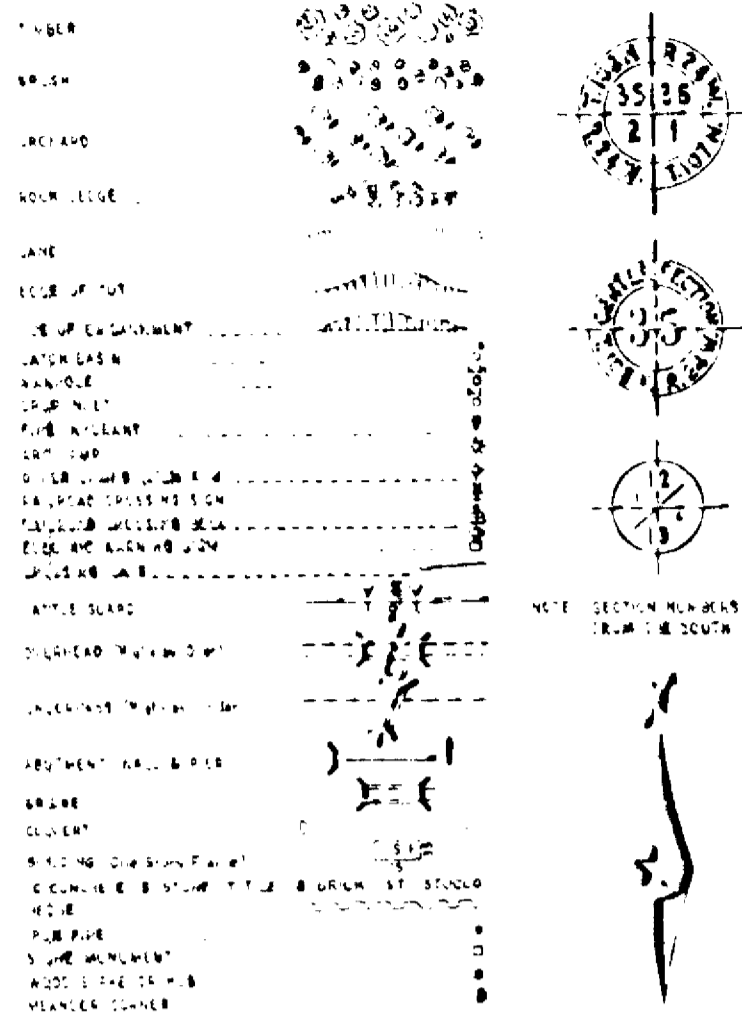
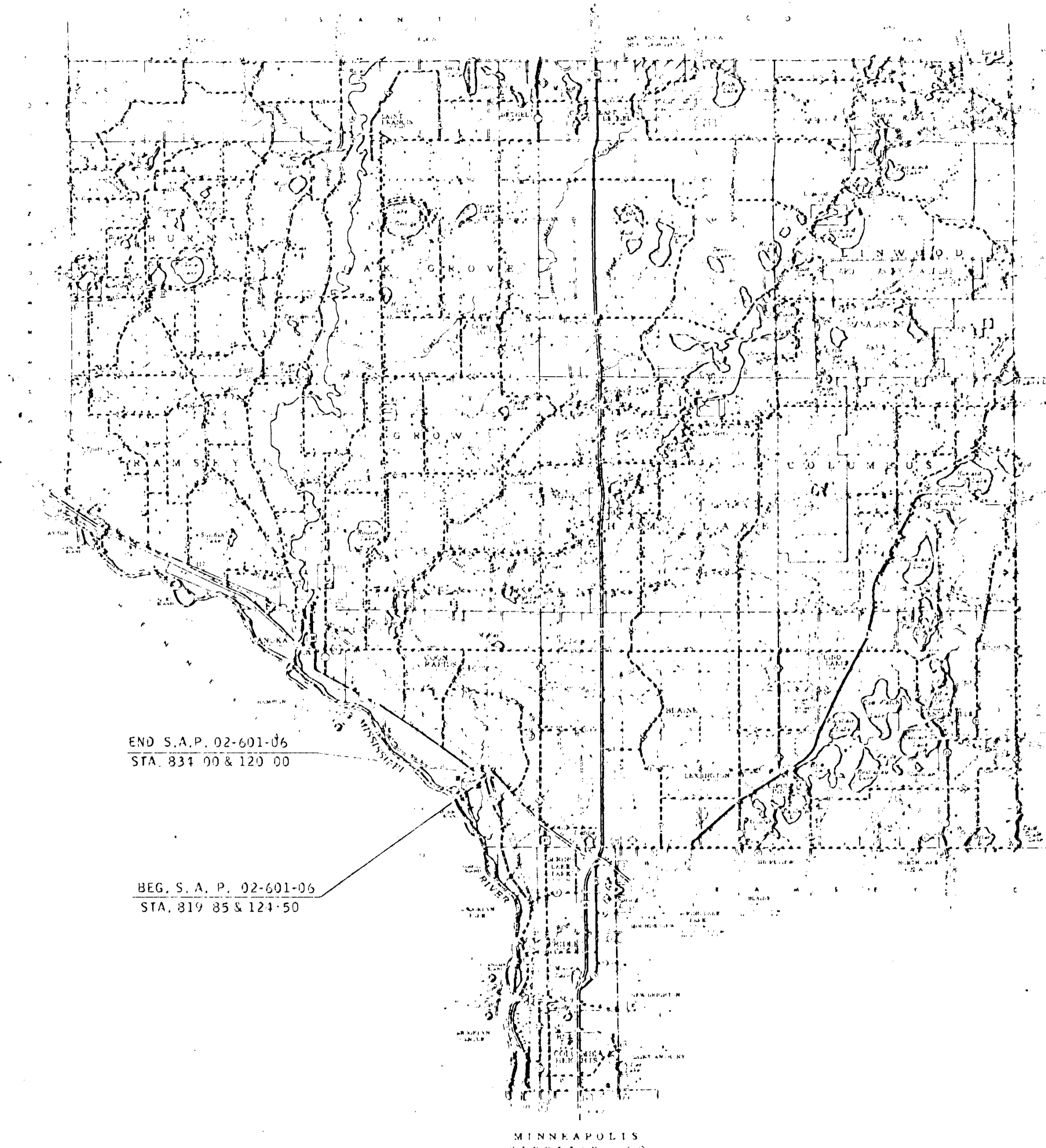


CONVENTIONAL SIGNS

CORNER	[Symbol]
COUNTY LINE	[Symbol]
SECTION LINE	[Symbol]
QUARTER SECTION LINE	[Symbol]
ADJACENT ROAD TO THE LINE	[Symbol]
ADJACENT ROAD TO THE RIGHT	[Symbol]
ADJACENT ROAD TO THE LEFT	[Symbol]
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ADJACENT ROAD TO THE RIGHT	[Symbol]



NOTE SECTION NUMBER ROAD FROM 180000



END S.A.P. 02-601-06
STA. 831 00 & 120 00

BEG. S. A. P. 02-601-06
STA. 819 85 & 124 50

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
GRADING, BASE & BIT. SURFACING & FULLY ACTUATED
CONSTRUCTION PLAN FOR CONTROL SIGNAL SYSTEM.

County State Aid Highway No. _____

AND U. S. TRUNK HIGHWAY #10
From 1/4 COR. SEC. 26, T 31 N - R 21 W To SEC. 26, T 31 N - R 21 W

U. S. TRUNK HIGHWAY # 10
NET LENGTH 1,415 FT.....2679 MILES.

SCALES

PLAN	1" = 100 FT.
PROFILE	1" = 10 FT. (Vertical)
CROSS SECTIONS	1" = 10 FT.
DETAILS	1" = 4 FT.

LAYOUT
1" = 100 FT.

MINN. PROJ. _____

INDEX OF SHEETS

1.....	TITLE SHEET
2.....	STATEMENT OF ESTIMATED QUANTITIES
3.....	TYPICAL SECTION
4.....	T. H. #10 PLAN & PROFILE
5.....	C. S. A. H. #1 PLAN & PROFILE
6.....	SIGNAL DETAIL SHEET
7.....	SIGNAL LAYOUT
8-11.....	CROSS SECTIONS (T. H. #10)
12-13.....	CROSS SECTIONS C. S. A. H. #1
14.....	CROSS SECTIONS ONE WAY STREET

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES ARE HEREBY DECLARED TO BE IN FULL FORCE AND EFFECT IN THE CONSTRUCTION OF THIS PROJECT.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER, UNDER THE LAWS OF THE STATE OF MINNESOTA.

Ernest J. Hoffmann
DATE 6-1-61

ANDRA

RECOMMENDED FOR APPROVAL *J.P. Worley* 6/12/61

RECOMMENDED FOR APPROVAL *J.P. Worley* 6/16/61

APPROVED *G. W. ...* 6/16/61

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

DISTRICT ENGINEER _____ DATE _____

MICRO-FILMED

— SPECIFICATIONS —

THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, DATED JAN. 1, 1954, SHALL GOVERN

Min. Project No. _____

S.A.P. 02-601-06
State Project No. _____

ANDRA County, Minnesota. County Proj. No. _____ Plan No. _____ Sheet 1 of 11 Sheets

FORM 2169-10-59

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	TOTAL FINAL QUANTITIES
2104.501	Remove Portable Culvert	Lin. Ft.	572	
2104.502	Remove Pavement	Sq. Yd.	1,380	
2104.504	Remove Curb	Lin. Ft.	1,175	
2104.502	Remove Guard Rail	Lin. Ft.	700	
2104.512	Remove Integral Curb	Lin. Ft.	180	
2104.520	Remove Guard Post	Post	29	
2105.501	Class A Excavation	Cu. Yd.	6,091	
2130.501	Water	M-Gal.	103	
2105.510	Top Soil Covering	Cu. Yd.	281	
2202.526	Gravel Base Inplace (Class 5)	Ton	5,162	
2208.501	Bit. Material for Prime Coat	Gal.	1,703	
2208.503	Bit. Material for Mixture	Gal.	3,744	
2208.506	Aggregate	Ton	312	
2331.501	Bituminous Material for prime Coat (MC-0 or MC-1)	Gal.	297	
2331.503	Bit. Material for Mix (AC-1-(120/150) Pen)	Ton	4.2	
2331.503	Wearing Course Mixture	Ton	76	
2351.502	Bit. Material for Tack Coat (MC-2 or MC-3)	Gal.	560	
2351.504	Asphalt Cement (AC-1 (85/100) Pen)	Ton	70	
2351.509	Asphalt Concrete Wearing Course + Filler	Ton	1,154	
2501.521	F&I 12" R.C.P. Culvert (C1-2)	Lin. Ft.	182	
2501.512	F&I 22" Span C.M.P.-Arch Culv.	Lin. Ft.	40	
2501.512	F&I 22" Span C.M.P.-Arch Culv.	Lin. Ft.	220	
2506.507	Construct Catch Basin Design C or G	Lin. Ft.	9	
2506.51A	F&I Casting Assemblies (4101A 700-8X4140-C)	Assembly	3	
2515.532	F&I Apron 22" C.M.P. Arch Culvert	Each	2	
2515.532	F&I Apron 22" C.M.P. Arch Culvert	Each	1	
2515.541	F&I Apron 12" R.C.P. Culvert	Each	2	
2531.502	Concrete Curb Design (M-9)	Lin. Ft.	430	
2531.502	Concrete Curb Design (M-9) [1]	Lin. Ft.	1,800	
2574.501	Roadside Seeding	Acres	1.64	
2576.501	Sodding	Sq. Yd.	3,512	

NOTES

ALL PAMPS NOT SHOWN ON TYPICAL SECTIONS WILL HAVE 2" COMPACTED CLASS "A", 3" CLASS 5, 1" BIT. BASE AND 2" ASPHALT CONCRETE.

SOD SHALL BE PLACED ON A 4" STRIP ON THE UPPER PART OF THE IN SLOPE AND ON SOME BACK SLOPES AT THE DIRECTION OF THE ENGINEER.

A MINIMUM OF 3" OF TOPSOIL COVERING SHALL BE PLACED ON SLOPES BEFORE SODDING.

NO SUITABLE MATERIAL FOR TOPSOIL COVERING IS ON THE PROJ. THIS WILL HAVE TO BE ACQUIRED ELSEWHERE.

EXCESS CLASS "A", APPROX. 2200 CU. YDS. WILL BE PLACED IN THE FILL SLOPES ON T.H. #10 STA. 820+00 TO 825+50

EARTH WORK COMPUTATION

	CUT	FILL
CLASS "A" EXC. TRUNK HIGHWAY #10	4,732	1,884
CLASS "A" EXC. C.S.A.H. #1	1,535	498
SUB TOTAL	6,267	2,382
DEDUCT FOR INP. CONC. SLAB ON C.S.A.H. #1	276	
SUB TOTAL	5,991	2,382
ONE WAY TO SHOPPING CENTER		80
SUB TOTAL	5,991	2,462
ONE WAY FROM C.S.A.H. #1 TO T.H. #10		200
SUB TOTAL	5,991	2,662
COON RAPIDS CITY HALL APPR.	100	
SUB TOTAL	6,091	2,662
BAL. CLASS "A" 150%	3,993	3,993
EXCESS TOTAL	2,098	CU. YDS.

FORM 2169-10-59

The following Standard Detail plates, approved by the Bureau of Public Roads, shall apply on this project.

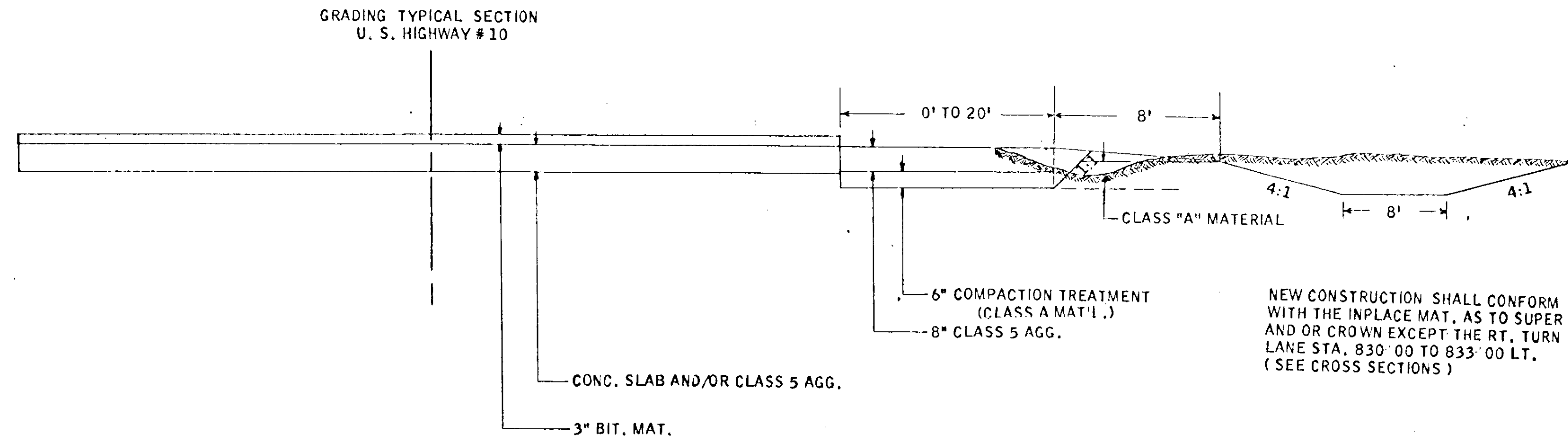
STANDARD DETAIL PLATES	
PLATE NO.	DESCRIPTION
3000 B	Reinforced Concrete Pipe
3040	Corrugated Metal Pipe Arch
3122 B	Metal Apron for Corrugated Metal Pipe Arch Culverts
4002 C	Catch Basin
4101 A	Ring Casting for Manholes or Catch Basin (700-8)
4140 C	Special Convex Grate Casting for Catch Basin
8000A-8001	
8003 & 8008A	Standard Signs & Barricades

BASIS OF PLANNED QUANTITIES

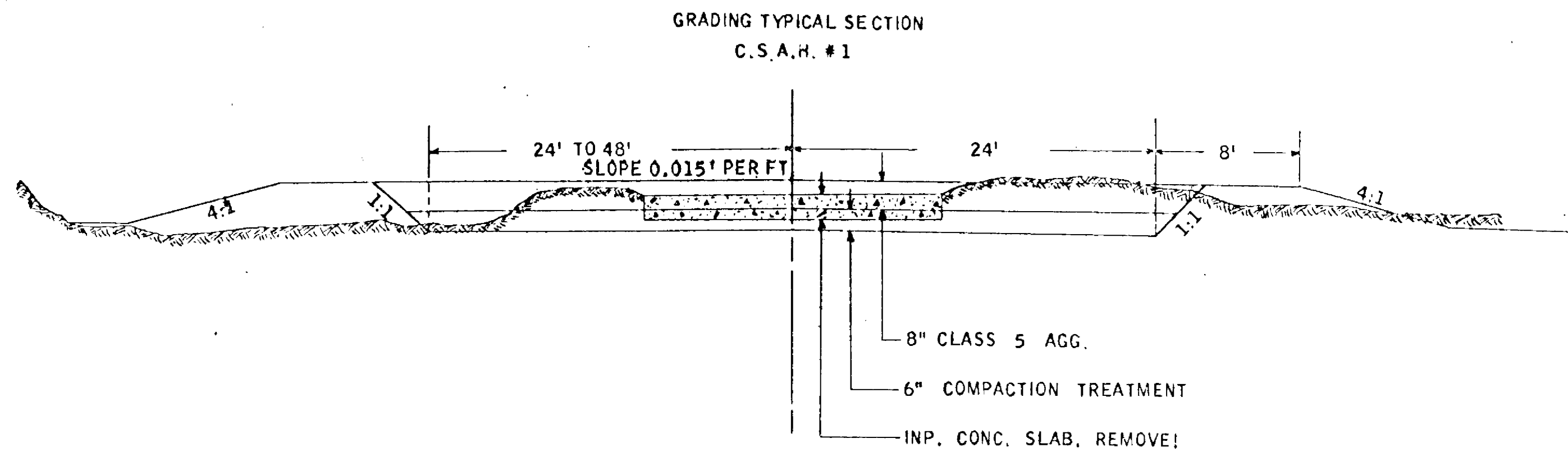
GRAVEL BASE: COMPACTED DRY DENSITY 140 LBS. PER CU. FT.
 WATER: 20 GAL. PER TON OF AGGREGATE
 BITUMINOUS PRIME: 0.3 GAL. PER SQ. YD.
 BITUMINOUS BASE:
 AGGREGATE: 110 LBS. PER SQ. YD. PER INCH OF DEPTH
 BITUMINOUS MATERIAL: 0.6 GAL. PER 100 LBS. OF AGGREGATE
 BITUMINOUS TACK COAT: 0.05 GAL. PER SQ. YD.
 BITUMINOUS WEARING COURSE:
 BITUMINOUS MIXTURE - 110 LBS. PER SQ. YD. (PER INCH)
 BITUMINOUS MATERIAL - 6.2 % OF MIXTURE BY WEIGHT

TYPICAL SECTIONS

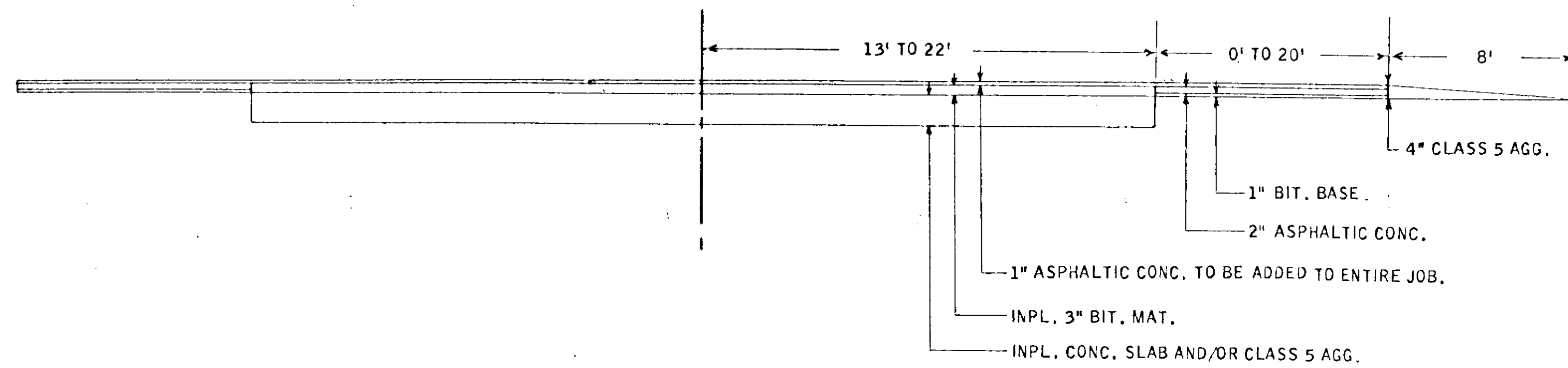
NOTES: ALL DIMENSIONS & SLOPES SHOWN ON TYPICAL SECTIONS ARE APPROXIMATE ONLY.



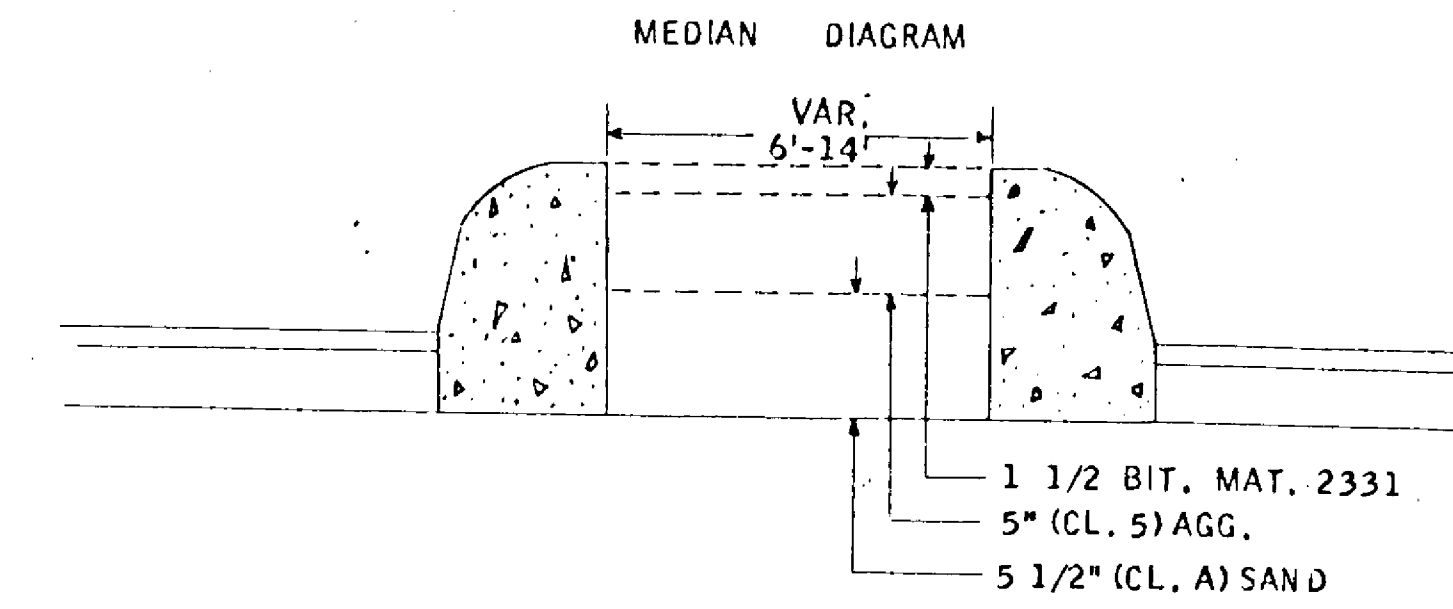
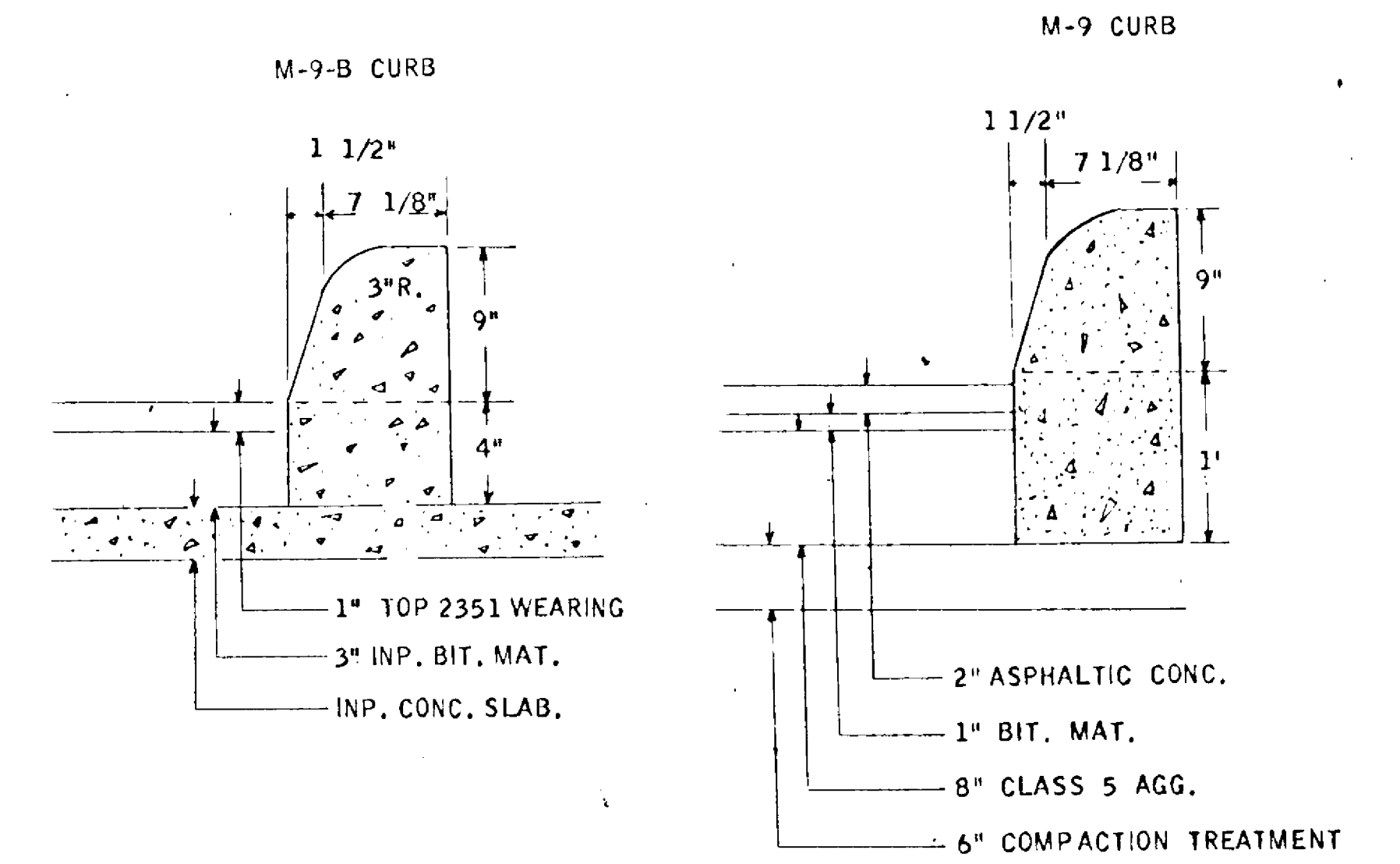
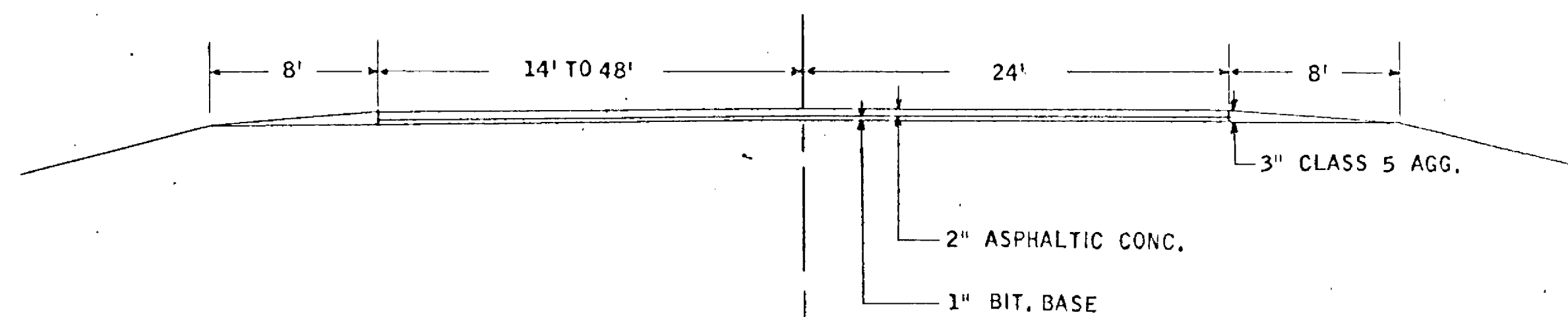
NEW CONSTRUCTION SHALL CONFORM WITH THE INPLACE MAT. AS TO SUPER AND OR CROWN EXCEPT THE RT. TURN LANE STA. 830' 00" TO 833' 00" LT. (SEE CROSS SECTIONS)

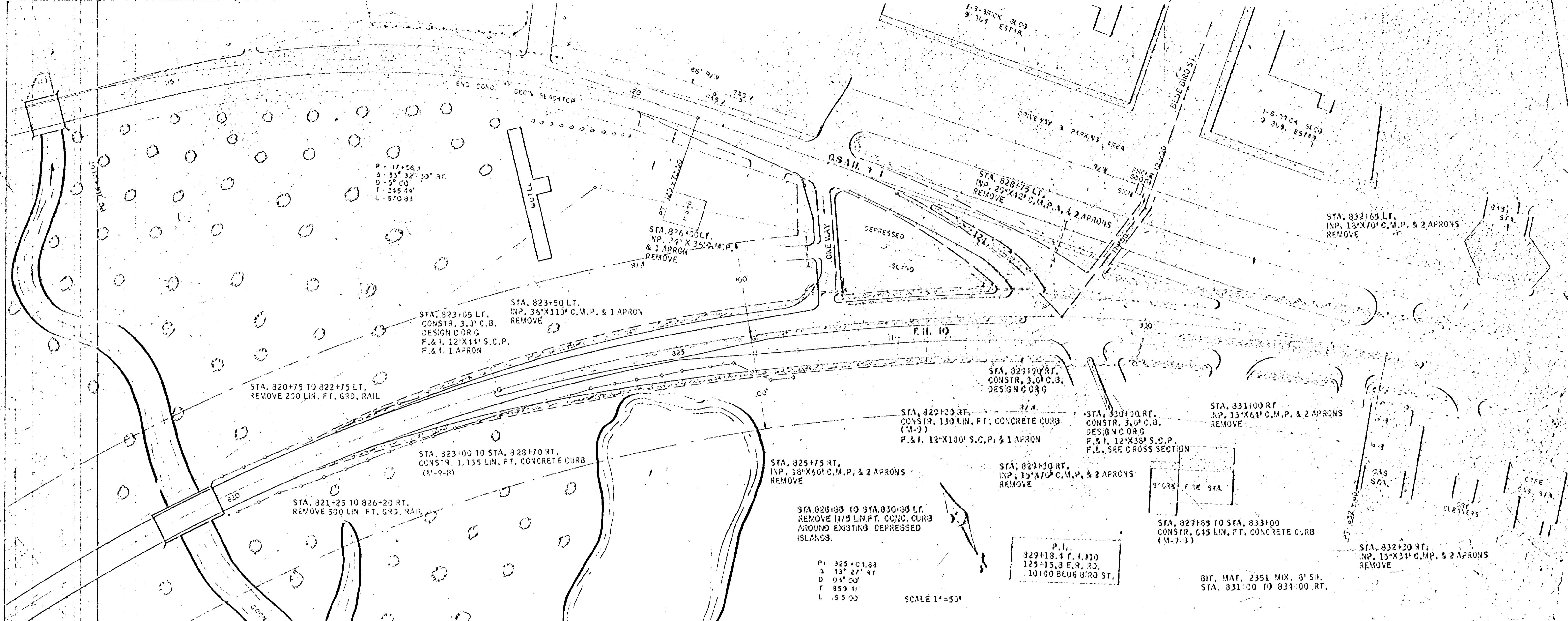


BITUMINOUS TYPICAL SECTION U.S. HIGHWAY # 10



BITUMINOUS TYPICAL SECTION C. S. A. H. # 1





B.M. #1 ELEV. 847.75 X MARK ON WHEEL GUARD WEST END OF SO. ABUT.

B.M. #2 ELEV. 851.18 X MARK S.E. COR. SIGN LT. STA. 827+50

SCALE 1"=50'

81	820	821	150	822	50	823	150	824	50	825	50	826	50	827	150	828	50	829	50	830	50	831	150	832	160	833	50	834	50
846.7	846.2	846.1	845.6	845.2	845.4	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2	845.2
850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0	850.0

COON RAPIDS

TRUNK HIGHWAY NO. 10 AND INTERSECTION OF EAST RIVER ROAD (C.S.A.H. NO. 1)

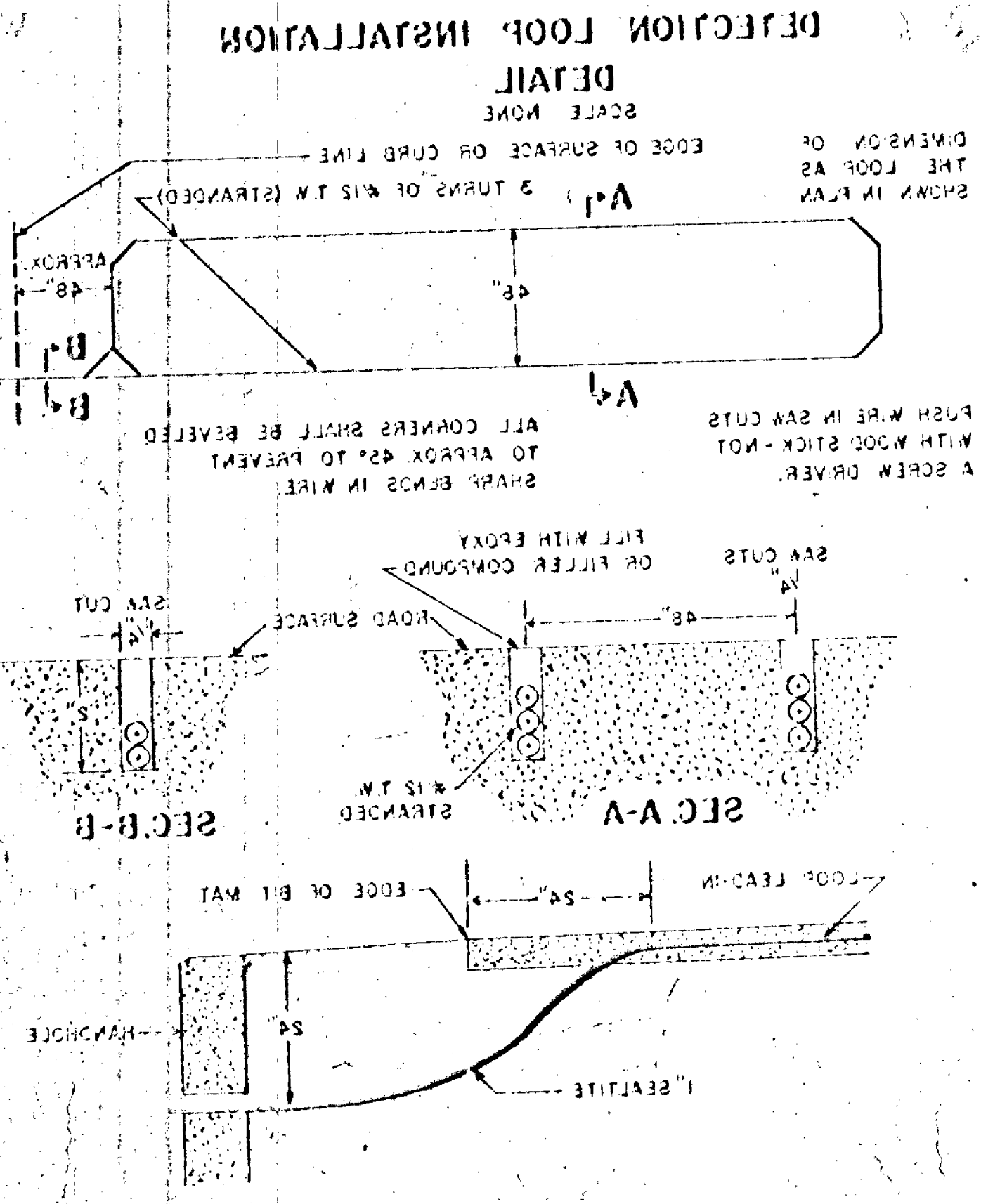
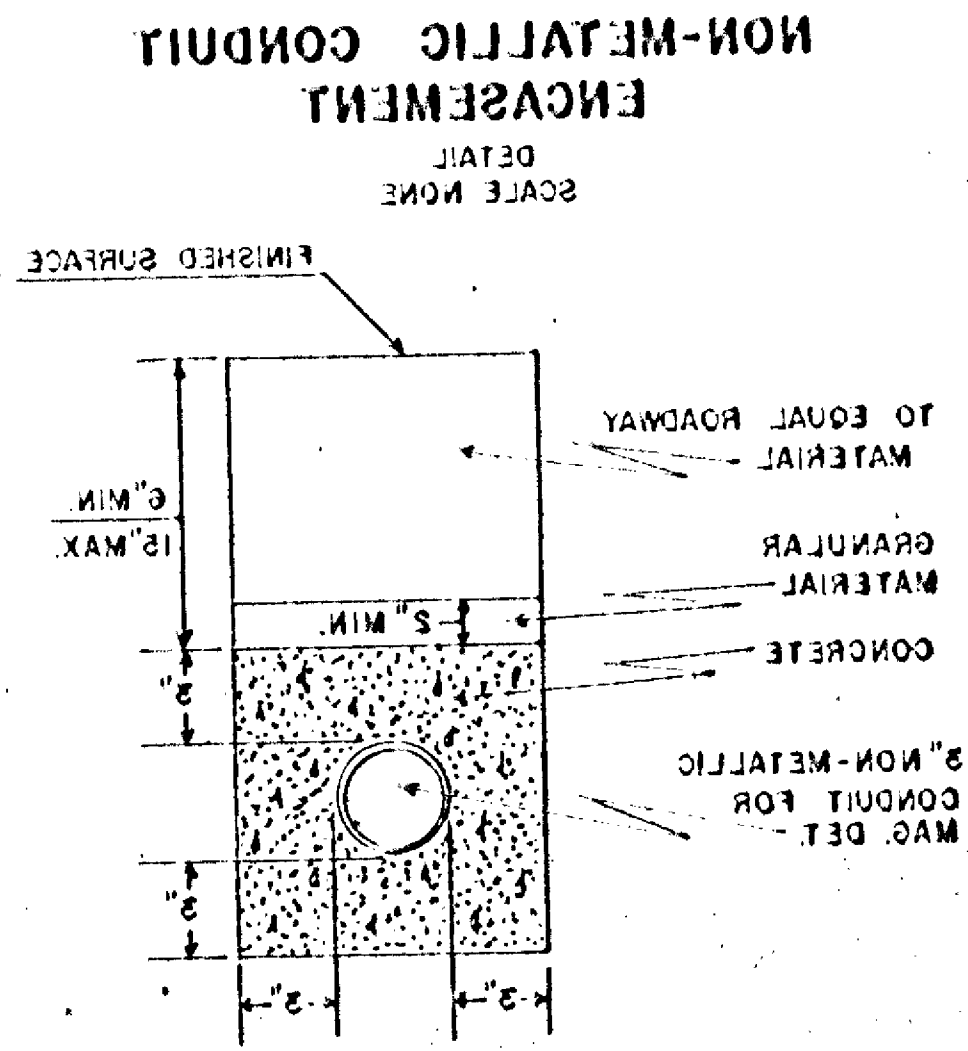
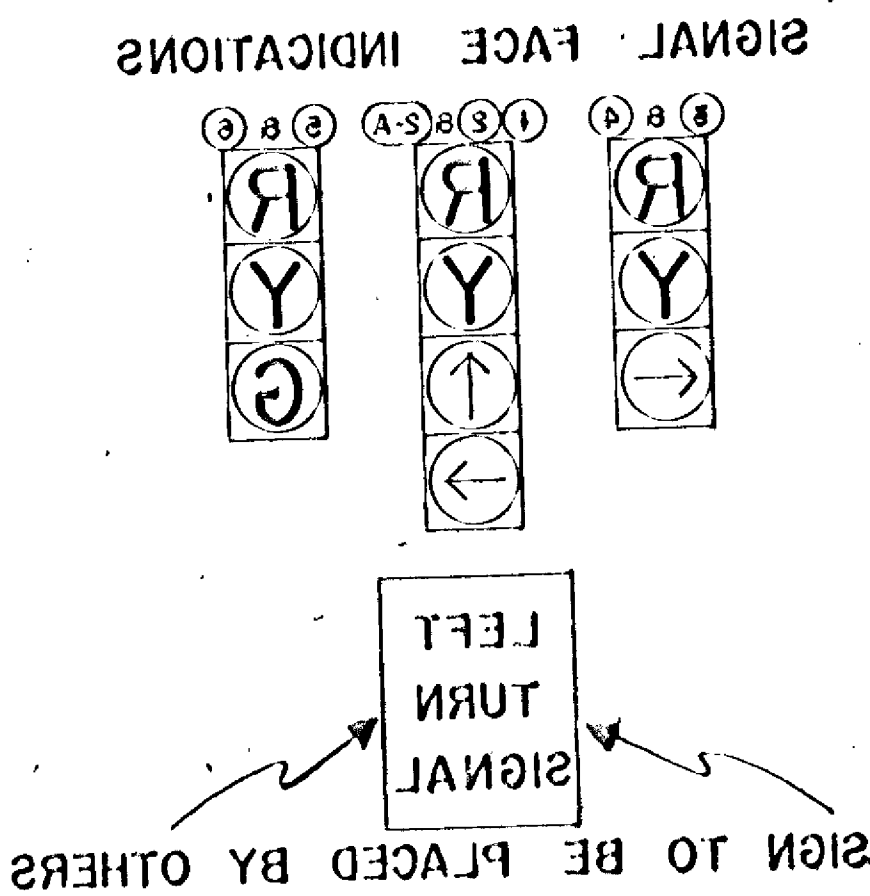
FULL AUTATED TRAFFIC CONTROL SIGNAL SYSTEM

PROJECT NO.	ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES
2525-201	SIGNAL SYSTEM	FULL TRAFFIC AUTATED TRAFFIC CONTROL SIGNAL SYSTEM	SIGNAL SYSTEM	1

□	CONTROLLER
○	HANDHOLE (PULLBOX)
▭	RIGID METALLIC CONDUIT (R.M.C.)
○	PEDESTAL
○	MAST ARM & POLE
▭	SIGNAL FACE
▭	SIGNAL FACE & BACKGROUND SHIELD
▭	MAG. DET. IN 3" NON-METALLIC CONDUIT (N.M.C.)

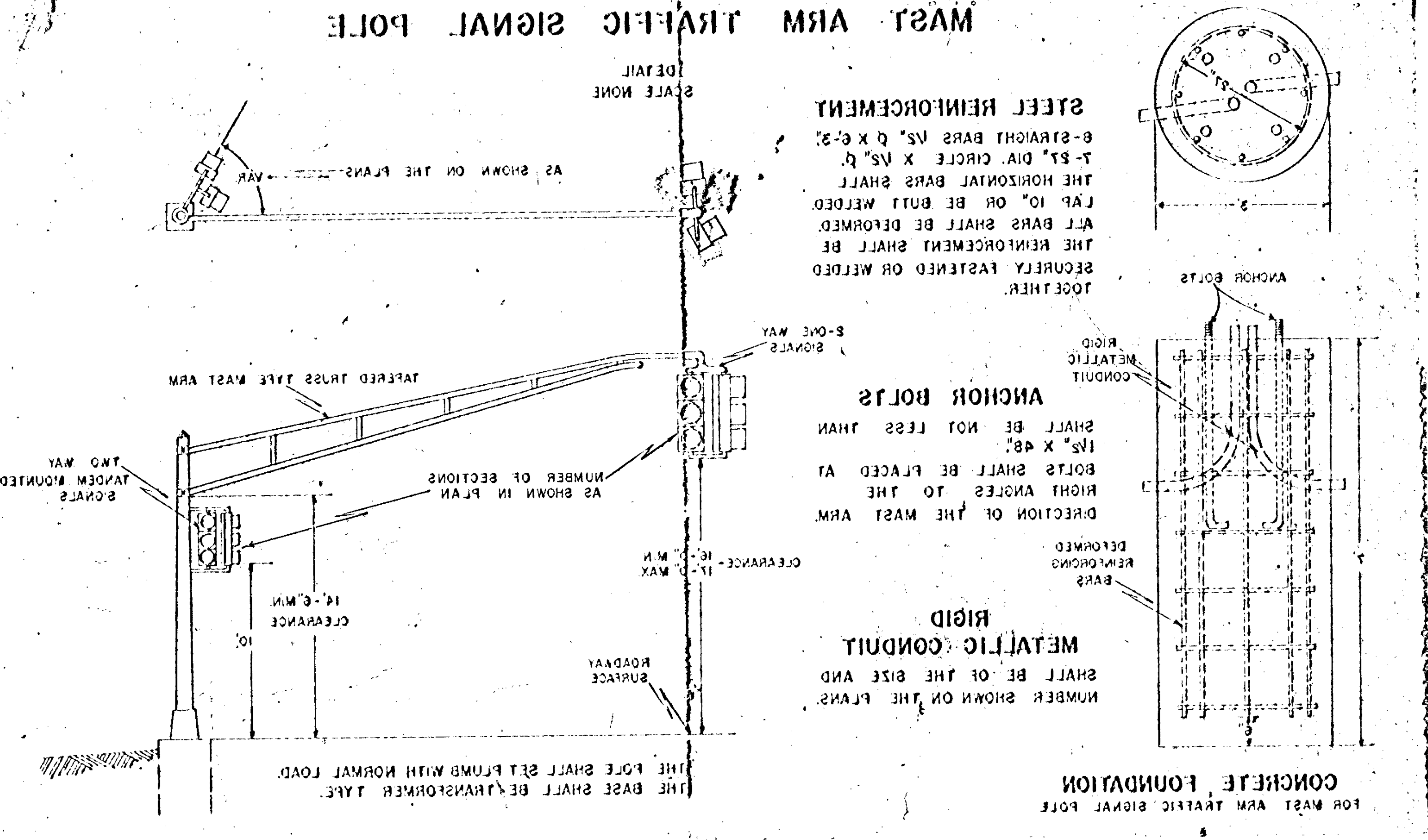
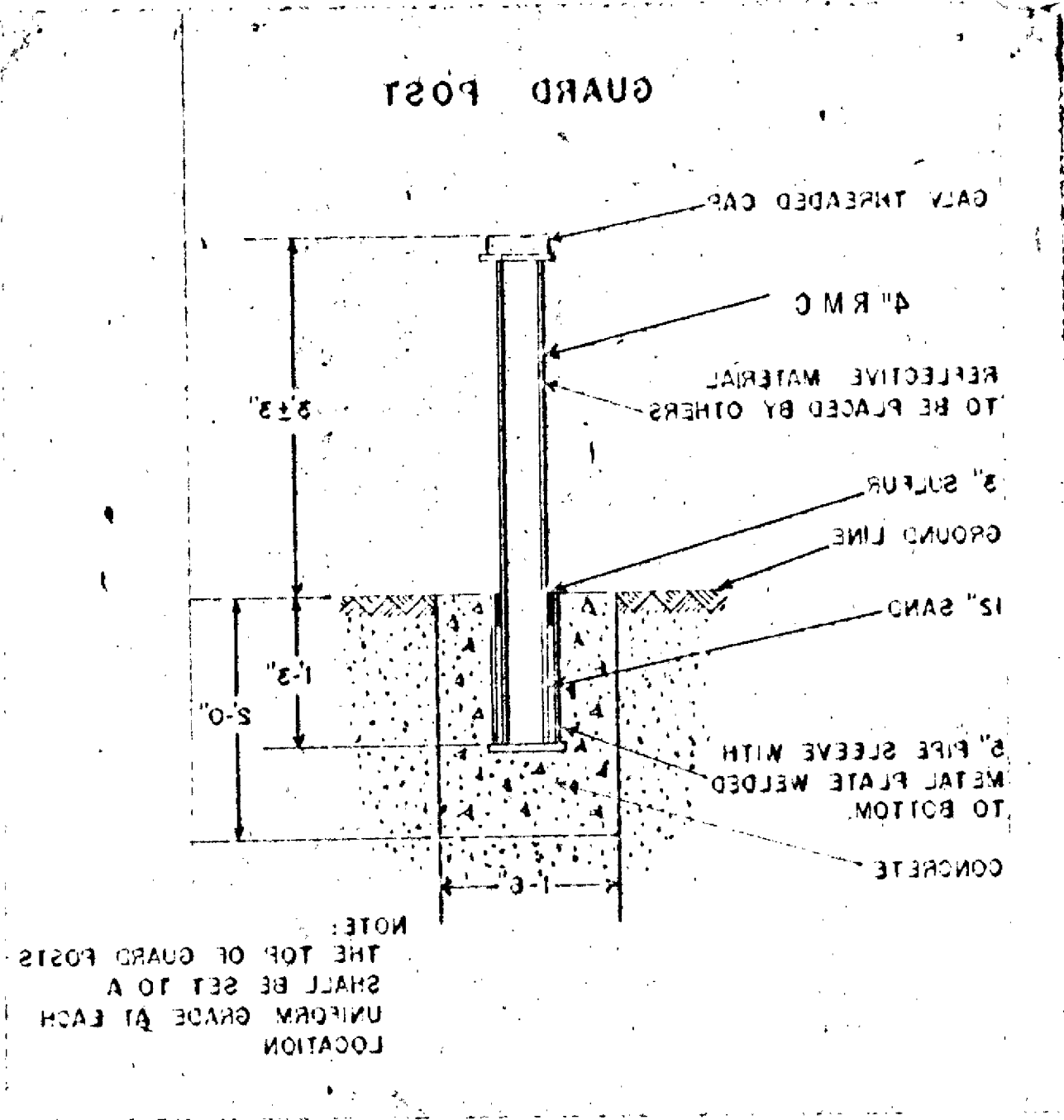
PLATE NO.	TITLE
B110	SIGNAL ASSEMBLY
B112	CONCRETE FOUNDATIONS
B113	PRECAST CONCRETE HANDHOLE

- NOTES**
- ALL T.H. #10 INDICATIONS SHALL BE 1/2" SMALL C.S.A.H. #1 INDICATIONS SHALL BE 1/2" RED AND 8" YELLOW AND GREEN.
 - THE DETECTOR LOOP SHALL HAVE 3 TURNS OF #12 T.W. STRANDED WIRE.
 - THE POWER TO THE SERVICE POLE, TO BE FURNISHED BY OTHERS.
 - LIKE NUMBERED SIGNAL FACE OR FACES AS SHOWN ON THE INTERSECTION, LAYOUT SHALL BE WIRED SEPARATELY BACK TO THE CONTROLLER TERMINAL STRIPS.
 - THE CONTRACTOR SHALL SECURE THE NECESSARY ELECTRICAL INSPECTION AT HIS EXPENSE.
 - THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS OF MATERIALS EQUIPMENT MISCELLANEOUS HARDWARE AND FITTINGS TO PROVIDE A COMPLETE OPERATIONAL SIGNAL.



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____
 REG. NO. 25251
 APPROVED _____
 RECOMMENDED FOR APPROVAL _____
 RECOMMENDED FOR APPROVAL _____



STEEL REINFORCEMENT
 8-STRAIGHT BARS 1/2" Ø X 3'-3"
 7-27" DIA. CIRCLE X 1/2" Ø
 THE HORIZONTAL BARS SHALL LAP 10" OR BE BUTT WELDED. ALL BARS SHALL BE DEFORMED. THE REINFORCEMENT SHALL BE SECURELY FASTENED OR WELDED TOGETHER.

ANCHOR BOLTS
 SHALL BE NOT LESS THAN 1/2" X 48"
 BOLTS SHALL BE PLACED AT RIGHT ANGLES TO THE DIRECTION OF THE MAST ARM.

RIGID METALLIC CONDUIT
 SHALL BE OF THE SIZE AND NUMBER SHOWN ON THE PLANS.

FOR MAST ARM TRAFFIC SIGNAL POLE
 CONCRETE FOUNDATION

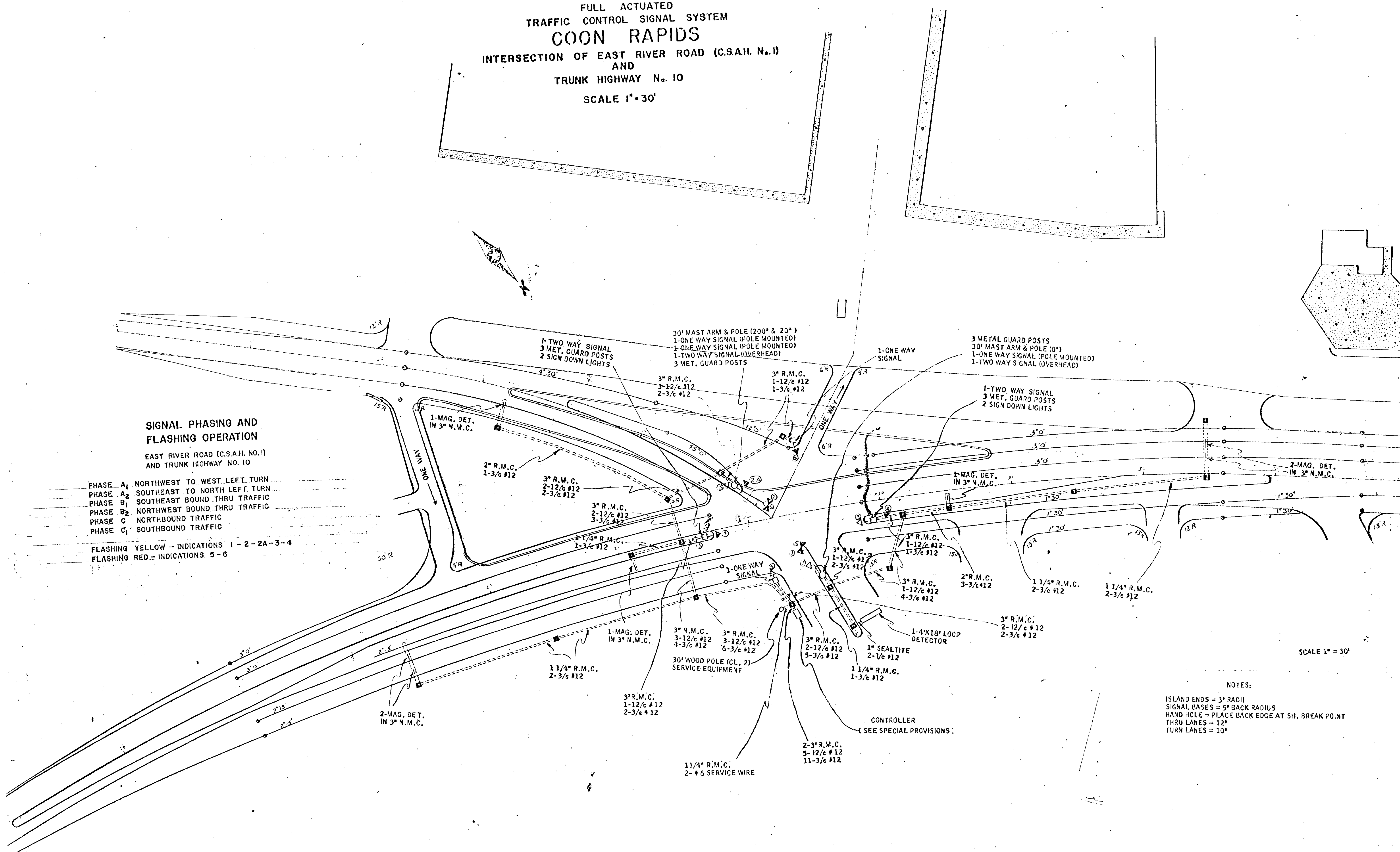
FULL ACTUATED
TRAFFIC CONTROL SIGNAL SYSTEM
COON RAPIDS
INTERSECTION OF EAST RIVER ROAD (C.S.A.H. No. 1)
AND
TRUNK HIGHWAY No. 10
SCALE 1" = 30'

**SIGNAL PHASING AND
FLASHING OPERATION**

EAST RIVER ROAD (C.S.A.H. NO. 1)
AND TRUNK HIGHWAY NO. 10

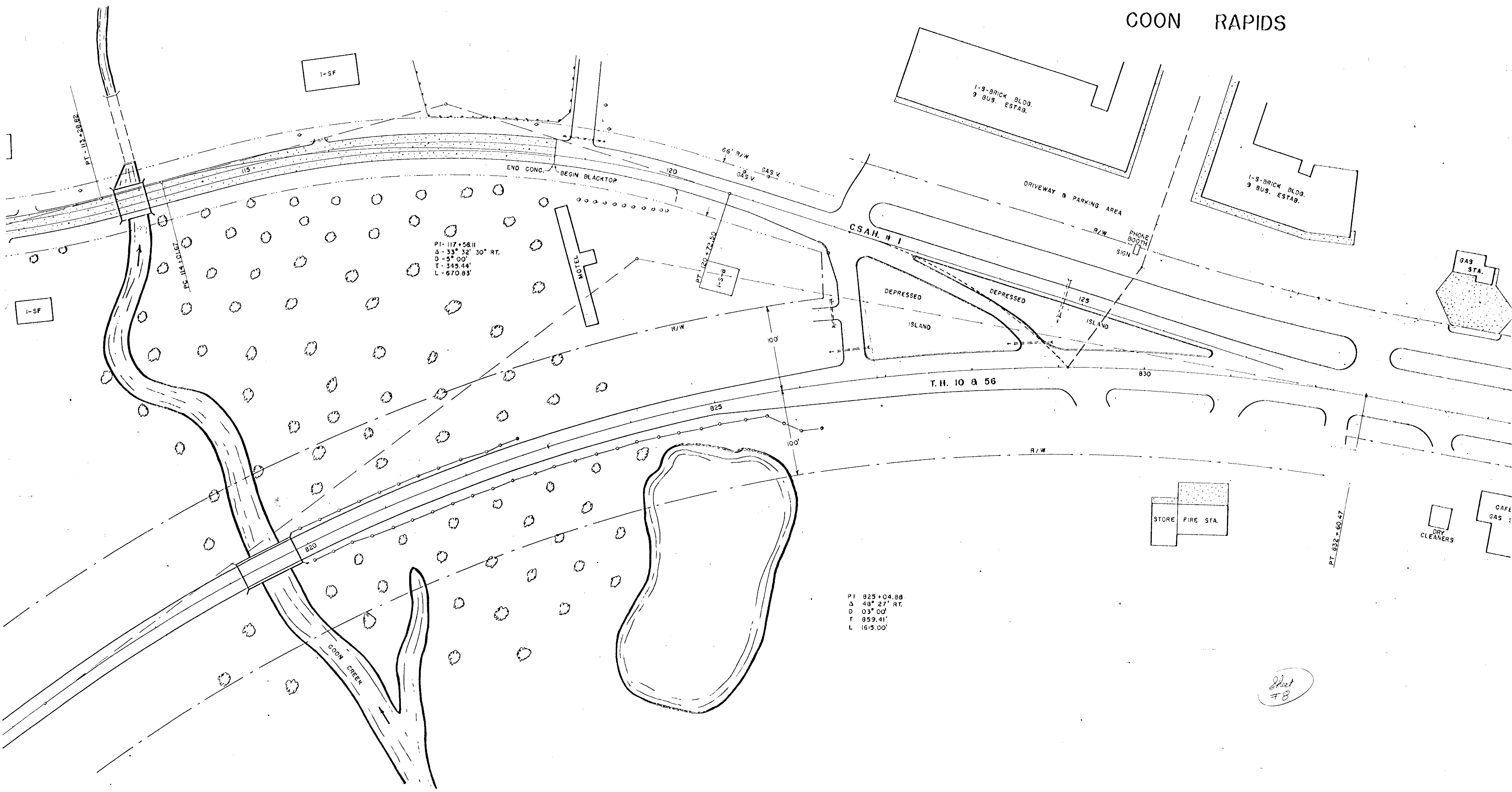
- PHASE A₁ NORTHWEST TO WEST LEFT TURN
- PHASE A₂ SOUTHEAST TO NORTH LEFT TURN
- PHASE B₁ SOUTHEAST BOUND THRU TRAFFIC
- PHASE B₂ NORTHWEST BOUND THRU TRAFFIC
- PHASE C NORTHBOUND TRAFFIC
- PHASE C₁ SOUTHBOUND TRAFFIC

FLASHING YELLOW - INDICATIONS 1 - 2 - 2A - 3 - 4
FLASHING RED - INDICATIONS 5 - 6



NOTES:
ISLAND ENDS = 3' RADII
SIGNAL BASES = 5' BACK RADIUS
HAND HOLE = PLACE BACK EDGE AT SH. BREAK POINT
THRU LANES = 12'
TURN LANES = 10'

COON RAPIDS



PI- 117+56.11
Δ - 33° 32' 30" RT.
D - 57.00'
T - 345.44'
L - 670.83'

PT. 120+72.80
I-S-B

PI 825+04.88
Δ 49° 27' RT.
D 03' 00"
T 859.41'
L 1615.00'

Sheet 78