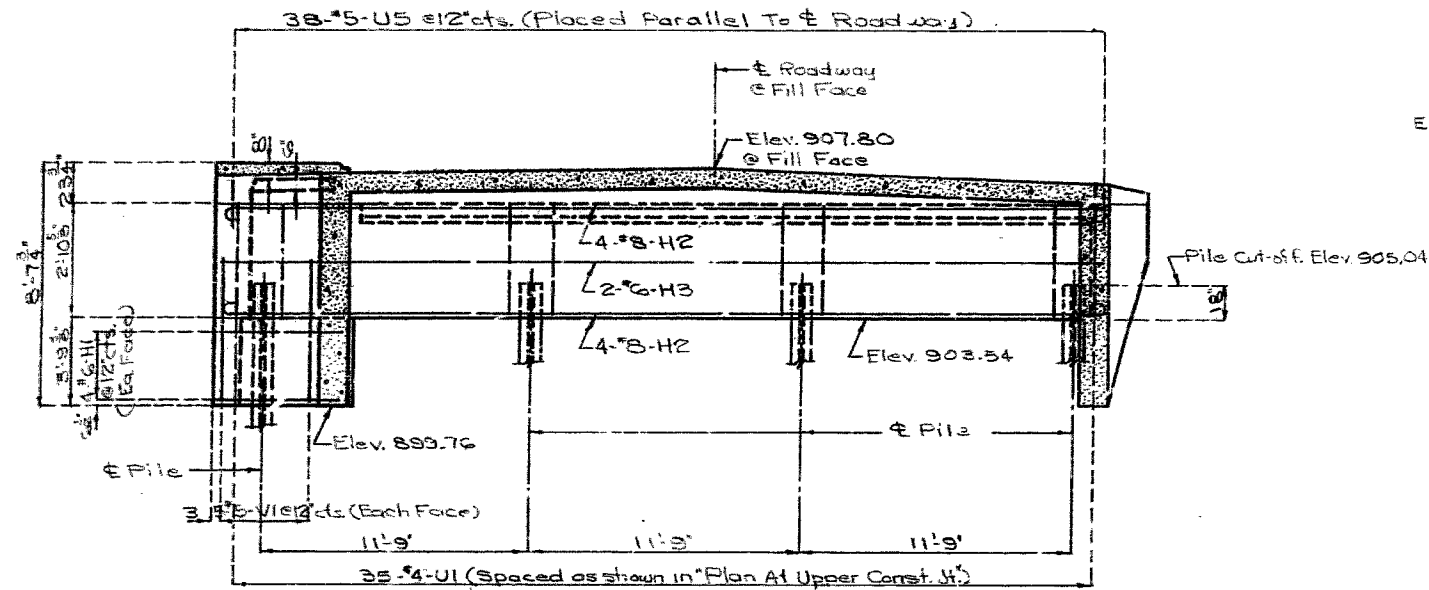


GROUND LINE AND PILING IN ABUTMENTS

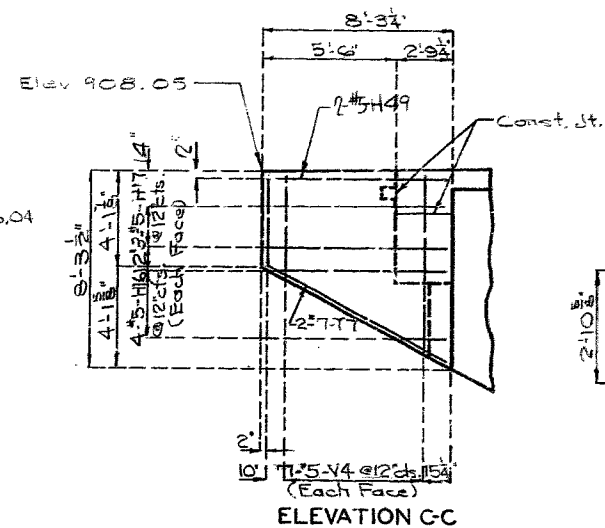
Note: In no case shall the earth within Abutments No. 1 and 3 be above the Ground Line shown. Forms supporting the Abutment slab may be left in place.
The maximum variation of the head of the pile and the battered face of the pile from the position shown on the plans shall be not more than 2 inches for pile under Abutments No. 1 and 3.
Exposed steel piles within the Abutment shall be coated with a heavy coating of an approved bituminous paint.

487 106

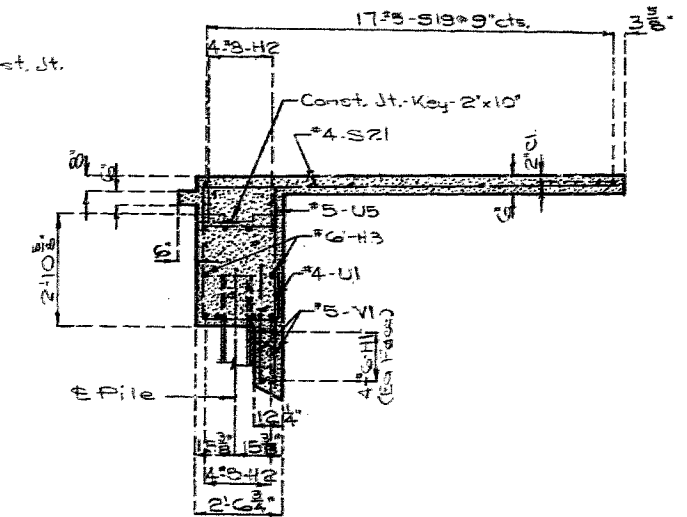
STATE	PROJ. NO.	SHEET NO.
MO.		90



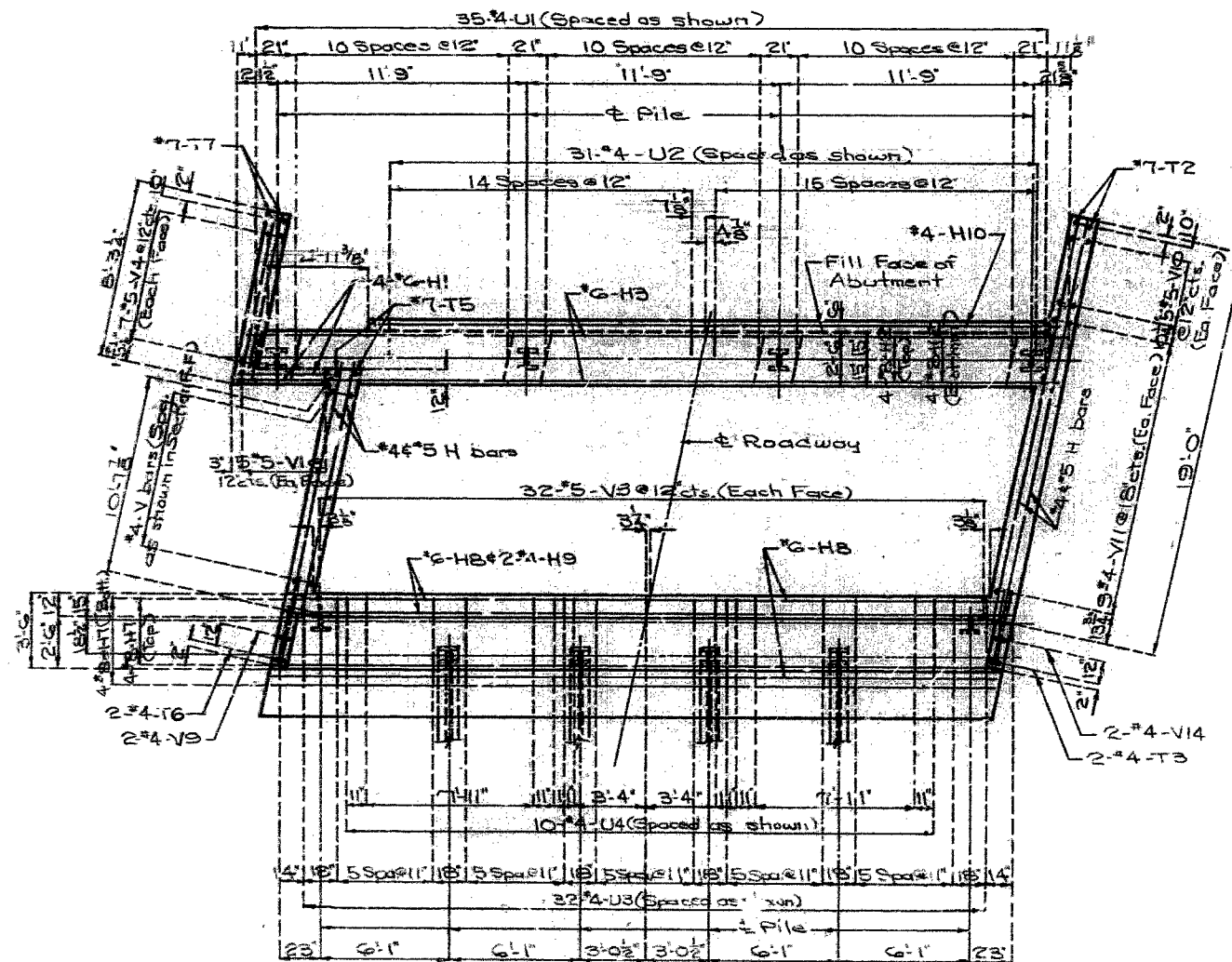
SECTION NEAR APPROACH BEAM



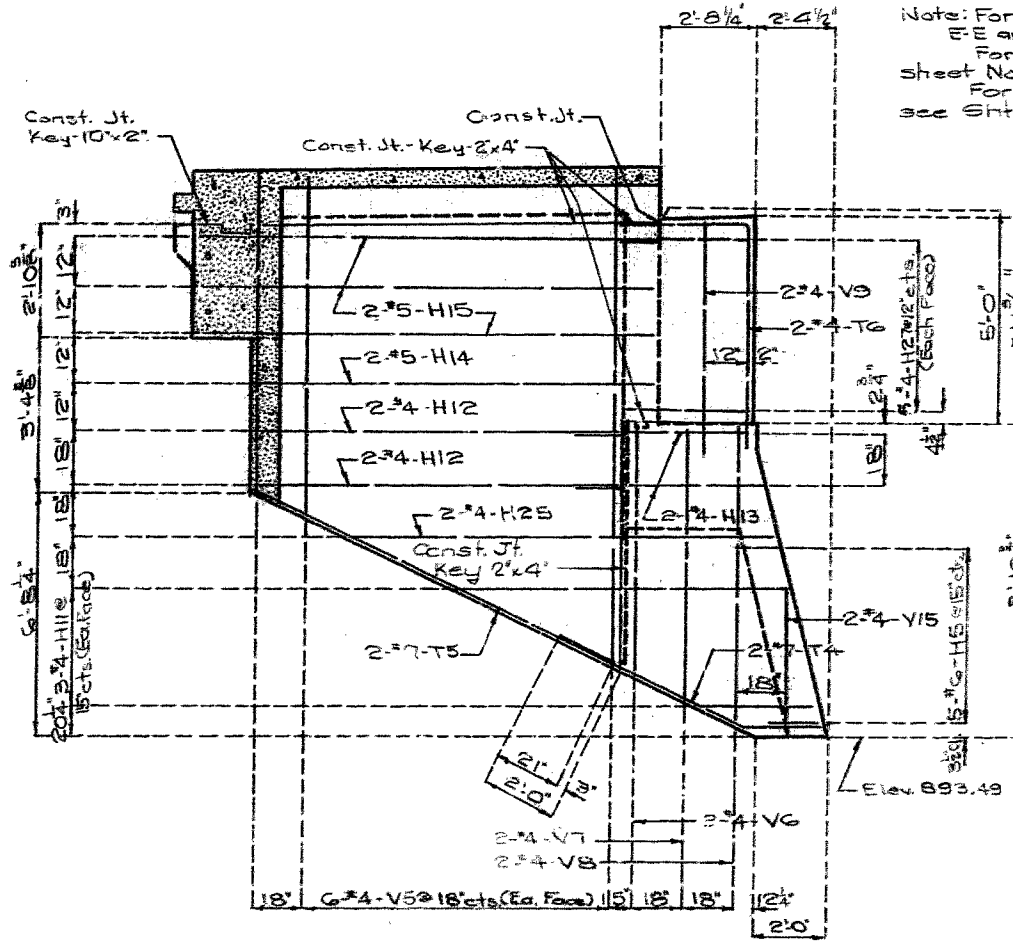
ELEVATION C-C



SECTION E-E



PLAN AT UPPER CONSTRUCTION JOINT



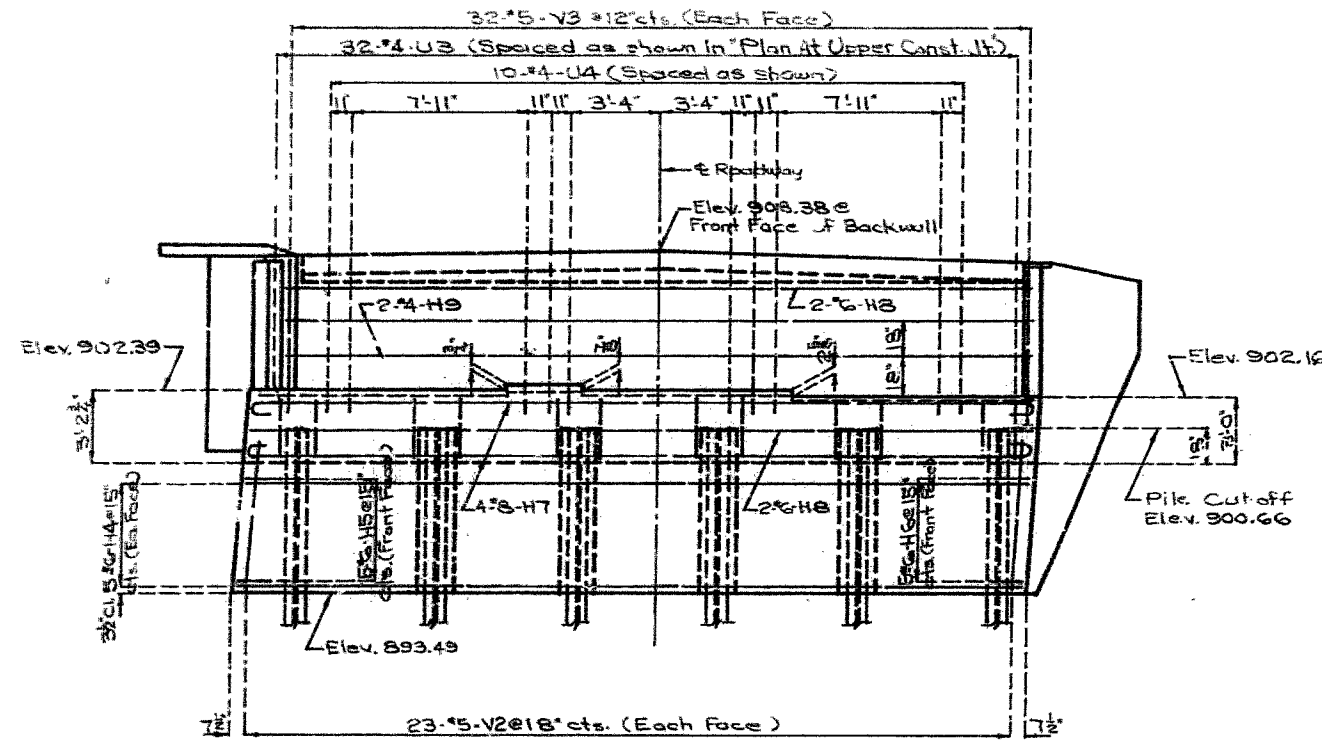
SECTION F-F

DETAILS OF ABUTMENT NO. 1

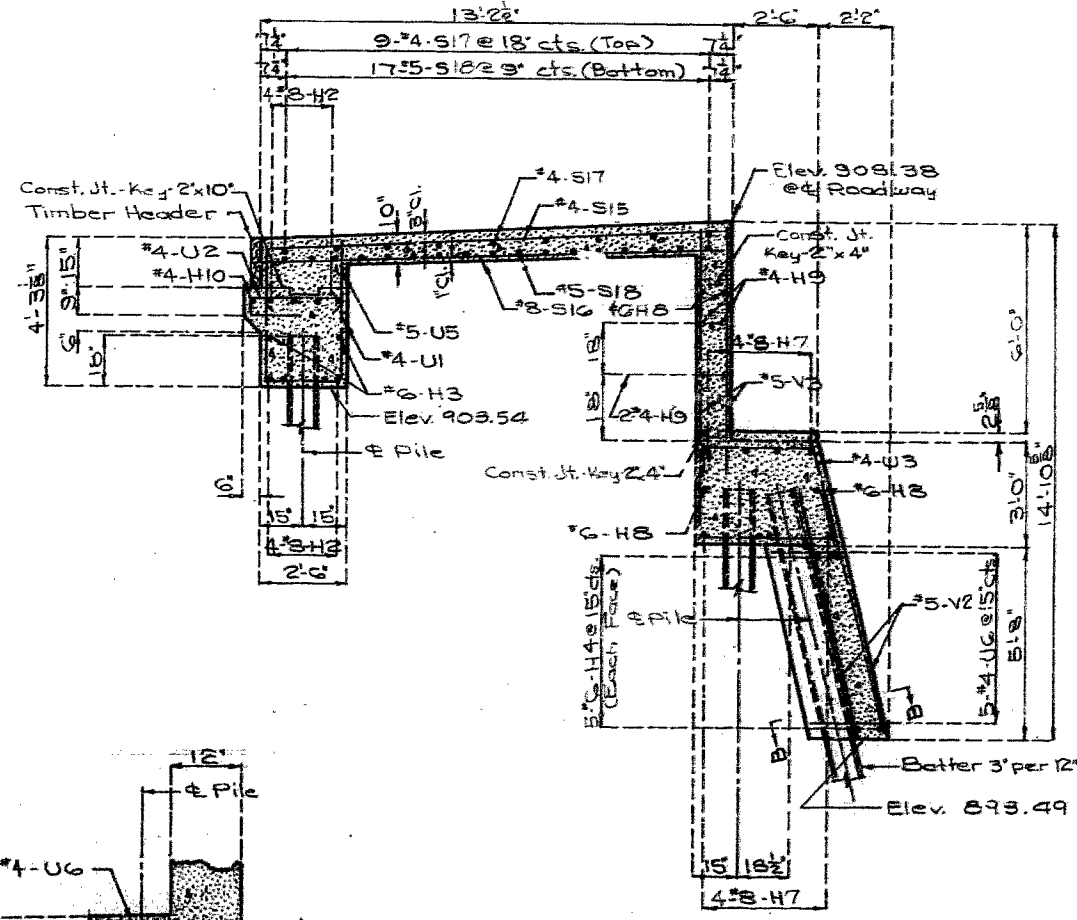
Note: For locations of Sections E-E and F-F, see sheet No. 4. For additional notes, see sheet No. 4. For location of Elev. C-C see Sht. #4.

408 107

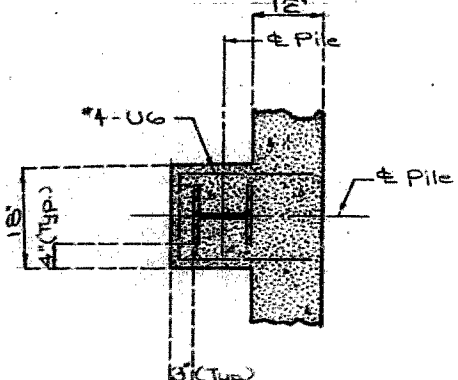
STATE	PROJ. NO.	SHEET NO.
MO.		91



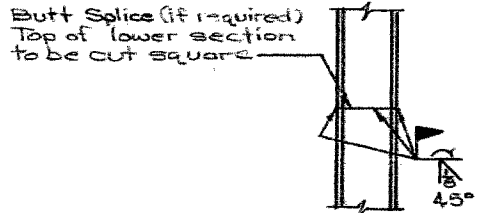
ELEVATION



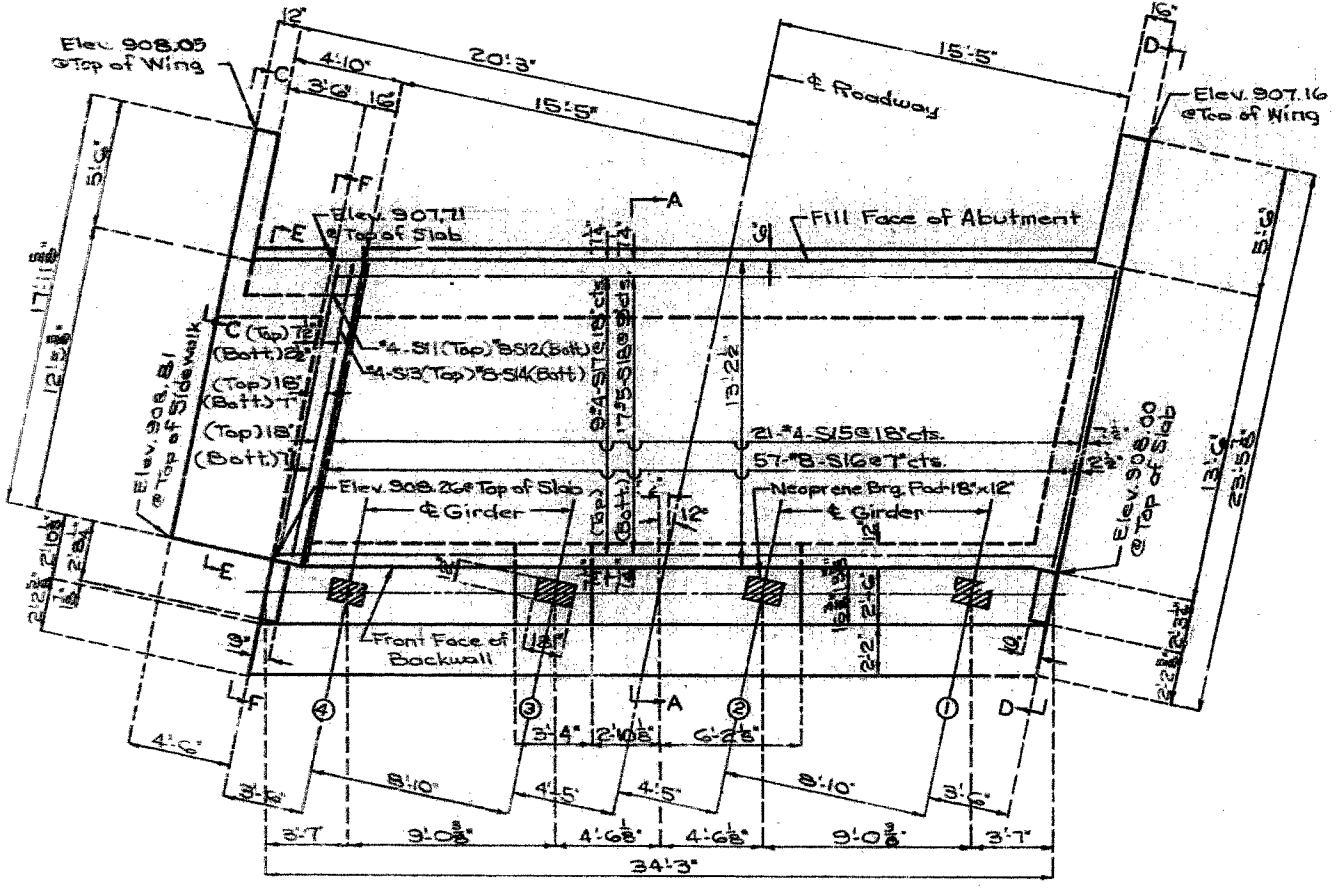
SECTION A-A



SECTION B-B



DETAIL OF STEEL PILE SPLICE



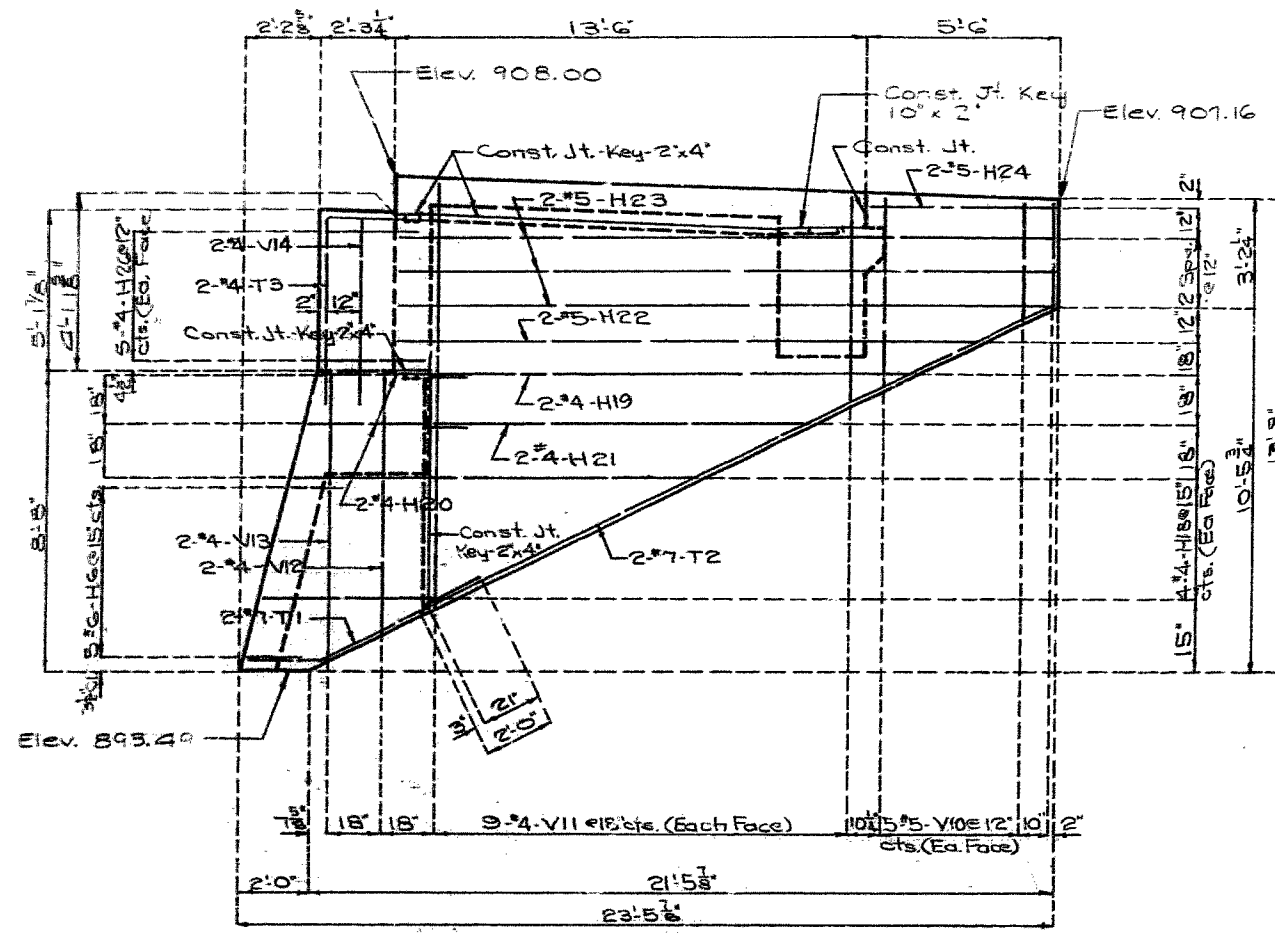
PLAN

DETAILS OF ABUTMENT NO. 1

Note: Top of Abutment slab and expansion device for Abutment No. 1 and 3 shall conform to crown of roadway slab. Abutment slab above the upper construction joint shall not be poured until the superstructure slab has been poured in the adjacent span.
 All reinforcing bars in the tops of substructure beams or caps shall be spaced to clear anchor bolts for bearings by at least 1/2".
 Field bending shall be required for #6-H8 and #4-H8 in backwall at wings.
 For Elevations C-C & D-D and Sections E-E & F-F, see sheets No. 3 & 5.
 For details and reinforcement of barrier curb see sheet No. 20.
 For location and details of Anchor Bolt Wells see sheet No. 10.
 See sheet No. 20 for details of Timber Header.
 For details and reinforcement of sidewalk not shown see sheet No. 19.

779 108

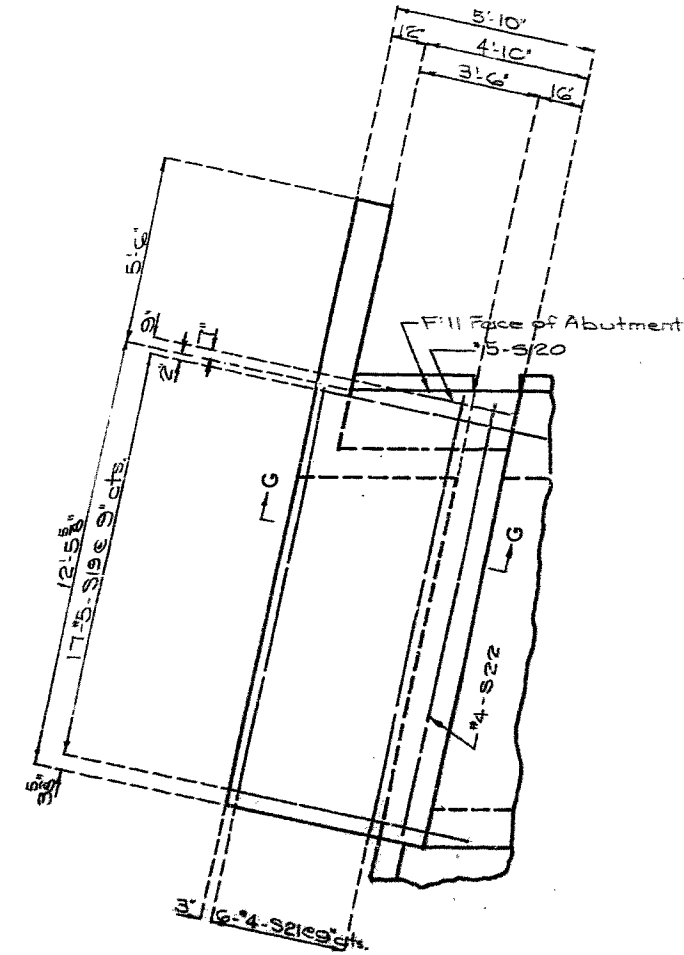
STATE	PROJ. NO.	SHEET NO.
MO.		22



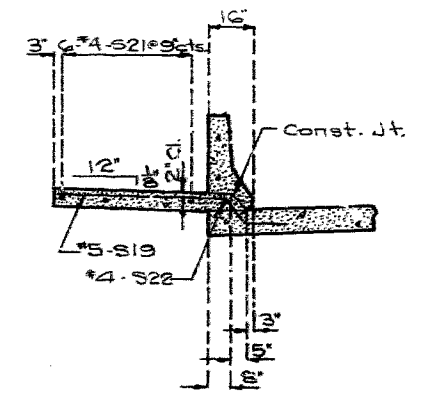
ELEVATION D-D

Note: For location of Elevation D-D see sheet No. 4
 For location of sidewalk on Abutment No. 1 see sheet No. 4.
 For additional notes see sheet No. 4.

DETAIL OF ABUTMENT NO. 1



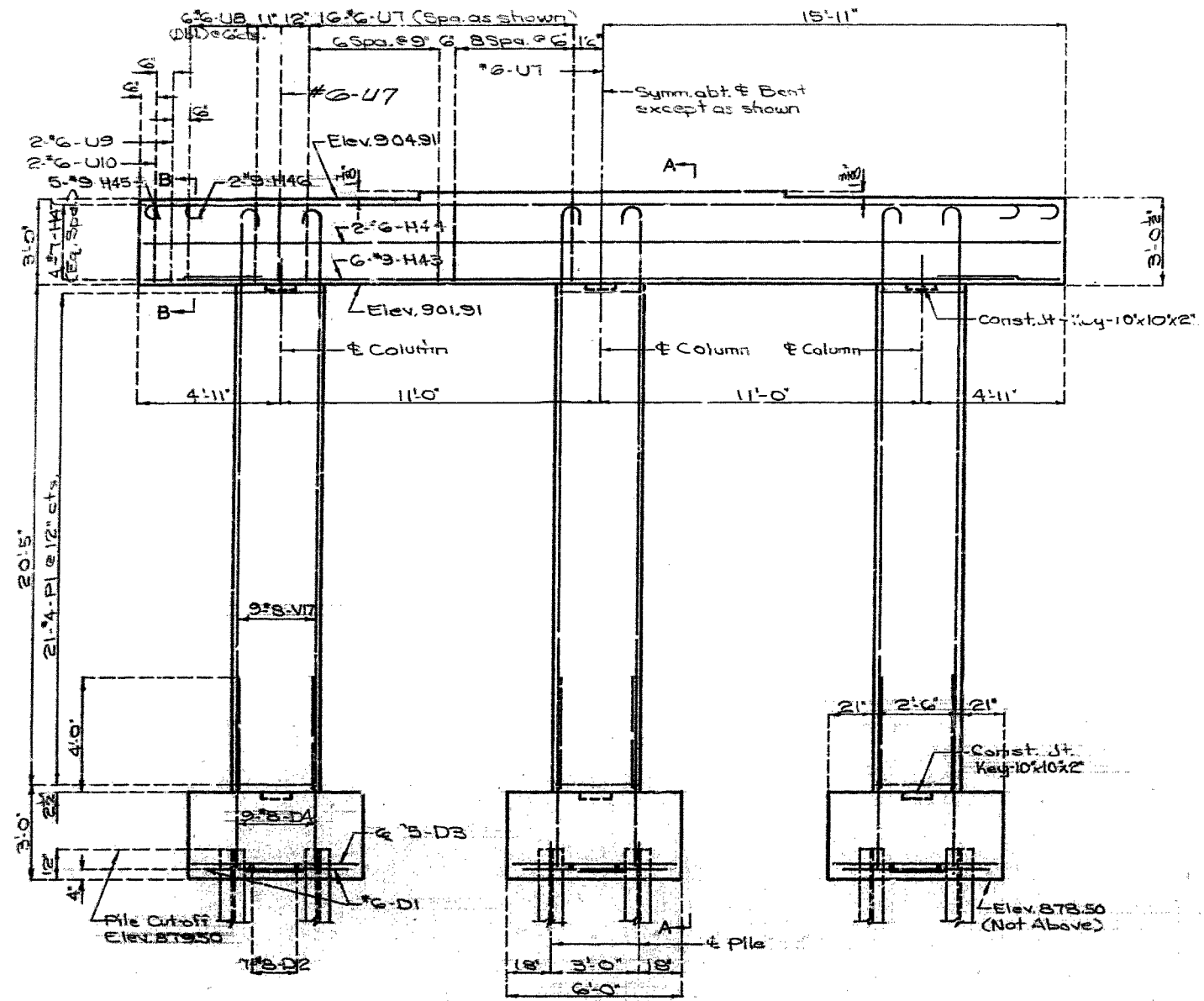
PART PLAN SHOWING
 SIDEWALK REINFORCEMENT



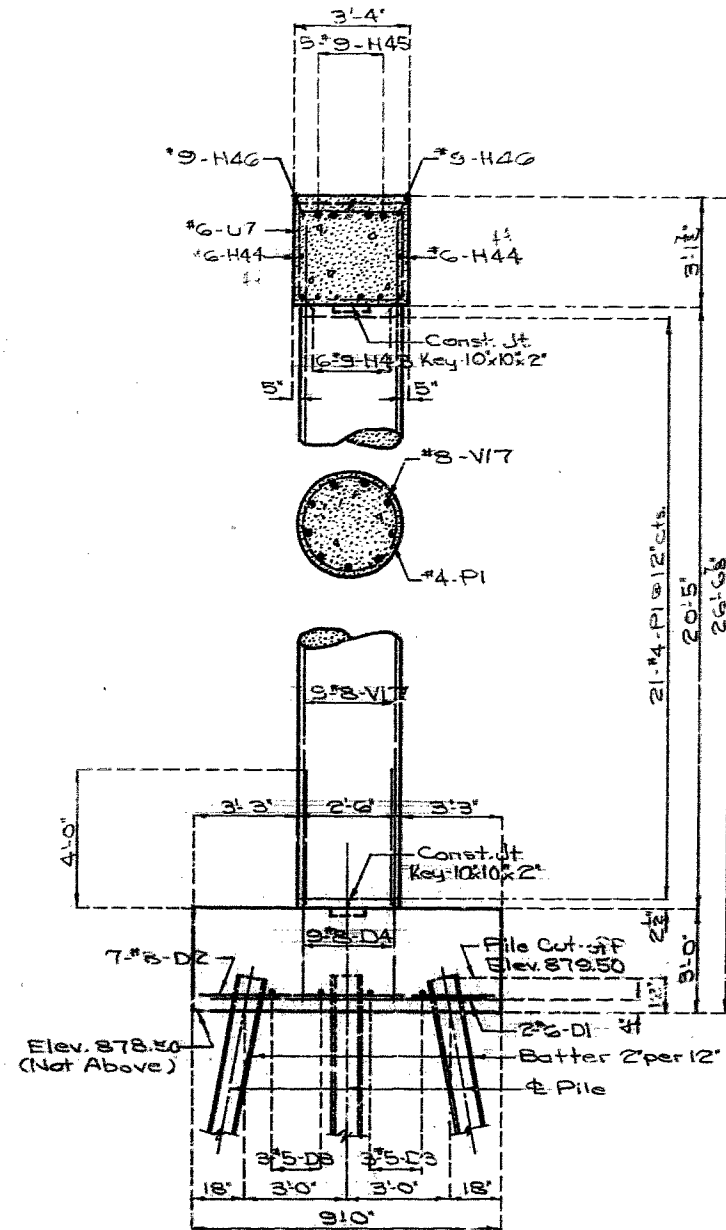
SECTION G-G

418 109

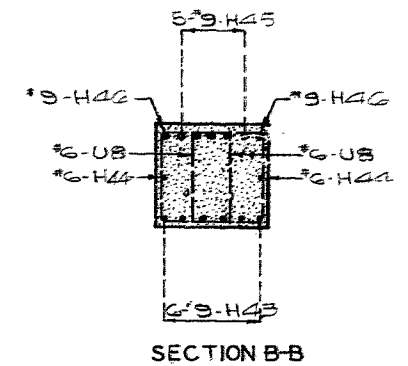
STATE	PROJ. NO.	SHEET NO.
MO.		23



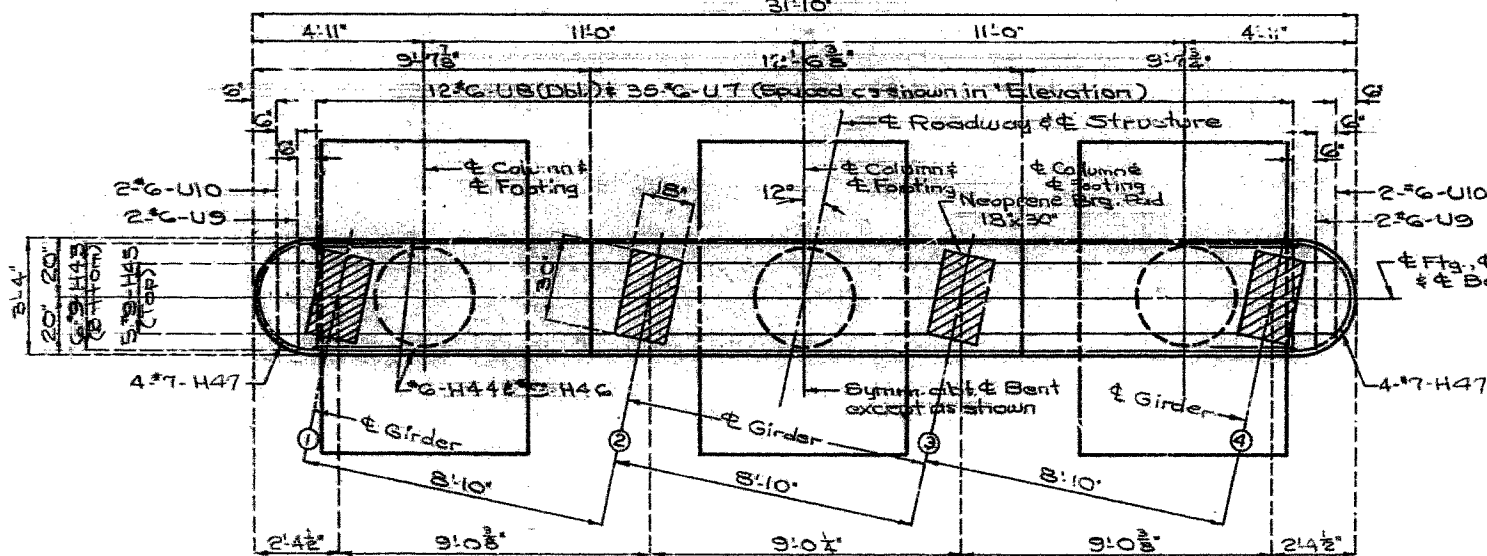
ELEVATION



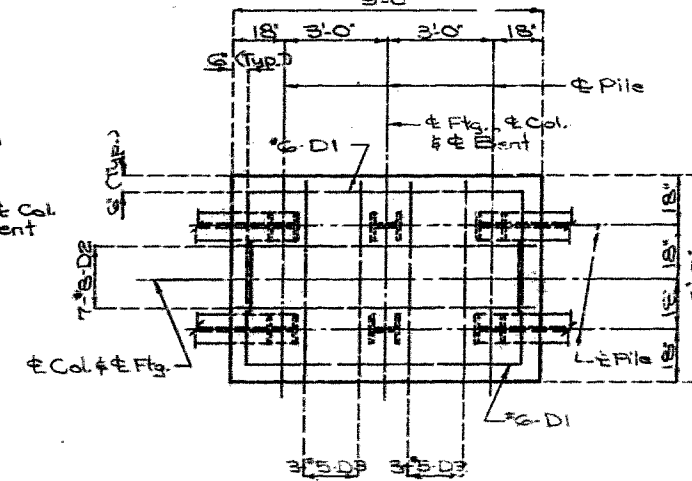
SECTION A-A



SECTION B-B



PLAN



PLAN OF FOOTING

DETAIL OF INT. BENT NO. 2
Sheet No. 2 of 24

Note: All reinforcing bars in tops of substructure beams or caps shall be spaced to clear anchor bolts for bearings by at least 1/2".
For location of Anchor Bolt Walls see sheet No. 10.

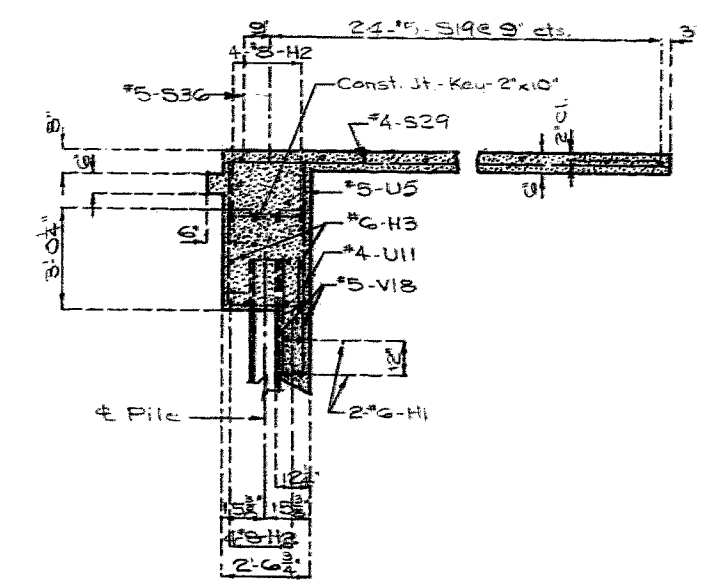
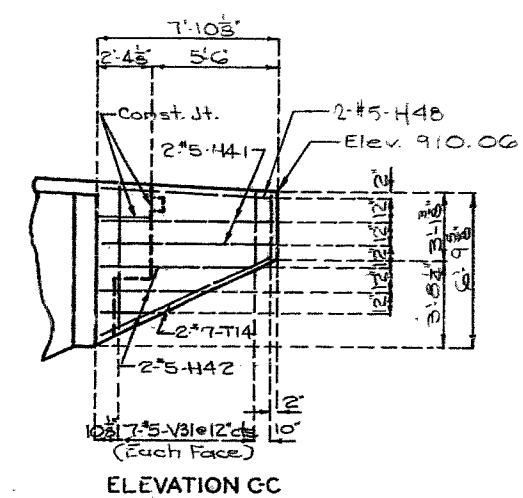
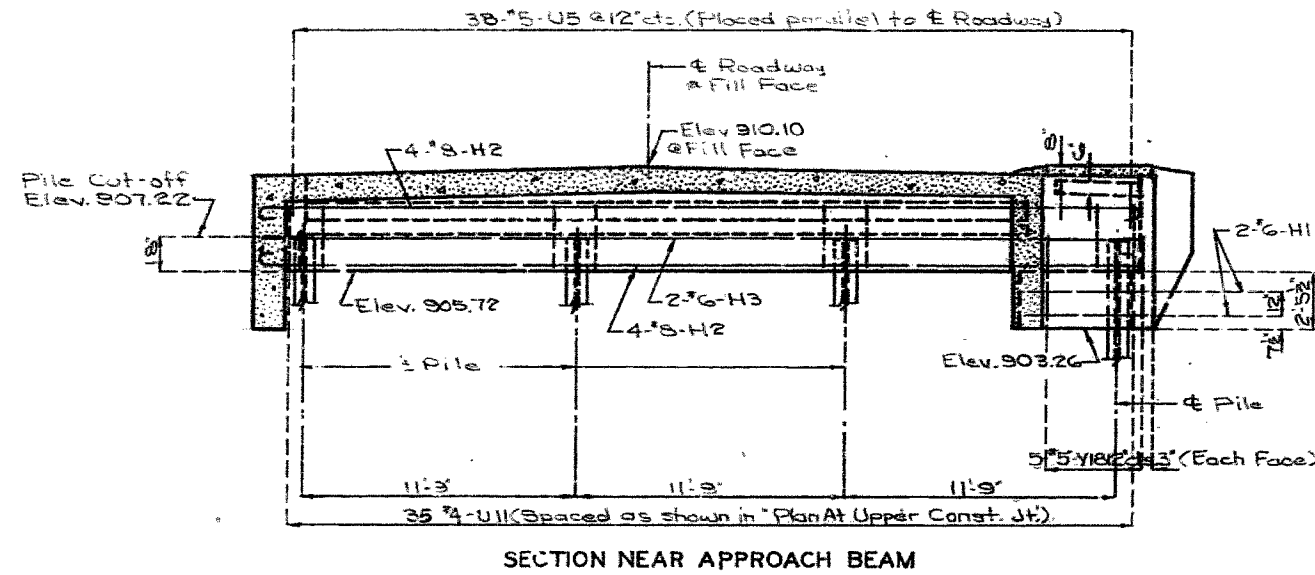
47110
 DETAILED MARCH 1988
 CHECKED July 1988

Note: This drawing is not to scale. Follow dimensions.

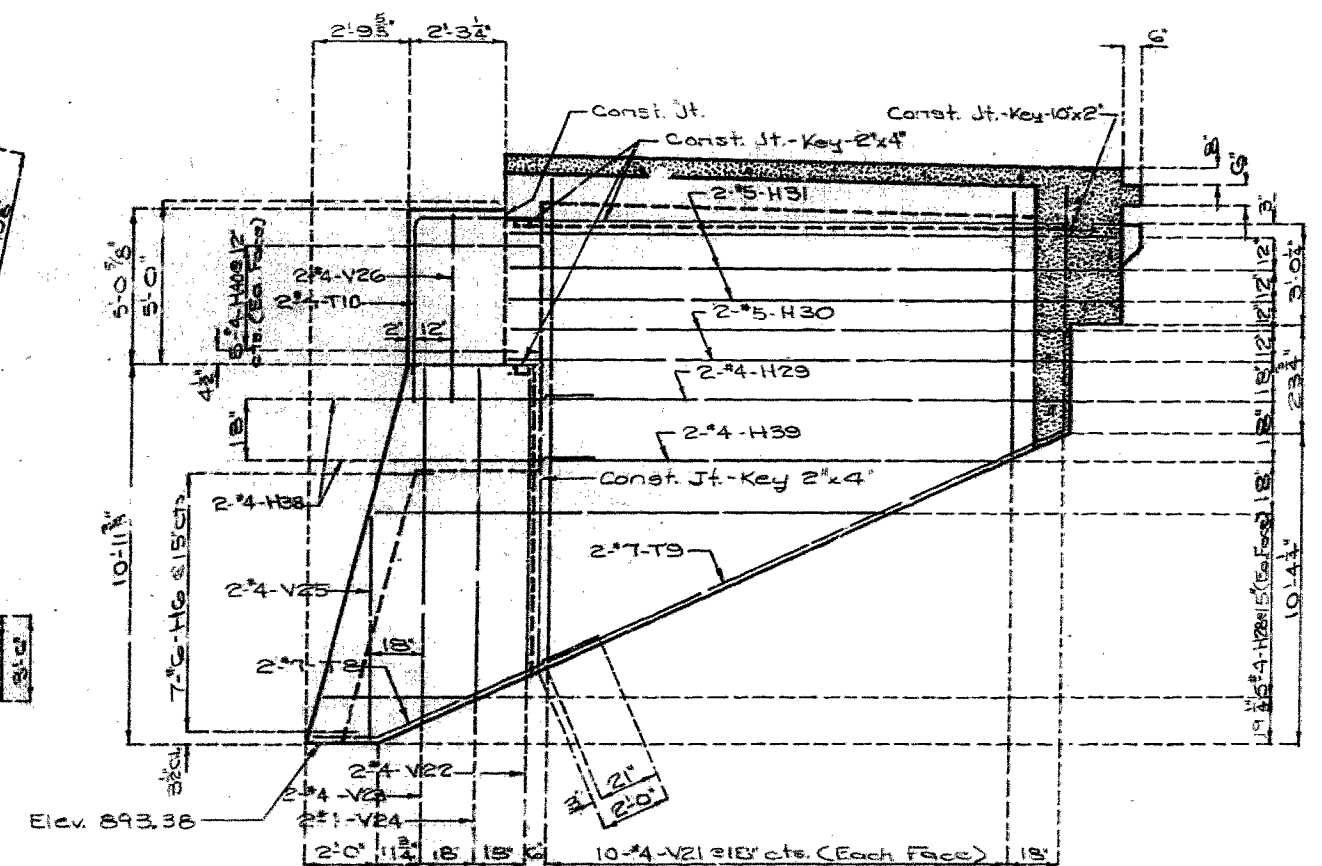
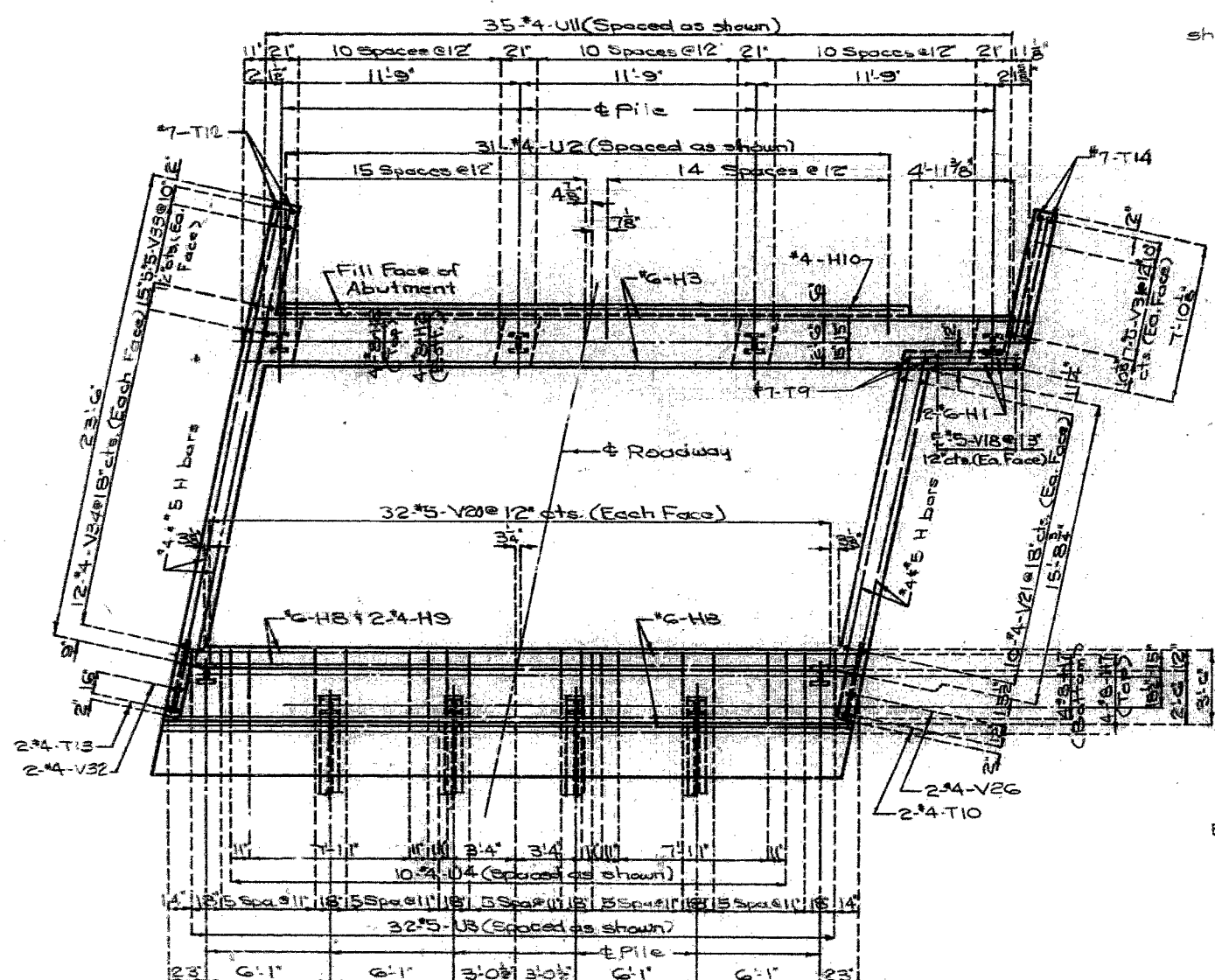
JACKSON COUNTY

A-4738

STATE	PROJ. NO.	SHEET NO.
MO		24



Note: For location of Sections E-E and F-F see sheet No. 8.
 For additional notes, see sheet No. 8.
 For location of Elev. C-C see sheet No. 8.



DETAILS OF ABUTMENT NO. 3

PLAN AT UPPER CONSTRUCTION JOINT

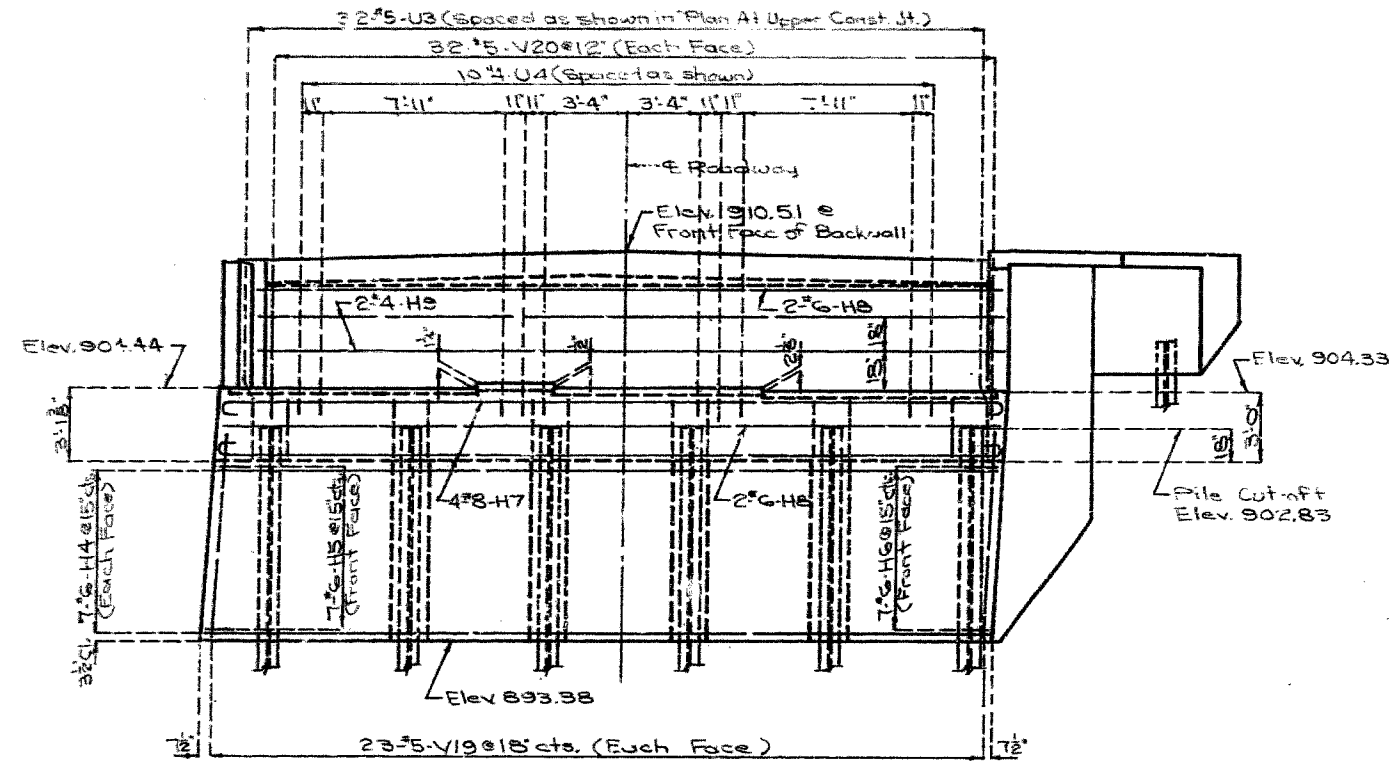
Note: This drawing is not to scale. Follow dimensions.

412 11

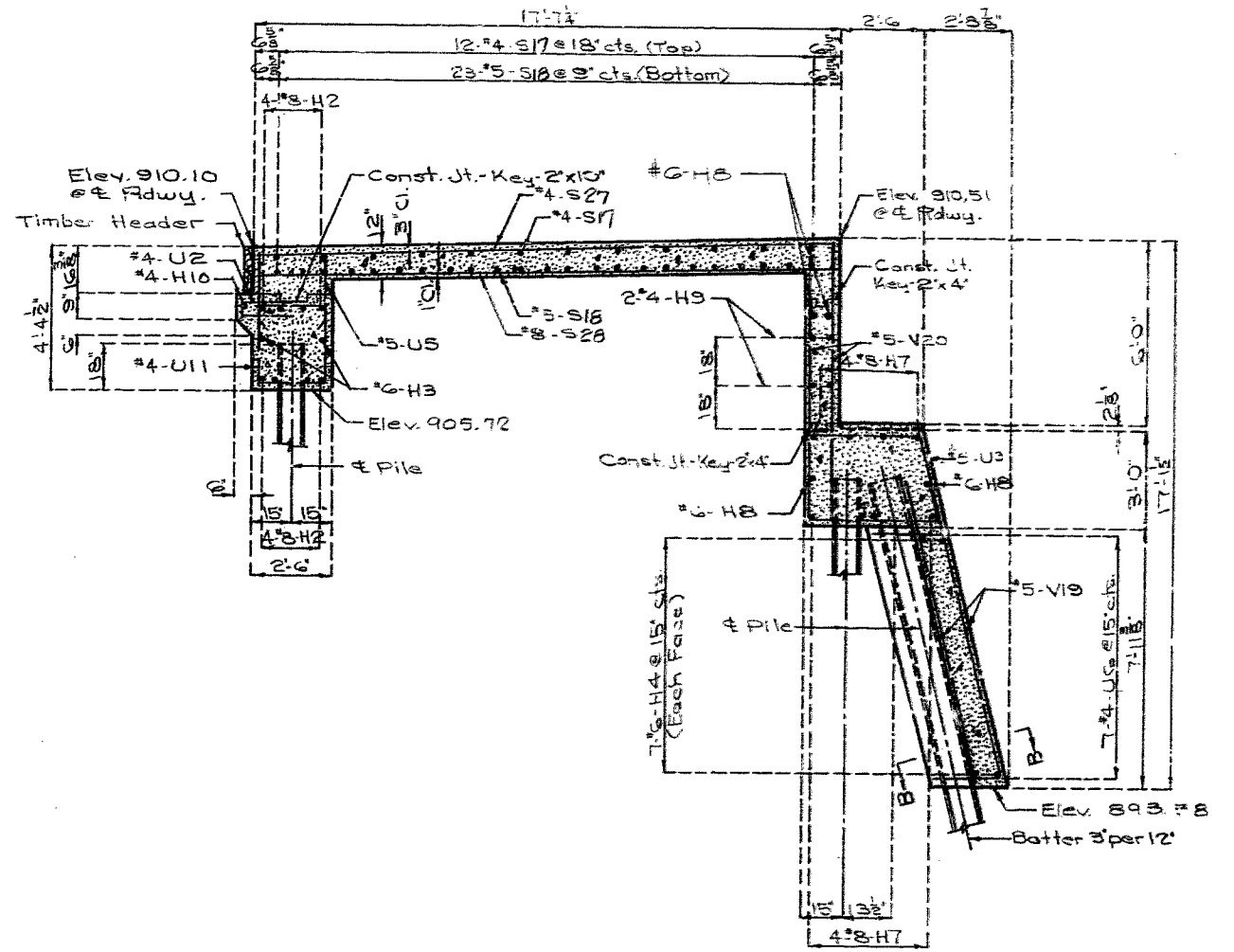
DETAILED FEBRUARY 1983
 CHECKED July 19 88

Sheet No. 7 of 24

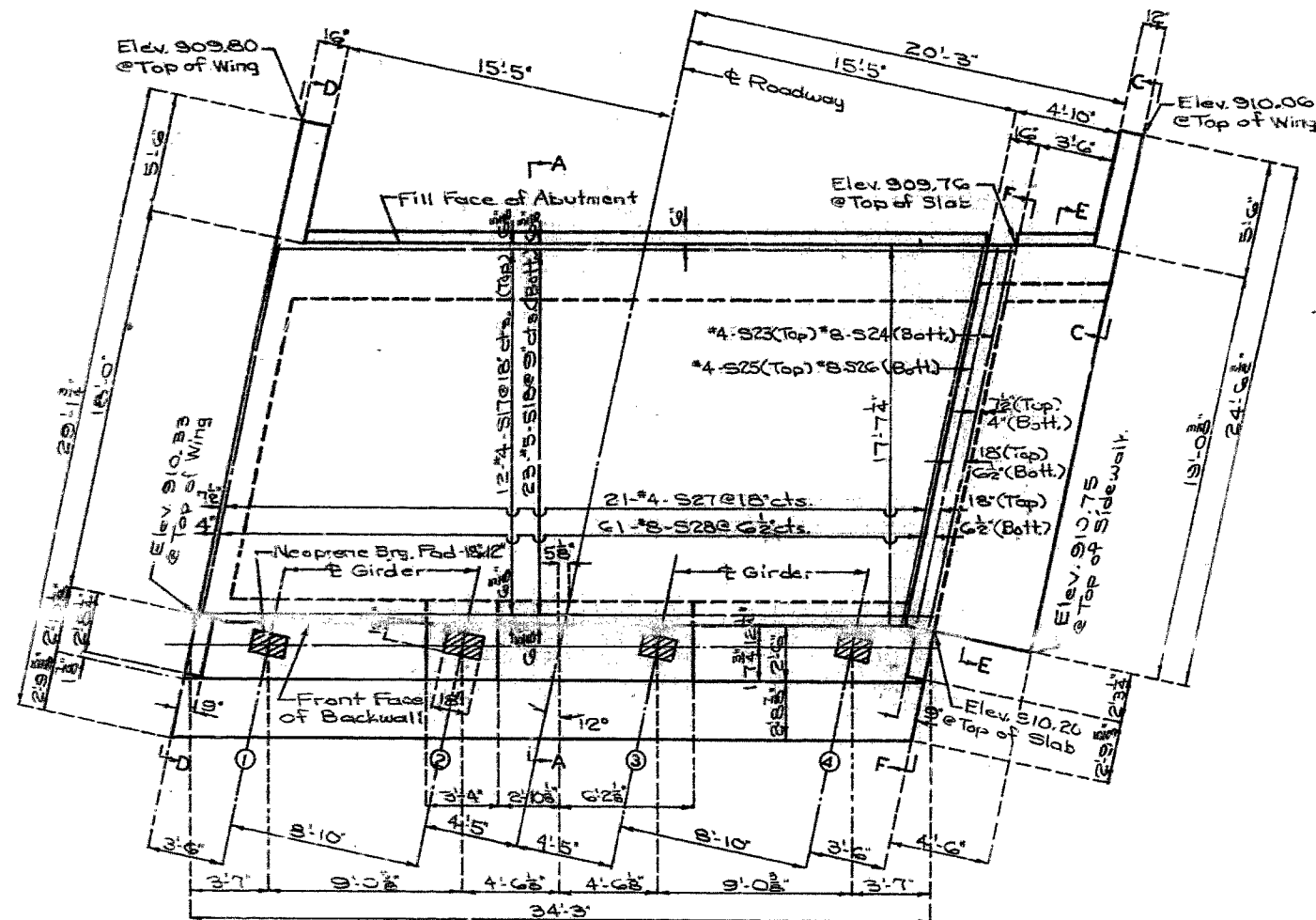
STATE	PROJ. NO.	SHEET NO.
MO		35



ELEVATION



SECTION A-A



PLAN

DETAILS OF ABUTMENT NO. 3

Note: Top of Abutment slab and expansion device for Abutments No. 1 and 3 shall conform to crown of roadway slab. Abutment slab above the upper construction joint shall not be poured until the superstructure slab has been poured in the adjacent span.

All reinforcing bars in the tops of substructure beams or caps shall be spaced to clear anchor bolts for bearings by at least 1/2".

Field bendings shall be required for #6-H8 and #4-H9 in backwall at wings.

For Elevations C-C, D-D and Sections E-E, F-F, see sheet No. 7 & 9.

For details and reinforcement of barrier curb see sheet No. 20.

For location and details of Anchor Bolt Walls see sheet No. 10.

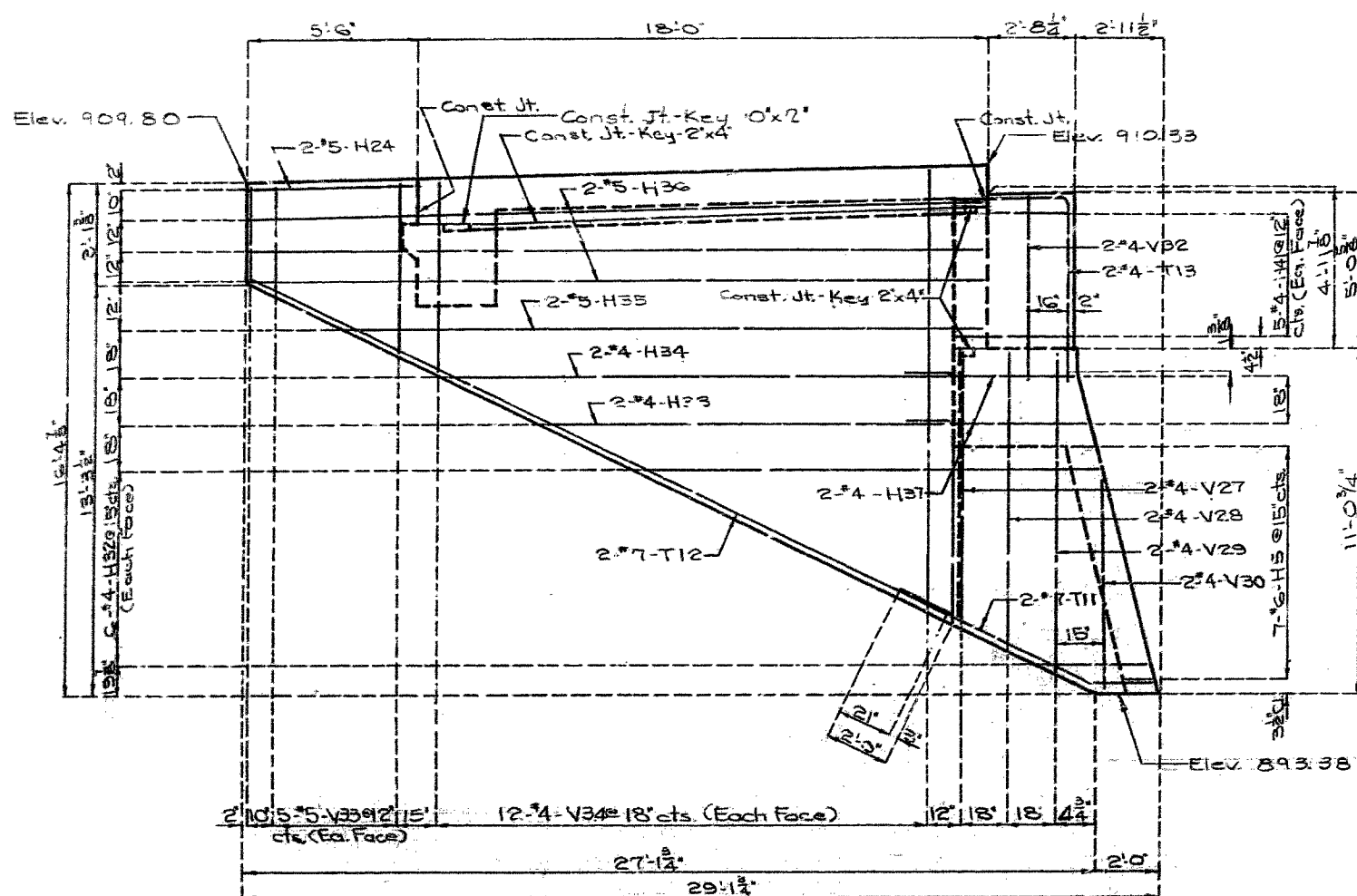
See sheet No. 20 for details of Timber Header.

For detail of steel pile splice, see sheet No. 4.

See sheet No. 4 for Section B-B.

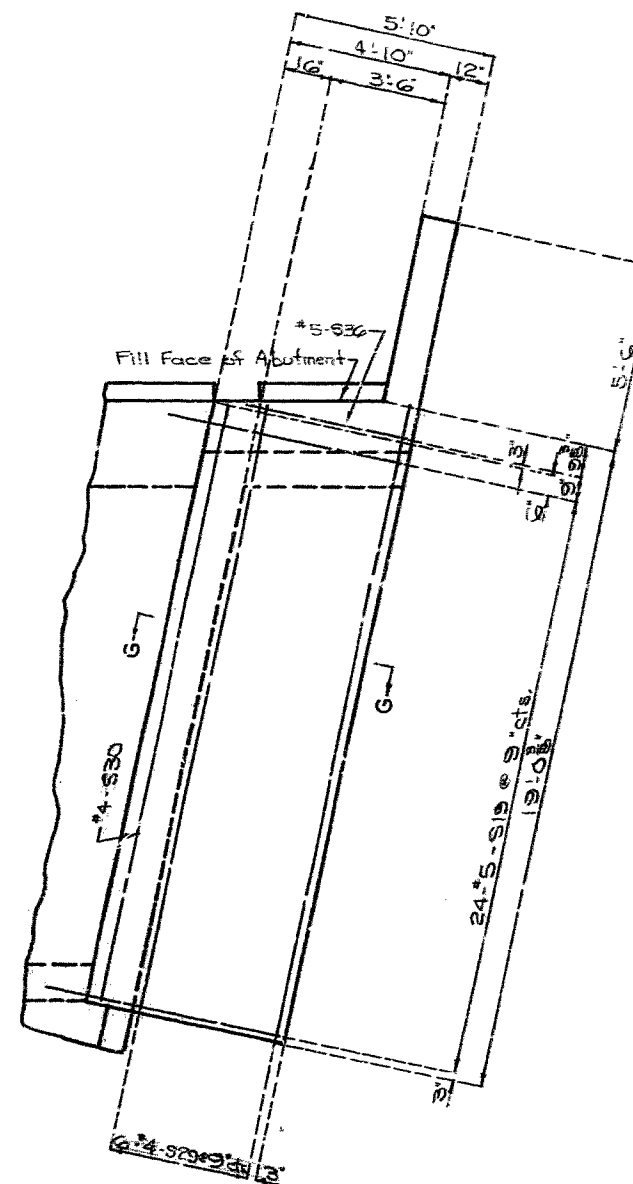
413/112

STATE	PROJ. NO.	SHEET NO.
MO		36



ELEVATION D-D

Note: For location of Elevation D-D see sheet No. 8.
 For location of sidewalk on Abutment No. 3 see sheet No. 8.
 For additional notes see sheet No. 8.
 See sheet No. 5 for Section G-G.

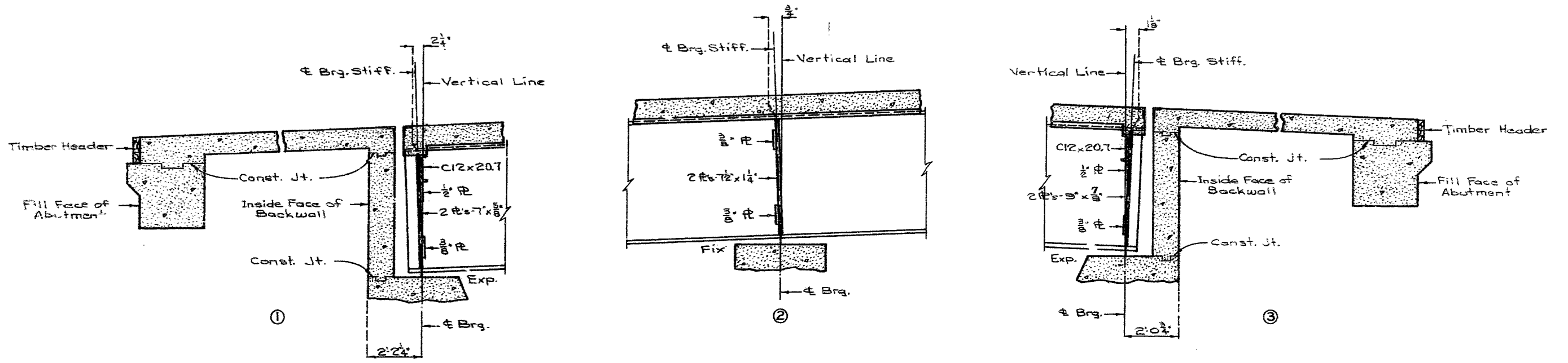


PART PLAN SHOWING
 SIDEWALK REINFORCEMENT

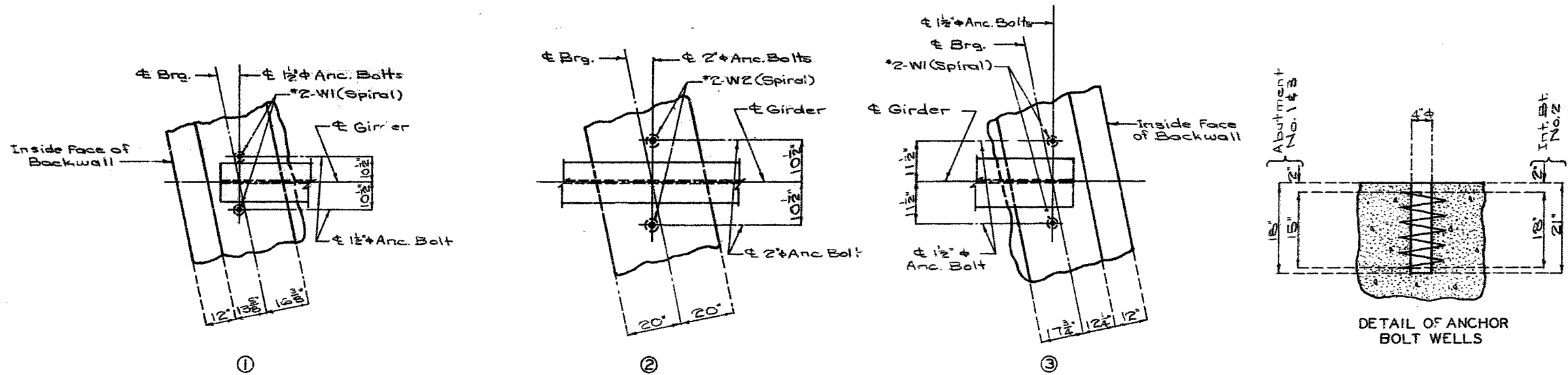
DETAILS OF ABUTMENT NO. 3

474/113

STATE	PROJ. NO.	SHEET NO.
MO.		37



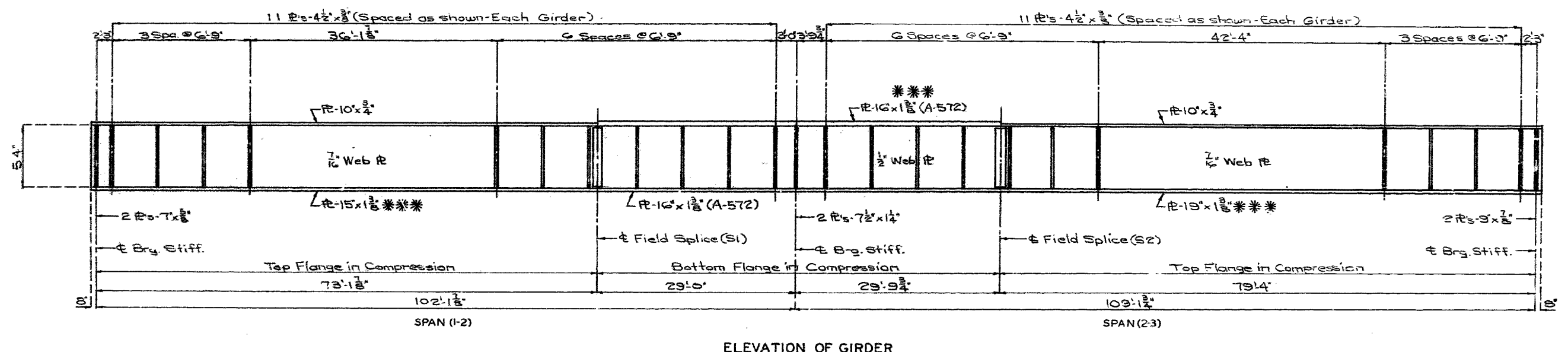
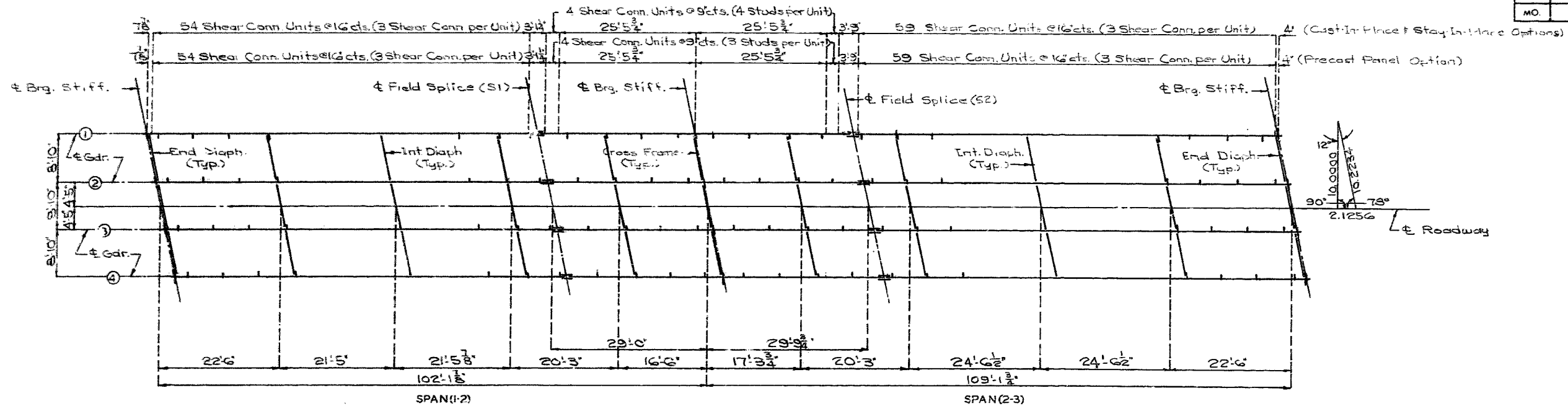
PART LONGITUDINAL SECTION



PART ANCHOR BOLT PLAN

511 514

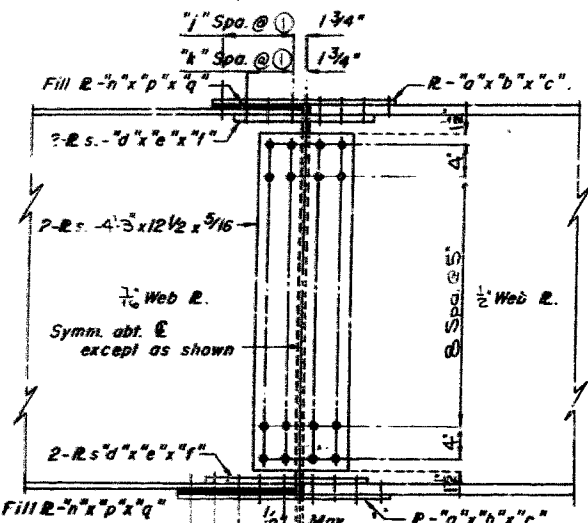
STATE	PROJ. NO.	SHEET NO.
MO.		98



Notes: Plate girders shall be fabricated to conform to the Camber Diagram shown on sheet No. 15.
 Transverse web stiffeners shall be located as shown in Plan of Structural Steel.
 Intermediate web stiffener plate and diaphragm spacings may vary from plan dimensions by a maximum of 3" for diaphragm to connect to the intermediate web stiffener plate.
 *** Indicates Flange Plates subject to notch toughness requirements.
 Fabricated structural steel shall be A36, except as noted.
 Longitudinal dimensions are along top of web. See Part-Longitudinal Sections on sheet No. 10.
 All web plates shall be subject to notch toughness requirements.

4/6 115

STATE	PROJ. NO.	SHEET NO.
MO.		33

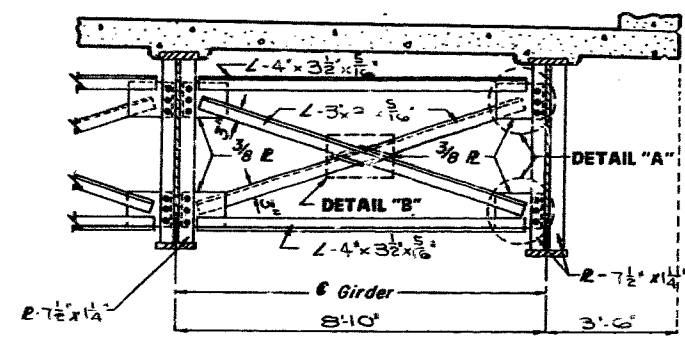


NOTE: USE 7/8" HIGH STRENGTH BOLTS WITH 15/16" HOLES.

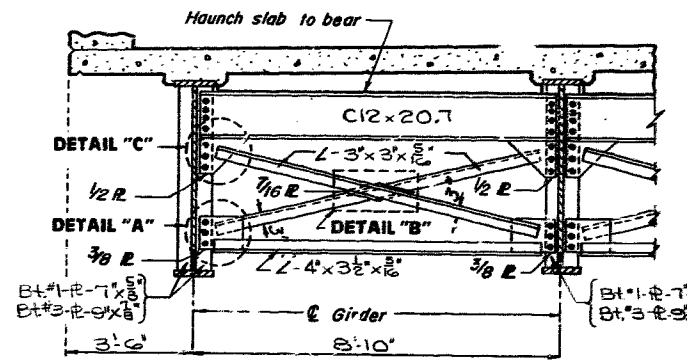
BOLTED FIELD SPLICE

See plan of flange for spacing.

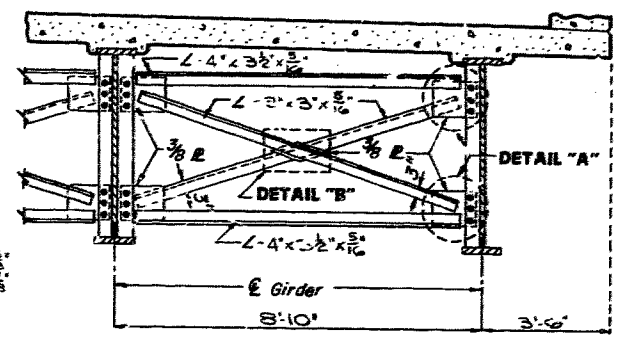
Splice Location	Table of Dimensions - Field Splice										
	a	b	c	d	e	f	g	j	k	m	n
Top (S1/S2)	10"	3"	18 1/2"	4"	1/2"	18 1/2"	2"	2"	2"	10"	10"
Bottom (S1)	15"	5"	2'10 1/2"	6 1/2"	1"	2'3 1/2"	1 1/2"	4"	3"	2"	10"
Bottom (S2)	14"	1 1/8"	4'0 1/2"	7"	1 1/4"	3'5 1/4"	2"	0"	0"	0"	10"



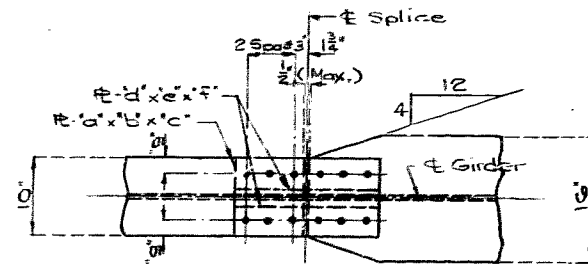
TYPICAL PART SECTION SHOWING CROSS FRAMES



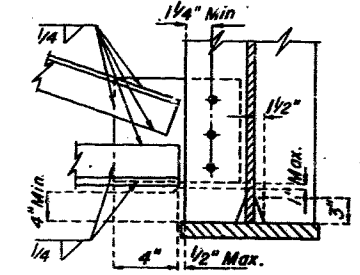
TYPICAL PART SECTION SHOWING END DIAPHRAGMS



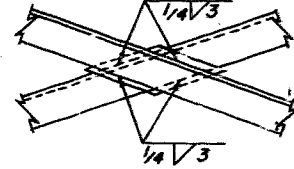
TYPICAL PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS



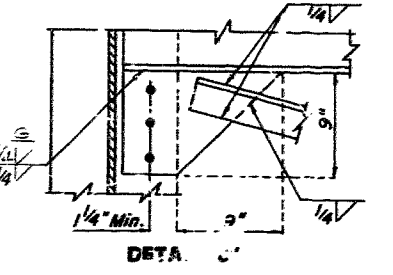
TOP FLANGE SPLICE (S1 & S2)



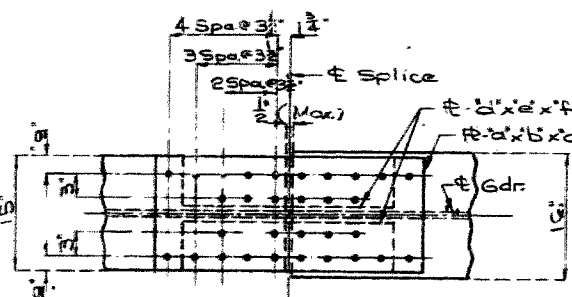
DETAIL "A"



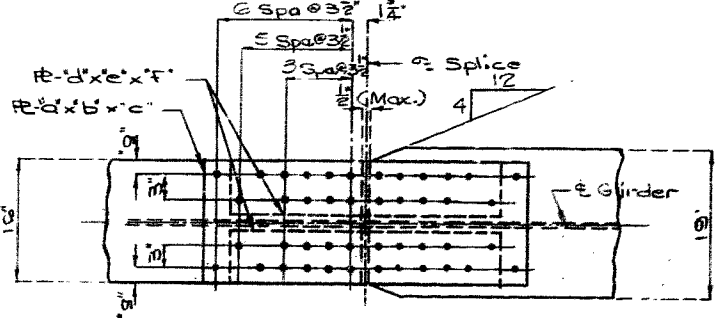
DETAIL "B"



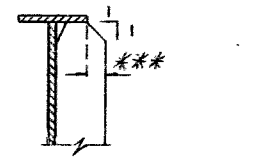
DETAIL "C"



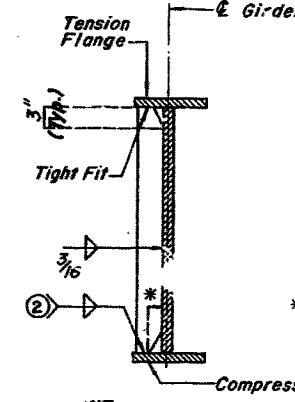
BOTTOM FLANGE SPLICE (S1)



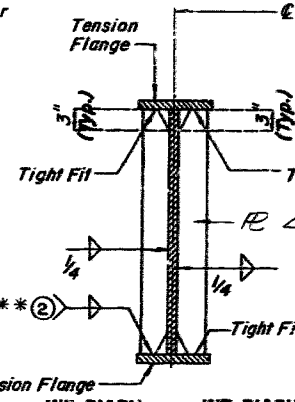
BOTTOM FLANGE SPLICE (S2)



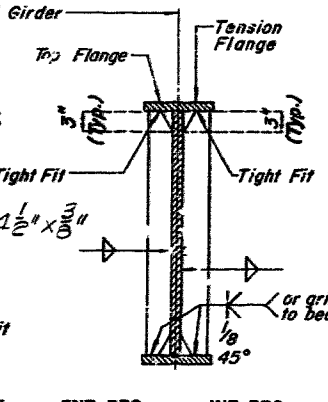
DETAIL OF BEVEL PLATE
*** When dimension exceeds 1/2" bevel stiffener plate as shown.



INT. WEB STIFF. (ONE SIDE ONLY)



INT. DIAPH. CONN. PL. & WEB STIFF.



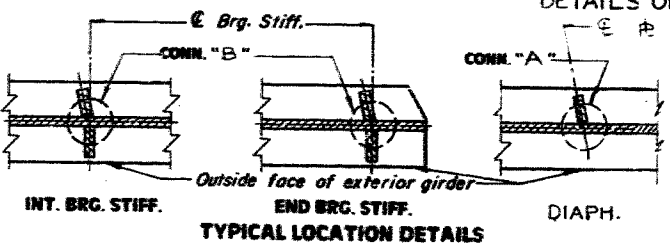
INT. DIAPH. CONN. PL. ONLY

END BRG. STIFF.

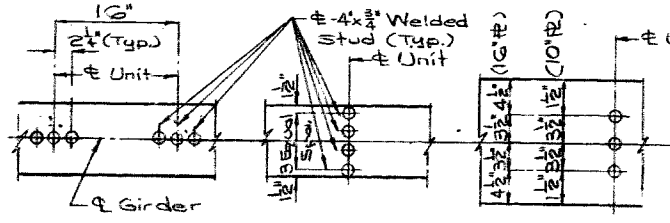
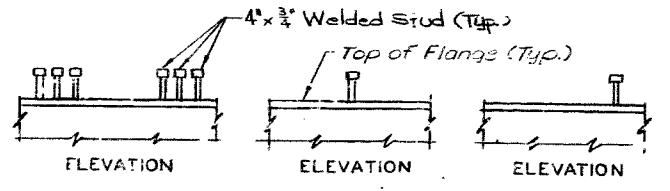
INT. BRG. STIFF.

WELDING DETAILS
② Weld to compression flange as located on ELEVATION OF GIRDER.
* 1/2" typical for all Int. Web Stiff., Int. Diaph. Conn. R. and Brg. Stiff.
** Weld may be omitted on interior girders, and Tight Fit used when Int. Diaph. Conn. R. is required on both sides.

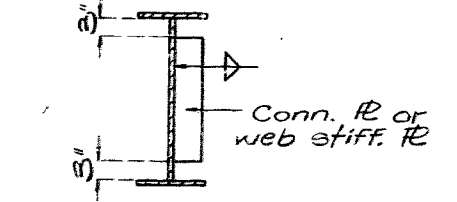
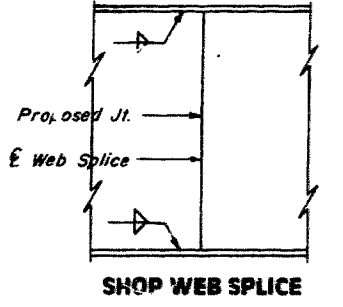
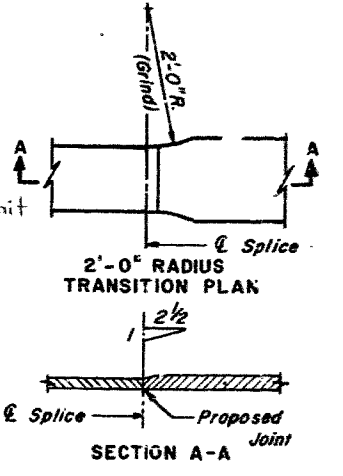
WELDING DETAILS



TYPICAL LOCATION DETAILS



DETAILS OF SHEAR CONNECTORS
Note: Weight of 335 Lbs. of shear connectors is included in weight of Fabricated Structural Carbon Steel.



When Int. Diaph. Conn. R. or Web Stiff. R. interfere with flange splice R. & bolts, clip connection or stiffener plate as shown.

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DETAILED Jan. 1988
CHECKED July 1988

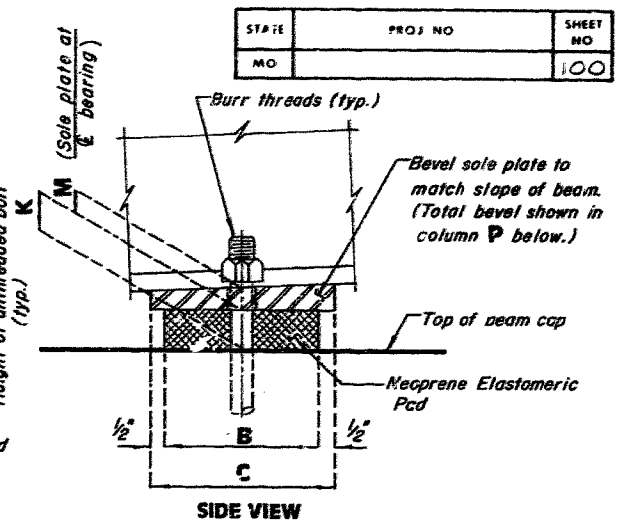
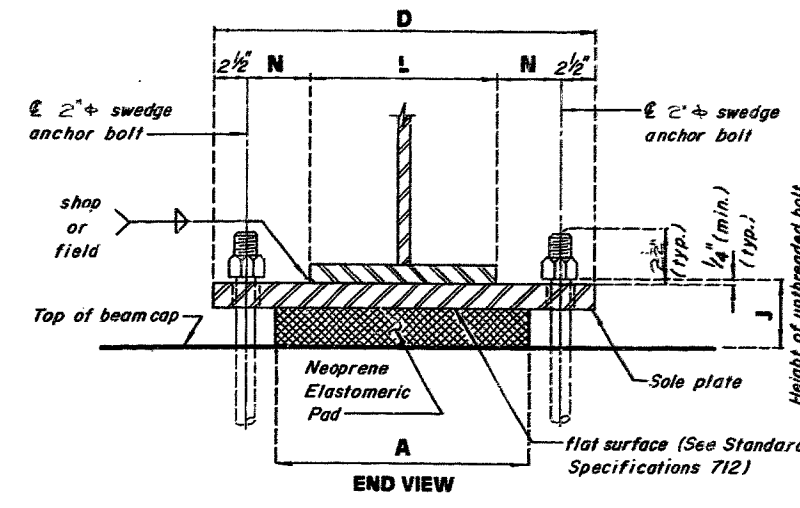
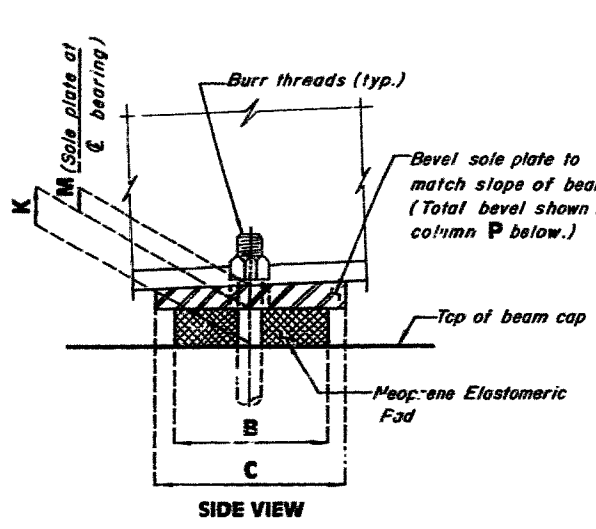
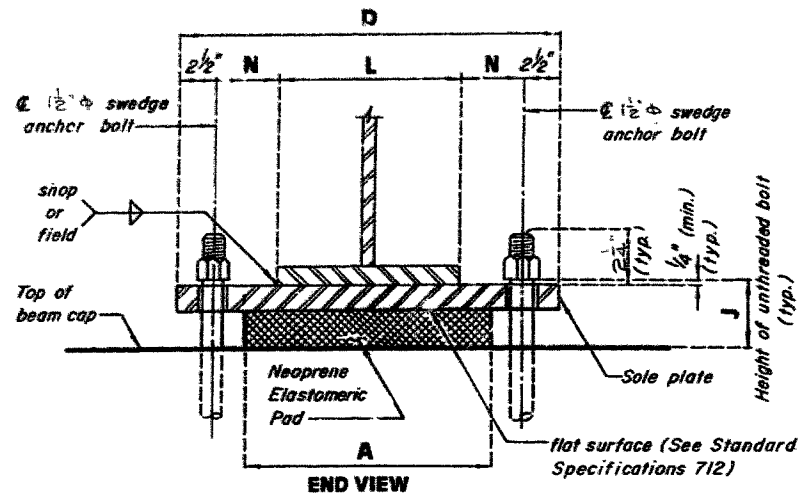
Note: This drawing is not to scale. Follow dimensions

Sheet No. 12 of 24

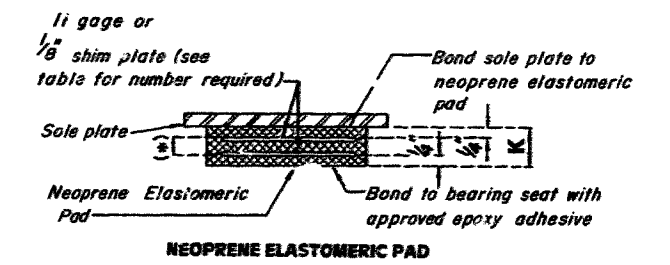
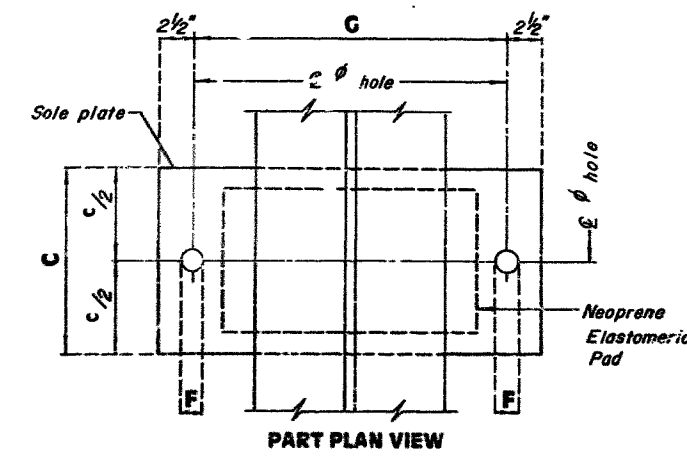
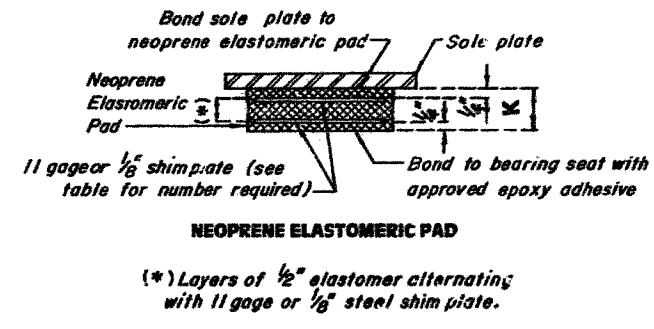
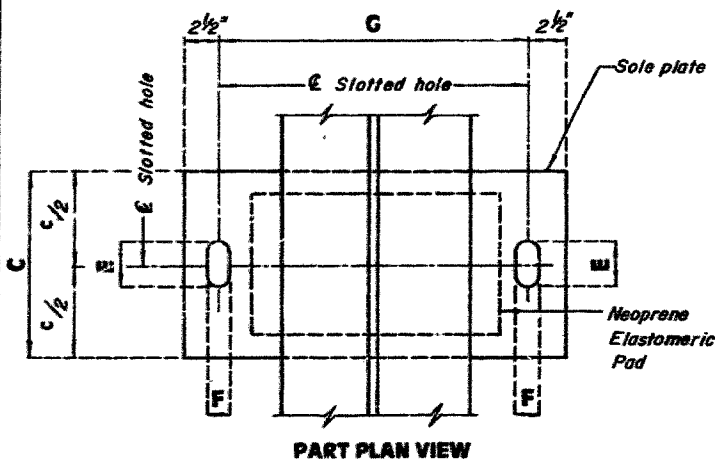
JACKSON COUNTY

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Note: The location of anchor bolts in relation to the slotted holes in the sole plate shall correspond with the temperature at the time of erection. At 60° F. the slotted holes should center on the anchor bolts.



EXPANSION BEARINGS

NUMBER REQUIRED = 4 @ Abutment No. 1
4 @ Abutment No. 3

FIXED BEARINGS

NUMBER REQUIRED = 4 @ Int. Bt. No. 2

** (Abutment No. 1 & 3) 1 1/2" (Int. Bt. No. 2)
*** 1 1/2" (Abutment No. 1 & 3) 2" (Int. No. 2)

GENERAL NOTES:

ANCHOR BOLTS SHALL BE *** A588 STEEL SWEDGED BOLTS AND SHALL EXTEND INTO THE CONCRETE WITH A194 - 2, 2H OR A563 - C, C3, D, DH, DH3 HEAVY HEXAGON NUTS. ACTUAL MANUFACTURER'S CERTIFIED MILL TEST REPORTS (CHEMICAL AND MECHANICAL (INCLUDING PROOF LOADS)) SHALL BE PROVIDED. (SWEDGING SHALL BE 1" LESS THAN EXTENSION INTO THE CONCRETE.)

ALL STRUCTURAL STEEL FOR THE SOLE PLATE, ANCHOR BOLTS AND HEAVY HEXAGON NUTS SHALL BE PAINTED WITH 2 COATS (5 MILS MIN.) OF INORGANIC ZINC WELD AREAS TO BE TOUCHED UP AFTER ASSEMBLY.

WEIGHT OF ANCHOR BOLTS AND HEAVY HEXAGON NUTS FOR BEARINGS SHALL BE INCLUDED IN WEIGHT OF THE FABRICATED STRUCTURAL STEEL.

NEOPRENE ELASTOMERIC PADS SHALL BE 60 DUROMETER.

THE SOLE PLATE SHALL BE FURNISHED WITH THE BEARING AND HELD OR SHOP WELDED TO THE STRINGERS OR GIRDERS.

STRUCTURAL STEEL FOR SOLE PLATE SHALL BE A-36.

PAYMENT FOR THE SOLE PLATE WILL BE INCLUDED IN THE COST OF THE BEARING ASSEMBLY. SEE SPECIAL PROVISIONS.

THE ACCEPTED QUANTITY OF ELASTOMERIC BEARING ASSEMBLIES, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR LAMINATED NEOPRENE BEARING PADS (STEEL STRUCTURES), EACH.

EXPANSION BEARINGS														
BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	NUMBER OF SHIM PLATES (*)
1	12"	12"	13"	26"	5"	18"	21"	5 1/2"	3 3/4"	15"	1 1/4"	3"	1 1/2"	6
3	12"	12"	13"	28"	5"	18"	23"	5 3/8"	3 3/4"	19"	1 1/2"	2"	1 1/4"	6

(*) THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FIXED BEARINGS														
BENT NO.	A	B	C	D	F	G	J	K	L	M	N	P	NUMBER OF SHIM PLATES (*)	
Gdr. 1, 2 & 4	2	18"	30"	31"	26"	28"	21"	5 1/2"	3 3/4"	16"	1 1/2"	2 1/2"	1 1/2"	5
Gdr. 3	2	18"	30"	31"	26"	28"	21"	5 1/2"	3 3/4"	16"	1 1/2"	2 1/2"	1 1/2"	5

(*) THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

DETAILS OF LAMINATED NEOPRENE BEARINGS (STEEL STRUCTURES)

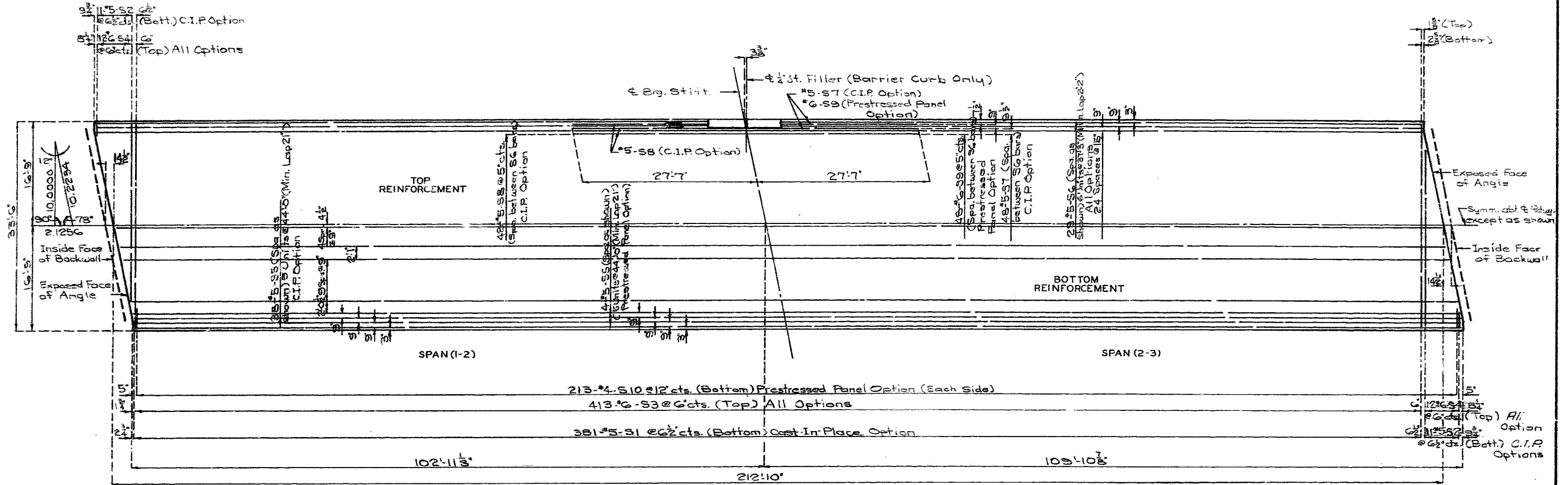
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 13 of 27

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 LAM NEOP BRGS. MARCH 1979
 REVISED OCT. 1987

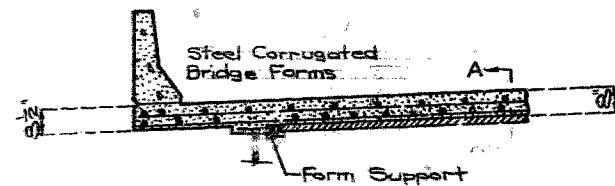
DETAILED JAN. 1988
 CHECKED July 19 88

STATE	PROJ. NO.	SHEET NO.
MO.		101

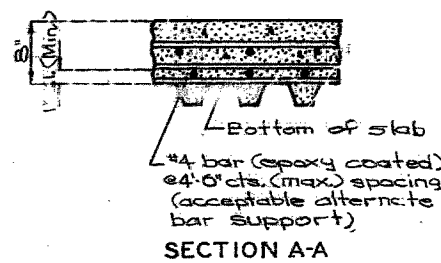


PLAN OF SLAB SHOWING REINFORCEMENT

Note: Longitudinal dimensions are parallel to grade along top of slab.
 Transverse steel in slab near expansion device shall be shifted in field to clear $\frac{5}{8}$ "
 Longitudinal reinforcing steel shall be placed so that the ends shall not be more than 1" from vertical line of angle for Expansion Device.
 For details of Alternate Slab Forming methods see sheet No. 16.
 See sheet No. 15 for "Slab Pouring Sequence" and "Theoretical Slab Haunch".

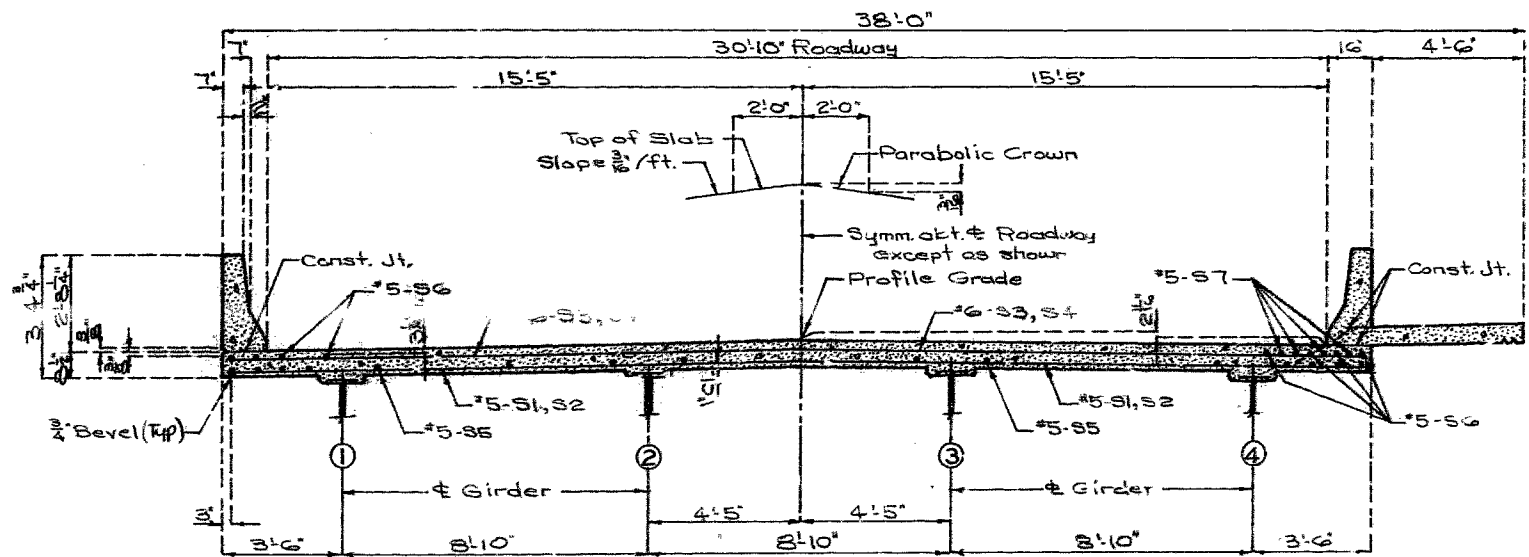


PART SECTION THROUGH S.I.P. OPTION



SECTION A-A

Notes:
 The corrugation valleys of forms shall match the bottom transverse reinforcing steel spacing.
 Slab reinforcement for S.I.P. Option to be the same as for C.I.P. Option.



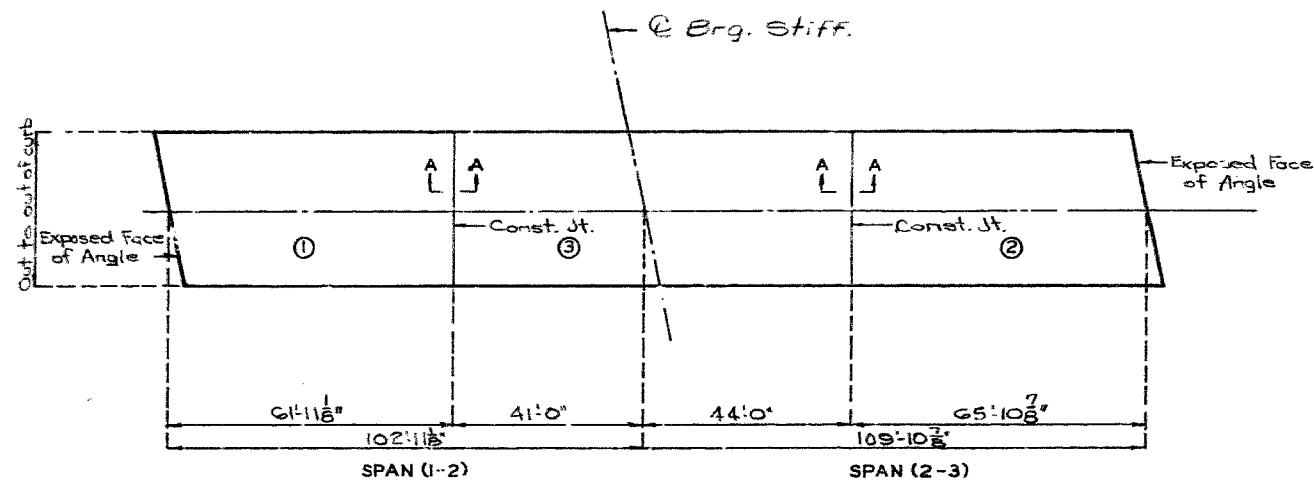
HALF SECTION NEAR CENTER SPAN

HALF SECTION NEAR INTERIOR BENT

Notes: For details and reinforcement of sidewalk not shown, see sheet No. 19.
 For details and reinforcement of safety barrier curb not shown, see sheets No. 20 & 21.
 Cast-in-place option shown. For details of precast panel option see sheet No. 16.

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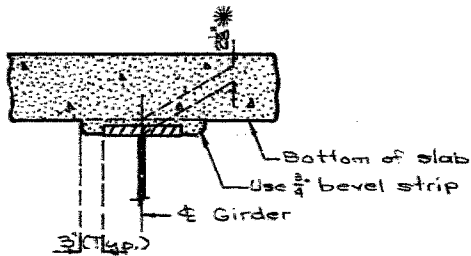
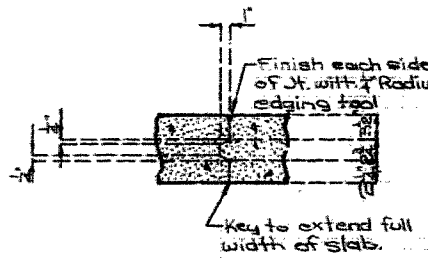
STATE	PROJ. NO.	SHEET NO.
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SLAB POURING SEQUENCE

	SEQUENCE OF POURS			MIN. RATE OF POUR	
	DIRECTION			WITH	NO
Basic Sequence	1	2	3	RETARDER	RETARDER
	Either Direction			25	25
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with section 703.3.12.4 of Missouri Standard Specifications.					
Alternate 'A' Pours	1	3+2	1 to End	40	60
Alternate 'B' Pours	1+3+2			40	60
	End to End				

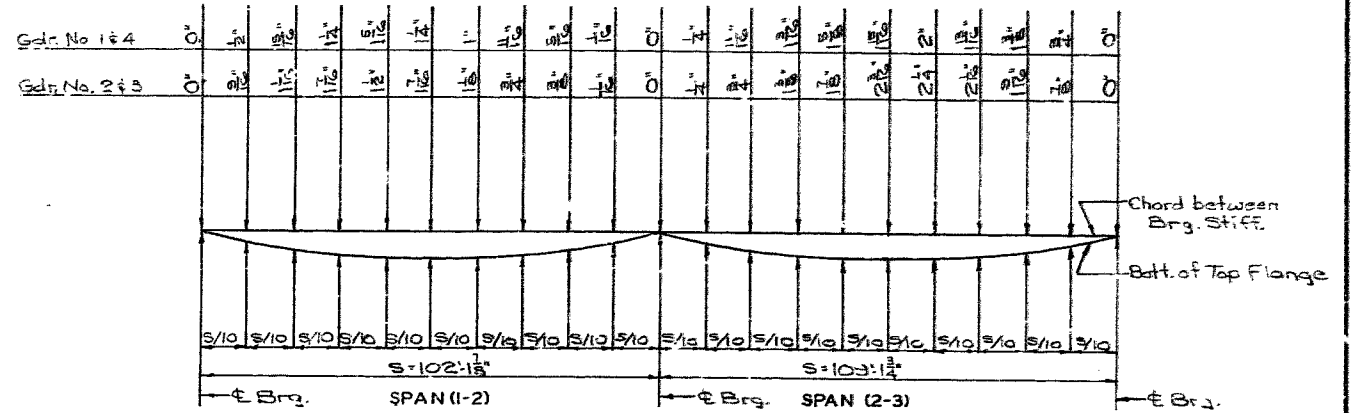
Note: The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.



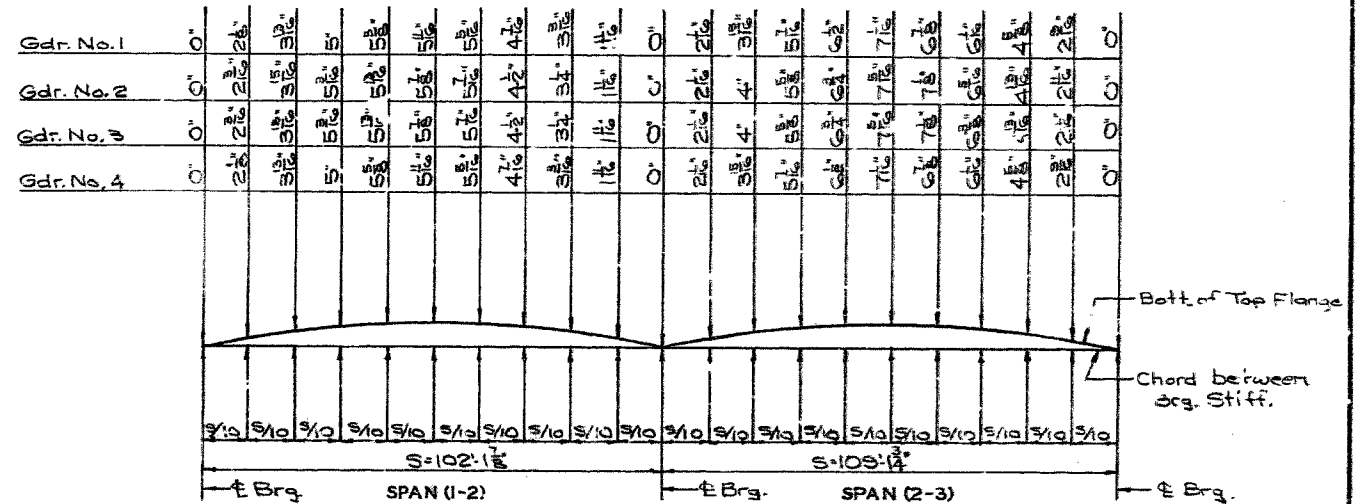
THEORETICAL SLAB HAUNCH (C.I.P.)

*Dimension may vary if girder camber after erection differs from plan camber by more than the % of D.L. deflection due to weight of structural steel. No payment will be made for additional forming or concrete required for variation in haunching.

To determine the haunch for Stay-in-Place Alternate, add 1/2" to the haunch for the Cast-in-Place Alternate.



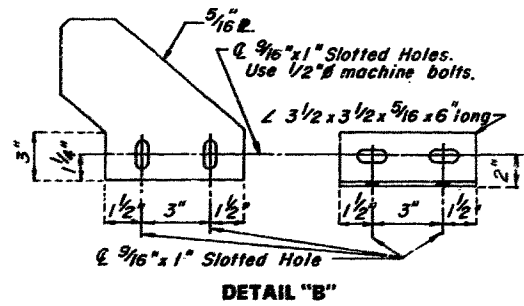
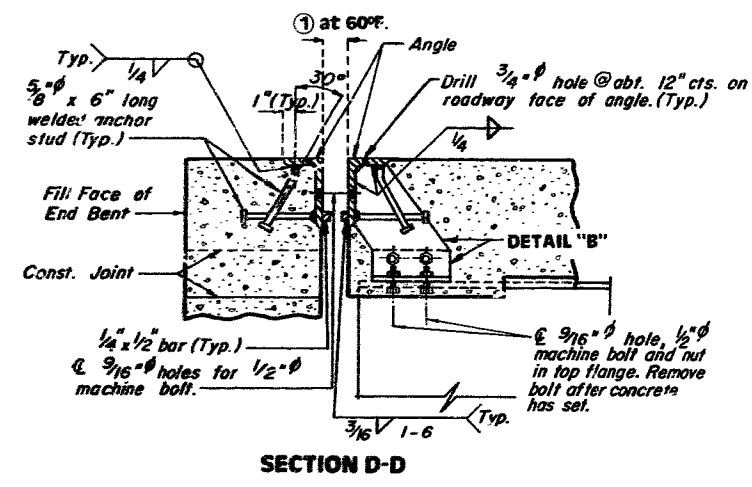
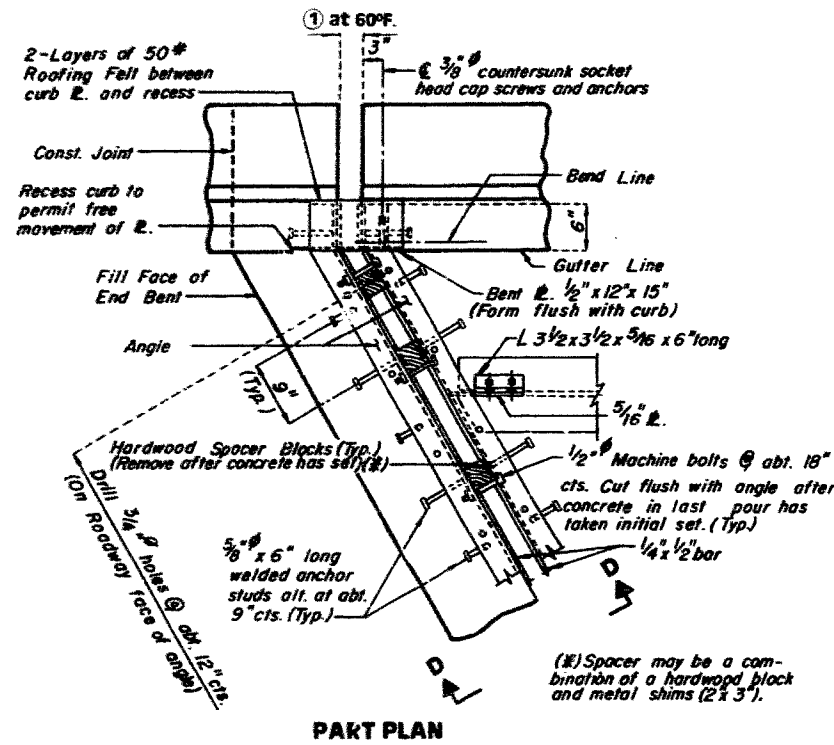
Note: 12% of dead load deflection due to weight of structural steel.



Note: Camber includes allowance for vertical curve and for dead load deflection due to concrete slab, curb and structural steel.

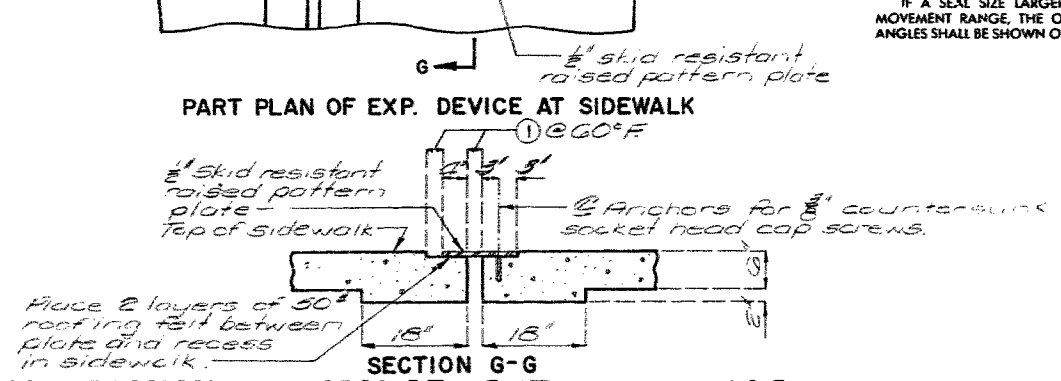
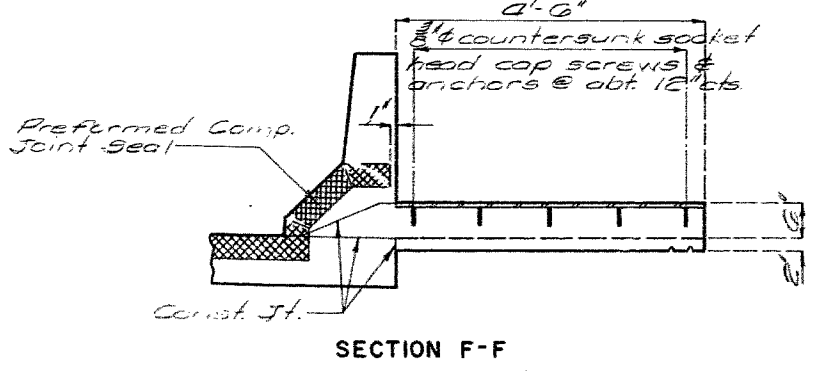
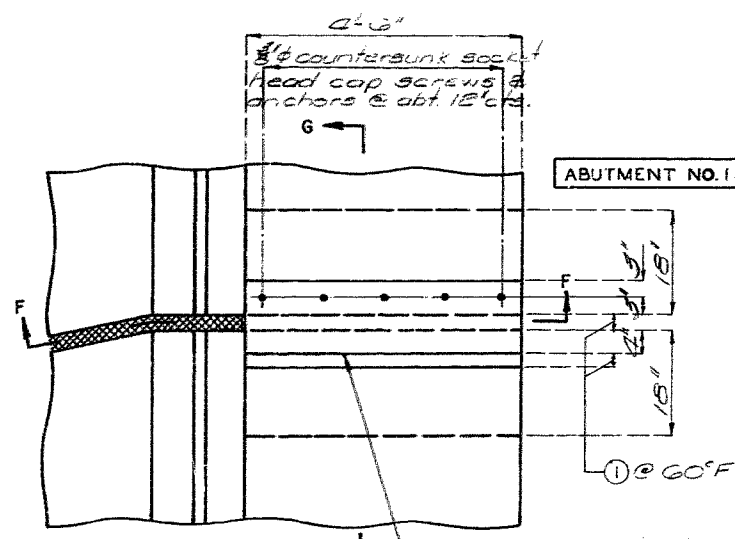
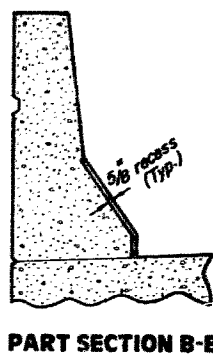
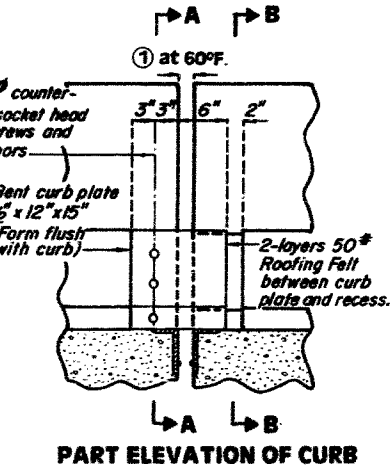
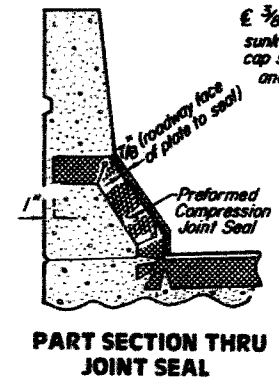
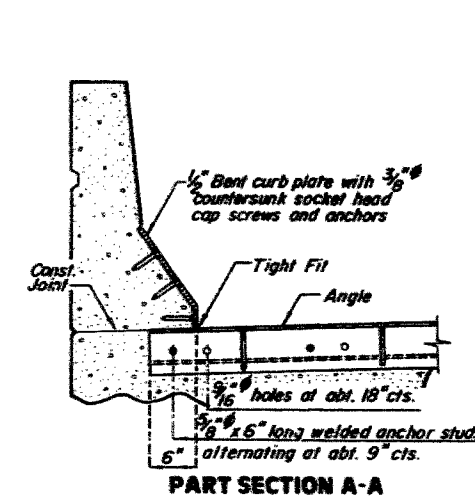
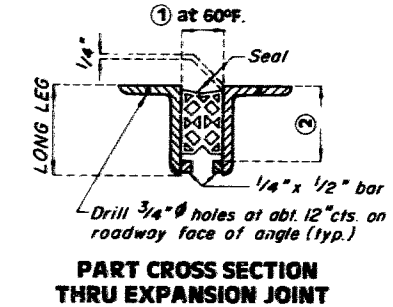
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GENERAL NOTES:
 STRUCTURAL STEEL FOR EXPANSION DEVICE SHALL BE FABRICATED IN ONE SECTION, EXCEPT THAT WHEN THE LENGTH IS OVER 50', SPlicing IS PERMISSIBLE.
 THE EXPANSION DEVICE SHALL BE BENT TO CONFORM TO CROWN AND GRADE OF ROADWAY.
 STRUCTURAL STEEL FOR THE ARMORED JOINT SHALL BE GRADE A36.
 ANCHORS FOR COMPRESSION SEAL ARMOR SHALL BE APPROVED STUD WELDED ANCHORS (C1010 THRU C1020).
 PLAN DIMENSIONS ARE BASED ON INSTALLATION AT 60° F.
 DIMENSIONS ① SHALL BE INCREASED 1/8" FOR EACH 10° FALL IN TEMPERATURE AND DECREASED 1/8" FOR EACH 10° RISE IN TEMPERATURE AT INSTALLATION.
 SEE SPECIAL PROVISIONS FOR THE REQUIREMENTS OF COMPRESSION JOINT SEAL.

NEOPRENE EXTRUSIONS SHALL MEET A.S.T.M. D3542-83.
 Furnishing, painting and installing the structural steel armored joint, skid resistant plate on sidewalk and curb plates shall be included in the contract unit price for Preformed Expansion Joint Seal.



SEAL (WIDTH)	①	②	REQUIRED MOVEMENT RANGE
2.5"	1-5/8"	SEAL DEPTH + 3/4"	.9"
3.0"	1-7/8"	SEAL DEPTH + 3/4"	1.0"
3.5"	2-1/4"	SEAL DEPTH + 3/4"	1.3"
4.0"	2-5/8"	SEAL DEPTH + 3/4"	1.6"
4.5"	2-3/4"	SEAL DEPTH + 3/4"	1.9"
5.0"	2-7/8"	SEAL DEPTH + 3/4"	2.0"

NOTE: DEPTH OF SEAL SHALL NOT BE LESS THAN WIDTH OF SEAL.

SIZE OF ARMOR ANGLE:
 VERTICAL LEG OF ANGLE SHALL BE A MINIMUM OF DEPTH OF SEAL + 1-1/2".
 HORIZONTAL LEG OF ANGLE SHALL BE A MINIMUM OF 3". MINIMUM THICKNESS OF ANGLE SHALL BE 1/2".
 IF A SEAL SIZE LARGER THAN THAT INDICATED ON THE PLANS IS USED, THE MOVEMENT RANGE, THE OPENING AT 60° AND ALL DIMENSIONS FOR THE ARMOR ANGLES SHALL BE SHOWN ON THE SHOP DRAWINGS.

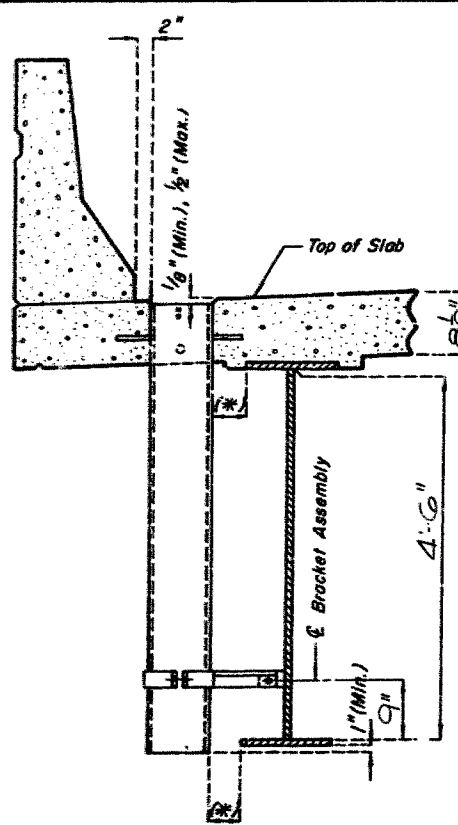
DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT ABUTMENT NO. 1 & 3

Note: This drawing is not to scale. Follow dimensions.

STD. P.C.J.S.(S) REVISED MAY 1987
 OCT. 1973
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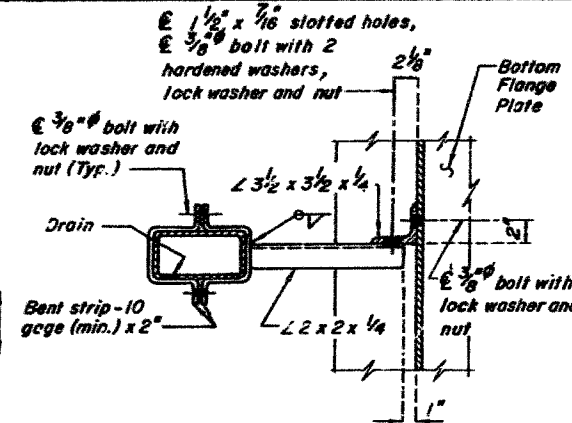
DETAILED JAN. 1988
 CHECKED July 1988

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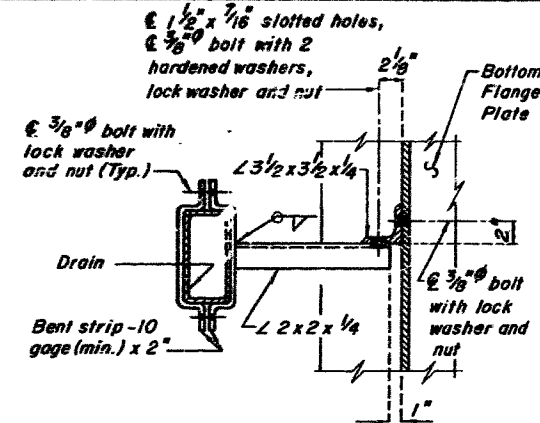


PART ELEVATION OF SLAB AT DRAIN

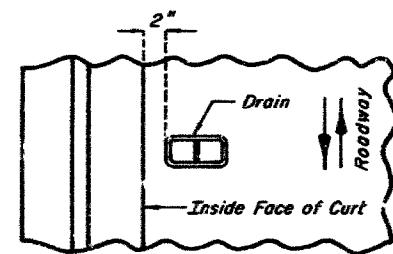
(*): If dimension is less than 1", drains shall be placed parallel to roadway, otherwise place drains transverse to roadway.



PART SECTION SHOWING BRACKET ASSEMBLY

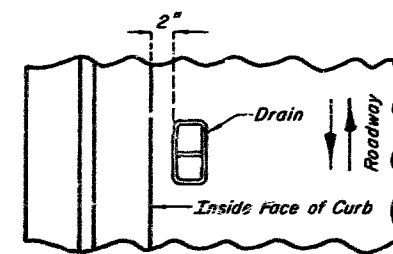


PART SECTION SHOWING BRACKET ASSEMBLY



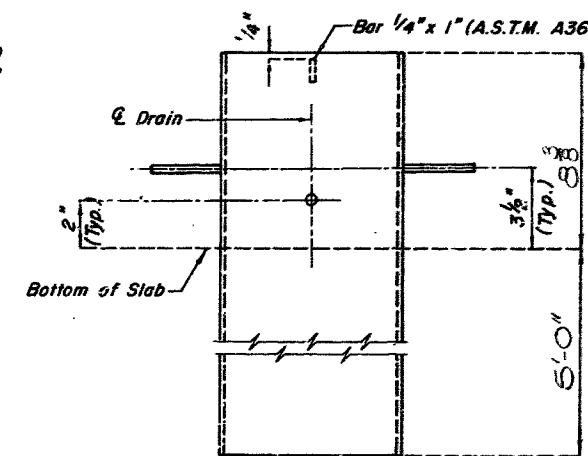
PART PLAN OF SLAB AT DRAIN

DETAILS OF DRAINS TRANSVERSE TO ROADWAY

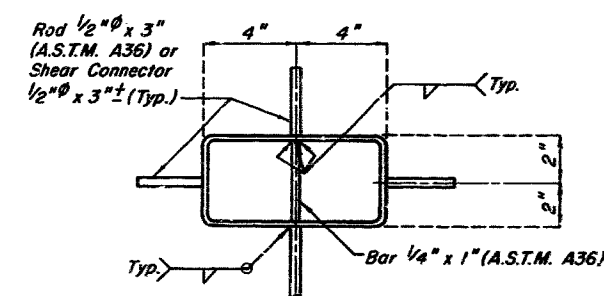


PART PLAN OF SLAB AT DRAIN

DETAILS OF DRAINS PARALLEL TO ROADWAY



ELEVATION OF DRAIN

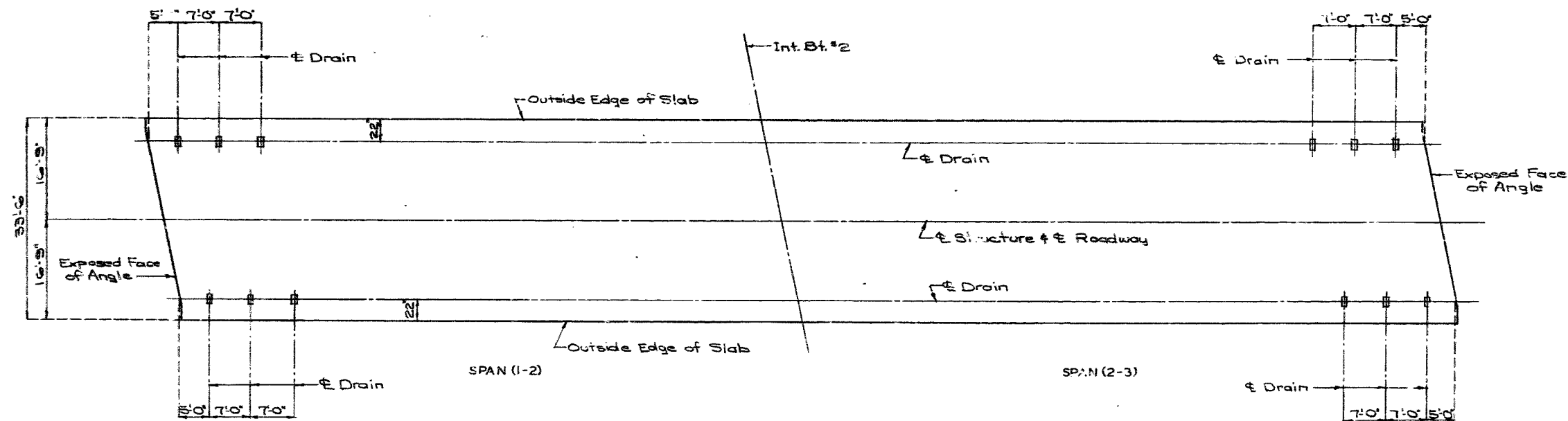


PLAN OF DRAIN

GENERAL NOTES:

- SLAB DRAINS MAY BE FABRICATED OF EITHER 1/4" WELDED SHEETS OF A.S.T.M. A36 STEEL OR FROM 1/2" STRUCTURAL STEEL TUBING A.S.T.M. A500 OR A501.
- OUTSIDE DIMENSIONS OF DRAINS ARE 8" x 4".
- LOCATE DRAINS IN THE SLAB BY DIMENSIONS SHOWN IN THE PART ELEVATION. SHIFT REINFORCING IN FIELD WHERE NECESSARY TO CLEAR DRAINS.
- THE DRAINS AND BRACKET ASSEMBLY SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A123.
- ALL BOLTS, HARDENED WASHERS, LOCK WASHERS AND NUTS SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A153.
- THE BOLT HOLE FOR THE BRACKET ASSEMBLY ATTACHMENT SHALL BE LOCATED ON THE PLATE GIRDER SHOP DRAWINGS.
- SHOP DRAWINGS WILL NOT BE REQUIRED FOR SLAB DRAINS AND BRACKET ASSEMBLY.

SLAB DRAIN DETAILS



PLAN OF SLAB SHOWING LOCATION OF SLAB DRAINS

STEEL
Gdr. Depth 48" and Over
SPS-S.D.(N.S.) REVISED FEB. 1988
FEB. 1975

DETAILED Jan. 19 88
CHECKED July 19 88

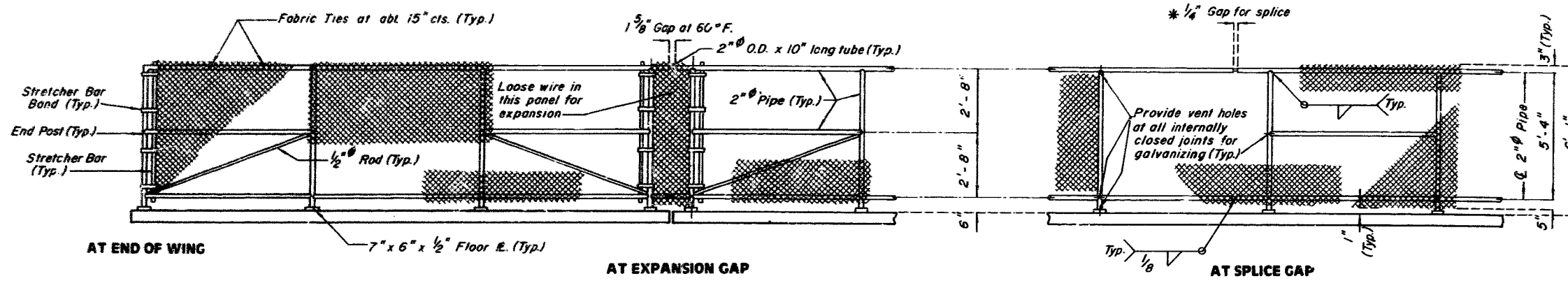
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 18 of 24.

JACKSON COUNTY

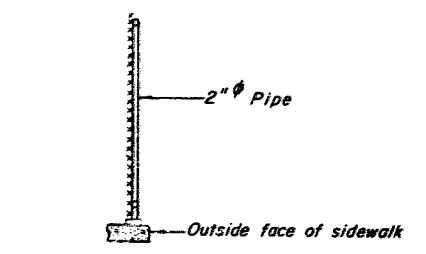
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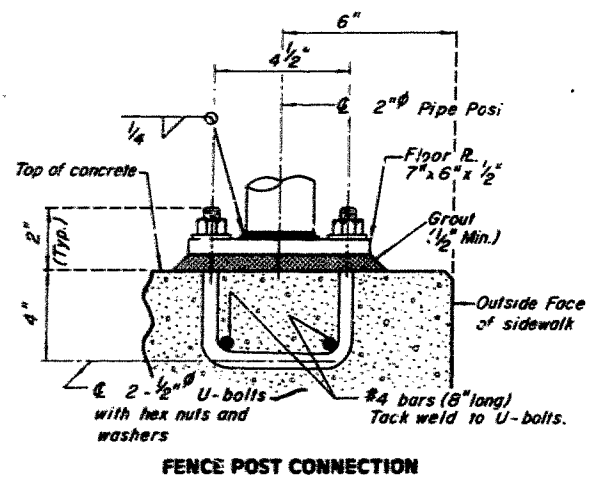
Note: Connect the lower end of $\frac{3}{8}$ " rod to the end of braced panel to which the stretcher bar is attached.

* At about 30'-0" centers, with at least one splice gap between pull posts.

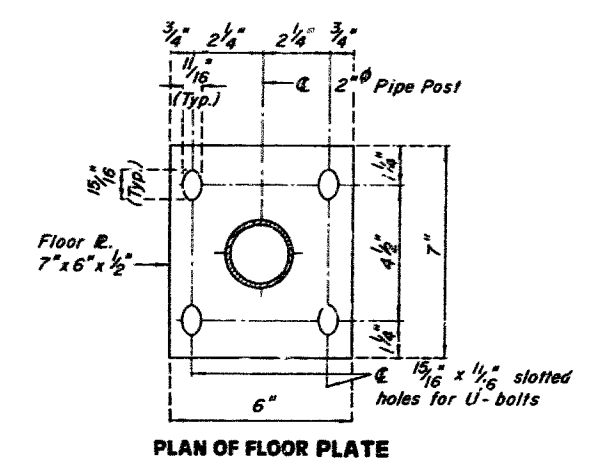


SECTION THRU FENCE

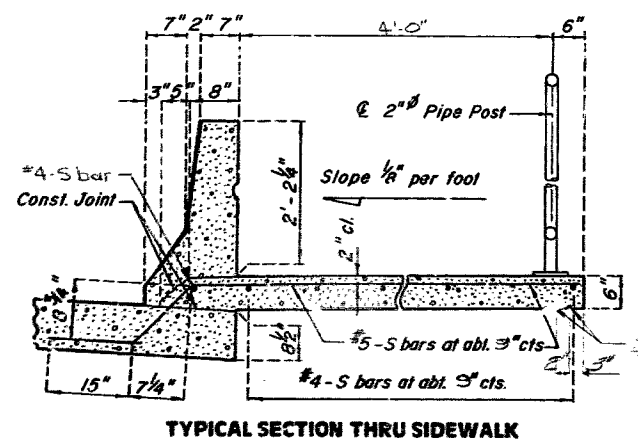
Note: Maximum spacing allowed for braced panels (pull posts) is 100 ft.



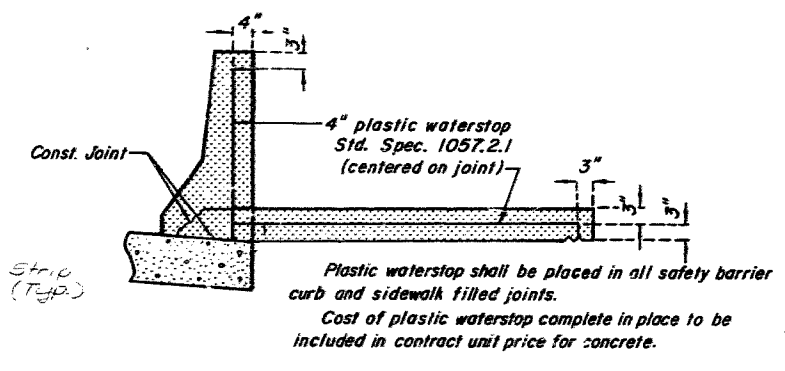
FENCE POST CONNECTION



PLAN OF FLOOR PLATE



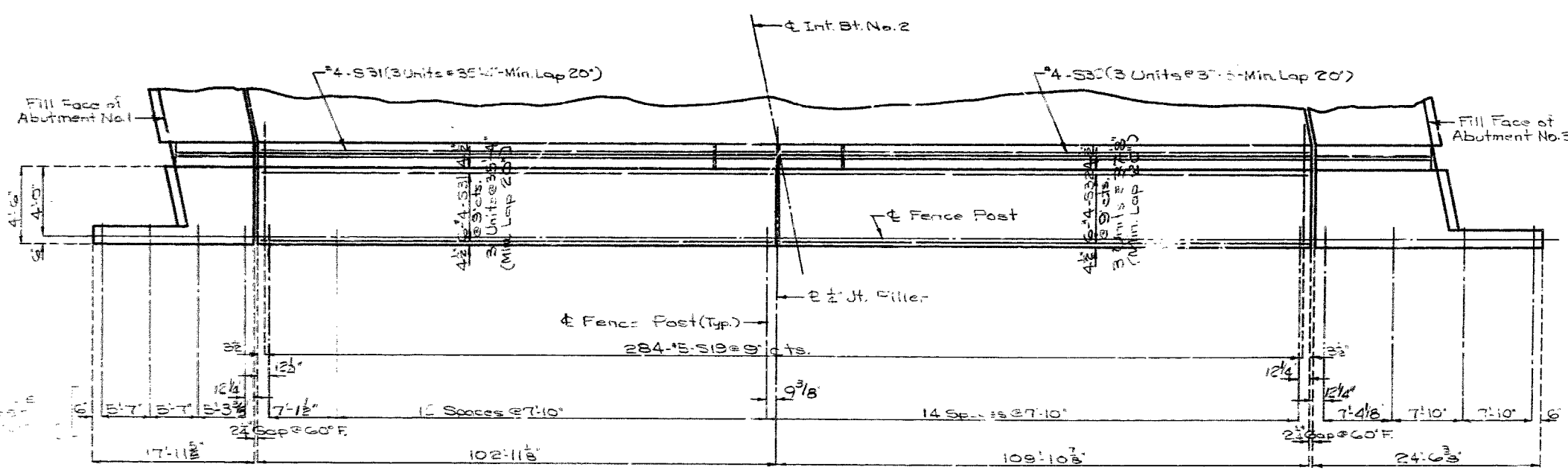
TYPICAL SECTION THRU SIDEWALK



DETAILS OF PLASTIC WATERSTOP

NOTES:

- Pedestrian guard fence (chain link type) shall be in accordance with Section 1043 of the Std. Spec., except all fabric shall have top and bottom edges knuckled.
- All fence posts shall be vertical. Grout of $\frac{1}{2}$ " minimum thickness shall be placed under floor plates to provide for vertical alignment of fence posts.
- The contract unit price per linear foot for pedestrian guard fence (galvanized) shall include furnishing and erecting the fence complete with U- anchor bolts, hex nuts and washers.
- Measurement of pedestrian guard fence shall be taken parallel to grade through the centerline of posts.



PLAN OF SIDEWALK SHOWING REINFORCEMENT AND LOCATION OF FENCE POSTS

Note: For details of sidewalk reinforcement on Abutment No. 1 see sheet No. 5.

Note: For details of sidewalk reinforcement on Abutment No. 3 see sheet No. 9.

484 123

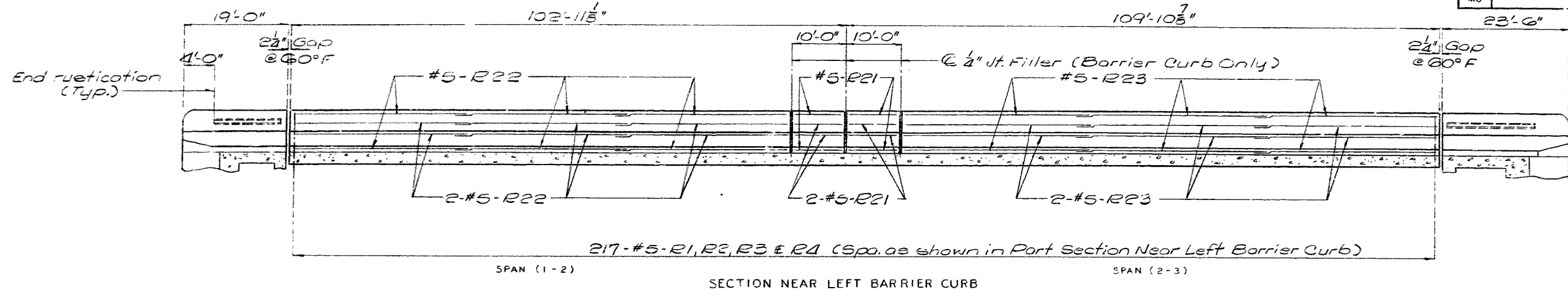
REVISED NOV. 1987
NOV. 1983
SIDEWALK & FENCE

DETAILED MARCH 1986
CHECKED 1988

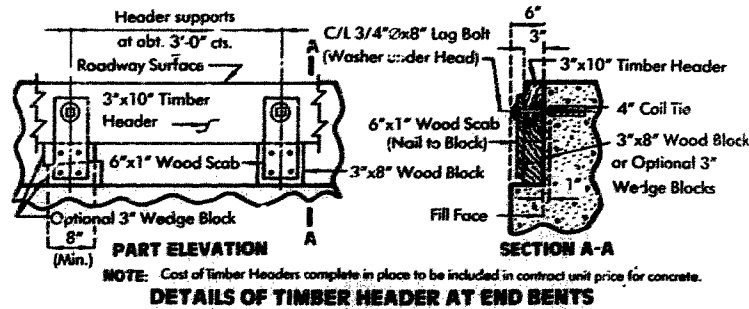
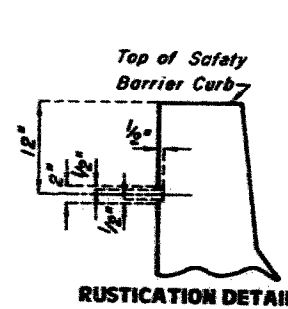
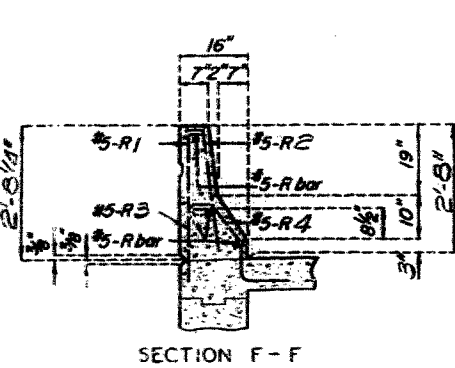
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 18 of 24.

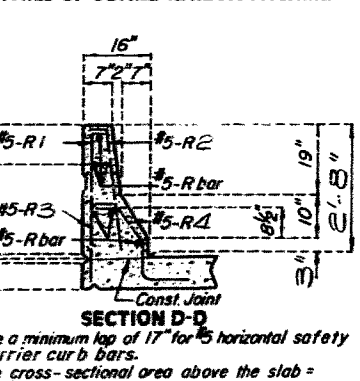
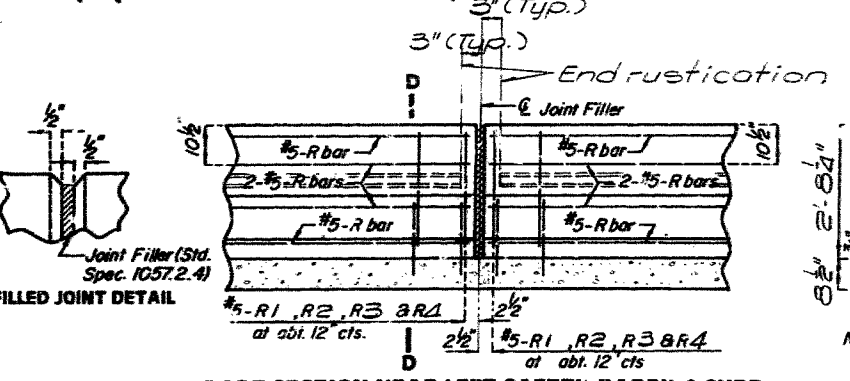
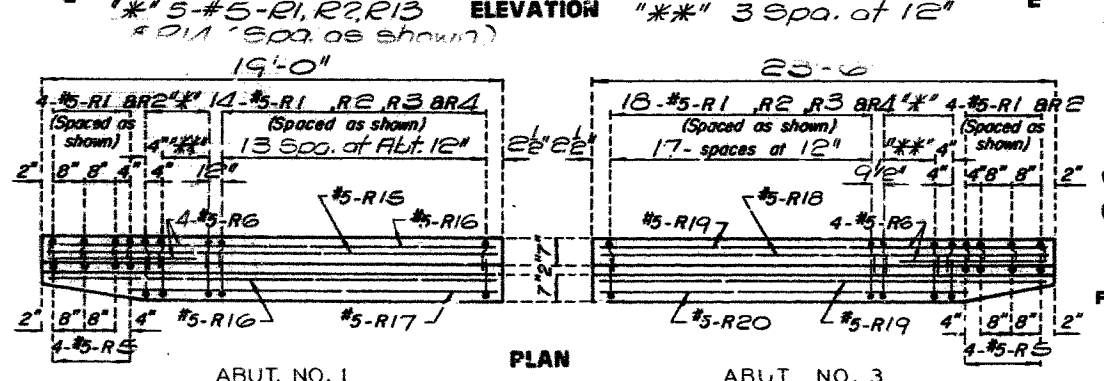
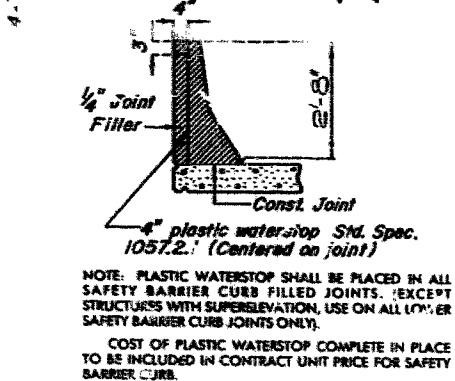
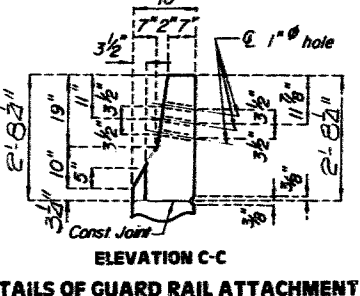
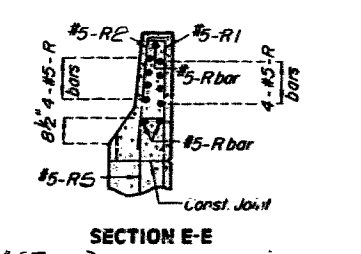
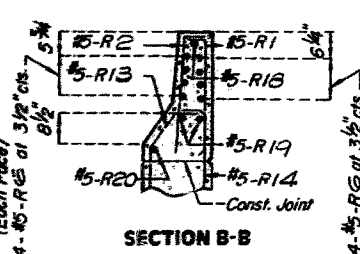
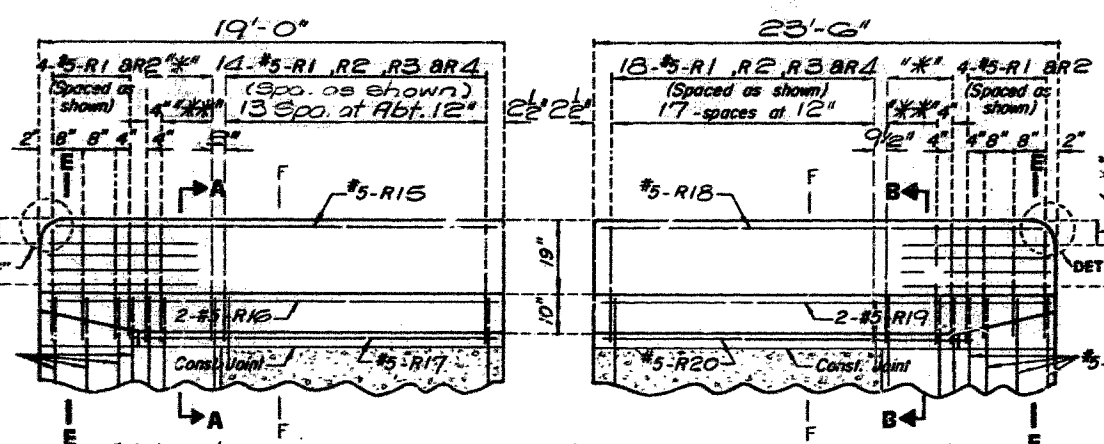
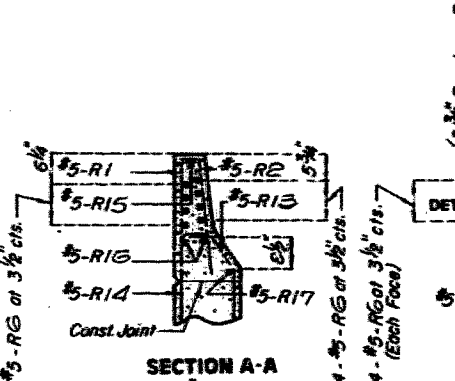
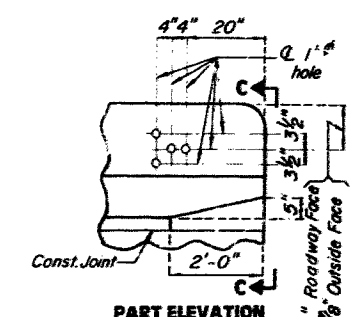
STATE	PROJ NO	SHEET NO
MO		107



Note:
 Longitudinal dimensions shown parallel to grade along outside edge of slab.
 Rustication not shown for clarity.



NOTE:
 TOP OF SAFETY BARRIER CURB SHALL BE BUILT PARALLEL TO GRADE WITH SAFETY BARRIER CURB JOINTS (EXCEPT AT END BENTS) NORMAL TO GRADE.
 ALL EXPOSED EDGES OF SAFETY BARRIER CURB SHALL HAVE EITHER A 1/2" RADIUS OR A 3/8" BEVEL, UNLESS OTHERWISE NOTED.
 WHEN THE SAFETY BARRIER CURB IS BID BY LINEAR FEET, THE CONTRACT UNIT PRICE SHALL INCLUDE THE COST OF ALL CONCRETE AND REINFORCEMENT, COMPLETE IN-PLACE.
 CONCRETE FOR THE SAFETY BARRIER CURB SHALL BE CLASS B1.
 MEASUREMENT OF SAFETY BARRIER CURB IS TO THE NEAREST LINEAR FOOT FOR EACH STRUCTURE, MEASURED ALONG THE OUTSIDE TOP OF SLAB FROM END OF WING TO END OF WING.

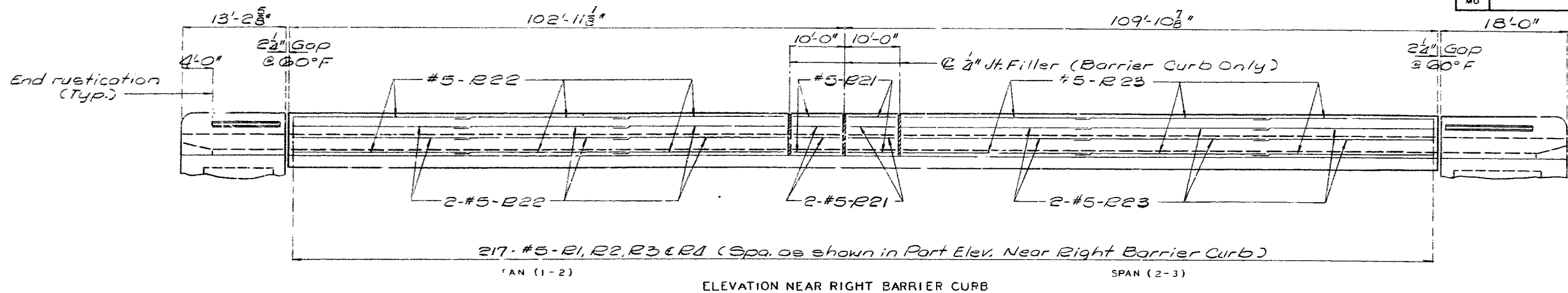


NOTE: PLASTIC WATERSTOP SHALL BE PLACED IN ALL SAFETY BARRIER CURB FILLED JOINTS. (EXCEPT STRUCTURES WITH SUPERELEVATION, USE ON ALL LOWER SAFETY BARRIER CURB JOINTS ONLY).
 COST OF PLASTIC WATERSTOP COMPLETE IN PLACE TO BE INCLUDED IN CONTRACT UNIT PRICE FOR SAFETY BARRIER CURB.

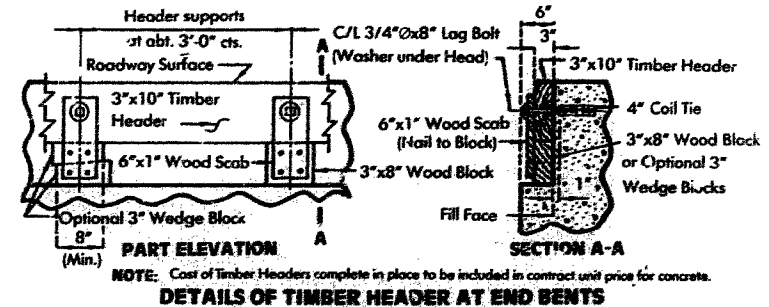
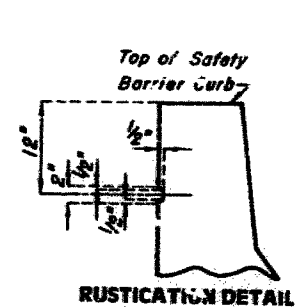
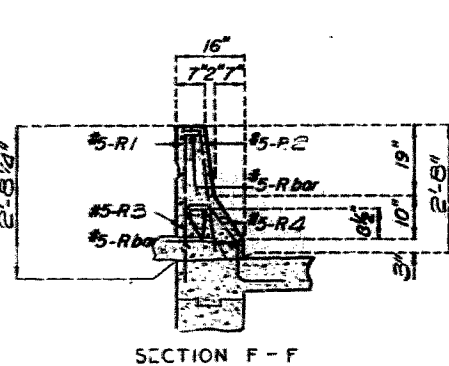
Note: Use a minimum lap of 17" for #5 horizontal safety barrier curb bars.
 The cross-sectional area above the slab = 2.27 sq. ft.

485 1024
 SPS 178(1) REVISED AUG. 1978 MAY 1987
 CHECKED July 1988
 DETAILED June 1988
 JACKSON COUNTY
 A-4738

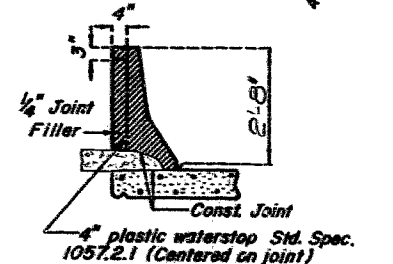
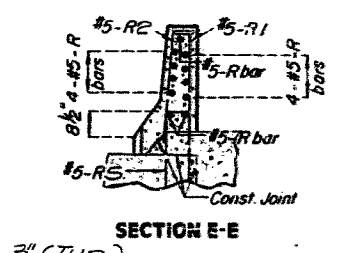
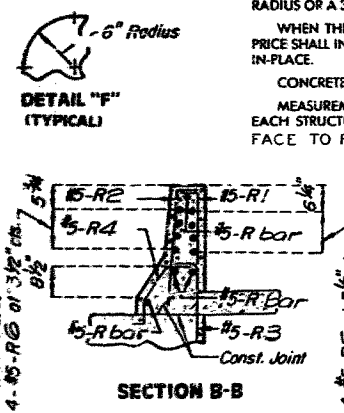
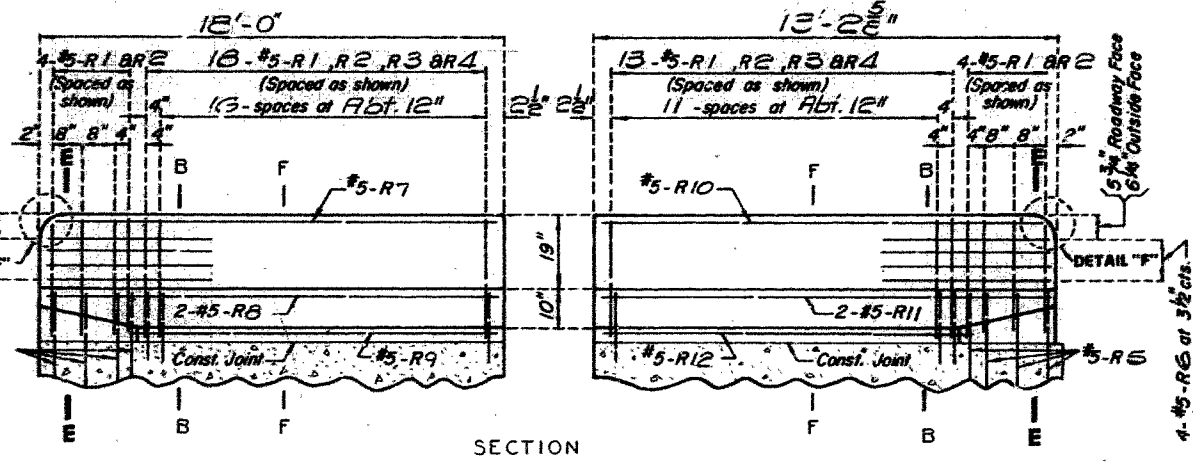
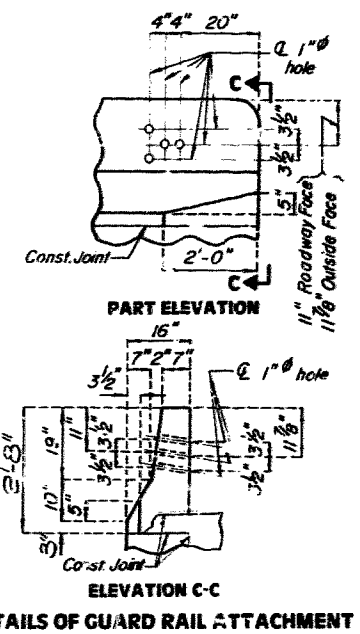
STATE	PROJ NO	SHEET NO
MO		108



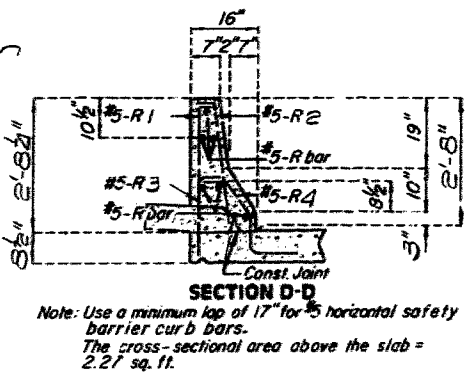
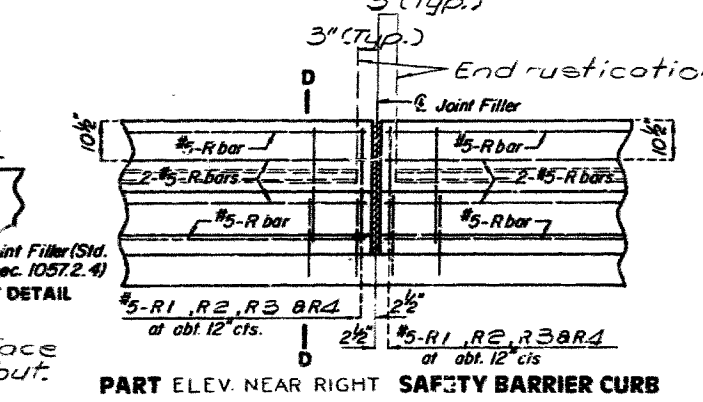
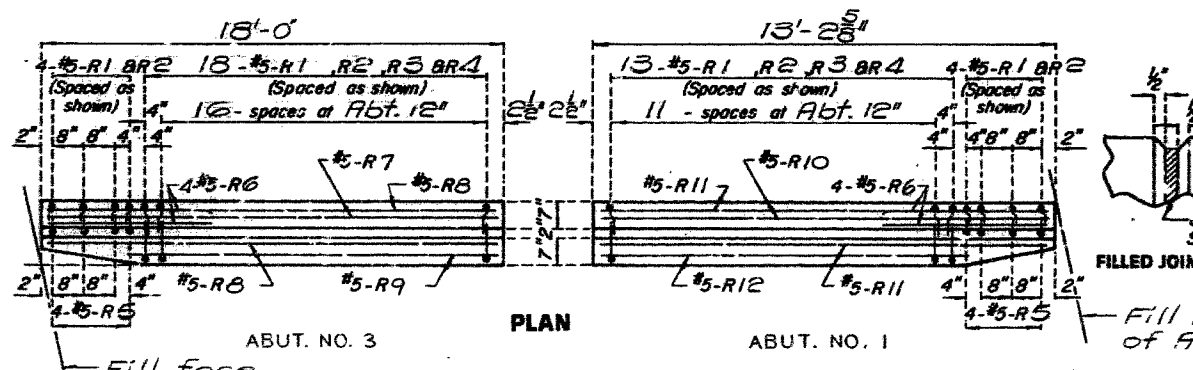
Notes:
 Longitudinal dimensions shown are parallel to grade along outside top edge of slab.
 Rustication not shown for clarity.
 Sidewalk not shown for clarity.



NOTE:
 TOP OF SAFETY BARRIER CURB SHALL BE BUILT PARALLEL TO GRADE WITH SAFETY BARRIER CURB JOINTS (EXCEPT AT END BENTS) NORMAL TO GRADE.
 ALL EXPOSED EDGES OF SAFETY BARRIER CURB SHALL HAVE EITHER A 1/2" RADIUS OR A 3/8" BEVEL, UNLESS OTHERWISE NOTED.
 WHEN THE SAFETY BARRIER CURB IS BID BY LINEAR FEET, THE CONTRACT UNIT PRICE SHALL INCLUDE THE COST OF ALL CONCRETE AND REINFORCEMENT, COMPLETE IN-PLACE.
 CONCRETE FOR THE SAFETY BARRIER CURB SHALL BE CLASS B1.
 MEASUREMENT OF SAFETY BARRIER CURB IS TO THE NEAREST LINEAR FOOT FOR EACH STRUCTURE, MEASURED ALONG THE OUTSIDE TOP OF SLAB FROM FILL FACE TO FILL FACE.



NOTE: PLASTIC WATERSTOP SHALL BE PLACED IN ALL SAFETY BARRIER CURB FILLED JOINTS. (EXCEPT STRUCTURES WITH SUPERELEVATION, USE ON ALL LOWER SAFETY BARRIER CURB JOINTS ONLY).
 COST OF PLASTIC WATERSTOP COMPLETE IN PLACE TO BE INCLUDED IN CONTRACT UNIT PRICE FOR SAFETY BARRIER CURB.



426 125
 SPS 17(B)11
 AUG. 1978
 REVISED
 MAY 1987

DETAILED June 1988
 CHECKED July 1988

DETAILS OF SAFETY BARRIER CURB AT END ABUTMENTS
 Sheet No. 21 of 24

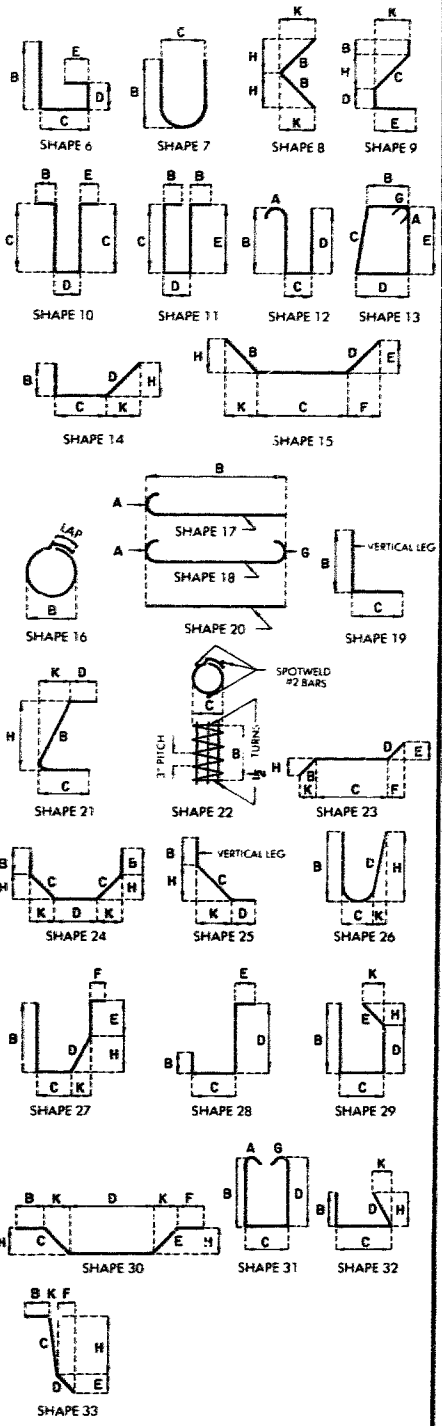
COMPLETE BILL OF REINFORCING STEEL

COMPLETE BILL OF REINFORCING STEEL

Table with columns: NO REQ, MARK NO, LOCATION, DIMENSIONS (B, C, D, E, F, H, K), NOMINAL LENGTH, ACTUAL LENGTH, WEIGHT. Includes substructure and abutment details.

Table with columns: NO REQ, MARK NO, LOCATION, DIMENSIONS (B, C, D, E, F, H, K), NOMINAL LENGTH, ACTUAL LENGTH, WEIGHT. Includes footing, column, and beam details.

Table with columns: STATE, PROJ NO, SHEET NO. Values: MO, [blank], 109.

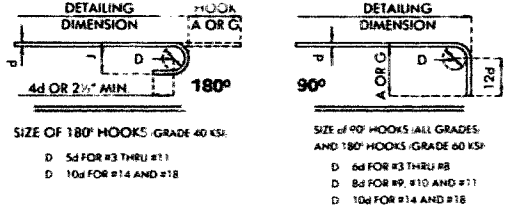


BENDING DIAGRAMS

NOTES: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS. HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

Table: END HOOK DIMENSIONS. Columns: BAR SIZE, D (IN.), 180° HOOKS ALL GRADES, 90° HOOKS ALL GRADES.

Table: STIRRUP HOOK DIMENSIONS. Columns: BAR SIZE, D (IN.), 90° HOOK, 135° HOOK.

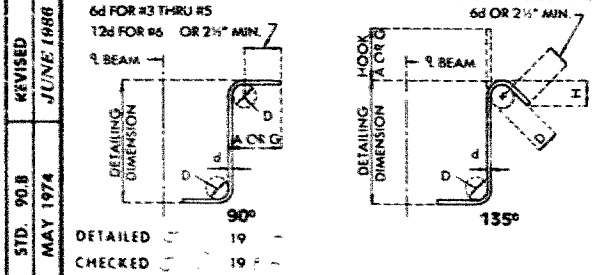


NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.

Note: This drawing is not to scale. Follow dimensions.

Note: Two (2) additional #2s and #5s are included in bar bill for testing.

Handwritten notes: 186, 487



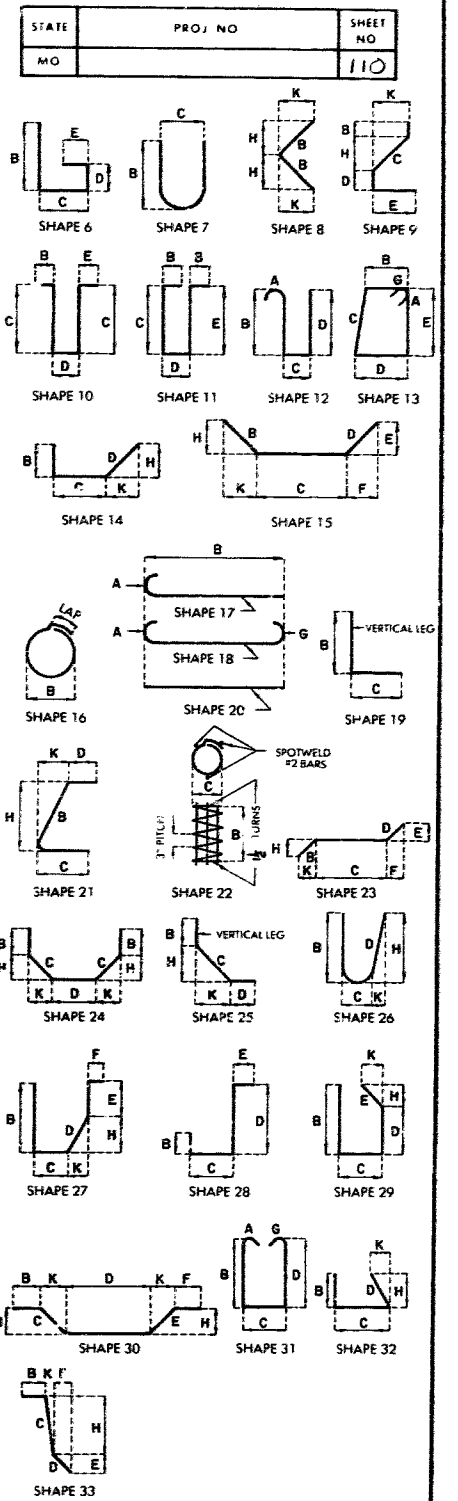
REVISED JUNE 1988, MAY 1974

COMPLETE BILL OF REINFORCING STEEL

COMPLETE BILL OF REINFORCING STEEL

Table with columns: NO REQD, MARK NO, LOCATION, DIMENSIONS (B, C, D, E, F, H, K), NOMINAL LENGTH, ACTUAL LENGTH, WEIGHT. Includes items like 4M34 WING, 5M33 WING, etc.

Table with columns: NO REQD, MARK NO, LOCATION, DIMENSIONS (B, C, D, E, F, H, K), NOMINAL LENGTH, ACTUAL LENGTH, WEIGHT. Includes items like 4S19 SLAB, 5S16 SLAB, etc.



Handwritten number 127

Handwritten number 488

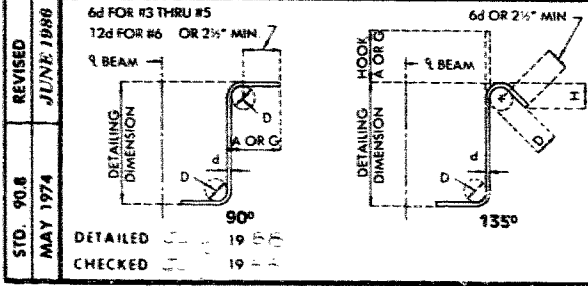
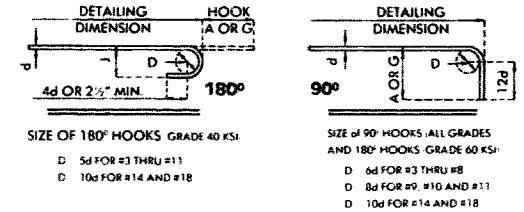


Table for STIRRUP HOOK DIMENSIONS, GRADES 40-50 KSI, listing bar size, hook angle, and dimensions.

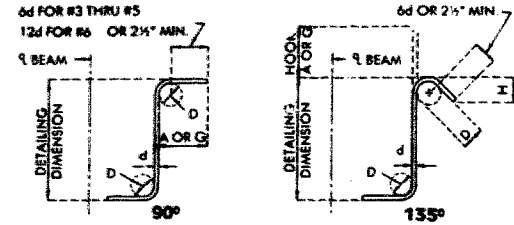


END HOOK DIMENSIONS table with columns for BAR SIZE, D (IN.), 180° HOOKS, and 90° HOOKS.

NOTES: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.

STD. 90.8 MAY 1974

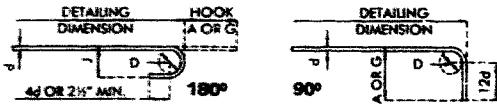
REVISOR JUNE 1988



STIRRUP HOOK DIMENSIONS				
GRADES 40-50-60 KS				
BAR SIZE	D (IN.)	90° HOOK		135° HOOK
		A OR G	A OR G	H
#3	1 1/4"	4"	4"	2 1/2"
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 1/2"
#6	4 1/4"	12"	7 3/4"	4 1/2"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.

END HOOK DIMENSIONS					
BAR SIZE	D (IN.)	180° HOOKS		90° HOOKS	
		ALL GRADES			ALL GRADES
		A OR G	J	A OR G	
#3	2 1/4"	5"	3"	6"	
#4	3"	6"	4"	8"	
#5	3 3/4"	7"	5"	10"	
#6	4 1/2"	8"	6"	12"	
#7	5 1/4"	10"	7"	14"	
#8	6"	11"	8"	16"	
#9	9/8"	15"	11 1/4"	19"	
#10	10 1/4"	17"	13 1/4"	22"	
#11	12"	19"	14 1/2"	24"	
#14	18 1/2"	27 3/4"	21 3/4"	27"	



SIZE OF 180° HOOKS (GRADE 40 KS):
 D - 5d FOR #3 THRU #11
 D - 10d FOR #14 AND #18

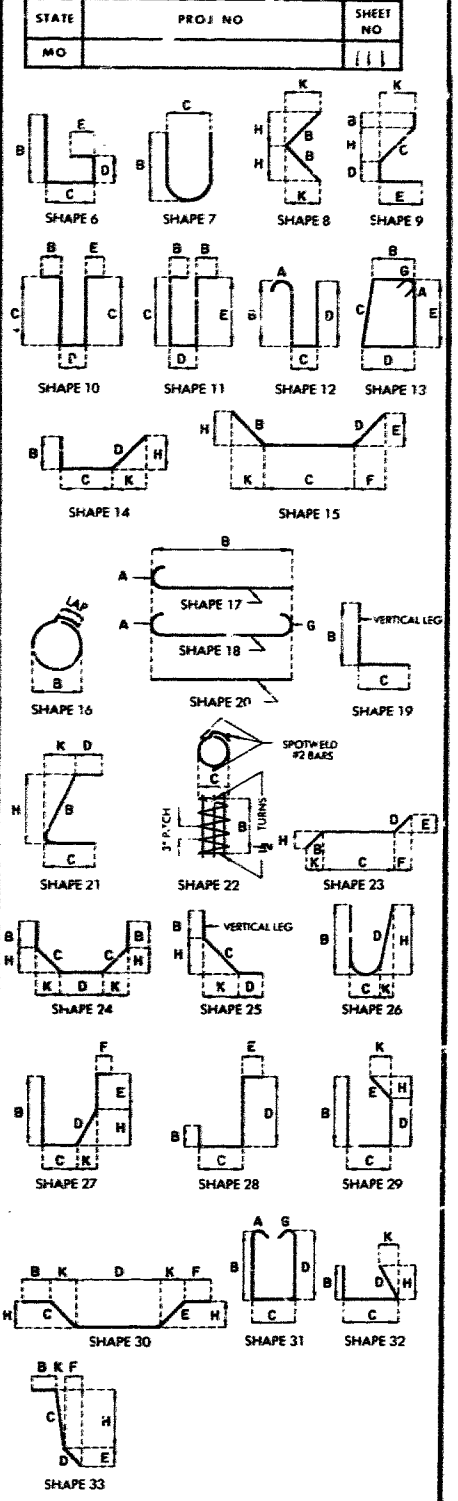
SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KS):
 D - 5d FOR #3 THRU #5
 D - 6d FOR #6, #10 AND #11
 D - 10d FOR #14 AND #18

NOTES:

- ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
- HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
- E - EPOXY COATED REINFORCEMENT.
- S - STIRRUP.
- X - BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
- V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
- NO. EA. - NUMBER OF BARS OF EACH LENGTH.
- NOMINAL LENGTHS - ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE (NEAREST INCH).
- ACTUAL LENGTHS - ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
- PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO.	LOCATION	EPOXY	SHAPE NO.	STIRRUP	SUBSTR.	VARIES	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT			
									B	C	D	E	F	H	I						
									FT.	IN.	FT.	IN.	FT.	IN.	FT.				IN.	FT.	IN.
		ARRIER CURB																			
523	SR1	ARRIER CURB	E	19	S				2	6.000	3.500				2	10	2	8	1455		
523	SR2	ARRIER CURB	E	15	S				2	6.125	3.500				2	6.000	2	17	2	9	1495
497	SR3	ARRIER CURB	E	19	S					17.000	6.000					23	22			950	
497	SR4	ARRIER CURB	E	27	S					6.000	11.125	7.000	12.000	9.125	6.375	3	0	2	10	2449	
16	SR5	ARRIER CURB	E	10	S					2	0.000	7.000				4	7	4	5	76	
32	SR6	ARRIER CURB	E	20	S					9	0.000					5	0	5	0	167	
1	SR7	ARRIER CURB	E	20	S					17	5.000					17	5	17	5	18	
2	SR8	ARRIER CURB	E	20	S					17	9.000					17	9	17	9	38	
1	SR9	ARRIER CURB	E	20	S					16	0.000					16	0	16	0	17	
3	SR10	ARRIER CURB	E	20	S					12	7.000					12	7	12	7	39	
2	SR11	ARRIER CURB	E	20	S					12	11.000					12	11	12	11	27	
1	SR12	ARRIER CURB	E	20	S					11	2.000					11	2	11	2	12	
10	SR13	ARRIER CURB	E	27	S							6.000	11.125	19.000	9.125	6.375	3	0	2	11	30
10	SR14	ARRIER CURB	E	19	S					2	7.000	6.000				3	1	3	0	31	
1	SR15	ARRIER CURB	E	20	S					18	5.000					18	5	18	5	19	
2	SR16	ARRIER CURB	E	20	S					18	9.000					18	9	18	9	39	
1	SR17	ARRIER CURB	E	20	S					17	0.000					17	0	17	0	18	
1	SR18	ARRIER CURB	E	20	S					22	11.000					22	11	22	11	24	
2	SR19	ARRIER CURB	E	20	S					23	3.000					23	3	23	3	46	
1	SR20	ARRIER CURB	E	20	S					21	6.000					21	6	21	6	22	
24	SR21	ARRIER CURB	E	20	S					9	9.000					9	9	9	9	244	
36	SR22	ARRIER CURB	E	20	S					32	9.000					32	0	32	0	1202	
36	SR23	ARRIER CURB	E	20	S					34	4.000					34	4	34	4	1209	
		END OF BAR LIST																			



BENDING DIAGRAMS

479 128

STD. 90.5
 MAY 1974
 REVISED
 JUNE 1986
 DETAILED July 19 88
 CHECKED July 19 88

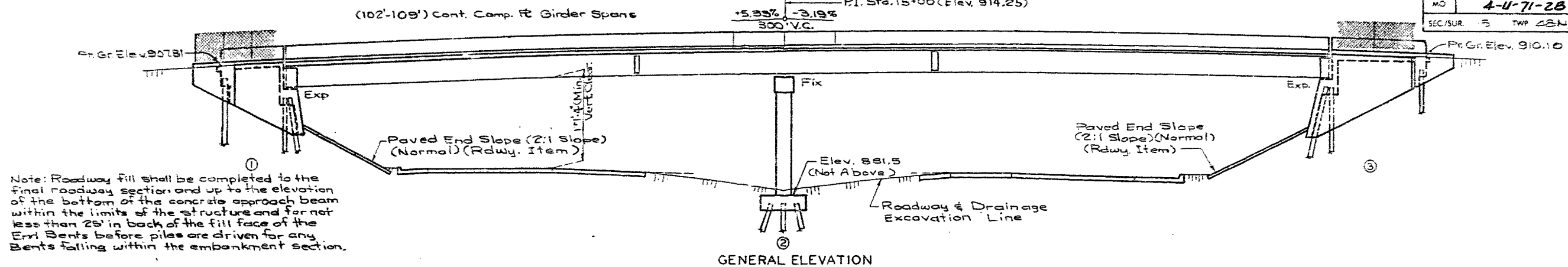
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 20 of 20.

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

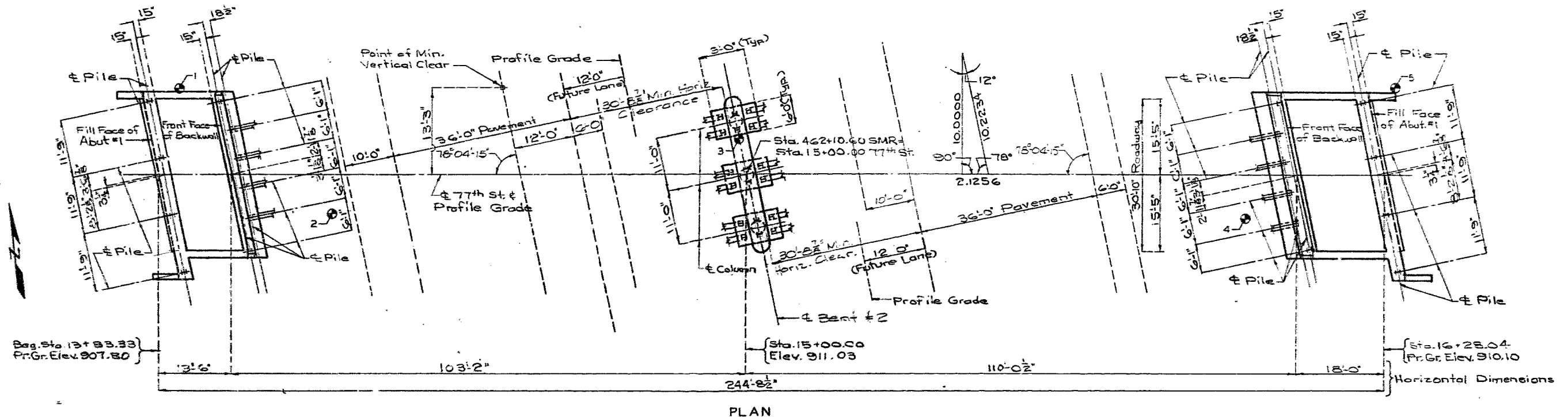
FINAL PLANS

STATE	PROJ. NO.	SHEET NO.
MO	4-U-71-2B	88
SEC./SUR.	5 TWP 28N RGE 33W	



Note: Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom of the concrete approach beam within the limits of the structure and for not less than 25' in back of the fill face of the End Bents before piles are driven for any Bents falling within the embankment section.

GENERAL ELEVATION



PLAN

Note: For Boring Data see sheet No. 2. \odot Indicates locations of boring.

GENERAL NOTES:

Design Specifications: A.A.S.H.T.O. 1983 and Interims thru 1984, 1985, 1986 & 1987 LOAD FACTOR DESIGN

Design Loading:

- H520-44
- 25' sq. ft. Future Wearing Surface
- Earth 120#/cu.ft., Equivalent Fluid Pressure 45#/cu.ft.
- Fatigue Stress-Case II

Design Unit Stresses:

- Class B Concrete (Substructure) $f_c = 3,000$ psi
- Class B1 Concrete (Safety Barrier Curb) $f_c = 4,000$ psi
- Class B2 Concrete (Superstructure, Safety Barrier Curb) $f_c = 4,000$ psi
- Reinforcing Steel (Grade 60) $f_y = 60,000$ psi
- Structural Carbon Steel $f_y = 36,000$ psi
- Structural Steel (A.S.T.M. A572) Grade 50 $f_y = 50,000$ psi
- Steel Pile $f_b = 3,000$ psi

Fabricated Steel Connections:

- Field connection, High Strength Bolts $\frac{3}{4}$ " ϕ , holes $\frac{1}{8}$ " ϕ , except as noted.

Note: Refer for piles of approach beam Bt #1, Bt #2 & Bt #3 to Elev. 893.00, 868.5 and 887.00 respectively.

- Joint Filler: All joint filler shall meet the requirements of Std. Spec. 1057.2A, except as noted.
- Reinforcing Steel: Minimum clearance to reinforcing steel shall be $\frac{1}{2}$ ", unless otherwise shown.
- Paint: System C by contractor in accordance with Std. Spec. 712.12. (Color of the final field-coat shall be green.)

BENT NO.	PILE DATA					
	1		2		3	
Location	App. Em.	Str. Em.	Footings	App. Em.	Str. Em.	
Pile Type and Size			HPI0x12			
Number	4	6	18	2	6	
Approximate Length	23	32	13	25	28	
Design Bearing	Tons	26	50	30	54	
Hammer Energy Required	Ft.Lbs.	11000	12400	11700	7000	

Minimum energy requirement of hammer is based on plan length and design bearing value of piles. All piles shall be driven to practical refusal.

B.M. Elev. 912.49 \square top of wing Bt #3

BRIDGE: 77 ST. OVER SOUTH MIDTOWN ROADWAY

STATE ROAD FROM 75th St to 85th STREET
IN KANSAS CITY

PROJECT NO. JACKSON
JOB NO. 4-U-71-2B

STA. 462+10.60
RTE. 71
COUNTY

STD. 611.60
STD. 706.35
A-4738

DESIGNED FEBRUARY 1988
DETAILED MARCH 1988
CHECKED July 1988

Note: This drawing is not to scale. Follow dimensions.

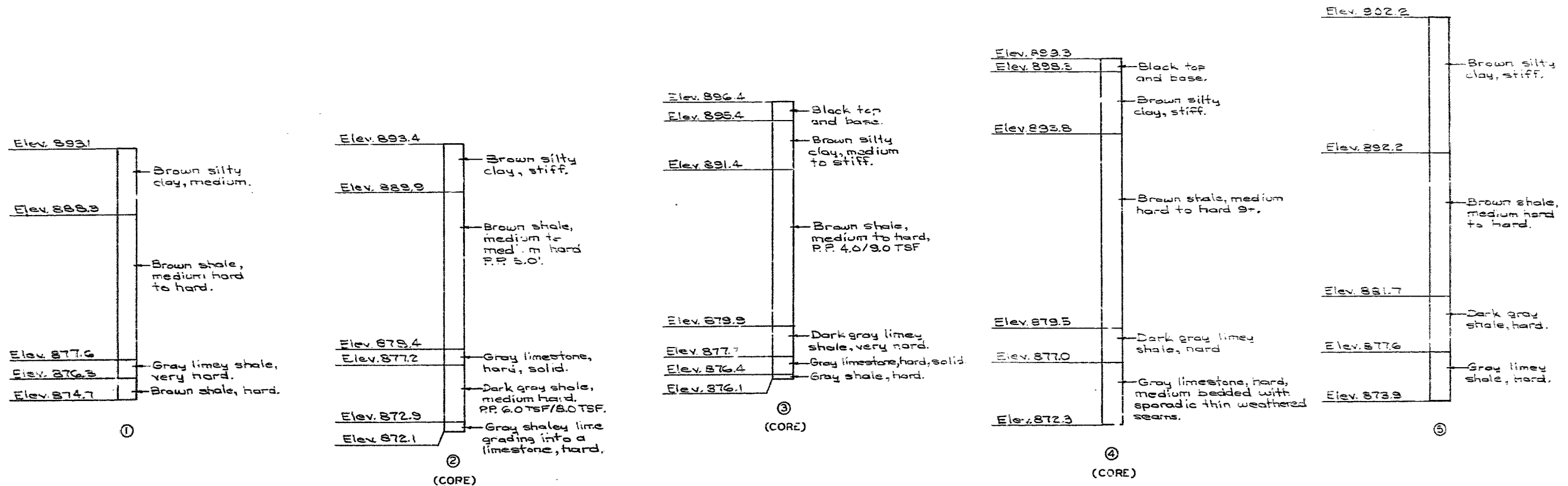
Sheet No. 1A of 24

DATE 7/25/88

486129

STATE	PROJ. NO.	SHEET NO.
MO	4-U-71-2B	89

FINAL PLANS



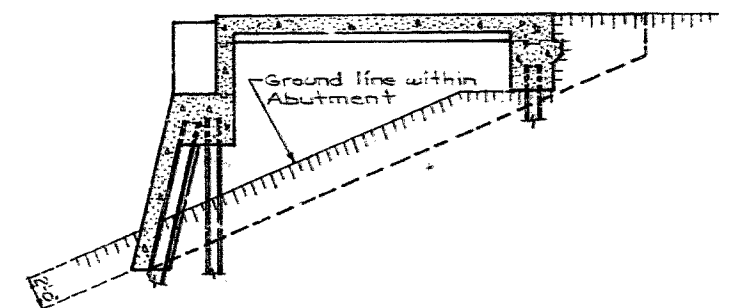
BORING DATA

Note: For location of borings see sheet No. 1.

TYPE OF SLAB	SLAB ON STEEL		
	REINF. (LBS.)		
	PLAIN	EPOXY	
Cast-In-Place Conventional Forms	0	61,210	195.6
Precast Panel Forms	0	23,070	141.8
Stay-In-Place Forms	0	61,410*	185.6*

Note: The Table of Estimated Quantities for Alternate Slabs represents the quantities used by the State in preparing the cost estimate for concrete slabs. Variations may be encountered in these estimated quantities but these variations cannot be used for an adjustment in the Contract Unit Price per square yard of Alternate Slab used. See Special Provisions for alternate methods of forming slabs.

* Does not include concrete required to fill corrugations of S.I.P. forms.
 * Does not include reinforcing bars used as bar supports.
 Precast panel quantities are based on skewed and panels.



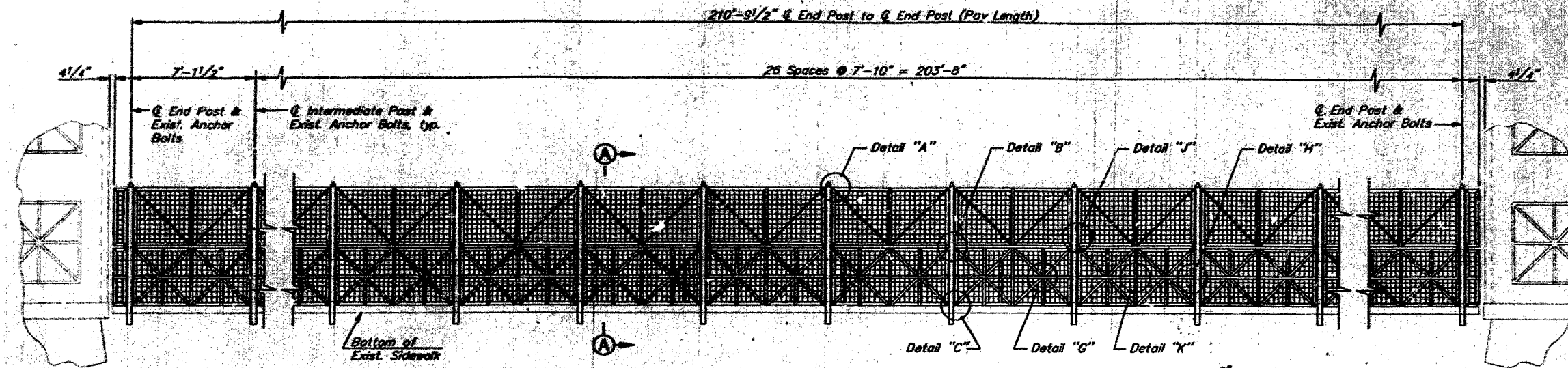
GROUND LINE AND PILING IN ABUTMENTS

Note: In no case shall the earth within Abutments No. 1 and 3 be above the Ground Line shown. Forms supporting the Abutment slab may be left in place. The maximum variation of the peak of the pile and the battered face of the pile from the position shown on the plans shall be not more than 2 inches for pile under Abutments No. 1 and 3. Exposed steel piles within the Abutment shall be coated with a heavy coating of an approved bituminous paint.

FINAL QUANTITIES				
ITEM		SUBSTR.	SUPERSTR.	TOTAL
Class 1 Excavation /	Cu. Yd.	207		207
1/2 in. Pedestrian Fence /	Lin. Ft.		255	255
Structural Steel Pile (10') /	Lin. Ft.	838		838
Pre-Bore For Piling /	Lin. Ft.	380		380
Class B Concrete /	Cu. Yd.	156.5		156.5
() Slab On Steel (See Spec. Provisions) /	Sq. Yd.		792	792
Safety Barrier Curb /	Lin. Ft.		500	500
Slab On Semi-Deep Abutment /	Sq. Yd.		117	117
Sidewalk /	Sq. Ft.		1099	1099
Laminated Neoprene Sg. Pads (Steel Structures) /	Sq. Ft.		12	12
Preformed Compression Exp. Jt. Seal (3.5 in) /	Lin. Ft.		63	63
Reinforcing Steel (Grade 60) /	Lb.	15,780		15,780
Reinforcing Steel (Epoxy Coated) /	Lb.	2,690		2,690
Fabricated Structural Carbon Steel (Plate Gdr.) /	Lb.		156,960	156,960
Fabricated Structural Low Alloy Steel (Plate Gdr.) /	Lb.		35,110	35,110
Slab Drains /	Each		12	12
Painting (System C) Green /	Ton		95.6	95.6

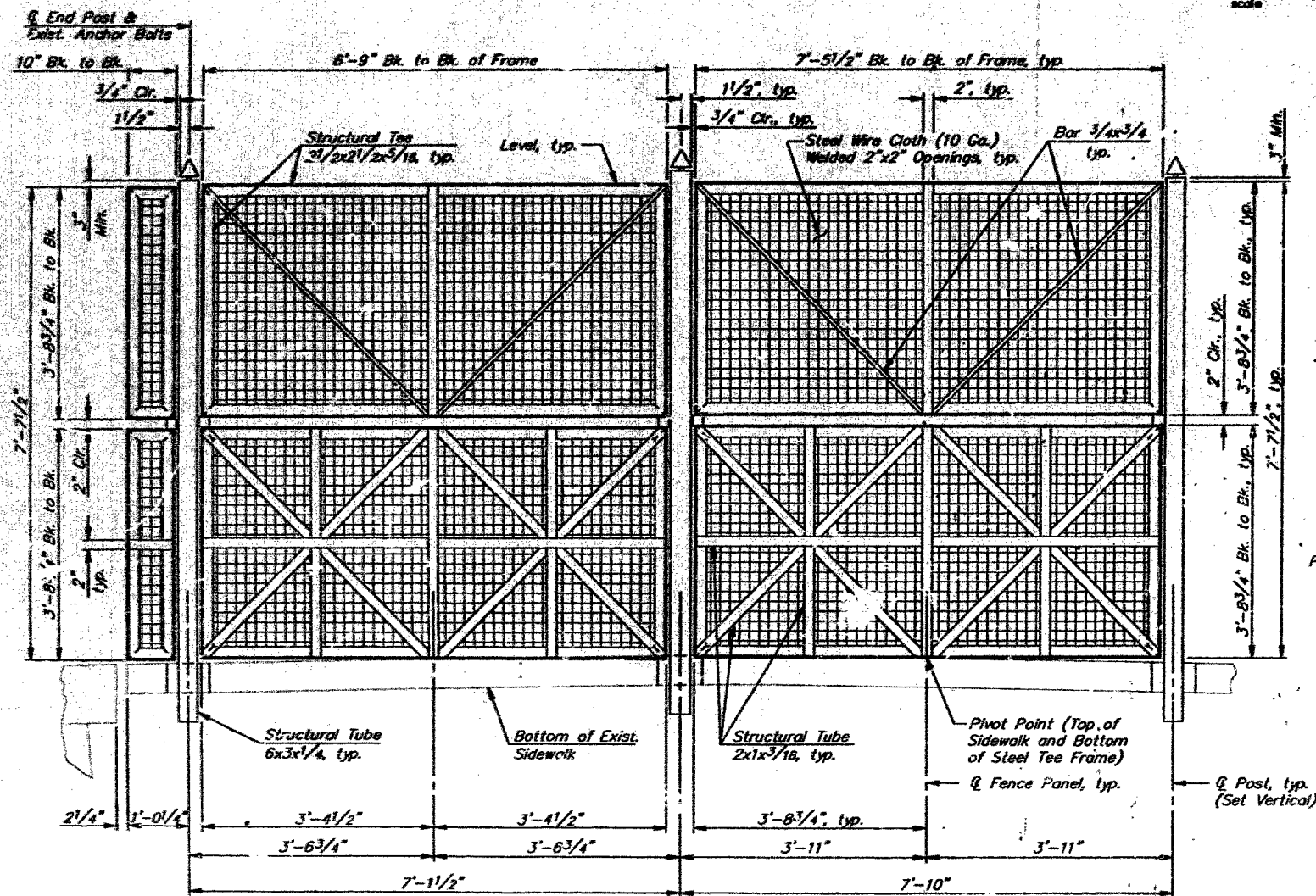
Note: All concrete and reinforcing steel below top of slab and above Const. Joint under slab in Semi-Deep Abutments are included in superstructure quantities for Slab on Semi-Deep Abutments.
 All concrete and reinforcing steel in the sidewalk are included in the superstructure quantities for sidewalks.

407/30



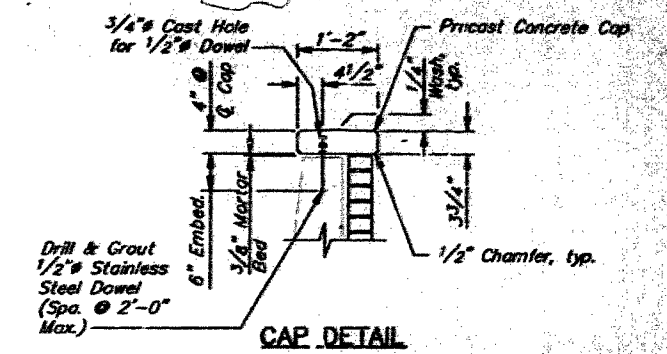
ELEVATION (Looking North)

1/4" = 1'-0" scale feet



PART FENCE PANEL ELEVATION

3/4" = 1'-0" scale feet

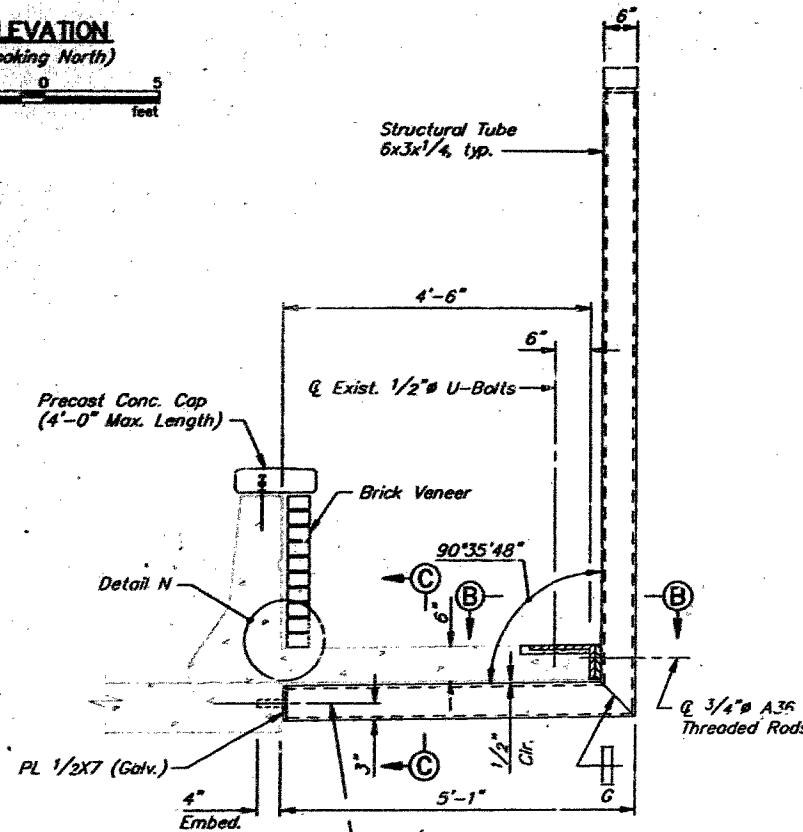


CAP DETAIL

No Scale

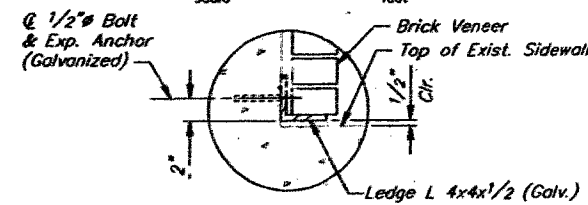
Notes:

- The contract unit price per linear foot of pedestrian fence (painted) shall include furnishing and erecting the fence and frame complete with all brackets, shims, anchor bolts, nuts and washers.
- The Contractor shall carefully remove the existing fence so as not to damage the existing anchor bolts. Existing anchor bolts not used in the erection of the pedestrian fence shall be removed to a depth of 1 inch below the top of the existing concrete. Holes shall be filled with an approved non-shrink epoxy grout.
- The Contractor shall remove the existing sidewalk concrete, within the limits shown, and place elastomeric concrete in accordance with the manufacturer's recommendations. Elastomeric concrete shall be WABOCRETE as manufactured by Watson Bowman Associates, Inc. or approved equal. Complete all connection welds prior to installing elastomeric concrete. Provide vent holes in top connection plates as required to insure that the entire void is filled. This work shall be considered subsidiary to the bid item "Pedestrian Fence (Steel)".
- All structural steel bars, plates, and shapes shall meet ASTM A36 requirements.
- All structural steel tubing shall meet ASTM A500, Grade B requirements.
- Expansion anchors shall conform to the Special Provisions. The Contractor shall verify the location of all drilled holes with the aid of a pachometer.
- (No separate payment)
- For details not shown, see Sheet 8.
- For additional Notes, see "General Notes", Sheet 2.



SECTION A-A

3/4" = 1'-0" scale feet



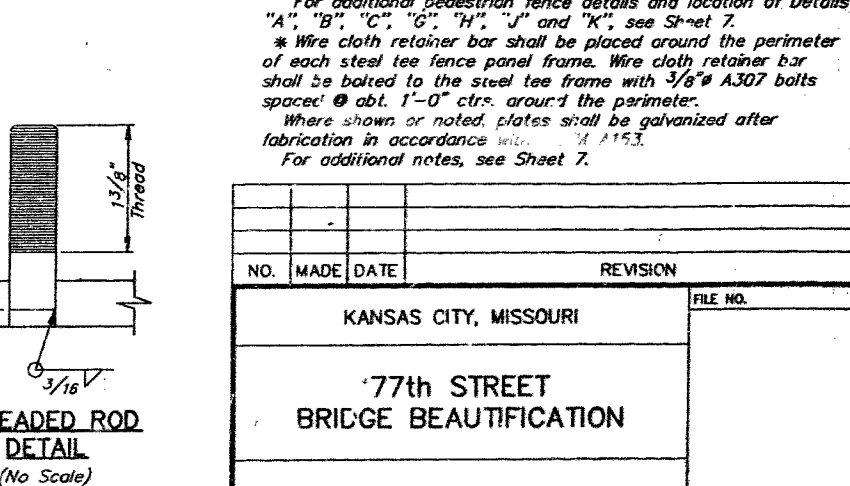
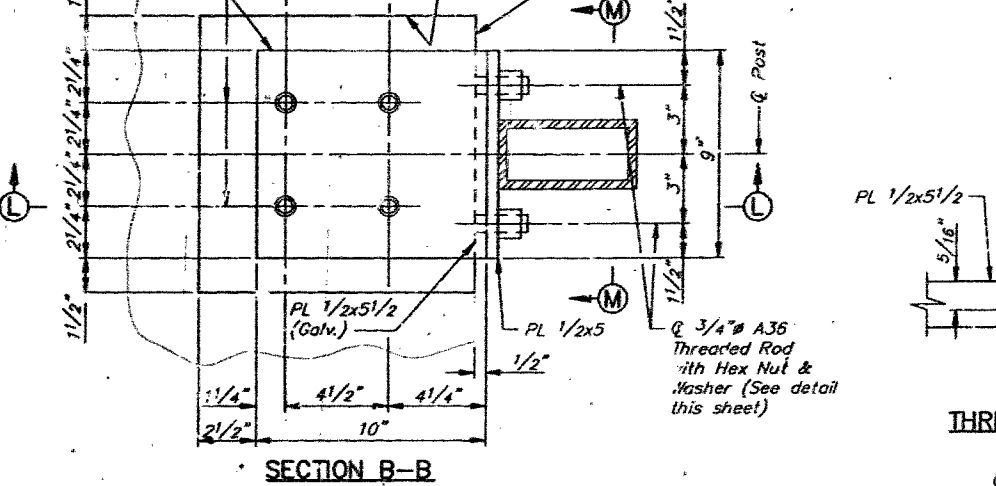
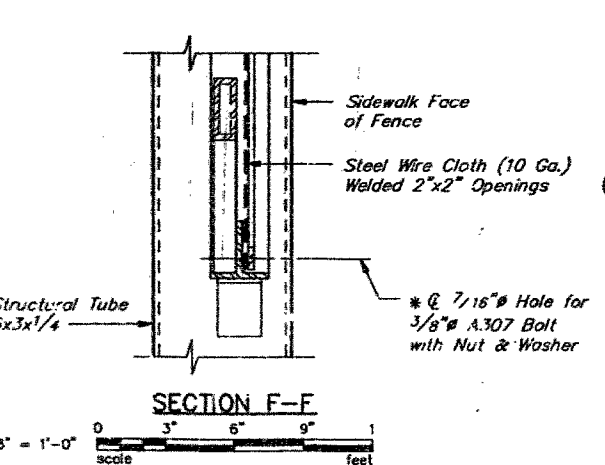
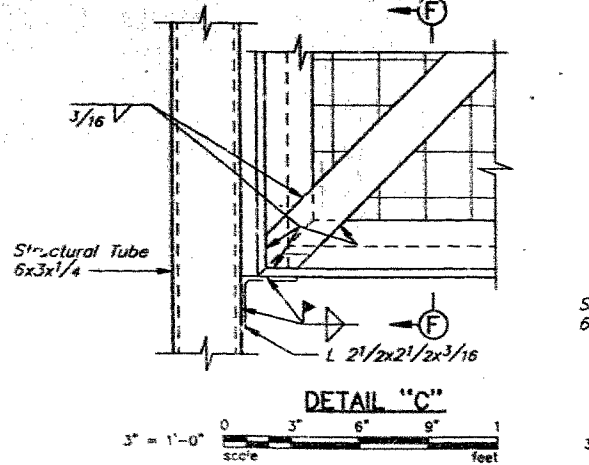
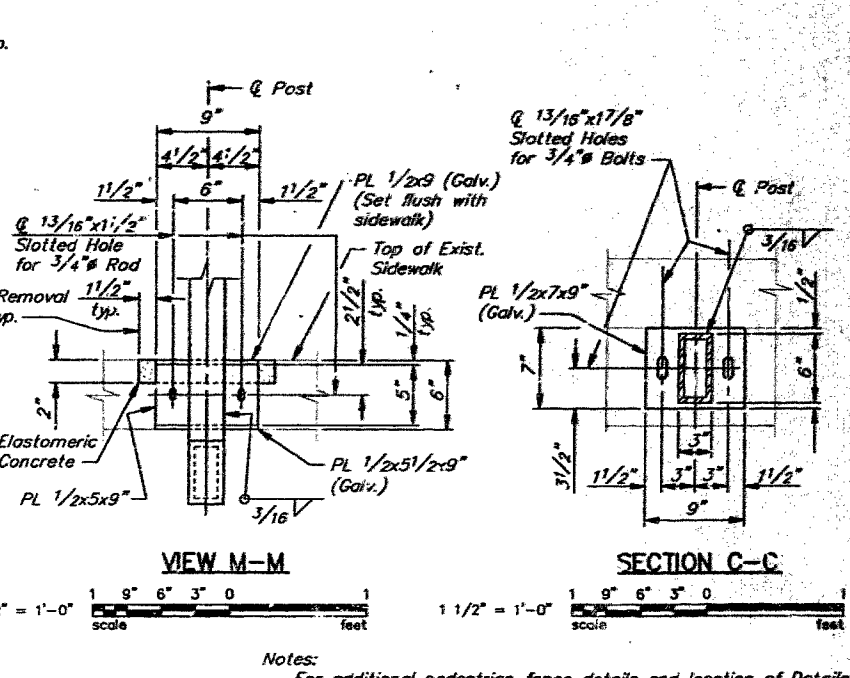
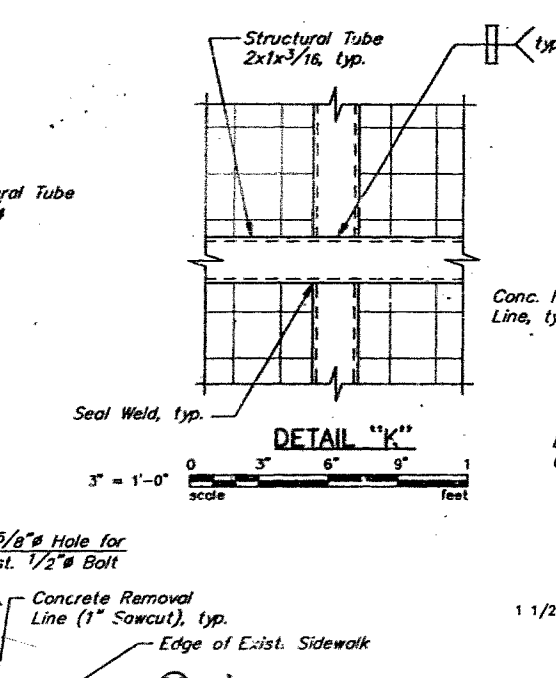
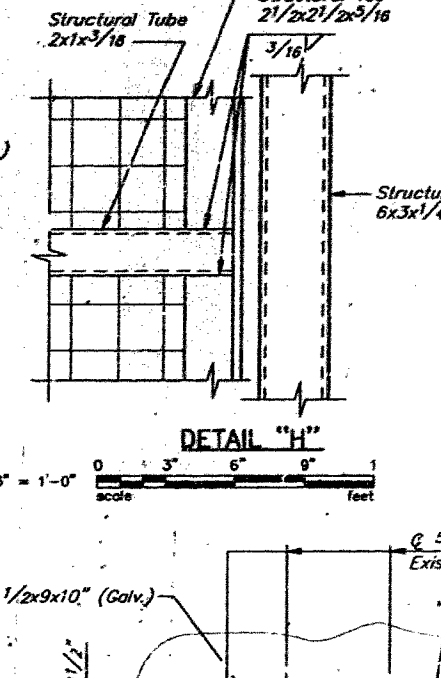
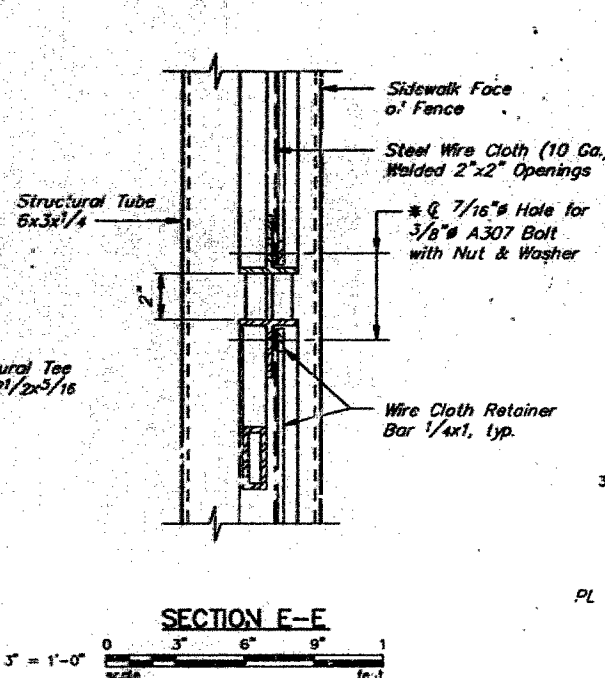
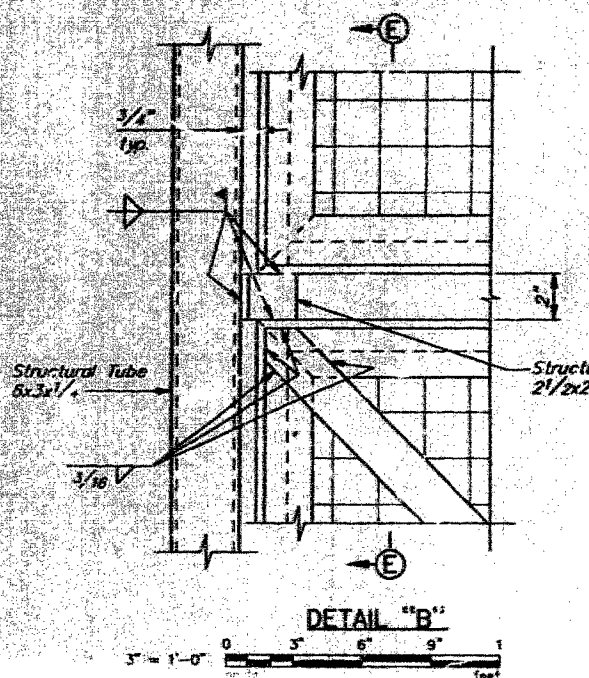
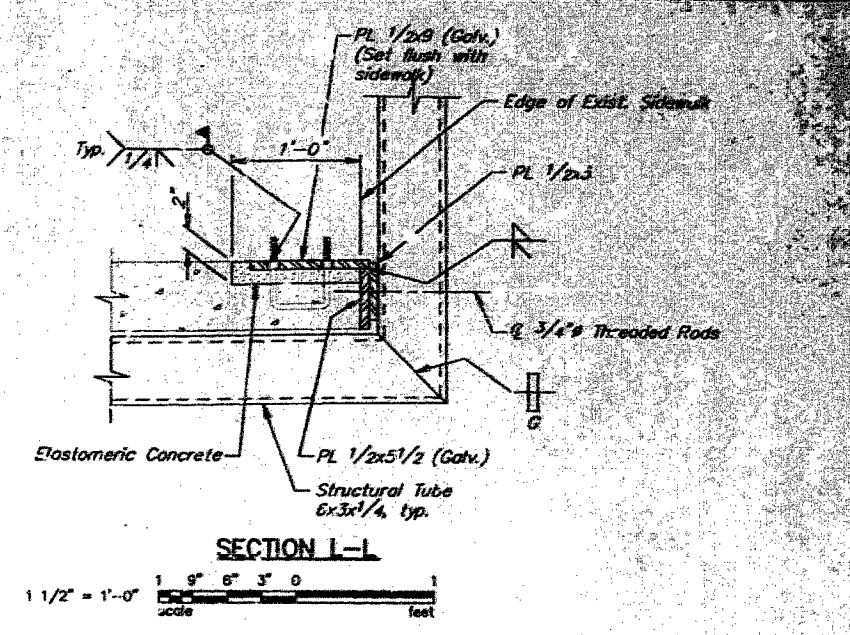
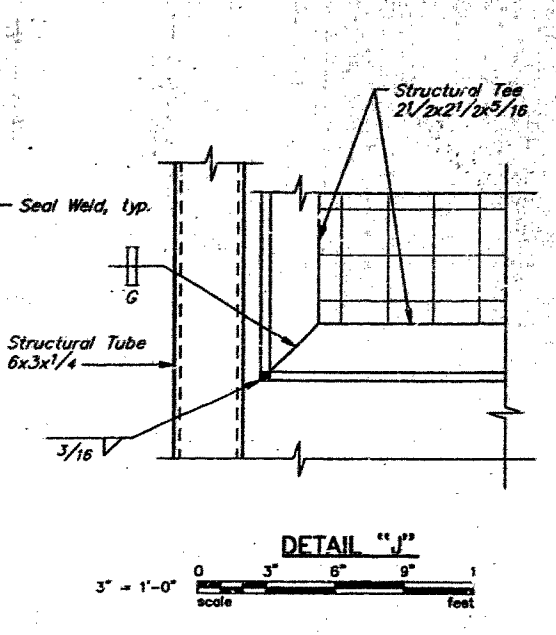
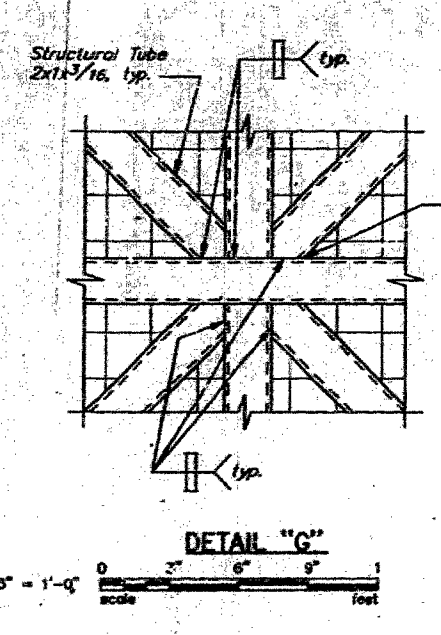
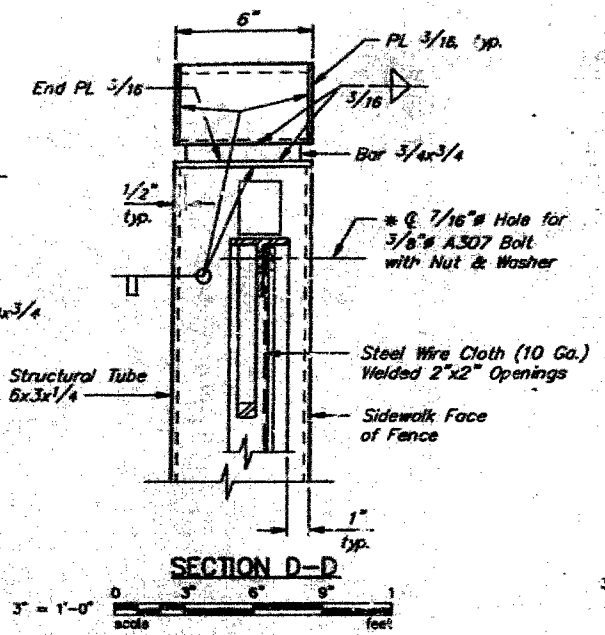
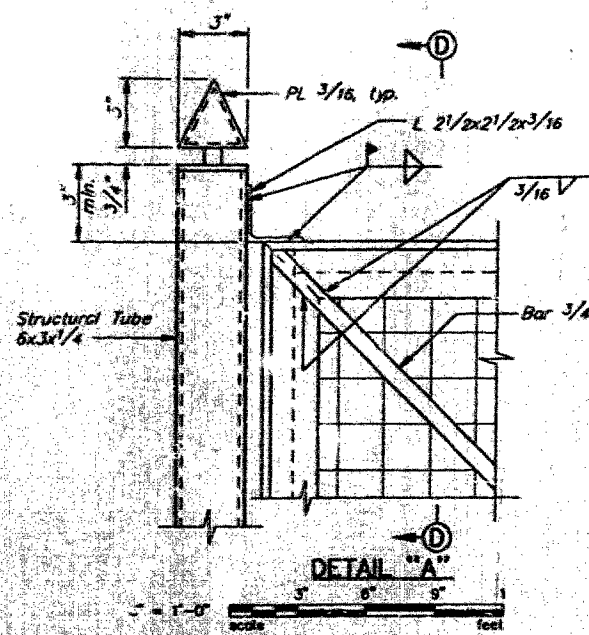
DETAIL N

No Scale

NO.	MADE	DATE	REVISION	FILE NO.
KANSAS CITY, MISSOURI				
77th STREET BRIDGE BEAUTIFICATION				
PEDESTRIAN FENCE DETAILS				
DWN: TAH			SHEET	
CHK: SCW			7	
DATE: 2/27/85				

JACKSON COUNTY A-4738

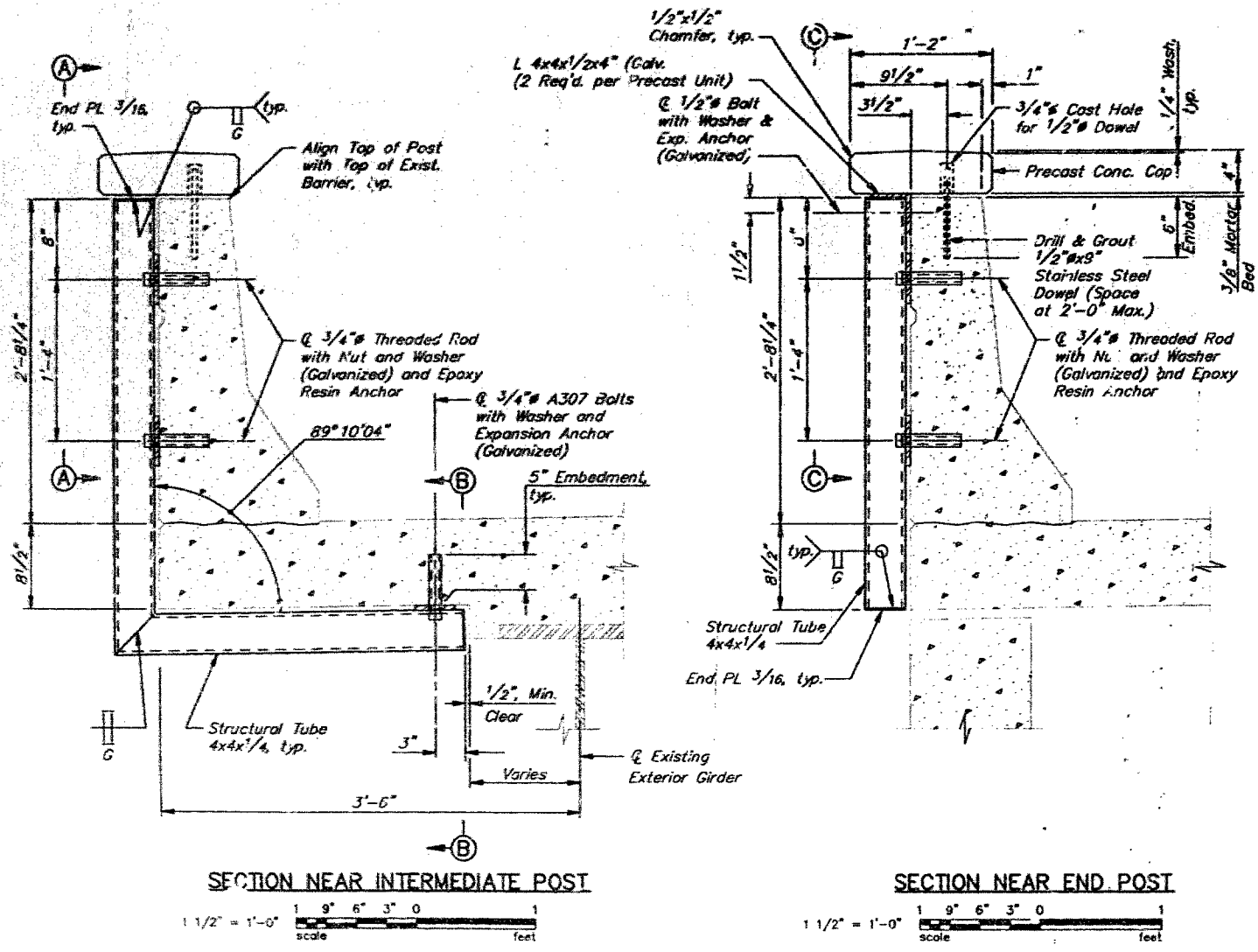
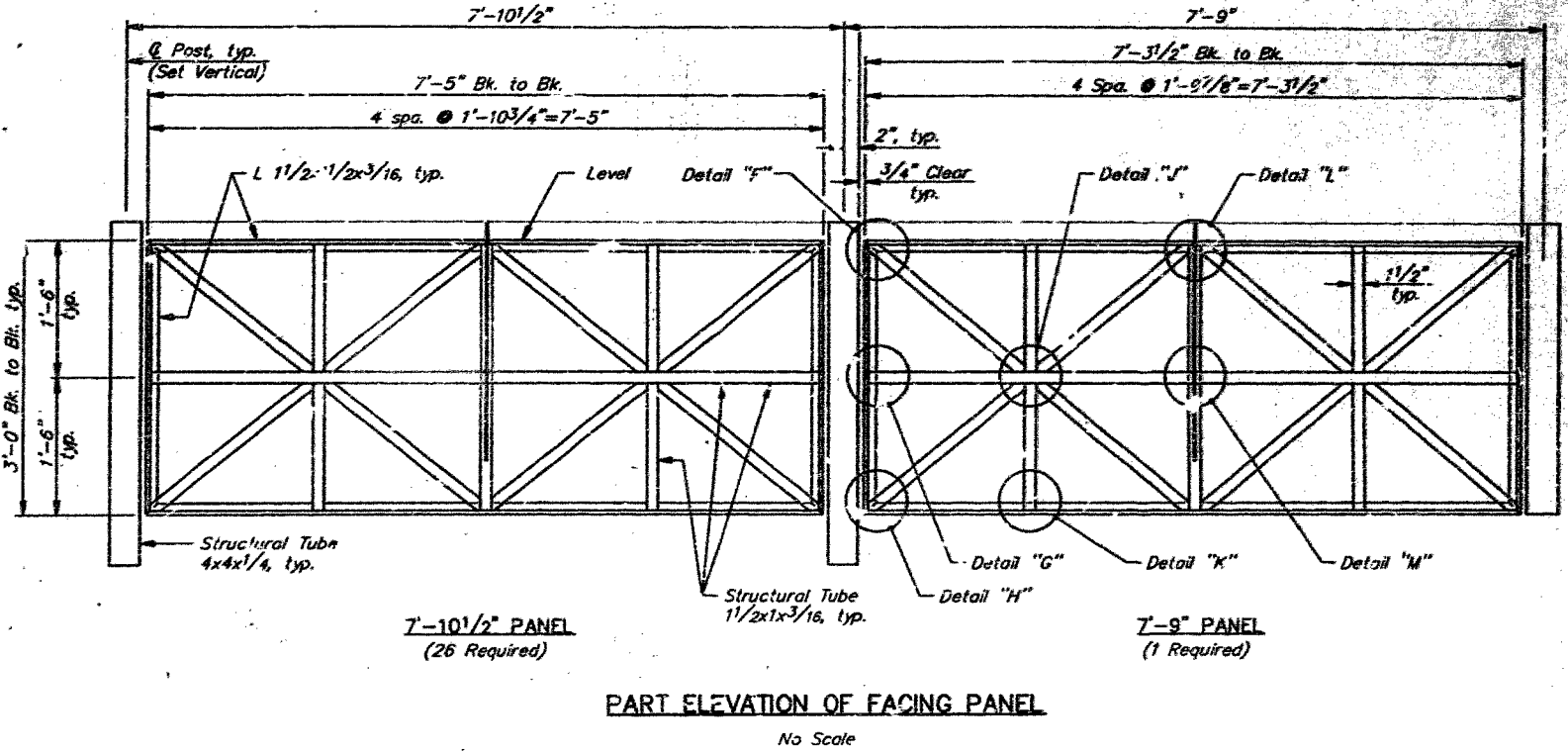
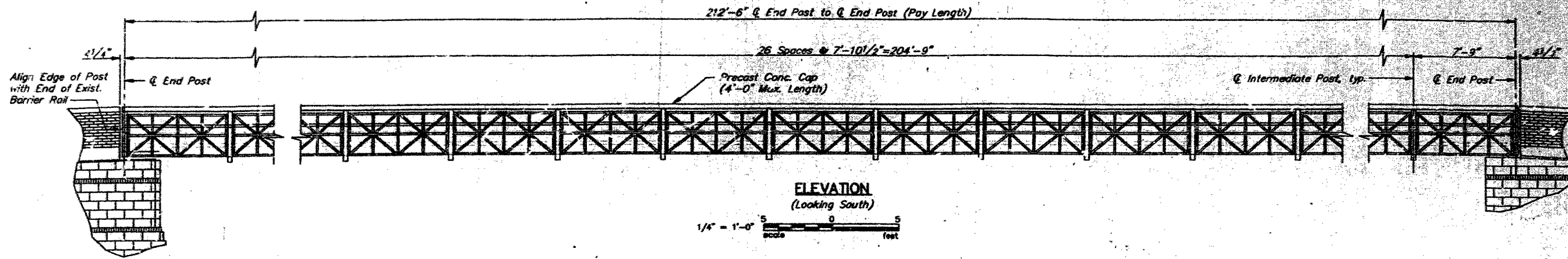
PEDESTRIAN 07/11/95 2933-07 PLOT SCALE: 1/4"=1'



Notes:
 For additional pedestrian fence details and location of Details "A", "B", "C", "G", "H", "J" and "K", see Sheet 7.
 * Wire cloth retainer bar shall be placed around the perimeter of each steel tee fence panel frame. Wire cloth retainer bar shall be bolted to the steel tee frame with 3/8" A307 bolts spaced @ abt. 1'-0" ctr. around the perimeter.
 Where shown or noted, plates shall be galvanized after fabrication in accordance with A 153.
 For additional notes, see Sheet 7.

NO.	MADE	DATE	REVISION	FILE NO.
KANSAS CITY, MISSOURI				
77th STREET BRIDGE BEAUTIFICATION				
MISCELLANEOUS PEDESTRIAN FENCE DETAILS				
DWN: TAH	CHK: SGW	DATE: 2/28/85	SHEET 8	

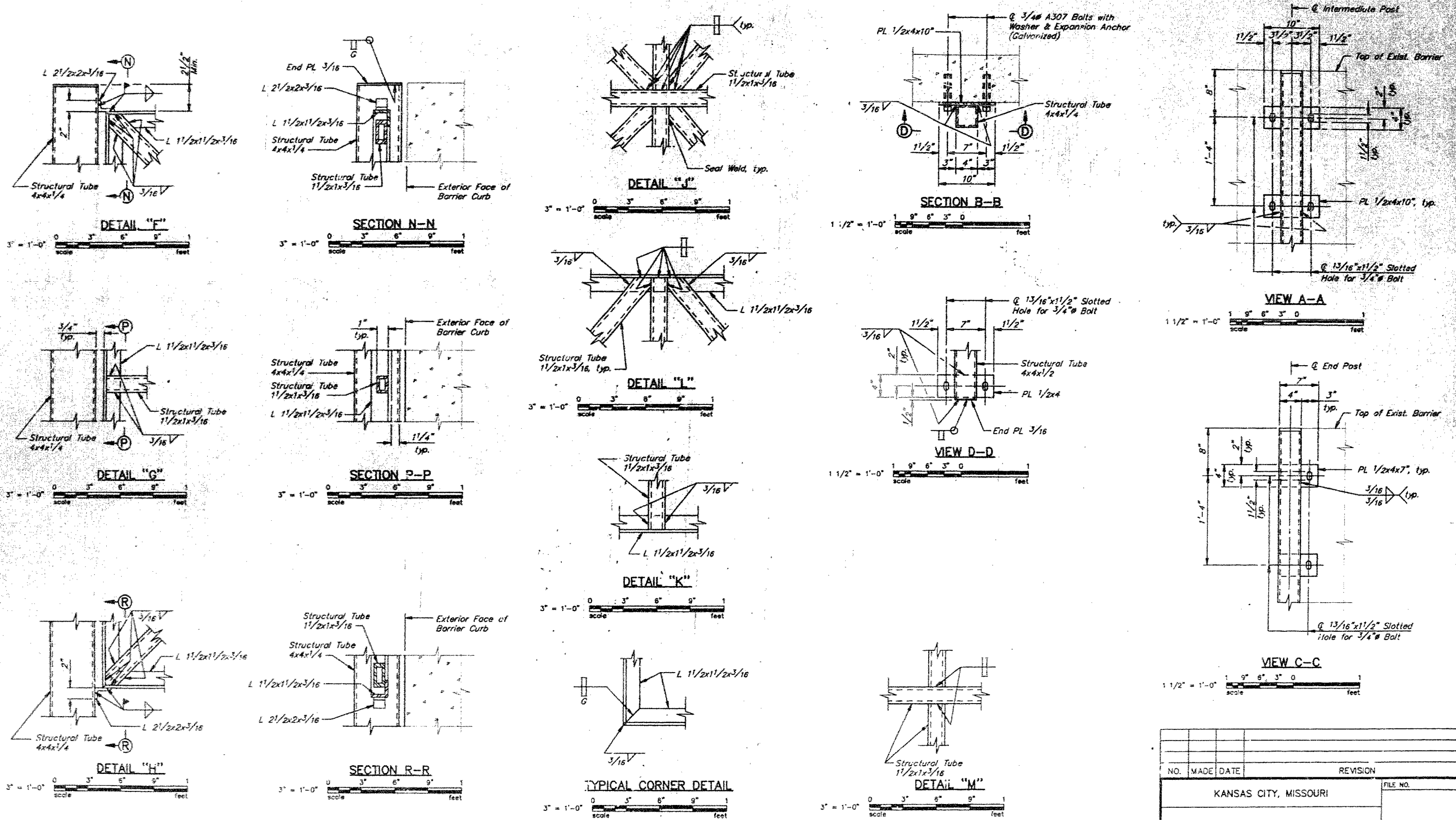
RAJDE2 07/12/85 2831-07 PLOT SCALE: 3"=1'



Notes:
 The contract unit price per linear foot of steel barrier facing (painted) shall include fabricating, furnishing and erecting the facing complete with all brackets, shims, anchors, bolts, nuts and washers.
 All structural steel bars, plates, and shapes shall meet ASTM A36 requirements.
 All structural steel tubing shall meet ASTM A500, Grade B requirements.
 Prior to fabrication, the Contractor shall verify the location of all drilled holes with the aid of a pachometer to miss existing reinforcing steel. (No separate payment)
 Epoxy and expansion anchor systems shall conform to the Special Provisions.
 For details not shown, see Sheet 10.
 For additional notes, see "General Notes", Sheet 2.

NO.	MADE	DATE	REVISION
KANSAS CITY, MISSOURI			FILE NO.
77th STREET BRIDGE BEAUTIFICATION			
BARRIER FACING DETAILS			DWN: TAH CWD: SGW DATE: 3/21/85
JACKSON COUNTY A-4/38			SHEET 9

FASCI 07/12/85 2813-07 PLOT SCALE: 1/4"



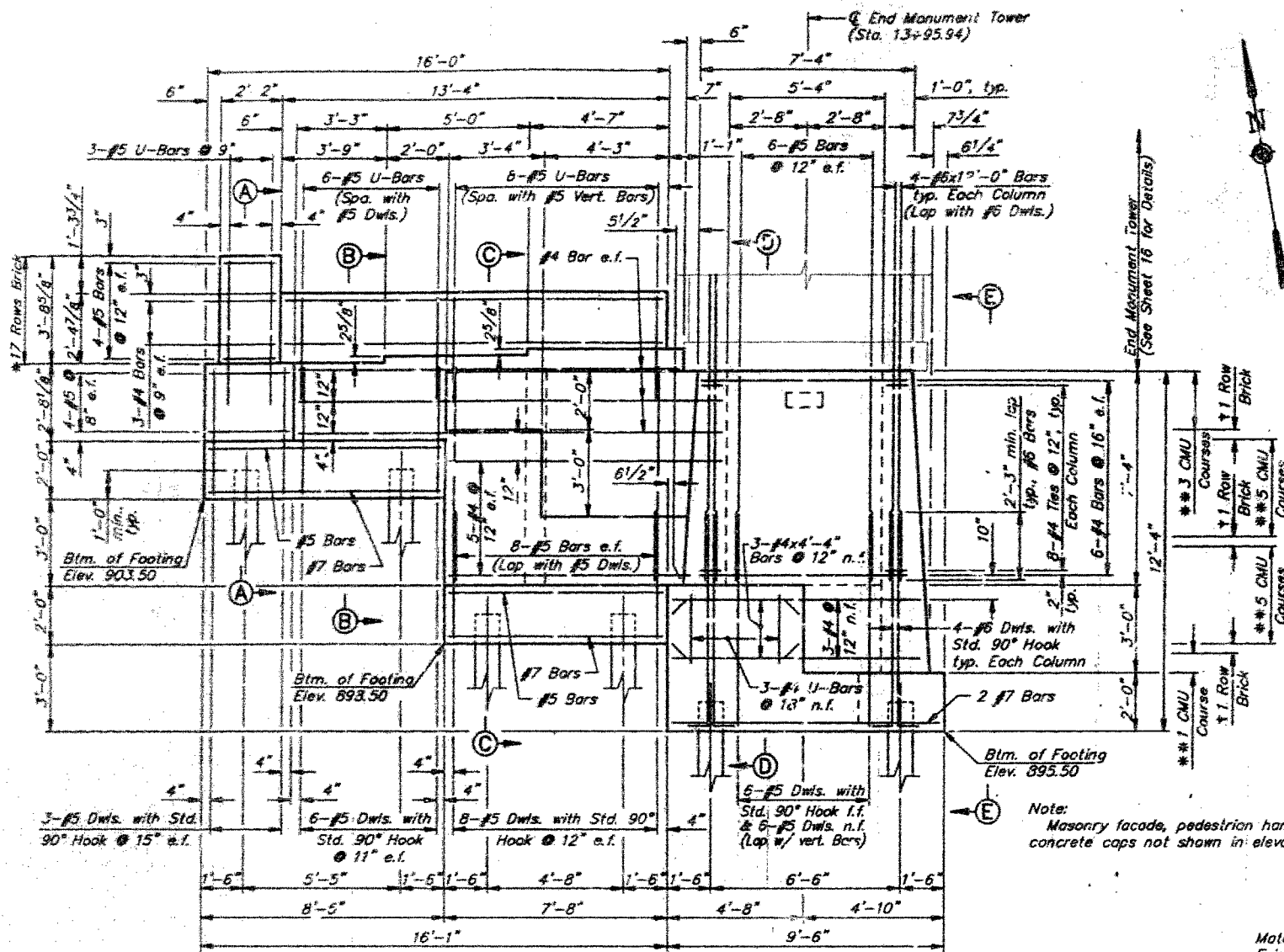
Notes:
 For location of Section B-B, Views A-A & C-C & Details "F" thru "M", see Sheet 9.
 For additional notes, see Sheet 9.

NO.	MADE	DATE	REVISION	FILE NO.
KANSAS CITY, MISSOURI				
77th STREET BRIDGE BEAUTIFICATION				
MISCELLANEOUS BARRIER FACING DETAILS				
DWR:	TAH	SHEET		
CHK:	SCW	10		
DATE:	3/01/85			

RAJDBT3 07/06/95 2933-07 PLOT SCALE: 1"=1'

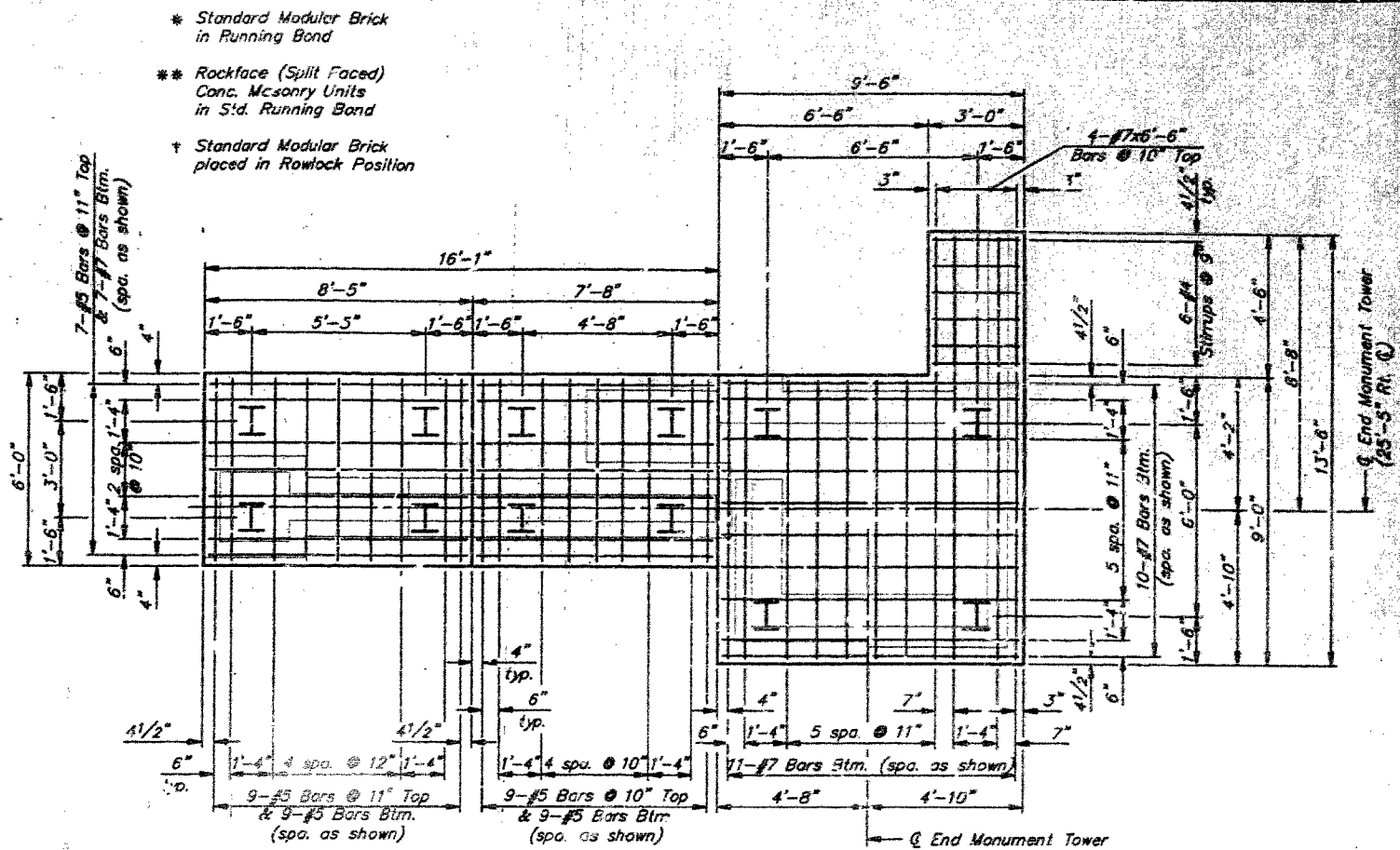
BOYD BROWN, STUDE & CAMERON
 CONSULTING ENGINEERS
 CHARTERED

JACKSON COUNTY
 A-4738



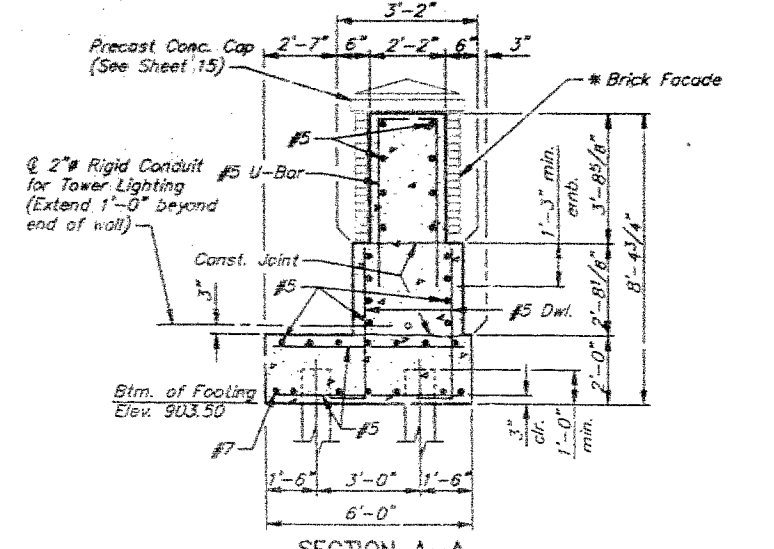
ELEVATION

3/8" = 1'-0" scale

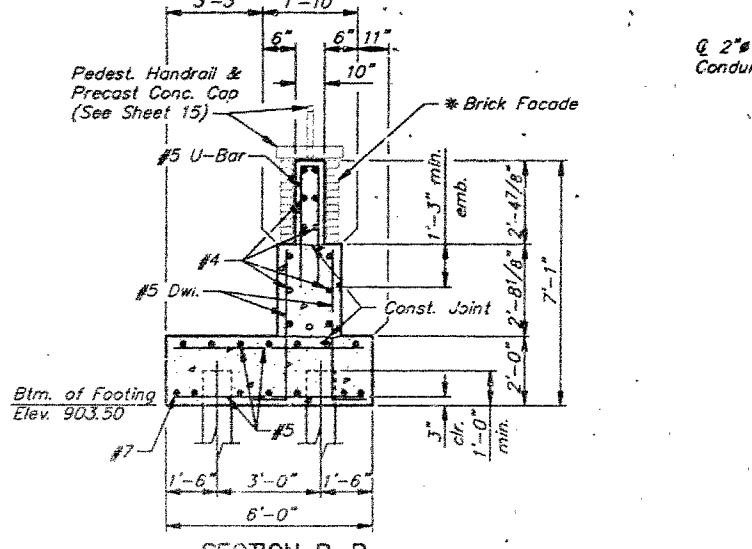


FOOTING PLAN

3/8" = 1'-0" scale



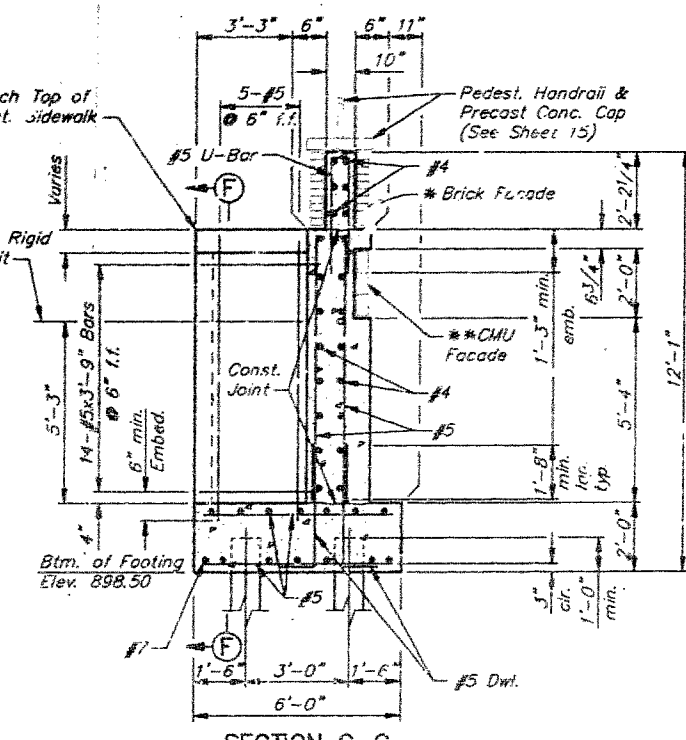
SECTION A-A



SECTION B-B

PEDESTRIAN WALL SECTIONS

3/8" = 1'-0" scale



SECTION C-C

3/8" = 1'-0" scale

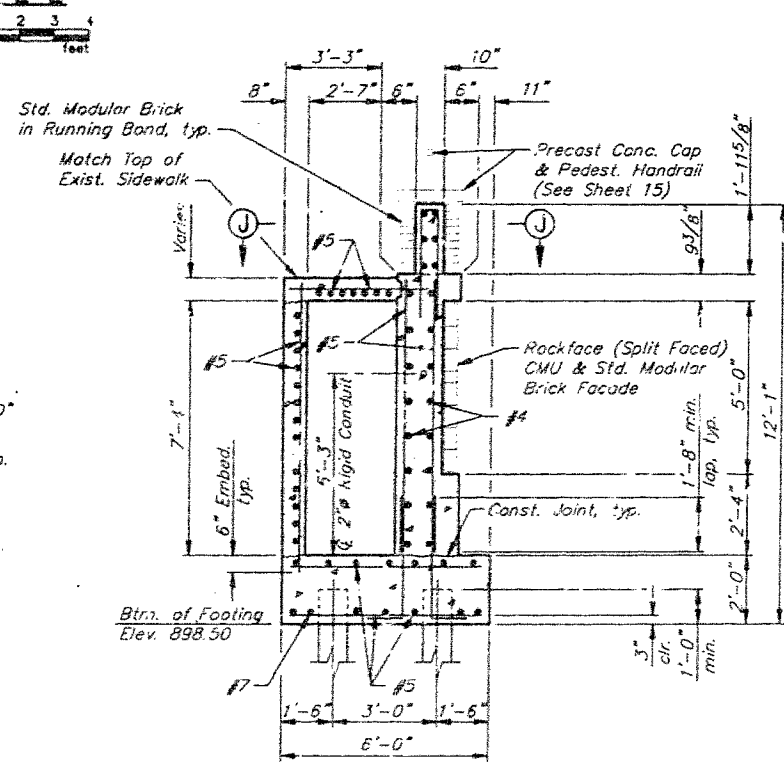
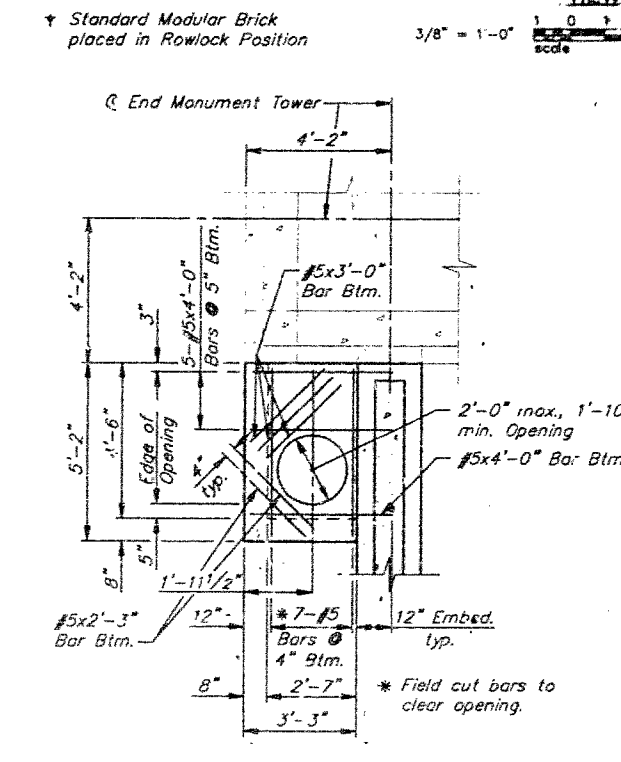
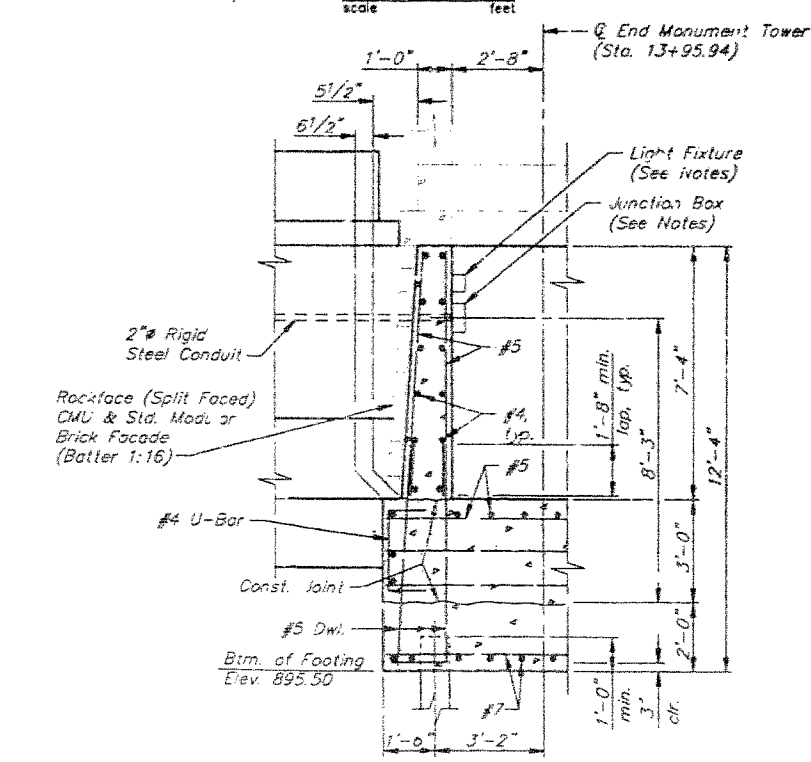
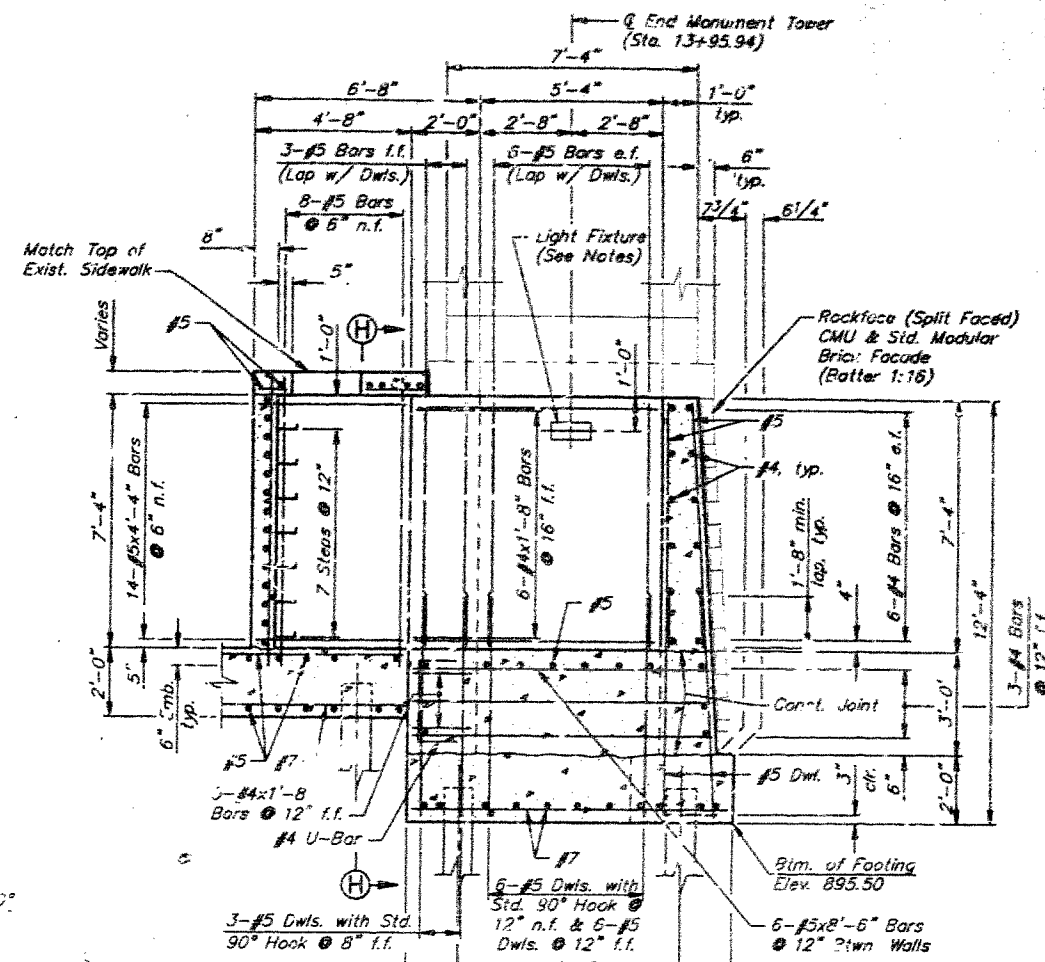
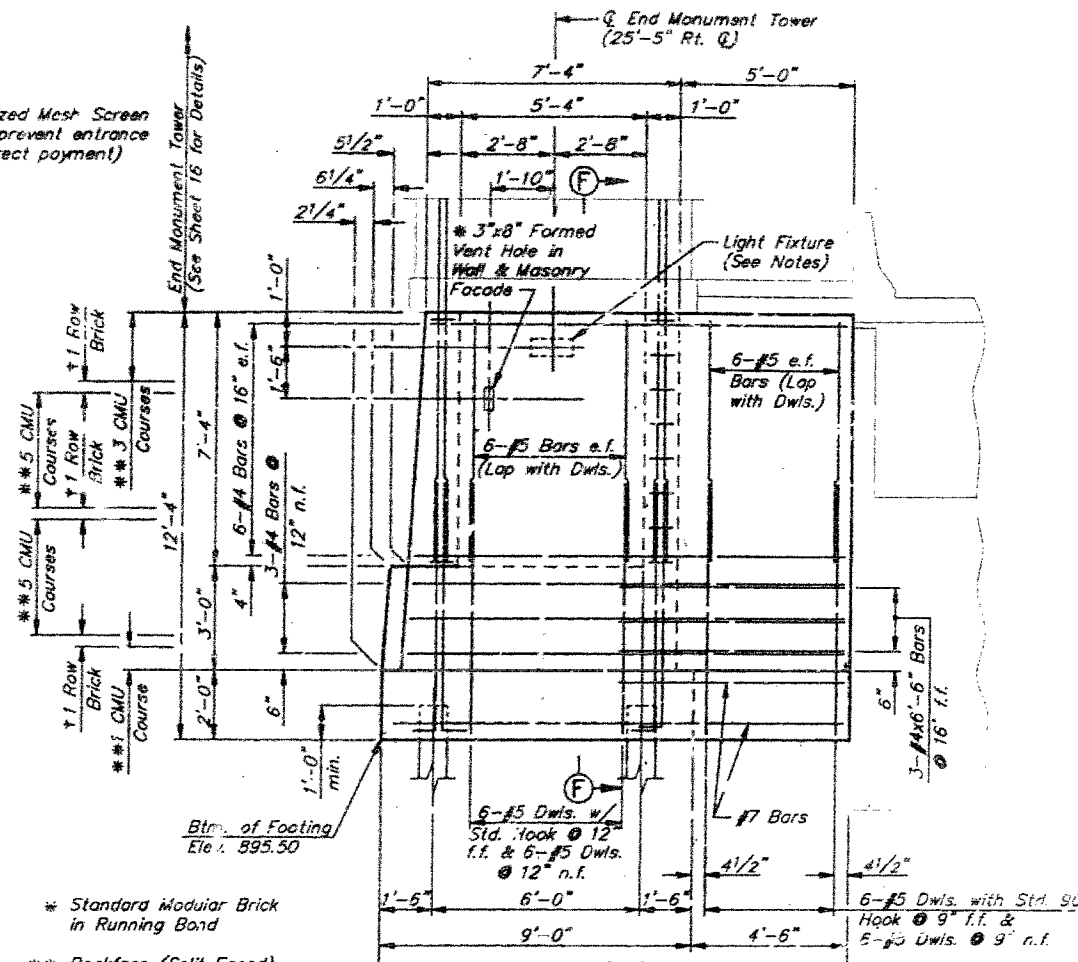
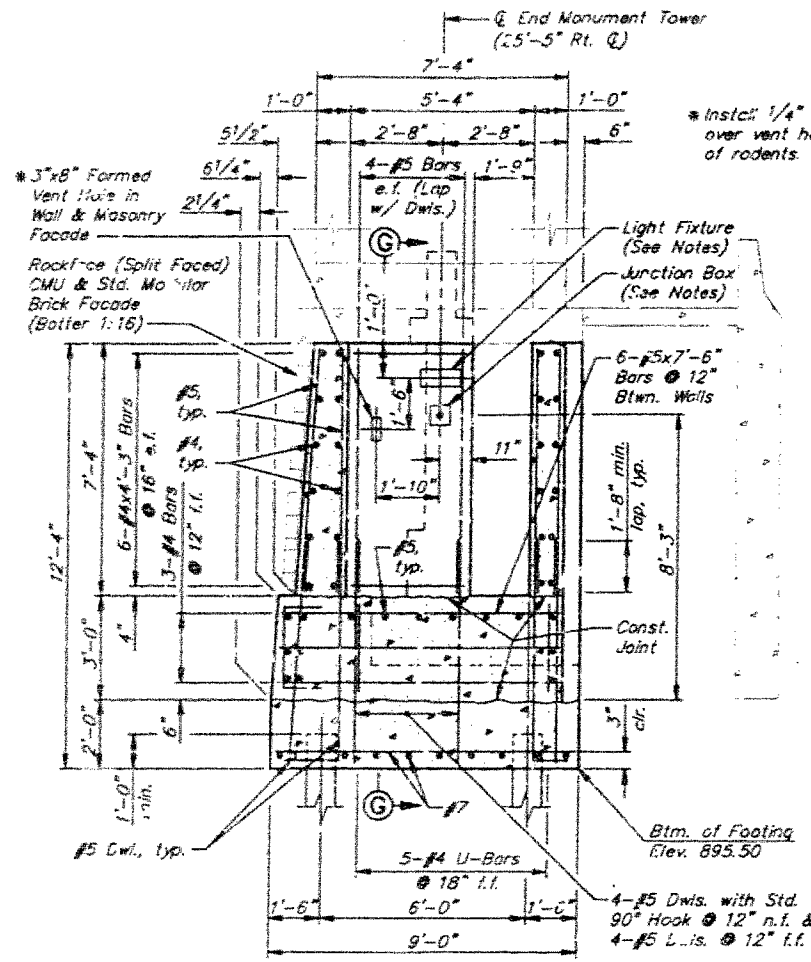
- * Standard Modular Brick in Running Bond
- ** Rockface (Split Faced) Conc. Masonry Units in Std. Running Bond
- † Standard Modular Brick placed in Rowlock Position

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
CLASS I EXCAVATION	CU. YDS.	60
CLASS I CONCRETE	CU. YDS.	42.2
REINFORCING STEEL (GRADE 60)	LBS.	3,910
MASONRY FACADE ON END MONUMENTS	SQ. FT.	375
PRECAST CONCRETE CAP	LIN. FT.	16.5
PEDESTRIAN HANDRAIL (STEEL)	LIN. FT.	12
STEEL PILES (HP 10x42)	LIN. FT.	380

Notes:
 .e.f. denotes each face
 f.f. denotes far face
 n.f. denotes near face
 For Sections D-D and F-F, and View E-E, see Sheet 12.
 For pedestrian handrail and precast concrete cap details, see Sheet 15.
 The Contractor shall install 3/4" preformed expansion joint filler at all locations where new concrete is placed against the surfaces of the existing abutment. Expansion joint filler shall conform to Section 1057 of the MHTC Standard Specifications. Joint filler shall not be paid for separately but shall be considered subsidiary to the unit price bid per cubic yard for "Class I Concrete".
 For additional notes, see "General Notes", Sheet 2.

NO.	DATE	REVISION	FILE NO.
KANSAS CITY, MISSOURI			
77th STREET BRIDGE BEAUTIFICATION			
END MONUMENT DETAILS (STA. 13+95.94)			
DWN: TAH CKD: SCW DATE: 03/95			SHEET 11

MONDET 07/06/95 2833-07 PLOT SCALE: 1"=1'



Notes:
 e.f. denotes each face
 f.f. denotes far face
 n.f. denotes near face
 The Contractor shall furnish and install rigid steel conduit, junction box, and adjustable light fixtures (one fixture per wall) as shown on the plans. The Contractor shall furnish and install rigid steel conduit raceways for all conductors unless otherwise directed by the Engineer. All materials shall meet the requirements of the Special Provisions. Electrical furnishings shall not be paid for separately but shall be considered subsidiary to the other items of the proposal for which payment is made.
 For additional notes, see "General Notes", Sheet 2.

NO.	MADE	DATE	REVISION	FILE NO.
KANSAS CITY, MISSOURI				
77th STREET BRIDGE BEAUTIFICATION				
END MONUMENT DETAILS (Sta. 13+55.94)				
OWN: JAH CKD: SGW DATE: 03/95				SHEET 12

MORNPLAN 07/10/95 2933-07 PLOT SCALE: 1=1
 BOYD BROWN STUDE & CAMBERY
 CONSULTING ENGINEERS
 OF KANSAS

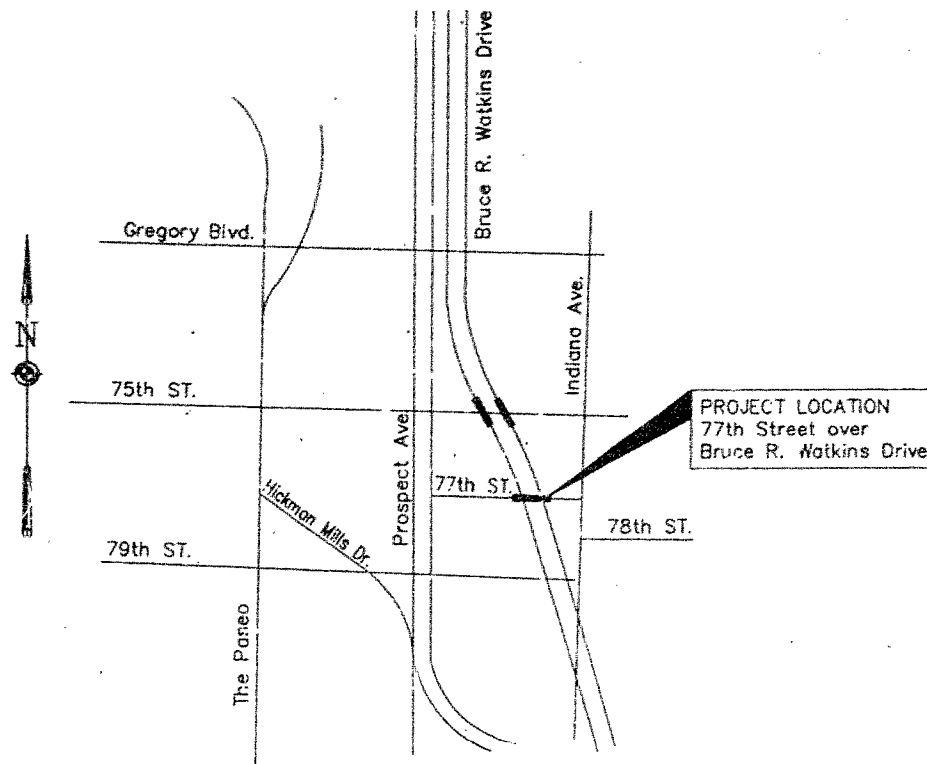
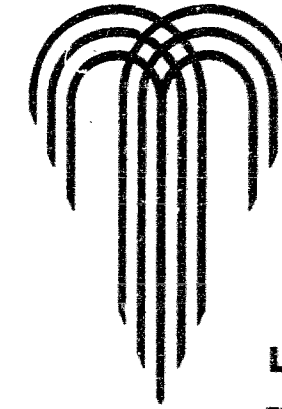
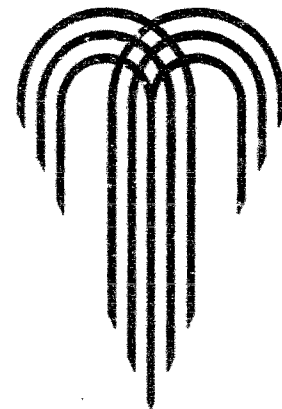
JACKSON COUNTY
A-4738

CITY OF KANSAS CITY, MISSOURI DEPARTMENT OF PUBLIC WORKS

ENGINEERING DIVISION

77th STREET BRIDGE BEAUTIFICATION

OVER BRUCE R. WATKINS DRIVE



LOCATION MAP

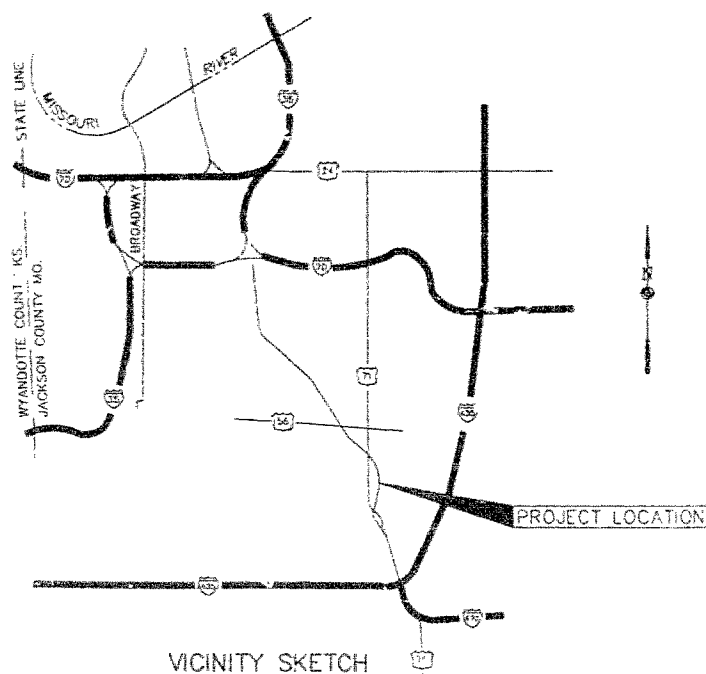
LENGTH OF PROJECT

END OF PROJECT	STA. 17+00
BEGINNING OF PROJECT	STA. 13+00
PROJECT LENGTH	400.00'
BRIDGE LENGTH	244.71'

NOTE: TRAFFIC TO BE CARRIED THRU CONSTRUCTION

EMERGENCY UTILITY NUMBERS

AMERICAN CABLEVISION	358-5360, EX. 333 OR 338
AT&T	1-800-252-1133
K.C.P. & L. COMPANY - NORTH & SOUTH OF 39TH ST.	471-5275
KCMO - STREET & TRAFFIC DIVISION - DISPATCHER	871-3275
KCMO - WATER SERVICES DEPARTMENT	274-1256 - AFTER 5 PM 274-2463
WCI/WESTERN UNION	314-291-8000
MISSOURI GAS ENERGY	1-800-344-7483
MISSOURI PUBLIC SERVICE COMPANY	737-7466
SOUTHWESTERN BELL TELEPHONE COMPANY	1-800-734-7590



VICINITY SKETCH

Ochsner, Hare & Hare
Kansas City, Missouri

Hellmuth, Obata & Kassabaum, Inc.
Dallas, Texas

Boyd, Brown, Stude & Cambern, Chtd.
Kansas City, Missouri

DuBois Consultants, Inc.
Kansas City, Missouri

Group One Architects, Inc.
Kansas City, Missouri

Charles E. Owsley, P.E.
City Engineer

Adopted this _____ day of _____ 19____

George E. Wolf Jr., P.E.
Director of Public Works

ENTRY NO. _____

Project No. _____ C.D. NO. 5

Sheet 1 of 16 File No. _____

FOR FINAL REVIEW

104

GENERAL NOTES

SPECIFICATIONS

Design Specifications:
 AASHTO Standard Specifications for Highway Bridges, 1992 Edition and subsequent Interims
 Construction Specifications:
 Standard Specifications and Design Criteria, City of Kansas City, Missouri and Special Provisions.
 Missouri Standard Specifications for Highway Construction, 1993, and amendments.
 All "MHTC" references herein will pertain to the latter specification.

DESIGN UNIT STRESSES

Class I Concrete $f_c = 4,000$ psi
 Reinforcing Steel (Grade 60) $f_y = 60,000$ psi
 Structural Steel $f_y = 36,000$ psi
 Steel Piles $f_b = 9,000$ psi

QUANTITIES

Items not listed separately in the Summary of Quantities are subsidiary to the other items of the proposal.

DIMENSIONS

All dimensions shown on the plans are horizontal unless otherwise noted. The Contractor shall make necessary allowances for roadway grade and cross slope.
 Dimensions and elevations pertaining to the existing structure are based on existing plans. The Contractor shall verify, by field measurement, the as-built dimensions of the existing structure prior to construction.
 Plans for the existing structure are available for inspection by qualified bidders through the City Engineer, 19th Floor, City Hall.

EXISTING UTILITIES

The Contractor shall be responsible for locating all existing utilities within the work area and providing protection for the various utilities affected before proceeding with the work.

PROTECTION OF TRAFFIC

The Contractor shall execute his work in such a manner and take such precautions as necessary to prohibit the falling of broken concrete and other debris onto traffic passing below the structure.
 The methods of protection proposed by the Contractor shall be approved by the Engineer.

MAINTENANCE OF TRAFFIC

The Contractor shall install and maintain all traffic control devices as shown on the plans in accordance with Section 616 of the MHTC Standard Specifications or as directed by the Engineer.
 The Contractor may, at his option, develop an alternate traffic control plan to be submitted to the Engineer for approval prior to its use. The traffic control plan shall be prepared in enough detail as to clearly identify proposed methods and signage necessary to provide safe travel along 77th Street and Bruce R. Watkins Drive during all phases of construction.

STRUCTURAL EXCAVATION

All excavation required for the construction of the end monument towers, pedestrian walls, and end posts shall be Class I Excavation. Pay limits for Class I Excavation shall be as defined in Section 206 of the MHTC Standard Specifications.
 Excavation required for the construction of concrete sills for masonry facade support at abutments and columns shall not be paid for separately but shall be considered subsidiary to the unit price bid per cubic yard for "Class I Excavation", unless otherwise noted.

CAST-IN-PLACE CONCRETE

All cast-in-place concrete shall be Class I Concrete conforming to the requirements of the Midwest Concrete Industry Board (MCIB) Mix No. WA634-3/4-4 unless otherwise shown or noted.
 All concrete masonry construction shall be performed in accordance with Section 703 of the MHTC Standard Specifications.
 Surfaces which are to be exposed shall be kept free of any foreign materials which might cause staining of the concrete.
 All exposed corners shall be beveled 3/4" unless otherwise shown or noted.
 Construction joints as shown are optional but if used shall be made only at locations shown or at locations approved by the Engineer.

REINFORCING STEEL

All reinforcing steel shall be deformed new billet steel conforming to the requirements of ASTM A615, Grade 60.
 The clear distance from the face of concrete to near edge or end of reinforcing bar shall be 2" unless otherwise shown or noted.
 All bar dimensions are out to out unless otherwise shown or noted.
 All bar spacings are center to center of bar unless otherwise shown or noted.
 Shop drawings and placement drawings shall be submitted to the Engineer for review prior to construction.
 All reinforcing bends shall be detailed in accordance with the Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice, latest edition.

STRUCTURAL STEEL

All structural steel bars, plates, and shapes shall conform to the requirements of ASTM A36 unless otherwise shown or noted.
 All structural steel tubing shall conform to the requirements of ASTM A500, Grade B unless otherwise shown or noted.
 All steel fasteners shall meet the requirements of ASTM A325 (Type I) unless otherwise shown or noted.
 Structural steel construction shall conform to the requirements of Section 712 of the MHTC Standard Specifications.
 Welding of structural steel shall be performed in accordance with the MHTC Standard Specifications.

STEEL BEARING PILES

All piles shall be driven to practical refusal. Driving shall stop when, in the opinion of the Engineer, additional driving may damage the pile. All piles shall be driven to a minimum computed bearing value of 50 Tons.
 Hammer Energy Required = 11,000 Ft. Lbs.
 (Minimum energy requirements of hammer based on plan length and design bearing value of piles)
 Inspection by qualified bidders through the City Engineer, 19th Floor, City Hall.

DECORATIVE MASONRY VENEER

The Contractor shall install decorative masonry veneer on exposed concrete surfaces within the limits shown in the plans. Masonry veneer shall consist of standard rockface (split faced) concrete masonry units, standard modular brick, and precast concrete units conforming to the requirements of the Special Provisions.
 The Contractor shall secure the masonry veneer to the concrete backing with flexible anchors spaced not more than 16 inches on center vertically and 24 inches on center horizontally. The Contractor shall provide two piece anchors which permit horizontal and vertical movement but provide lateral restraint of the masonry.
 The masonry veneer shall be supported on cast-in-place reinforced concrete sills as shown in the plans or unless otherwise approved by the Engineer. The Contractor shall provide weepholes at concrete sills not to exceed 16 inches on center.

PROTECTIVE COATINGS

The Contractor shall apply a protective seal coat and anti-graffiti coating to all completed masonry construction. Protective coatings shall conform to the requirements of the Special Provisions.

PAINTING OF STRUCTURAL STEEL

Structural steel surfaces of the pedestrian fencing, pedestrian handrails, barrier facing, and end monument towers shall be painted in accordance with the Special Provisions. Final topcoat color shall be dark green and shall match TNEPEC 73-G0045-ESSEX GREEN by Tnemec Company, Inc., CARBOLINE #2380 by Carboline, or approved equal.
 Structural steel surfaces to be embedded in concrete need not be painted with the finish coating.
 Unless otherwise noted, painting of the structural steel shall not be paid for separately but shall be considered subsidiary to the lump sum or unit cost prices listed in the itemized proposal that include structural steel.

PAINTING OF EXISTING BRIDGE

The Contractor shall repaint all existing structural steel (including galvanized slab drains) in accordance with Section 712.13 of the MHTC Standard Specifications (System G) unless otherwise directed by the Engineer. Final topcoat shall match color as specified for painting of structural steel.
 Repainting of existing structural steel surfaces shall be paid for at the lump sum-unit price bid for "Bridge Painting".

INDEX OF SHEETS

SHEET	TITLE
1	COVER SHEET
2	INDEX OF SHEETS, GENERAL NOTES & QUANTITIES
3	GENERAL PLAN AND ELEVATION
4-5	ABUTMENT FACADE DETAILS
6	COLUMN FACADE DETAILS
7-8	PEDESTRIAN FENCE DETAILS
9-10	BARRIER FACING DETAILS
11-15	END MONUMENT DETAILS
16	END MONUMENT TOWER DETAILS
17	END POST DETAILS
18-20	TRAFFIC CONTROL

SUMMARY OF QUANTITIES

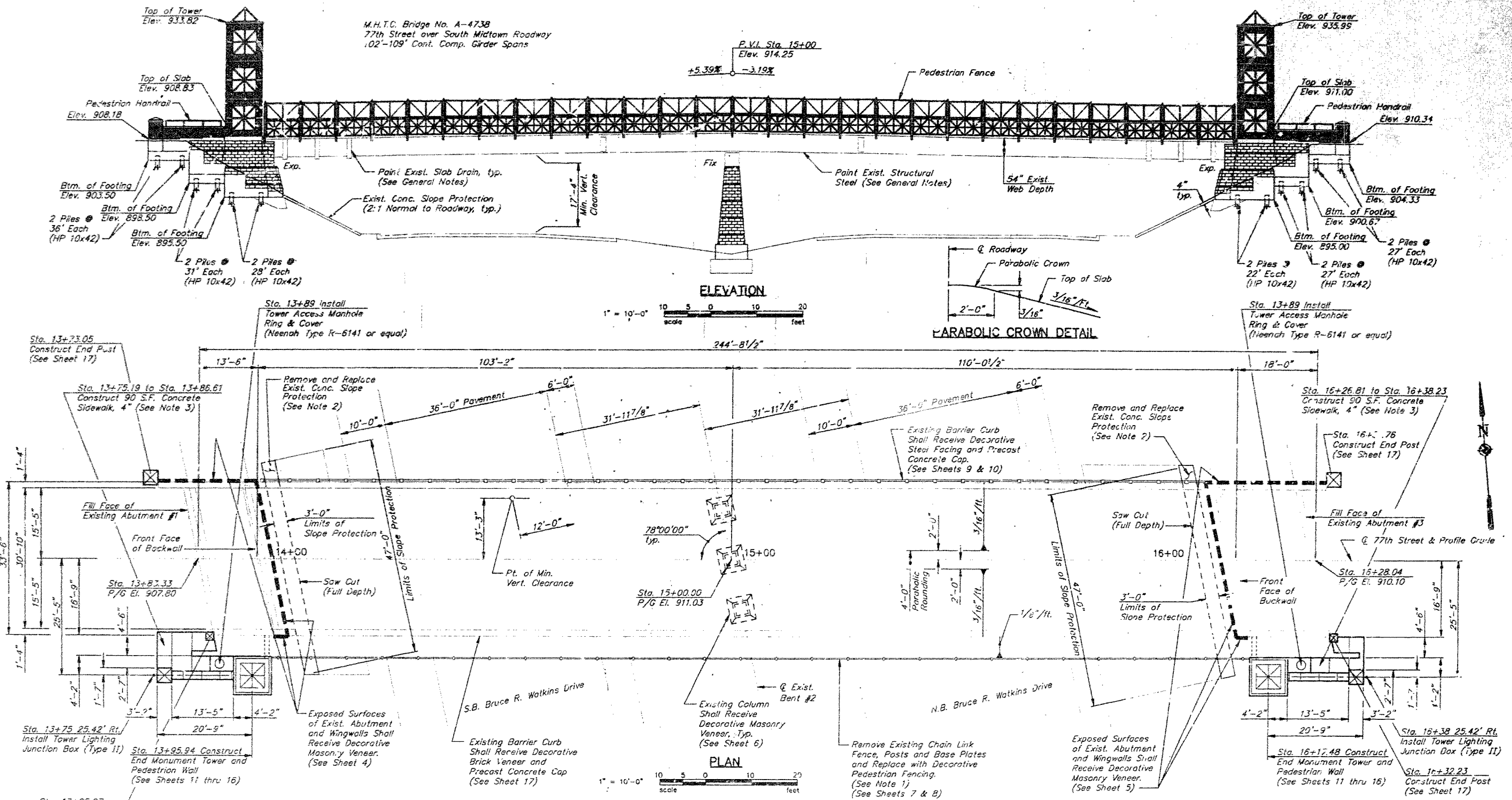
ITEM	UNIT	TOTAL
MOBILIZATION	L.S.	1
DEMOLITION AND SITE PREPARATION	L.S.	1
MAINTENANCE OF TRAFFIC	L.S.	1
CLASS I EXCAVATION	CU. YDS.	110
CLASS I CONCRETE	CU. YDS.	92.7
REINFORCING STEEL (GRADE 60)	LBS.	8,090
MASONRY FACADE ON ABUTMENTS	SQ. FT.	1,026
MASONRY FACADE ON COLUMNS	SQ. FT.	941
MASONRY FACADE ON END MONUMENTS	SQ. FT.	* 862
PRECAST CONCRETE CAP	LIN. FT.	533
PEDESTRIAN FENCE (STEEL)	LIN. FT.	211
BARRIER FACING (STEEL)	LIN. FT.	213
PEDESTRIAN HANDRAIL (STEEL)	LIN. FT.	24
END MONUMENT TOWER	EACH	2
STEEL PILES (HP 10x42)	LIN. FT.	700
CONCRETE SLOPE PROTECTION	SQ. YDS.	30
PORTLAND CEMENT CONCRETE SIDEWALK	SQ. FT.	180
TRAFFIC PROTECTION SYSTEM	L.S.	1
GRAFFITI PROTECTION SYSTEM	L.S.	1
BRIDGE PAINTING	L.S.	1
END POST	EACH	4
BRICK VENEER ON BARRIER CURB	SQ. FT.	335

* Brick Veneer on End Monument Towers Not Included.

NO.	MADE	DATE	REVISION
KANSAS CITY, MISSOURI			FILE NO.
77th STREET BRIDGE BEAUTIFICATION			
INDEX OF SHEETS, GENERAL NOTES & QUANTITIES			
DRAWN: TAH		SHEET	
CHKD: SGW		2	
DATE: 2/21/85			

JACKSON COUNTY
A-4738

M.H.T.C. Bridge No. A-4738
77th Street over South Midtown Roadway
.02'-109' Cont. Comp. Girder Spans



- Notes:
- The Contractor shall salvage the existing fence posts, base plates, fencing and accessories. Salvaged hardware shall be stored on site for removal by State forces unless otherwise directed by the Engineer. Payment for this work shall be considered incidental to the lump sum price bid for "Demolition and Site Preparation".
 - The Contractor shall remove and replace the existing concrete slope protection within the limits as shown, or as directed by the Engineer, in accordance with Section 611.6(f) of the MHTC Standard Specifications. Payment for this work shall be made at the contract unit price bid per square yard for "Concrete Slope Protection".
 - The Contractor shall construct concrete sidewalk at the locations shown in accordance with Section 2300 of the Standard Specifications and Design Criteria, City of Kansas City, MO, unless otherwise directed by the Engineer. Payment for this work shall be made at the contract unit price bid per square foot for "Portland Cement Concrete Sidewalk".

NO.	MADE	DATE	REVISION

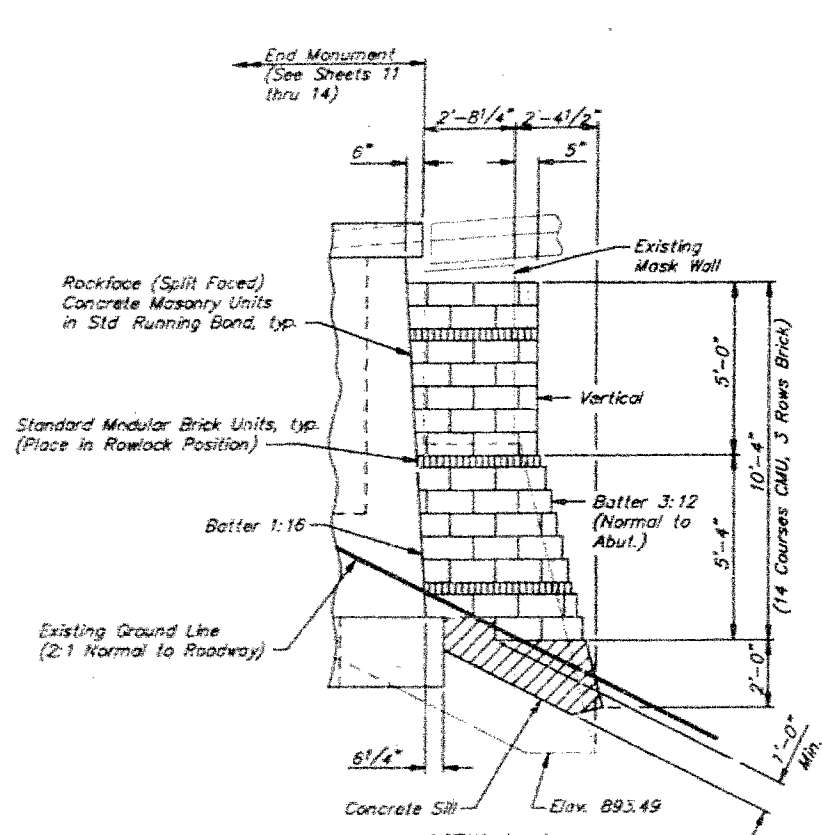
KANSAS CITY, MISSOURI		FILE NO.
77th STREET BRIDGE BEAUTIFICATION		
GENERAL PLAN AND ELEVATION		
OWN: TAH	SHEET	
CHKD: SGW		
DATE: 07/11/95		3

LAYOUT 07/11/95 2933-07 PLOT SCALE: 1"=1'

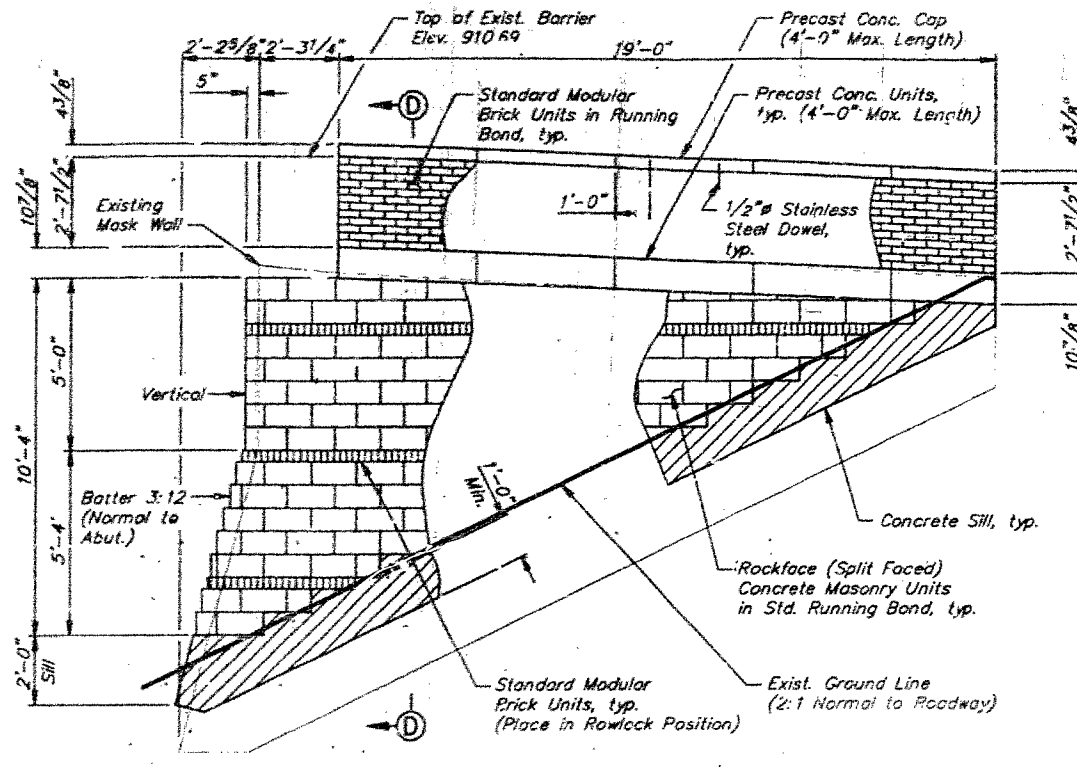
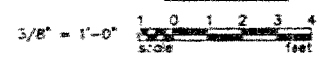
BOYD BROWN STUDE & CAMBERN
CONSULTING ENGINEERS
CHARTERED

JACKSON COUNTY
A-4738

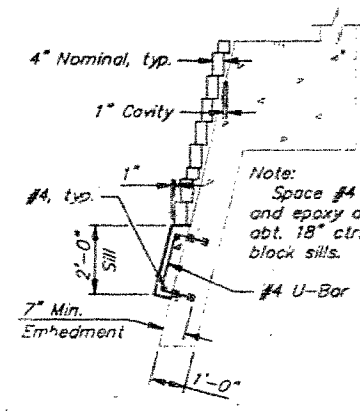
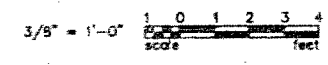
B.M. - "□" Top of Left Wingwall
Bent No. 3
Elev. 912.49



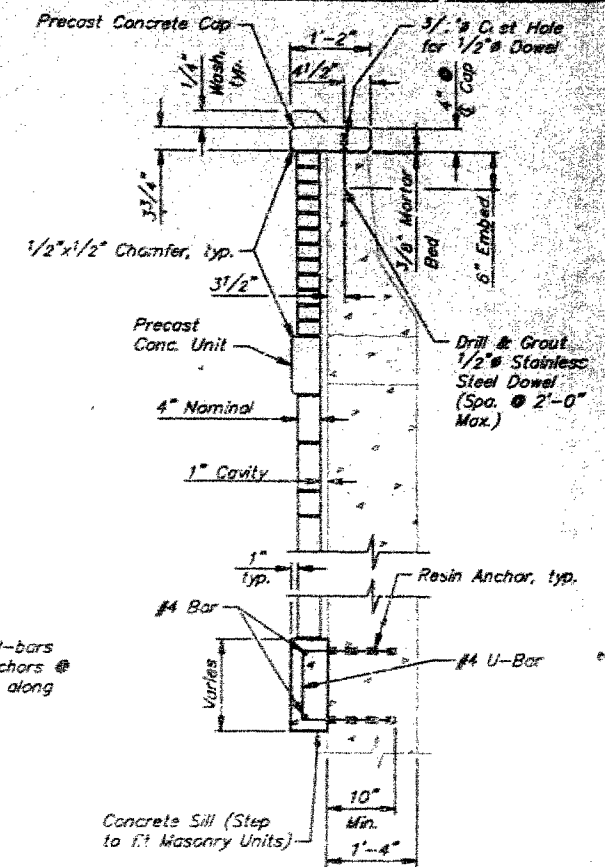
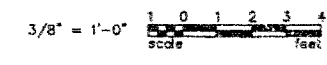
VIEW A-A



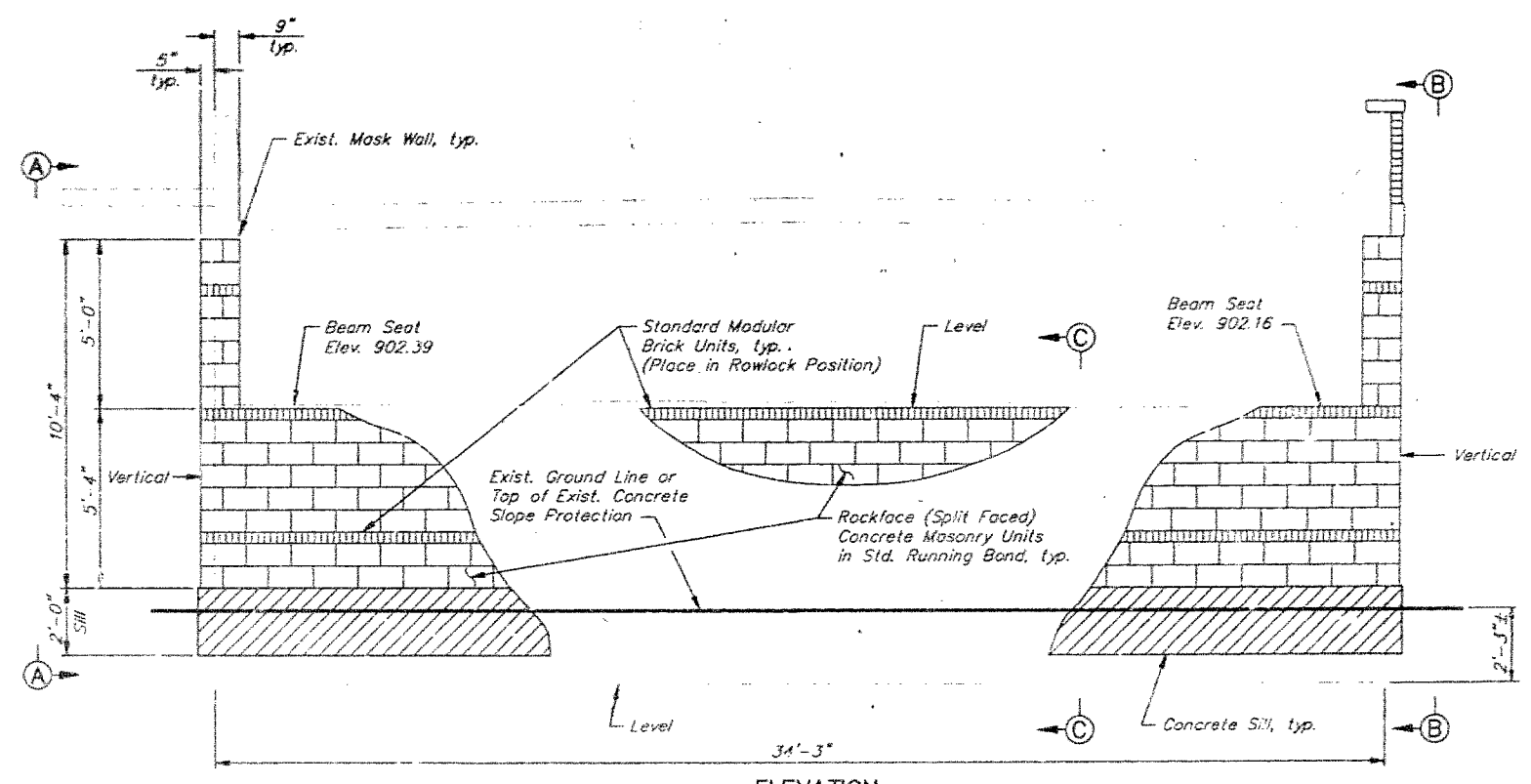
VIEW B-B



SECTION C-C



SECTION D-D



ELEVATION



Note:
End monument not shown in elevation for clarity. See Sheets 11 thru 16 for details.

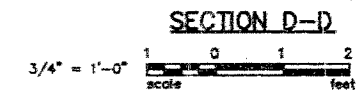
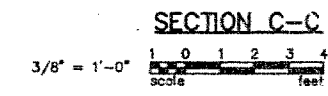
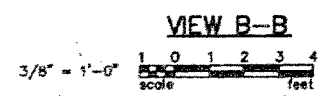
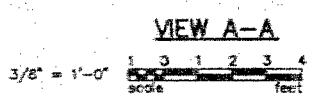
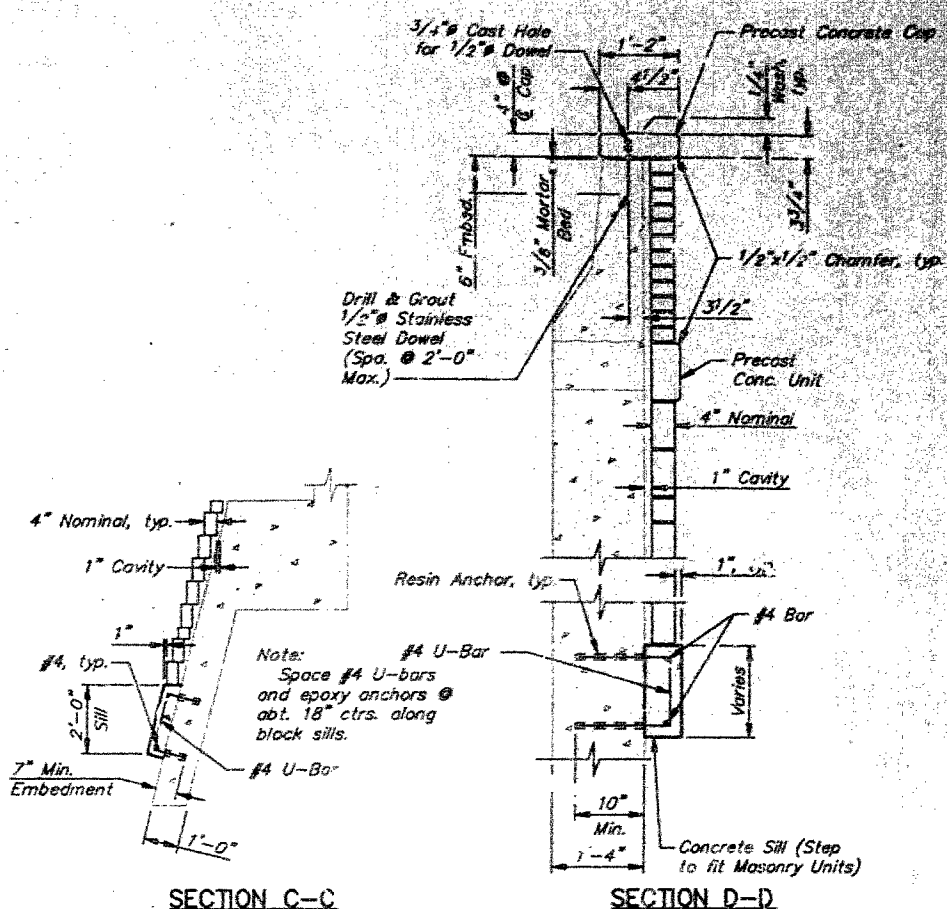
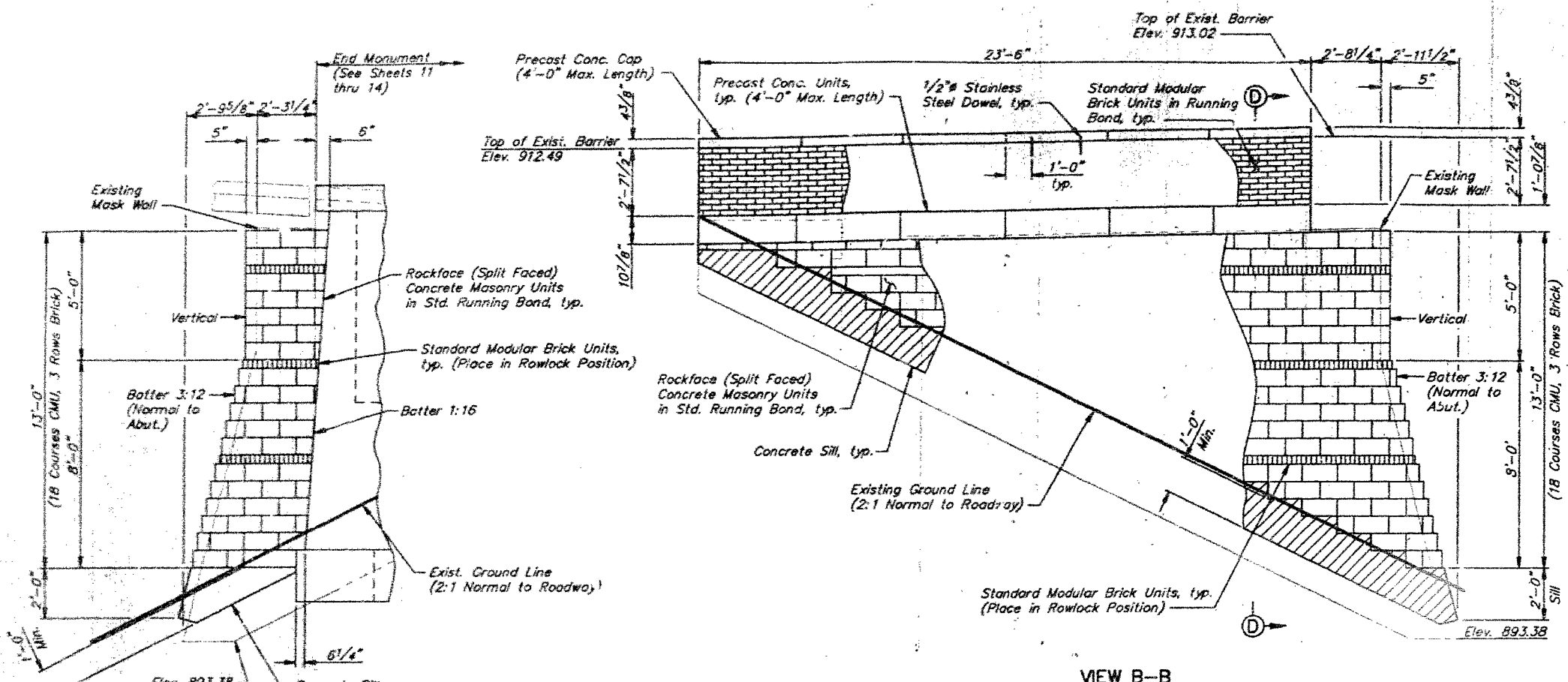
Notes:
The Contractor shall take special precautions to insure that existing reinforcement is not damaged during the installation of the masonry facade.
The Contractor shall field verify all critical dimensions and elevations prior to construction.
Masonry units shall be secured to the existing concrete with two piece anchors spaced not more than 16 inches vertically and 24 inches horizontally.
The Contractor shall provide expansion, control and isolation joints to accommodate movement in masonry work.
The Contractor shall install backer rod and sealant at all joints between the inside face of the masonry facade and outside face of the concrete backing in accordance with the Special Provisions.
All sill concrete and reinforcing steel, concrete and brick masonry units, precast concrete units, and anchors shall be considered subsidiary to the square foot price bid for "Masonry Facade on Abutments".
For additional notes, see "General Notes", Sheet 2.

Approx. Area of Masonry Facade = 421.0 S.F.

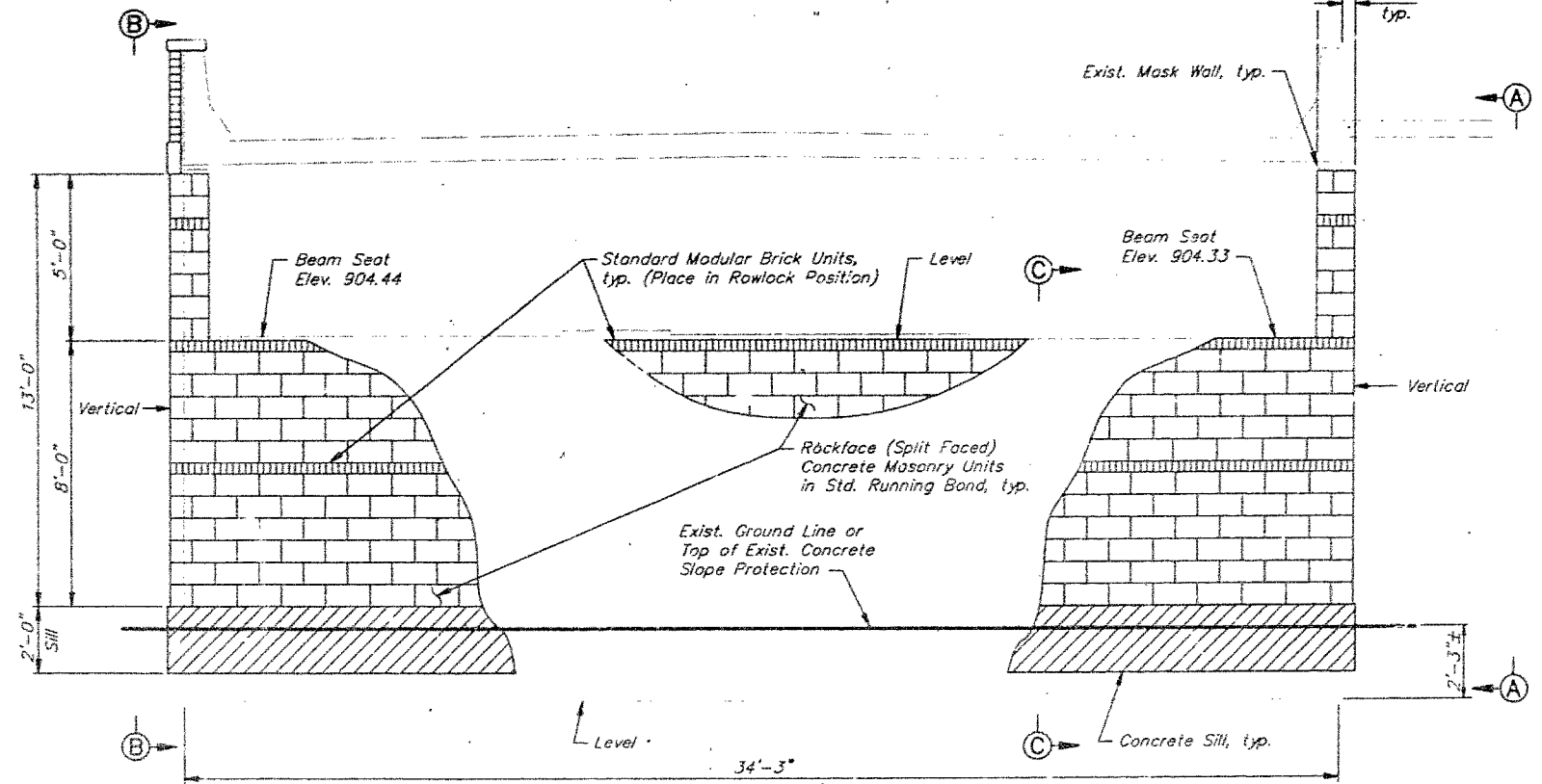
NO.	MADE	DATE	REVISION	FILE NO.
KANSAS CITY, MISSOURI				
77th STREET BRIDGE BEAUTIFICATION				
MASONRY FACADE DETAILS ABUTMENT NO. 1				
OWN:	TAH	SHEET		
CHK:	SGW	4		
DATE:	2/7/25			

JACKSON COUNTY
A-4738

06/27/2025 07:02:05 2023-07 1/1"=1'-0"



Note:
End monument not shown in elevation for clarity. See Sheets 11 thru 15 for details.



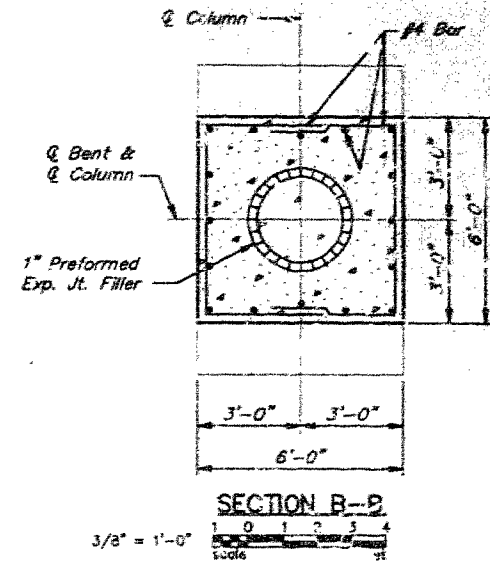
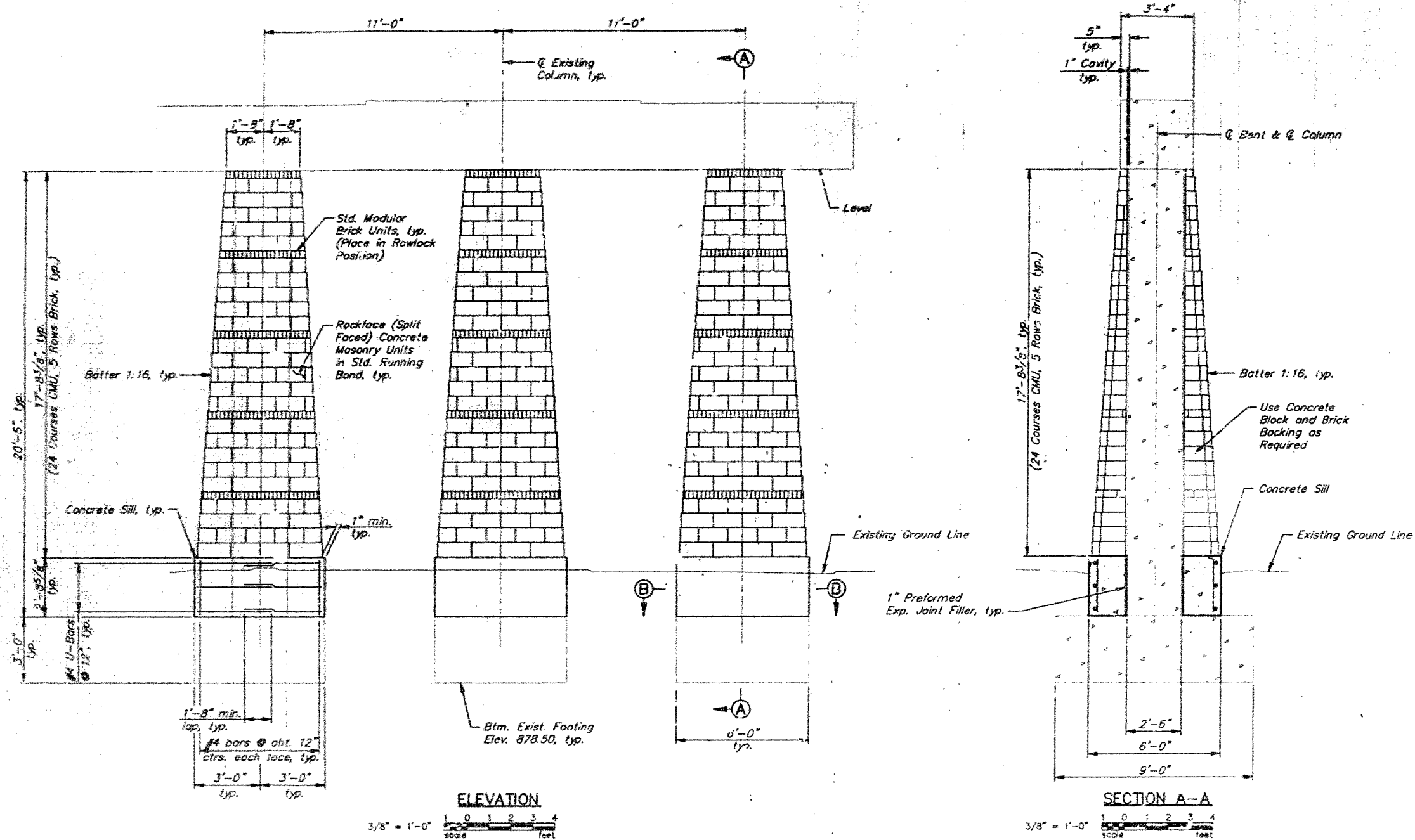
ELEVATION
3/8" = 1'-0"
scale feet

Notes:
The Contractor shall take special precautions to insure that existing reinforcement is not damaged during the installation of the masonry facade.
The Contractor shall field verify all critical dimensions and elevations prior to construction.
Masonry units shall be secured to the existing concrete with two piece anchors spaced not more than 16 inches vertically and 24 inches horizontally.
The Contractor shall provide expansion, control and isolation joints to accommodate movement in masonry work.
The Contractor shall install backer rod and sealant at all joints between the inside face of the masonry facade and outside face of the concrete backing in accordance with the Special Provisions.
All sill concrete and reinforcing steel, concrete and brick masonry units, precast concrete units, and anchors shall be considered subsidiary to the square foot price bid for "Masonry Facade on Abutments".
For additional notes, see "General Notes", Sheet 2.

Approx. Area of Masonry Facade = 605.0 S.F.

NO.	MADE DATE	REVISION	FILE NO.
KANSAS CITY, MISSOURI		FILE NO.	
77th STREET BRIDGE BEAUTIFICATION			
MASONRY FACADE DETAILS ABUTMENT NO. 3			DWN: JAH CHKD: SGW DATE: 2/21/85
JACKSON COUNTY A-4738			SHEET 5

1008
07/21/85 2033-07 1/4"=1'-0"

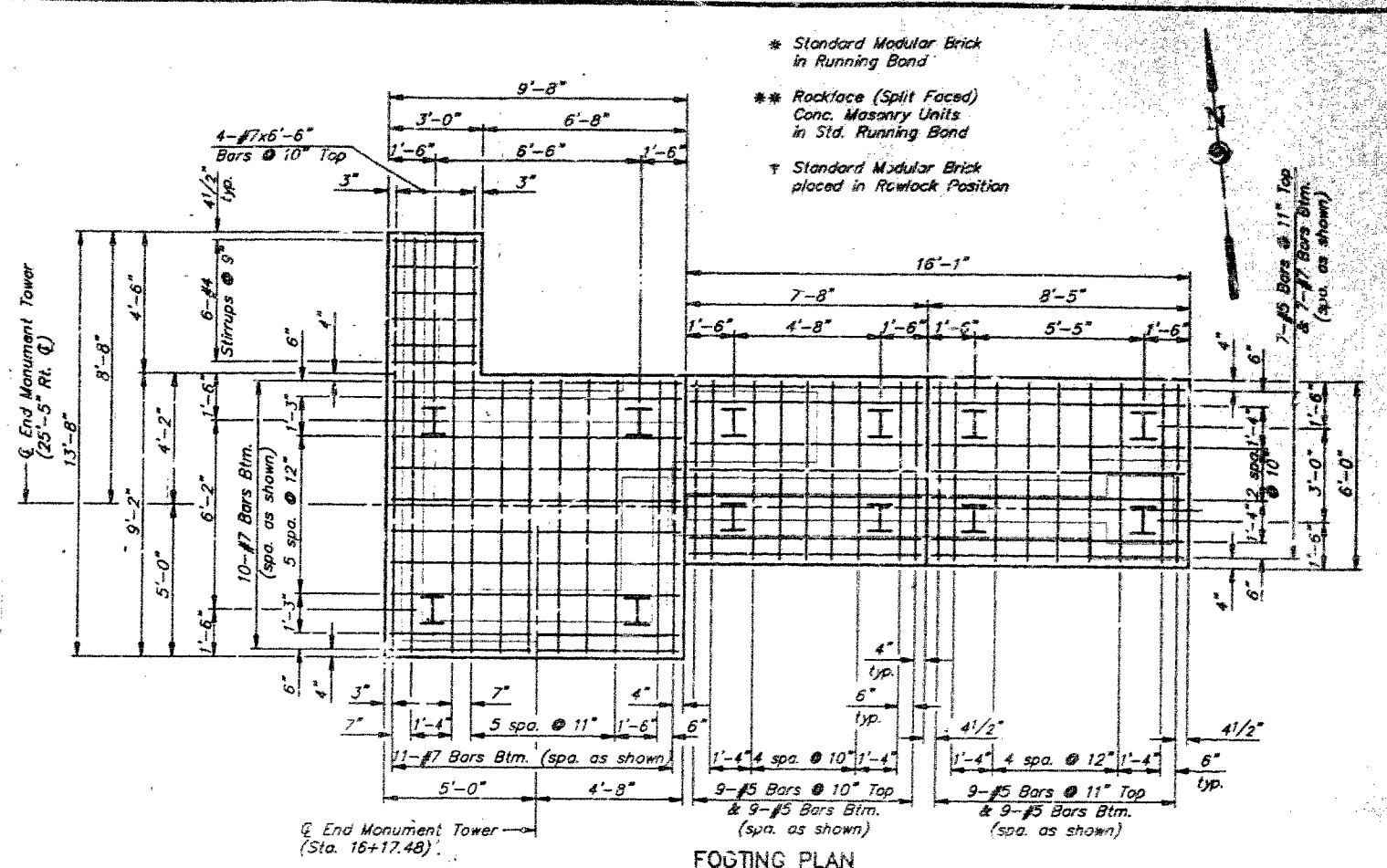
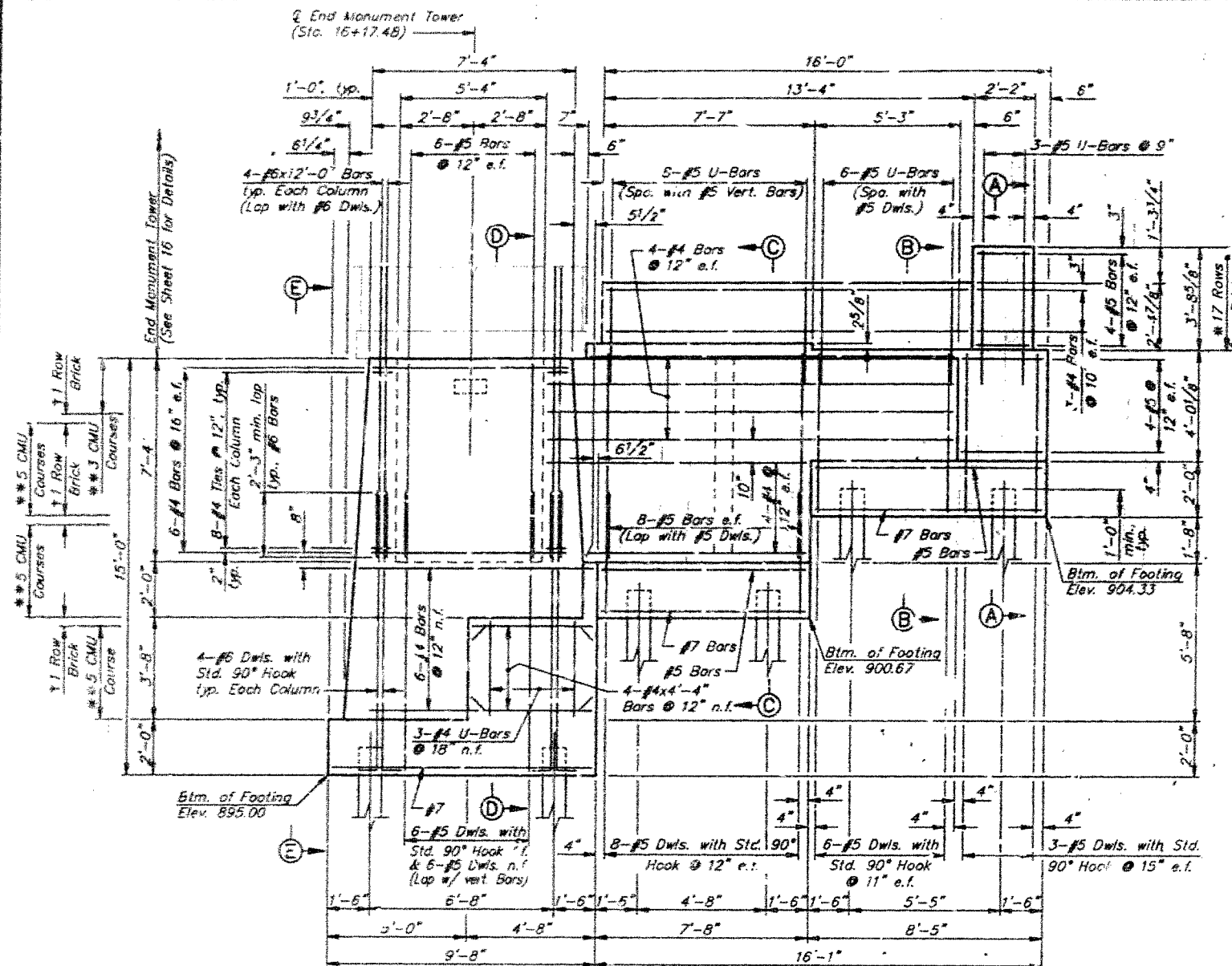


Notes:
 The Contractor shall field verify all critical dimensions and elevations prior to construction.
 Preformed expansion joint filler shall conform to the requirements of Section 1057 of the MHTC Standard Specification.
 Masonry units shall be secured to the existing concrete with two piece anchors spaced not more than 16 inches vertically and 24 inches horizontally.
 The Contractor shall provide expansion, contra and isolation joints to accommodate movement in masonry work.
 Existing concrete surfaces upon which new concrete is to be placed shall be thoroughly cleaned and washed with clean water prior to the placement of new concrete. This work shall be considered subsidiary to the square foot price bid for "Masonry Facade on Columns".
 All sill concrete and reinforcing steel, concrete and brick masonry units, anchors, and joint filler shall be considered subsidiary to the square foot price bid for "Masonry Facade on Columns".
 For additional notes, see "General Notes", Sheet 2

Approx. Area of Masonry Facade = 941 S.F.

NO.	MADE	DATE	REVISION	FILE NO.
KANSAS CITY, MISSOURI				
77th STREET BRIDGE BEAUTIFICATION				
COLUMN FACADE DETAILS				
OWN: TAH CND: SCW DATE: 2/24/05			SHEET 6	

77918 07/06/05 2033-07 PLOT SCALE: 3/8"=1'



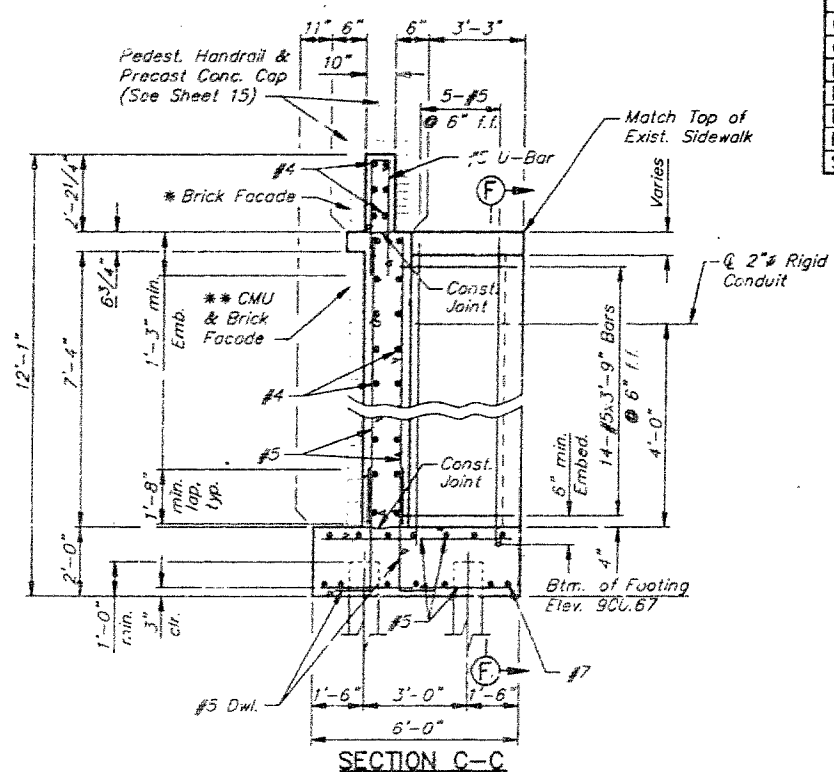
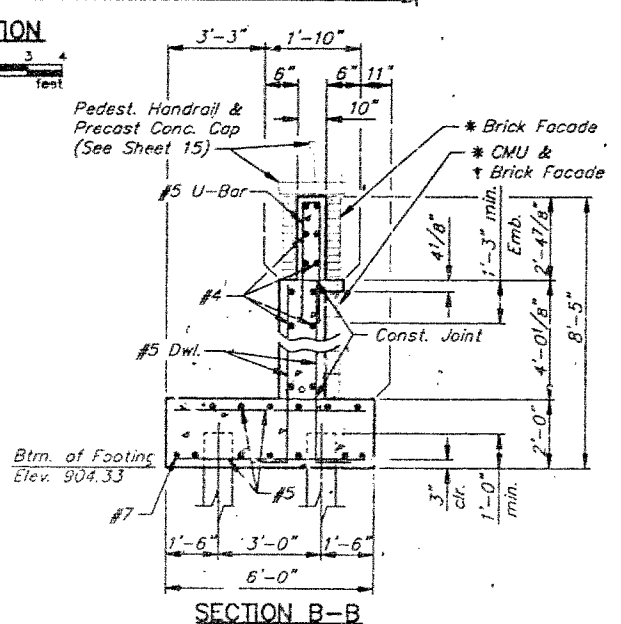
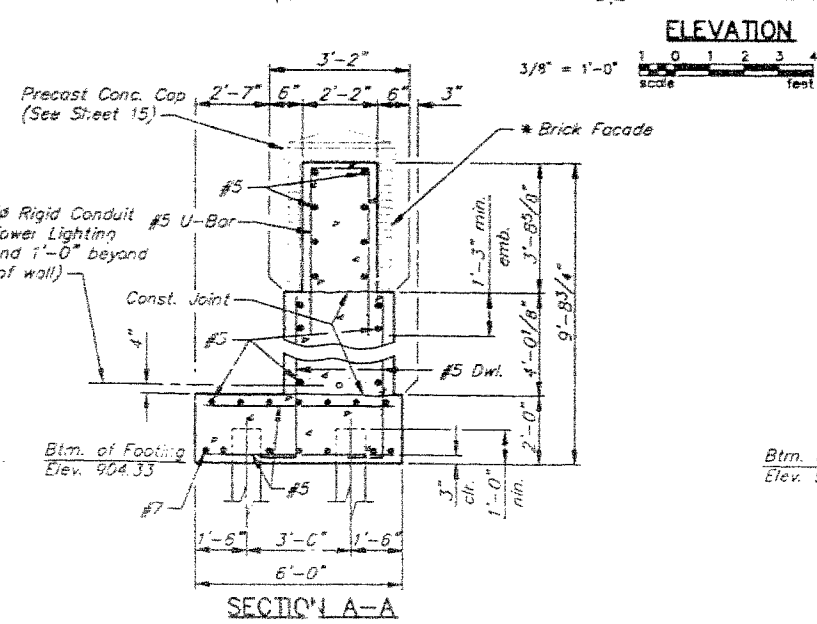
- * Standard Modular Brick in Running Bond
- ** Rockface (Split Faced) Conc. Masonry Units in Std. Running Bond
- † Standard Modular Brick placed in Rowlock Position

Note:
Masonry facade, pedestrian handrail, and precast concrete caps not shown in elevation for clarity.

FOOTING PLAN
No Scale

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
CLASS I EXCAVATION	CU. YDS.	50
CLASS I CONCRETE	CU. YDS.	50.5
REINFORCING STEEL (GRADE 60)	LBS.	4,180
MASONRY FACADE ON END MONUMENTS	SQ. FT.	493
PRECAST CONCRETE CAP	LIN. FT.	16.5
PEDESTRIAN HANDRAIL (STEEL)	LIN. FT.	12
STEEL PILES (HP 10x42)	LIN. FT.	320

Notes:
e.f. denotes each face
f.f. denotes for face
n.f. denotes near face
For Sections D-D and F-F, and View E-E, see Sheet 14.
For pedestrian handrail and precast concrete cap details, see Sheet 15.
The Contractor shall install 3/4" preformed expansion joint filler at all locations where new concrete is placed against the surfaces of the existing abutment. Expansion joint filler shall conform to Section 1057 of the MHTC Standard Specifications. Joint filler shall not be paid for separately but shall be considered subsidiary to the unit price bid per cubic yard for "Class I Concrete".
For additional notes, see "General Notes", Sheet 2.



SECTION A-A

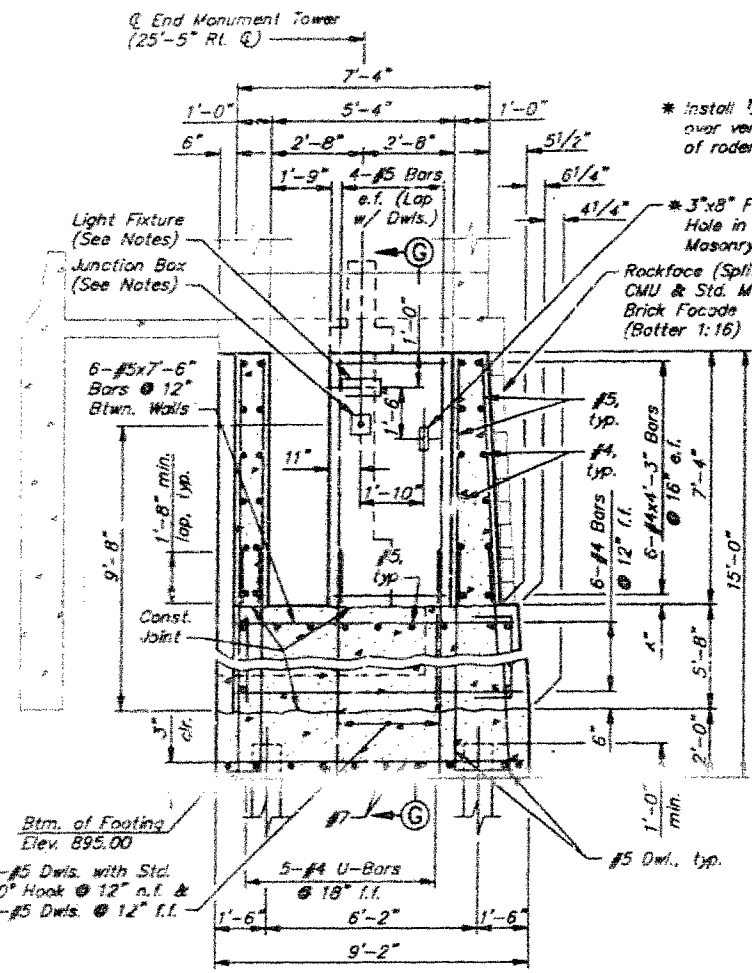
SECTION B-B
PEDESTRIAN WALL SECTIONS

SECTION C-C

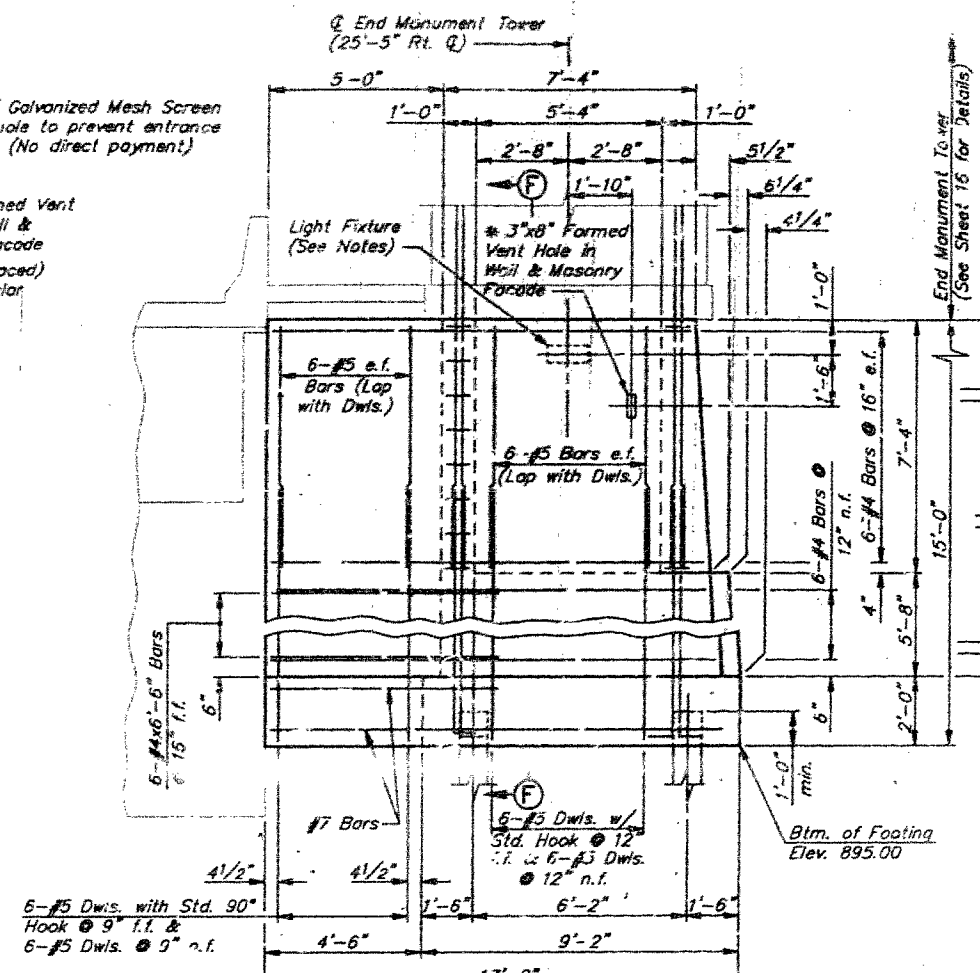
MONDET3 05/23/05 2933-07 PLOT SCALE: 1"=1'

BOYD BROWN STUDE & CARBERRY
CONSULTING ENGINEERS
CHARTERED

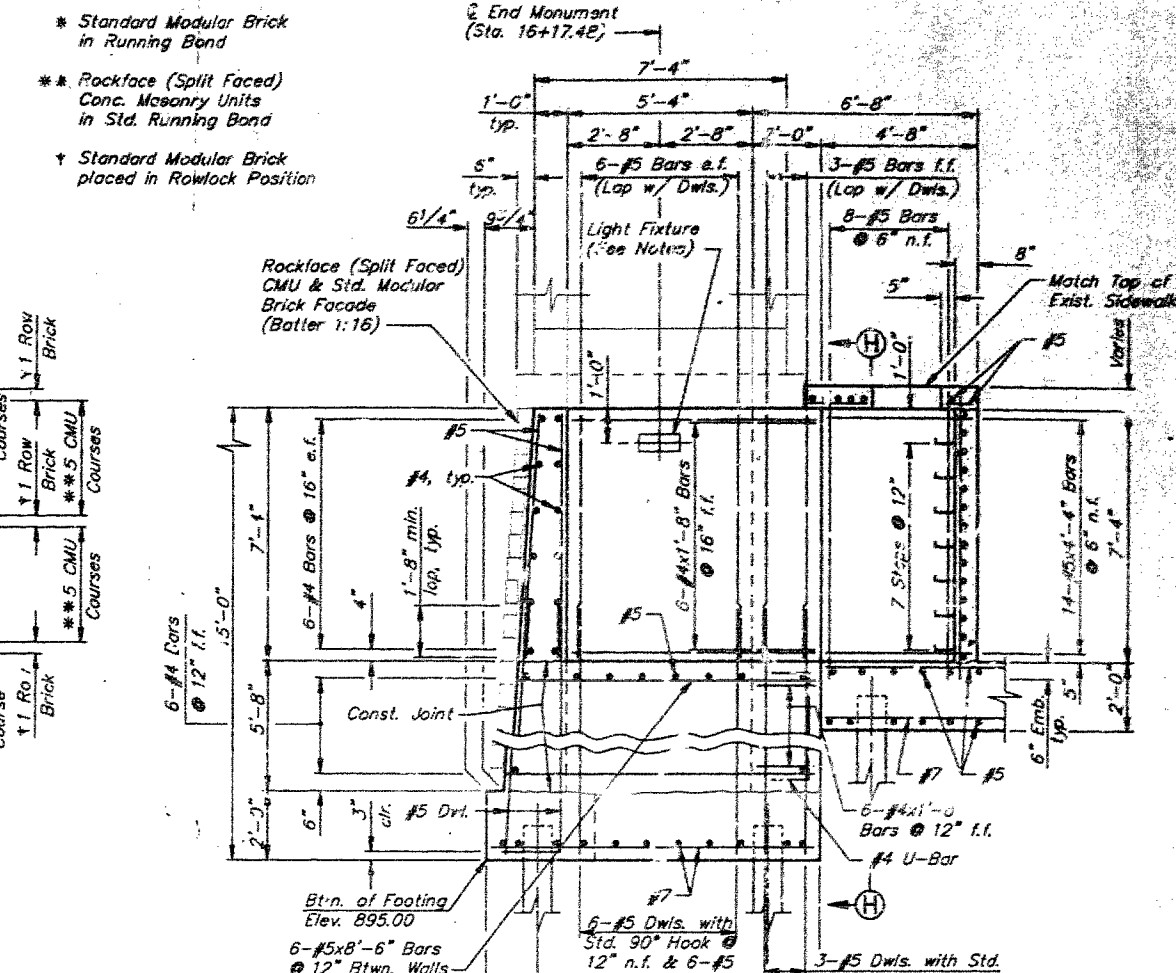
NO.	MADE DATE	REVISION	FILE NO.
KANSAS CITY, MISSOURI			
77th STREET BRIDGE BEAUTIFICATION			
END MONUMENT DETAILS (STA. 16+17.48)			
DWN: TAH	CHK: SGW	DATE: 03/05	SHEET 13



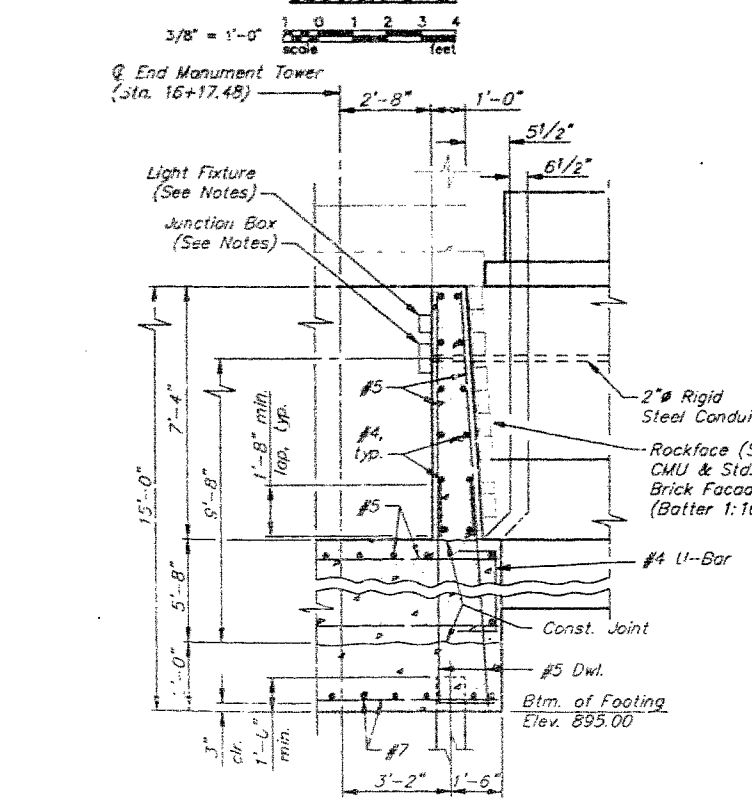
SECTION D-D



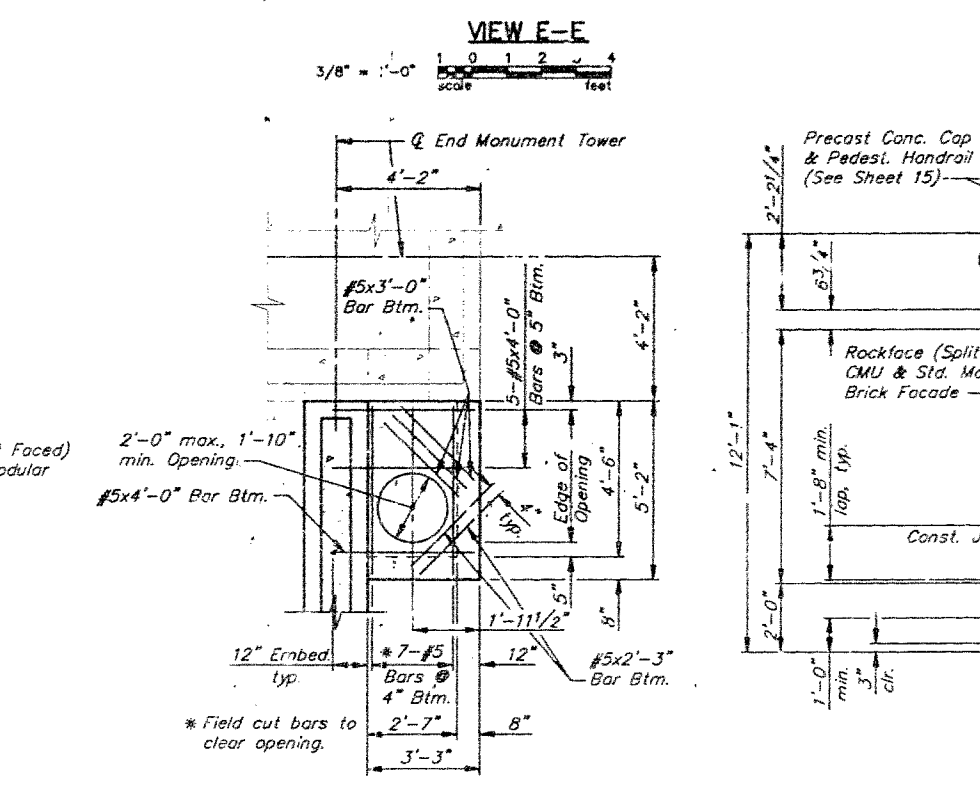
VIEW E-E



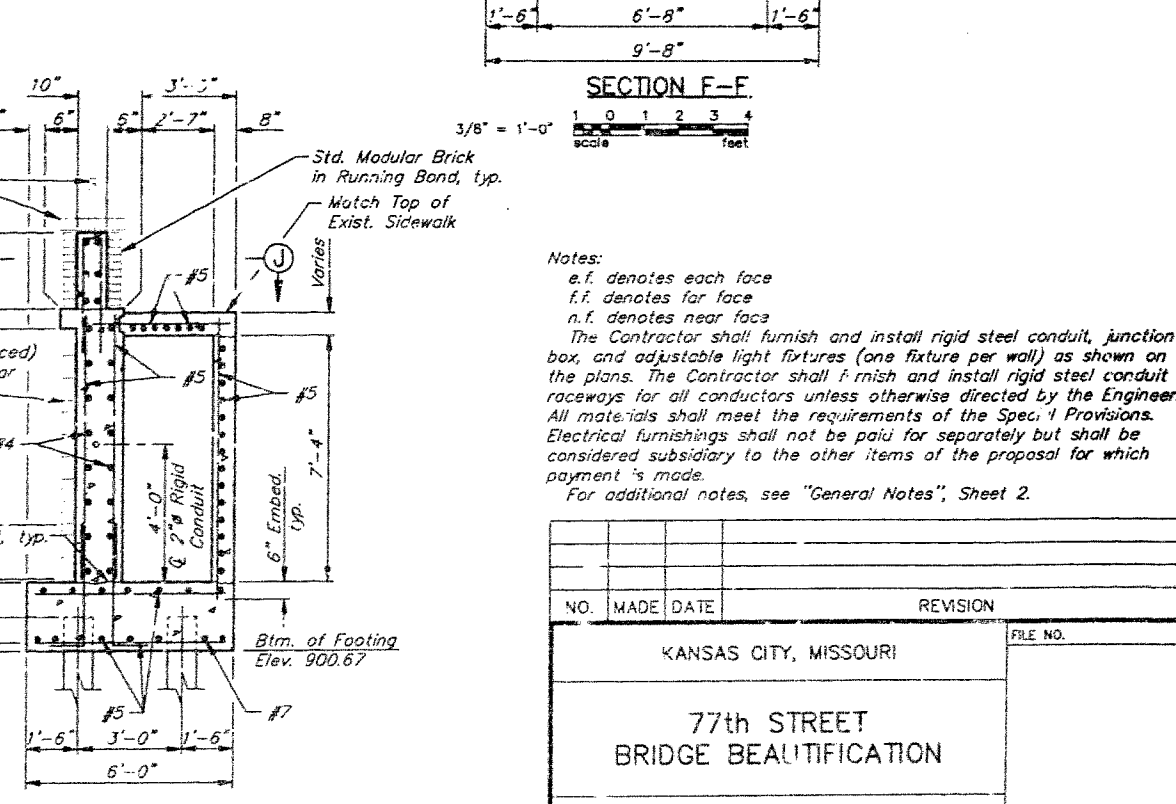
SECTION F-F



SECTION G-G



SECTION J-J



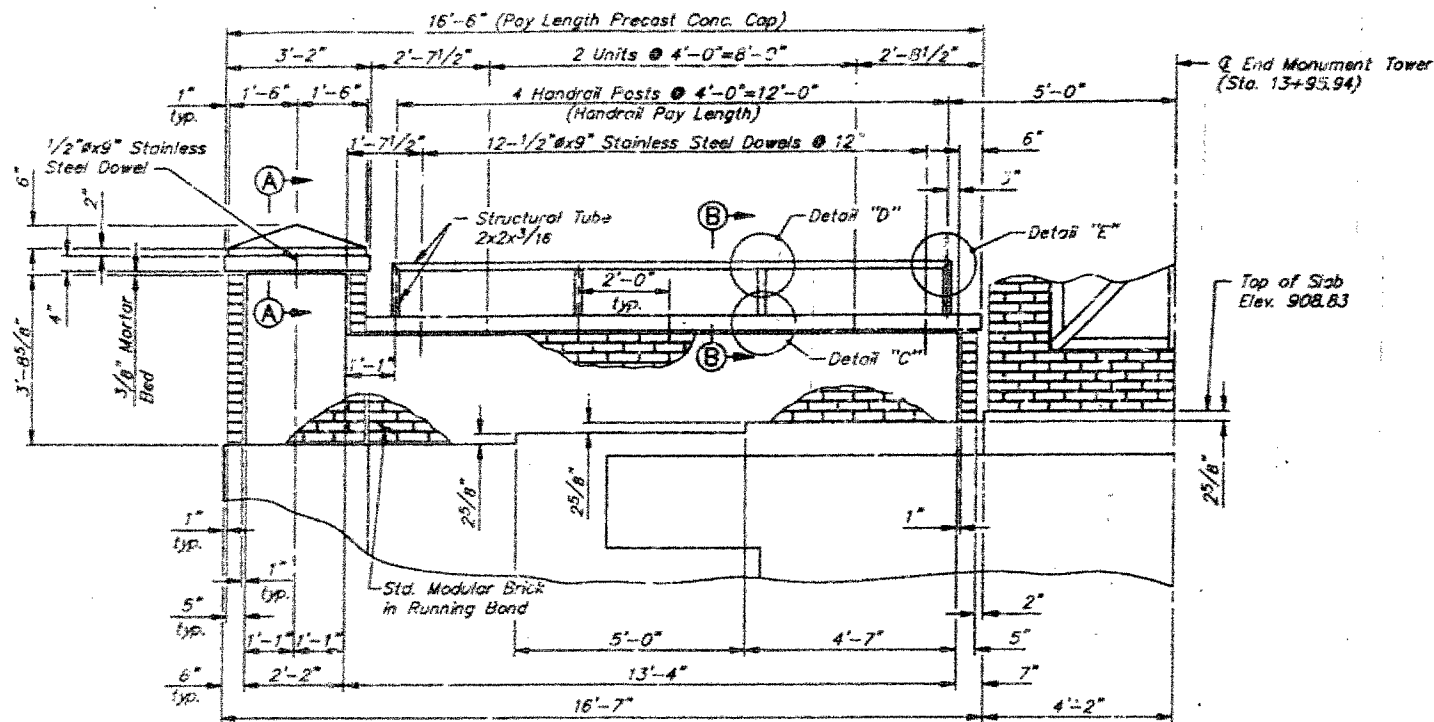
SECTION H-H

- * Standard Modular Brick in Running Bond
- ** Rockface (Split Faced) Conc. Masonry Units in Std. Running Bond
- † Standard Modular Brick placed in Rowlock Position

Notes:
 e.f. denotes each face
 f.f. denotes far face
 n.f. denotes near face
 The Contractor shall furnish and install rigid steel conduit, junction box, and adjustable light fixtures (one fixture per wall) as shown on the plans. The Contractor shall furnish and install rigid steel conduit raceways for all conductors unless otherwise directed by the Engineer. All materials shall meet the requirements of the Spec. Provisions. Electrical furnishings shall not be paid for separately but shall be considered subsidiary to the other items of the proposal for which payment is made.
 For additional notes, see "General Notes", Sheet 2.

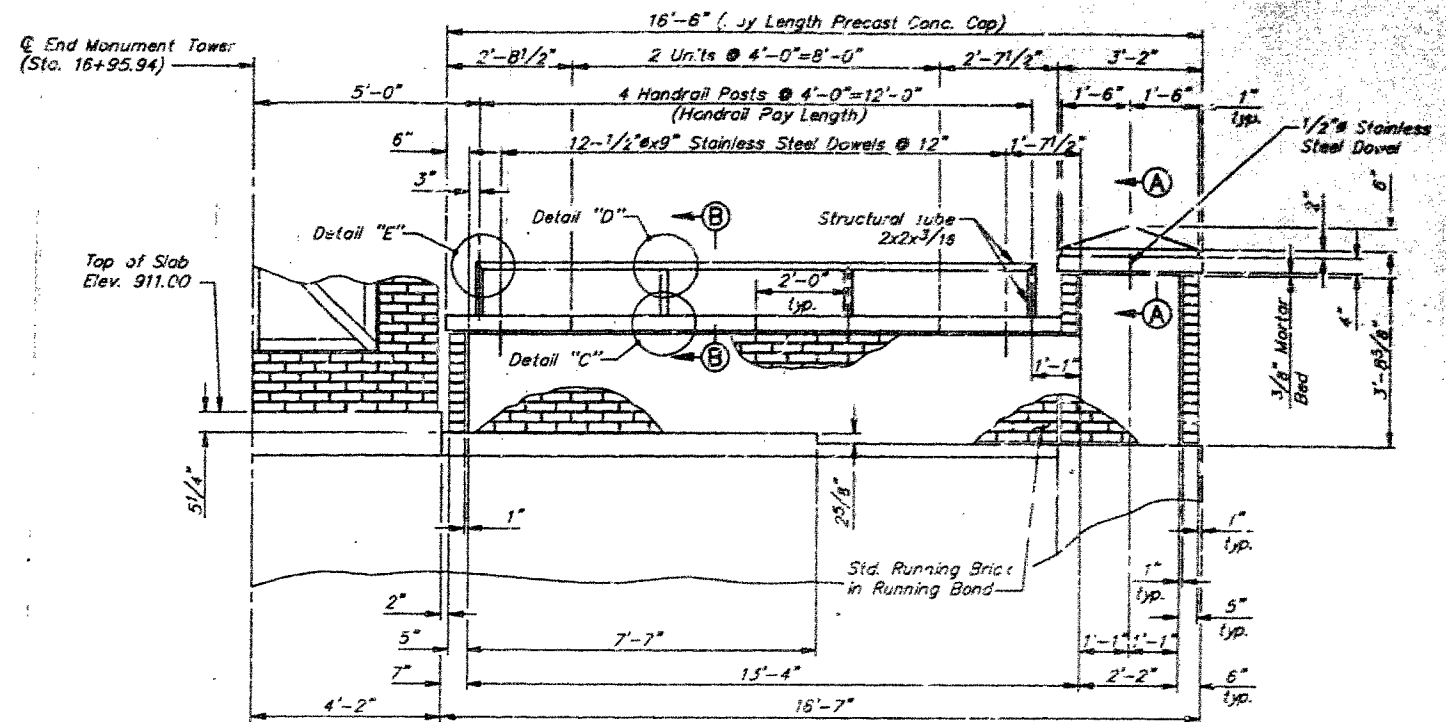
NO.	MADE DATE	REVISION	FILE NO.
KANSAS CITY, MISSOURI			
77th STREET BRIDGE BEAUTIFICATION			
END MONUMENT DETAILS (STA. 16+17.48)			
DWN: TAH	DATE: 03/95	SHEET: 14	

MONTPLANT 01/10/95 2033-07 PLOT SCALE: 1=1



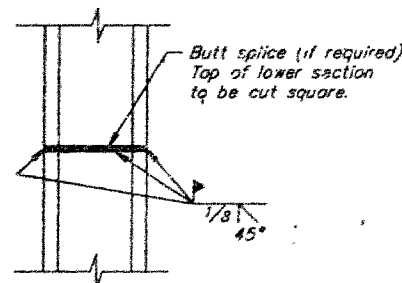
S.W. MONUMENT
PEDESTRIAN HANDRAIL ELEVATION

1/2" = 1'-0"
0 1 2 3
scale feet



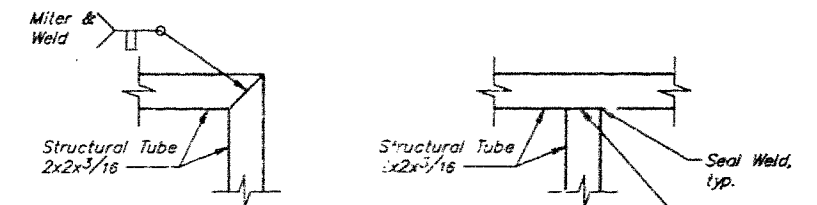
S.E. MONUMENT
PEDESTRIAN HANDRAIL ELEVATION

1/2" = 1'-0"
0 1 2 3
scale feet



PILE SPlice DETAIL

No Scale

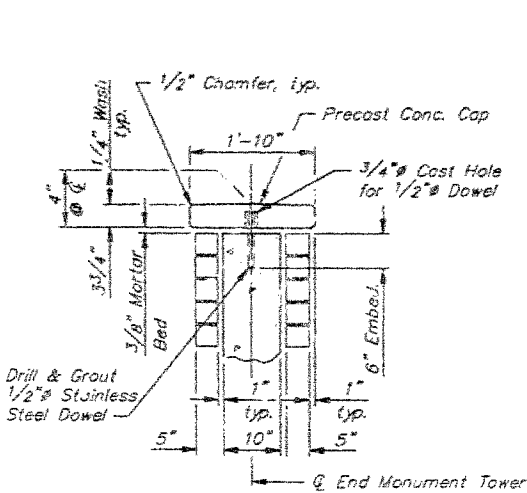


DETAIL "E"

DETAIL "D"

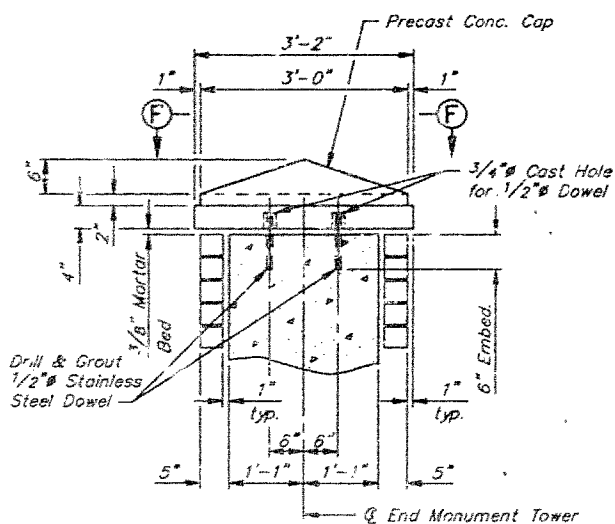
3" = 1'-0"
0 3 6 9 1
scale feet

Notes:
For monument details not shown, see Sheets 11 thru 14.
For monument tower details not shown, see Sheet 16.
For additional notes, see "General Notes", Sheet 2.



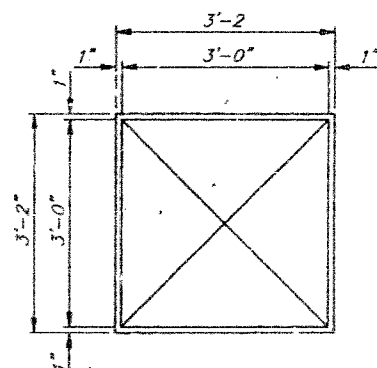
SECTION B-B

3/4" = 1'-0"
0 1 2
scale feet



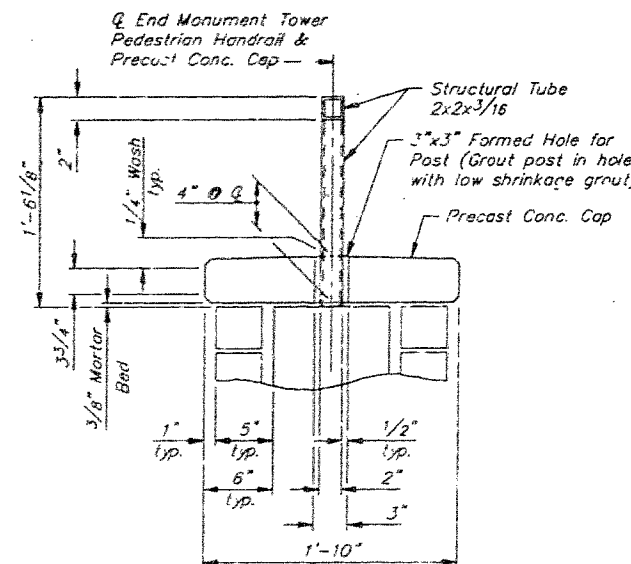
SECTION A-A

3/4" = 1'-0"
0 1 2
scale feet



VIEW F-E

3/4" = 1'-0"
0 1 2
scale feet



DETAIL "C"

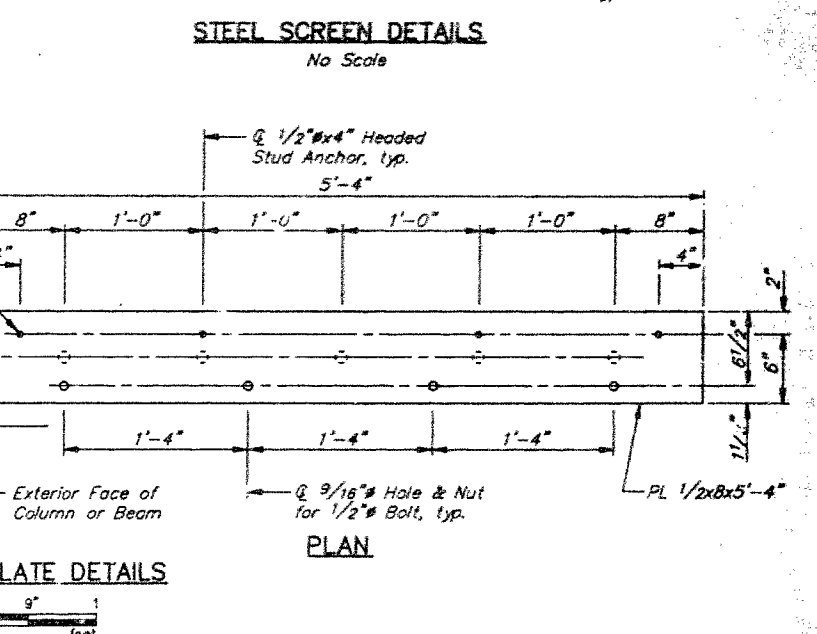
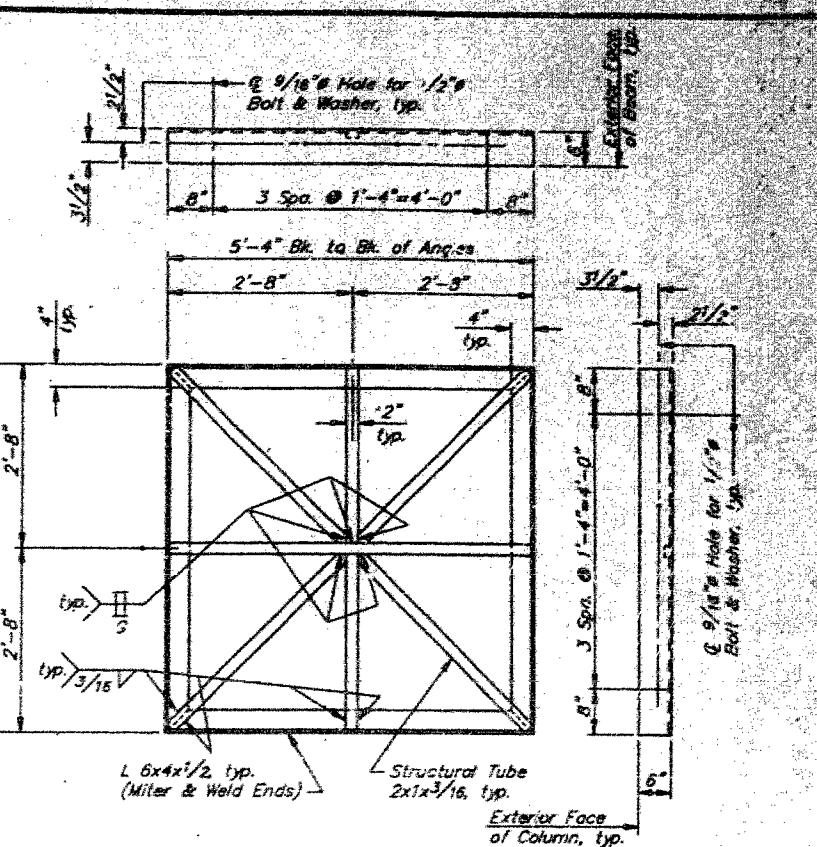
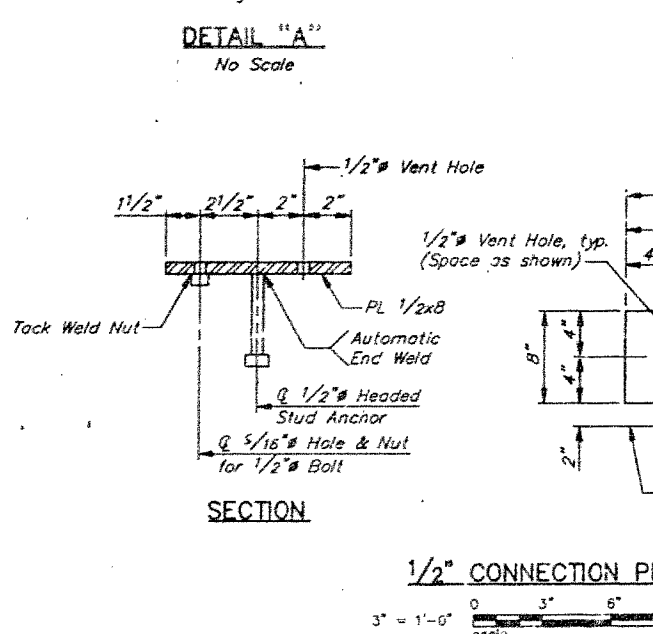
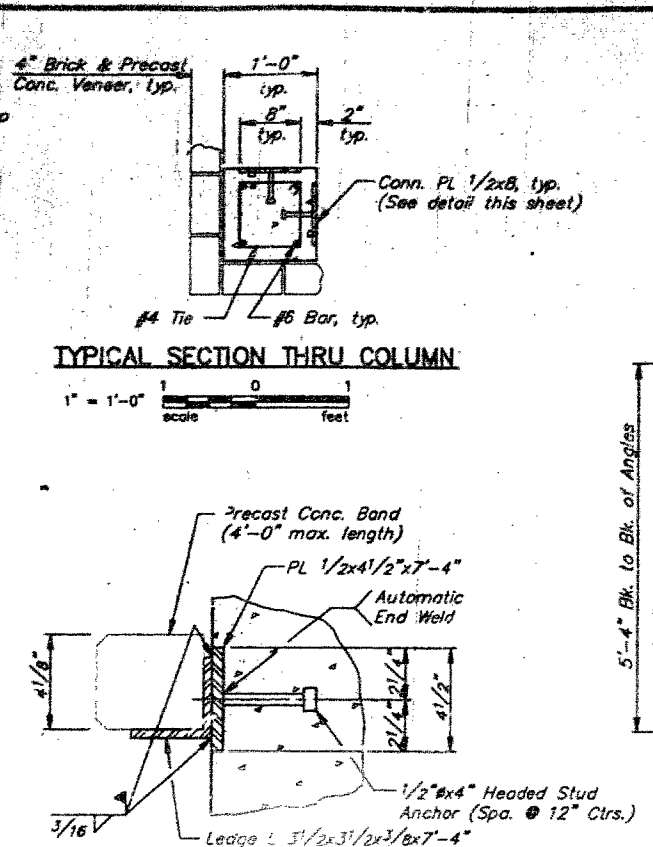
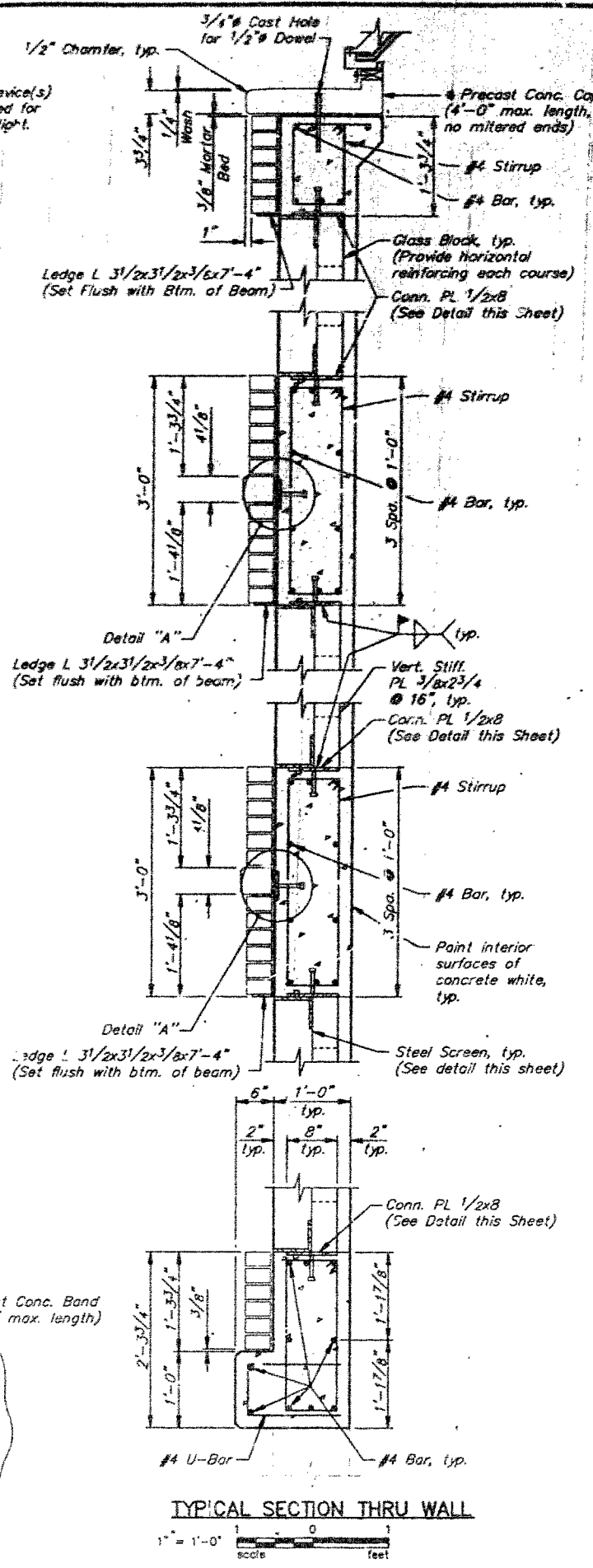
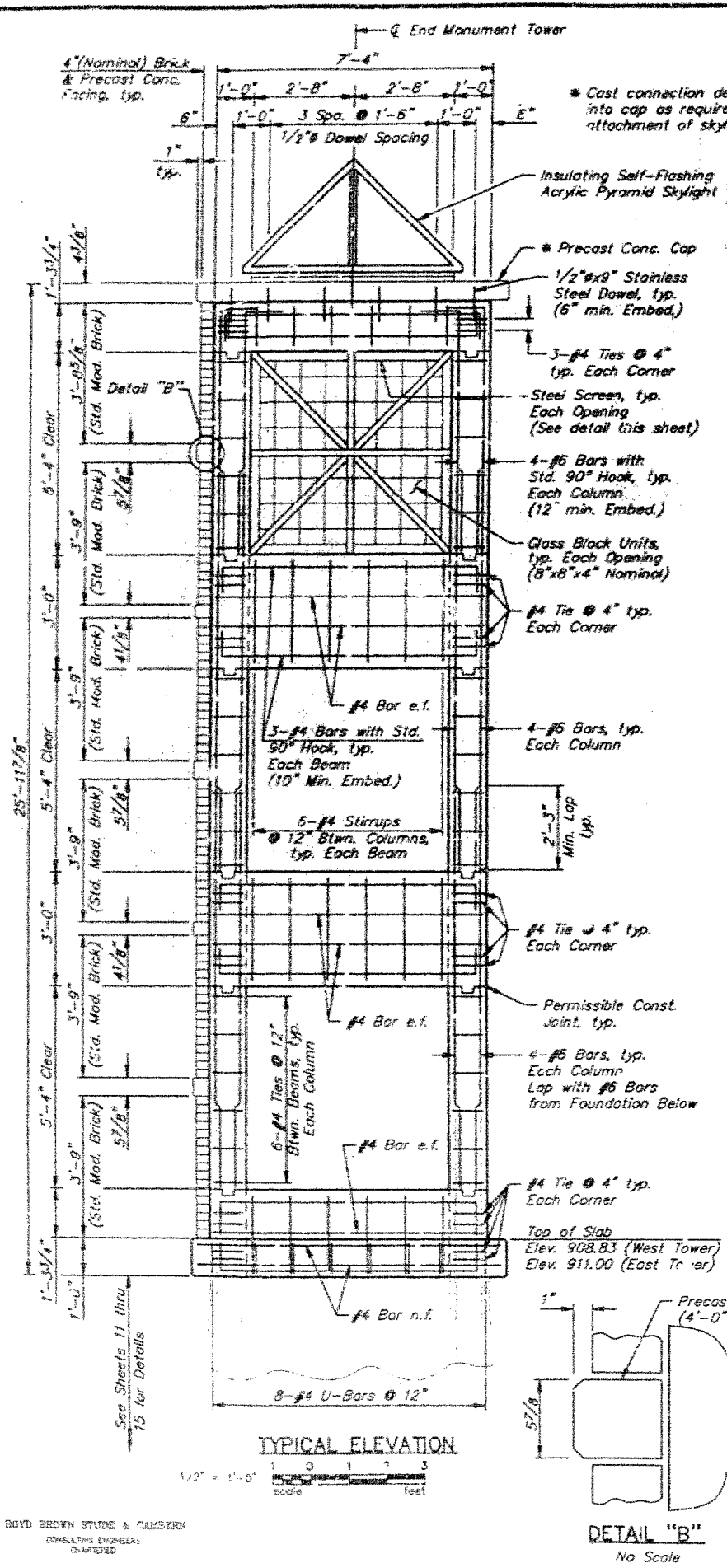
1 1/2" = 1'-0"
0 3 6 9 12
scale feet

NO.	MADE	DATE	REVISION	FILE NO.
KANSAS CITY, MISSOURI				
77th STREET BRIDGE BEAUTIFICATION				
MISCELLANEOUS END MONUMENT DETAILS				
DWN: JAH	SHEET			
CHK: SCW	DATE: 3/95			15

JACKSON COUNTY
A-4738

MONHARD 37/10/BIS 2033-07 PLOT SCALE: 1"=1'

BOYD BROWN STUDE & CAMBERN
CONSULTING ENGINEERS
CHARTERED



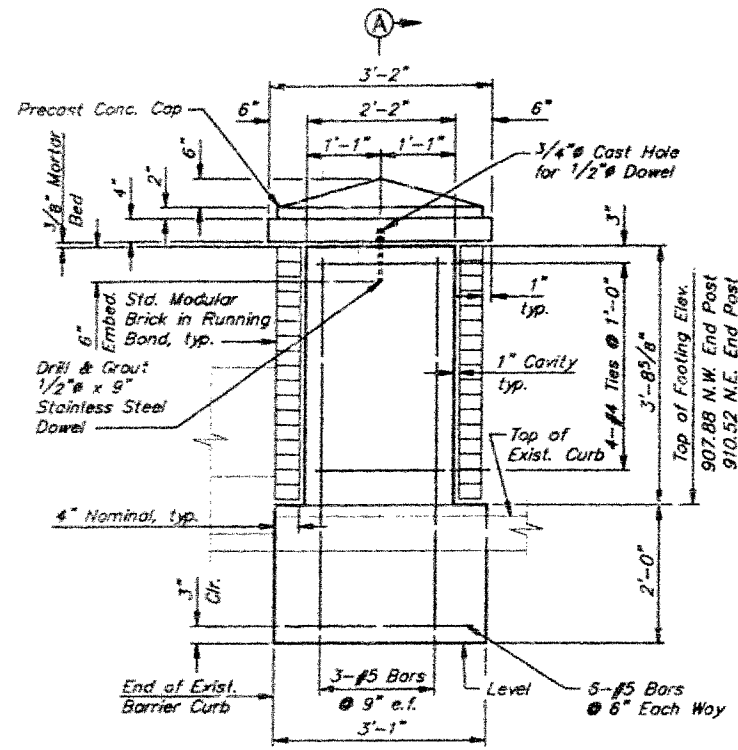
Notes:
 e.f. denotes each face
 n.f. denotes each face
 All concrete shall be Class C Concrete (MCIB Mix No. WA634-3/4-4).
 All reinforcing steel shall meet ASTM A615, Grade 60 requirements.
 All structural steel plates and shapes shall meet ASTM A36 requirements.
 All structural steel tubing shall meet ASTM A500, Grade B requirements.
 All brick and precast concrete masonry shall conform to the Special Provisions. Brick veneer shall be placed in standard running bond.
 Glass block units shall conform to the Special Provisions. Glass block shall be placed in standard stock bond.
 The Contractor shall secure the brick and precast concrete veneer to the concrete backing with two piece anchors spaced not more than 16 inches vertically and 24 inches horizontally. The Contractor shall provide expansion, control, and isolation joints as required to accommodate movement of the masonry veneer.
 For additional notes, see "General Notes", Sheet 2.
 Concrete, reinforcing steel, structural steel, brick, precast concrete, glass block and skylight shall not be paid for separately but shall be included in the contract unit price bid per each for "End Monument Tower".

JACKSON COUNTY
A-4738

NO.	MADE DATE	REVISION	FILE NO.
KANSAS CITY, MISSOURI			
77th STREET BRIDGE BEAUTIFICATION			
END MONUMENT TOWER DETAILS			
OWN: TAH	DATE: 1/22/85	SHEET	16

TOWERDET 07/10/95 2933-07 PLOT SCALE: 1=1'

BOVD BROWN STUDE & CAMERON
CONSULTING ENGINEERS
QUARTERS



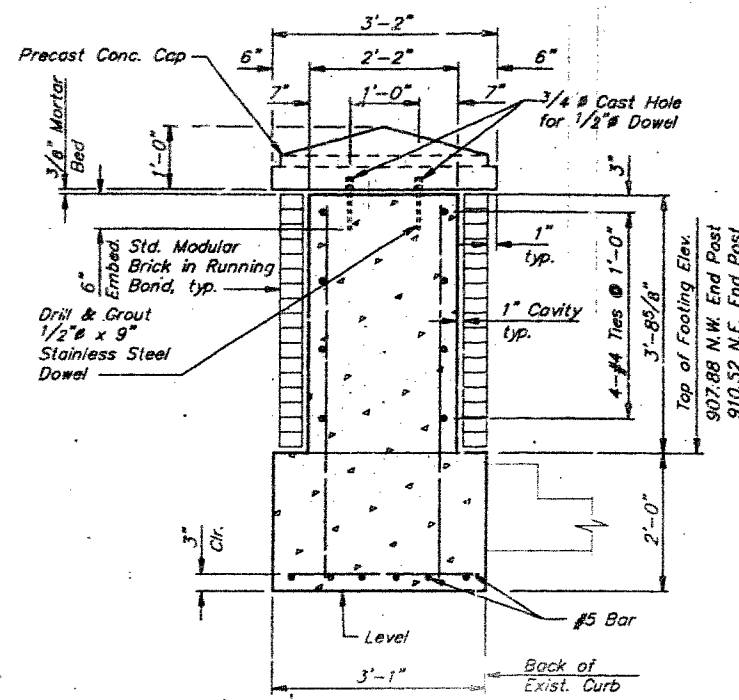
ELEVATION



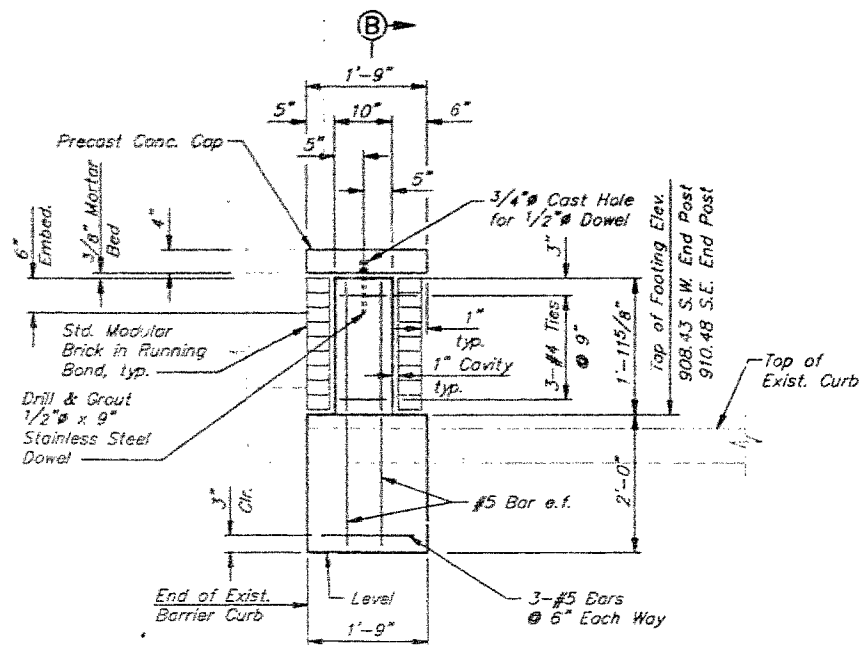
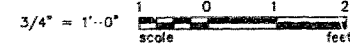
NORTH BARRIER END POSTS

(2 Req'd.)

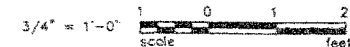
N.E. End Post shown,
N.W. End Post similar.



SECTION A-A



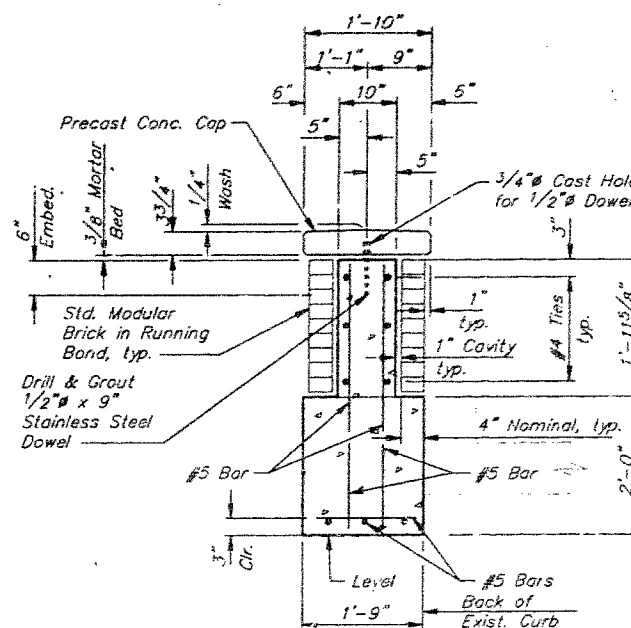
ELEVATION



SOUTH BARRIER END POSTS

(2 Req'd.)

S.E. End Post shown,
S.W. End Post similar.



SECTION B-B

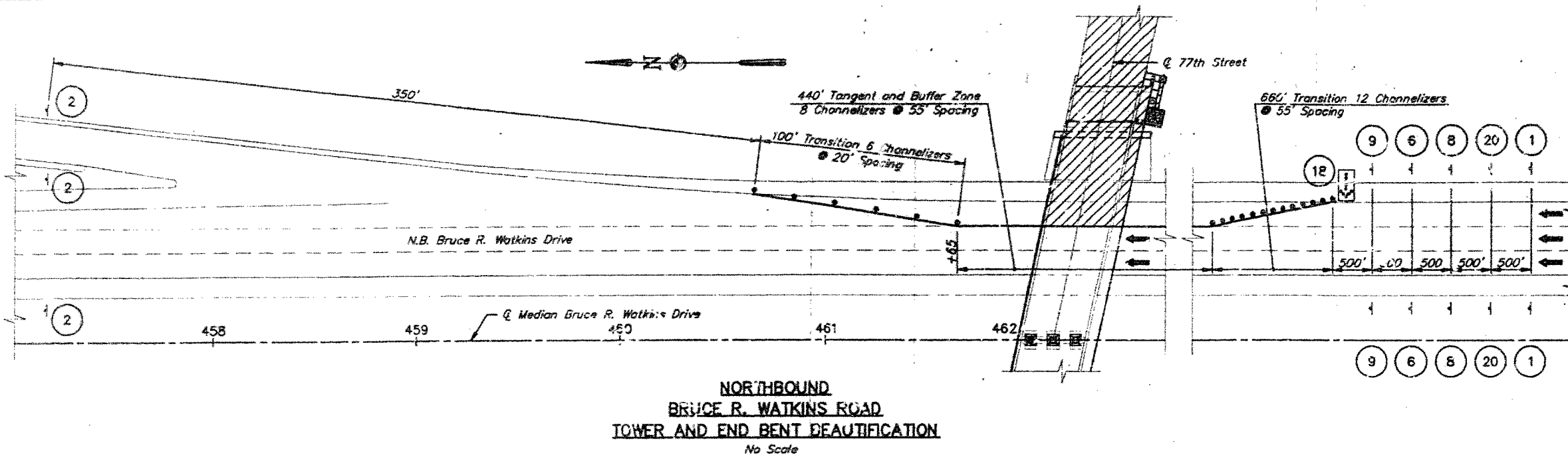


Notes:

The Contractor shall secure the brick veneer to the concrete backing with two piece anchors spaced not more than 16 inches vertically and 24 inches horizontally. The Contractor shall provide expansion, control, and isolation joints as required to accommodate movement of the brick veneer. The Contractor shall install preformed expansion joint filler at all locations where new concrete is placed against the surfaces of existing concrete. Expansion joint filler shall conform to Section 1057 of the MHTC Standard Specifications. (No separate payment)
Excavation, concrete, reinforcing steel, brick veneer, and precast concrete cap shall not be paid for separately but shall be included in the contract price bid per each for "End Post".

NO.	MADE	DATE	REVISION	FILE NO.
KANSAS CITY, MISSOURI				
77th STREET BRIDGE BEAUTIFICATION				
END POST DETAILS				
DWN: BRW CKD: SGW DATE: 7/12/95			SHEET 17	

7/21/95 07:11/95 2833-07 PLOTS/SCALE 1=1



GENERAL NOTES

Any existing overhead or ground mounted sign which conflicts with the Traffic Control plan shall be covered, relocated, or removed as approved by the Engineer. (No Direct Payment)

Remove all existing striping that conflicts with the Traffic Control plan during construction and replace after construction ceases or as directed by the Engineer. (No Direct Payment)

Contractor shall provide access to the side roads, existing ramps, and entrances at all times or as directed by the Engineer.

Contractor may develop his own Traffic Control plan as per Section 616 of the Missouri Standard Specifications for Highway Construction and submit it for approval by the Engineer and M&T.

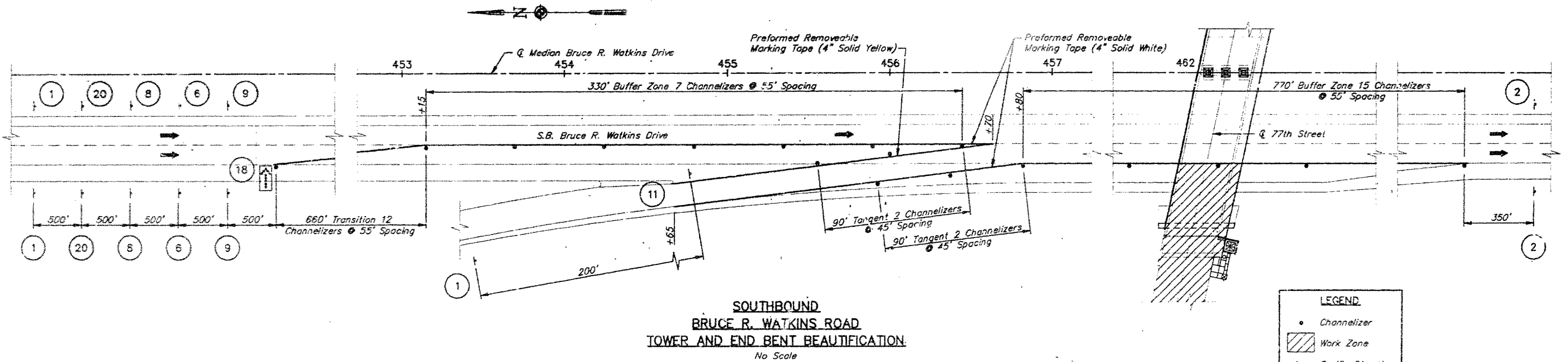
All existing signs, with construction limits not designated to remain shall be relocated as approved by the Engineer. (No Direct Payment)

Contractor to provide flagger control for all short term construction situations adjacent to traffic that are not explicitly described and as directed by the Engineer.

Thermoplastic Marking Material shall be used to permanently mark and stripe roadway at the end of construction sequence similar to before construction and as approved by the Engineer.

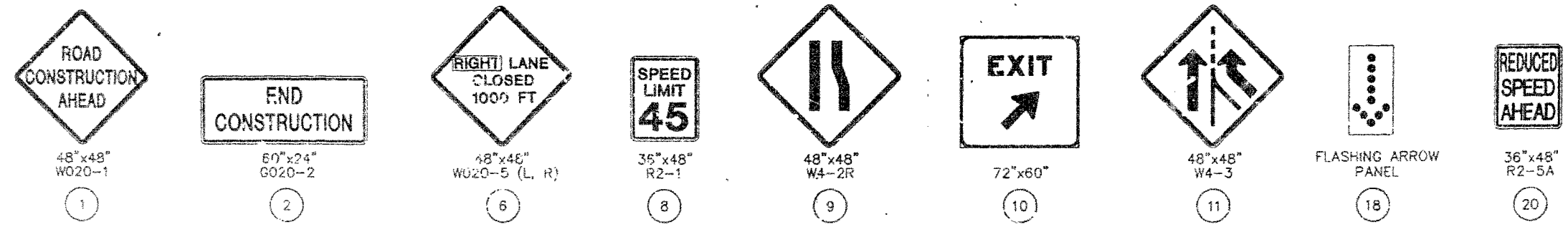
All construction signing other than regulatory signs will be Black lettering with Orange background.

Traffic Control shown on Sheet 20 shall not commence until Traffic Control shown on Sheets 18 and 19 is completed or until permission given by Engineer.



LEGEND

- Channelizer
- ▨ Work Zone
- Traffic Direction



SHEET 1 OF 3

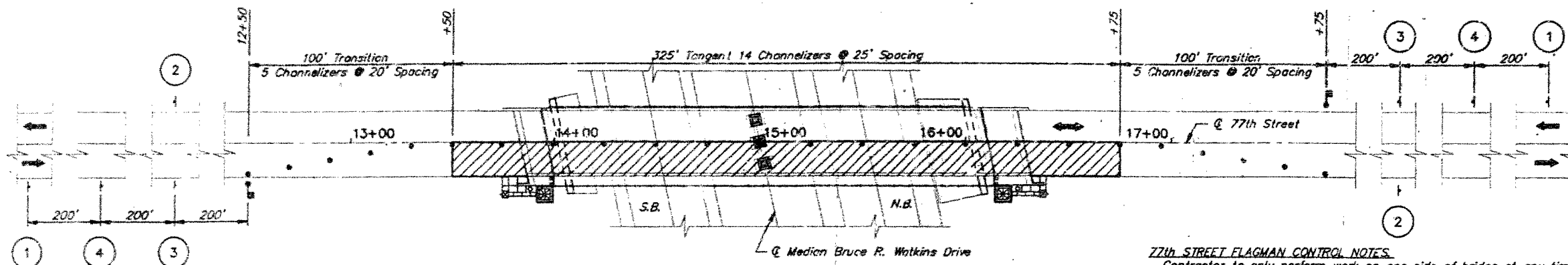
NO.	MADE	DATE	REVISION
KANSAS CITY, MISSOURI			FILE NO.
77th STREET BEAUTIFICATION			
TRAFFIC CONTROL PLAN			
JACKSON COUNTY A-4738			DATE: 5-23-85

BRW/TTC 07/10/85 2933-07 PLOT SCALE: 1"=1'

BOYD, BROWN, STUDE & CALDERN
CONSULTING ENGINEERS
CHICAGO, ILL.

DRAWN: TAH
CHKD: KJM
DATE: 5-23-85

SHEET
18



**77TH STREET
FLAGMAN CONTROL - TWO WAY SINGLE LANE
DAYLIGHT OPERATION**
No Scale

77th STREET FLAGMAN CONTROL NOTES.

Contractor to only perform work on one side of bridge at any time.
Contractor to clear traveled way of debris and equipment during non-working hours.
Contractor to close and sign bridge sidewalk accordingly for duration of bridge beautification. (No Direct Payment)
Contractor to move transition channelizers to adjacent lane during work on other bridge rail.
Contractor will not be allowed to work above open lane of Bruce R. Watkins Road where bridge clearance or falling debris will become a concern.

LEGEND

- Channelizer
- Work Zone
- Flagger
- Traffic Direction



48"x48"
W020-1
1



48"x48"
W020-7A
3



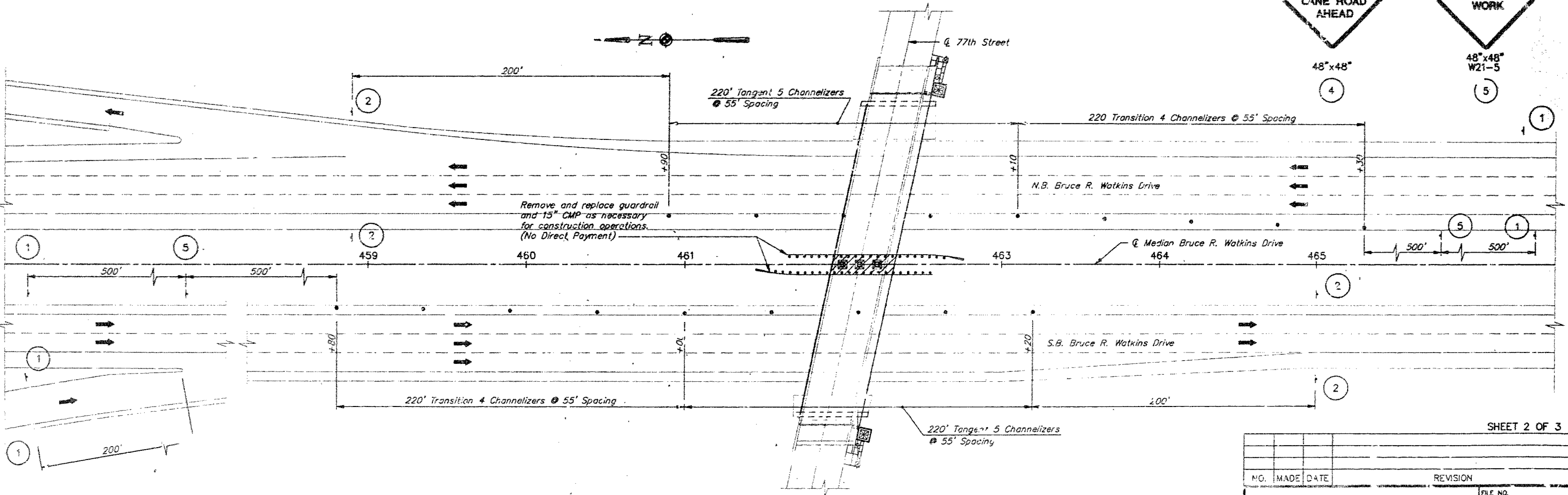
50"x24"
G020-2
2



48"x48"
4



48"x48"
W21-5
5

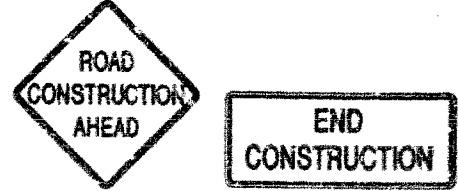
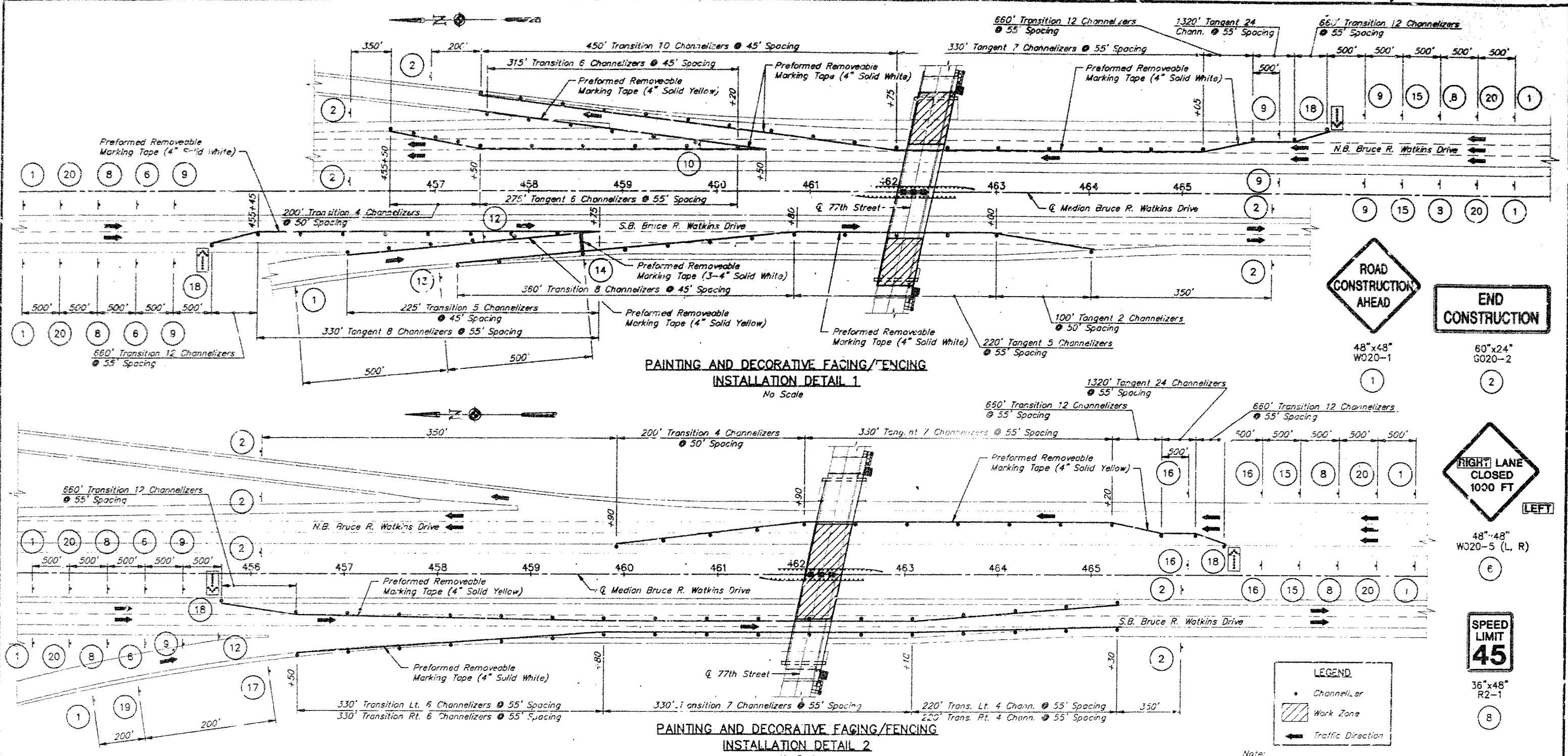


**BRUCE R. WATKINS ROAD
MEDIAN COLUMN BEAUTIFICATION**
No Scale

SHEET 2 OF 3

NO.	MADE	DATE	REVISION	FILE NO.
KANSAS CITY, MISSOURI				
77th STREET BEAUTIFICATION				
TRAFFIC CONTROL PLAN				
DWN: TAH CKD: KJM DATE: 5-23-95			SHEET 10	

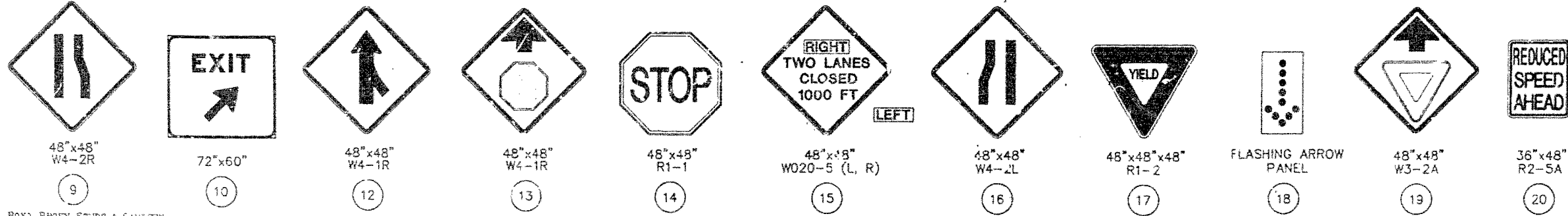
JACKSON COUNTY
A-4738



LEGEND

- Channelizer
- Work Zone
- Traffic Direction

Note: See Sheet 19 for 77th Street Flagman Control. SHEET 3 OF 3



NO.	MADE	DATE	REVISION
KANSAS CITY, MISSOURI			
77th STREET BEAUTIFICATION			
TRAFFIC CONTROL PLAN			

BRW77TC2 07/10/95 2933-C7 PLOT SCALE: 1"=1'

BOYD, BROWN, STUDE & CAMBERN
CONSULTING ENGINEERS
CHICAGO, ILL.

JACKSON COUNTY
A-4738

DRAWN: TAJ
CHECKED: KJM
DATE: 5-27-95