

RAMSEY COUNTY DEPARTMENT OF PUBLIC WORKS

GOVERNING SPECIFICATIONS
The 1983 Edition of the Mn. Department
of Transportation "Standard Specifications
for Construction" shall govern.

MILLING & BITUMINOUS OVERLAY OF BITUMINOUS PAVEMENTS

S.A.P.	ROAD	C.S.A.H.	DESIGN SPEED	A.D.T.		EXISTING DESIGN STRENGTH	URBAN CLASS
				PRESENT	FUTURE		
62-615-II ✓	CO. RD. E 073	15	40 M.P.H.	* 12,000	14,400	9 TON	HIGH DENSITY ARTERIAL 4 LANES
62-619-10 ✓	BEAM AVE. 090m1	19	50 M.P.H.	11,000	13,200	9 TON	HIGH DENSITY ARTERIAL 4 LANES
62-619-II ✓	LYDIA AVE. 0461	19	30 M.P.H.	3,000	6,000	9 TON	LOW DENSITY ARTERIAL 2 LANES
62-623-29 ✓	CO. RD. C 79	23	40 M.P.H.	8,000	9,600	9 TON	LOW DENSITY ARTERIAL 4 LANES
62-625-II ✓	CO. RD. B 90	25	35 M.P.H.	13,000	15,600	9 TON	HIGH DENSITY ARTERIAL 4 LANES
62-630-23	LARPEN TEUR AV. 55	30	35 M.P.H.	6,600	9,800	9 TON	LOW DENSITY ARTERIAL 2 LANES
62-644-12	SILVER LAKE RD. 026	44	40 M.P.H.	23,000	27,600	9 TON	HIGH DENSITY ARTERIAL W/MED
62-678-04	CO. RD. B-2 186	78	30 M.P.H.	8,800	10,560	9 TON	HIGH DENSITY ARTERIAL 4 LANES

* THE CURRENT ADT FOR THE PORTION FROM SNELLING TO T.H. 51
IS 5500; PROJECTED ADT IS 7700 MAKING THIS PORTION A
LOW-DENSITY ARTERIAL (TWO-LANES)

INDEX

SHEET NO.	DESCRIPTION
1	TITLE
2	GENERAL LAYOUT
3	ESTIMATED QUANTITIES
4	DETAILS
5	MILLING & OVERLAY
6-13	TYPICAL SECTIONS LOCATION PLANS AND TYPICAL SECTION

RECOMMENDED FOR APPROVAL Keith C. Wright DATE 4-24-86
COUNTY ENGINEER

APPROVED James Johnson DATE 6/9/86
CHAIRMAN OF THE RAMSEY COUNTY BOARD

APPROVED Charlotte McPherson DATE 4/10/86
CITY OF ARDEN HILLS - (CLERK)

APPROVED Keith D. Hansen DATE 4/24/86
CITY OF MAPLEWOOD

APPROVED Leslie Proper DATE 4/9/86
CITY OF NEW BRIGHTON

APPROVED Charles V. Honchell DATE 4-22-86
CITY OF ROSEVILLE - ENGINEER

APPROVED Robert G. Peterson DATE 5/23/86
CITY OF ST. PAUL

MINNESOTA DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL Julie Skallman DATE 6/4/86

RECOMMENDED FOR APPROVAL Robert H. Crawford DATE 5-14-86
DIST. STATE AID ENGINEER

APPROVED Julie Skallman DATE 6/9/86
STATE AID ENGINEER

RECOMMENDED FOR APPROVAL LKF DATE 3-19-86
DESIGN ENGINEER

RECOMMENDED FOR APPROVAL PLK DATE 3-19-86
TRAFFIC ENGINEER

RECOMMENDED FOR APPROVAL DRH DATE 3-19-86
MAINT. ENGINEER

RECOMMENDED FOR APPROVAL W. J. [Signature] DATE 3/19/86
ENVIRONMENTAL ENGINEER

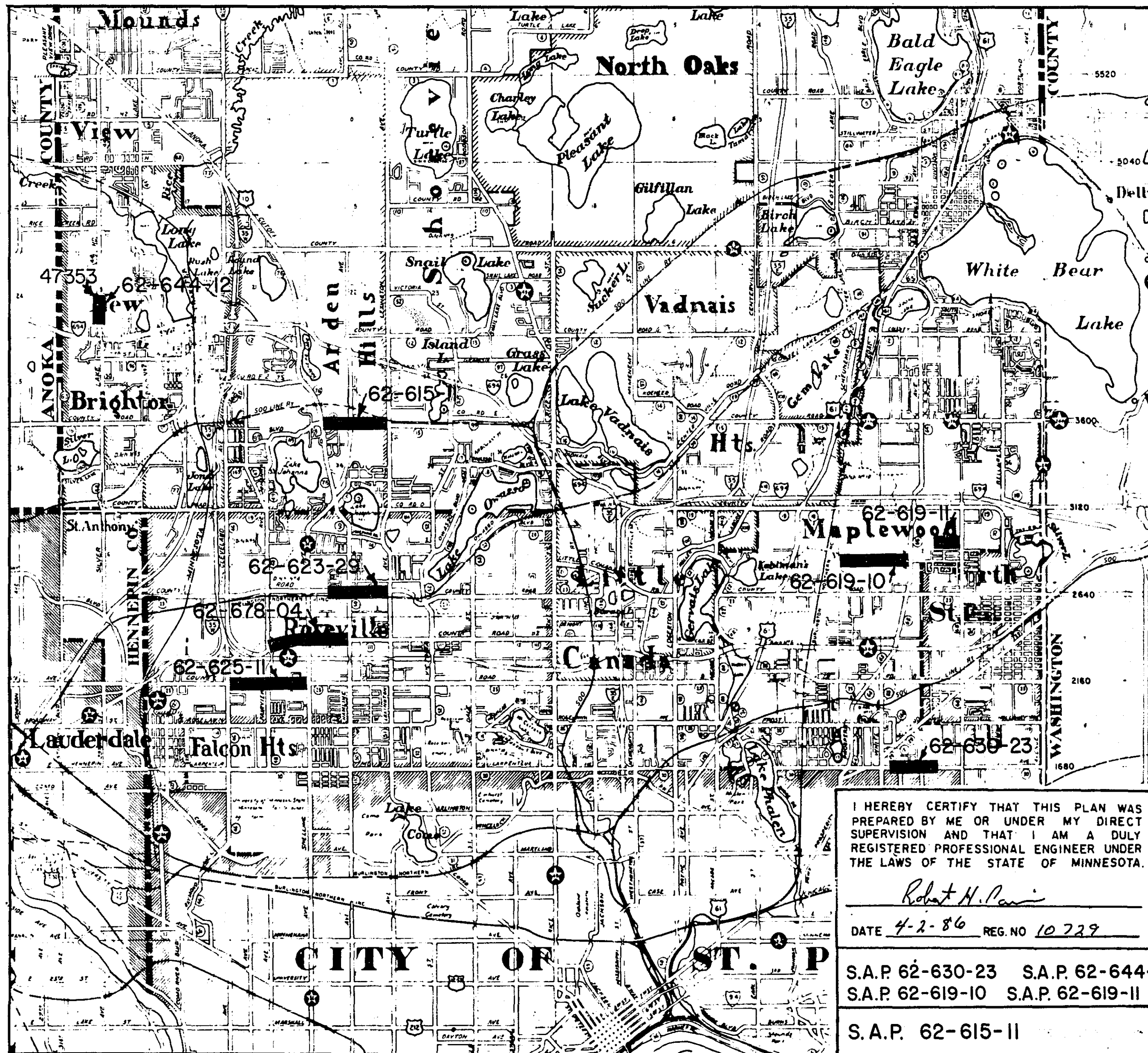
APPROVED W. J. [Signature] DATE 3-19-86
COORDINATING ENGINEER

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.
Robert H. [Signature]
Date 3-19-86 Reg. No. 10729

S.A.P. 62-615-II SHEET 1 OF 13 SHEETS

C.P. 47353 SAP 62-644-12, SAP 62-678-04; SAP 62-619-10, SAP 62-619-11,
SAP 62-623-29, SAP 62-625-11, SAP 62-630-23

27-124



LOCATION MAP

S.A.P. 62-615-11 ✓
CO. RD. E
SNELLING TO LEXINGTON

S.A.P. 62-625-11 ✓
CO. RD. B
CLEVELAND TO T.H. 51

S.A.P. 62-678-04 ✓
CO. RD. B2
FAIRVIEW TO HAMLINE

S.A.P. 62-619-10 ✓
BEAM AVE.
HAZELWOOD TO WHITE BEAR AVE.

S.A.P. 62-623-29 ✓
CO. RD. C
PASCAL TO LEXINGTON

S.A.P. 62-630-23 ✓
LARPEN TEUR AVE.
VANDYKE TO BEEBE RD.

S.A.P. 62-619-11 ✓
LYDIA AVE.
1/4 MILE E. OF WHITE BEAR AVE.
TO MCKNIGHT RD.

S.A.P. 62-644-12 CO. PROJ. 47353
SILVER LAKE RD. SILVER LAKE RD.
NORTH OF I-694 13th ST. TO 14th ST.
TO 13th ST. N.W.

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.

Robert H. Parni

DATE 4-2-86 REG. NO 10729

S.A.P. 62-630-23 S.A.P. 62-644-12 S.A.P. 62-678-04 GENERAL LAYOUT
S.A.P. 62-619-10 S.A.P. 62-619-11 S.A.P. 62-623-29 S.A.P. 62-625-11 CO. PROJ. 47353

S.A.P. 62-615-11

SHEET NO. 2 OF 13 SHEETS

STOPPING SIGHT DISTANCE BASED ON:
3.5' HEIGHT OF EYE
0.5' HEIGHT OF OBJECT

27-124

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	COUNTY ROAD E SAP 62-615-11 QUANTITIES EST. FINAL	BEAM AVENUE SAP 62-619-10 QUANTITIES EST. FINAL	LYDIA AVENUE SAP 62-619-11 QUANTITIES EST. FINAL	COUNTY ROAD C SAP 62-623-29 QUANTITIES EST. FINAL	COUNTY ROAD B SAP 62-625-11 QUANTITIES EST. FINAL	LARPENTUER AVE SAP 62-630-23 QUANTITIES EST. FINAL	SILVER LAKE RD SAP 62-644-12 QUANTITIES EST. FINAL	COUNTY ROAD B2 SAP 62-678-04 QUANTITIES EST. FINAL	TOTAL C.S.A.H. PARTICIPATING QUANTITIES EST. FINAL	NON-PARTICIPATING CO. PROJ. 47353 QUANTITIES EST. FINAL	TOTAL PROJECT QUANTITIES
2021.501	MOBILIZATION	L.S.	0.13	0.13	0.12	0.12	0.13	0.12	0.12	0.13	1	0	1
(1) 2104.501	REMOVE CONC. CURB & BUTTER	L.F.	82	95	26	83	95	58	35	112	586	0	586
(2) (6) 2231.501	BITUMINOUS PATCHING MIXTURE	TON	150	23	11	53	32	45	50	77	441	15	456
0104.604	MILL BITUMINOUS SURFACE	S.Y.	2473	20730	1716	4677	6347	3893	5683	25514	71033	760	71793
2331.504	BIT. MATERIAL FOR MIXTURE	TON	0	0	0	0	0	0	5.5	0	5.5	8.5	14
2331.512	LEVELING COURSE MIXTURE	TON	0	0	0	0	0	0	103	0	103	168	271
(6) 2357.502	BIT. MATERIAL FOR TACK COAT	GAL.	1301	1917	315	880	1332	750	370	1276	8141	139	8280
2361.504	ASPHALT CEMENT	TON	99	146	24	67	102	57	28	97	620	10.5	630.5
2361.508	WEARING COURSE MIXTURE (MOD.)	TON	1574	2319	381	1065	1613	908	447	1543	9850	168	10018
(4) 0504.602	ADJUST VALVE BOX - WATER	EA.	15	0	0	5	3	3	5	0	31	0	31
(5) 2506.522	ADJ. FRAME AND RING CASTINGS	EA.	4	4	9	1	29	19	3	12	81	0	81
(1) 2531.501	CONC. C & B, DES. B618	L.F.	0	0	26	83	0	58	35	0	202	0	202
(1) 2531.501	CONC. C & B, DES. B624	L.F.	82	95	0	0	95	0	0	112	384	0	384
(3) 0565.602	LOOP DETECTOR 6 X 6	EA.	11	3	0	4	2	2	14	6	42	2	44
(3) 0565.602	LOOP DETECTOR 6 X 20	EA.	2	0	0	0	2	0	0	0	4	0	4
(3) 0565.602	LOOP DETECTOR 6 X 40	EA.	1	0	0	0	0	1	4	1	7	0	7
(3) 0565.602	LOOP DETECTOR MULTIPLE	EA.	2	0	0	0	1	0	0	2	5	0	5
0564.603	4" SOLID LINE, WHITE EPOXY	L.F.	1620	3125	0	150	585	175	0	2450	8105	0	8105
0564.603	4" BROKEN LINE, WHITE EPOXY	L.F.	1685	2025	635	1790	2395	300	0	2640	11470	0	11470
0564.603	4" SOLID LINE, YELLOW EPOXY	L.F.	6090	0	2000	7160	800	3880	0	3280	23210	0	23210
0564.603	4" BROKEN LINE, YELLOW EPOXY	L.F.	640	0	0	0	200	0	0	0	840	0	840
0564.603	PAV'T MESS. (LT & RT ARROWS)	EACH	16	25	0	2	9	2	0	21	75	0	75

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.

Robert H. Pavin

Date 8-19-96 Reg. No. 10729

NOTE: SEE SHEET 4 FOR NOTE EXPLANATIONS

ESTIMATED QUANTITIES

S.A.P. 62-615-11

SHEET NO. 3 OF 13 SHEETS

27-124

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	COUNTY ROAD E SAP 62-615-11 QUANTITIES EST. FINAL	BEAM AVENUE SAP 62-619-10 QUANTITIES EST. FINAL	LYDIA AVENUE SAP 62-619-11 QUANTITIES EST. FINAL	COUNTY ROAD C SAP 62-623-29 QUANTITIES EST. FINAL	COUNTY ROAD B SAP 62-625-11 QUANTITIES EST. FINAL	LARPENTUER AVE SAP 62-630-23 QUANTITIES EST. FINAL	SILVER LAKE RD SAP 62-644-12 QUANTITIES EST. FINAL	COUNTY ROAD B2 SAP 62-678-04 QUANTITIES EST. FINAL	TOTAL C.S.A.H. PARTICIPATING QUANTITIES EST. FINAL	NON-PARTICIPATING CO. PROJ. 47353 QUANTITIES EST. FINAL	TOTAL PROJECT QUANTITIES
2021.501	MOBILIZATION	L.S.	0.13	0.13	0.12	0.12	0.13	0.12	0.12	0.13	1	0	1
(1) 2104.501	REMOVE CONC. CURB & GUTTER	L.F.	82	95	26	83	95	58	35	112	586	0	586
(2) 2231.501	BITUMINOUS PATCHING MIXTURE	TON	150	23	11	53	32	45	50	77	441	15	456
0104.604	MILL BITUMINOUS SURFACE	S.Y.	2473	20730	1716	4677	6347	3893	5683	25514	71033	760	71793
2331.504	BIT. MATERIAL FOR MIXTURE	TON	0	0	0	0	0	0	5.5	0	5.5	8.5	14
2331.512	LEVELING COURSE MIXTURE	TON	0	0	0	0	0	0	103	0	103	168	271
(6) 2357.502	BIT. MATERIAL FOR TACK COAT	GAL.	1301	1917	315	880	1332	750	370	1276	8141	139	8280
2361.504	ASPHALT CEMENT	TON	99	146	24	67	102	57	28	97	620	10.5	630.5
2361.508	WEARING COURSE MIXTURE (MOD.)	TON	1574	2319	381	1065	1613	908	447	1543	9850	168	10018
(4) 0504.602	ADJUST VALVE BOX - WATER	EA.	15	0	0	5	3	3	5	0	31	0	31
(5) 2506.522	ADJ. FRAME AND RING CASTINGS	EA.	4	4	9	1	29	19	3	12	81	0	81
(1) 2531.501	CONC. C & G, DES. B618	L.F.	0	0	26	83	0	58	35	0	202	0	202
(1) 2531.501	CONC. C & G, DES. B624	L.F.	82	95	0	0	95	0	0	112	384	0	384
(3) 0565.602	LOOP DETECTOR 6 X 6	EA.	11	3	0	4	2	2	14	6	42	2	44
(3) 0565.602	LOOP DETECTOR 6 X 20	EA.	2	0	0	0	2	0	0	0	4	0	4
(3) 0565.602	LOOP DETECTOR 6 X 40	EA.	1	0	0	0	0	1	4	1	7	0	7
(3) 0565.602	LOOP DETECTOR MULTIPLE	EA.	2	0	0	0	1	0	0	2	5	0	5
0564.603	4" SOLID LINE, WHITE EPOXY	L.F.	1620	3125	0	150	585	175	0	2450	8105	0	8105
0564.603	4" BROKEN LINE, WHITE EPOXY	L.F.	1685	2025	635	1790	2395	300	0	2640	11470	0	11470
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0564.603	4" BROKEN LINE, YELLOW EPOXY	L.F.	640	0	0	0	200	0	0	0	840	0	840
0564.603	PAV'T NEGS. (LT & RT ARROWS)	EACH	16	25	0	2	9	2	0	21	75	0	75

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.

Robert H. Poirier

Date 8-19-86 Reg. No. 10729

NOTE: SEE SHEET 4 FOR NOTE EXPLANATIONS

ESTIMATED QUANTITIES

S.A.P. 62-615-11

SHEET NO. 3 OF 13 SHEETS

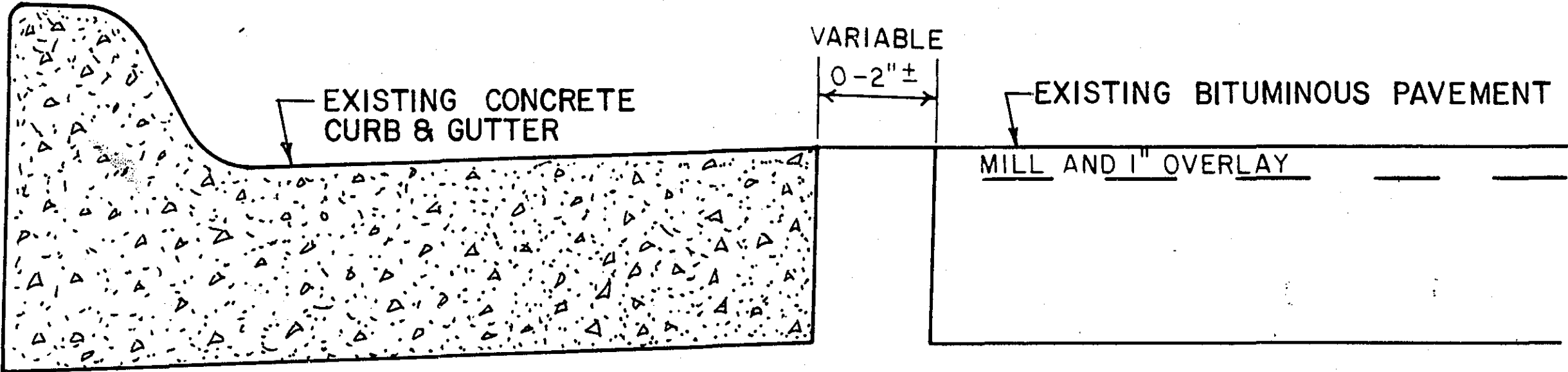
27-124

SEALING OF CONCRETE CURB AND BITUMINOUS JOINTS

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.

Robert H. Parin

DATE 3-19-86 REG. NO. 10729



NOTES

0" TO 3/4"-JOINT REPAIR SHALL BE PAID FOR AS TO 2357 TACK COAT.
3/4" TO 2"+JOINT REPAIR SHALL BE PAID FOR AS TO 2231 PATCHING MIXTURE.

QUANTITY NOTES

(1) REMOVAL AND REPLACEMENT WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. REPLACEMENT OF DAMAGED BOULEVARD AREAS WILL BE CONSIDERED INCIDENTAL TO THE WORK.

(2) TO BE PLACED AS DIRECTED BY THE ENGINEER. TO BE COMPACTED BY "METHOD OF ORDINARY COMPACTION"

(3) THE CONTRACTOR SHALL PROTECT OR REPLACE EXISTING LOOP DETECTORS DURING PAVEMENT REPAIR OPERATIONS AS DIRECTED BY THE ENGINEER. LOOP DETECTOR REPLACEMENT, WHERE AS DIRECTED BY THE ENGINEER, WILL BE PAYED FOR AS SPECIFIED IN PAY QUANTITIES. ALL LOOP DETECTORS WILL BE LOCATED BY THE COUNTY.

(4) VALVES WILL BE RAISED TO 1/2" BELOW FINISHED SURFACE.

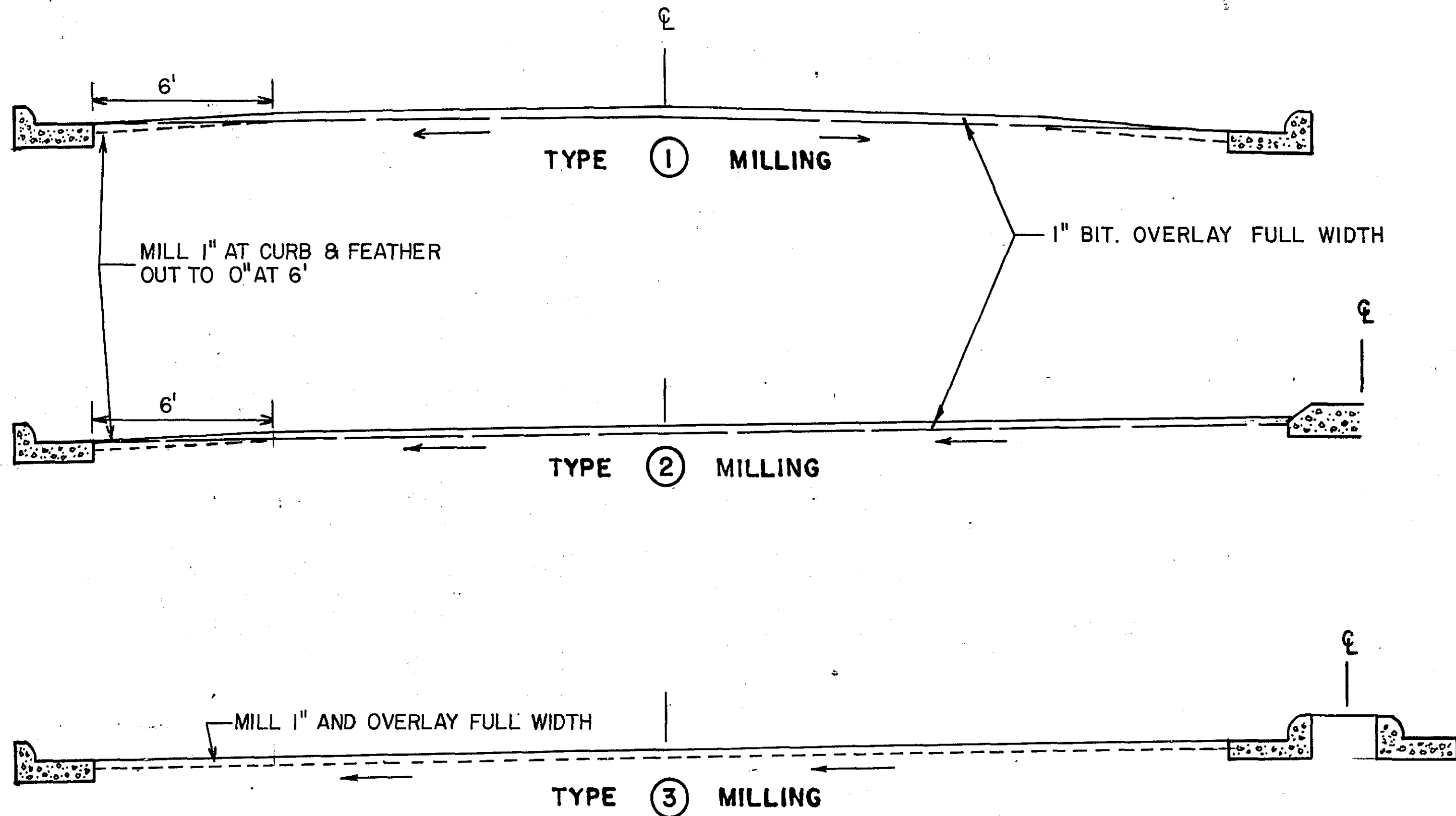
(5) STEEL ADJUSTING RINGS, SHALL BE WELDED ALL THE WAY AROUND. ADJUSTMENT HEIGHT VARIABLE.
MANHOLES IN MILLED AREAS MAY NOT NEED TO BE RAISED.

STANDARD PLATES	
PLATE NO.	DESCRIPTION
0004A	SPECIFICATION REFERENCE TO STANDARD PLATES
4108E	MANHOLE ADJUSTING RINGS
8000I	STANDARD BARRICADES
8130D	SAWCUT LOOP DETECTORS
7100 F	CONCRETE CURB & GUTTER

(6) CRACKS IN ROADWAY WILL BE CLEANED OF FOREIGN MATTER, TACKED AND FILLED WITH 2231 BITUMINOUS PATCHING MIXTURE.

DETAILS

MILLING AND OVERLAY TYPICALS (3-TYPES)



MILLING WILL TAPER FROM 1" TO NOTHING IN 20' FROM TYPE ③ TO TYPE ① MILLING

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Robert H. Paine

Date 3-19-86 Reg. No. 10729

MILLING & OVERLAY
TYPICAL SECTIONS

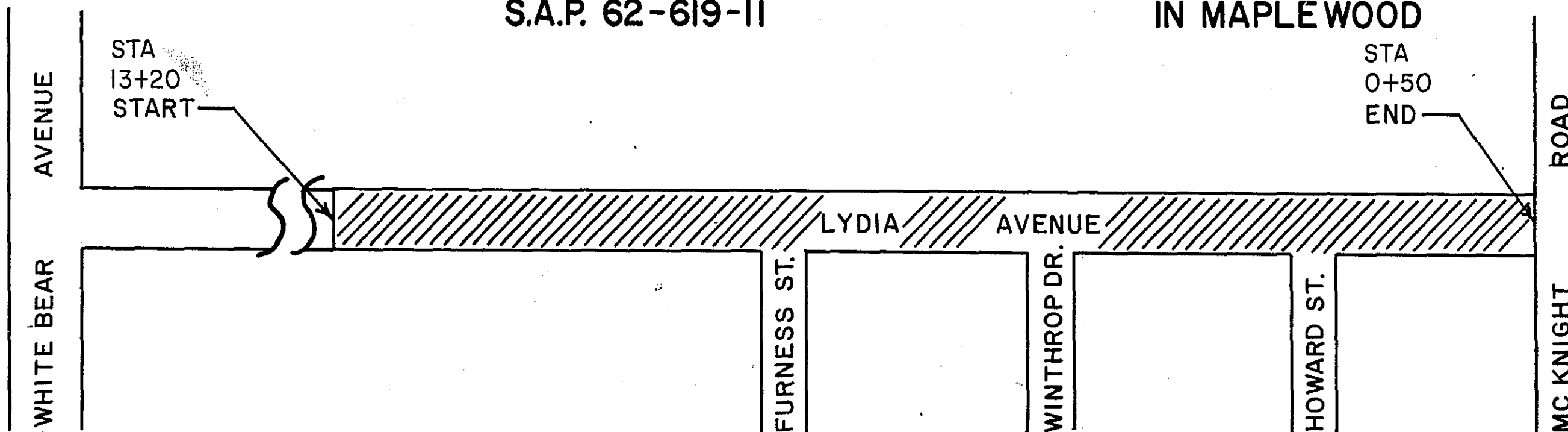
S.A.P. 62-615-II

SHEET NO. 5 OF 13 SHEETS

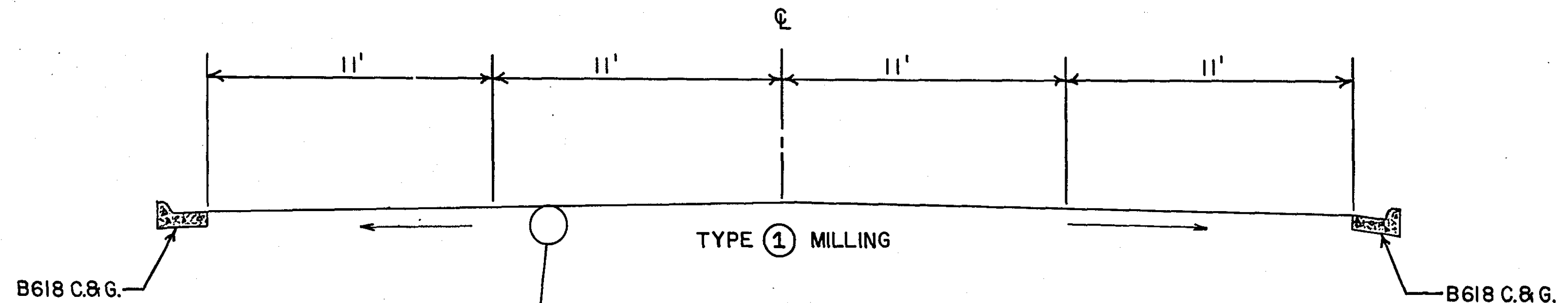
27-124

LYDIA AVENUE
 .25 MILE EAST WHITE BEAR AVE. TO MC KNIGHT RD.
 S.A.P. 62-619-II

LENGTH MILE = 0.25



TYPICAL SECTION



PROPOSED 1" PLANT-MIXED BIT SURFACE SPEC. 2361 WEAR
 1-1/2" PLANT-MIXED BIT SURFACE SPEC. 2341 WEAR
 1-1/2" PLANT-MIXED BIT SURFACE SPEC. 2341 BINDER
 8" PLANT-MIXED BIT SURFACE SPEC. 2341 BASE

SOIL FACTOR: 75%
 HCA DT : 150

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 Robert H. Paine
 Date 3-19-86 Reg. No. 10729

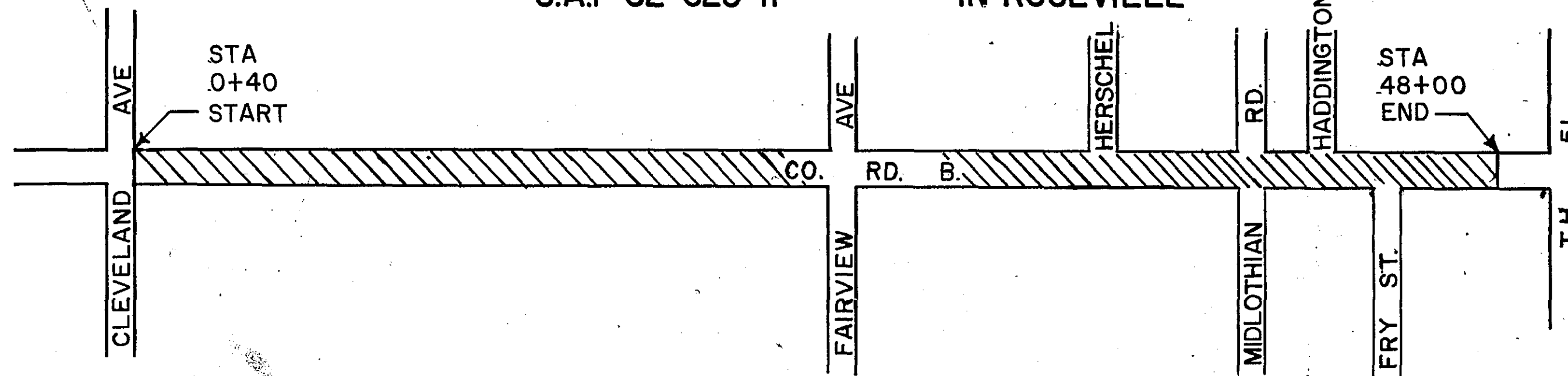
S.A.P. 62-615-II *etc*

SHEET NO. 6 OF 13 SHEETS

27-124

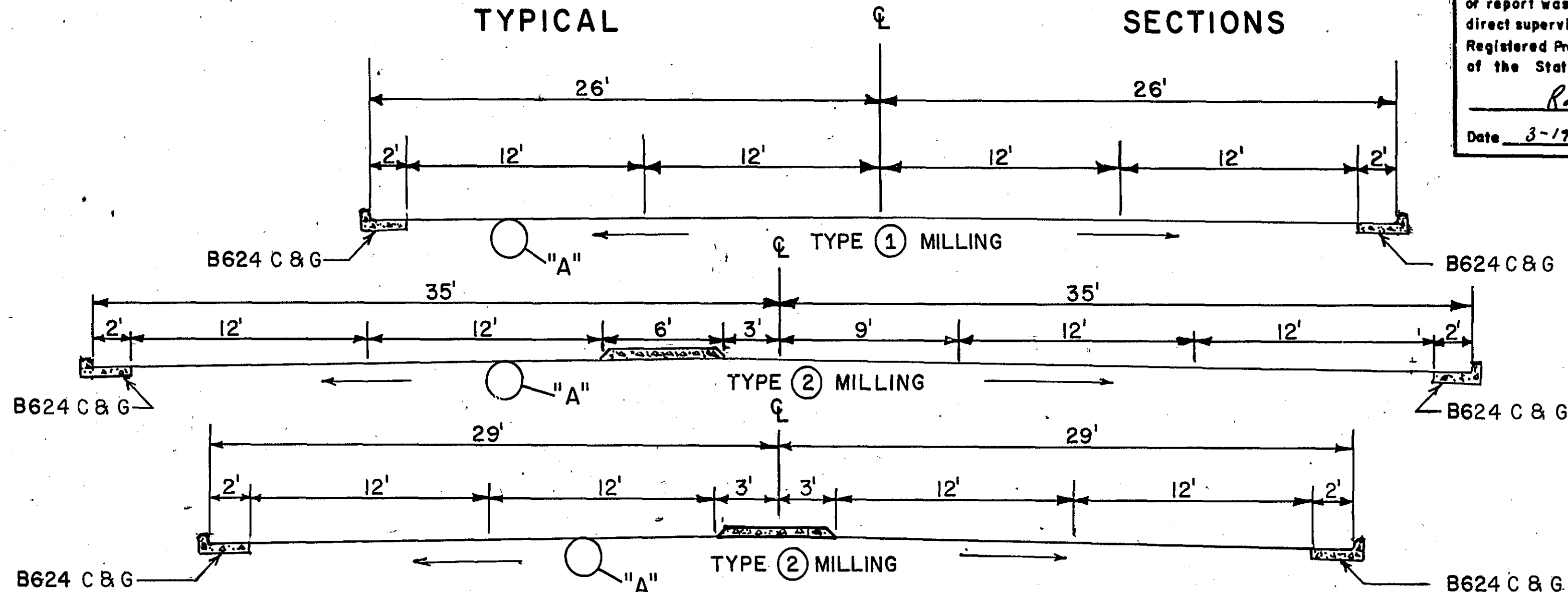
CO. RD. B.
CLEVELAND AVE TO 300' W. OF T.H. 51
S.A.P 62-625-II

LENGTH MILE=0.90



TYPICAL

SECTIONS



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Robert H. Paine

Date 3-17-86 Reg. No. 10729

SOIL FACTOR: 100% STA. 0+40 TO 17+50
125% STA. 17+50 TO 48+00
HCADT: 780

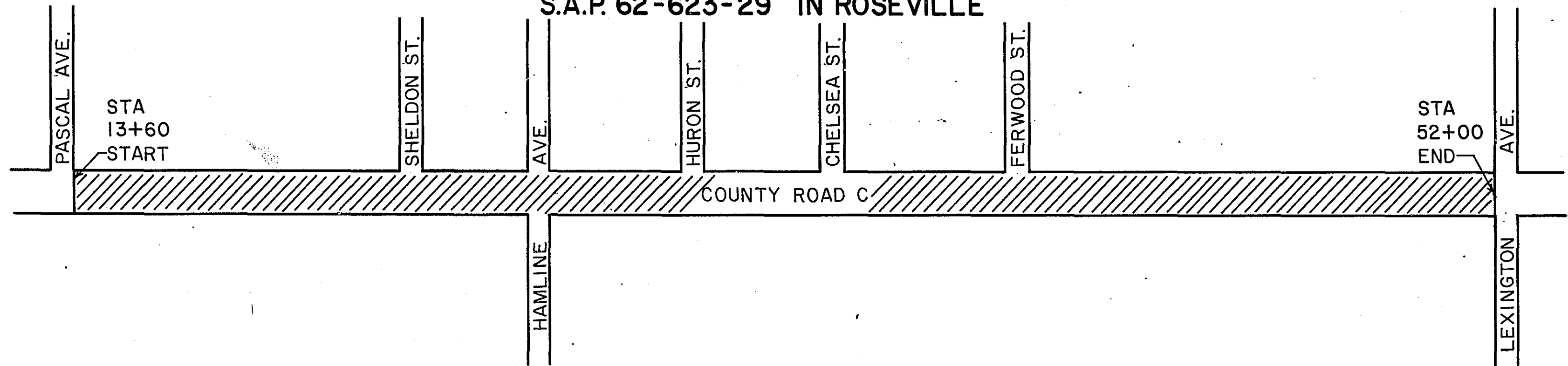
PROPOSED 1" PLANT-MIXED BIT. SURFACE SPEC. 2361 WEAR
1-1/2" PLANT-MIXED BIT. SURFACE SPEC. 2351 WEAR
2" PLANT-MIXED BIT. SURFACE SPEC. 2341 BINDER
10-1/2" PLANT-MIXED BIT. SURFACE SPEC. 2331 BASE

S.A.P. 62-615-II SHEET NO. 7 OF 13 SHEETS

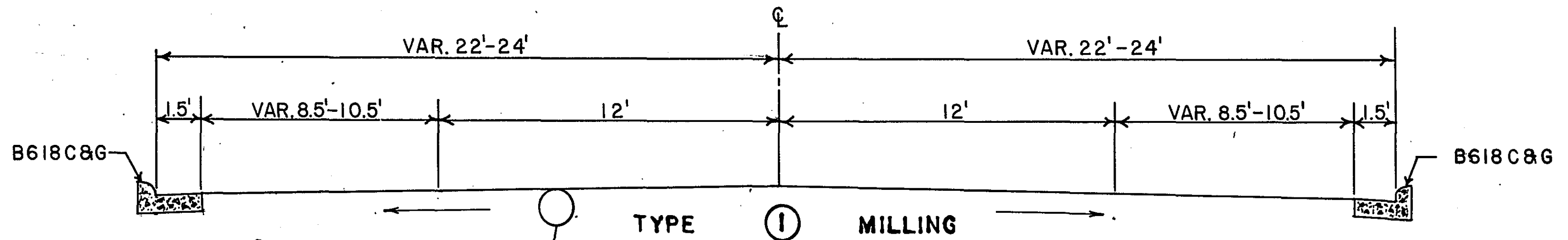
27-124

COUNTY ROAD C
PASCAL AVE. TO LEXINGTON AVE.
S.A.P. 62-623-29 IN ROSEVILLE

LENGTH MILE = 0.79



TYPICAL SECTION



PROPOSED 1" PLANT-MIXED BIT. SURFACE SPEC. 2361 WEAR
1-1/2" PLANT-MIXED BIT. SURFACE SPEC. 2341 WEAR
1-1/2" PLANT-MIXED BIT. SURFACE SPEC. 2341 BINDER
9" PLANT-MIXED BIT. SURFACE SPEC. 2331 BASE

SOIL FACTOR: 100 %
HCADT: 480

I hereby certify that this plan, specification,
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Robert H. Paine

Date 3-17-86 Reg. No. 10729

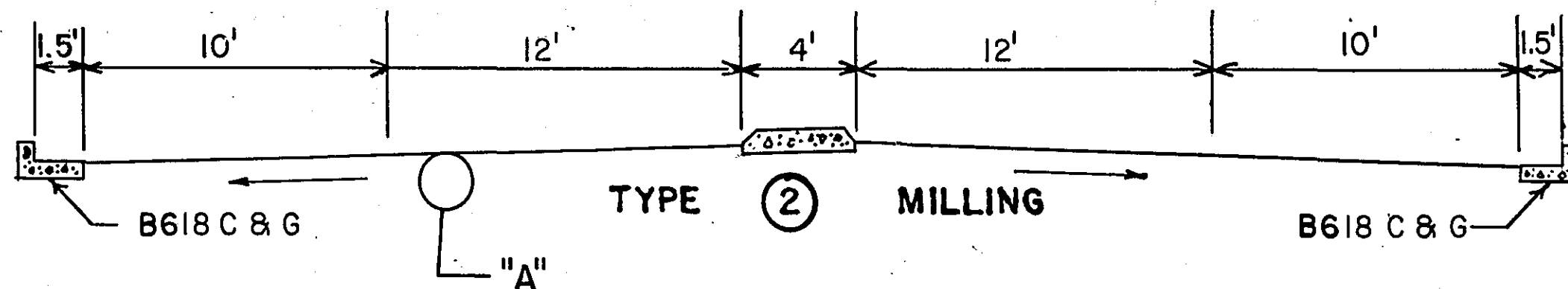
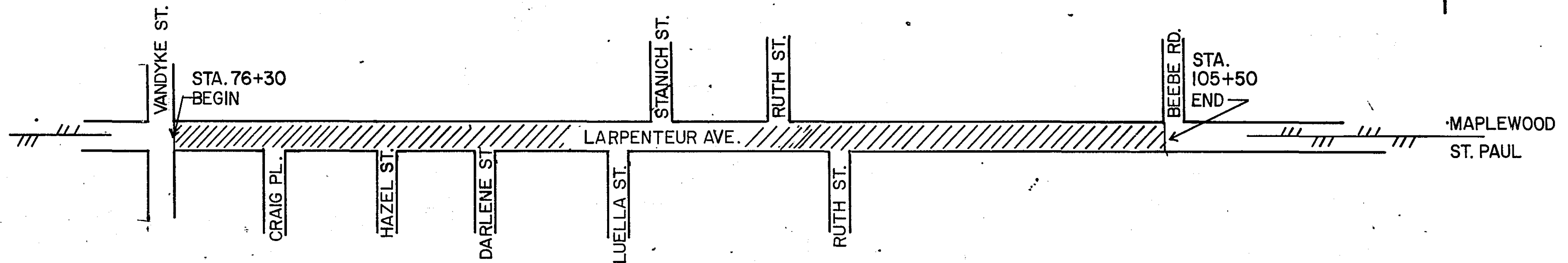
S.A.P. 62-615-11 etc

SHEET NO. 8 OF 13 SHEETS

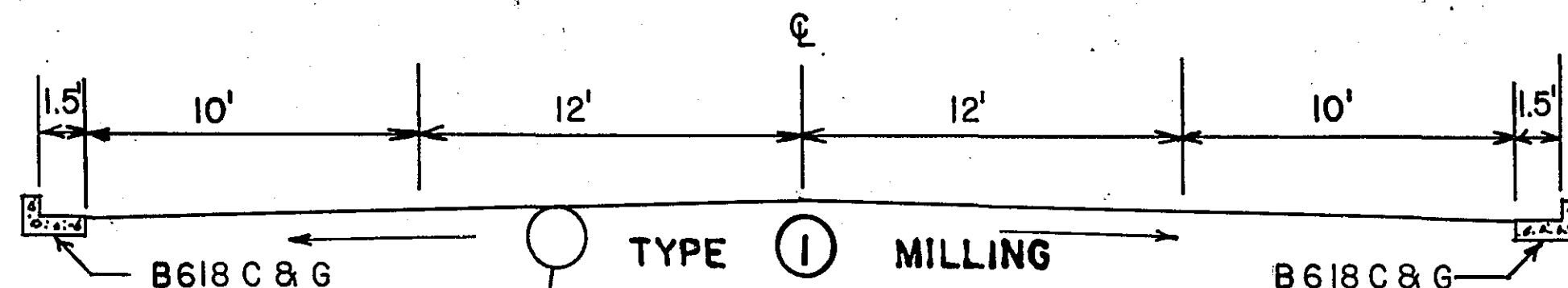
27-124

LARPENTEUR AVENUE
VANDYKE TO BEEBE ROAD
IN MAPLEWOOD AND ST. PAUL
S.A.P. 62- 630-23

LENGTH MILE = 0.55



TYPICAL SECTIONS



PROPOSED 1" PLANT-MIXED BIT. SURFACE SPEC. 2361 WEAR
1-1/2" PLANT-MIXED BIT. SURFACE SPEC. 2341 WEAR
3" PLANT-MIXED BIT. SURFACE SPEC. 2331 BASE
5" AGGREGATE BASE CLASS 6
9" AGGREGATE BASE CLASS 3

SOIL FACTOR: 100 %
HCADT: 420

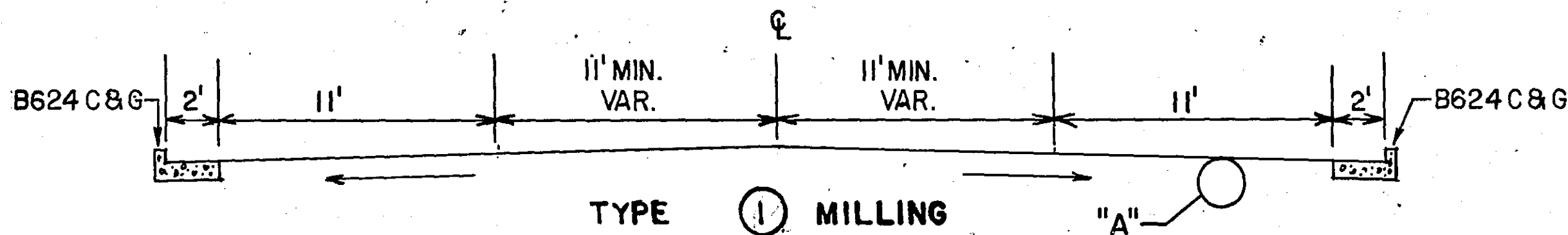
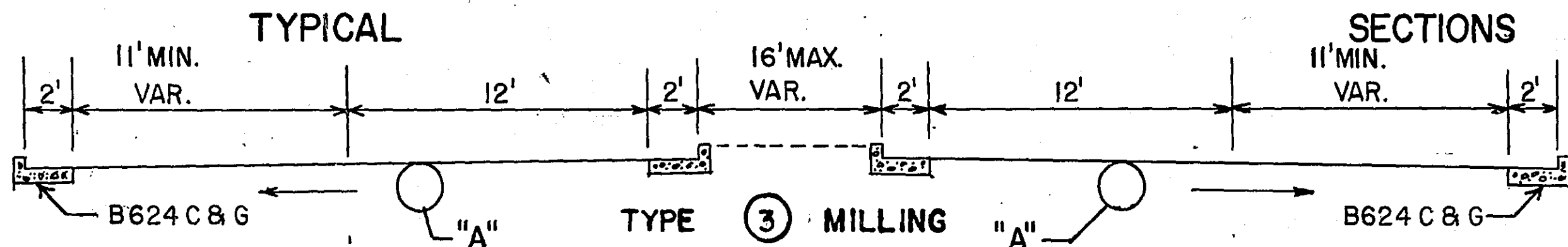
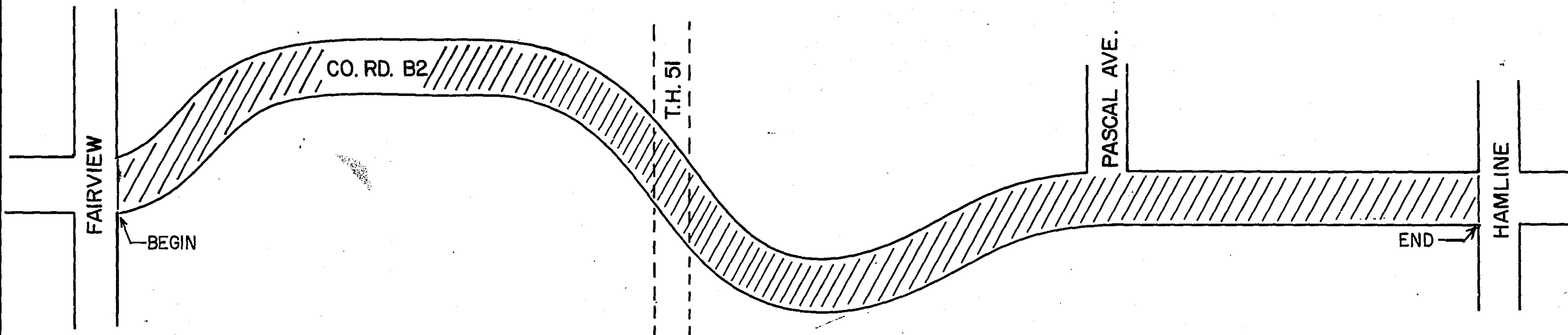
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Robert H. Paine

Date 3-19-86 Reg. No. 10729

COUNTY ROAD B2
FAIRVIEW TO HAMLINE
S.A.P. 62-678-04 IN ROSEVILLE

LENGTH MILE = 1.06



SOIL FACTOR: 75 %
HCA DT: 528

"A"

- PROPOSED 1" PLANT-MIXED BIT. SURFACE SPEC. 2361 WEAR
1-1/2" PLANT-MIXED BIT. SURFACE SPEC. 2341 WEAR
2" PLANT-MIXED BIT. SURFACE SPEC. 2341 BINDER
3-1/2" PLANT-MIXED BIT. SURFACE SPEC. 2331 BASE
6" AGGREGATE BASE, CLASS 4
6" AGGREGATE BASE, CLASS 3

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Robert H. Paine

Date 3-19-86 Reg. No. 10729

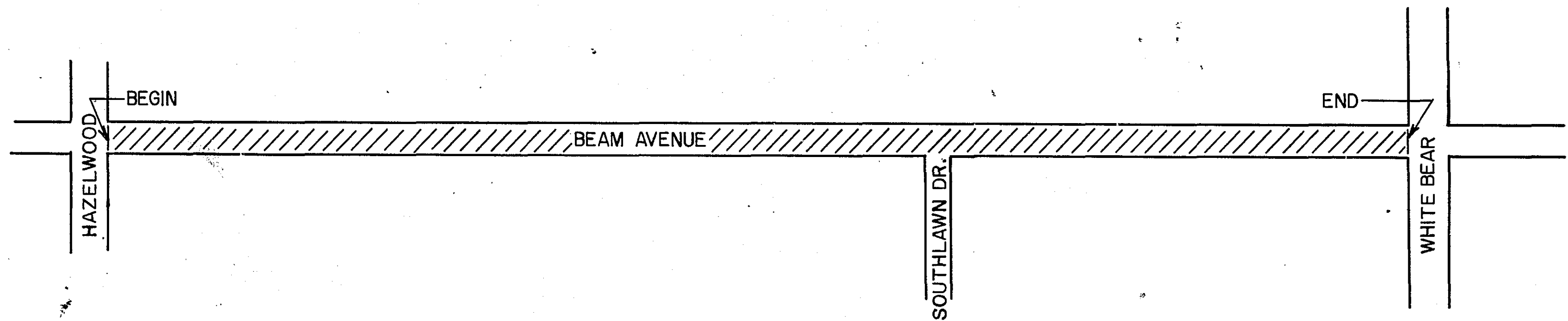
S.A.P. 62-615-11 *etc*

SHEET NO. 10 OF 13 SHEETS

27-124

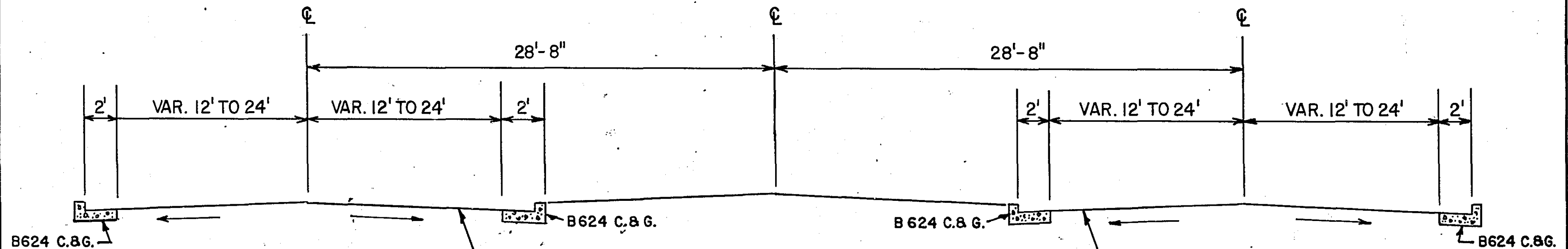
BEAM AVENUE
HAZELWOOD TO WHITE BEAR AVE.
S.A.P. 62-619-10 IN MAPLEWOOD

LENGTH MILE = 0.90



TYPICAL

SECTIONS



TYPE ① MILLING

TYPE ① MILLING

PROPOSED 1" PLANT-MIXED BIT. SURFACE SPEC. 2361 WEAR
1-1/2" PLANT-MIXED BIT. SURFACE SPEC. 2351 WEAR
2" PLANT-MIXED BIT. SURFACE SPEC. 2341 BINDER
9" PLANT-MIXED BIT. SURFACE SPEC. 2341 BASE

SOIL FACTOR : 75 %
HCADT : 660

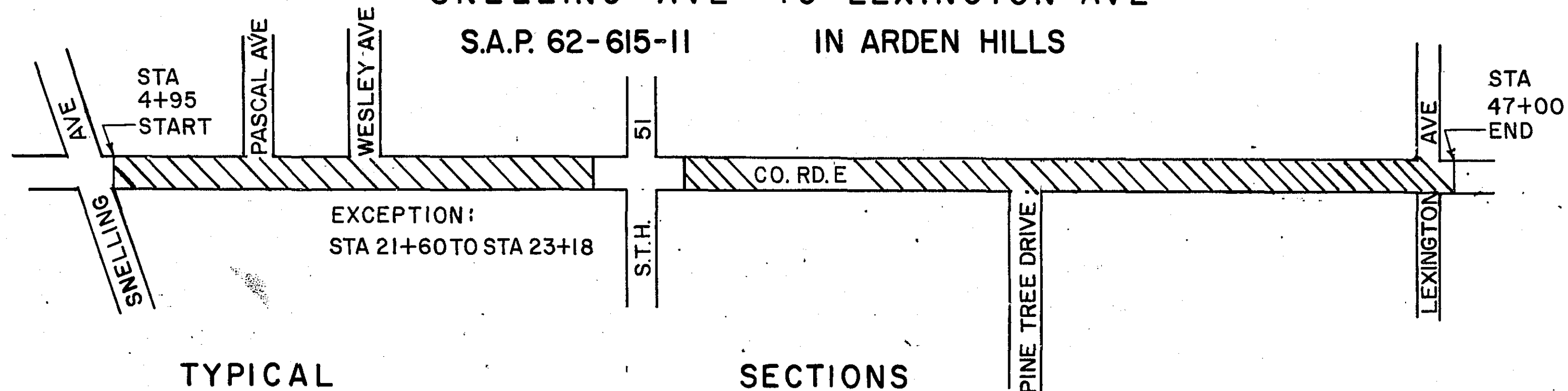
I hereby certify that this plan, specification,
or report was prepared by me or under my
direct supervision and that I am a duly
Registered Professional Engineer under the laws
of the State of Minnesota.

Robert B. Paine

Date 3-19-86 Reg. No. 10729

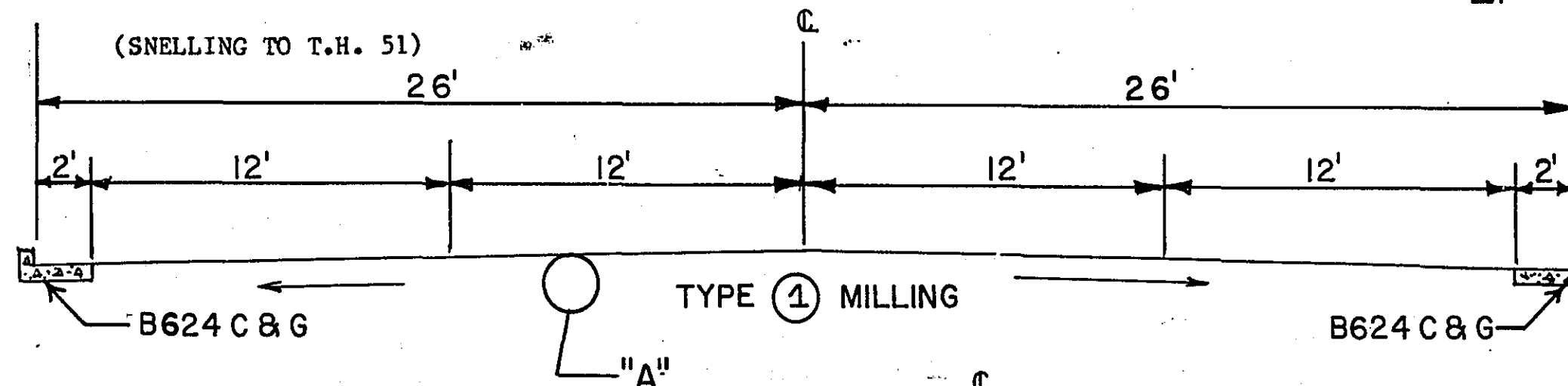
CO. RD. E
SNELLING AVE TO LEXINGTON AVE
S.A.P. 62-615-11 IN ARDEN HILLS

LENGTH MILE = 0.78

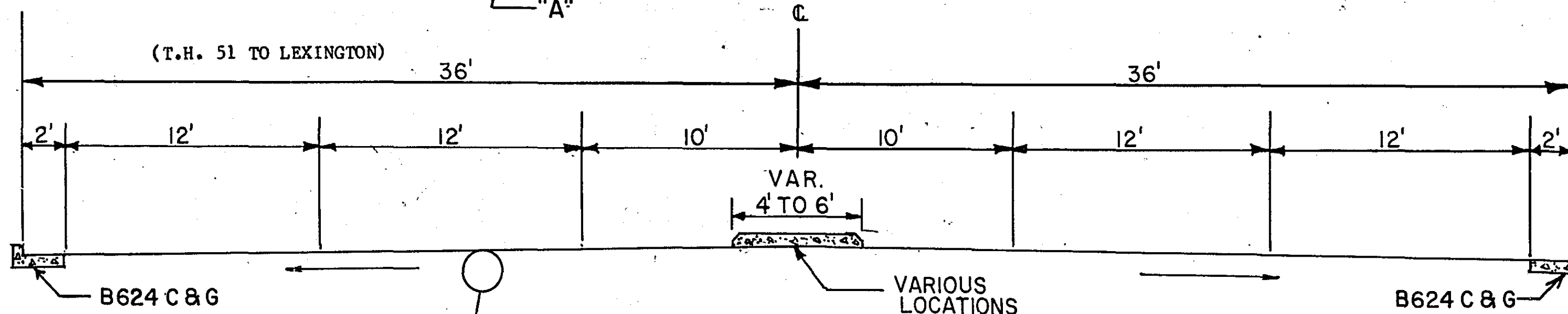


TYPICAL

SECTIONS



"A" 2" PLANT-MIXED BIT. SURFACE SPEC. 2351 WEAR
2" PLANT-MIXED BIT. SURFACE SPEC. 2341 BINDER
8" PLANT-MIXED BIT. SURFACE SPEC. 2331 BASE



TYPE (2) MILLING
PROPOSED 1" PLANT-MIXED BIT. SURFACE SPEC. 2361 WEAR
2" PLANT-MIXED BIT. SURFACE SPEC. 2361 WEAR
2" PLANT-MIXED BIT. SURFACE SPEC. 2341 BINDER
8" PLANT-MIXED BIT. SURFACE SPEC. 2331 BASE

SOIL FACTOR : 100 %
HCADT : 720

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.

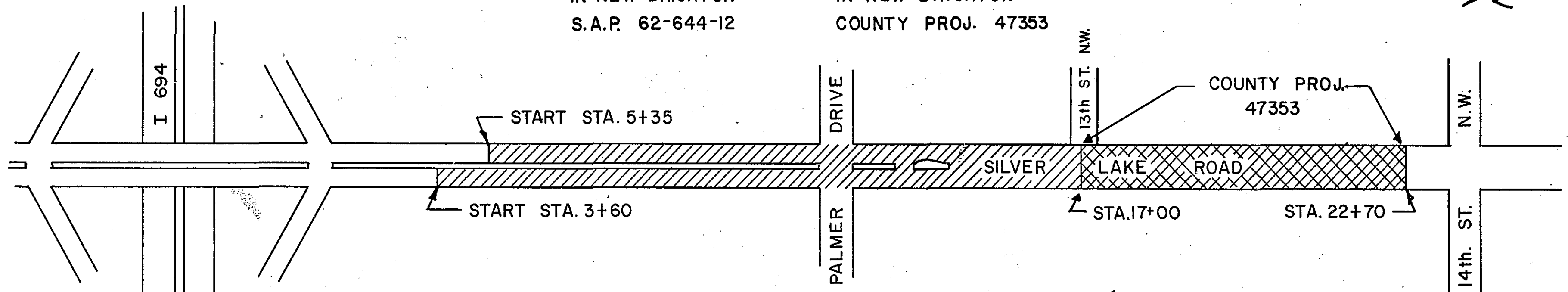
Robert H. Paine

Date 3-19-86 Reg. No. 10729

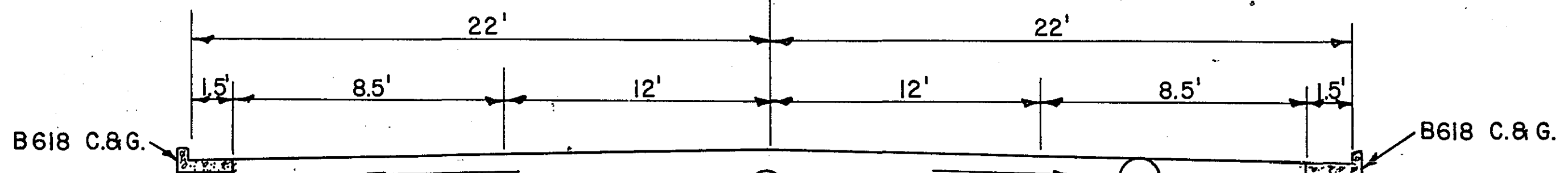
SILVER LAKE ROAD

NORTH OF I-694 TO 13th ST. N.W.
IN NEW BRIGHTON
S.A.P. 62-644-12

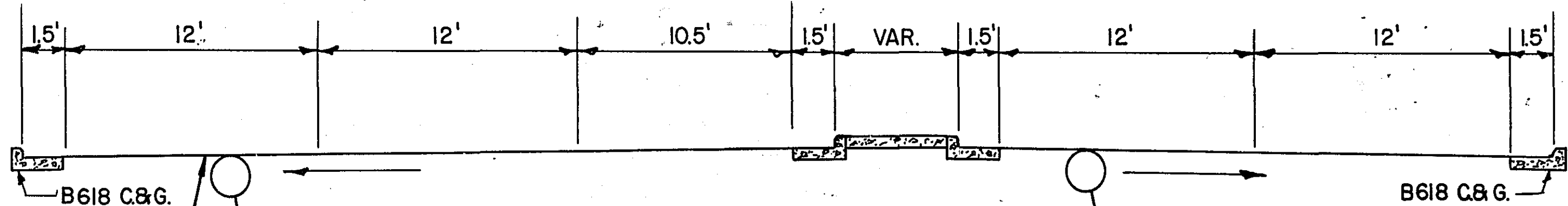
13th ST. N.W. TO 14th ST. N.W.
IN NEW BRIGHTON
COUNTY PROJ. 47353



TYPICAL SECTIONS



1-1/2" PLANT-MIXED BIT. SURFACE SPEC. 2341 WEAR
1-1/2" PLANT-MIXED BIT. SURFACE SPEC. 2341 BINDER
1-1/2" PLANT-MIXED BIT. SURFACE SPEC. 2331 BASE



PROPOSED 1" PLANT-MIXED BIT. SURFACE SPEC. 2361 WEAR
1-1/2" PLANT-MIXED BIT. SURFACE SPEC. 2341 WEAR
1-1/2" PLANT-MIXED BIT. SURFACE SPEC. 2341 BINDER
3" PLANT-MIXED BIT. SURFACE SPEC. 2331 BASE
4-1/2" AGGREGATE BASE CLASS 5
10" AGGREGATE BASE CLASS 4

1" PLANT-MIXED BIT. LEVEL COURSE (MIN) 2331

SOIL FACTOR: 100 %
HCADT: 1380

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.

Robert H. Pinner

DATE 3-19-86 REG. NO. 10729

S.A.P. 62-615-11 SHEET NO. 13 OF 13 SHEETS

27-124