

PLANS SYMBOLS

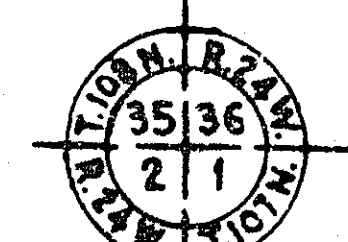
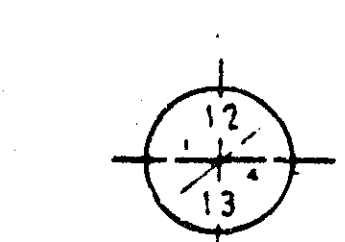
STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT OF WAY LINE
PRESENT RIGHT OF WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT OF WAY LINE
RIVER OR CREEK
DRY RUN
DRAINAGE DITCH
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
SLOPE EASEMENT (CONST. LIMITS)

SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
CATCH BASIN
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame)
P FRAME C-CONCRETE
S STONE T TILE
B BRICK ST STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY

UTILITIES SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH
POLE LINE
JOINT TELEPHONE AND POWER
ON POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE
TERMINAL)
GAS MAIN
WATER MAIN

CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRIC CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRIC CABLE
AERIAL TELEPHONE CABLE
SEWER, (SANITARY OR STORM)
SEWER MANHOLE



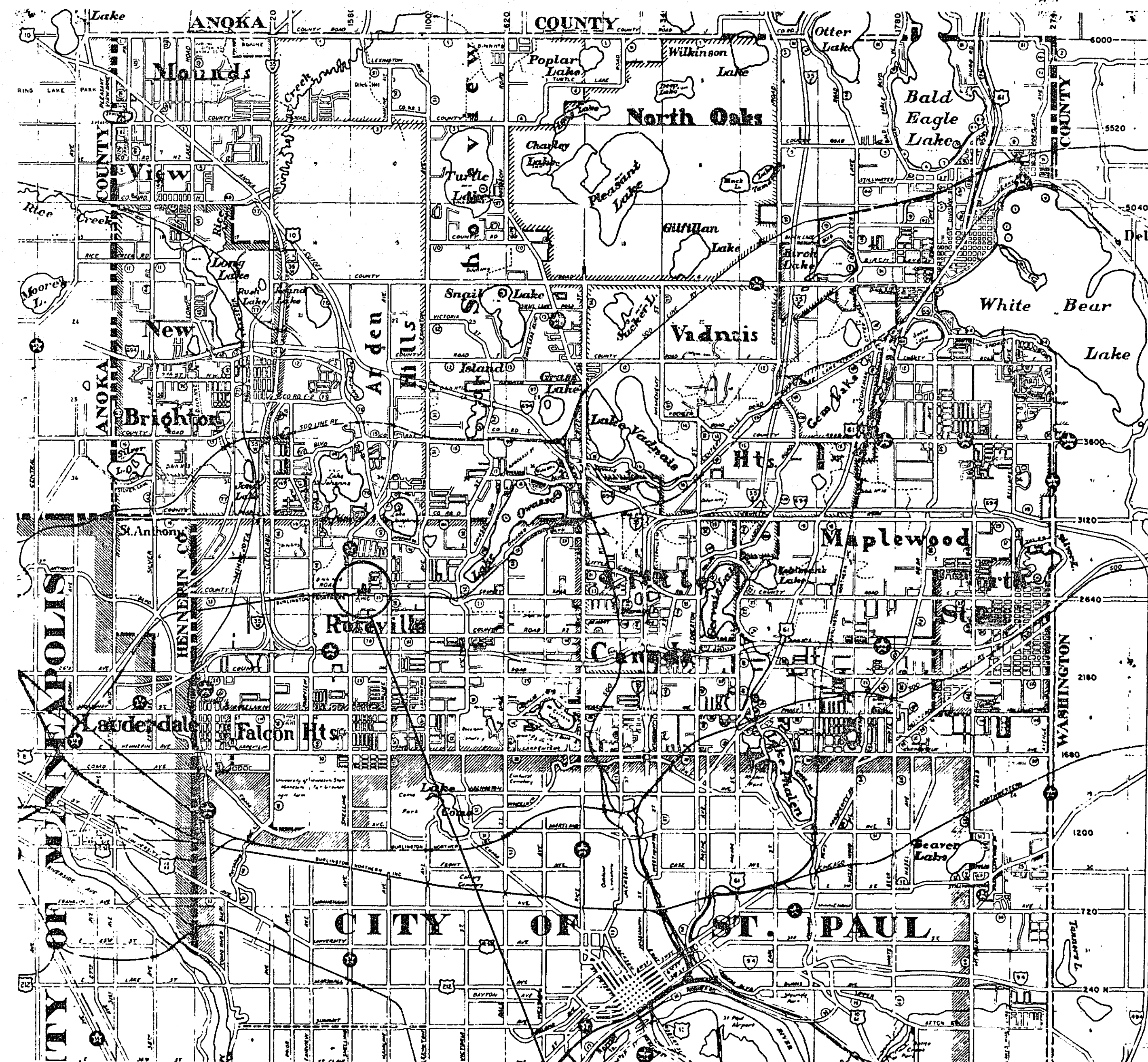
NOTE: SECTION NUMBERS READ
FROM "THE SOUTH"

PIT DATA

PIT NO. _____ Located in _____
PIT NO. _____ Located in _____

GOVERNING SPECIFICATION

THE 1983 EDITION OF THE MINNESOTA DEPARTMENT
OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR
CONSTRUCTION" SHALL GOVERN.



COUNTY RD. C & E. SNELLING SERVICE DR.
S.A.P. NO. 62-623-28

RAMSEY COUNTY DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLAN FOR TRAFFIC CONTROL SIGNAL SYSTEM AT
COUNTY ROAD C & EAST SNELLING SERVICE DR.

S.A.P. NO. 62-623-28

INDEX

SHEET NO.	DESCRIPTION
1	TITLE
2	DETAILS & QUANTITIES
3	INTERSECTION LAYOUT
4	FIELD WIRING DIAGRAM
5	INFORMATION

DESIGN SQUAD P. Weber DATE 11-27-85
DRAWN BY _____ DATE _____
CHECKED BY _____ DATE _____

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 11-27-85 REG. NO. 12703 ENGR. Paul K. Kibler

RECOMMENDED FOR APPROVAL P. K. Kibler DATE 11-27-85 RECOMMENDED FOR APPROVAL Ken Adolph DATE 12-20-85
TRAFFIC ENGR. COUNTY ENGINEER

RECOMMENDED FOR APPROVAL Ken Adolph DATE 12-20-85 APPROVED Ken Adolph DATE 6-2-86
ENR. ENGR. CHAIRMAN OF THE RAMSEY COUNTY BOARD

RECOMMENDED FOR APPROVAL Ken Adolph DATE 12-20-85 APPROVED Charles V. Hensel DATE 3-6-86
MAINT. ENGR. CITY OF ROSEVILLE

RECOMMENDED FOR APPROVAL Ken Adolph DATE 12-20-85 APPROVED _____ DATE _____
CONSTR. ENGR.

RECOMMENDED FOR APPROVAL Ken Adolph DATE 12-20-85 MINNESOTA DEPARTMENT OF TRANSPORTATION
DESIGN ENGR.

RECOMMENDED FOR APPROVAL Ken Adolph DATE 12-20-85 RECOMMENDED FOR APPROVAL Julius Skallman DATE 2/25/86
ENR. ENGR. STATE AD. TRANS. & SPEC. ENGR.

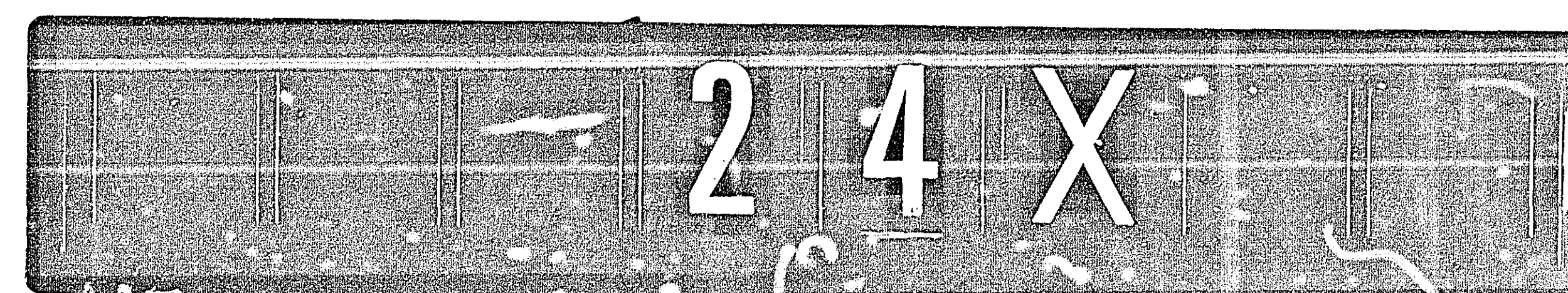
APPROVED Ken Adolph DATE 12-20-85 RECOMMENDED FOR APPROVAL Ken Adolph DATE 2/25/86
CONSTRUCTION ENGR. ENGINEER

APPROVAL Ken Adolph DATE 2-25-86
STATE AD. ENGINEER

PLAN REVISIONS		
DATE	SHEET NO.	BY
12-18-85	2, 3, 4 & 5	PER STAFF REVIEW
5-12-86	DELETE INTERCONNECT CABLE	RW

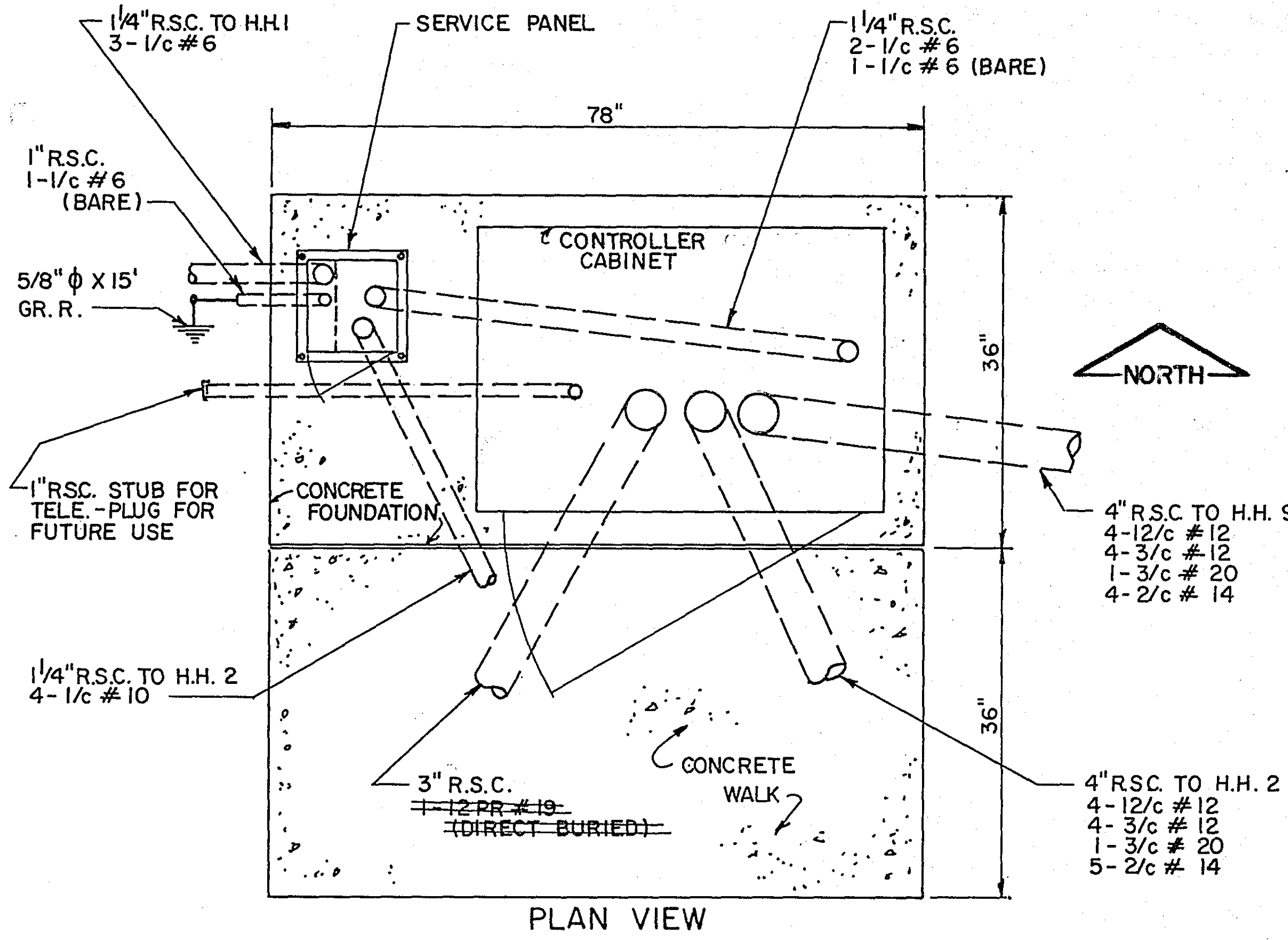
S.A.P. NO. 62-623-28

Sheet No. 1 of 5 Sheets

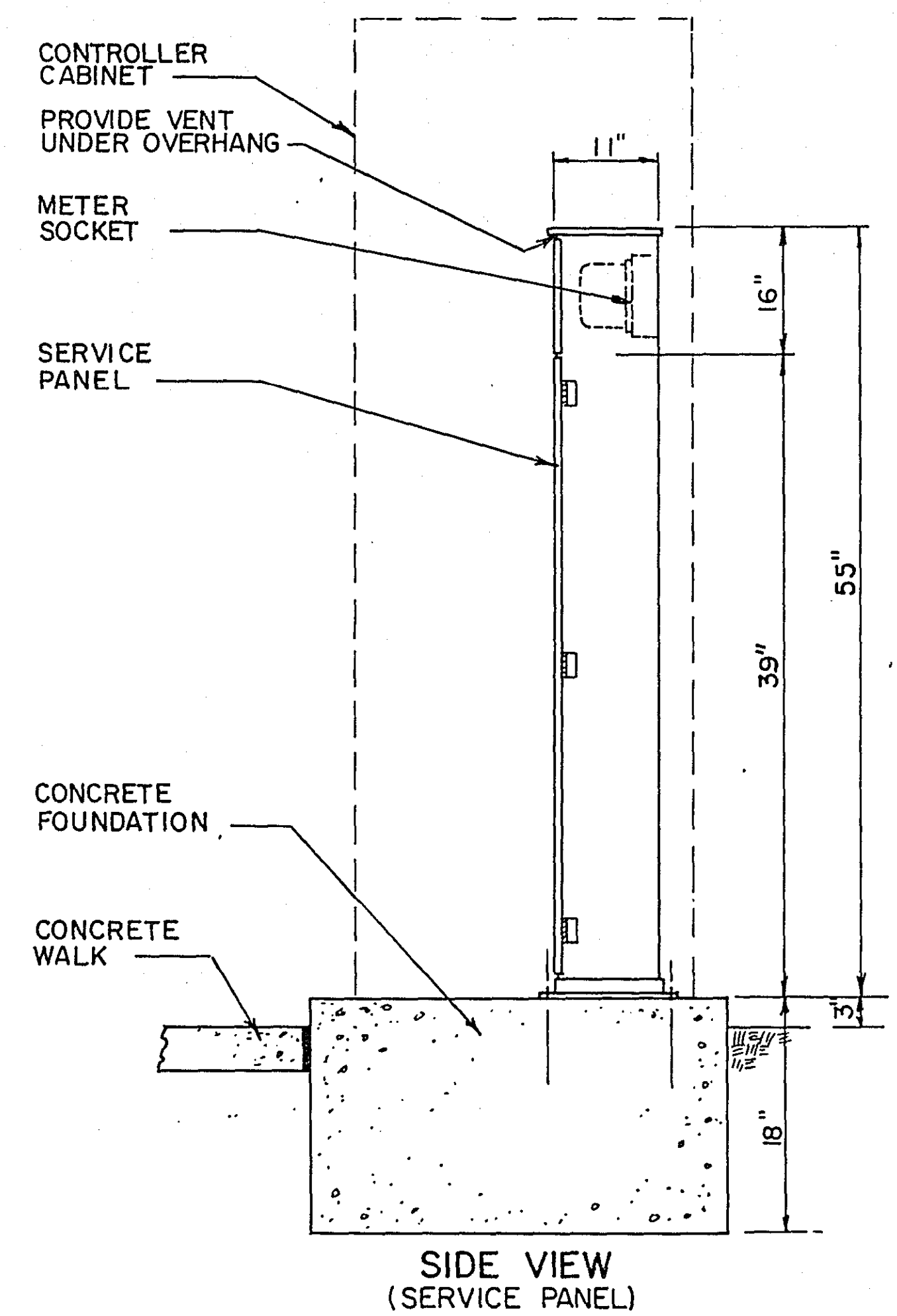
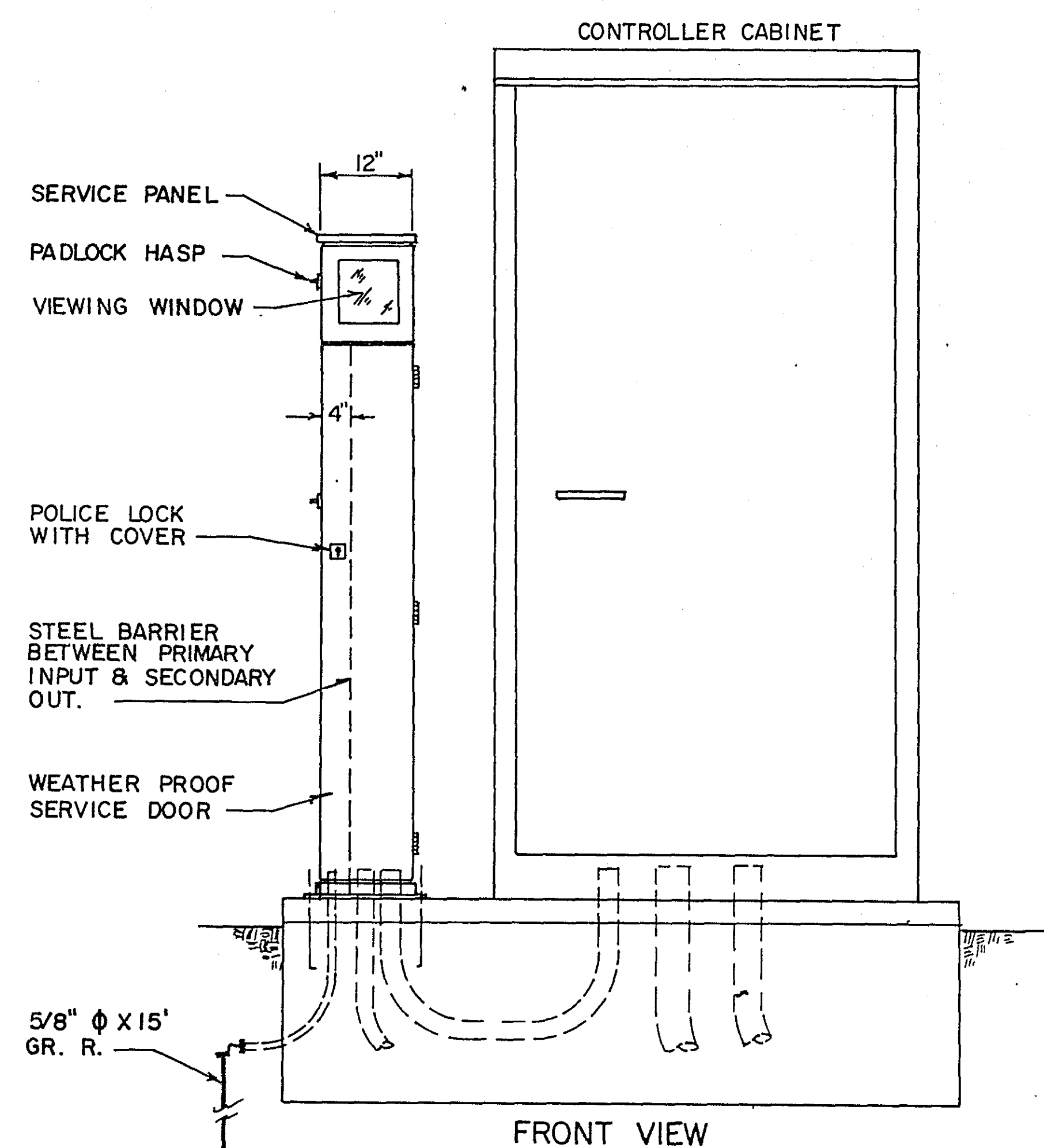


23-135

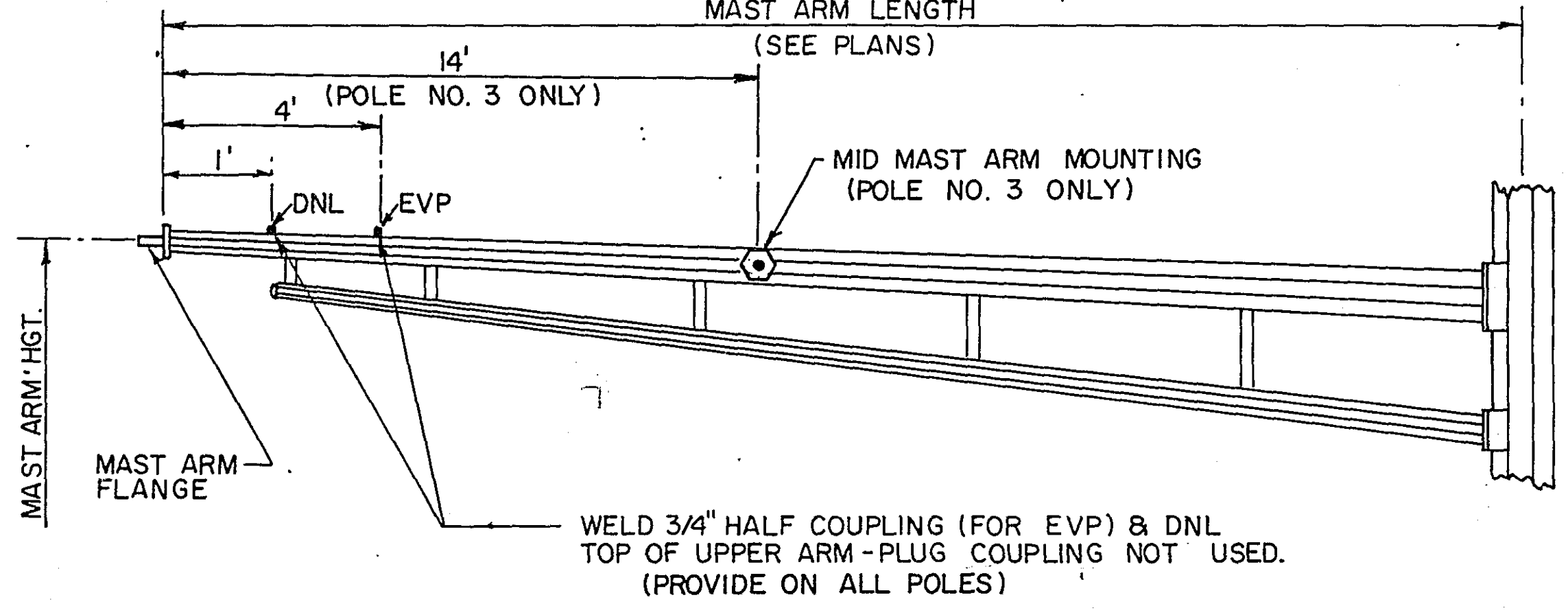
EQUIPMENT PAD DETAILS
(TYPE X)



1. ANCHOR RODS, NUTS AND WASHERS PER MN/DOT 3385 OR APPROVED EQUAL SET AS RECOMMENDED BY CABINET MANUFACTURER (NUMBER, SIZE AND LENGTH OF ANCHOR RODS SHALL BE AS REQUIRED BY THE CABINET (MANUFACTURER).
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) CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER BUT SHALL NOT INTERFERE WITH CABINET FUNCTIONS. (SUPPORTING MEMBERS, ETC.)
4. CONCRETE MIX 3A32 OR EQUAL SHALL BE USED FOR FOUNDATION AND CONCRETE WALK.
5. CONDUITS WHICH HAVE BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
6. EXACT LOCATIONS OF CONDUIT WITHIN THE PAD SHALL BE AS DETERMINED BY THE ENGINEER IN THE FIELD.

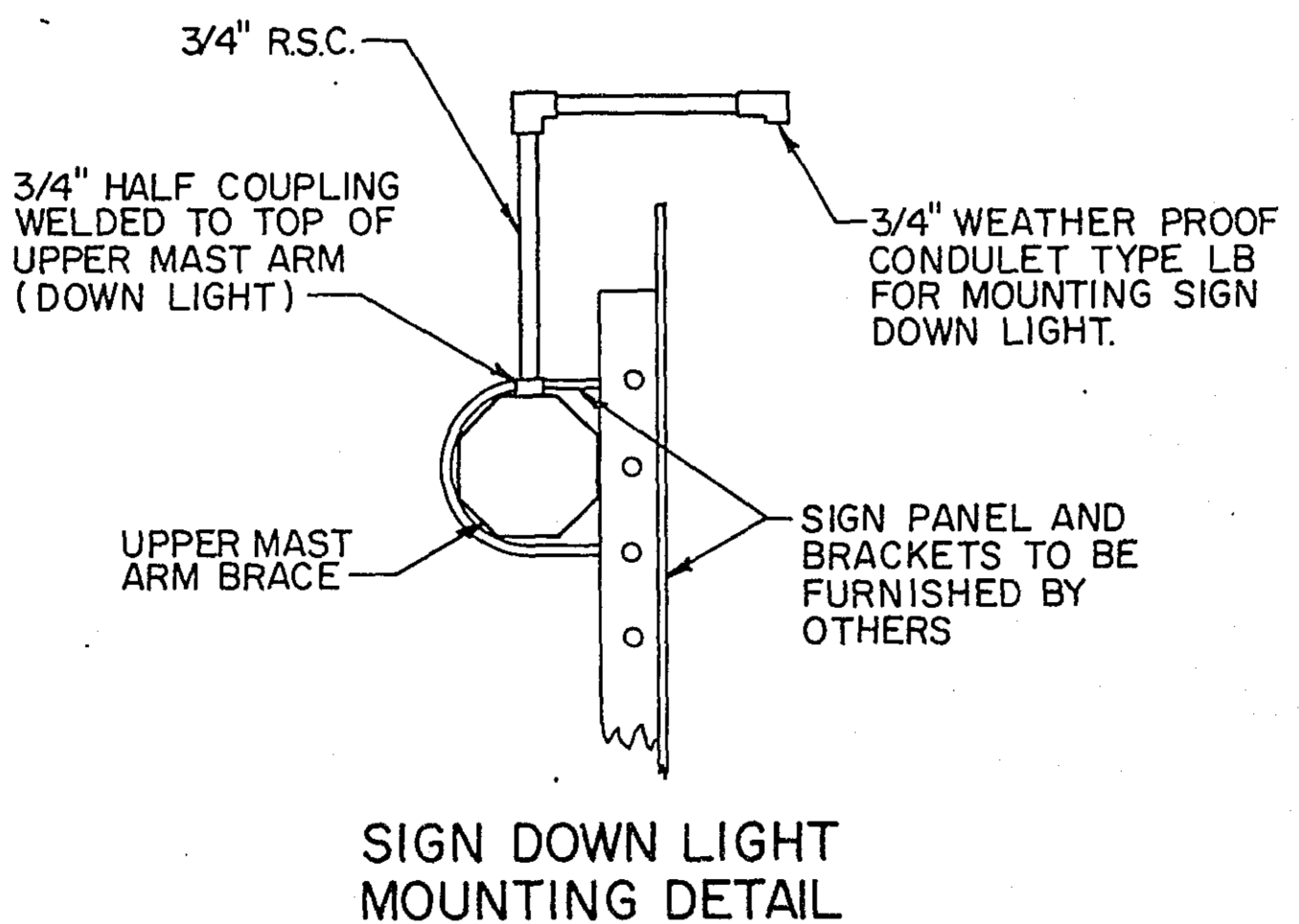


MAST ARM DETAILS



ABBREVIATIONS

- EQUIPMENT & INDICATIONS
- RED - RED
YEL - YELLOW
GRN - GREEN
LTA - LEFT TURN ARROW
THA - THRU ARROW
RTA - RIGHT TURN ARROW
TRA - THRU AND RIGHT ARROW
WLK - WALK
NEU - NEUTRAL
DWK - DON'T WALK
SW - SWITCH
SWD - SWITCHED
LUM - LUMINAIRE
P2-1(eg) - PEDESTRIAN INDICATION - "2" PHASE
PB4-2(eg) - PUSH BUTTON - "4" PHASE
2-2(eg) - SIGNAL HEAD - "2" PHASE
D2-4(eg) - DETECTOR - "2" PHASE
H.H. - HANDHOLE
GR.R. - GROUND ROD
SERV - SERVICE
EVP - EMERGENCY VEHICLE PRE-EMPTION
- DNL - DOWNLIGHT
P.E.C. - PHOTOELECTRIC CELL
ST. LHT. - STREET LIGHT
CH - CHECK
S.O.R. - SOURCE OF POWER
EQ.G - EQUIPMENT GROUND
SPR - SPARE CONDUCTOR
HPS - HIGH PRESSURE SODIUM
- COLOR CODING OF CONDUCTOR
- R - RED
O - ORANGE
BL - BLUE
WH - WHITE
R/BLK - RED WITH BLACK TRACER
O/BLK - ORANGE WITH BLACK TRACER
BL/BLK - BLUE WITH BLACK TRACER
WH/BLK - WHITE WITH BLACK TRACER
BLK - BLACK
GR.R. - GROUND ROD
BLK/WH - BLACK WITH WHITE TRACER
G/BLK - GREEN WITH BLACK TRACER
G - GREEN



STANDARD PLATES	
PLATE NO.	TITLE
* 8110 C	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
* 8111 B	TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED)
* 8112 C	PEDESTAL FOUNDATION
* 8113 C	MAGNETIC VEHICLE DETECTOR INSTALLATION
* 8115 C	PEDESTRIAN PUSH BUTTON INSTALLATION
* 8116 C	STEEL GUARD POST
* 8117 F	PRECAST CONCRETE HANDHOLE
* 8118 C	SERVICE EQUIPMENT & POLE, TRAFFIC CONTROL SIGNALS
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
* 8120 H	P-80 & P-90 POLE FOUNDATION
* 8121 B	TRANSFORMER BASE WITH POLE BASE PLATE
* 8122 C	PEDESTAL AND PEDESTAL BASE
* 8123 B	POLE AND MAST ARM (LUMINAIRES AND TRAFFIC LIGHTS)
* 8124 D	SIGNAL HEAD MOUNTS
* 8130 D	SAW CUT LOOP DETECTORS

* STANDARD PLATES APPLICABLE TO THIS PROJECT

STATEMENT OF ESTIMATED QUANTITIES				
PROJECT NO.	ITEM NO.	ITEM	UNIT	QUANT.
62-623-28	2565.511	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM	SIGNAL SYSTEM	1
62-623-28	0565.603	DELETE 12 PR #19 (DIRECT BURIED)	LF	870
	0565.604	EMERGENCY VEHICLE PRE-EMPTION	SYSTEM	1

- (1) 66.67% STATE AID PARTICIPATION
(2) STATE AID NON-PARTICIPATING

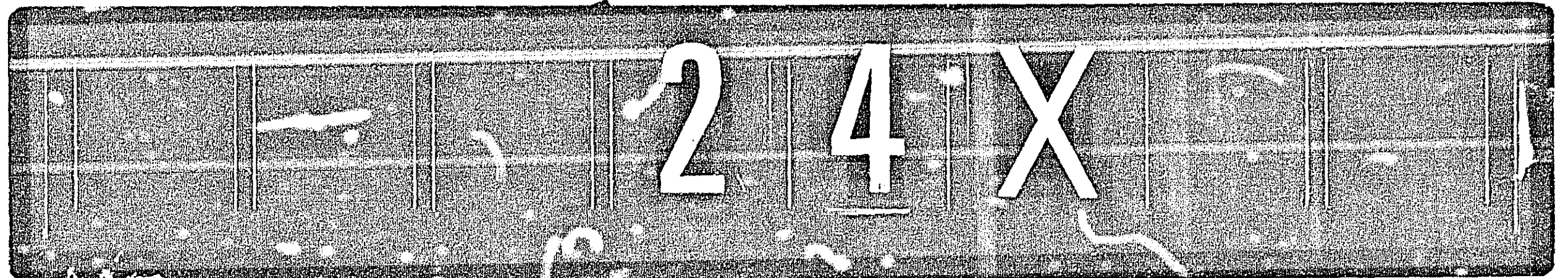
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Paul K. Kibbey
DATE 11-27-85 REG. NO. 12703

DETAILS &
ESTIMATED QUANTITIES

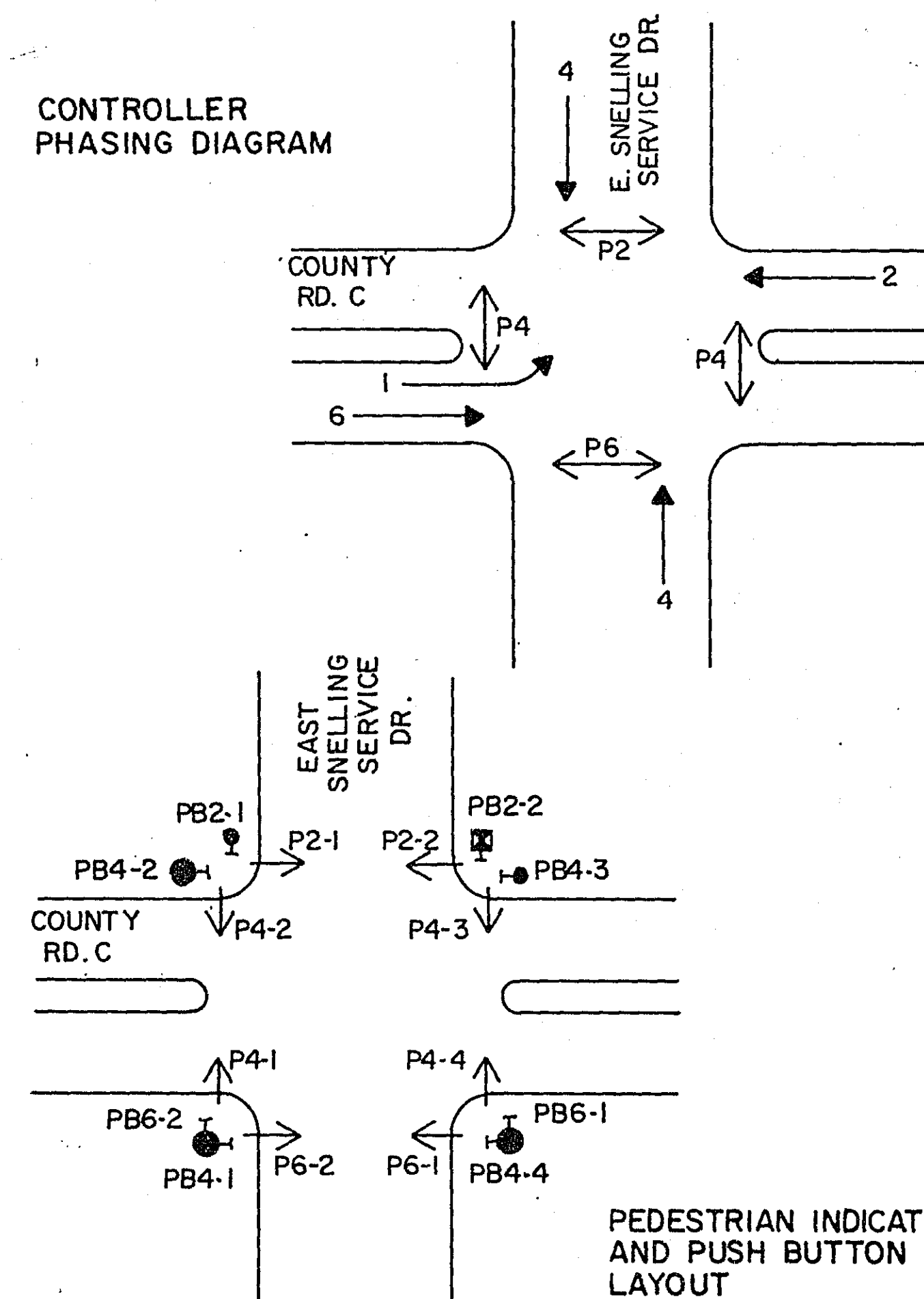
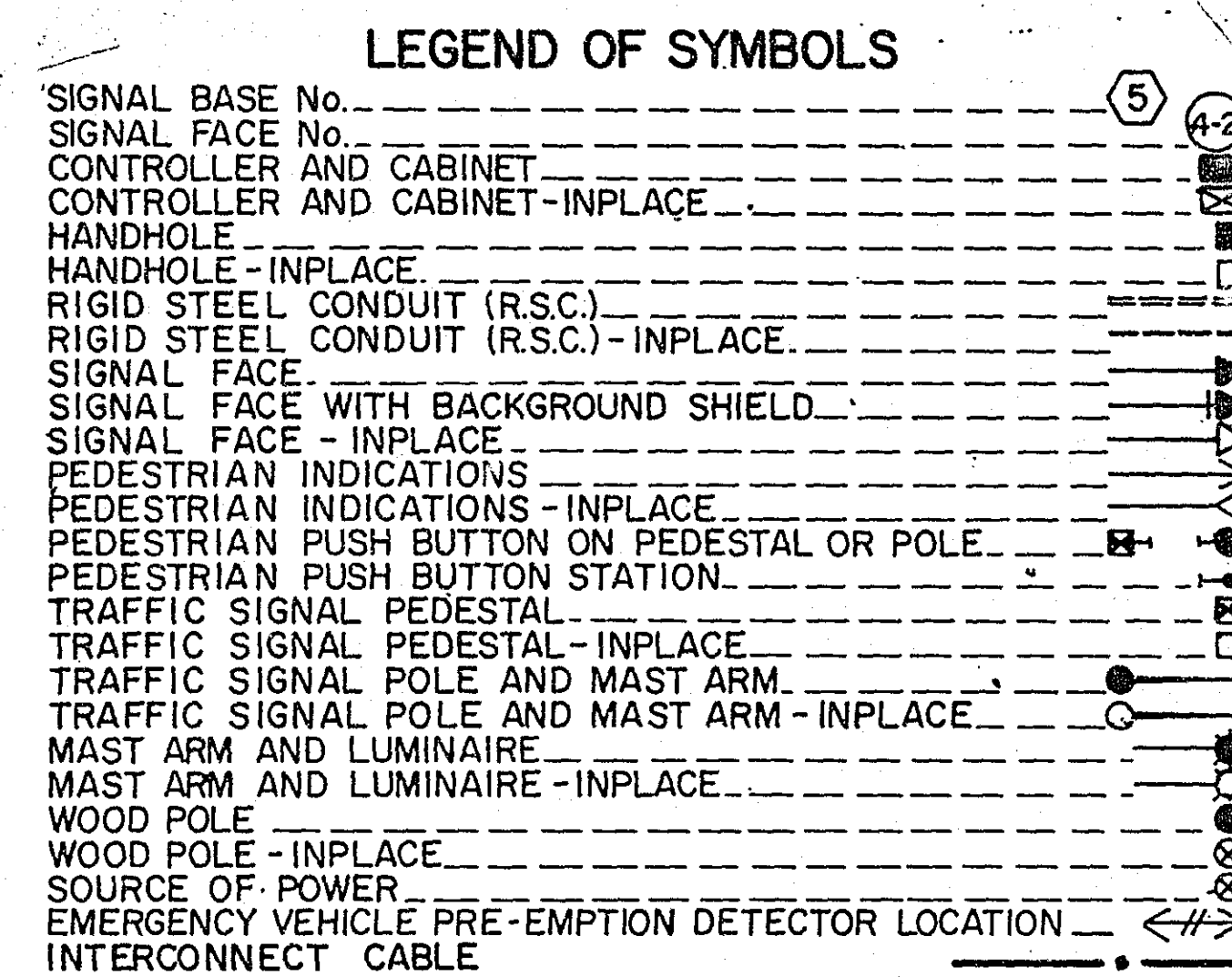
S.A.P. NO. 62-623-28

SHEET NO. 2 OF 5 SHEETS

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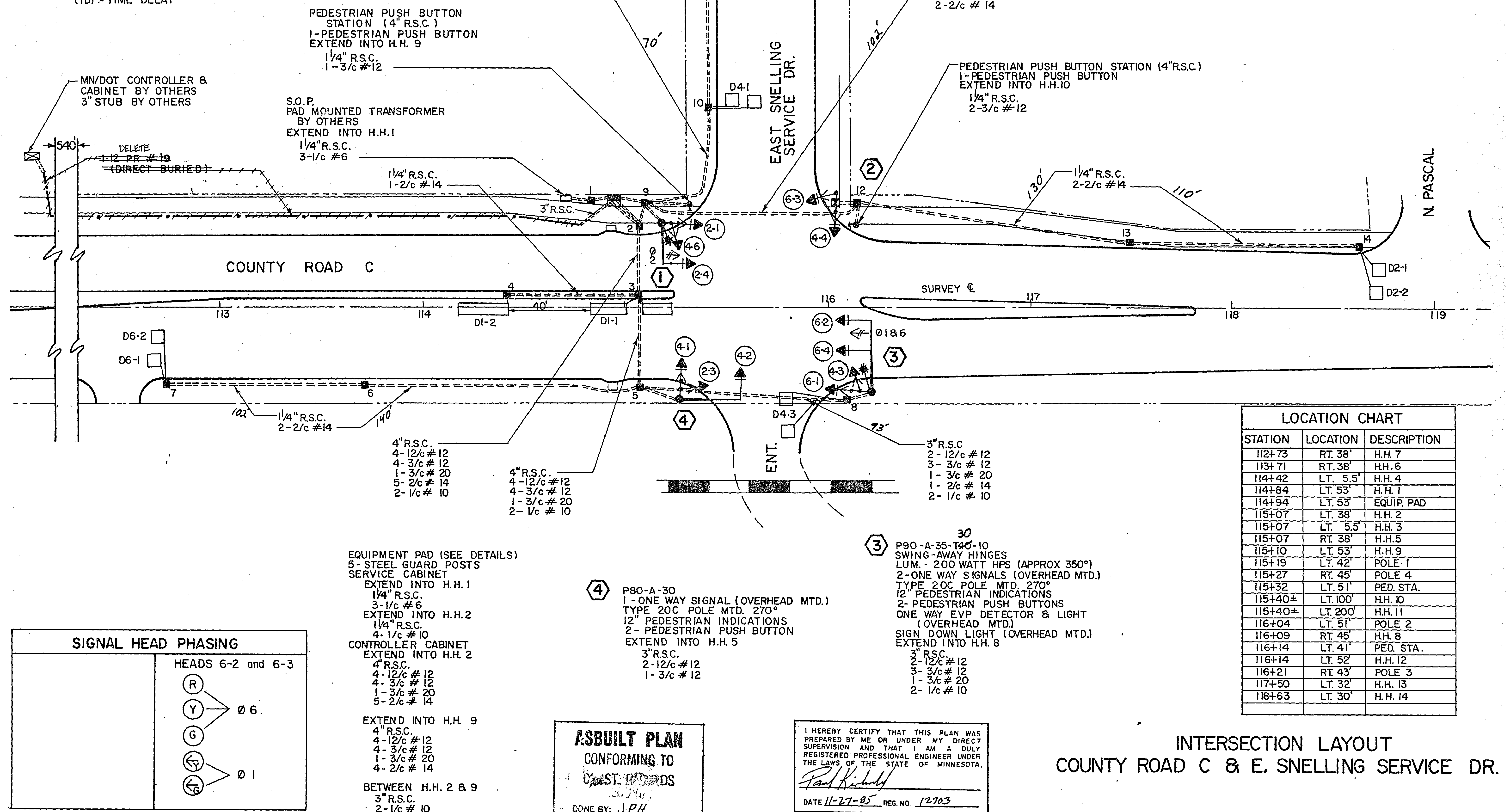
23-135 County Rd 4 East Snelling Service Rd 1-5
SAP 62-623-28



SIGNAL INDICATION CHART							
FACE	PHASE	FLASH	INDICATION SIZE				
			R	Y	G		
2-1	2	R	12"	12"	12"	—	—
2-3	2	R	12"	12"	12"		
2-4	2	R	12"	12"	12"	—	—
4-1	4	R	12"	12"	12"	—	—
4-2	4	R	12"	12"	12"	—	—
4-3	4	R	12"	12"	12"	—	—
4-4	4	R	12"	12"	12"	—	—
4-6	4	R	12"	12"	12"	—	—
6-1	6	R	12"	12"	12"	—	—
6-2	6 and 1	R	12"	12"	12"	12"	12"
6-3	6 and 1	R	12"	12"	12"	12"	12"
6-4	6	R	12"	12"	12"	—	—

[illegible]

C.= CALL
E.= EXTEND
(TD) = TIME DELAY



LOCATION CHART		
STATION	LOCATION	DESCRIPTION
112+73	RT. 38'	H.H. 7
113+71	RT. 38'	H.H. 6
114+42	L.T. 5.5'	H.H. 4
114+84	L.T. 53'	H.H. 1
114+94	L.T. 53'	EQUIP. PAD
115+07	LT. 38'	H.H. 2
115+07	L.T. 5.5'	H.H. 3
115+07	RT. 38'	H.H. 5
115+10	L.T. 53'	H.H. 9
115+19	L.T. 42'	POLE 1
115+27	RT. 45'	POLE 4
115+32	L.T. 51'	PED. STA.
115+40±	L.T. 100'	H.H. 10
115+40±	L.T. 200'	H.H. 11
116+04	L.T. 51'	POLE 2
116+09	RT. 45'	H.H. 8
116+14	L.T. 41'	PED. STA.
116+14	L.T. 52'	H.H. 12
116+21	RT. 43'	POLE 3
117+50	L.T. 32'	H.H. 13
118+63	L.T. 30'	H.H. 14

INTERSECTION LAYOUT
COUNTY ROAD C & E. SNELLING SERVICE DR.

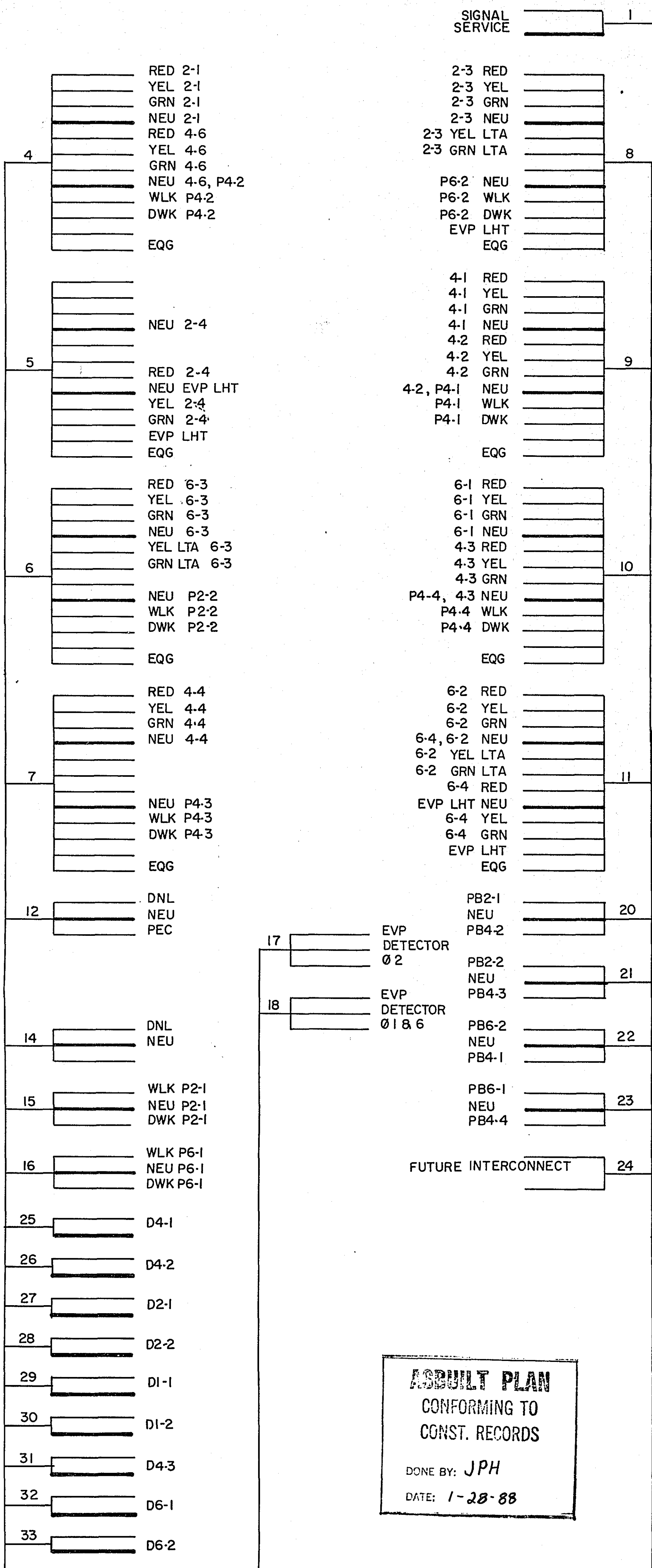
S.A.P. NO. 62-623-28

SHEET NO. 3 OF 5 SHEETS

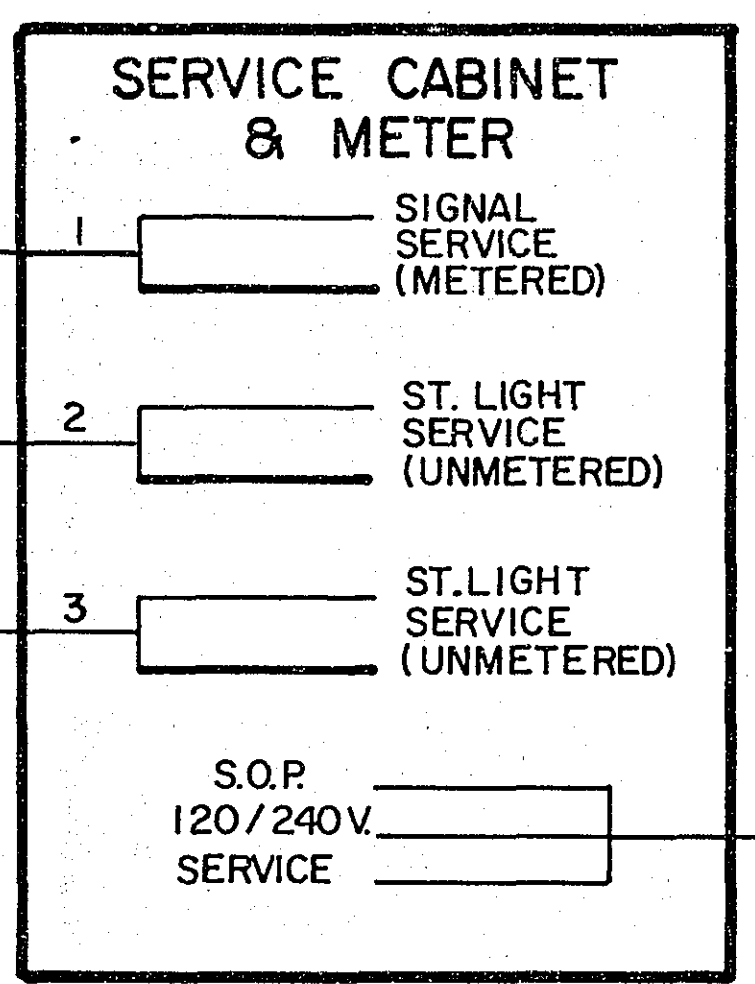
23-135

23-135 County AdC & East Smeiling Sec 12. AA 1-5
SAP 62-623-789

CONTROLLER CABINET



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: JPH
DATE: 1-28-88

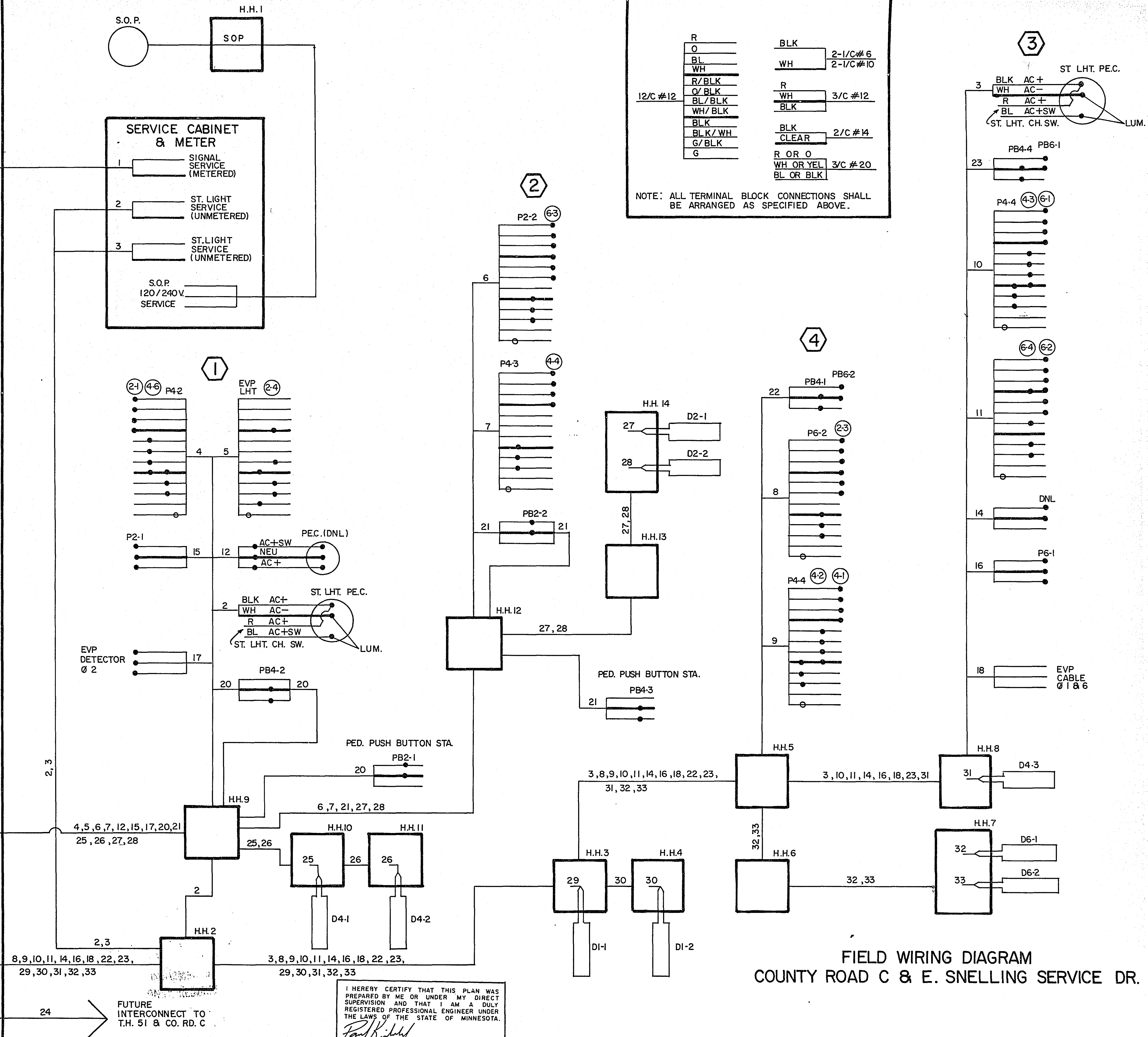


CONDUCTOR COLOR CODING

R	BLK	2-1/C #6
O	WH	2-1/C #10
BL		
WH		
R/BLK	R	3/C #12
O/BLK	WH	
BL/BLK	BLK	
WH/BLK		
BLK	BLK	2/C #14
BLK/WH	CLEAR	
G/BLK		
G	R OR O	3/C #20
	WH OR YEL	
	BL OR BLK	

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

FIELD WIRING DIAGRAM COUNTY ROAD C & E. SNELLING SERVICE DR.

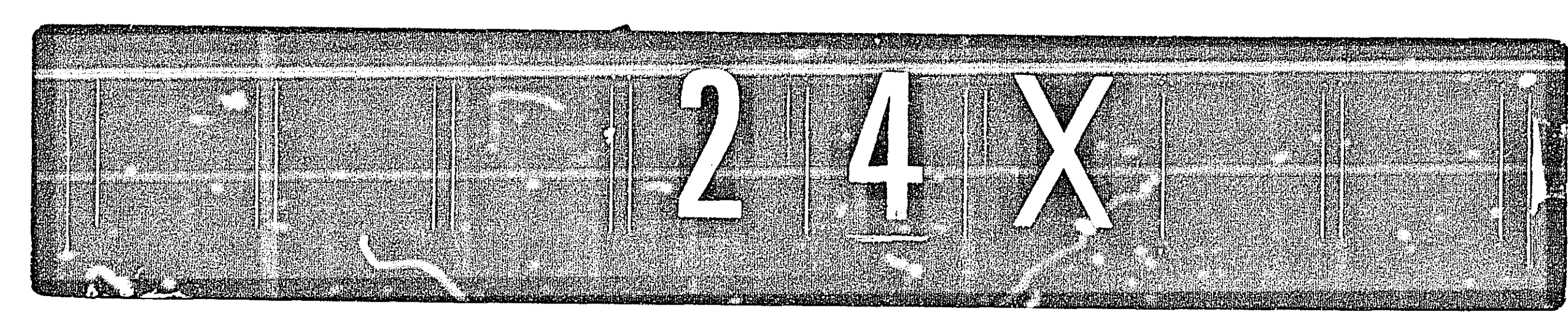


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Paul K. Kelly
DATE 11-27-85 REG. NO. 12703

S.A.P. NO. 62-623-28

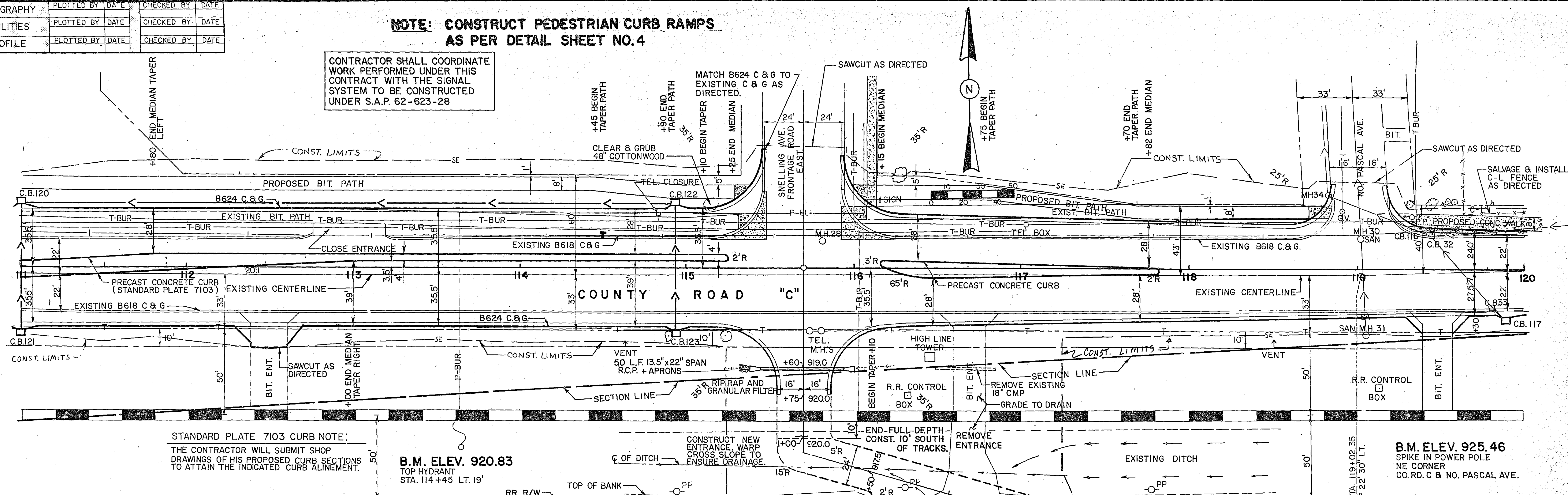
SHEET NO. 4 OF 5 SHEETS

23-135



23-135 County Rd C & East Snelling Service Dr
SAP 62-623-28
1-5

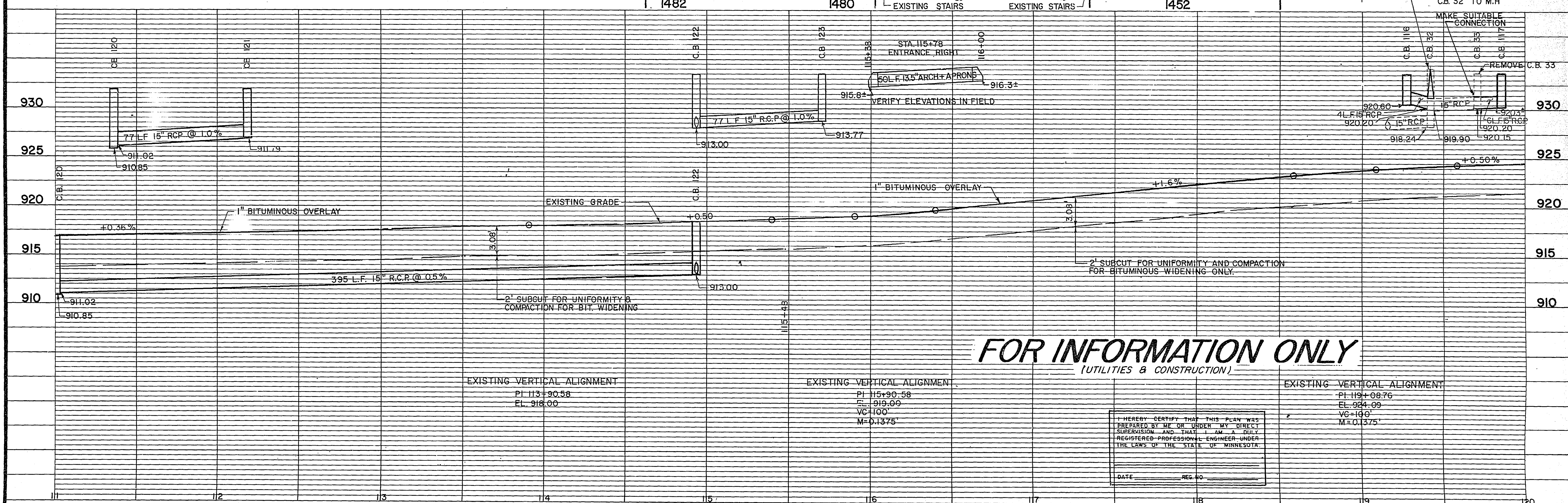
CONTRACTOR SHALL COORDINATE
WORK PERFORMED UNDER THIS
CONTRACT WITH THE SIGNAL
SYSTEM TO BE CONSTRUCTED
UNDER S.A.P. 62-623-28



STANDARD PLATE 7103 CURB NOTE:
THE CONTRACTOR WILL SUBMIT SHOP
DRAWINGS OF HIS PROPOSED CURB SECTIONS
TO ATTAIN THE INDICATED CURB ALIGNMENT.

B.M. ELEV. 920.83
TOP HYDRANT
STA. 114+45 LT. 19'

B.M. ELEV. 925.46
SPIKE IN POWER POLE
NE CORNER
CO. RD. C & NO. PASCAL AVE.



FOR INFORMATION ONLY
(UTILITIES & CONSTRUCTION)

S.A.P. No. 62-623-28

Sheet No. 5 of 5 Sheets

100-100000