

CONVENTIONAL SIGNS

STATE LINE	---
COUNTY LINE	---
TOWNSHIP OR RANGE LINE	---
SECTION LINE	---
QUARTER LINE	---
SIXTEENTH LINE	---
THIRTY-SECOND LINE	---
POINT OF BEGINNING	---
PROPERTY LINE	---
PROPOSED PLANTED PROPERTY	---
CORPORATE OR CITY LIMITS	---
TRUNK HIGHWAY CENTER LINE	---
RETAINING WALL	---
RAILROAD	---
RAILROAD POINT OF INTERSECTION	---
RIVER OR CREEK	---
DRY RUN	---
GRAVEL PIT	---
ELECTRIC POWER LINE	---
TELEPHONE OR TELEGRAPH LINE	---
JOINT TELEPHONE AND POWER	---
ROADWAY	---
TELEPHONE CABLE	---
TELEPHONE CABLE UNDERGROUND	---
POWER CABLE UNDERGROUND	---
RAILROAD	---
RAILROAD POINT OF INTERSECTION	---
RAILROAD CROSSING	---
RAILROAD CROSSING WITH SIGNAL	---
RAILROAD CROSSING WITH SIGNAL AND STOP SIGN	---
RAILROAD CROSSING WITH SIGNAL AND STOP SIGN AND STOP SIGN	---
RAILROAD CROSSING WITH SIGNAL AND STOP SIGN AND STOP SIGN AND STOP SIGN	---
RAILROAD CROSSING WITH SIGNAL AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN	---
RAILROAD CROSSING WITH SIGNAL AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN	---
RAILROAD CROSSING WITH SIGNAL AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN	---
RAILROAD CROSSING WITH SIGNAL AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN	---
RAILROAD CROSSING WITH SIGNAL AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN	---
RAILROAD CROSSING WITH SIGNAL AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN AND STOP SIGN	---

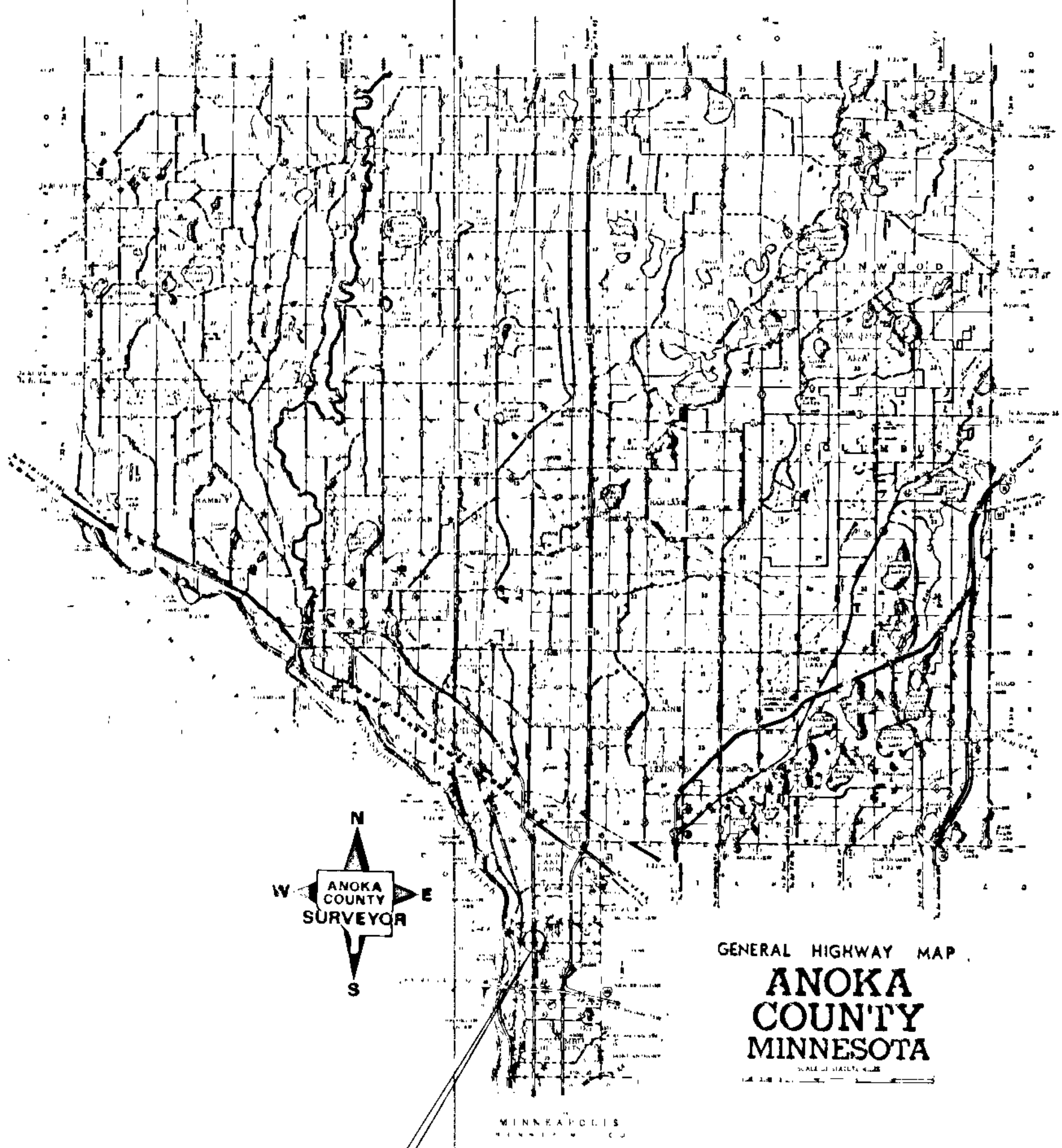
Fed. Proj. No. \_\_\_\_\_  
 STATE OF MINNESOTA  
 DEPARTMENT OF HIGHWAYS  
 GRADING, STORM SEWER, CONC. CURB & GUTTER  
 CONSTRUCTION PLAN FOR BASE, BITUMINOUS SURFACING, SIGNAL AND LIGHTING  
**County State Aid Highway No. 6**  
 Between A PT. 1036' W. OF T.H. 47 And A PT. 912' E. OF T.H. 47  
in Fridley  
 From 236' E. OF W. 1/4 CORNER SEC. 14, T.30, R.24 To 2184' E. OF W. 1/4 CORNER SEC. 14, T.30, R.24

GROSS LENGTH	1948	FEET	0.37	MILES
BRIDGES LENGTH	0	FEET	0	MILES
EXCEPTIONS LENGTH	0	FEET	0	MILES
NET LENGTH	1948	FEET	0.37	MILES

INDEX OF SHEETS

Sheet No. 1	Title Sheet
" 2-3	Estimated Quantities, Standard Plates, & Construction Notes
" 4	Typical Sections
" 5	Storm Sewer & Miscellaneous Tabulations
" 6-7	Miscellaneous Details
" 8	Irrigation System
" 9-10	Plan & Profile
" 11-14	Cross Sections
" 15-17	Lighting Plan
" 18-20	Traffic Control Plan
" 21-23	Signing & Striping Plan
" 24-31	Signal Plans

THIS PLAN CONTAINS 31 SHEETS



SCALE

INDEX MAP	2 MI.
PLAN & PROFILE	VERT. 5'
	HORIZ. 50'
CROSS SECTIONS	VERT. 10'
	HORIZ. 10'

I hereby certify that this plan, specification or report 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.  
Ray A. Erickson  
 Date: 2/3/87 Reg. No. 14576

- Recommended for Approval: Michael R. Robins 8/4/1992  
DIRECTOR, OFFICE OF TRAFFIC ENGINEERING
- Recommended for Approval: Robert H. Crawford 8-10-1992  
DIRECTOR, PH. PLANNING AND ENGINEERING
- Recommended for Approval: P. M. Hill 8-10-1992  
DIRECTOR, OFFICE OF TECHNICAL SUPPORT
- Approved: John E. Savelle 8/11/1992  
DEPUTY DIVISION DIRECTOR TECHNICAL SERV. DIVISION
- Recommended for Approval: J. J. J. J. 8/21/1992  
FRIDLEY CITY ENGINEER

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.  
Paul K. Lund  
 DATE: 1/23/91

- RECOMMENDED FOR APPROVAL: Chas. M. ... 6/15/1992  
STATE AID ENGINEER
- RECOMMENDED FOR APPROVAL: Mark ... 8/5/1992  
STATE AID PLANS ENGINEER
- APPROVED: 9/5/1992 Dennis C. Carlson  
STATE AID ENGINEER

Minn. Proj. No. \_\_\_\_\_ M.S.A.P. No. 127-020-09  
 State Proj. No. 0205-55 (47-156) S.A.P. 02-606-08

DESIGN DESIGNATION  
 ADT CURRENT YEAR: 10,500  
 ADT FUTURE YEAR: 17,850  
 T (HEAVY COMMERCIAL)  
10 Ton Design R-VALUE 60  
 Design Speed 35 MPH SIGMA N18 1,872,976  
 Design Speed not achieved at:  
 STOPPING SIGHT DISTANCE BASED ON:  
 STA \_\_\_\_\_ TO STA \_\_\_\_\_ MPH \_\_\_\_\_  
 3.5' HT. OF EYE - 0.5' HT. OF OBJECT  
 Functional classification Arterial High Density No. of traffic lanes 4 No. of parking lanes 0

SPECIFICATIONS  
 THE "STANDARD SPECIFICATIONS FOR CONSTRUCTION," 1988 EDITION AS AMENDED BY THE JANUARY 02, 1991 SUPPLEMENTAL SPECIFICATION SHALL GOVERN

ASBUILT  
 FOREST LAKE CONTRACTING, INC.  
 14777 Lake Drive  
 Forest Lake, Minnesota 55025  
 Ph. 464-4500 Fax 464-4722

# STATEMENT OF ESTIMATED QUANTITIES

	GRADING					DRAINAGE					PAVING				
	ITEM NO.	ITEM	UNIT	ESTIMATED QUANTITIES	FINAL QUANTITIES	ITEM NO.	ITEM	UNIT	ESTIMATED QUANTITIES	FINAL QUANTITIES	ITEM NO.	ITEM	UNIT	ESTIMATED QUANTITIES	FINAL QUANTITIES
	2021.501	MOBILIZATION	LUMP SUM	1.0		2503.511	INSTALL 12" RC PIPE SEWER	LIN. FT.	58.0		2211.503	AGGREGATE BASE PLACED CLASS 5-A	CU. YD.	4150.0	
	2031.01	FIELD OFFICE TYPE D	EACH	1.0		2503.511	12" RC PIPE SEWER	LIN. FT.	227.0		2331.510	SIMILAR COURSE MIXTURE TYPE 3I	TON	1736.0	
	2101.51	CLEAR AND GRUB ROADWAYS	LUMP SUM	1.0		2503.511	15" RC PIPE SEWER	LIN. FT.	318.0		2331.514	BASE COURSE MIXTURE TYPE 3I	TON	2904.0	
	2104.501	REMOVE PIPE SEWER	LIN. FT.	205.0		2503.511	15" RC PIPE SEWER CLASS III	LIN. FT.	205.0		0301.601	RESTORE TRENCH PAVEMENT	SQ. YD.	1.5	
	2104.501	REMOVE RETAINING WALL	LIN. FT.	20.0		2503.511	15" RC PIPE SEWER CLASS IV	LIN. FT.	135.0		2331.508	WEAR COURSE MIXTURE TYPE-4I	TON	1517.0	
	2104.501	REMOVE CURB AND GUTTER	LIN. FT.	4275.0		2503.511	15" RC PIPE SEWER CLASS V	LIN. FT.	205.0		2357.502	BITUMINOUS MATERIAL FOR THICK COAT	LN.	1135.0	
	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ. YD.	10400.0		2503.511	18" RC PIPE SEWER	LIN. FT.	432.0		0411.601	CONSTRUCT CONCRETE SIGN PAD	LUMP SUM	1.0	
	2104.505	REMOVE BITUMINOUS PAD	SQ. YD.	200.0		2503.511	18" RC PIPE SEWER CLASS IV	LIN. FT.	145.0		0411.606	CONSTRUCT CONCRETE BUS SHELTER PAD	SQ. YD.	13.7	
	2104.505	REMOVE CONCRETE WALL	SQ. YD.	2910.0		0503.603	8" RC PIPE CLASS V (JACKED)	LIN. FT.	50.0		2521.501	4" CONCRETE WALL	SQ. FT.	2520.0	
	2104.505	REMOVE CONCRETE DRIVEWAY	SQ. YD.	195.0		2506.506	CONSTRUCT MANHOLE DESIGN C OR G	LIN. FT.	4.2		0521.607	CONCRETE PAVING STONE PAVEMENT	SQ. YD.	1902.0	
	2104.509	REMOVE CATCH BASIN	EACH	7.0		2506.506	CONSTRUCT MANHOLE DESIGN F	LIN. FT.	30.6		2531.501	CONCRETE CURB AND GUTTER DESIGN B612	LIN. FT.	4100.0	
	2104.509	REMOVE PIPE APRONS	EACH	1.0		2506.507	CONSTRUCT CATCH BASIN DESIGN C OR G	LIN. FT.	35.3		2531.501	CONCRETE CURB AND GUTTER DESIGN B612	LIN. FT.	1901.0	
	2104.509	REMOVE MANHOLES	EACH	9.0		2506.507	CONSTRUCT CATCH BASIN DESIGN F	LIN. FT.	29.0		2531.502	CONCRETE CURB DESIGN V4	LIN. FT.	400.0	
	2104.513	SAWING BITUMINOUS PAVEMENT	LN.	85.0		2506.507	CONSTRUCT CATCH BASIN DESIGN H	LN. FT.	12.5		2531.503	CONCRETE MEDIUM	SQ. YD.	100.0	
	2104.521	SALVAGE PIPE SEWER	LN. FT.	53.0		2506.511	RECONSTRUCT MANHOLES	LN. FT.	10.4		2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ. YD.	178.4	
	2104.523	SALVAGE CASTINGS	EACH	15.0		2506.511	CASTING ASSEMBLIES	EACH	19.0		2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SQ. YD.	214.8	
	2105.501	COMMON EXCAVATION - F ①	CU. YD.	4556.0		2506.511	INSTALL CASTINGS	EACH	2.0		2535.501	BITUMINOUS CURB	LN. FT.	205.0	
	2105.523	COMMON BORROW (EV)	CU. YD.	500.0		2506.522	ADJUST FRAME AND RING CASTINGS	EACH	12.0						
						0503.611	6" PIPE SEWER	LN. FT.	255.0						
						0503.611	10" PIPE SEWER	LN. FT.	356.0						
						0503.605	CONSTRUCT MANHOLE DESIGN F	LN. FT.	35.1						
						0503.605	CASTING ASSEMBLIES	EACH	5.0						
						0504.601	ADJUST FRAME AND RING CASTINGS	EACH	5.0						
						0504.601	RELOCATE IRRIGATION SYSTEM	LUMP SUM	1.0						
						0504.602	RELOCATE HYDRANT & VALVES	EACH	3.0						
						0504.602	6" WATER GATE VALVE AND BOX	EACH	1.0						
						0504.602	ADJUST GATE VALVE AND BOX	EACH	5.0						
						0504.603	6" WATER MAIN DUCTILE IRON	LN. FT.	25.0						
						0504.620	WATERMAIN FITTING	POUND	50.0						
						0504.608	8" X 10" MET TAP	EACH	3.0						
						2545.501	ELECTRIC LIGHTING SYSTEM "A"	LUMP SUM	1.0						
						2545.501	ELECTRIC LIGHTING SYSTEM "B"	LUMP SUM	1.0						
						0411.603	CONSTRUCT STONE RETAINING WALL	SQ. FT.	700.0						
						0452.603	STEEL SHEET PILING (TEMPORARY)	SQ. FT.	1300.0						
						2105.525	TOPSOIL BORROW LV TYPE LAWN	CU. YD.	360.0						
						2575.505	SOLIDING #74" TOPSOIL	SQ. YD.	3200.0						
						2575.531	COMMERCIAL FERTILIZER ANALYSIS 10-10-10	TON	0.1						

## CONSTRUCTION SOILS / NOTES

- SELECTED GRADING MATERIALS ON THIS PROJECT SHALL CONSIST OF MATERIALS REMOVED FROM THE EXCAVATION WITH THE EXCEPTION OF ORGANIC SOILS, TOPSOIL AND OTHER UNSUITABLE MATERIAL.
- WHERE PLACING NEW SURFACING ADJACENT TO AN INPLACE PAVEMENT, THE EXCAVATION SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING THE INPLACE PAVEMENT.
- STRIP AND REUSE AS SLOPE DRESSING, ALL TOPSOIL WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION.
- BITUMINOUS SURFACING, CONCRETE ITEMS, ANY ABANDONED UTILITY ITEMS AND OTHER UNSUITABLE MATERIAL ENCOUNTERED DURING CONSTRUCTION SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE RIGHT OF WAY.
- COMPACTION ON THE GRADING PORTION OF ALL PERMANENT CONSTRUCTION SHALL BE OBTAINED IN ACCORDANCE WITH THE "ORDINARY COMPACTION METHOD" REQUIREMENTS.
- COMPACTION OF ALL BITUMINOUS ITEMS SHALL BE OBTAINED IN ACCORDANCE WITH THE "ORDINARY COMPACTION METHOD" REQUIREMENTS.
- USE 20:1 TAPERS WHERE CHANGING SUBCUT DEPTHS.
- USE SELECTED GRADING MATERIALS BEHIND ALL CURBS UNLESS OTHERWISE NOTED.
- SAWCUT EXISTING PAVEMENT WHEREVER NEW PAVEMENT ABUTS OLD PAVEMENT.
- GRANULAR MATERIAL MEETING THE REQUIREMENTS OF SPEC 3149.2A OBTAINED AS SUBGRADE EXCAVATION SHALL BE USED AS SUBCUT BACKFILL AS DIRECTED BY THE ENGINEER.
- ALL SODDED AREAS SHALL BE FERTILIZED AT 250# PER ACRE USING FERTILIZER ANALYSIS 10-10-10.

## EARTHWORK SUMMARY

LOCATION	ROADWAY EXCAVATION Cu. Yd. (P)	SUBGRADE EXCAVATION Cu. Yd.	EMBANKMENT REQUIRED Cu. Yd.
C.S.A.H. 6	9156		2258

### NOTES:

- 120% SHRINKAGE FACTOR FROM EXCAVATED VOLUME (EV) TO COMPACTED VOLUME (CV) ASSUMED.
- 140% SHRINKAGE FACTOR FROM (LV) TO COMPACTED VOLUME (CV) ASSUMED.
- SUBCUTS ARE INCLUDED IN COMMON EXCAVATION.
- DEPENDING ON ACTUAL SHRINKAGE FACTORS COMMON BORROW MAY BE REQUIRED. IF THERE IS ANY EXCESS MATERIAL THE CONTRACTOR SHALL DISPOSE OF IT OFF THE PROJECT SITE.

## STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	ESTIMATED QUANTITIES	FINAL QUANTITIES
2564.531	F 81 SIGN PANEL TYPE 'D' SIGNALS	SQ. FT.	112.0	
2564.531	F 81 SIGN PANEL TYPE 'C' SIGNALS	SQ. FT.	112.8	
0563.601	CONCRETE FOOTING	EACH	13	
0563.601	TRAFFIC CONTROL STAGE 1	LUMP SUM	1	
0563.601	TRAFFIC CONTROL STAGE 2	LUMP SUM	1	
0564.602	PAVEMENT MESSAGE (LEFT ARROW ONLY) PAINT	EACH	2	
0564.602	PAVEMENT MESSAGE (RIGHT ARROW ONLY) PAINT	EACH	3	
0564.602	SIGN PANELS INTERNALLY ILLUMINATED	EACH	4	
0564.603	4" SOLID LINE - YELLOW PAINT	LN. FT.	1853	
0564.603	4" SOLID LINE - WHITE PAINT	LN. FT.	5821	
0564.603	4" DOUBLE SOLID LINE YELLOW	LN. FT.	1595	
0564.603	4" SOLID LINE - WHITE PAINT	LN. FT.	1028	
0564.603	24" STOP BAR LINE - WHITE PAINT	LN. FT.	237	
0564.603	24" SOLID LINE - YELLOW PAINT	LN. FT.	272	
0565.604	REVISE SIGNAL SYSTEM	SYSTEM	1	

## STANDARD PLATES

PLATE NO.	DESCRIPTION
0008A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000L	REINFORCED CONCRETE PIPE
3006F	GASKET JOINT FOR REINFORCED CONCRETE PIPE
4002E	MANHOLE OR CATCH BASIN-DESIGN C
4005K	MANHOLE OR CATCH BASIN-DESIGN F
4006K	MANHOLE OR CATCH BASIN-DESIGN G AND DESIGN H
4010G	CONCRETE SHORT CONE AND ADJUSTING RING
4011D	PRECAST CONCRETE BASE
4101C	RING CASTING FOR MANHOLE OR CATCH BASIN CASTING NO. 700-7
4110E	COVER CASTING FOR MANHOLE CASTING NO. 711
4126F	CATCH BASIN FRAME CASTING CASTING NO. 801
4126F	SPECIAL GRATE CASTINGS FOR CATCH BASINS
4149C	CATCH BASIN GRATE CASTING CASTING NO. 810
4161F	CURB BOX CASTING FOR CATCH BASIN CASTING NO. 821B
4180H	MANHOLE OR CATCH BASIN STEP
7035J	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
7020J	CONCRETE CURB
* 7065C	BITUMINOUS CURB
7100F	CONCRETE CURB AND GUTTERS (DESIGN B & DESIGN V)
7110E	CURB AND GUTTER CONSTRUCTION AT CATCH BASINS
7111G	INSTALLATION OF CATCH BASIN CASTINGS
8111B	TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED)
8112C	PEDESTAL FOUNDATION
8115C	PEDESTRIAN PUSH BUTTON INSTALLATION
8117F	PRECAST CONCRETE HANDHOLE
8122C	PEDESTAL AND PEDESTAL BASE
8123B	POLE & MAST ARM (LUMINOUS & TRAFFIC LIGHTS)
8124D	MAST ARM SIGNAL HEAD MOUNTS
	SWING-AWAY HINGE (FOR TRAFFIC SIGNAL ARM MAST)
8130D	SAW CUT LOOP DETECTORS

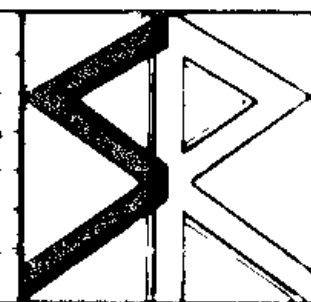
\* BITUMINOUS CURB HEIGHT SHALL BE MODIFIED TO 6"

## STANDARD PLATES (CONT.)

PLATE NO.	DESCRIPTION
3040F	CORRUGATED METAL PIPE CULVERT
3221C	CORRUGATED STEEL PIPE COUPLING BAND
7036D	PEDESTRIAN CURB RAMP
80001	STANDARD BARRICADES

\* SURFACE TREATMENT NOTES

NO.	DATE	BY	CHKD	APPROV	REVISION
1	2-1-87	LAE	TDP	RBR	EXTRA LENGTH ON N.B. RT. TURN LANE ON MISS., ADDED LIGHTING PLAN AND EXTRA PAVING STONE AT UNIVERSITY CHANGED STORM SEWER AT 5TH ST. AND ADDED TRAFFIC CONTROL PLAN
2	2-24-87	LAE	TDP		REVISED ST.M. EST. QTY.
3	10-1-90	DM	DD	J.P.	REVISED PER CITY REVIEW
4	1-10-91	CBW	COE		REVISED PER CITY REVIEW



**STRGAR-ROSCOE-FAUSCH, INC.**  
CONSULTING ENGINEERS • LAND SURVEYORS

MINNEAPOLIS

MINNESOTA

I hereby certify that this plan, specification or report 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.  
*Sybil E. Fausch*  
Date 2/27/86 Reg. No. 14576

**ANOKA COUNTY**  
**C.S.A.H. 6**  
**ESTIMATED QUANTITIES, STANDARD PLATES AND CONSTRUCTION NOTES**

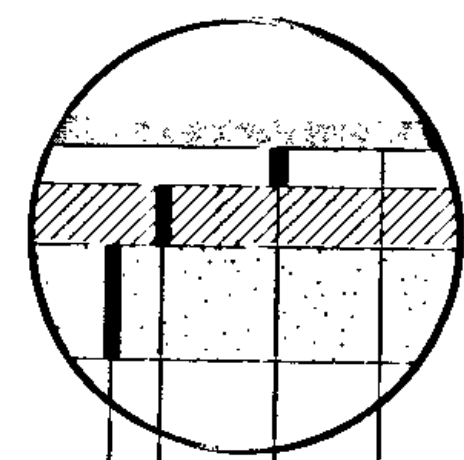
STATE AID NO.	DATE	SHEET
02-606-08	4-86	2
M.S.A.P. NO. 127-020-09	4-86	31
S.P. NO. 0205-35		



STATEMENT OF ESTIMATED QUANTITIES

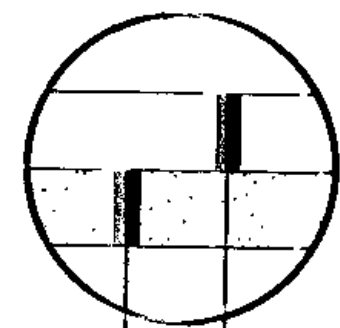
ITEM NO	ITEM	UNIT	TOTAL QUANTITIES		ROADWAY ①		CURB & GUTTER ②		MISC. RWDY. ③		UTILITIES ④		STORM SEWER ⑤		SIGNALS ⑥	
			EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
2021.501	MOBILIZATION	LS		1												
2031.501	FIELD OFFICE, TYPE D	EACH		1												
2101.511	CLEARING AND GRUBBING	LS		1												
2104.501	REMOVE PIPE SEWERS	LF	195		195											
2104.501	REMOVE RETAINING WALL	LF	30		30											
2104.501	REMOVE CONCRETE CURB	LF	4,275		4,275											
2104.505	REMOVE BITUMINOUS PAVEMENT	SY	13,400		13,400											
2104.505	REMOVE BITUMINOUS WALK	SY	200		200											
2104.505	REMOVE CONCRETE WALK	SY	2,310		2,310											
2104.505	REMOVE CONCRETE DRIVEWAY	SY	195		195											
2104.505	REMOVE CATCH BASIN	EACH	1		1											
2104.505	REMOVE PIPE APRONS	EACH	1		1											
2104.505	REMOVE MANHOLES	EACH	4		4											
2104.505	REMOVE SIGN, TYPE C	EACH	4		4											
2104.511	SAVING BITUMINOUS PAVEMENT	LF	800		800											
2104.521	SALVAGE PIPE SEWER	LF	500		500											
2104.521	SALVAGE CASTINGS	EACH	10		10											
2104.521	SALVAGE SIGN, TYPE C	EACH	5		5											
2104.521	SALVAGE SIGN, TYPE C	EACH	5		5											
2105.501	COMMON EXCAVATION (P)	CY	3		3											
2105.52	COMMON BORROW (LV)	CY	300		300											
2105.52	TOPSOIL BORROW (LV)	CY	360		360											
2211.501	AGGREGATE BASE PAVED (C 5-A (P))	CY	4		4											
2331.501	TYPE 41 WEARING COURSE MIXTURE	TON	1,313		1,313											
2331.511	TYPE 31 BINDER COURSE MIXTURE	TON	1,726		1,726											
2331.514	TYPE 31 BASE COURSE MIXTURE	TON	2,304		2,304											
2457.501	BITUMINOUS MAT FOR TACK COAT	LF	1,155		1,155											
0411.601	CONCRETE BENCH PAD	LF	1		1											
0411.601	CONSTRUCT STONE RETAINING WALL	LF	700		700											
0411.601	CONCRETE BUS SHELTER PAD	SY	4		4											
0411.601	STEEL SHEET PILING (TEMPORARY)	LF	1,300		1,300											
0501.511	12" C.M. PIPE CULVERT	LF	50		50						50					
0501.511	12" C.M. PIPE APRON	EACH	2		2						2					
0503.511	18" R.C. PIPE SEWER CLASS IV	LF	35		35											
0503.541	18" R.C. PIPE SEWER DES. 3006	LF	227		227											
0503.541	18" R.C. PIPE SEWER DES. 3006	LF	310		310											
0503.541	18" R.C. PIPE SEWER DES. 3006	LF	42		42											
0503.541	18" R.C. PIPE SEWER CLASS IV DES. 3006	LF	100		100											
0503.571	INSTALL 12" RC PIPE SEWER	LF	52		52											
0503.601	30" STEEL CASING PIPE (JACKED/AUGERED)	LF	50		50											
0504.601	RELOCATE IRRIGATION SYSTEM	LS	1		1											
0504.601	RELOCATE HYDRANT & VALVE	EACH	3		3											
0504.601	6" GATE VALVE AND BOX	EACH	1		1											
0504.601	ADJUST GATE VALVE AND BOX	EACH	1		1											
0504.601	6" WATER MAIN DUCTILE IRON	LF	100		100											
0504.601	WATER MAIN FITTINGS	LF	100		100											
0506.501	CONST. DRAINAGE STRUCTURE, DES. B618	LF	33		33											
0506.501	CONST. DRAINAGE STRUCTURE, DES. B618	LF	59		59											
0506.501	CONST. DRAINAGE STRUCTURE, DES. B618	LF	10		10											
0506.501	RECONSTRUCT DRAINAGE STRUCTURE	LF	10		10											
0506.511	CASTING ASSEMBLY	EACH	23		23											
0506.521	INSTALL CASTING	EACH	2		2											
0506.521	ADJUST FRAME AND RING CASTING	EACH	10		10											
0506.521	ADJUST FRAME AND RING CASTING (SANITARY)	EACH	4		4											
0521.501	4" CONCRETE WALK	LF	25,520		25,520											
0521.501	CONCRETE PAVING STONE PAVEMENT	SY	1,310		1,310											
0531.501	CONCRETE CURB AND GUTTER, DESIGN B618	LF	4,100		4,100											
0531.501	CONCRETE CURB AND GUTTER, DESIGN B612	LF	1,906		1,906											
0531.501	CONCRETE CURB, DESIGN V6	LF	400		400											
0531.501	CONCRETE MEDIAN	SY	100		100											
0531.507	6" CONCRETE DRIVEWAY PAVEMENT	SY	178		178											
0531.507	8" CONCRETE DRIVEWAY PAVEMENT	SY	215		215											
0535.501	BITUMINOUS CURB	LF	100		100											
0545.501	ELECTRIC LIGHTING SYSTEM "A"	LS	1		1											
0545.501	ELECTRIC LIGHTING SYSTEM "B"	LS	1		1											
0545.501	ELECTRIC LIGHTING SYSTEM "B"	LS	1		1											
0563.501	TRAFFIC CONTROL STAGE 1	LS	1		1											
0563.501	TRAFFIC CONTROL STAGE 2	LS	1		1											
0564.531	F. 81. SIGN PANELS, TYPE C	LF	523		523											
0564.531	CONCRETE FOOTING	EACH	508		508											
0564.601	PAVEMENT MESSAGE (LEFT ARROW) PAINT	EACH	2		2											
0564.601	PAVEMENT MESSAGE (LT-THRU ARROW) PAINT	EACH	2		2											
0564.601	PAVEMENT MESSAGE (THRU ARROW) PAINT	EACH	2		2											
0564.601	PAVEMENT MESSAGE (RIGHT ARROW) PAINT	EACH	2		2											
0564.601	PAVEMENT MESSAGE (ONLY) PAINT	EACH	2		2											
0564.601	SIGN PANELS INTERNALLY ILLUMINATED	EACH	4		4											
0564.601	4" SOLID LINE - YELLOW PAINT	LF	1,853		1,853											
0564.601	4" SOLID LINE - WHITE PAINT	LF	3,497		3,497											
0564.601	4" DOUBLE SOLID LINE YELLOW PAINT	LF	945		945											
0564.601	4" BROKEN LINE - WHITE PAINT	LF	2,753		2,753											
0564.601	24" SOLID LINE - WHITE POLY-PREF	LF	215		215											
0564.601	24" SOLID LINE - WHITE POLY-PREF	LF	470		470											
0564.601	24" SOLID LINE - YELLOW PAINT	LF	272		272											
0565.511	FULL-TRAF-ACT TRAFFIC CONTROL SIG SYS	SIG SYS	1		1											
0575.501	SODDING TYPE LAWN	SY	3,200		3,200											
0575.531	COMMERCIAL FERTILIZER, ANAL. 10-10-10	TON	0.1		0.1											
0565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM	LS	1		1											
0565.603	3" RIGID STEEL CONDUIT INTERCONNECT	LF	170		170											
0565.603	6 PR. #19 INTERCONNECT	LF	2650		2650											

- ① 100% SAP 02-606-08
- ② 50% SAP 02-606-08  
50% MSAP 127-020-09
- ③ 100% MSAP 127-020-09
- ④ 100% CITY OF FRIDLEY LOCAL
- ⑤ PARTICIPATION BASED ON STATE AID HYDRAULICS LETTER
- ⑥ 50% MN 2205-6512  
25% SAP 02-606-08  
25% MSAP 127-020-09
- ⑦ SODDING TYPE LAWN IS TO INCLUDE 4" OF TOPSOIL. THE TOPSOIL WILL BE PAID FOR WITH SODDING TYPE LAWN BY THE S.Y. AND NO ADDITIONAL COMPENSATION WILL BE MADE.



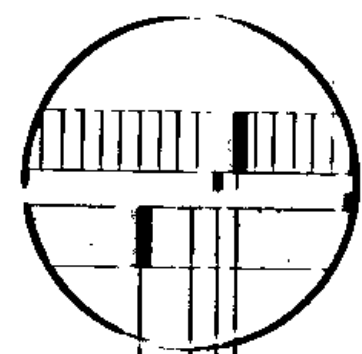
- 1 1/2" BITUMINOUS WEARING COURSE  
MNDOT SPEC. 2331 TYPE 41
- 2" BITUMINOUS BINDER COURSE  
MNDOT SPEC. 2331 TYPE 31
- 3" BITUMINOUS BASE COURSE  
MNDOT SPEC. 2331 TYPE 31
- 6" AGGREGATE BASE, CLASS 5  
MNDOT SPEC. 2211

DETAIL A



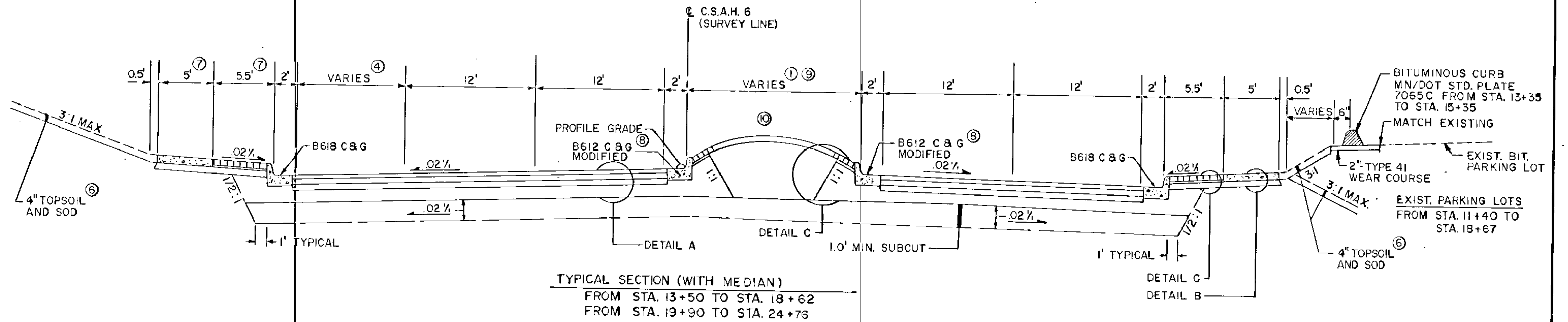
- 4" CONCRETE WALK
- 4" AGGREGATE BASE, CLASS 5  
MNDOT SPEC. 2211

DETAIL B

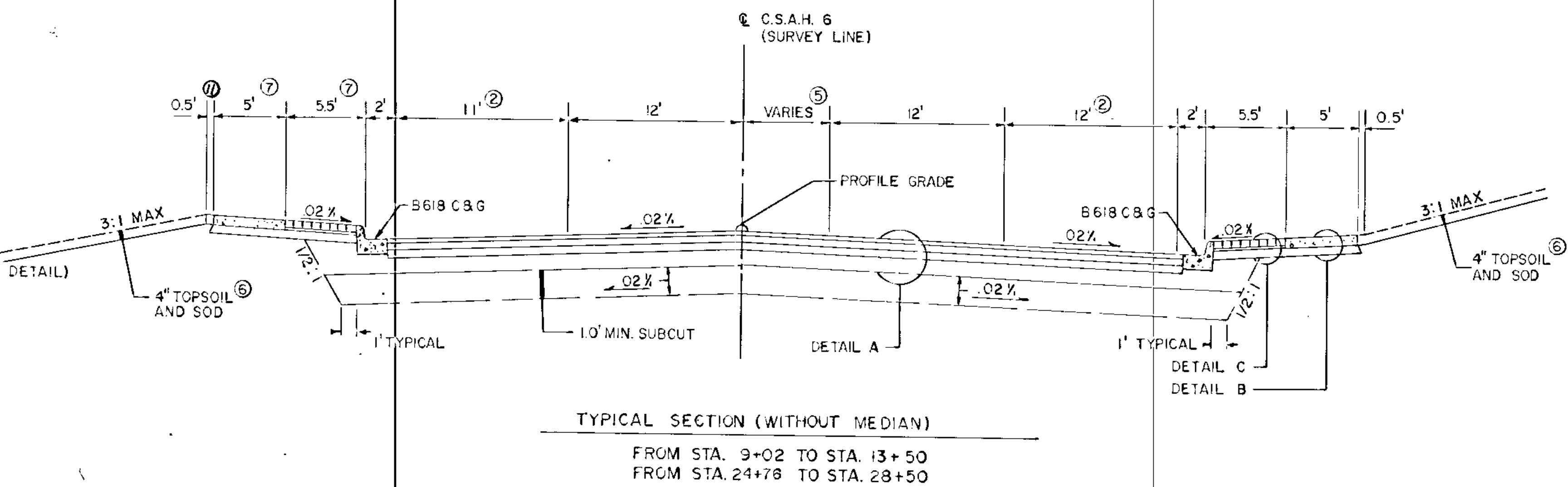
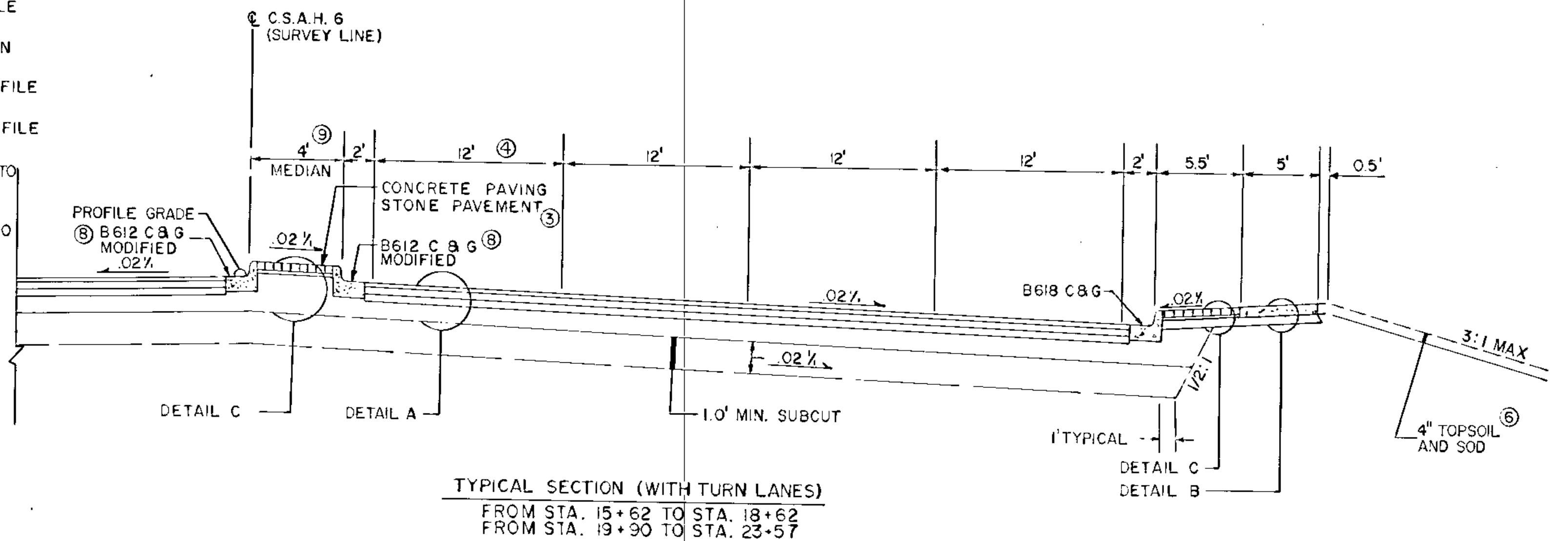


- 2 3/8" PAVING STONE (HERRING BONE PATTERN SEE DETAIL)
- 1" SAND CUSHION
- 1" BITUMINOUS BASE COURSE  
MNDOT SPEC. 2331 TYPE 31
- 4" AGGREGATE BASE, CLASS 5 - SIDEWALK
- 15" AGGREGATE BASE, CLASS 5 - MEDIAN  
MNDOT SPEC. 2211

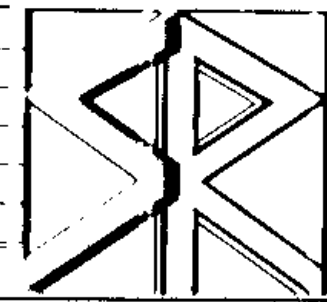
DETAIL C



- ① VARIES FROM 4'-16'. SEE PLAN & PROFILE SHEETS FOR LOCATIONS.
- ② VARIES FROM 11'-12'. SEE PLAN & PROFILE SHEETS FOR LOCATIONS.
- ③ REFER TO SHEETS 6, 7, 8 FOR LOCATION AND LAYOUT OF PAVING STONE.
- ④ VARIES FROM 0'-12'. SEE PLAN & PROFILE SHEETS FOR LOCATIONS.
- ⑤ VARIES FROM 0'-18'. SEE PLAN & PROFILE SHEET FOR LOCATIONS.
- ⑥ PROVIDE INPLACE SECTION, AS NECESSARY TO MATCH EXISTING CONDITIONS.
- ⑦ MATCH EXISTING DIMENSIONS AND MATERIALS FROM STA. 9+02 TO STA. 11+90 AND FROM STA. 22+45 TO STA. 28+50.
- ⑧ MATCH SLOPE OF ROADWAY.
- ⑨ NOMINAL DISTANCE, REVISE AS NECESSARY TO MATCH PAVING STONE PATTERN, AS APPROVED BY ENGINEER. VARIABLE STA. 24+40, TO STA. 24+70.
- ⑩ SEE MOUNDED MEDIAN DETAIL, SHEET B
- ⑪ 24+40 Thru Sta. 50 Walk 15 Inside Right Street 10



1	1-10-01	CBW	CUE	REVISED PER CITY REVIEW
2	1-3-94	ALG		ASBUILT
NO	DATE	BY	CMO	REVISION



**STRGAR-ROSCOE-FAUSCH, INC.**  
CONSULTING ENGINEERS ■ LAND SURVEYORS  
MINNEAPOLIS MINNESOTA

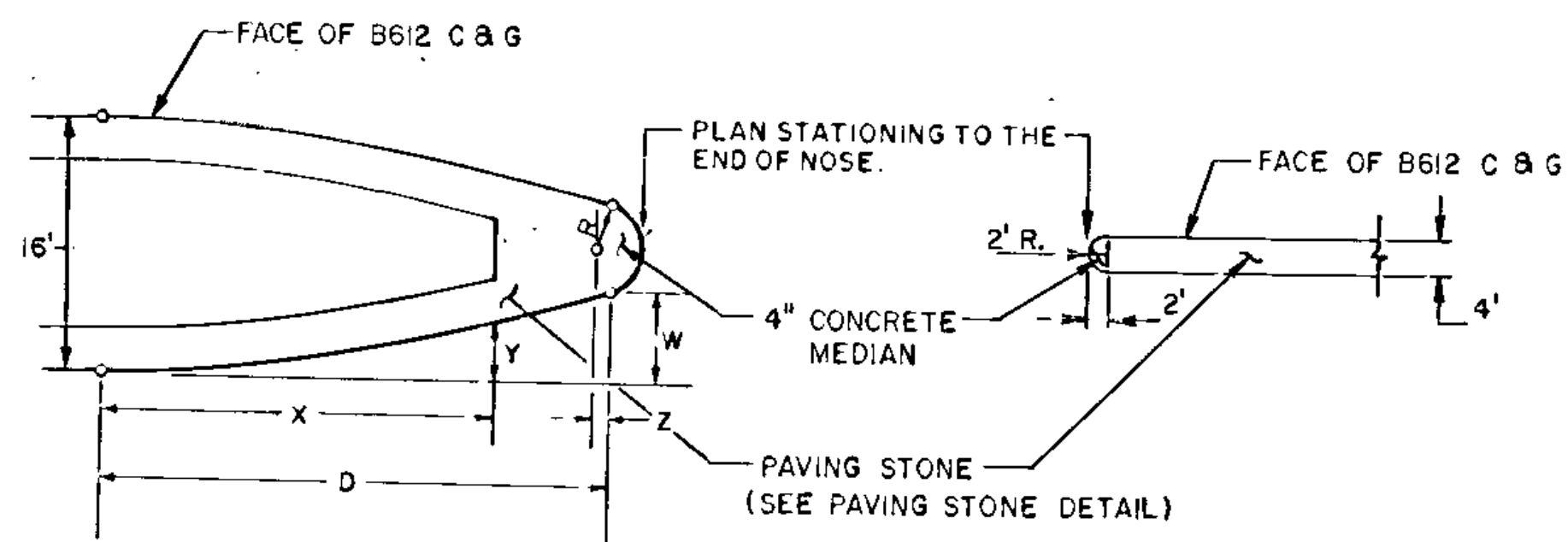
The responsibility for the preparation of this report was assumed by the author, a duly registered Professional Engineer under the laws of the State of Minnesota.  
*Ray E. Erickson*  
Date: 5/7/86 Reg. No. 14546

**ANOKA COUNTY**  
**C.S.A.H. 6**  
**TYPICAL SECTIONS**

STATE AID 02-606-08	DRAWN BY J. HANE	DATE 3-86	SHEET 4
MSAP. NO. 127-020-03	ENGINEERED BY L. ERICKSON	DATE 3-86	OF 31
S.P. NO. 0205-55	APPROVED BY T. PHENOW	DATE 4-86	CITY NO.







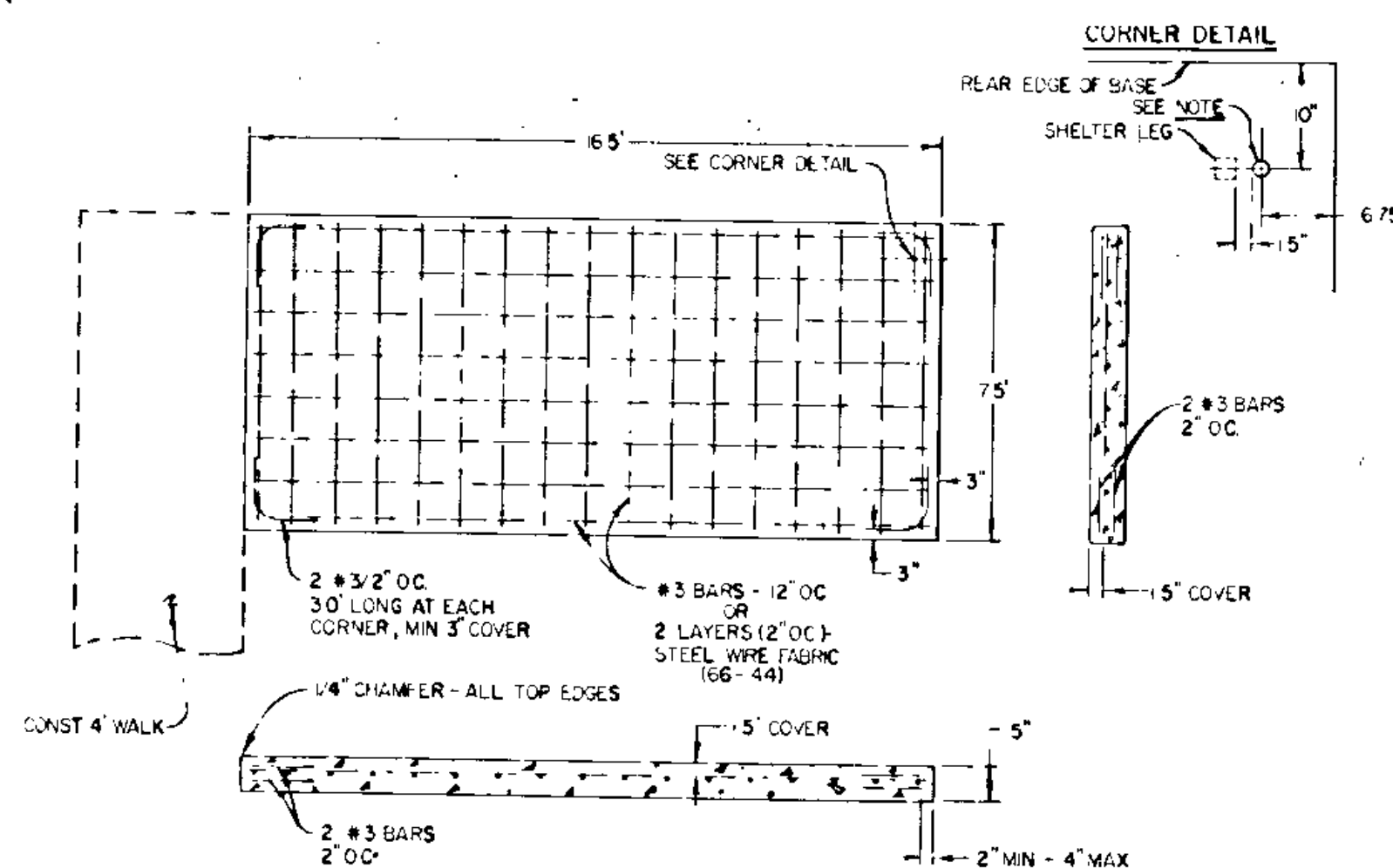
MEDIAN NOSE TYPE A

STANDARD MEDIAN NOSE

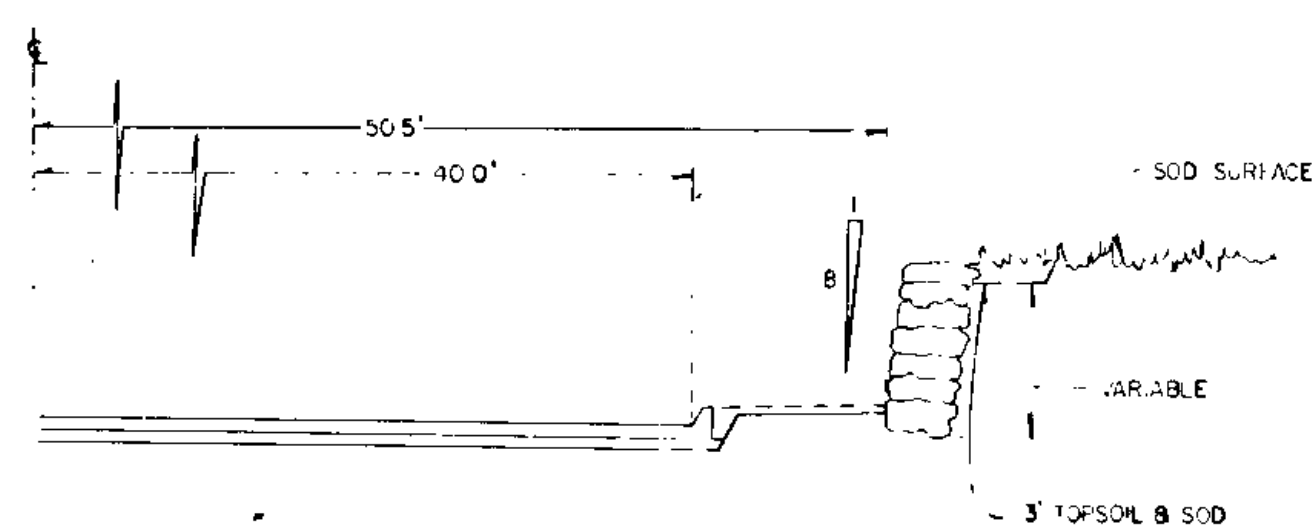
MEDIAN NOSE TYPE	DIMENSIONS (ft)				Y-OFFSET (ft)					
	D	W	Z	R	5	10	15	20	25	30
	34.5	4.9	0.9	3.2	0.1	0.4	0.9	1.7	2.6	3.7

**MEDIAN NOSE DETAIL**

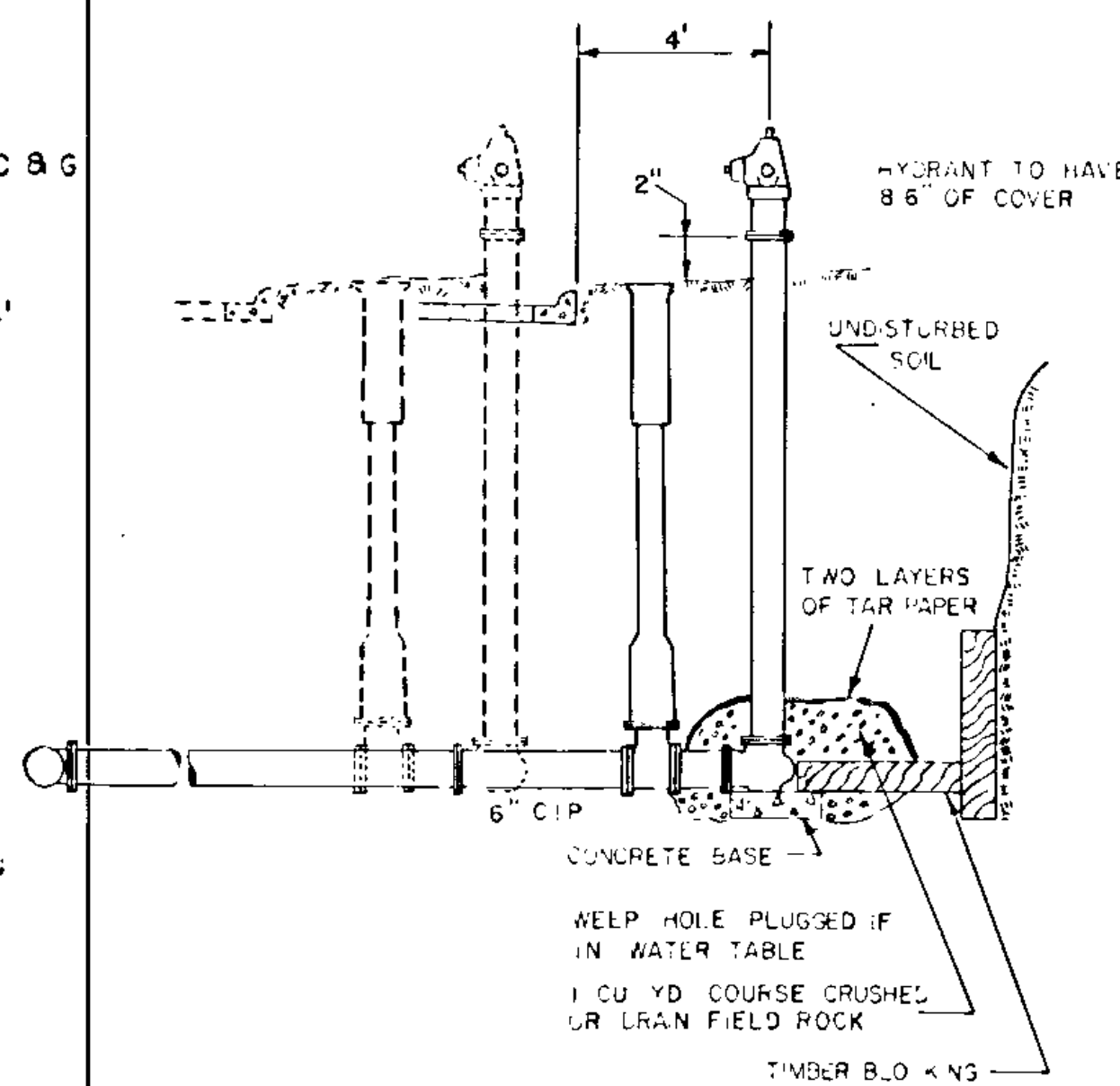
(SEE SHEET B FOR MOUNDED MEDIAN DETAIL)



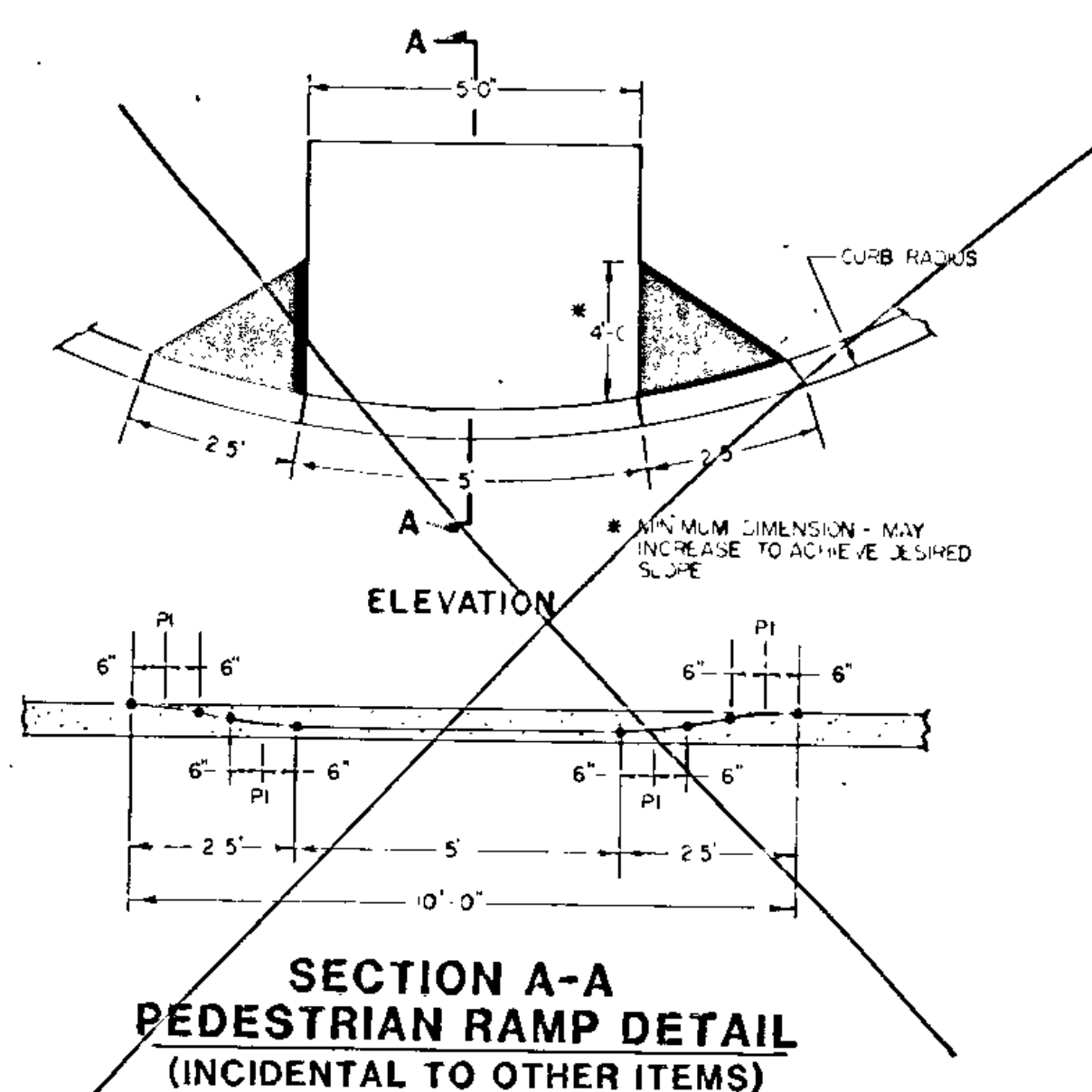
**BUS SHELTER PAD**



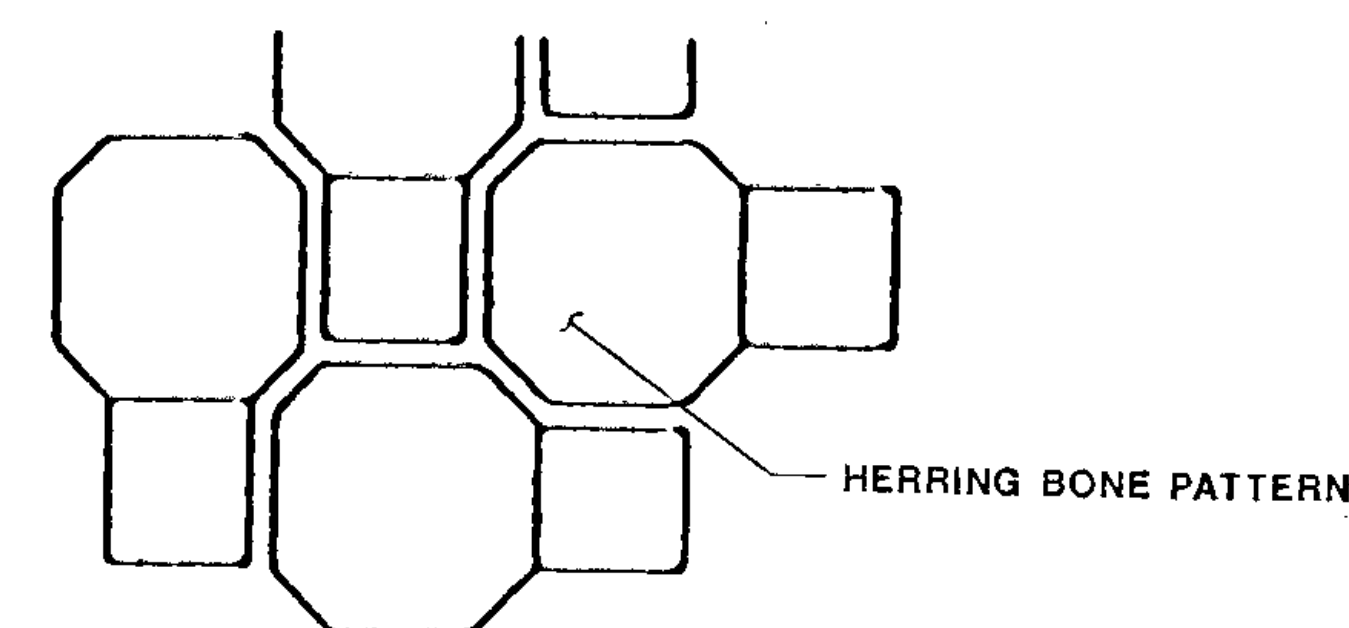
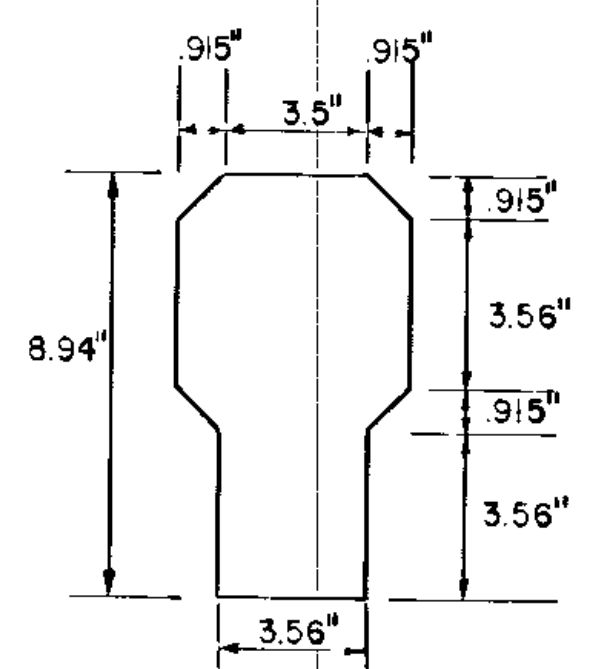
**STONE RETAINING WALL DETAIL**



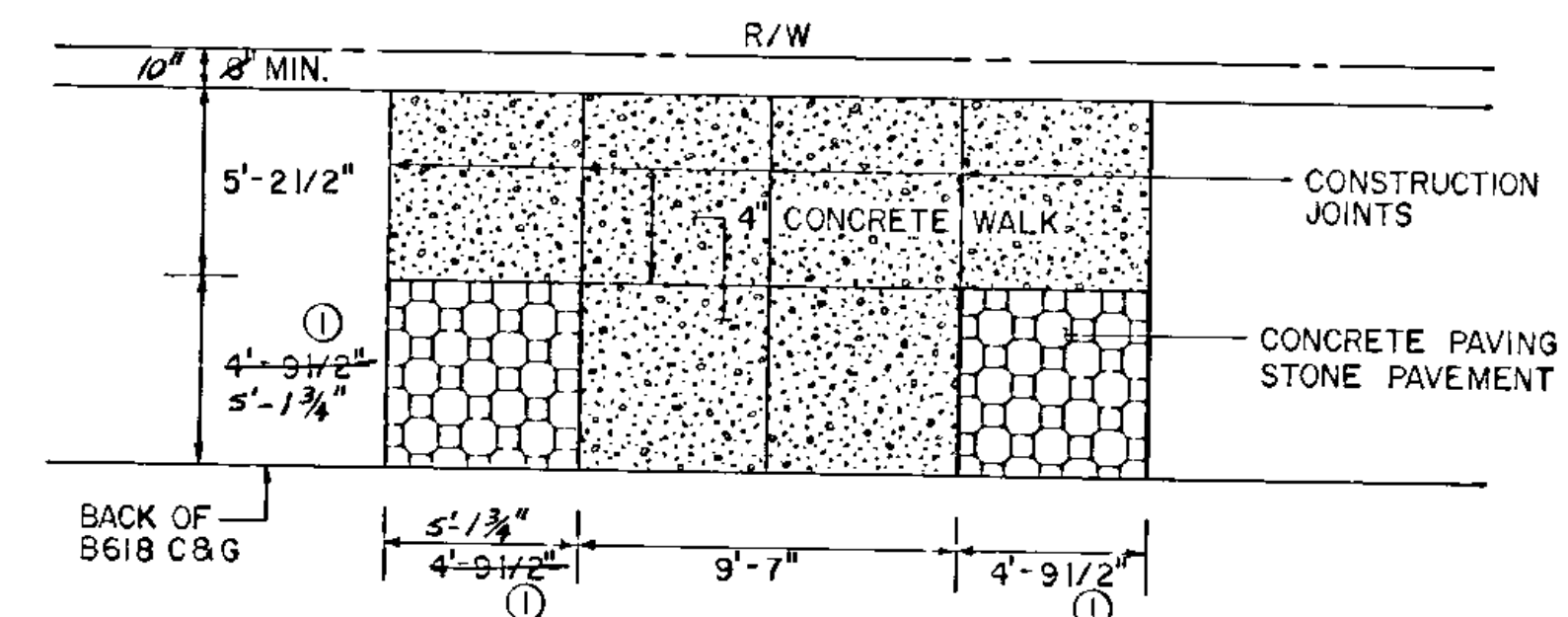
**HYDRANT & VALVE RELOCATION**



**SECTION A-A PEDESTRIAN RAMP DETAIL (INCIDENTAL TO OTHER ITEMS)**

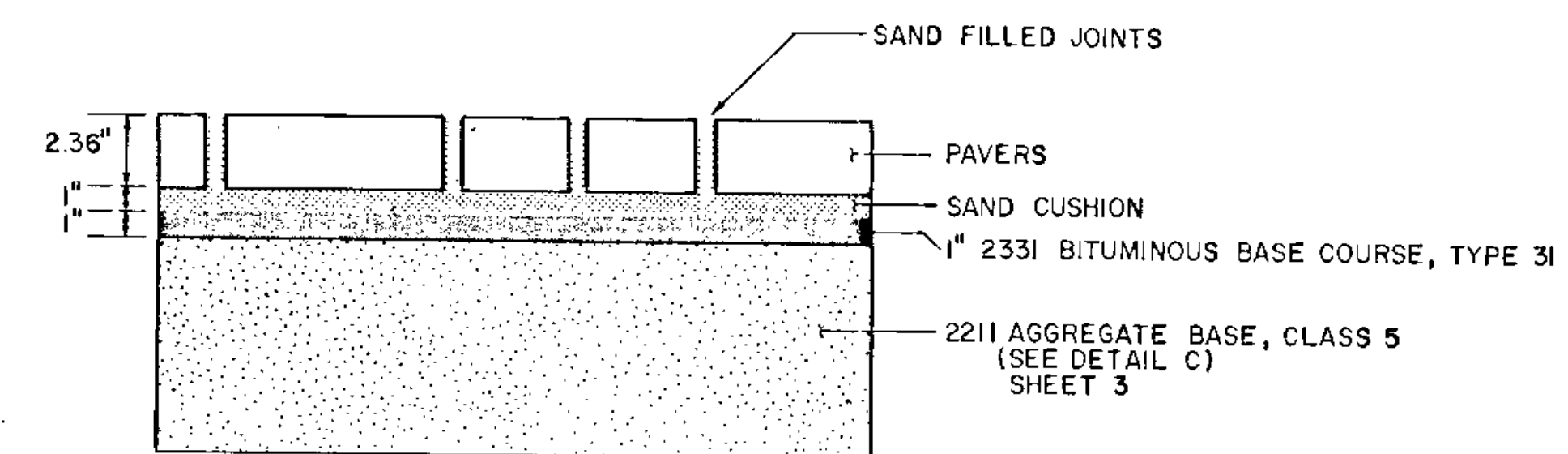


**PAVING STONE DETAIL**



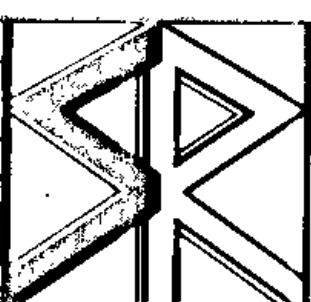
**SIDEWALK PANEL LAYOUT**

- ① NOMINAL DISTANCE, REVISE AS NECESSARY TO MATCH PAVING STONE PATTERN.
- ② USE DESIGN V6 CONCRETE CURB, AS AN EDGE RESTRAINT AT THE INTERSECTION AT UNIVERSITY AVE. AND MISSISSIPPI ST. WHERE SIDEWALK OR B618 C&G IS NOT PROVIDED FOR THE PAVING STONE.



**TYPICAL CROSS-SECTION OF PAVING STONE**

NO	DATE	BY	CHKD	APPR	REVISION
1	2-1-87	LAE	TDP	RBR	BUS SHELTER PAD, STONE WALL & PEDESTRIAN RAMP DETAILS
2	1-10-91	CBW	COE		REVISED PER CITY REVIEW
3	1-3-94	RLG			AS BUILT



**STRGAR-ROSCOE-FAUSCH, INC.**  
CONSULTING ENGINEERS ■ LAND SURVEYORS

MINNEAPOLIS MINNESOTA

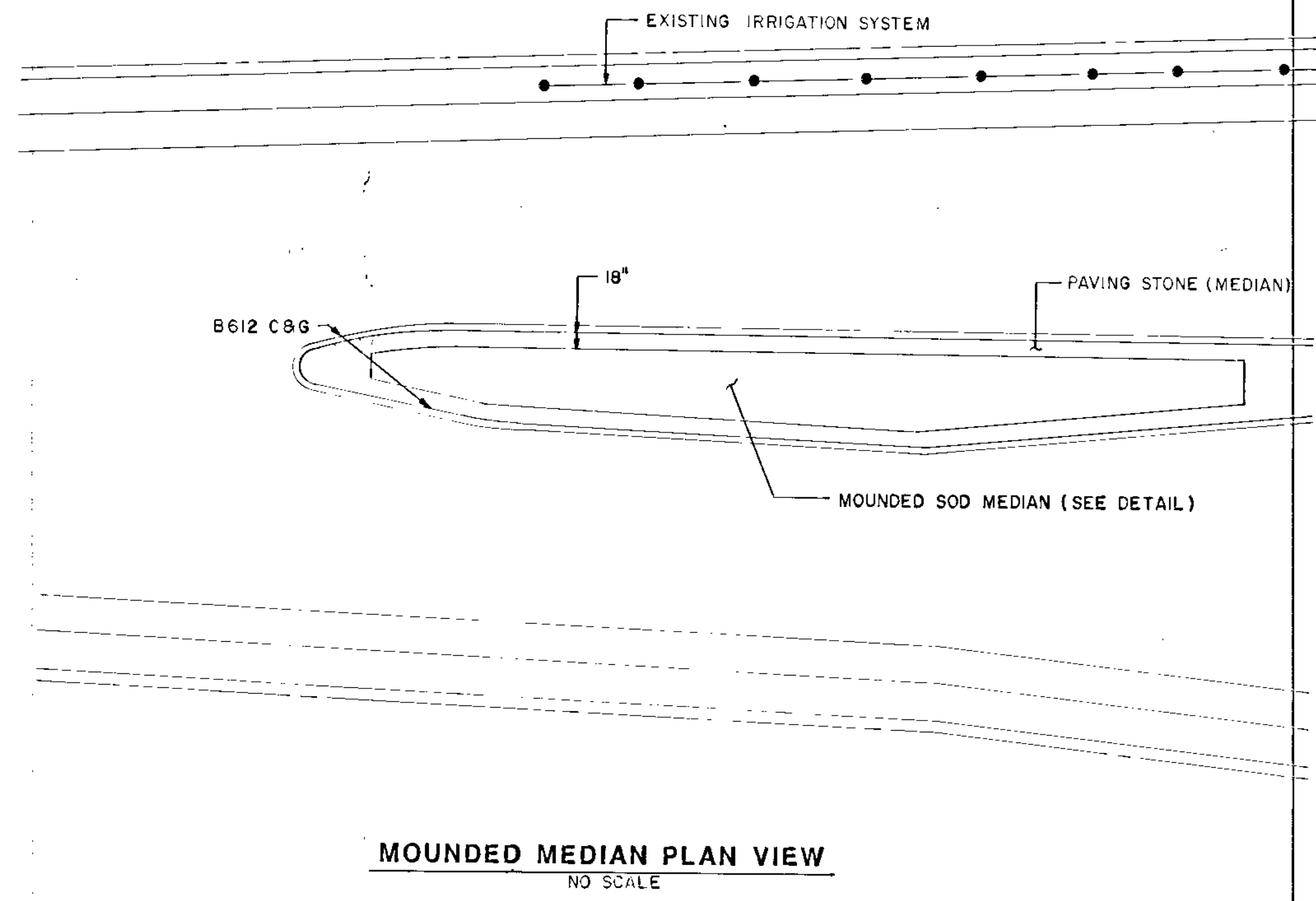
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.  
*Sam A. Erickson*  
Date: 5/7/88 Reg. No. 14546

**ANOKA COUNTY**  
**C.S.A.H. 6**  
**MISCELLANEOUS DETAILS**

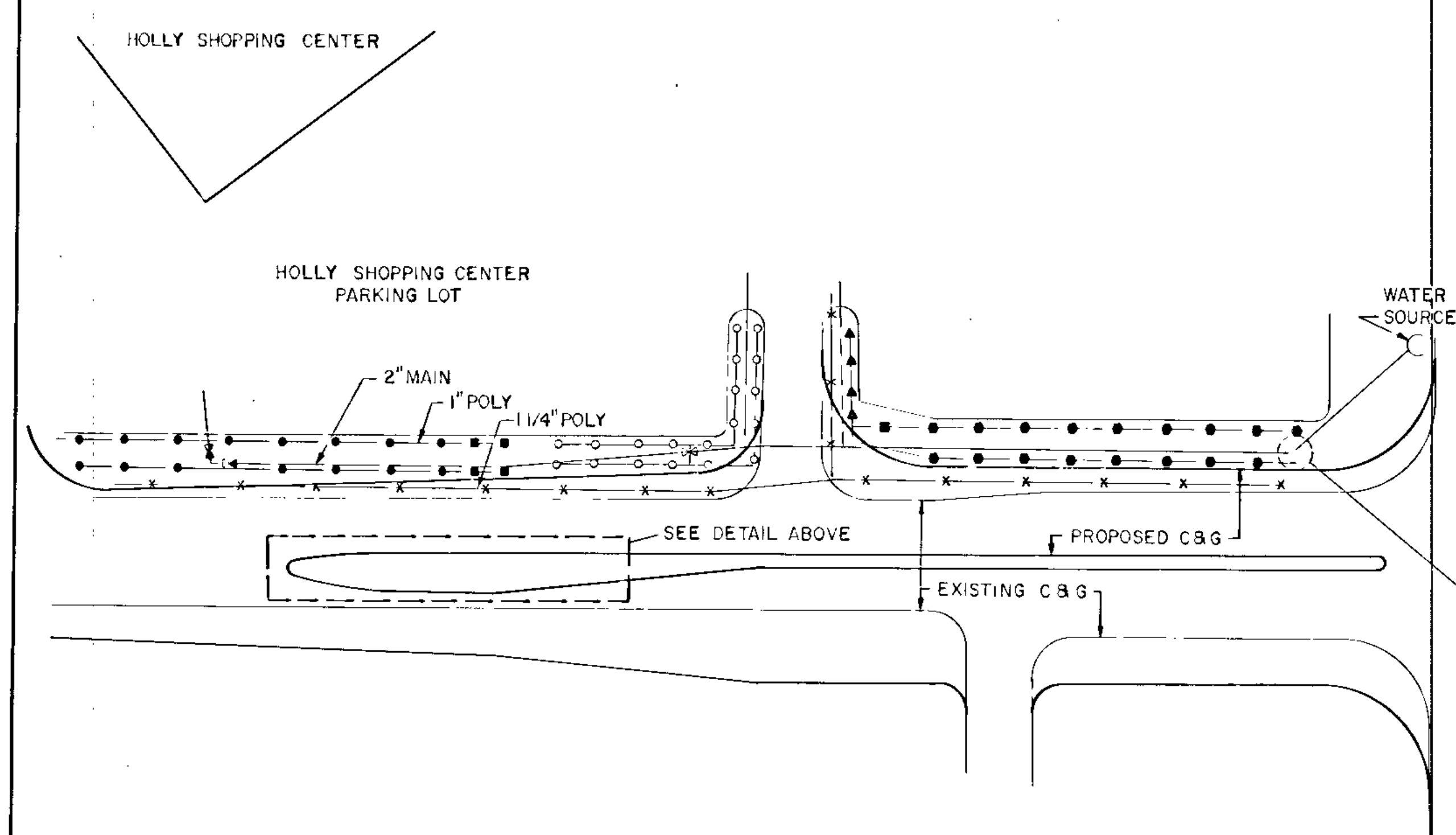
STATE AID PROJ NO 02-606-08	DRAWN BY J. HANE	DATE 4-86	SHEET 6
MSAP. NO. 127-020-09	DESIGNED BY L. ERICKSON	4-86	OF 31
SP NO 0205-55	CHECKED BY T. PHENOW	4-86	COMM. NO.
	APPROVED BY		0860605





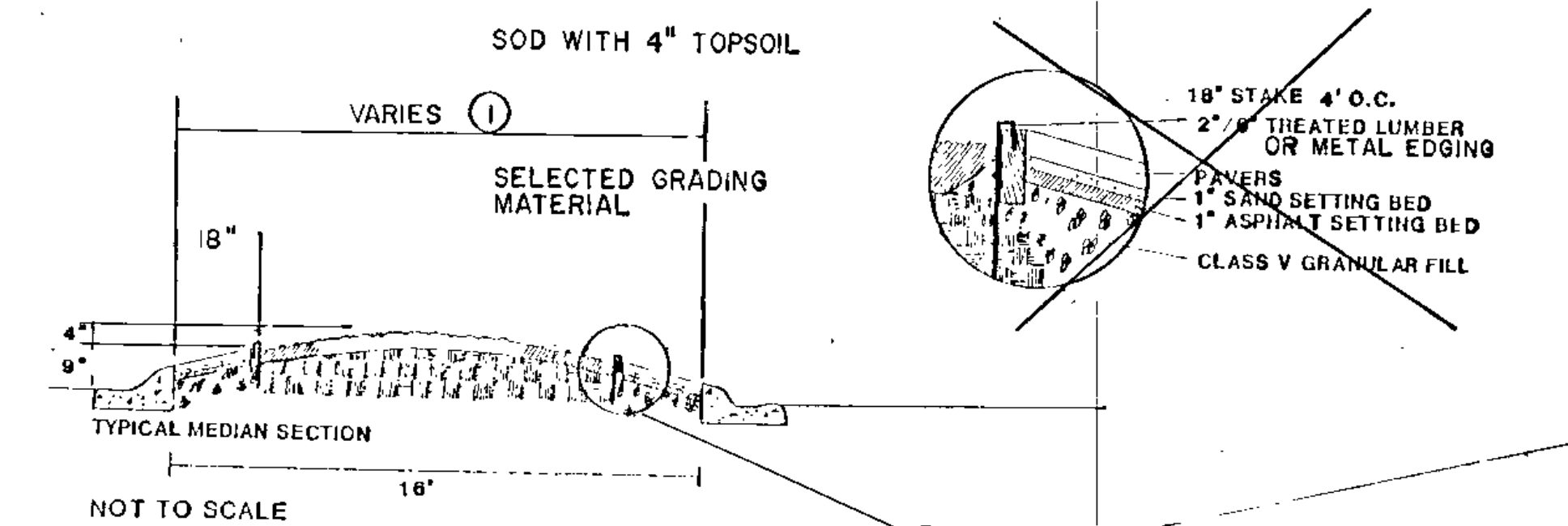


**MOUNDED MEDIAN PLAN VIEW**  
NO SCALE



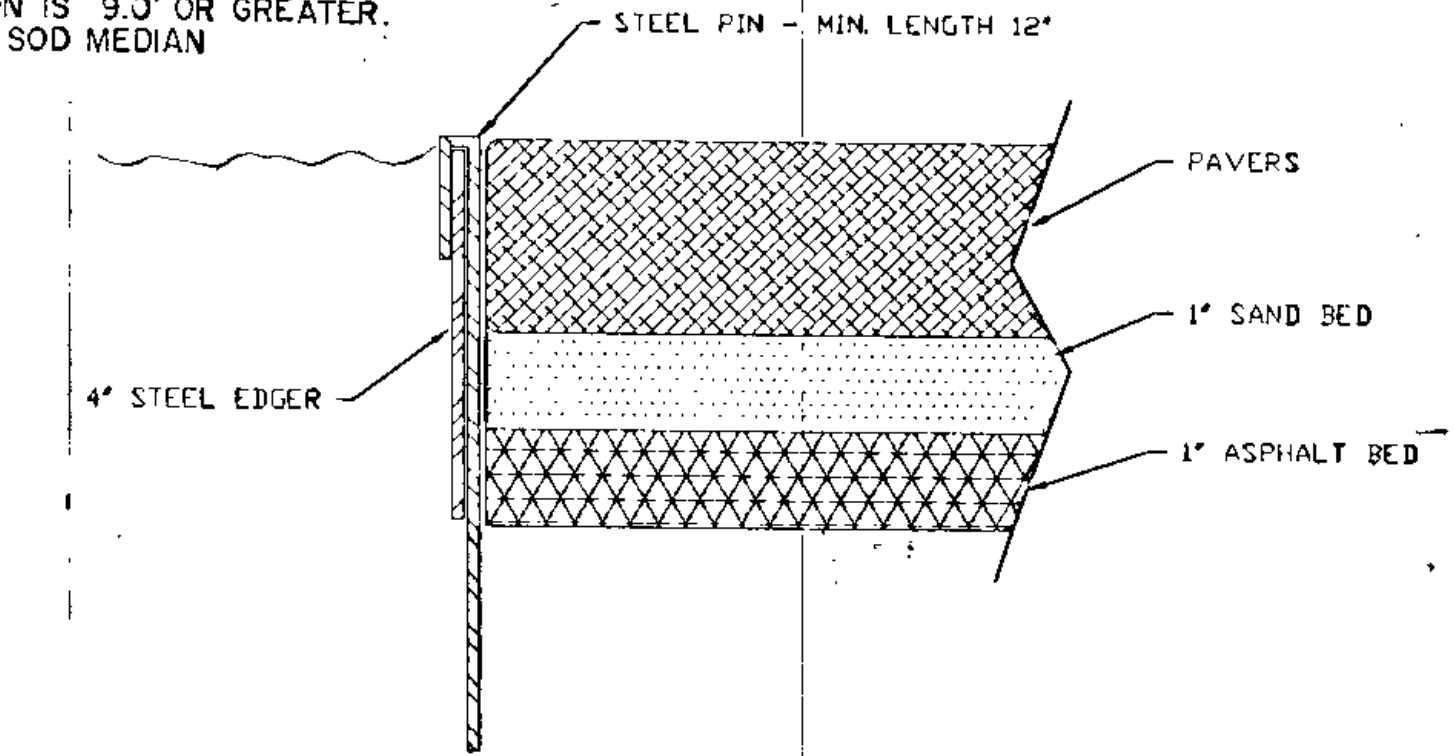
**GENERAL SCHEMATIC LAYOUT OF PROPOSED & EXISTING IRRIGATION SYSTEM**  
NO SCALE

**MOUNDED MEDIAN CROSS SECTION**

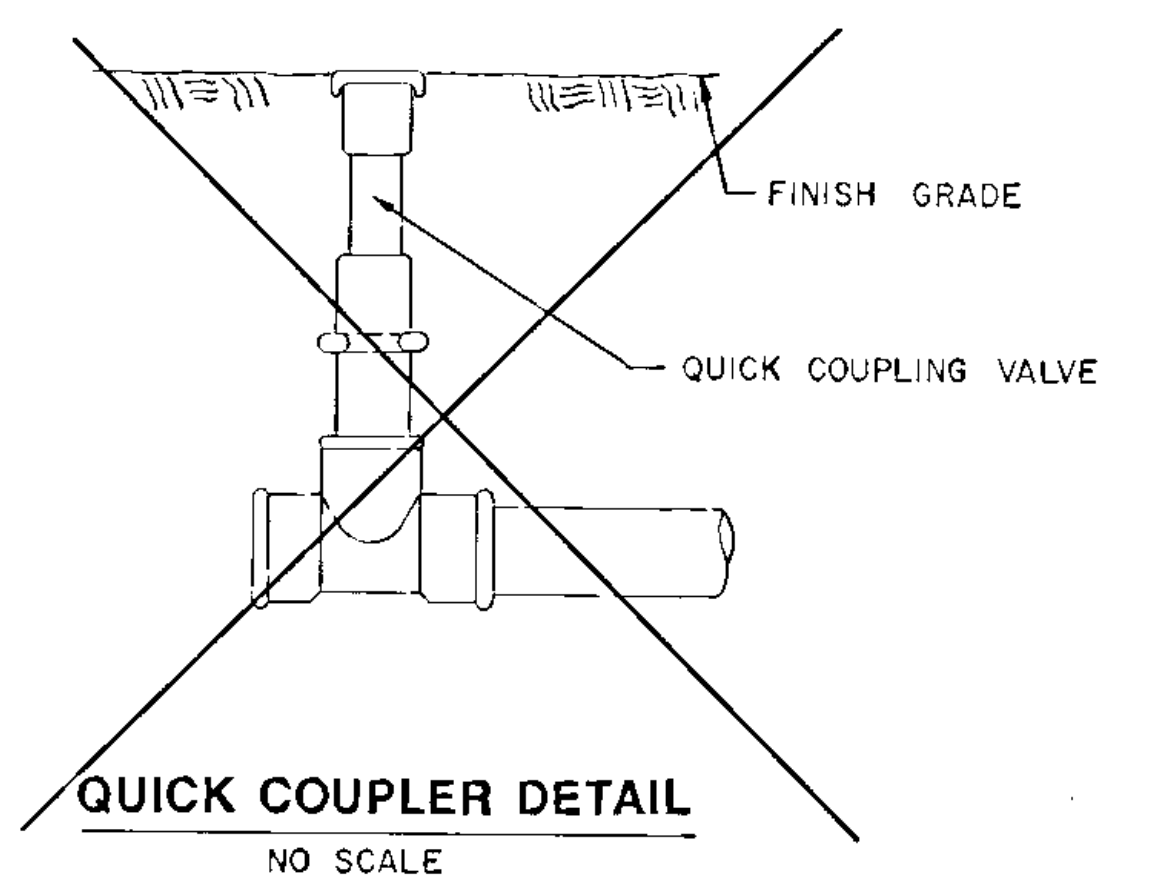


① WHEN DIMENSION IS 9.0' OR GREATER, USE MOUNDED SOD MEDIAN

**RED BRICK PAVERS EDGE DETAIL**



NOTE:  
A PVC EDGER SUCH AS 'PAVE-EDGE' (PAVE-TECH, INC) CAN BE SUBSTITUTED FOR STEEL EDGER WITH APPROVAL OF THE ENGINEER.



**QUICK COUPLER DETAIL**  
NO SCALE

**LEGEND FOR PROPOSED IRRIGATION SYSTEM**

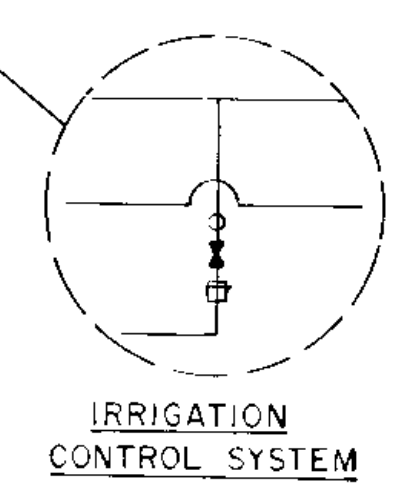
- ◇ 473-00 QUICK COUPLER VALVE
- 700-03 OUTLET EMITTER, 710-07 THREADED FITTING, 850-00 VALVE COVER, DISTRIBUTION FEEDER TUBING FOR EMITTERS (POLYETHYLENE 740-05)
- 3/4" POLYETHYLENE PIPE 80 PSI PE 3408

**LEGEND FOR EXISTING IRRIGATION SYSTEM AT HOLLY SHOPPING CENTER**

- TORO 300 STREAM ROTOR 03 NOZZLE
- TORO 300 STREAM ROTOR 02 NOZZLE
- TORO 300 STREAM ROTOR 01 NOZZLE
- TORO 570P FIXED SPRAY 15' RADIUS
- ▲ TORO 570P FIXED SPRAY 9-SST
- TORO 570P FIXED SPRAY 4-SST
- ▲ TORO 570P FIXED SPRAY 12' RADIUS
- TORO 570P FIXED SPRAY 12' RADIUS
- ◀ TORO 250-06-04 1" AUTO VALVE
- ✕ TORO 252-06-06 1 1/2" AUTO VALVE
- ✕ TORO 700-03 6 OUTLET EMITTER
- ☐ TORO 137-06-01 AUTOMATIC CONTROLLER
- ✕ TORO 240-06-03 3/4" AUTO VALVE (DRIP)
- ⊕ TORO 720-01 PRESET PRESSURE REGULATOR
- ∇ TORO 730-01 WYE STRAINER

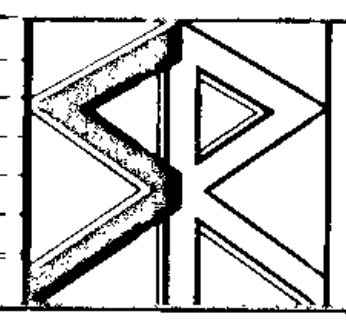
**NOTES**

RELOCATE IRRIGATION SYSTEM AT HOLLY SHOPPING CENTER AND TARGET AS NECESSARY TO PROVIDE IRRIGATION TO LANDSCAPED AREAS. THE EXISTING IRRIGATION SYSTEM SHOWN ABOVE IS FOR INFORMATION ONLY, THE CONTRACTOR SHALL VERIFY BEFORE CONSTRUCTION.



**IRRIGATION CONTROL SYSTEM**

1-11-91	C.W. COE	REVISED PER CITY REVIEW
1-3-94	RLS	AS BUILT
NO	DATE	BY
		CKD
		APPROVER
		REVISION



**STRGAR, ROSCOE-FAUSCH, INC.**  
CONSULTING ENGINEERS ■ LAND SURVEYORS  
MINNEAPOLIS MINNESOTA

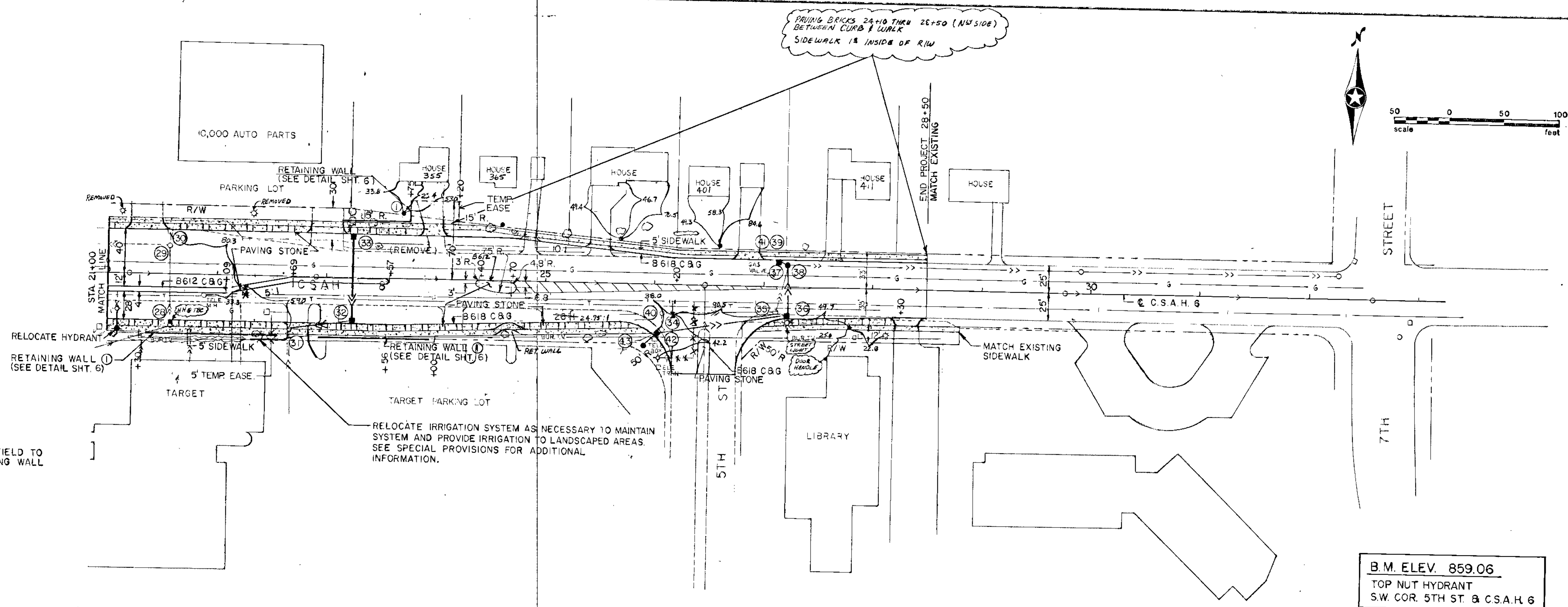
I hereby certify that this plan specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.  
*Sung A. Erickson*  
Date 5/7/86 Reg No 14546

**ANOKA COUNTY**  
**C.S.A.H. 6**  
**IRRIGATION SYSTEM**

STATE AID PROJ NO	DRAWN BY	DATE	SHEET
02-606-08	J. HANE	4-86	8
MSAP. NO.	DESIGNED BY	DATE	OF
127-020-09	L. ERICKSON	4-86	31
SP NO 0205-55	CHECKED BY	DATE	COMM. NO.
	T. PHENOW	4-86	
	APPROVED BY		0860685



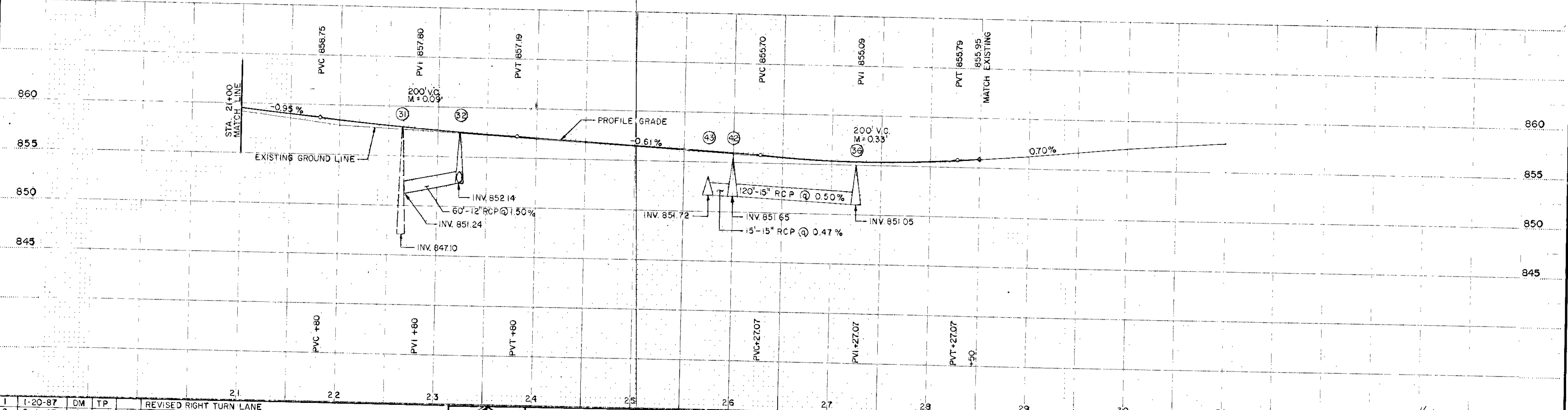




NOTES:  
 ① ENGINEER IN THE FIELD TO DETERMINE RETAINING WALL BOUNDARIES.

RELOCATE IRRIGATION SYSTEM AS NECESSARY TO MAINTAIN SYSTEM AND PROVIDE IRRIGATION TO LANDSCAPED AREAS. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

B.M. ELEV. 859.06  
 TOP NUT HYDRANT  
 S.W. COR. 5TH ST. & C.S.A.H. 6



NO.	DATE	BY	CHKD	APPR	REVISION
1	1-20-87	DM	TP		REVISED RIGHT TURN LANE
2	2-1-87	LAE	TDP	RBR	EXTRA LENGTH ON N.B. RT. TURN LANE ON MISS.
3	2-24-87	SLM			REVISE STORM SEWER & ADD RET. WALLS
4	6-6-90				ADD ISLAND MEDIAN
5	1-7-91	MCI	COE		REVISE PER CITY REVIEW
6	1-3-94	RLG			AS BUILT

**STRGAR-ROSCOE-FAUSCH, INC.**  
 CONSULTING ENGINEERS • LAND SURVEYORS  
 MINNEAPOLIS MINNESOTA

I hereby certify that this plan, specification or report 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.  
*Ray A. Erickson*  
 Date 3/7/86 Reg No. 14546

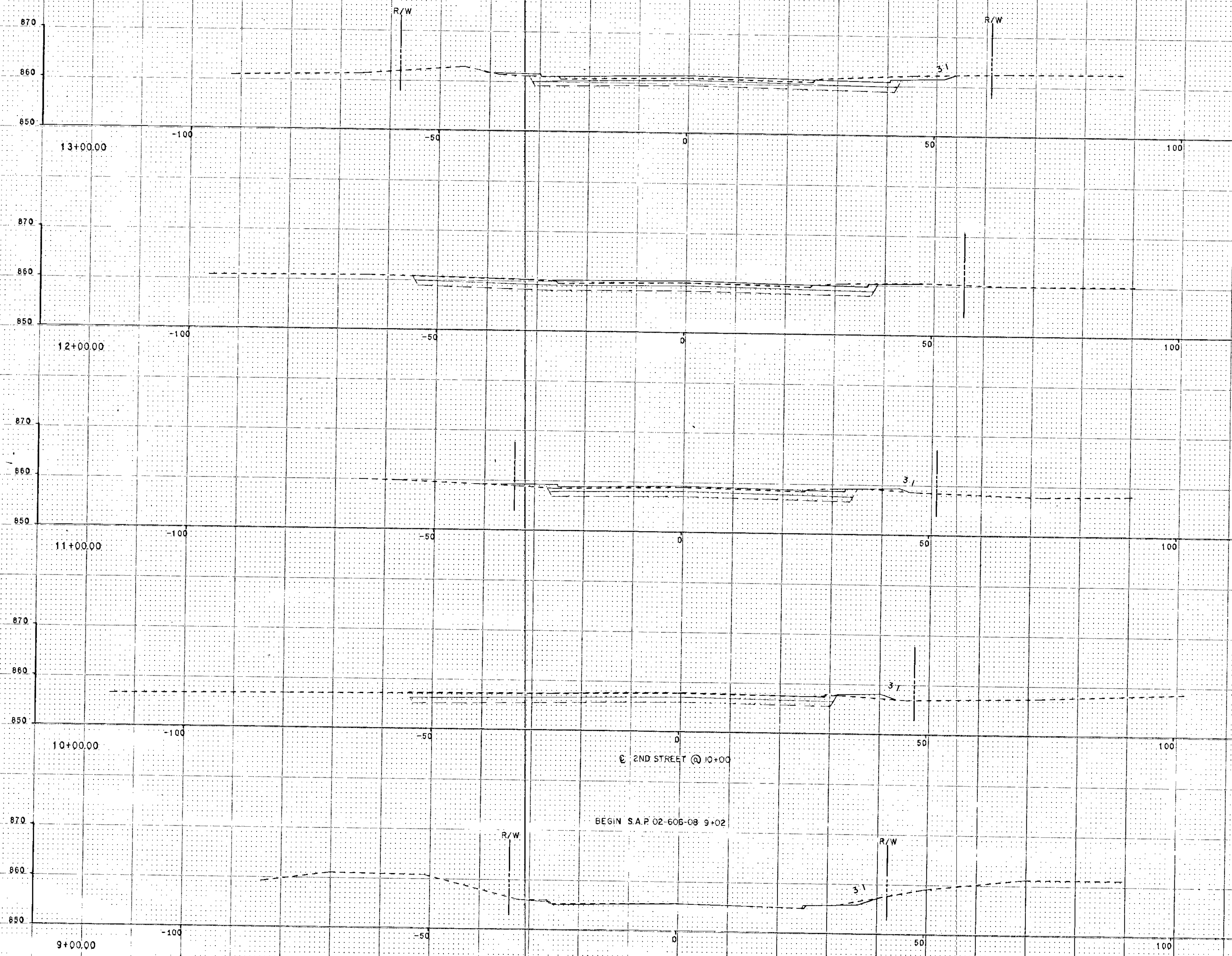
ANOKA COUNTY  
**C.S.A.H. 6**  
 PLAN AND PROFILE  
 STA. 21 + 00 TO STA. 28 + 50

STATE AID PROJ. NO. 02-606-08	DRAWN BY J. HANE DATE 3-86	SHEET 10 OF 31
M.S.A.P. NO. 127-020-09	DESIGNED BY L. ERICKSON DATE 3-86	COMM. NO. 0860685
SPNO 0205-55	APPROVED BY T. PHENOW DATE 4-86	



Fed. Proj. No.

EXCAVATION CU. YD.	EMBANKMENT CU. YD.
-----------------------	-----------------------



453	157
-----	-----

434	160
-----	-----

433	145
-----	-----

251	66
-----	----

314	30
-----	----

MSAP. NO.  
127-020-09  
SP NO 0205-55

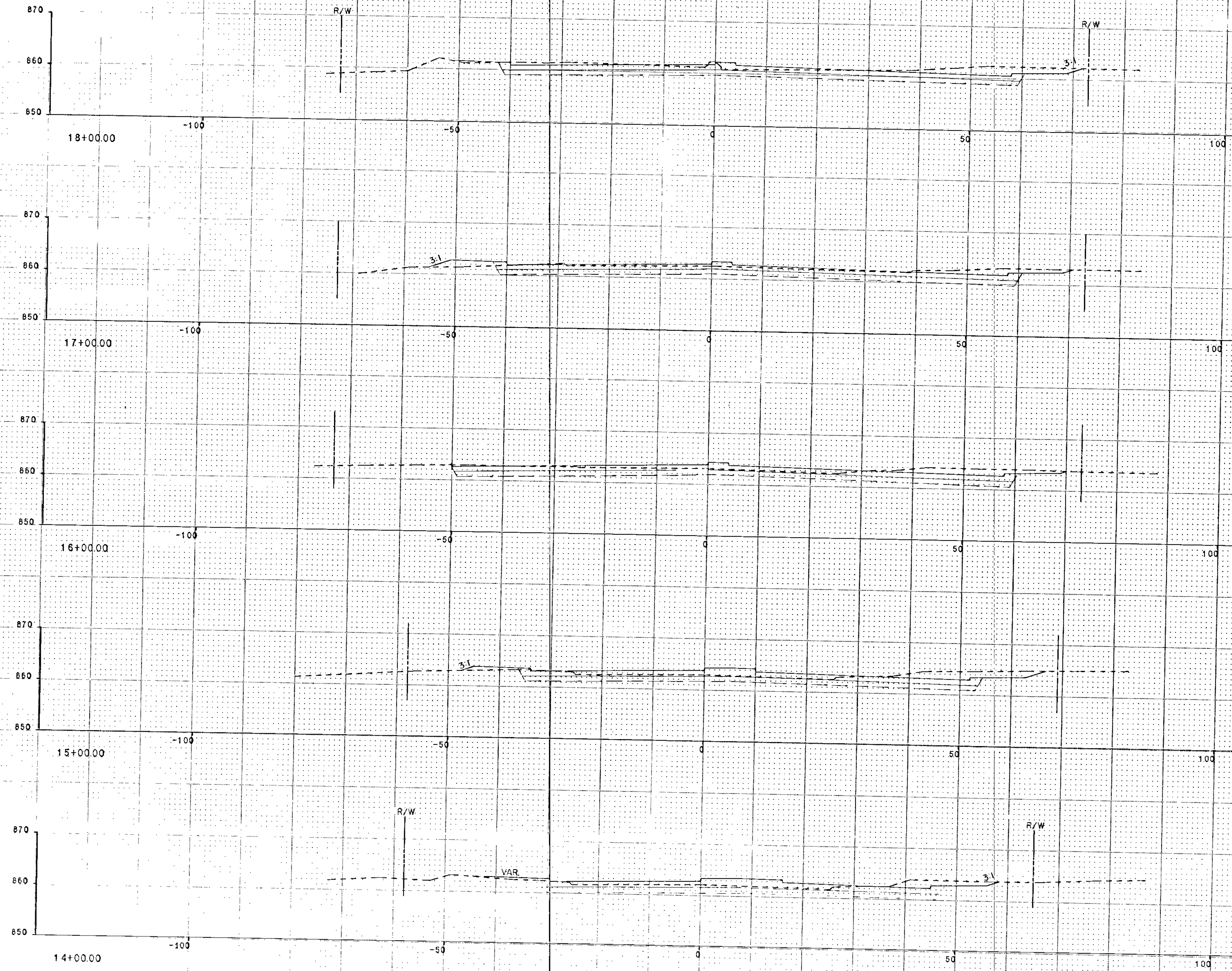
State Proj. No. S.A.P. 02-606-08

Sheet No. 11 of 31 Sheets



Fed. Proj. No.

END CONSTRUCTION 18+67



EXCAVATION  
CU. YD.

EMBANKMENT  
CU. YD.

451

66

645

107

645

144

712

182

541

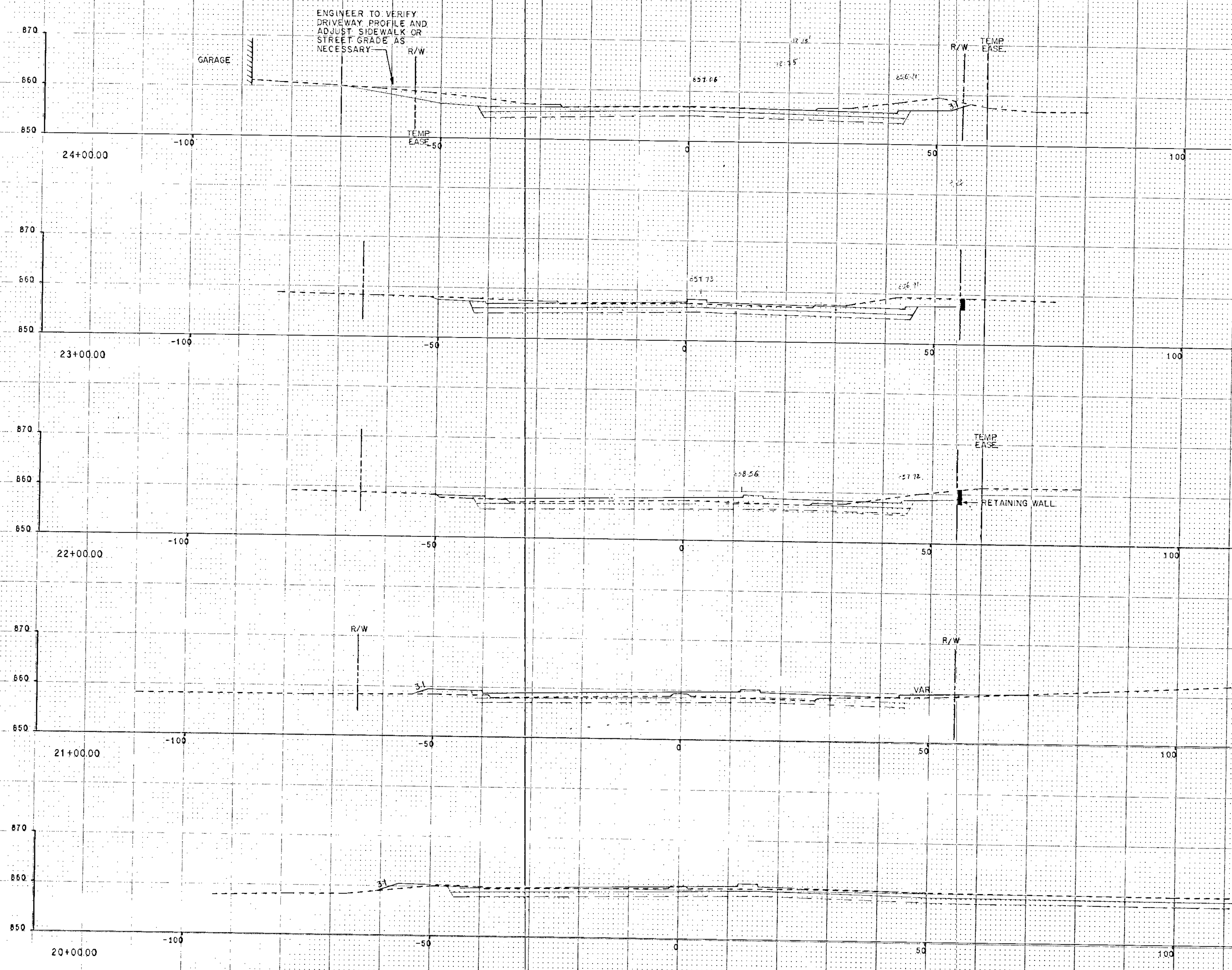
211

MSAP. NO. 127-020-09 SP NO 0205-55

State Proj. No. S.A.P. 02-606-08

Sheet No. 12 of 31 Sheets





EXCAVATION CU. YD.	EMBANKMENT CU. YD.
607	27
651	59
573	162
454	282
393	229
340	35

ENGINEER TO VERIFY  
DRIVEWAY PROFILE AND  
ADJUST SIDEWALK OR  
STREET GRADE AS  
NECESSARY

GARAGE

R/W TEMP EASE

TEMP EASE

RETAINING WALL

R/W

VAR

BEGIN CONSTRUCTION 19#65.

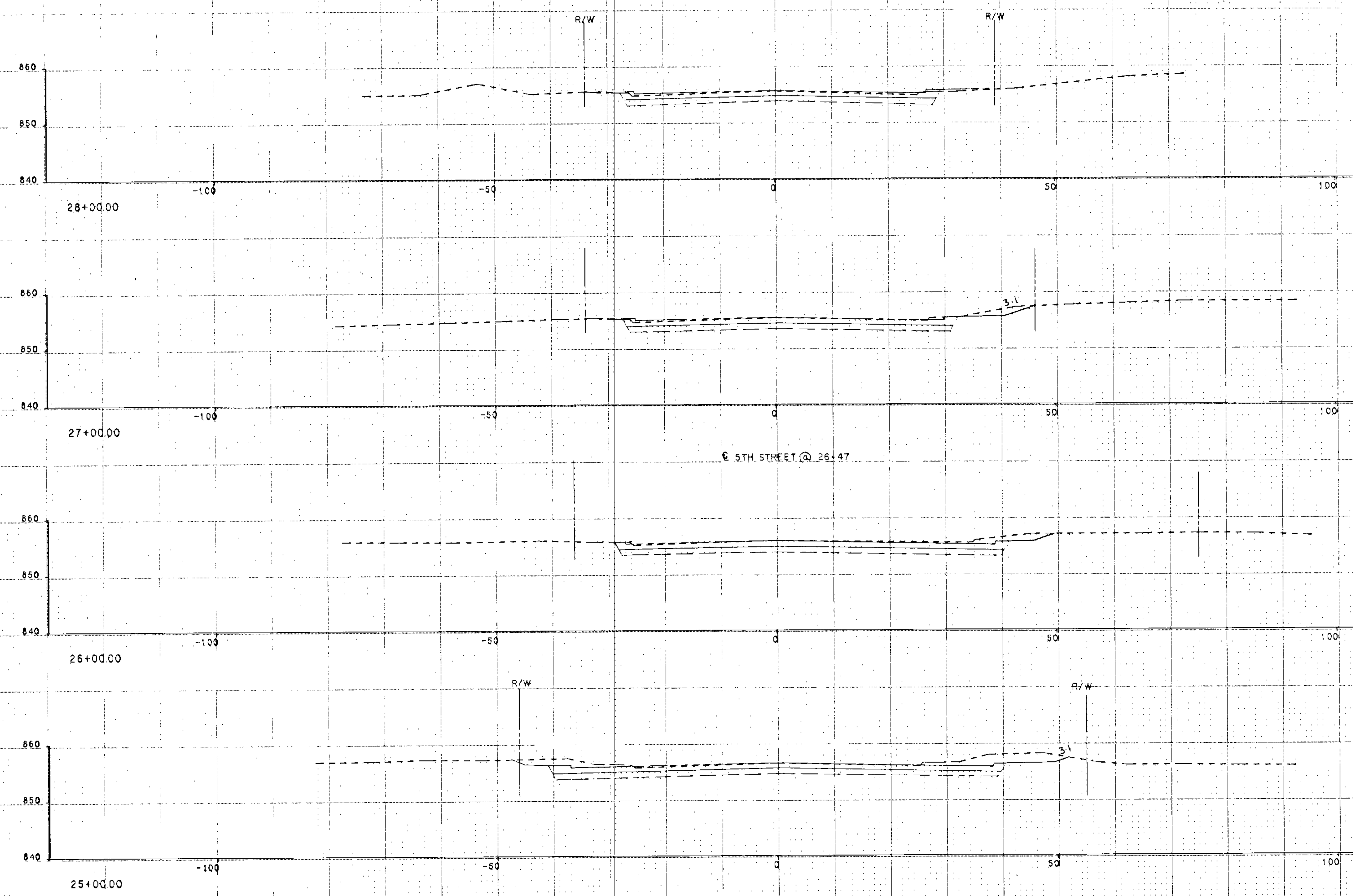
MSAP. NO. 127-020-09 S.P. 0205-55

State Proj. No. S.A.P. 02-606-08

EXCAVATION  
CU. YD.

EMBANKMENT  
CU. YD.

END S.A.P. 02-606-08 28+50



123

82

253

56

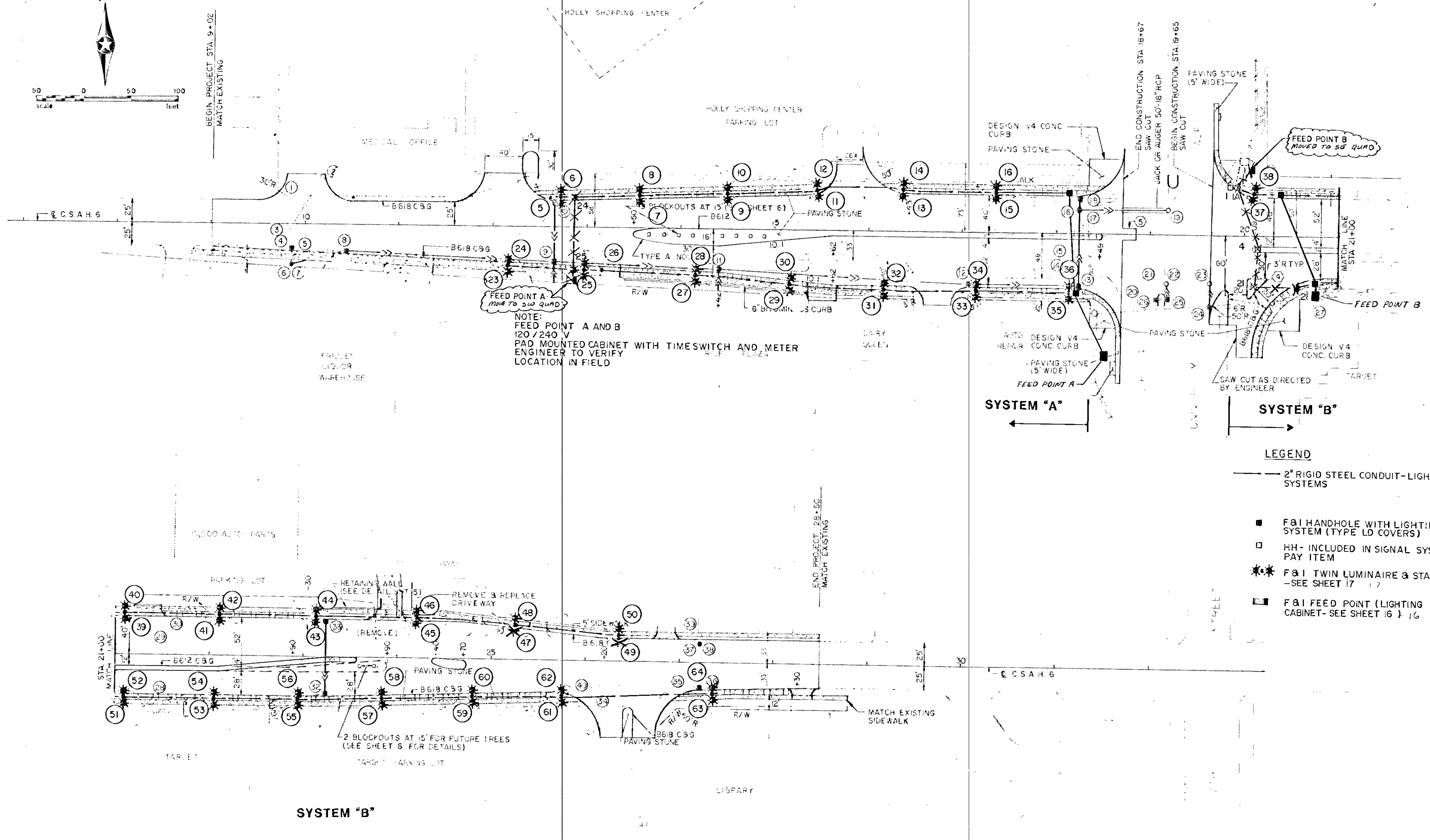
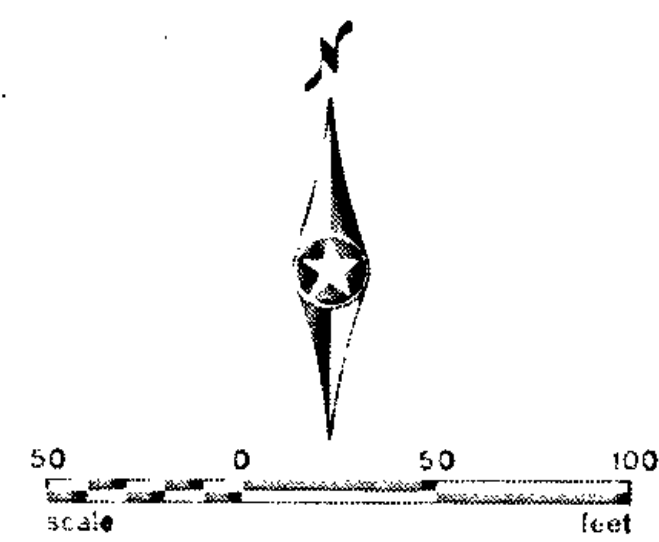
434

32

449

28





NOTE:  
 FEED POINT A AND B  
 120/240 V  
 PAD MOUNTED CABINET WITH TIMESWITCH AND METER  
 ENGINEER TO VERIFY  
 LOCATION IN FIELD

SYSTEM "A"

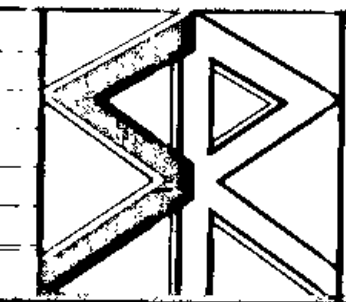
SYSTEM "B"

LEGEND

- 2" RIGID STEEL CONDUIT—LIGHTING SYSTEMS
- F&I HANDHOLE WITH LIGHTING SYSTEM (TYPE LD COVERS)
- HH- INCLUDED IN SIGNAL SYSTEM PAY ITEM
- \*\*\* F&I TWIN LUMINAIRE & STANDARD—SEE SHEET 17
- F&I FEED POINT (LIGHTING CABINET—SEE SHEET 16)

SYSTEM "B"

1	1-7-91	MCI	COE	REVISE PER CITY REVIEW
2	11-12-91	JVB	COE	REVISE PER STATE REVIEW
3	1-3-94	RLG		AS BUILT
NO	DATE	BY	CHKD	REVISION



**STRGAR-ROSCOE-FAUSCH, INC.**  
 CONSULTING ENGINEERS ■ LAND SURVEYORS

MINNEAPOLIS MINNESOTA

I hereby certify that this plan, specification or report 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.  
*Alton S. Klugman*  
 Date 2/3/87 Reg. No. 17290

**ANOKA COUNTY**  
**C.S.A.H. 6/T.H. 47**  
**LIGHTING SYSTEMS "A" & "B" LAYOUT.**

STATE AID DISTRICT NO.	02-606-08	DESIGNED BY	M. HISAKKA	DATE	1-87	PROJECT NO.	15
IMSAP NO.	127-020-09	CHECKED BY	A. KLUGMAN	DATE	1-87	COMM. NO.	31
		APPROVED BY	D. EYLER	DATE	1-87		
S.P.0205-55							0860685

**ELECTRIC LIGHTING SYSTEM "A"**  
120/240 V FEED POINT A

LUMINAIRE AND STANDARD LOCATION				
NO.	STATION	LT.	RT.	TYPE
1				
2				
3				
4				
5	12+ <sup>71</sup> <sub>60</sub>	—		C
6				
7	13+55	—		C
8				
9	14+50	—		C
10				
11	15+ <sup>40</sup> <sub>45</sub>	—		C
12				
13	<sup>END</sup> <sub>RAD</sub> 16+ <sup>45</sup> <sub>35</sub>	—		C
14				
15	17+35	—		C
16				
17				
18				
19				
20				
21				
22				
23	12+ <sup>24</sup> <sub>15</sub>	—		C
24				
25	13+ <sup>37</sup> <sub>15</sub>	—		C
26				
27	14+ <sup>28</sup> <sub>15</sub>	—		C
28				
29	15+ <sup>18</sup> <sub>15</sub>	—		C
30				
31	16+15	—		C
32				
33	17+15	—		C
34				
35	18+15	—		C
36				

**ELECTRIC LIGHTING SYSTEM "B"**  
120/240 V FEED POINT B

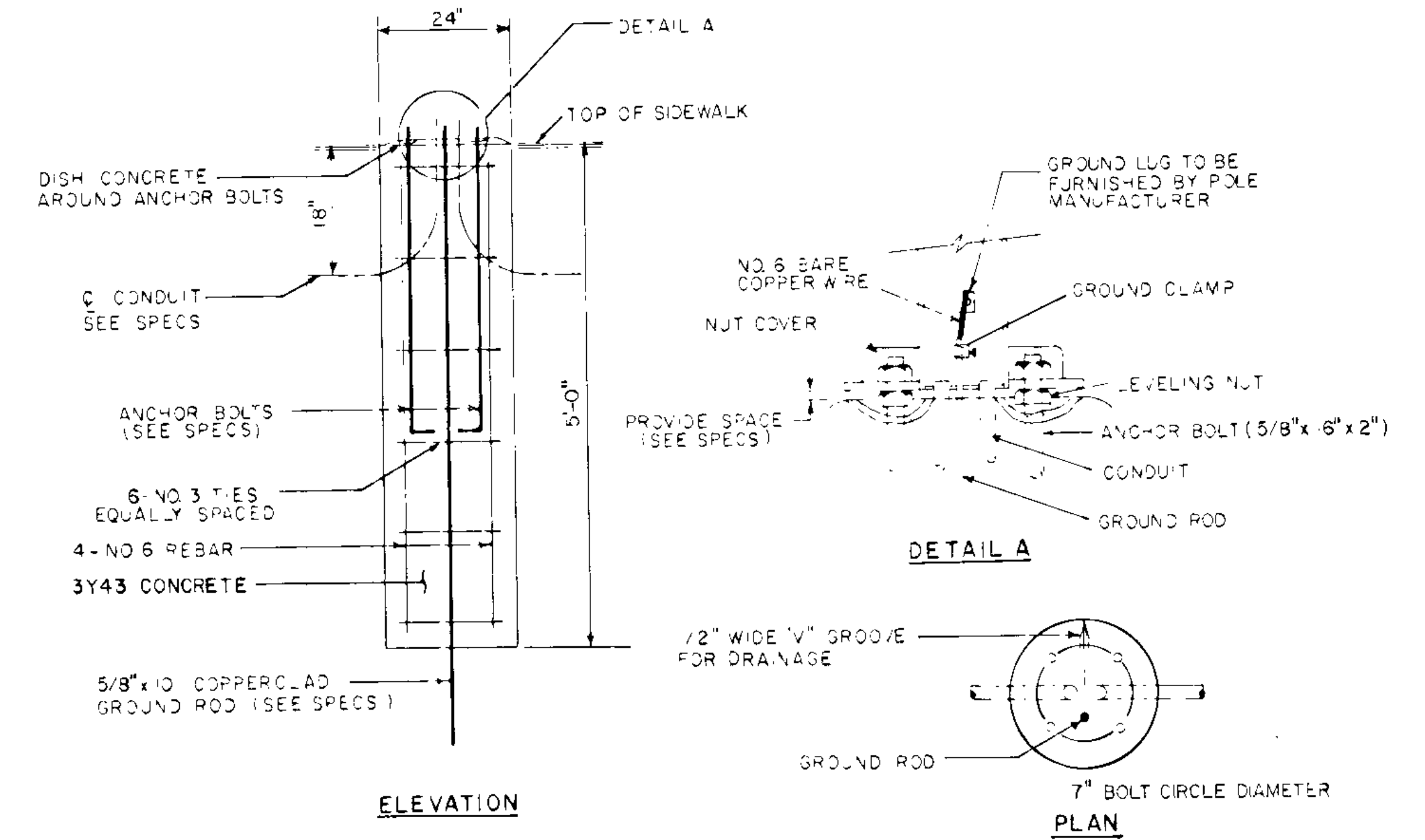
LUMINAIRE AND STANDARD LOCATION				
NO.	STATION	LT.	RT.	TYPE
37	20+10	—		C
38				
39	21+10	—		C
40				
41	22+ <sup>09</sup> <sub>10</sub>	—		C
42				
43	23+ <sup>6</sup> <sub>10</sub>	—		C
44				
45	24+20	—		D
46				
47	25+25	—		D
48				
49	26+35	—		D
50				
51	21+10	—		C
52				
53	22+05	—		C
54				
55	22+95	—		C
56				
57	23+85	—		C
58				
59	24+80	—		C
60				
61	25+75	—		C
62				
63	27+35	—		C
64				

MOVE TO  
END RAD

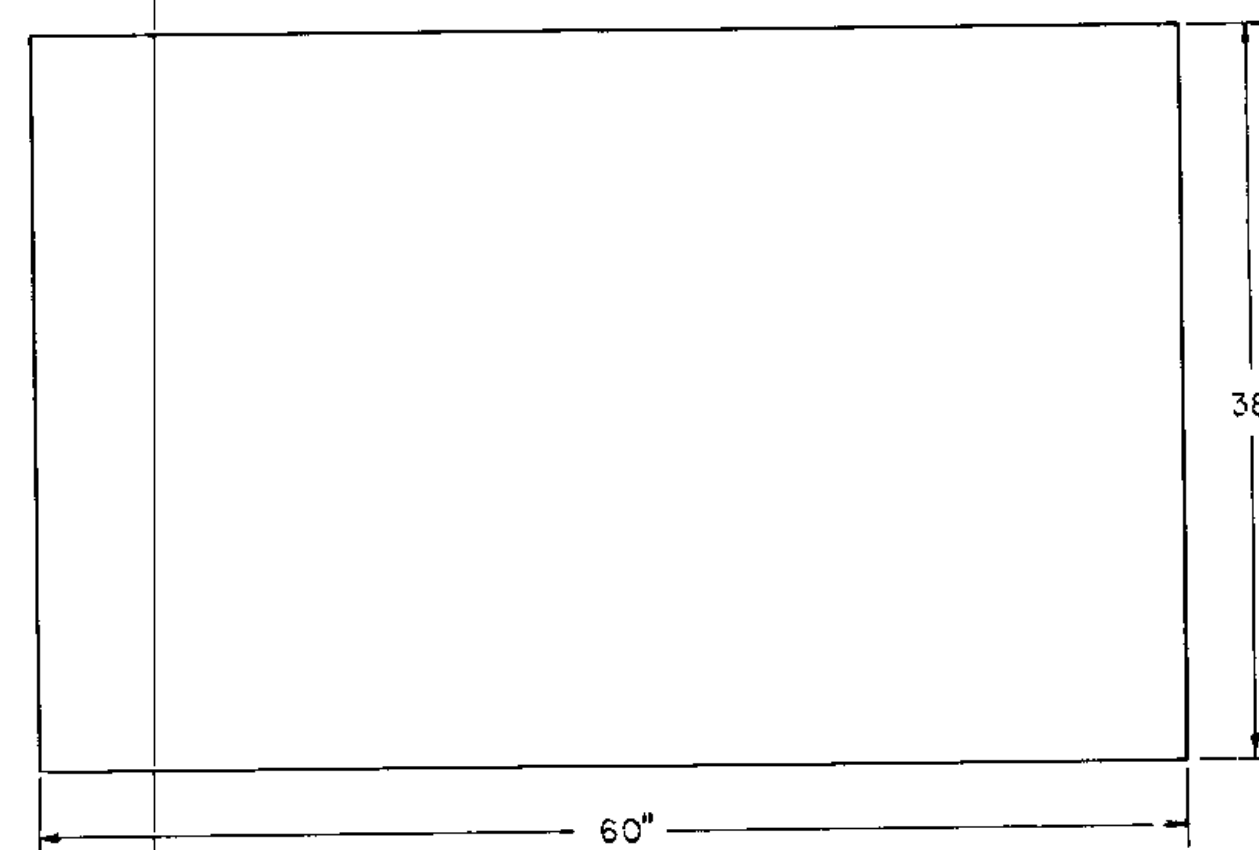
**NOTES:**

TYPE C LUMINAIRES SHALL BE 100 WATT, 240 VOLT SODIUM VAPOR LIGHTS. SEE SPECIAL PROVISIONS FOR COMPLETE SPECIFICATION.

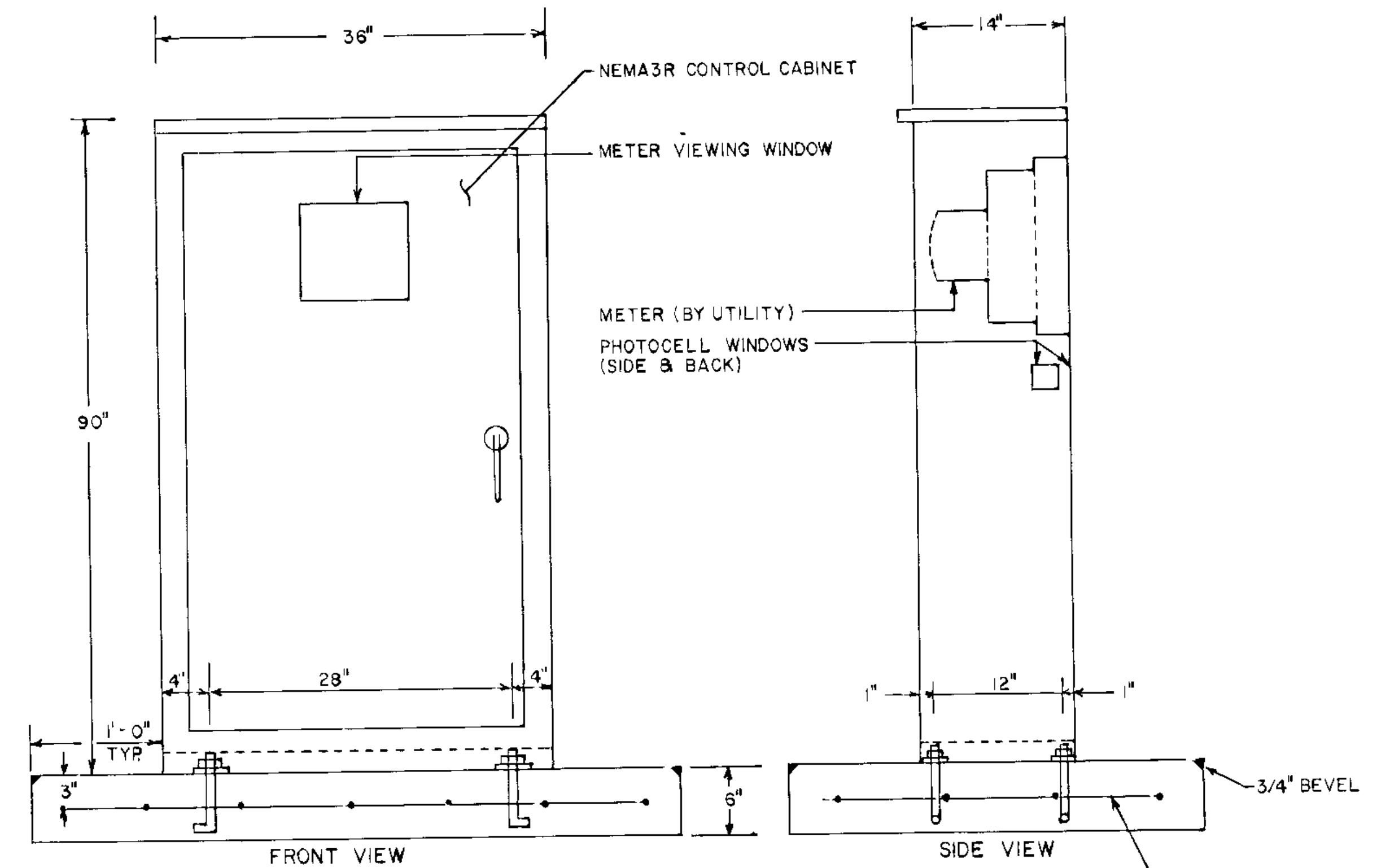
TYPE D LUMINAIRES SHALL BE TYPE C LUMINAIRES EQUIPPED WITH A HOUSE SIDE SHIELD.



**LIGHTING FOUNDATION DETAIL**

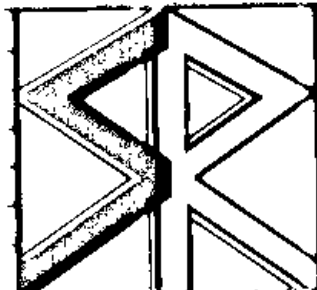


**CABINET PAD DIMENSIONS**



**LIGHTING CONTROL CABINET**

NO.	DATE	BY	CHKD	APPR	REVISION
1	1-11-91	RLG	COE		REVISED PER CITY REVIEW
2	11-13-91	JVB	COE		REVISED PER STATE REVIEW
3	1-3-94	RLG			ASBUILT



**STRGAR-ROSCOE-FAUSCH, INC.**  
CONSULTING ENGINEERS ■ LAND SURVEYORS  
MINNEAPOLIS MINNESOTA

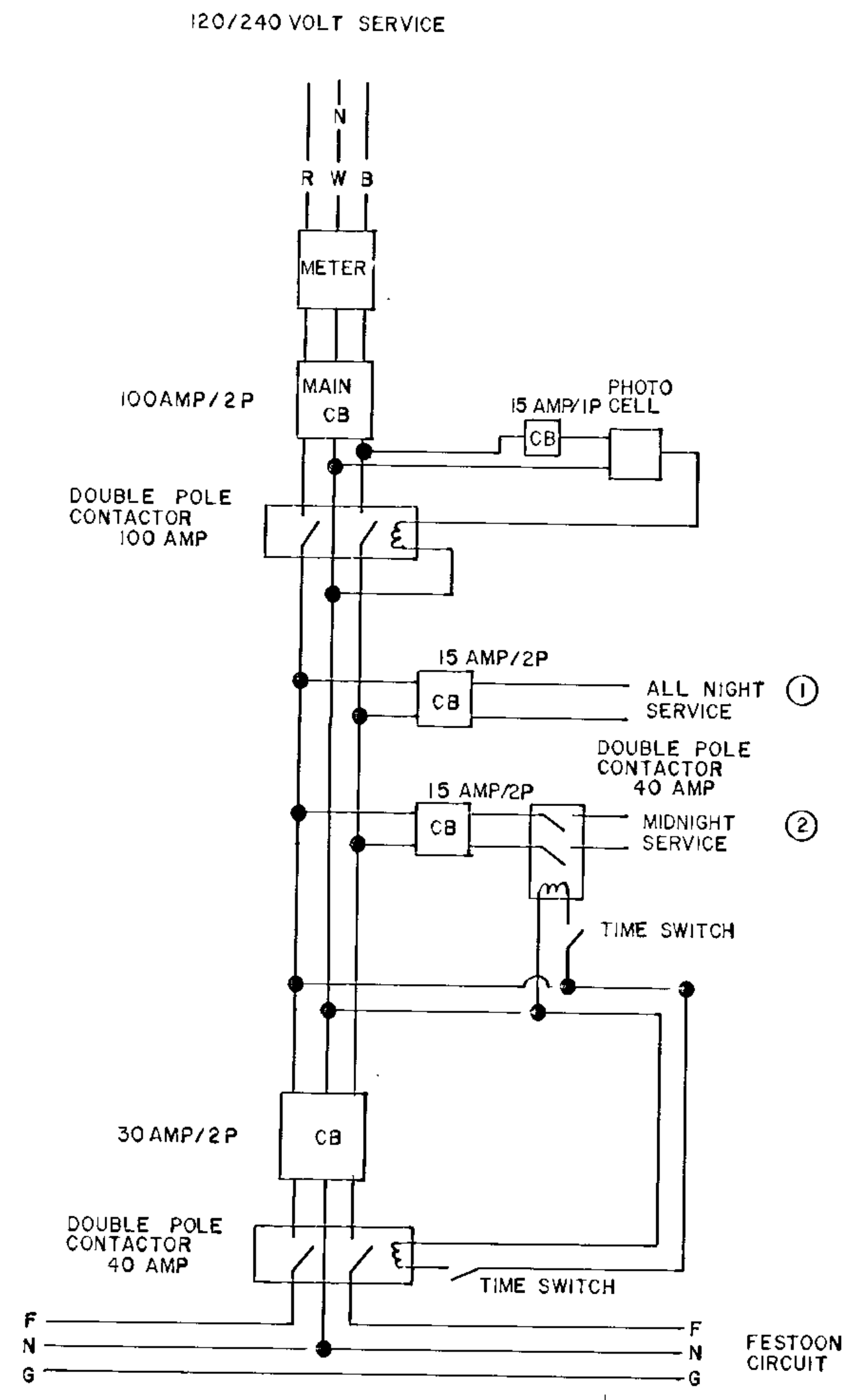
Professional Engineer under the laws of the State of Minnesota  
*Allan S. Klugman*  
Date: 2/3/87 Reg. No. 17290

**ANOKA COUNTY**  
**C.S.A.H. 6/T.H. 47**  
**LIGHTING SYSTEMS "A" & "B"**  
**TABULATIONS AND DETAILS**

DATE	BY	CHKD	APPR	REVISION
02-606-08	M. ISAKKA			1-87
MSAP.NO.	A. KLUGMAN			9-
127-020-09	D. EYLER			1-87
S.P.0205-55				

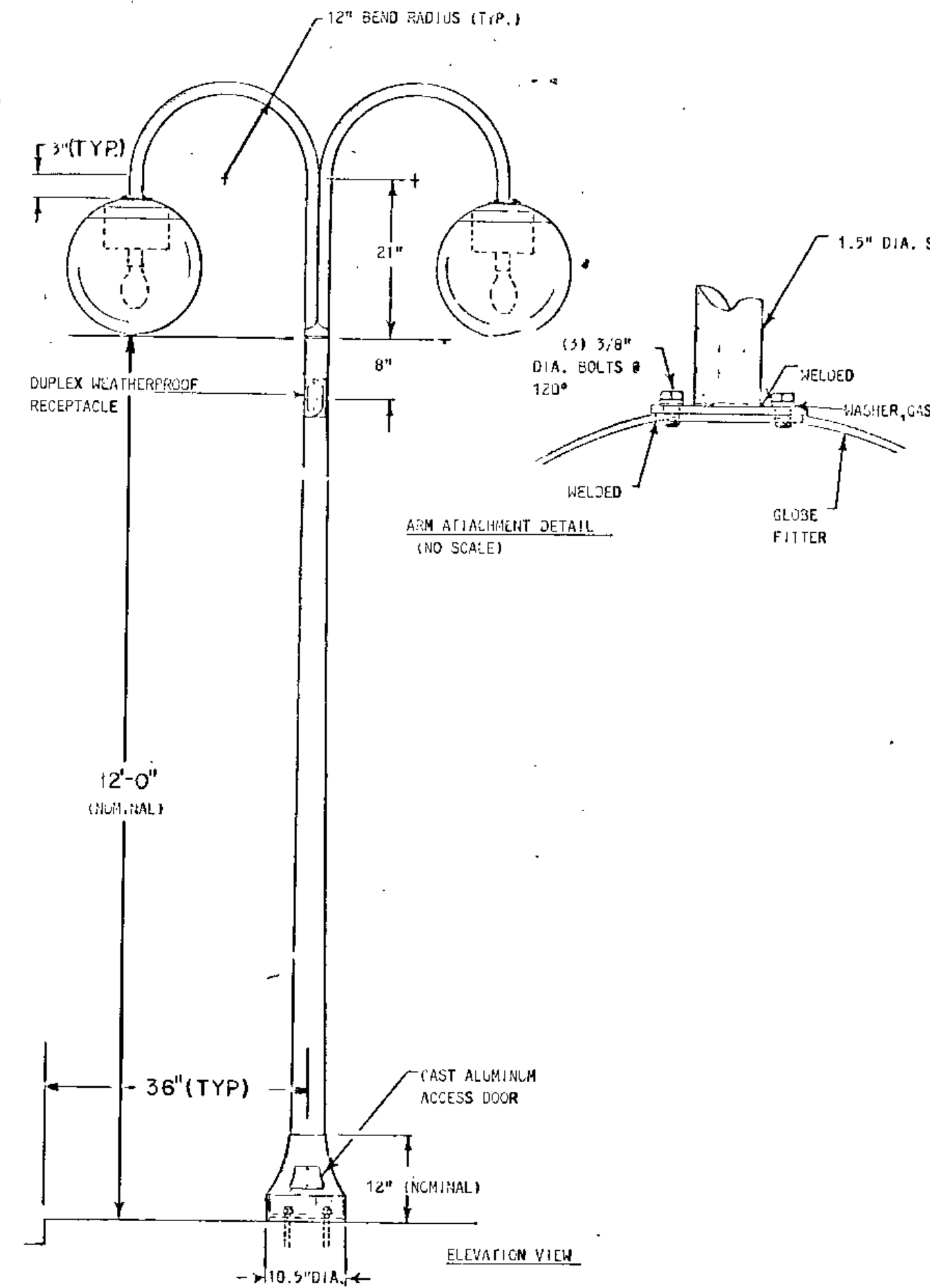
COMM. NO. 0860685



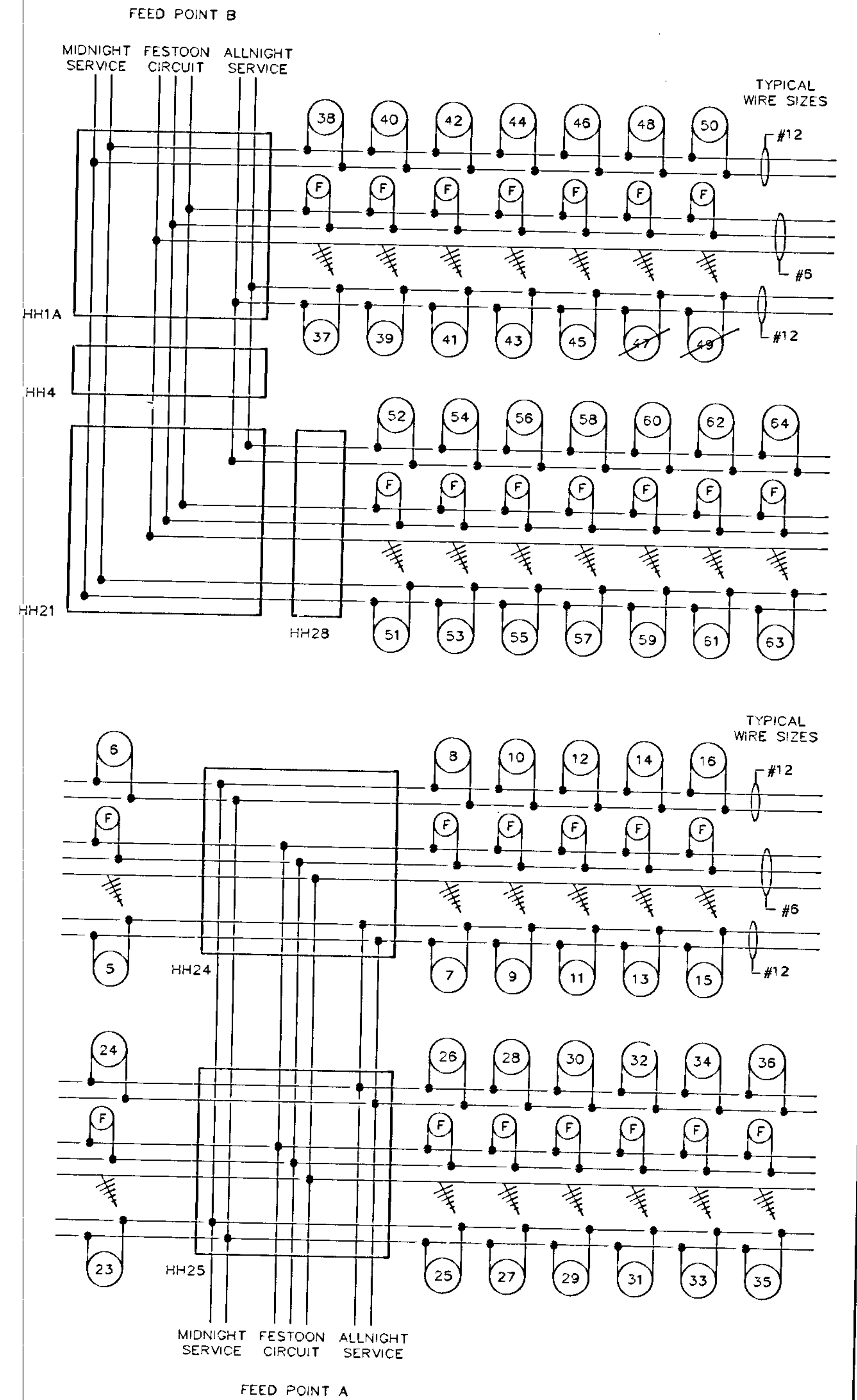


TYPICAL CIRCUIT DIAGRAM

- ① ALL NIGHT SERVICE CIRCUIT SHALL OPERATE STREET SIDE LUMINAIRES ONLY.
- ② MIDNIGHT SERVICE CIRCUIT SHALL OPERATE HOUSE SIDE LUMINAIRES ONLY.



TYPICAL LIGHTING UNIT  
NO SCALE



WIRING DIAGRAMS

1	11-13-91	RLG	COE	REVISED PER STATE REVIEW
2	1-3-94	RLG		RS BUILT
NO	DATE	BY	CKD	APPR
				REVISION

**SRF** STRGAR-ROSCOE-FAUSCH, INC.  
CONSULTING ENGINEERS ■ LAND SURVEYORS  
MINNEAPOLIS MINNESOTA

I hereby certify that this plan, specification or report 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.  
*Demetrius R. Elia*  
Date: 1-15-91 Reg. No. 10792

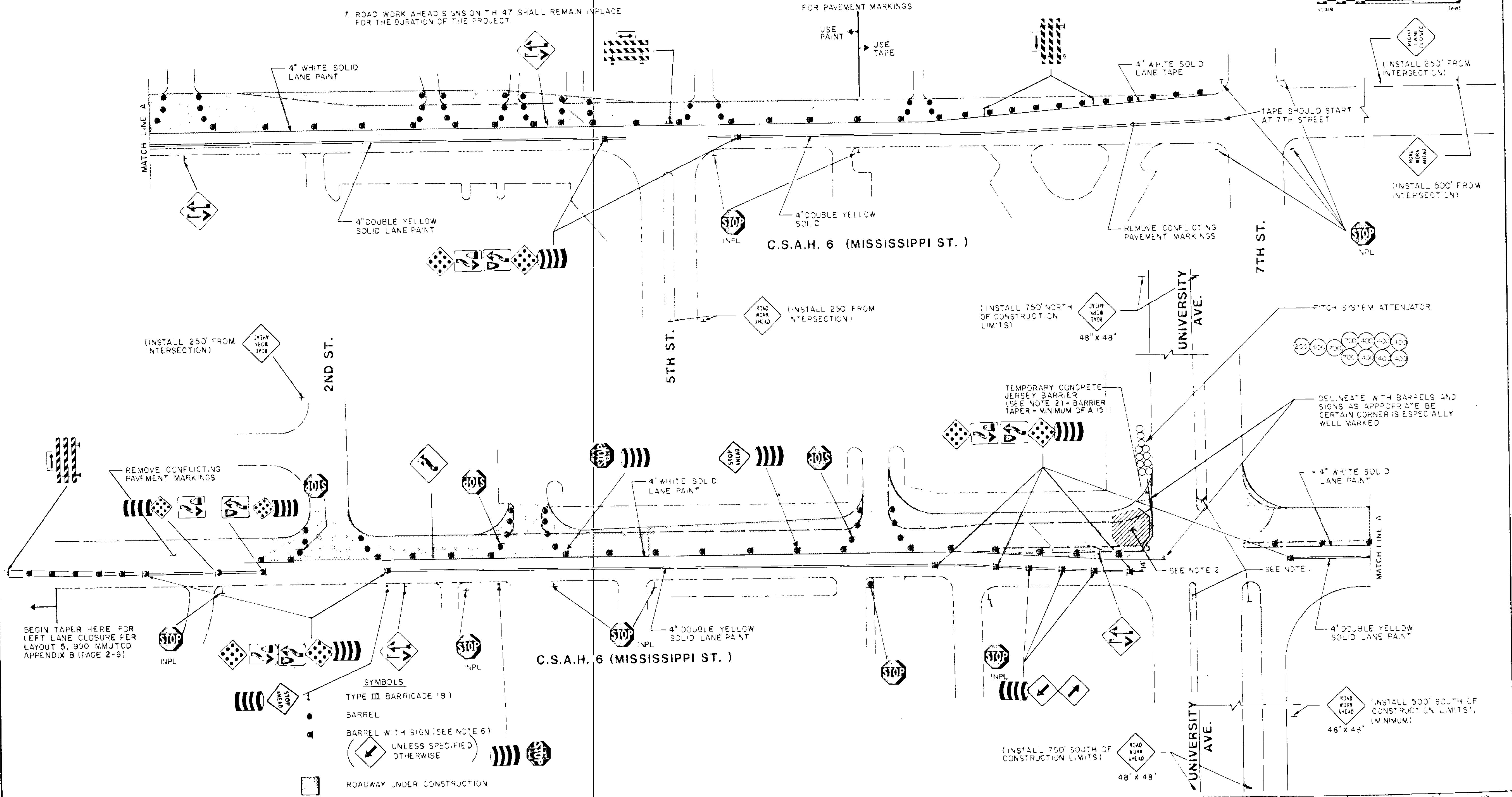
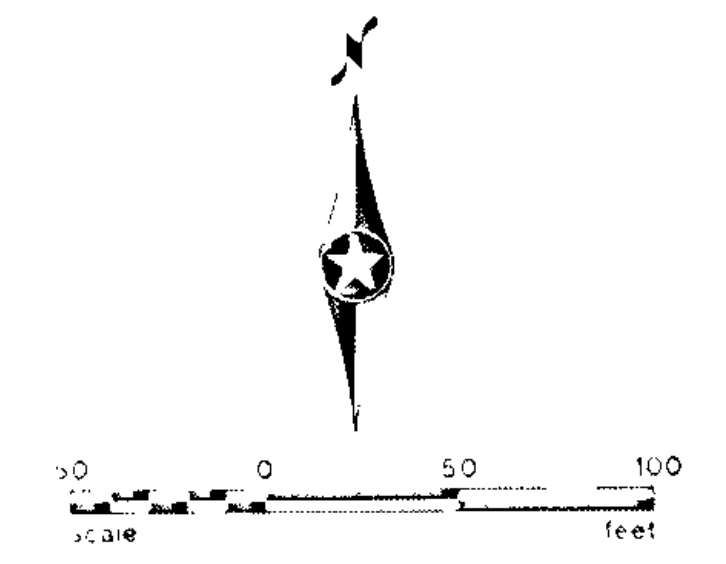
ANOKA COUNTY  
C.S.A.H. 6  
TYPICAL LIGHTING UNIT & CIRCUIT

STATE AID PROJ. NO. 02-606-08  
MSAP NO. 127-020-09  
S.P. 0205-55

DRAWN BY R. GROTHE DATE 1-91  
DESIGNED BY C. EASTON DATE 1-91  
CHECKED BY J. DVORAK DATE 1-91  
SHEET 31 OF 31  
COMM. NO. 0860685

**NOTES:**

- BOTH MEDIAN NOSES ON T.H. 47 AND THE NOSE BETWEEN T.H. 47 AND THE FRONTAGE ROAD IN THE SOUTHEAST QUADRANT MUST BE RECONSTRUCTED PRIOR TO SHIFTING TRAFFIC TO THE NORTH ONE-HALF OF THE EXISTING ROADWAY
- DURING DEEP EXCAVATION IN AND NEAR THE CROSSHATCHED AREA, CONCRETE JERSEY BARRIER SHALL BE PLACED ADJACENT TO TRAFFIC LANES. THE ENTIRE CROSSHATCHED AREA SHALL BE HARD-SURFACED AND OPENED TO TRAFFIC AS SOON AS PRACTICABLE AFTER THE EXCAVATION IS COMPLETED
- BARREL SPACING ALONG EDGE OF CONSTRUCTION AREA IS APPROXIMATE AND SUBJECT TO REVISION BY THE ENGINEER
- MISSISSIPPI ST IS AN IMPORTANT EMERGENCY ROUTE AND SHALL BE MAINTAINED FOR TRAFFIC AT ALL TIMES
- REMOVE ANY CONFLICTING PAVEMENT MARKINGS
- KEEP RIGHT SIGNS WITH 9-BUTTON DELINEATORS SHOULD BE INSTALLED ON SIGN STRUTS PLACED BEHIND THE BARREL
- ROAD WORK AHEAD SIGNS ON T.H. 47 SHALL REMAIN IN PLACE FOR THE DURATION OF THE PROJECT.



- SYMBOLS**
- ▬ TYPE III BARRICADE (B)
  - BARREL
  - BARREL WITH SIGN (SEE NOTE 6)
  - ◊ UNLESS SPECIFIED OTHERWISE
  - ROADWAY UNDER CONSTRUCTION

1	7-29-87	SLM	GFR	GFR	MINOR MISC REVISIONS
2	10-1-90	DM	UD	JP	MISC REVISIONS
3	6-4-91	OLM	COE	TDP	REVISED AS PER MNDOT REVIEW
NO	DATE	BY	CHKD	APPRD	REVISION

**STRGAR-ROSCOE-FAUSCH, INC.**  
 CONSULTING ENGINEERS • LAND SURVEYORS  
 MINNEAPOLIS, MINN. 55414

DATE: 8-26-87, No. 16654

**ANOKA COUNTY**  
**C.S.A.H. 6**  
**TRAFFIC CONTROL PLAN**  
**PHASE 1**

STATE AID PROJ NO: 2-636-38  
 MSAP NO: 127-020-09  
 SP 0205-55

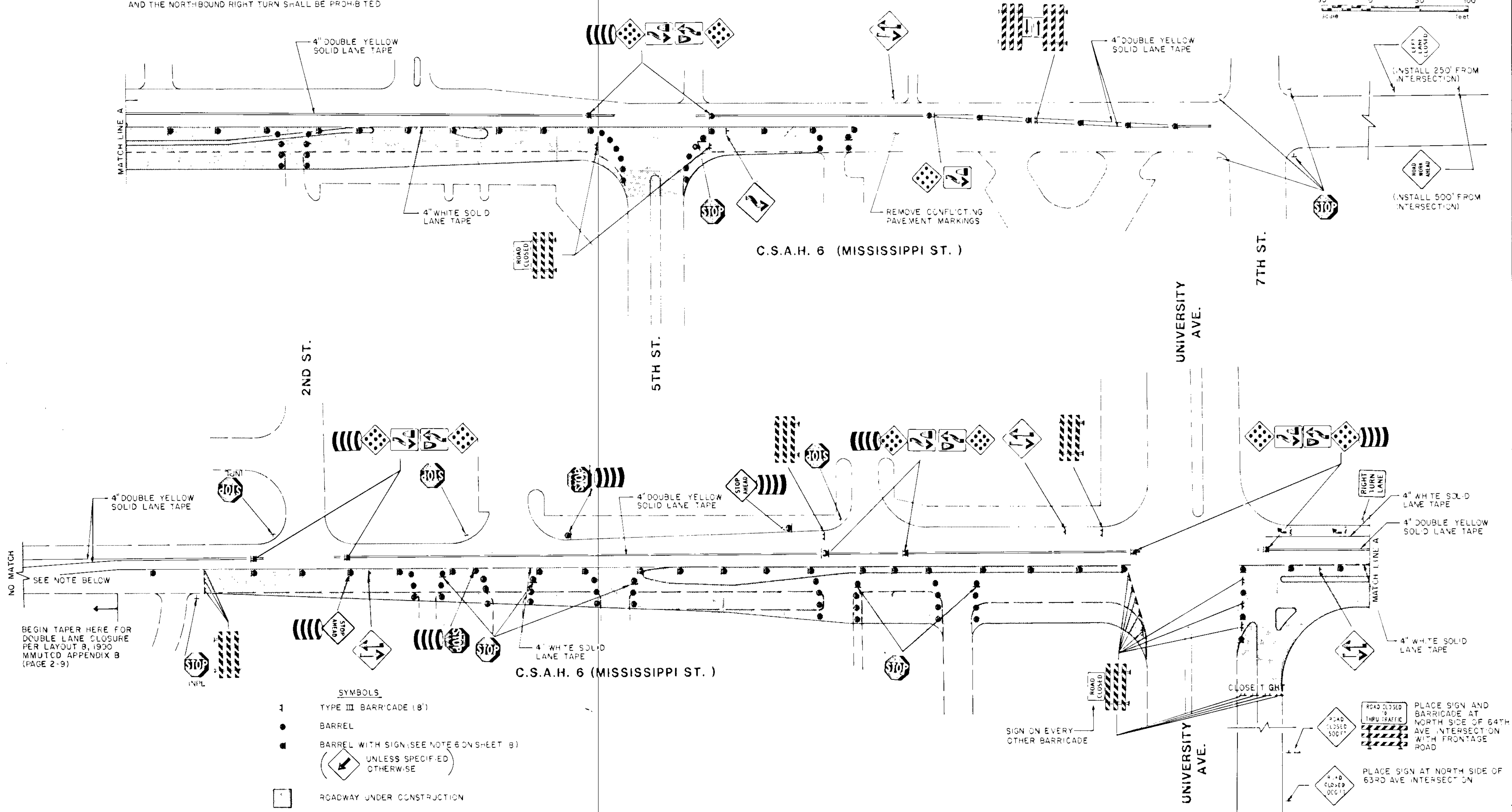
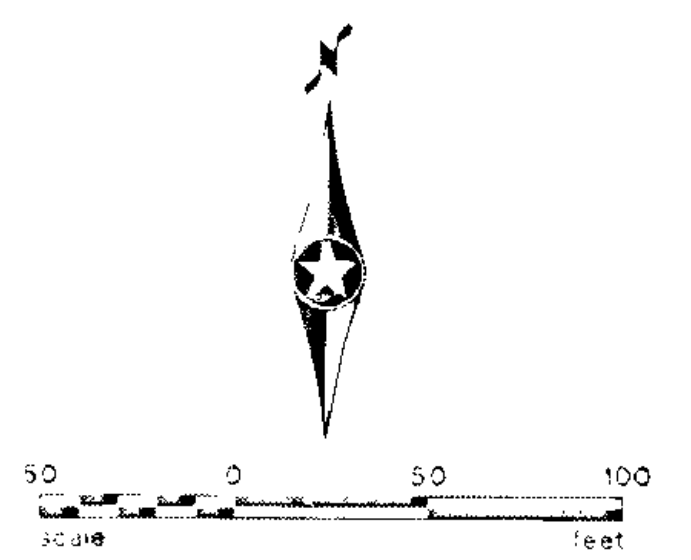
DRAWN BY: S. MARTIN  
 DESIGNED BY: R. RYLANDER  
 CHECKED BY:  
 APPROVED BY:

DATE: 2-87

SHEET 18 OF 31  
 0860585



**NOTES**  
 1 ADVANCE WARNING SIGNING ON 5TH STREET, 2ND STREET AND TH 47 FOR PHASE 2 UNCHANGED FROM PHASE 1  
 2 WHILE WORK IS UNDERWAY IN THE CROSS-HATCHED AREA, THE NORTHBOUND TH 47 RIGHT TURN LANE SHALL BE CLOSED IN ACCORDANCE WITH APPENDIX B OF THE MINNESOTA MUTCD AND THE NORTHBOUND RIGHT TURN SHALL BE PROHIBITED



- SYMBOLS**
- 1 TYPE III BARRICADE (8')
  - BARREL
  - BARREL WITH SIGN (SEE NOTE 6 ON SHEET 8)
  - (◀) UNLESS SPECIFIED OTHERWISE
  - ROADWAY UNDER CONSTRUCTION

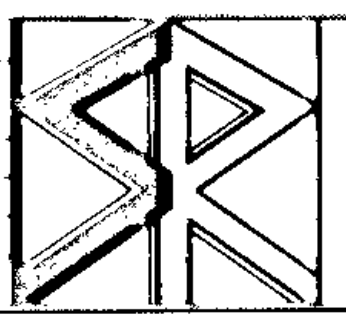
BEGIN TAPER HERE FOR DOUBLE LANE CLOSURE PER LAYOUT B, 1930 MMUTCD APPENDIX B (PAGE 2-9)

SIGN ON EVERY OTHER BARRICADE

PLACE SIGN AND BARRICADE AT NORTH SIDE OF 64TH AVE INTERSECTION WITH FRONTAGE ROAD

PLACE SIGN AT NORTH SIDE OF 63RD AVE INTERSECTION

1	7-29-87	SLM	GFR	GFR	MINOR MISC REVISIONS
2	6-4-91	DLM	COE	TOP	REVISED AS PER MUTCD REVIEW
NO	DATE	BY	CHKD	APP'D	REVISION



**STRGAR-ROSCOE-FAUSCH, INC.**  
 CONSULTING ENGINEERS ■ LAND SURVEYORS  
 MINNEAPOLIS MINNESOTA

I hereby certify that this plan represents a correct and true report as 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.  
*Ray A. Roland*  
 Date: 2-26-87 Reg. No. 16654

**ANOKA COUNTY**  
**C.S.A.H. 6**  
**TRAFFIC CONTROL PLAN**  
**PHASE 2**

STATE AID PROJ. NO.	02 606-08	DESIGNED BY	G. RYLANDER	DATE	2-87	SHEET	19
MSAR NO.	127-220-09	CHECKED BY				OF	31
SPVC	0205-55	APPROVED BY					0860685

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY		M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	
			PHASE I	PHASE II				PHASE I	PHASE II
FLASHER					FLASHER				
W1-4	36x36		• 0	• 1	FLASHER			• 1	• 0
					W20-3	36x36		• 1	• 0
								• 1	• 0
FLASHER					FLASHER				
W6-3	36x36		• 4	• 4	W20-X1	36x36		• 1	• 0
								• 0	• 1
CHANNELIZER			• 50	• 56	FLASHER				
DRUM					W21-4	36x36		• 9	• 9
R1-1			• 6	• 7					
DRUM			• 6	• 7	R3-X1			• 0	• 1
FLASHER			• 2	• 2	FLASHER			• 1	• 2
W3-1			• 2	• 2	W1-6R			• 1	• 2
DRUM			• 2	• 2	TYPE III			• 1	• 2
STEADY BURN					FLASHER			• 1	• 0
W14-X7	18x18		• 46	• 46	W1-6L			• 1	• 0
DRUM			• 46	• 46	TYPE III			• 1	• 0
STEADY BURN					FLASHER			• 1	• 0
W14-X7	18x18		• 6	• 0	W1-7			• 1	• 0
DRUM			• 3	• 0	TYPE III			• 1	• 0
FLASHER					FLASHER			• 0	• 7
R4-7	36x36		• 16	• 14	R11-2			• 0	• 7
X4-2	18x18		• 16	• 14	TYPE III			• 0	• 7
DRUM			• 8	• 7	FLASHER			• 0	• 1
FLASHER					R11-4			• 0	• 1
R4-7	36x36		• 2	• 0	TYPE III			• 0	• 1
X4-2	18x18		• 2	• 0	FLASHER			• 0	• 10
DRUM			• 2	• 0	TYPE III				

NOTES :

SIGN LOCATIONS ARE APPROXIMATE. THE EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ALL SIGNS AND BARRICADES WILL BE PROPERLY WEIGHTED WITH SANDBAGS.

ALL BARRICADES WILL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.

ALL BARRICADE MARKINGS WILL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX 'B', DATED MARCH 1990.

ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AT ANYTIME AS DETERMINED BY THE ENGINEER.

ADVANCE NOTICE SIGNS TO BE INSTALLED ONE (1) WEEK BEFORE CONSTRUCTION BEGINS, AND REMOVED ONCE CONSTRUCTION HAS COMMENCED. SEE SPECIAL PROVISIONS.

REMOVE OR COVER ANY CONFLICTING TRAFFIC CONTROL DEVICES.

REVISED AS PER MNDOT REVIEW

DATE	BY	DATE	BY
6-4-91	DLM		
2/21/92	DM		

S.A.P. 02-606-08

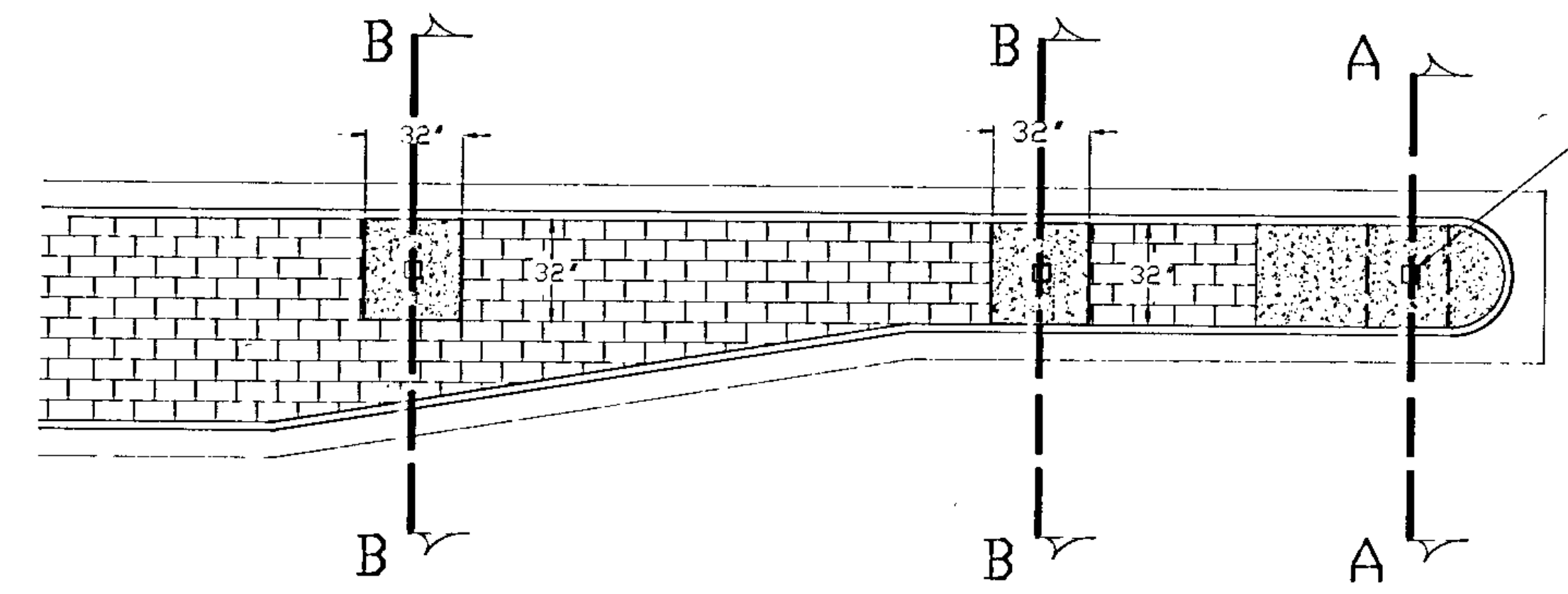
M.S.A.P. 127-020-09

S.P. 0205-55

CONSTRUCTION SIGNING PHASE I & II QUANTITY

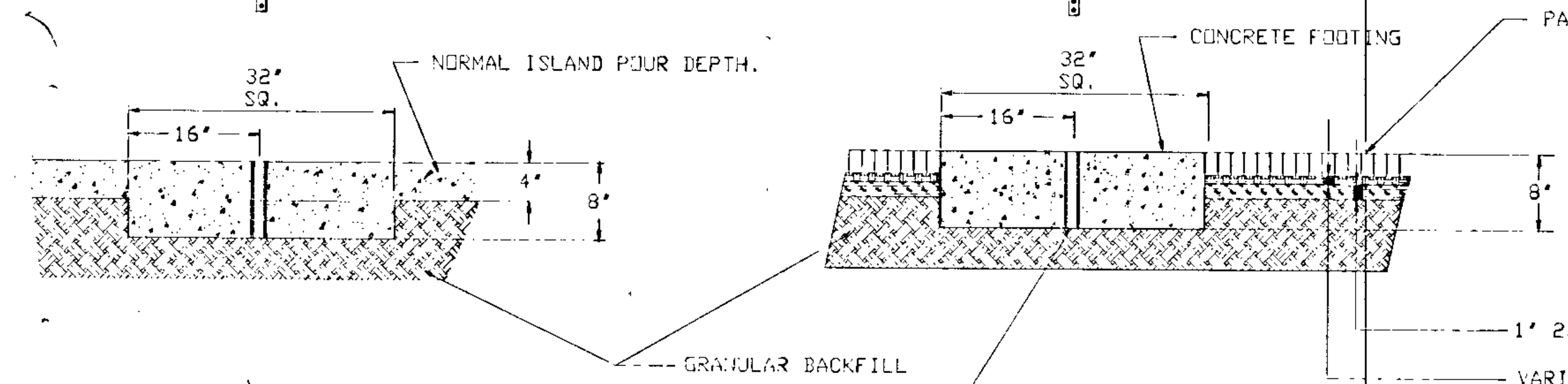
Sheet No. 20 of 31 Sheets





INSTALL 1 3/4" x 1 3/4" x 8' SOLID GALVANIZED SQUARE TUBING IN ISLAND NOSE DURING CONCRETE POUR, PLUMB AS REQUIRED. BOTTOM OF TUBING TO PREVENT CONCRETE FROM ENTERING TUBING.

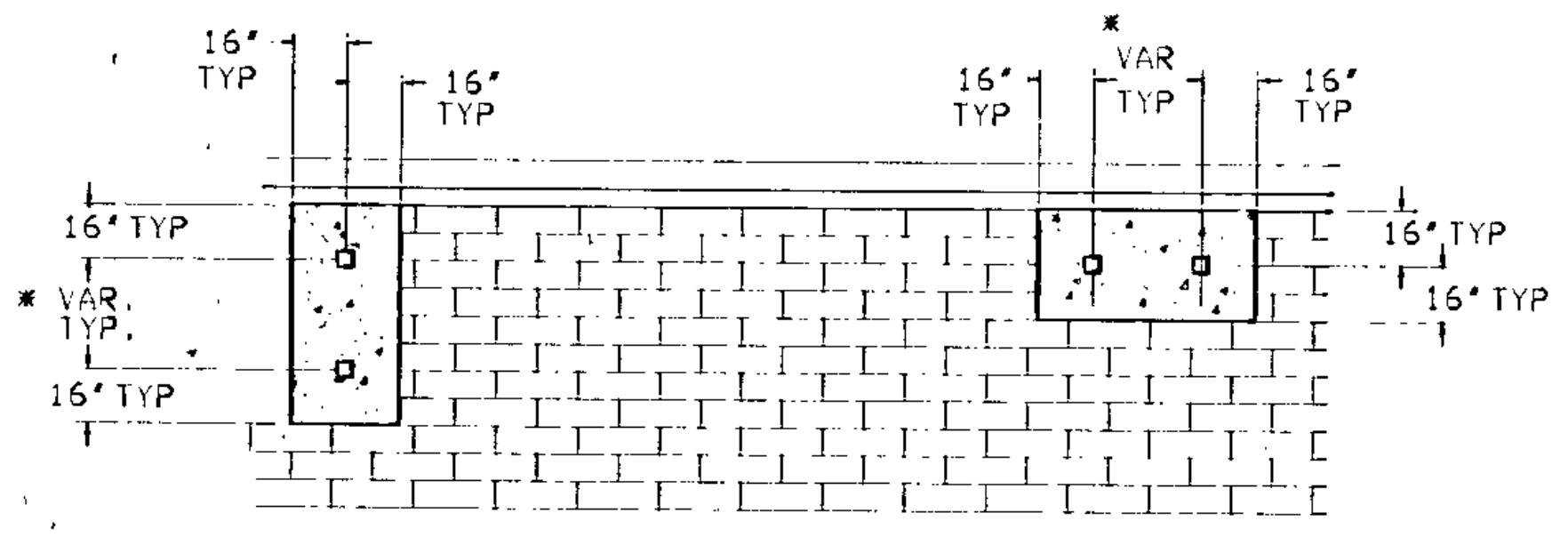
1 1/2" x 1 1/2" x 8' SOLID GALVANIZED TUBING WITH 7/16" DIA. HOLES 1" ON CENTER, ON ALL 4 SIDES. WALL THICKNESS GAUGE #12 (.105 IN.) INSERTED AT TIME OF SIGN INSTALLATION TYPICAL.



SECTION A = A

SECTION B = B

INSTALL 1 3/4" x 1 3/4" x 8' SOLID WALL GALVANIZED SQUARE TUBING. TAPE BOTTOM OF TUBING TO PREVENT CONCRETE FROM ENTERING TUBE. PLUMB AND ALIGN AT TIME OF POUR AS REQUIRED. TYPICAL.



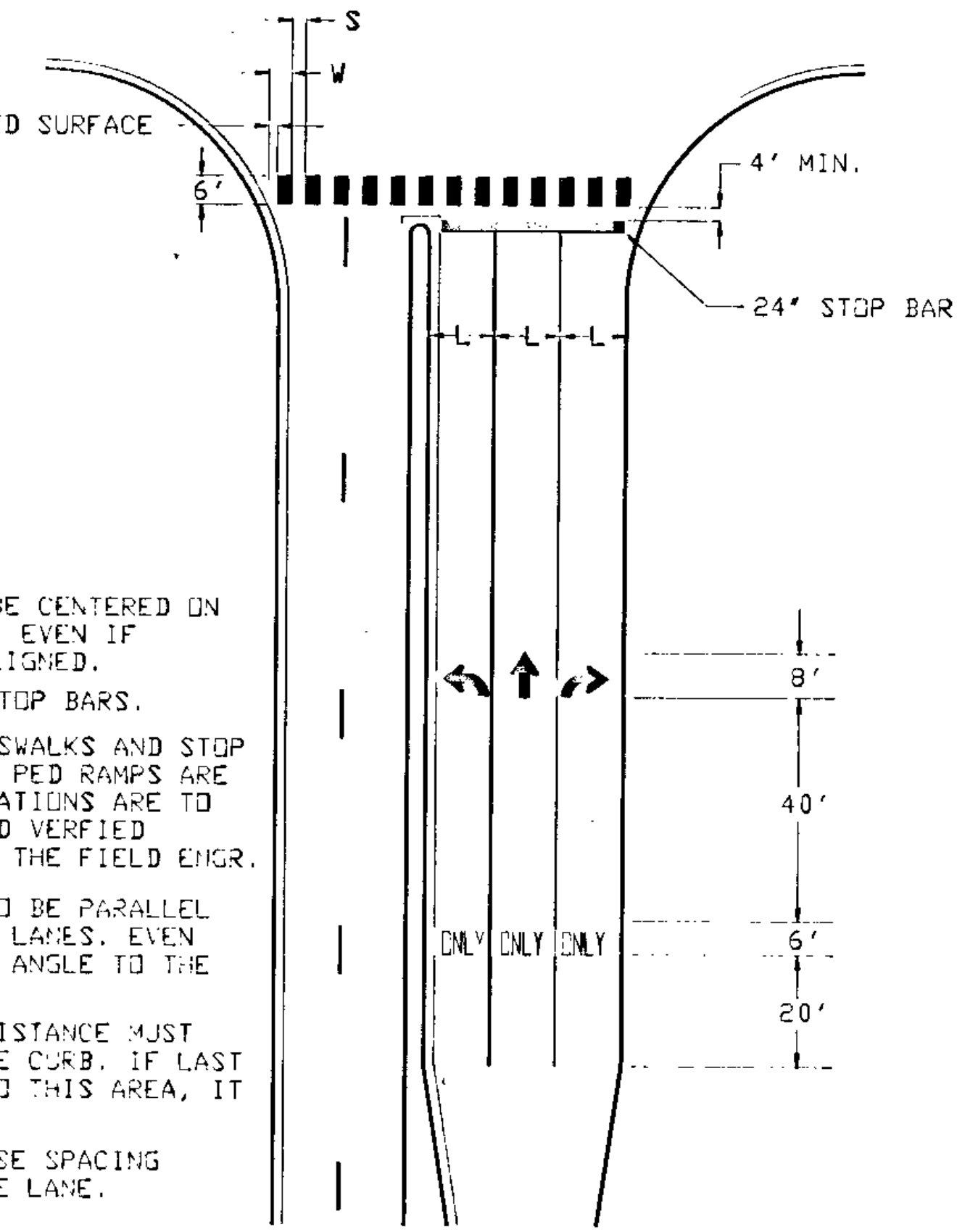
DETAIL '1'

ISLAND MOUNT BREAK-AWAY SIGN POST INSTALLATIONS REQUIRING MORE THAN ONE POST (WITHIN AREAS OF BRICK PAVING)

(L)	(W)	(S)
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

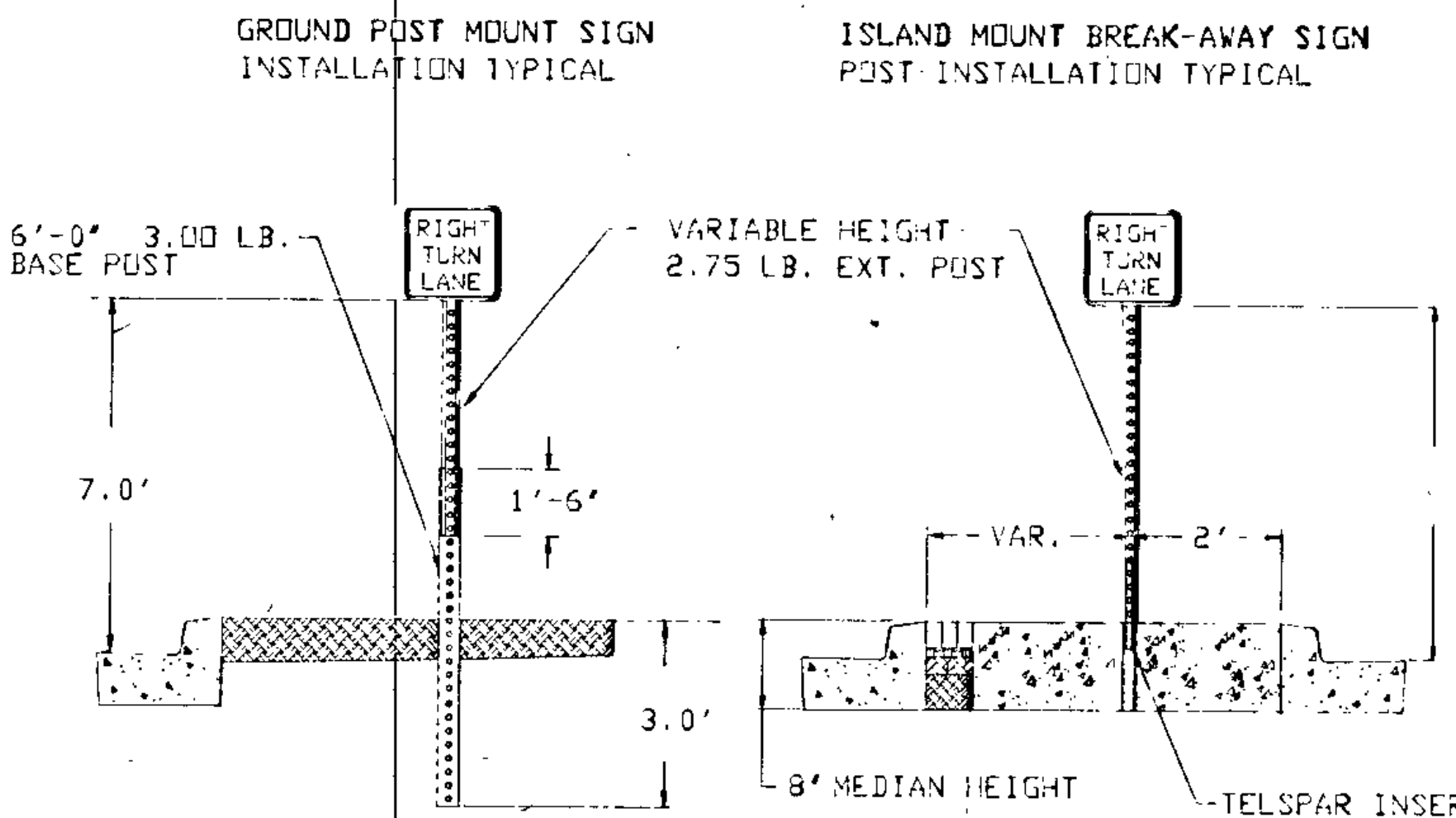
NOTES:

- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
- 2.) ZEBRA CROSSWALKS AND STOP BARS.
- 3.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
- 4.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES, EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
- 5.) A MIN. OF 1.5' CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
- 6.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' INSIDE LANE.



NOTES:

- CONCRETE FOOTINGS ARE REQUIRED IN ALL MEDIAN AREAS WHERE PAVING BRICKS ARE USED, EXCEPT IN THE MEDIAN NOSE WHEN A SOLID CONCRETE POUR IS USED.
- HEAVY LINES REPRESENT THE APPROXIMATE LIMITS OF CONCRETE FOOTINGS TO BE POURED FOR EACH ISLAND MOUNT SIGN POST INSTALLATION WITHIN SPECIAL MEDIAN AREAS. IF THE ISLAND IS LESS THAN 48" WIDE, THE WIDTH OF THE CONCRETE FOOTING WILL EQUAL THE WIDTH OF THE ISLAND. IF MORE THAN ONE POST IS REQUIRED FOR AN INSTALLATION, SEE DETAIL '1'.
- SECTION B-B THE SOLID GALVANIZED SQUARE TUBING FOR THE 'DO NOT ENTER' SIGNS SHALL BE SET AT THE PROPER ANGLE. REFER TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- FOR PAYMENT OF CONCRETE FOOTINGS REFER TO THE STATEMENT OF ESTIMATED QUANTITIES, ITEM 2564.513 CONCRETE FOOTINGS.
- WHEN THE DISTANCE BETWEEN SIGN POSTS VARIES, REFER TO THE STANDARD SIGNS MANUAL FOR THE SPACING CHART THAT RELATES TO THE SIZE AND SHAPE OF THE INSTALLATION.
- IF THE WIDTH OF THE ISLAND IS LESS THAN THE CONCRETE FOOTING MEASUREMENTS REQUIRED BY THIS DETAIL AND THE SPACING CHART IN THE STANDARD SIGNS MANUAL, THE LENGTH OF THE FOOTING WILL EQUAL THE WIDTH OF THE ISLAND.
- EXPANSION MATERIAL WILL BE REQUIRED ON ALL FOOTINGS CONFINED BY THE BACK OF CURB.



REVISIONS			
DATE	BY	DATE	BY





M.U.T.C.D. CODE NUMBER	PANEL SIZE (INCHES)	PANEL AREA (SQ. FT.)	CONCRETE FOOTING INSTALLATIONS	GROUND POST INSTALLATIONS	SIGN PANEL LEGEND	MOUNTING HEIGHT	M.U.T.C.D. CODE NUMBER	PANEL SIZE (INCHES)	PANEL AREA (SQ. FT.)	CONCRETE FOOTING INSTALLATIONS	GROUND POST INSTALLATIONS	SIGN PANEL LEGEND	MOUNTING HEIGHT
R6-1R	36' x 12'	3.00	10	0	ONE WAY (RIGHT)		W3-3	48' x 48'	16.00	1	0	SIGNAL AHEAD	7.0'
R1-1	30' x 30'	6.25	10	0	STOP	7.0'	W11-8A	48' x 48'	16.00	0	1	XING WARNING	7.0'
R1-2	36'x36'x36'	3.90	1	0	YIELD	7.0'		12' x 48'	4.00			300 FT	
R6-1R	36' x 12'	3.00	6	0	ONE WAY (RIGHT)	7.0'	W10-10L	24' x 30'	5.00	2 MOUNTED ON SIGNAL POLE		LEFT TURN SIGNAL	7.0'
R6-1L	36' x 12'	3.00	9	0	ONE WAY (LEFT)	7.0'	W11-2A	36' x 36'	9.00	2 MOUNTED ON SIGNAL POLE		PED-XING	
R2-1	36' x 48'	12.00	2	0	SPEED LIMIT 35	7.0'	S2-P2	24' x 18'	3.00			PED-XING	
R3-2	24' x 24'	4.00	0	1	NO LEFT TURN	7.0'	M2-1A	21' x 15'	2.19	2	0	JCT SIGN ROUTE MARKER	7.0'
R3-4	24' x 24'	4.00	2	0	NO U TURN		M1-5A	24' x 24'	4.00	2	0	JCT SIGN ROUTE MARKER	
R4-7	30' x 36'	7.50	2	0	KEEP RIGHT	7.0'	M3-2A	24' x 12'	2.00	1	0	EAST CARDINAL DIRECTIONAL MARKER	
X4-2	18' x 18'	2.25	2	0	HAZARD MARKER		M1-6	24' x 24'	4.00	1	0	ROUTE MARKER	7.0'
R4-7	24' x 30'	5.00	6	0	KEEP RIGHT	7.0'	M3-4A	24' x 12'	2.00	1	0	WEST CARDINAL DIRECTIONAL MARKER	
X4-2	18' x 18'	2.25	6	0	HAZARD MARKER		M1-6	24' x 24'	4.00	1	0	ROUTE MARKER	7.0'
R3-X1	30' x 30'	6.25	4	1	RIGHT TURN LANE	7.0'	X4-4L	12" x 36" <del>24' x 24'</del>	3.00	2	0	CLEARANCE MARKER	4'-5'
R3-X2	30' x 30'	6.25	5	0	LEFT TURN LANE	7.0'	X4-4R	12" x 36" <del>24' x 24'</del>	3.00	1	0	CLEARANCE MARKER	4'-5'
R3-7R	30' x 30'	6.25	1	0	RIGHT TURN LANE	7.0'							
R5-1	30' x 30'	6.25	10	0	DO NOT ENTER	7.0'							
W3-1	48' x 48'	16.00	1	0	STOP AHEAD	7.0'							

- NOTES:
- LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  - ALL SIGNS ARE TO BE INSTALLED IN CONCRETE WITH A BREAKAWAY BASE. SEE SHEET 25B OF 25 FOR INSTALLATION DETAILS, AND BID ITEM 2564.513
  - SEE SHEET 25C FOR SIGNING DETAILS
  - ALL LANE TAPE OR TEMPORARY LANE MARKINGS MUST BE REMOVED AFTER FINAL STRIPING IS COMPLETE.

REVISIONS			
DATE	BY	DATE	BY

1-3-93 RLG ASBUILT

**ABBREVIATIONS**

3-(leg)	SIGNAL FACE PHASE "3" NO. "1"	O/BLK	ORANGE WITH BLACK TRACER
BL	BLUE	P4-(leg)	PEDESTRIAN INDICATION PHASE "4" NO. "1"
BL/BLK	BLUE WITH BLACK TRACER	PB	PUSHBUTTON
BLK	BLACK	PB2-(leg)	PUSH BUTTON PHASE "2"-NO. "1"
BLK/WH	BLACK WITH WHITE TRACER	PEC	PHOTOELECTRIC CELL
BR. GR.	BARE GROUND	PED	PEDESTRIAN
CH. SW.	CHECK SWITCH	R	RED
CLR	CLEAR	R & S	REMOVE AND SALVAGE
D2-(leg)	DETECTOR PHASE "2" NO. "1"	R/BLK	RED WITH BLACK TRACER
DNL	DOWNLIGHT	RLTA	RED LEFT TURN ARROW
DWK	DON'T WALK	RRTA	RED RIGHT TURN ARROW
EQS	EQUIPMENT GROUND	RSC	RIGID STEEL CONDUIT
EVP	EMERGENCY VEHICLE PRE-EMPTION	SOP	SOURCE OF POWER
F & I	FURNISH AND INSTALL	SPR	SPARE
FL	FLASH/FLASHING	ST. LHT.	STREET LIGHT
G	GREEN	STA	STATION
G/BLK	GREEN WITH BLACK TRACER	SW	SWITCH
GLTA	GREEN LEFT TURN ARROW	SWD	SWITCHED
GRN	GREEN	TDW	TELEPHONE DROP WIRE
GR. R.	GROUND ROD	WH	WHITE
GRTA	GREEN RIGHT TURN ARROW	WH/BLK	WHITE WITH BLACK TRACER
GTHA	GREEN THRU ARROW	WLK	WALK
HH	HANDHOLE	YEL	YELLOW
HPS	HIGH PRESSURE SODIUM	YLTA	YELLOW LEFT TURN ARROW
INP	INPLACE	YRTA	YELLOW RIGHT TURN ARROW
IMC	INTERMEDIATE METAL CONDUIT	YTHA	YELLOW THRU ARROW
J&B	JUNCTION BOX		
LUM	LUMINAIRE		
MY	MERCURY VAPOR		
NEU	NEUTRAL		
NMC	NONMETALLIC CONDUIT		
O	ORANGE		

**SYMBOLS**

	EQG CONNECTION
	EVP DETECTOR DIRECTION
	LUMINAIRE NUMBER
	SIGNAL BASE NUMBER
	SIGNAL FACE NO. (PHASE "2" - NO. "1")
	SPLICE

ESTIMATED SIGNAL QUANTITIES--INFORMATIONAL			
ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITIES
0564.602	INTERNALLY LIT SIGN-TYPE D	EACH	4
2565.511	FULL T. ACT. T. CONTROL SIGNAL SYSTEM	SIG SYS	1
0565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1
0565.603	3" RIGID STEEL CONDUIT-INTERCONNECT	LIN FT	170
0565.603	6 PR. #19 INTERCONNECT	LIN FT	2650

NOTE: THE ABOVE QUANTITIES ARE FOR REFERENCE ONLY. FOR PAY QUANTITIES, COST SPLITS, AND ETC. SEE THE OVERALL PROJECT STATEMENT OF ESTIMATED QUANTITIES (SHEET 3 OF 31)

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

STANDARD PLATES	
PLATE NO.	DESCRIPTION
* 8110 C	TRAFFIC SIGNAL BRACKETING
* 8111 B	TRAFFIC SIGNAL BRACKETING
* 8112 C	PEDESTAL FOUNDATION
* 8115 C	PEDESTRIAN PUSHBUTTON INSTALLATION
* 8118 C	SERVICE EQUIPMENT AND POLE
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
* 8121 B	TRANSFORMER BASE WITH POLE BASE PLATE
* 8122 C	PEDESTAL AND PEDESTAL BASE
* 8123 B	POLE AND MAST ARM
* 8124 D	MAST ARM SIGNAL HEAD MOUNTS
* 8126 C	PIOO POLE FOUNDATION
* 8130 D	SAW CUT LOOP DETECTORS

I HEREBY CERTIFY THAT SHEETS 24 THROUGH 31 (7 SHEETS) OF THIS PLAN SET WERE 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 7/1/92 REG. NO. 14157 ENGR. Thomas E. Wetmore

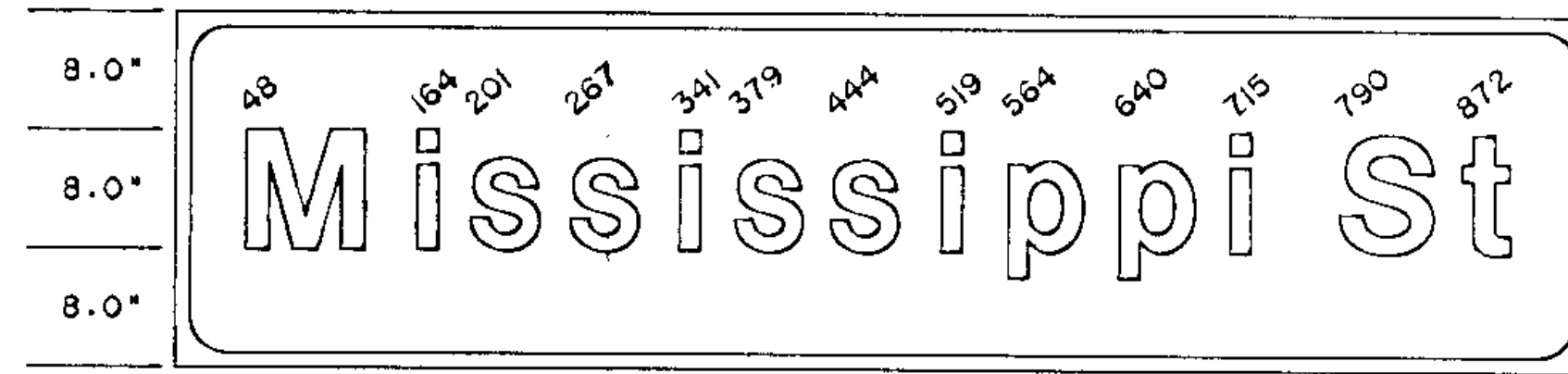
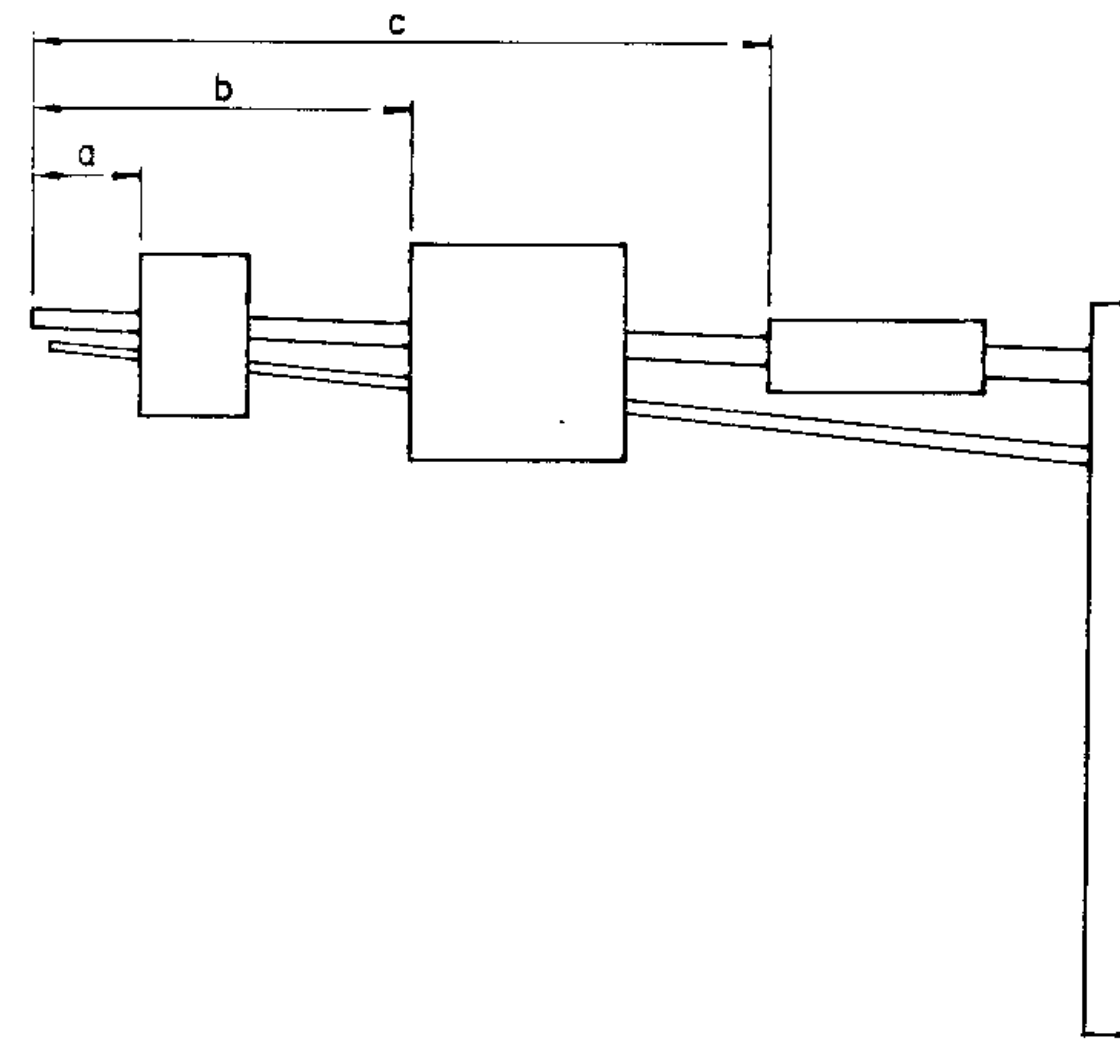
STANDARD PLATES  
SIGNAL QUANTITIES  
ABBREVIATIONS

S.A.P. No. 02-606-08

State Proj. No. 0205-55

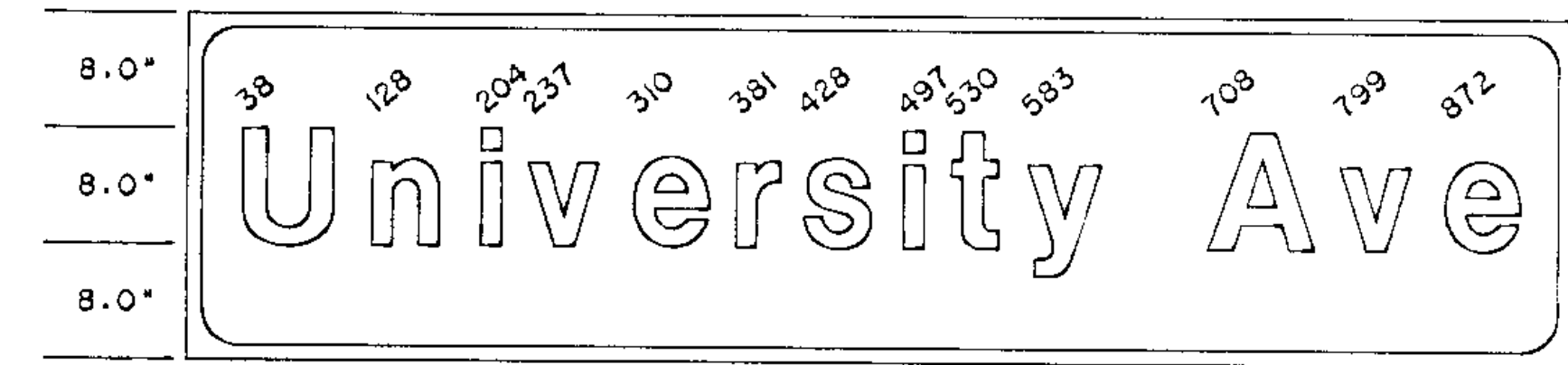
Sheet No. 24 of 31 Sheets





96"x24", 3" R., 1.0" B.  
LINE 1 86.4 : 8'-6" E MOD.

D-1



96"x24", 3" R., 1.0" B.  
LINE 1 88.6 : 8'-6" E MOD.

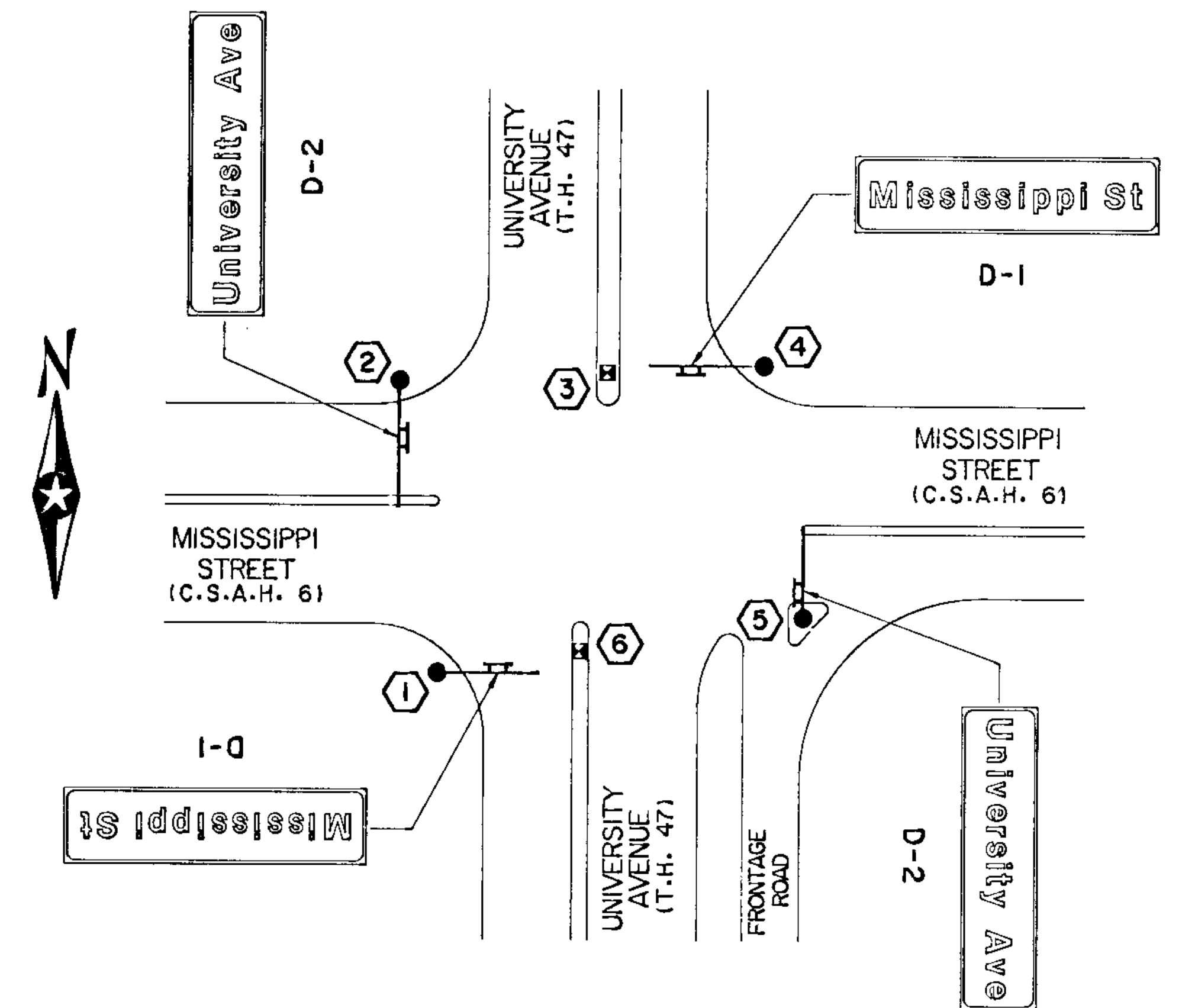
D-2

INTERNALLY ILLUMINATED SIGNS

SIGN PANEL	SIZE	NO. REQ.	NO. POSTS PER SIGN	POST SPACING	SQ. FT. PER SIGN	a	b	c	POLE NO. ('s)
D-1	96" x 24"	1	SEE NOTE 2	SEE NOTE 2	16	18'	--	--	1
D-1	96" x 24"	1	SEE NOTE 2	SEE NOTE 2	16	18'	--	--	4
D-2	96" x 24"	1	SEE NOTE 2	SEE NOTE 2	16	30'	--	--	2
D-2	96" x 24"	1	SEE NOTE 2	SEE NOTE 2	16	31'	--	--	5

NOTES:

- COLOR: D-1 SIGNS SHALL BE WHITE LEGEND AND BORDER ON BLUE BACKGROUND.  
D-2 SIGNS SHALL BE WHITE LEGEND AND BORDER ON GREEN BACKGROUND.
- INTERNALLY LIT SIGN--SEE SPECIAL PROVISIONS FOR STRUCTURAL AND MOUNTING DETAILS, WIRING DETAILS, AND ETC.



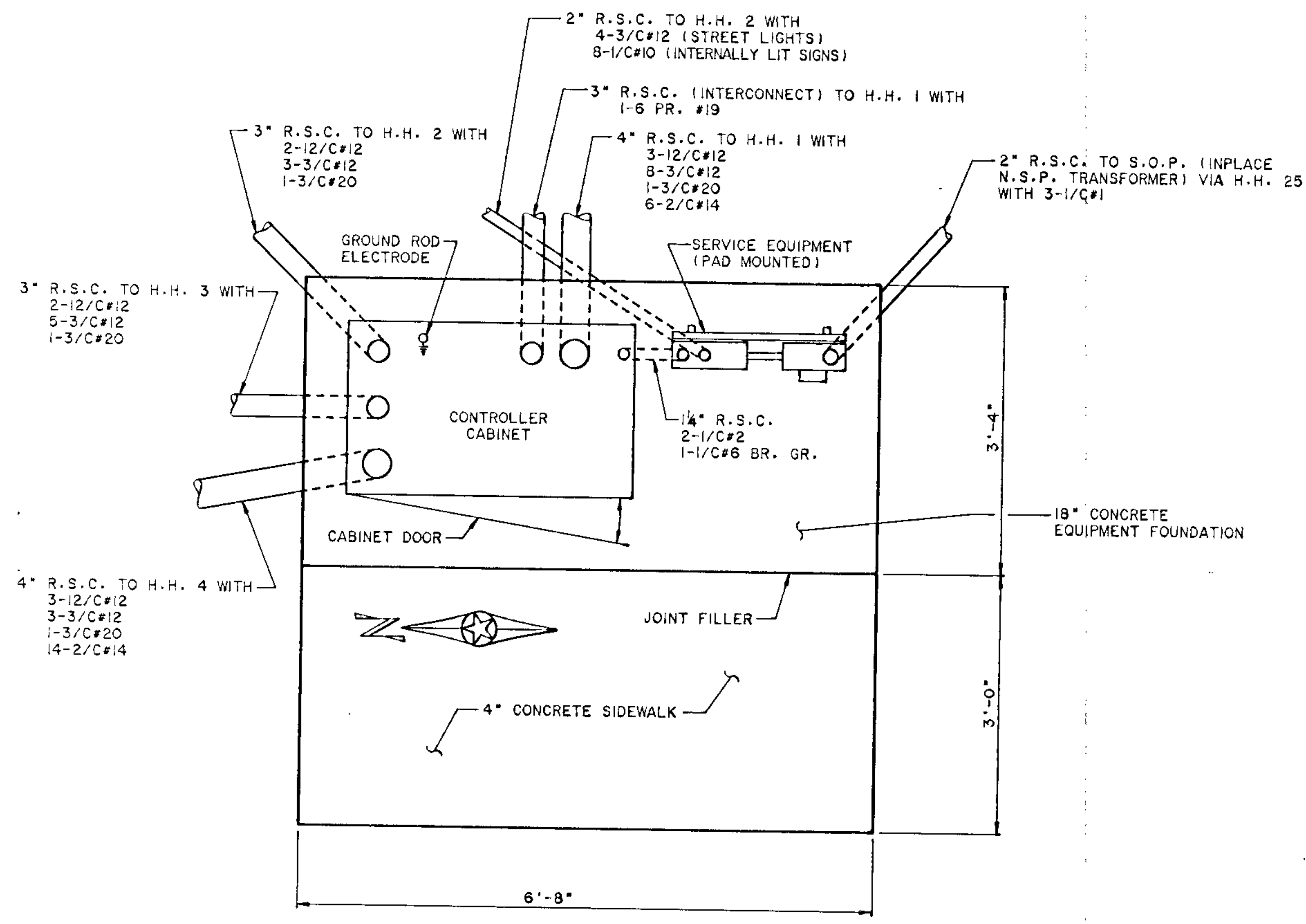
MAST ARM SIGN DETAILS

S.A.P. No. 02-606-08

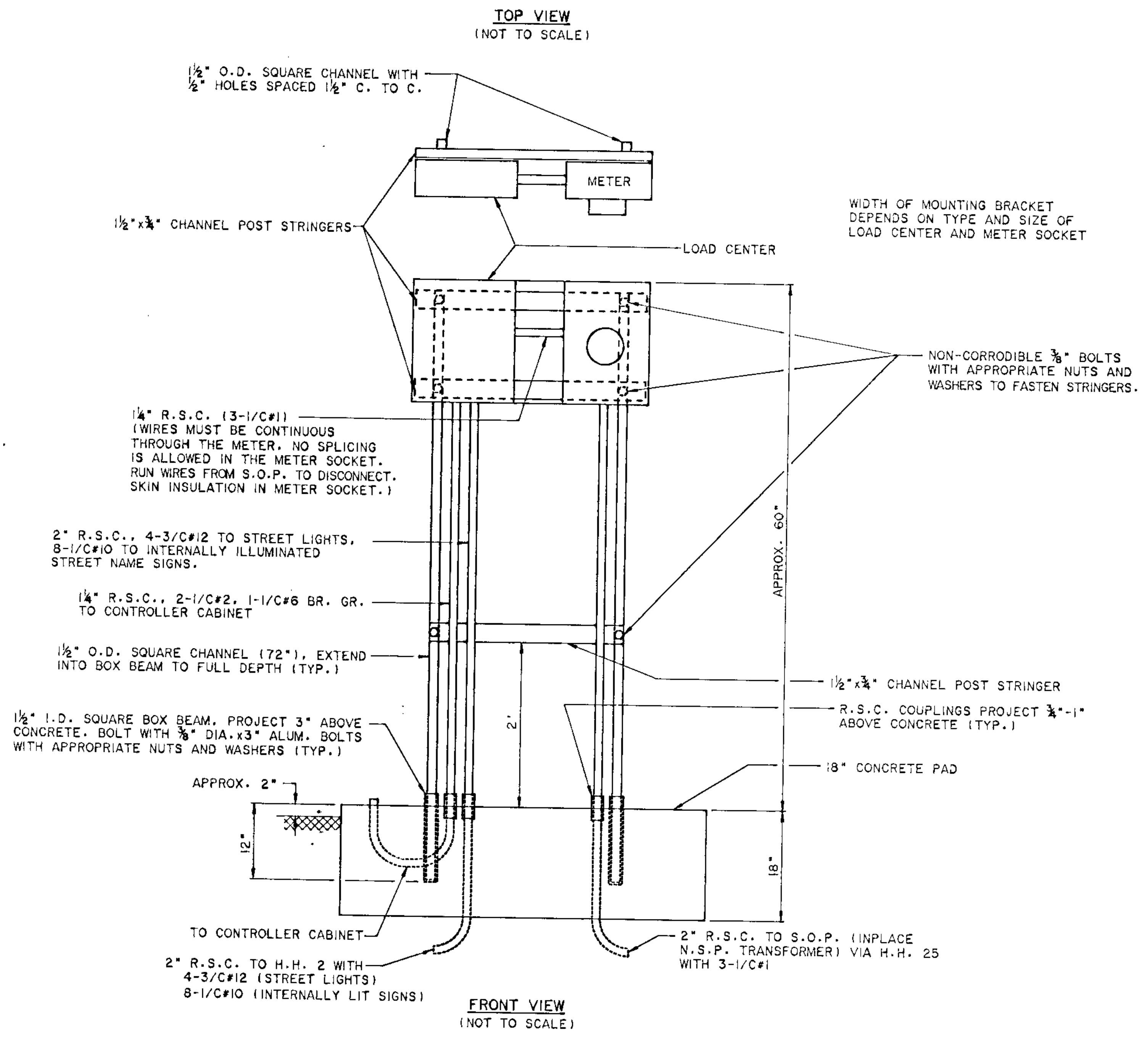
State Proj. No. 0205-55

Sheet No. 25 of 31 Sheets

- NOTES:
- (1) ANCHOR RODS, NUTS AND WASHERS FOR CABINET TO BE FURNISHED BY THE STATE AND INSTALLED BY THE CONTRACTOR.
  - (2) UPPER PART OF FOUNDATION SHALL BE BEVELED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER IN THE FIELD.
  - (3) TOP OF CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED.) THEY SHALL PROJECT A MINIMUM OF 2" ABOVE THE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER BUT SHALL NOT INTERFERE WITH CABINET FUNCTIONS OR SUPPORTING MEMBERS.
  - (4) CONCRETE MIX 3A32 OR APPROVED EQUAL SHALL BE USED FOR FOUNDATION AND CONCRETE WALK.
  - (5) CONDUITS WHICH HAVE BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BENEATH THE PAD.
  - (6) EXACT LOCATION OF THE CONDUIT WITHIN THE PAD AND THE LOCATION OF THE CABINET SHALL BE AS DETERMINED BY THE ENGINEER IN THE FIELD.



EQUIPMENT PAD LAYOUT  
(NOT TO SCALE)



SERVICE EQUIPMENT (PAD MOUNTED)  
MOUNTING BRACKET FOR LOAD CENTER AND METER

EQUIPMENT PAD DETAILS

TH47PAD

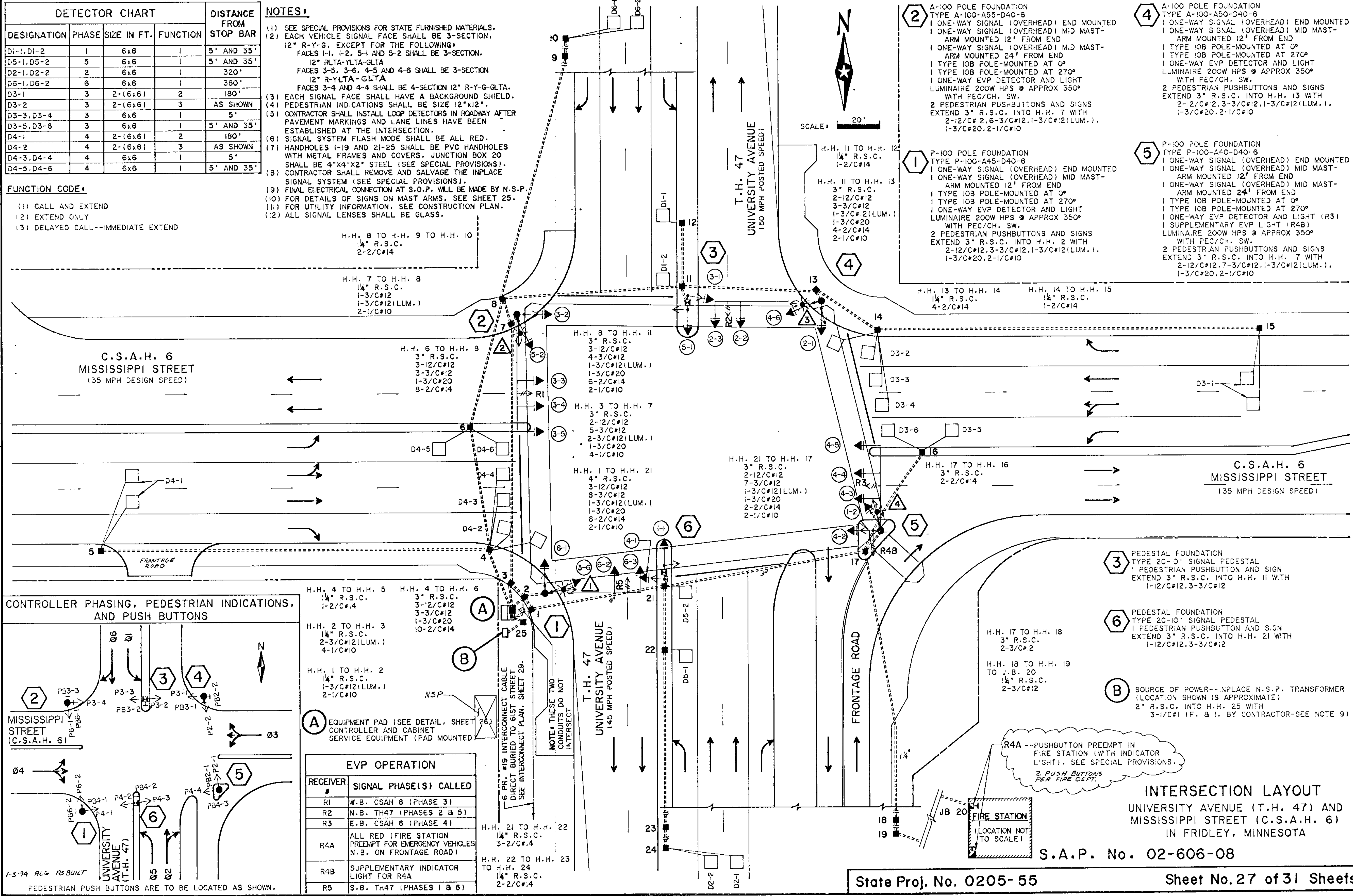


DETECTOR CHART				DISTANCE FROM STOP BAR
DESIGNATION	PHASE	SIZE IN FT.	FUNCTION	
D1-1, D1-2	1	6x6	1	5' AND 35'
D5-1, D5-2	5	6x6	1	5' AND 35'
D2-1, D2-2	2	6x6	1	320'
D6-1, D6-2	6	6x6	1	380'
D3-1	3	2-(6x6)	2	180'
D3-2	3	2-(6x6)	3	AS SHOWN
D3-3, D3-4	3	6x6	1	5'
D3-5, D3-6	3	6x6	1	5' AND 35'
D4-1	4	2-(6x6)	2	180'
D4-2	4	2-(6x6)	3	AS SHOWN
D4-3, D4-4	4	6x6	1	5'
D4-5, D4-6	4	6x6	1	5' AND 35'

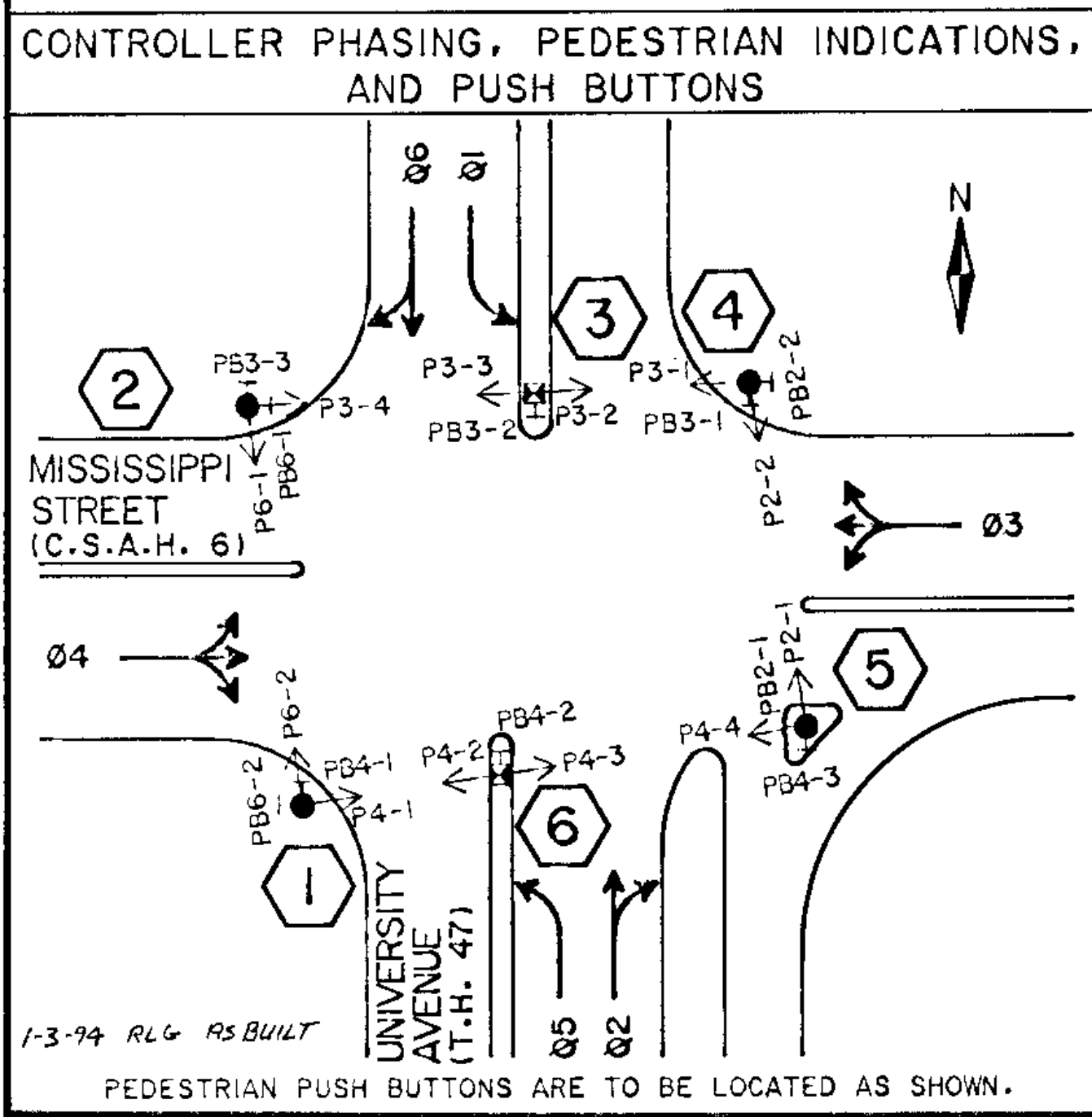
**FUNCTION CODE:**

(1) CALL AND EXTEND  
 (2) EXTEND ONLY  
 (3) DELAYED CALL--IMMEDIATE EXTEND

- NOTES:**
- SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
  - EACH VEHICLE SIGNAL FACE SHALL BE 3-SECTION, 12" R-Y-G, EXCEPT FOR THE FOLLOWING:  
 FACES 1-1, 1-2, 5-1 AND 5-2 SHALL BE 3-SECTION, 12" RLTA-YLTA-GLTA  
 FACES 3-5, 3-6, 4-5 AND 4-6 SHALL BE 3-SECTION, 12" R-YLTA-GLTA  
 FACES 3-4 AND 4-4 SHALL BE 4-SECTION 12" R-Y-G-GLTA.
  - EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
  - PEDESTRIAN INDICATIONS SHALL BE SIZE 12"x12".
  - CONTRACTOR SHALL INSTALL LOOP DETECTORS IN ROADWAY AFTER PAVEMENT MARKINGS AND LANE LINES HAVE BEEN ESTABLISHED AT THE INTERSECTION.
  - SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
  - HANDHOLES 1-19 AND 21-25 SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS. JUNCTION BOX 20 SHALL BE 4"x4"x2" STEEL (SEE SPECIAL PROVISIONS).
  - CONTRACTOR SHALL REMOVE AND SALVAGE THE INPLACE SIGNAL SYSTEM (SEE SPECIAL PROVISIONS).
  - FINAL ELECTRICAL CONNECTION AT S.O.P. WILL BE MADE BY N.S.P.
  - FOR DETAILS OF SIGNS ON MAST ARMS, SEE SHEET 25.
  - FOR UTILITY INFORMATION, SEE CONSTRUCTION PLAN.
  - ALL SIGNAL LENSES SHALL BE GLASS.



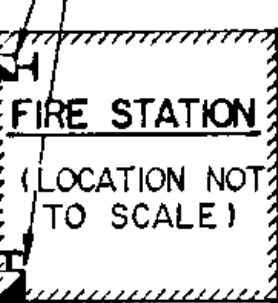
- 2** A-100 POLE FOUNDATION  
 TYPE A-100-A55-D40-6  
 1 ONE-WAY SIGNAL (OVERHEAD) END MOUNTED  
 1 ONE-WAY SIGNAL (OVERHEAD) MID MAST-ARM MOUNTED 12' FROM END  
 1 ONE-WAY SIGNAL (OVERHEAD) MID MAST-ARM MOUNTED 24' FROM END  
 1 TYPE 10B POLE-MOUNTED AT 0°  
 1 TYPE 10B POLE-MOUNTED AT 270°  
 1 ONE-WAY EVP DETECTOR AND LIGHT LUMINAIRE 200W HPS @ APPROX 350° WITH PEC/CH. SW.  
 2 PEDESTRIAN PUSHBUTTONS AND SIGNS EXTEND 3" R.S.C. INTO H.H. 7 WITH 2-12/C#12, 6-3/C#12, 1-3/C#12(LUM.), 1-3/C#20, 2-1/C#10
- 4** A-100 POLE FOUNDATION  
 TYPE A-100-A50-D40-6  
 1 ONE-WAY SIGNAL (OVERHEAD) END MOUNTED  
 1 ONE-WAY SIGNAL (OVERHEAD) MID MAST-ARM MOUNTED 12' FROM END  
 1 ONE-WAY SIGNAL (OVERHEAD) MID MAST-ARM MOUNTED 24' FROM END  
 1 TYPE 10B POLE-MOUNTED AT 0°  
 1 TYPE 10B POLE-MOUNTED AT 270°  
 1 ONE-WAY EVP DETECTOR AND LIGHT LUMINAIRE 200W HPS @ APPROX 350° WITH PEC/CH. SW.  
 2 PEDESTRIAN PUSHBUTTONS AND SIGNS EXTEND 3" R.S.C. INTO H.H. 13 WITH 2-12/C#12, 3-3/C#12, 1-3/C#12(LUM.), 1-3/C#20, 2-1/C#10
- 1** P-100 POLE FOUNDATION  
 TYPE P-100-A45-D40-6  
 1 ONE-WAY SIGNAL (OVERHEAD) END MOUNTED  
 1 ONE-WAY SIGNAL (OVERHEAD) MID MAST-ARM MOUNTED 12' FROM END  
 1 TYPE 10B POLE-MOUNTED AT 0°  
 1 TYPE 10B POLE-MOUNTED AT 270°  
 1 ONE-WAY EVP DETECTOR AND LIGHT LUMINAIRE 200W HPS @ APPROX 350° WITH PEC/CH. SW.  
 2 PEDESTRIAN PUSHBUTTONS AND SIGNS EXTEND 3" R.S.C. INTO H.H. 11 WITH 2-12/C#12, 3-3/C#12, 1-3/C#12(LUM.), 1-3/C#20, 2-1/C#10
- 5** P-100 POLE FOUNDATION  
 TYPE P-100-A40-D40-6  
 1 ONE-WAY SIGNAL (OVERHEAD) END MOUNTED  
 1 ONE-WAY SIGNAL (OVERHEAD) MID MAST-ARM MOUNTED 12' FROM END  
 1 ONE-WAY SIGNAL (OVERHEAD) MID MAST-ARM MOUNTED 24' FROM END  
 1 TYPE 10B POLE-MOUNTED AT 0°  
 1 TYPE 10B POLE-MOUNTED AT 270°  
 1 ONE-WAY EVP DETECTOR AND LIGHT LUMINAIRE 200W HPS @ APPROX 350° WITH PEC/CH. SW.  
 2 PEDESTRIAN PUSHBUTTONS AND SIGNS EXTEND 3" R.S.C. INTO H.H. 17 WITH 2-12/C#12, 7-3/C#12, 1-3/C#12(LUM.), 1-3/C#20, 2-1/C#10



- A** EQUIPMENT PAD (SEE DETAIL, SHEET 26)  
 CONTROLLER AND CABINET SERVICE EQUIPMENT (PAD MOUNTED)
- B** SOURCE OF POWER--INPLACE N.S.P. TRANSFORMER (LOCATION SHOWN IS APPROXIMATE)  
 2" R.S.C. INTO H.H. 25 WITH 3-1/C#1 (F. & I. BY CONTRACTOR--SEE NOTE 9)

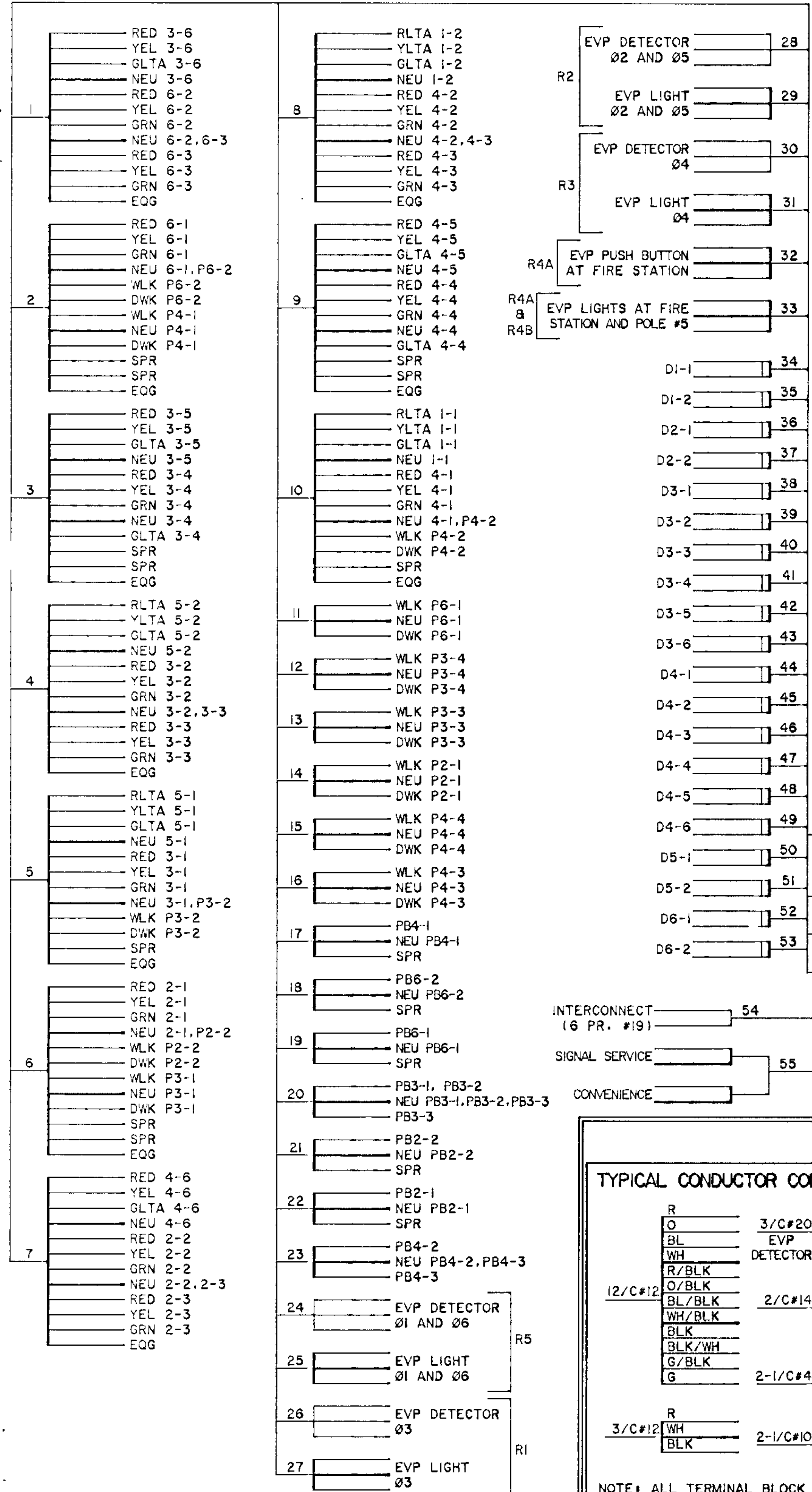
EVP OPERATION	
RECEIVER	SIGNAL PHASE(S) CALLED
R1	W.B. CSAH 6 (PHASE 3)
R2	N.B. TH47 (PHASES 2 & 5)
R3	E.B. CSAH 6 (PHASE 4)
R4A	ALL RED (FIRE STATION PREEMPT FOR EMERGENCY VEHICLES N.B. ON FRONTAGE ROAD)
R4B	SUPPLEMENTARY INDICATOR LIGHT FOR R4A
R5	S.B. TH47 (PHASES 1 & 6)

R4A -- PUSHBUTTON PREEMPT IN FIRE STATION (WITH INDICATOR LIGHT). SEE SPECIAL PROVISIONS.  
 2 PUSH BUTTONS PER FIRE DEPT.



**INTERSECTION LAYOUT**  
 UNIVERSITY AVENUE (T.H. 47) AND MISSISSIPPI STREET (C.S.A.H. 6) IN FRIDLEY, MINNESOTA  
 S.A.P. No. 02-606-08

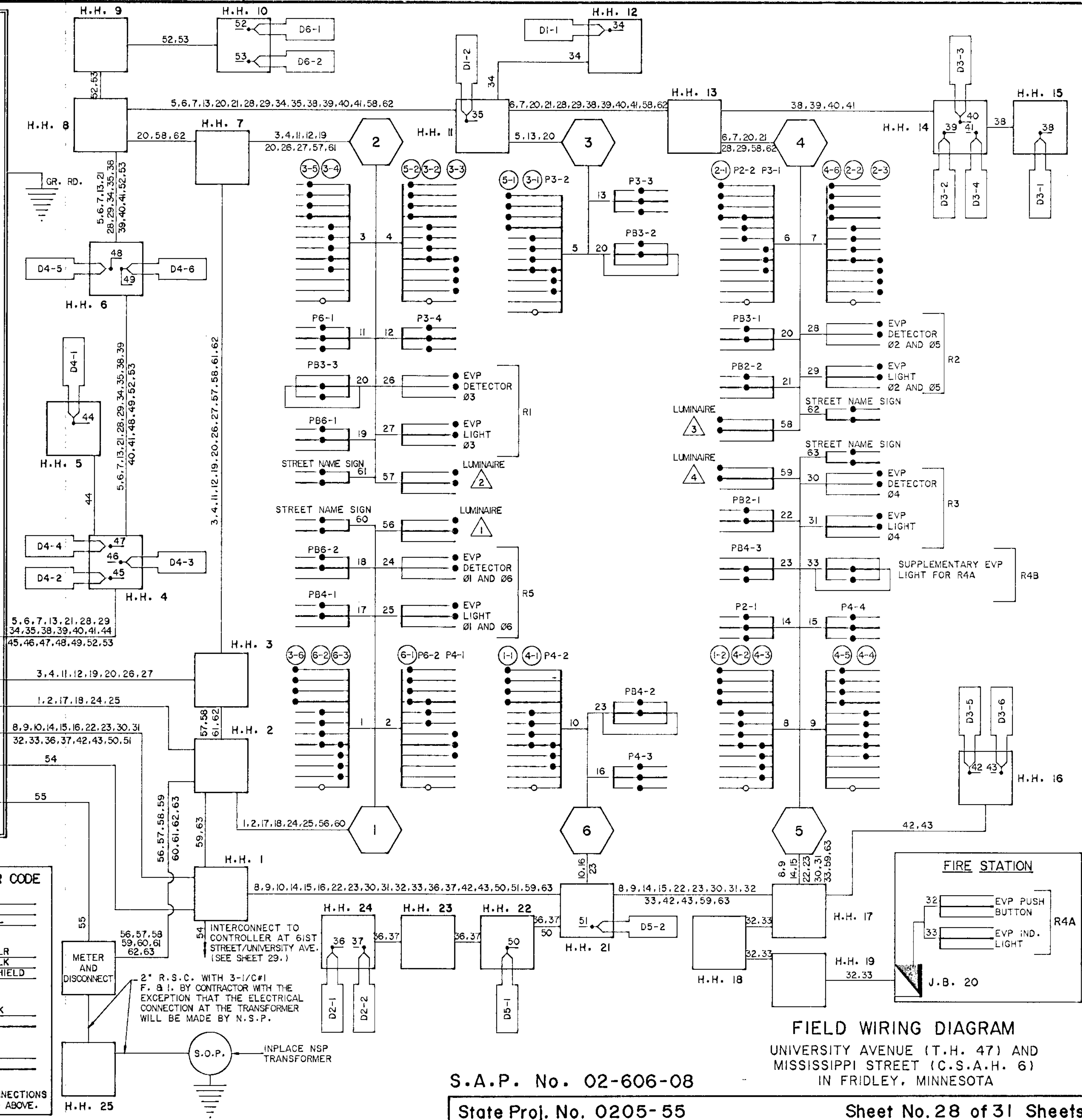
# CONTROLLER CABINET



**TYPICAL CONDUCTOR COLOR CODE**

R	3/C#12	WH	2/C#14	BLK	CLR
O	3/C#20	BLK	2/C#14	BLK	SHIELD
BL	EVP	YEL	2-1/C#4	BLK	
WH	DETECTOR		2-1/C#10	R	
R/BLK				WH	
O/BLK					
BLK/BLK					
WH/BLK					
BLK					
BLK/WH					
G/BLK					
G					

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.



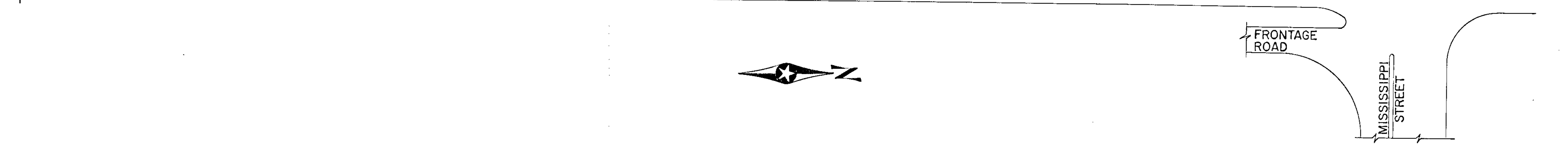
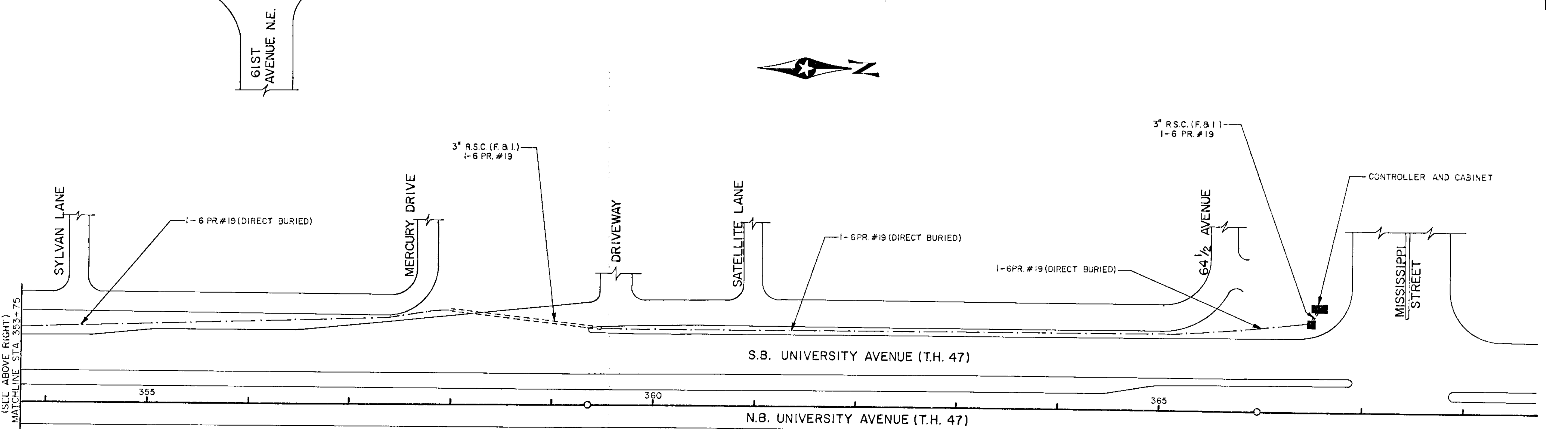
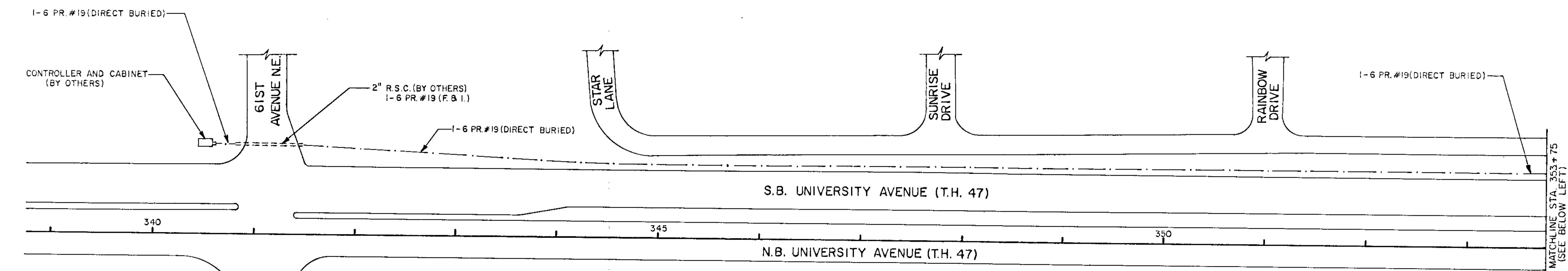
S.A.P. No. 02-606-08

State Proj. No. 0205-55

**FIELD WIRING DIAGRAM**  
 UNIVERSITY AVENUE (T.H. 47) AND  
 MISSISSIPPI STREET (C.S.A.H. 6)  
 IN FRIDLEY, MINNESOTA

Sheet No. 28 of 31 Sheets





MATCHLINE STA. 353+75  
(SEE BELOW LEFT)

(SEE ABOVE RIGHT)  
MATCHLINE STA. 353+75

INTERCONNECT PLAN

SCALE: 50'

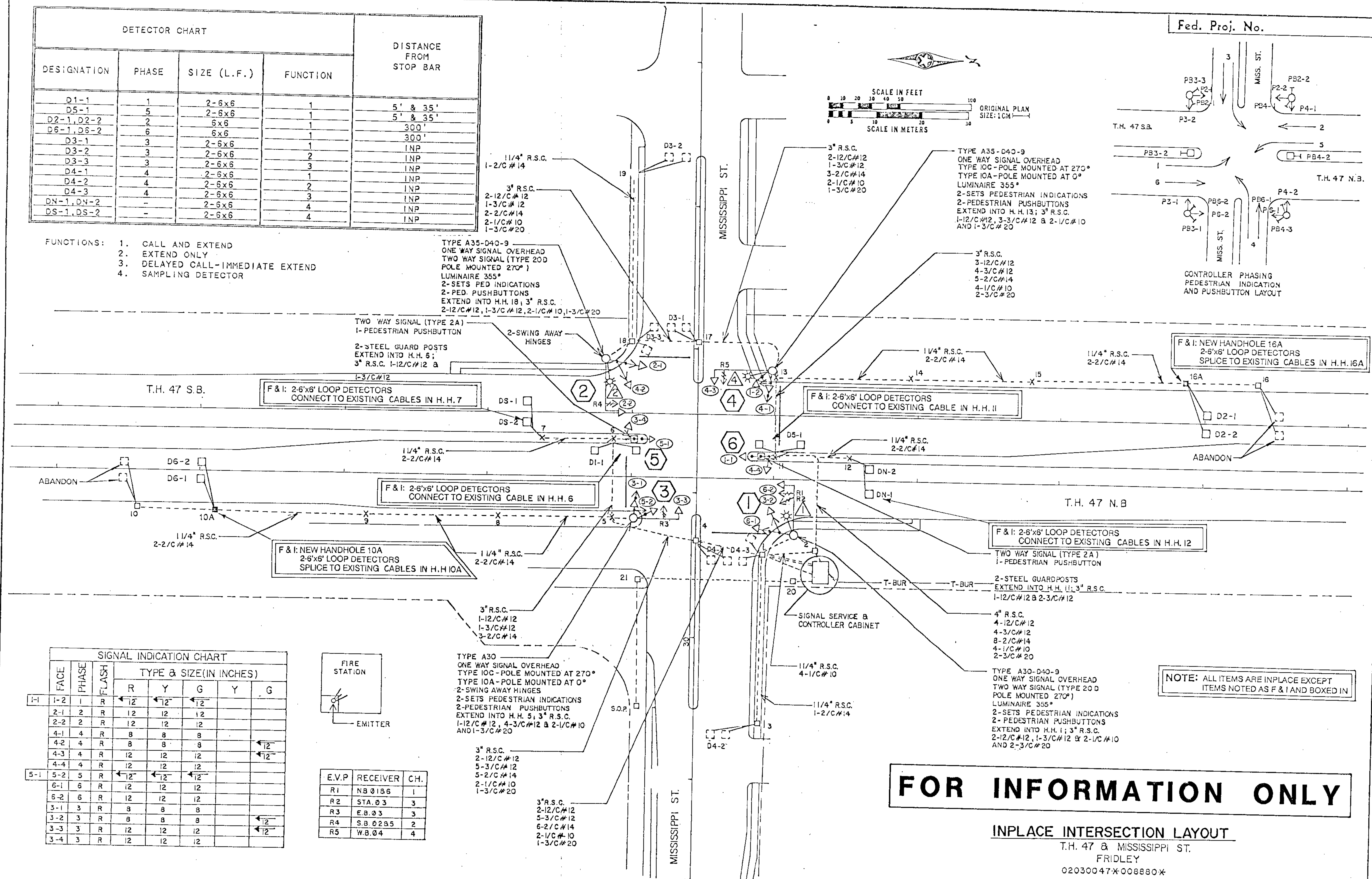
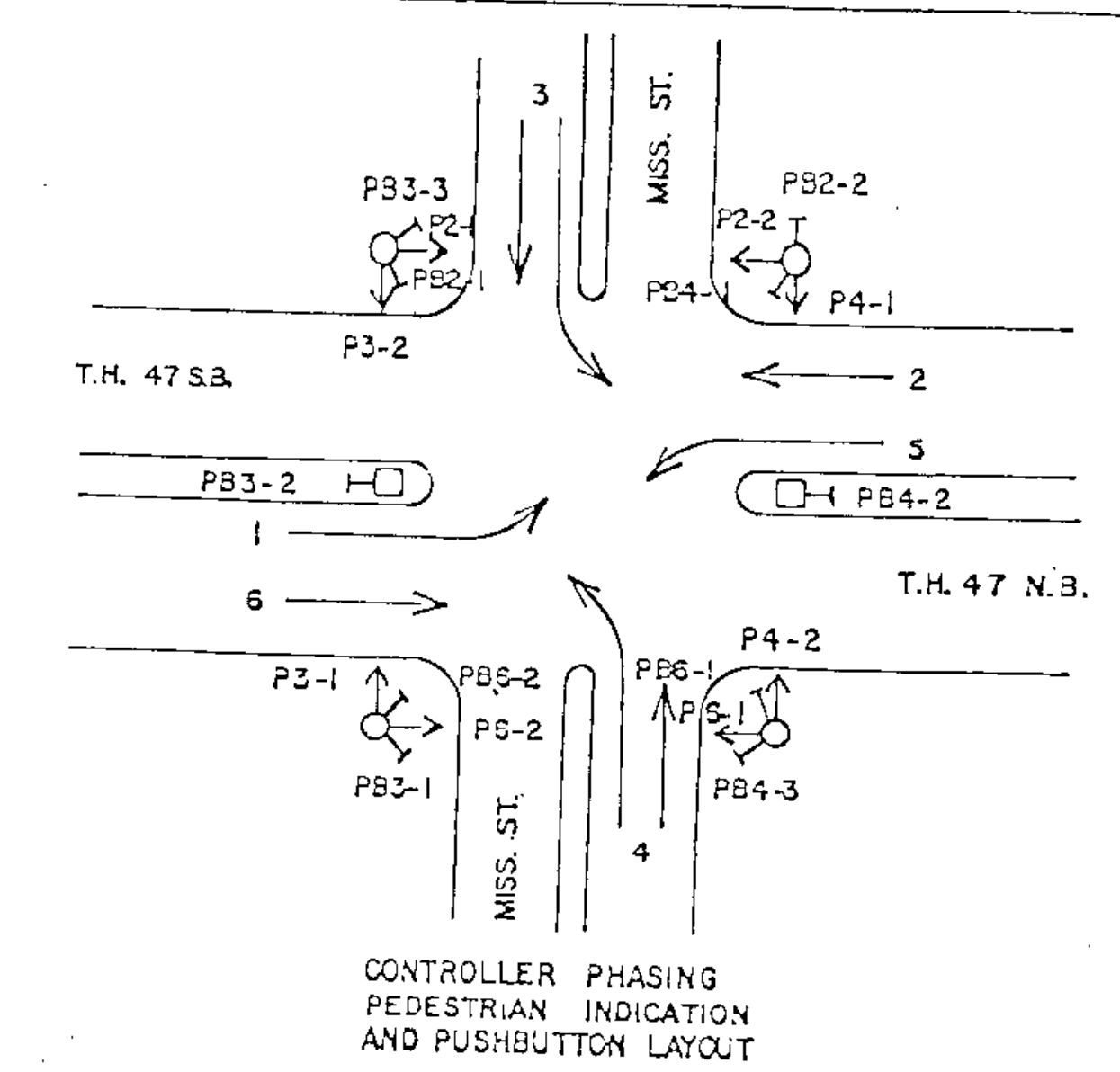
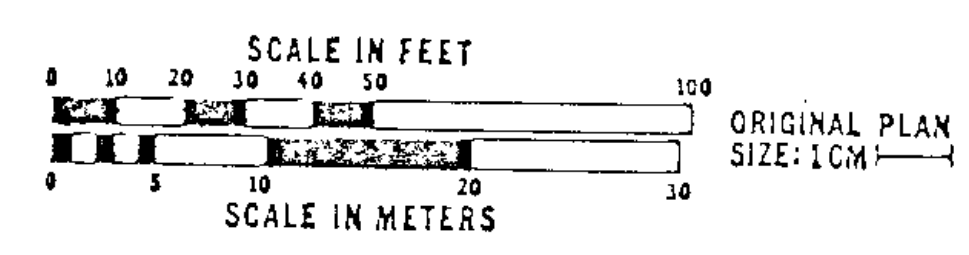
S.A.P. NO. 02-606-08

State Proj. No. 0205-55

Sheet No. 29 of 31 Sheets

DETECTOR CHART				DISTANCE FROM STOP BAR
DESIGNATION	PHASE	SIZE (L.F.)	FUNCTION	
D1-1	1	2-6x6	1	5' & 35'
D5-1	5	2-6x6	1	
D2-1, D2-2	2	6x6	1	300'
D6-1, D6-2	6	6x6	1	300'
D3-1	3	2-6x6	1	INP
D3-2	3	2-6x6	2	INP
D3-3	3	2-6x6	3	INP
D4-1	4	2-6x6	1	INP
D4-2	4	2-6x6	2	INP
D4-3	4	2-6x6	3	INP
DN-1, DN-2	-	2-6x6	4	INP
DS-1, DS-2	-	2-6x6	4	INP

- FUNCTIONS:
1. CALL AND EXTEND
  2. EXTEND ONLY
  3. DELAYED CALL-IMMEDIATE EXTEND
  4. SAMPLING DETECTOR



SIGNAL INDICATION CHART						
FACE	PHASE	FLASH	TYPE & SIZE (IN INCHES)			
			R	Y	G	G
1-1	1	R	12	12	12	
2-1	2	R	12	12	12	
2-2	2	R	12	12	12	
4-1	4	R	8	8	8	
4-2	4	R	8	8	8	12
4-3	4	R	12	12	12	12
4-4	4	R	12	12	12	12
5-1	5	R	12	12	12	
6-1	6	R	12	12	12	
6-2	6	R	12	12	12	
3-1	3	R	8	8	8	
3-2	3	R	8	8	8	12
3-3	3	R	12	12	12	12
3-4	3	R	12	12	12	12

E.V.P	RECEIVER	CH.
R1	NB 0186	1
R2	STA. 03	3
R3	E.B. 03	3
R4	S.B. 0285	2
R5	W.B. 04	4

**FOR INFORMATION ONLY**

INPLACE INTERSECTION LAYOUT  
 T.H. 47 & MISSISSIPPI ST.  
 FRIDLEY  
 02030047X\*008880X



### CONTROLLER CABINET

