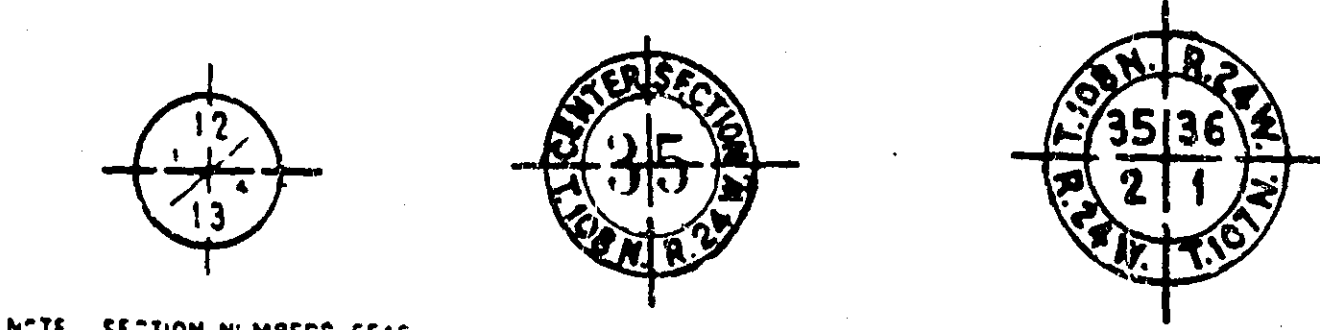


PLANS SYMBOLS

STATE LINE	-----	SPRINGS	.....
COUNTY LINE	-----	MARSH	.....
TOWNSHIP OR RANGE LINE	-----	TIMBER	(TIMBER)
SECTION LINE	-----	ORCHARD	.....
QUARTER LINE	-----	BRUSH	.....
SIXTENTH LINE	-----	NURSERY	.....
RIGHT-OF-WAY LINE	-----	CATCH BASIN	C.B. □
PRESENT RIGHT-OF-WAY LINE	-----	FIRE HYDRANT	.....
CONTROL OF ACCESS LINE	-----	CATTLE GUARD	.....
PROPERTY LINE (Except Land Lines)	-----	OVERPASS (Highway Over)	.....
VACATED PLATTED PROPERTY	-----	UNDERPASS (Highway Under)	.....
CORPORATE OR CITY LIMITS	-----	BRIDGE	.....
TRUNK HIGHWAY CENTER LINE	-----	BUILDING (One Story Frame)	.....
RETAINING WALL	-----	F-FRAME C-CONCRETE	.....
RAILROAD	-----	S-STONE T-TILE	.....
RAILROAD RIGHT-OF-WAY LINE	-----	B-BRICK ST-STUCCO	.....
RIVER OR CREEK	-----	IRON PIPE OR ROD	.....
DRY RUN	-----	MONUMENT (STONE, CONCRETE, OR METAL)	.....
DRAINAGE DITCH	-----	WOODEN HUB	.....
DRAIN TILE	-----	GRAVEL PIT	.....
CULVERT	-----	SAND PIT	.....
DROP INLET	-----	BORROW PIT	.....
GUARD RAIL	-----	ROCK QUARRY	.....
BARBED WIRE FENCE	-----		
WOODEN 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	-----		

UTILITIES SYMBOLS

POWER POLE LINE	-----	CONDUIT	-----
TELEPHONE OR TELEGRAPH POLE LINE	-----	TELEPHONE CABLE IN CONDUIT	-----
JOINT TELEPHONE AND POWER ON TELEPHONE POLES	-----	ELECTRIC CABLE IN CONDUIT	-----
ANCHOR	-----	TELEPHONE MANHOLE	.....
STEEL TOWER	-----	ELECTRIC MANHOLE	.....
STREET LIGHT	-----	BURIED TELEPHONE CABLE	T-BUR
PEDESTAL TELEPHONE CABLE TERMINAL	-----	BURIED ELECTRIC CABLE	P-BUR
GAS MAIN	-----	AERIAL TELEPHONE CABLE	T-AE
WATER MAIN	-----	SEWER (SANITARY OR STORM)	-----
		SEWER MANHOLE	.....



NOTE SECTION NUMBERS READ FROM THE SOUTH

PIT DATA

PIT NO.	Located in	.....
	Dead Haul	.....
PIT NO.	Located in	.....
	Dead Haul	.....

—SPECIFICATIONS—
THE "SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" DATED JANUARY 1, 1968 SHALL GOVERN

**OFFICE OF COUNTY ENGINEER
RAMSEY COUNTY
CONSTRUCTION PLAN
FOR GRADING AND CONCRETE SURFACING
WHITE BEAR AVE.
AND
WATER IMPROVEMENT NO. 8**

BETWEEN: COUNTY ROAD "C" AND: COUNTY ROAD "D"
FROM: A POINT 1003.90 FEET WEST OF THE SOUTH 1/4 CORNER OF SECTION 2, T.29N., R.22W. TO: A POINT 587.39 FEET WEST OF THE NORTH 1/4 CORNER OF SECTION 2, T.29N., R.22W.

GROSS LENGTH	5554 FEET	1.052 MILES
BRIDGES-LENGTH	0 FEET	0 MILES
EXCEPTIONS-LENGTH	0 FEET	0 MILES
NET LENGTH	5554 FEET	1.052 MILES

SCALES { PLAN, 1/4"=50 Feet
PROFILE, Horiz. 1/4"=50 Feet Vert. 1/4"=5 Feet
CROSS-SECTIONS, 1/4"=10 Feet
LAYOUT, 1/4"=5280 Feet

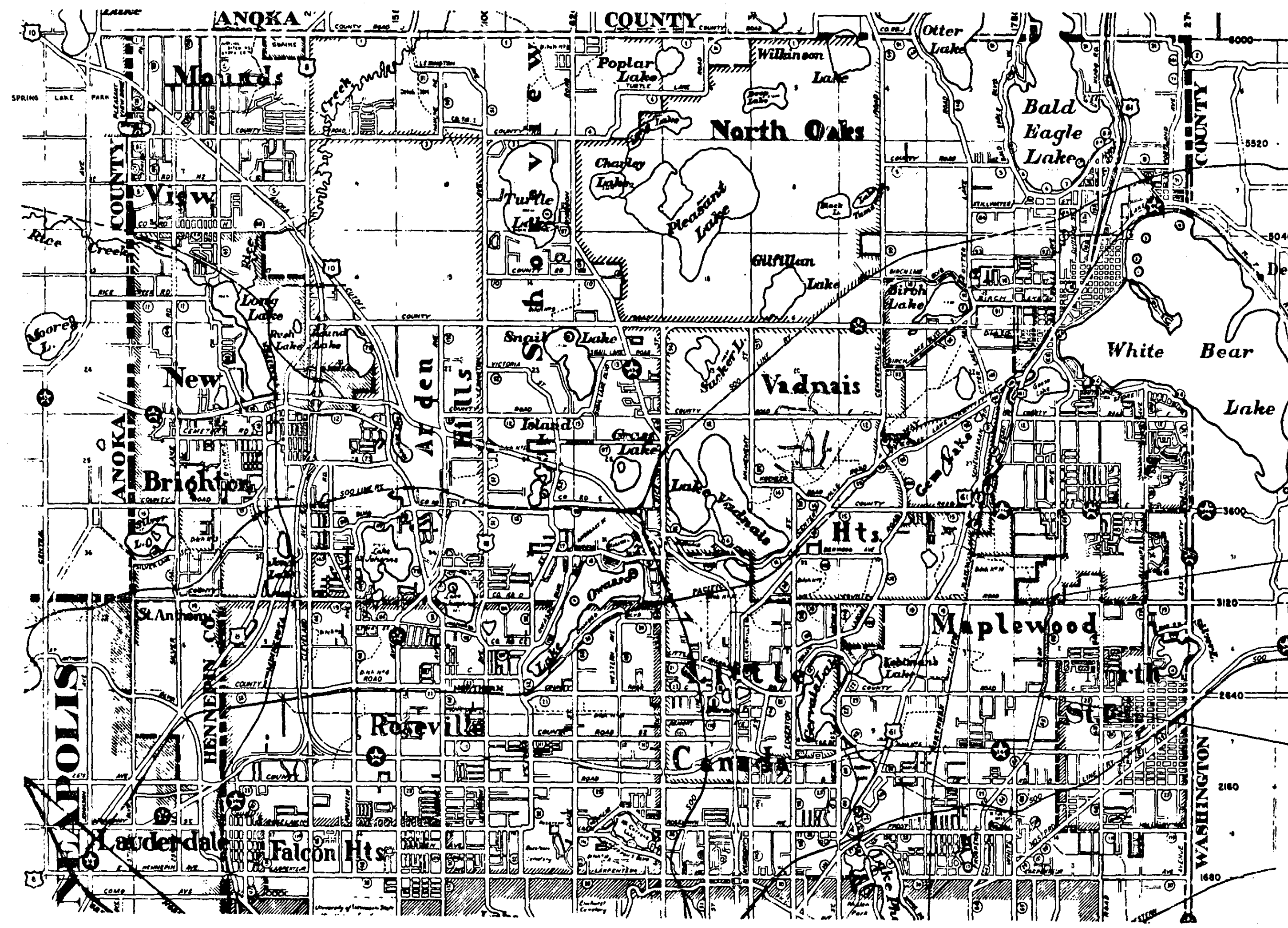
DESIGN	DESIGNATION	
A.D.T. 1967	=	6,500
A.D.T. 1985	=	24,000
DHV	=	2,400
D(DIRECTIONAL DISTRIBUTION)	=	50 %
T(HEAVY COMMERCIAL) 1985	=	4 %
DESIGN SPEED	=	50 M.P.H.
DESIGN LOAD	=	9 TON
SOIL FACTOR	=	100 %

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	TYPICAL SECTION & ESTIMATED QUANTITIES
3	DRAINAGE CHART & DETAILS
4-7	PLAN PROFILES
8-9	CONSTRUCTION PLAN
10-19	CROSS SECTIONS
20-26	WATER MAIN PLANS AND SANITARY SEWER (NON-PARTICIPATING)

S.P. 62-665-08
END MINN. PROJ. U080-1(32)
STA. 54+94

MINN. PROJ. U080-1(32)
BEGIN S.P. 62-665-08
STA. 0+(-60)



CITY OF ST. PAUL

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.
Spencer A. Gable REG. NO. 2042 DATE 3-4-69
ENGINEER

RECOMMENDED FOR APPROVAL *Dean R. Aukla* DATE 3-24-69
COUNTY ENGINEER

APPROVED *Phonak B. Bryne* DATE 4-7-69
CHAIRMAN OF THE RAMSEY COUNTY BOARD

APPROVED _____ DATE _____
MAYOR, VILLAGE OF MAPLEWOOD

MINNESOTA STATE HIGHWAY DEPARTMENT

RECOMMENDED FOR APPROVAL *C.E. Weichselbaum* DATE 4-16-69

RECOMMENDED FOR APPROVAL *J. J. Anderson* DATE 3-26-69
DISTRICT STATE AID ENGINEER

APPROVAL *Gordon M. Fry* DATE 4-16-69
STATE AID ENGINEER

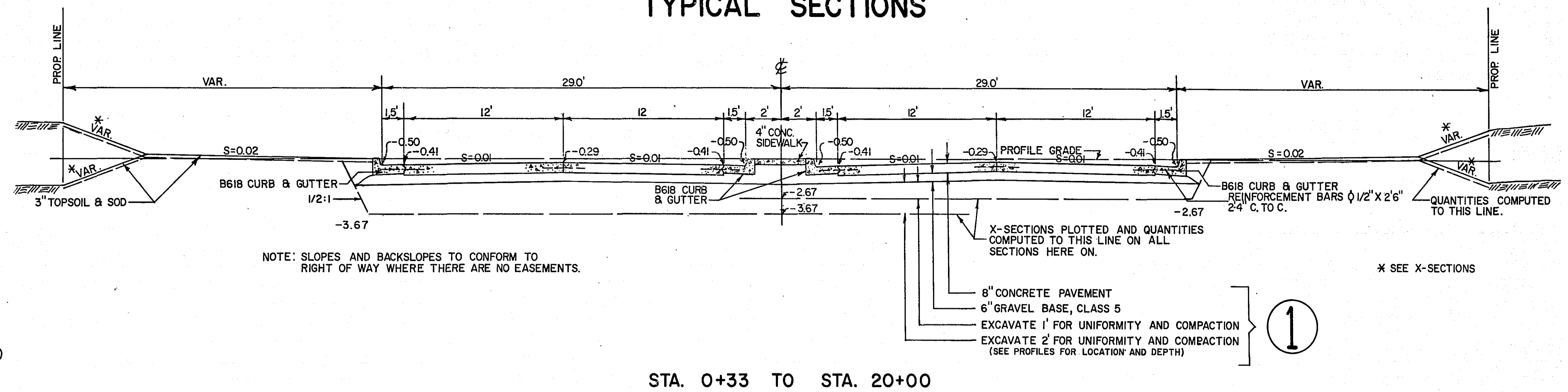
MICRO-FILMED

MICROFILMED:
RAMSEY CO. ENGR.

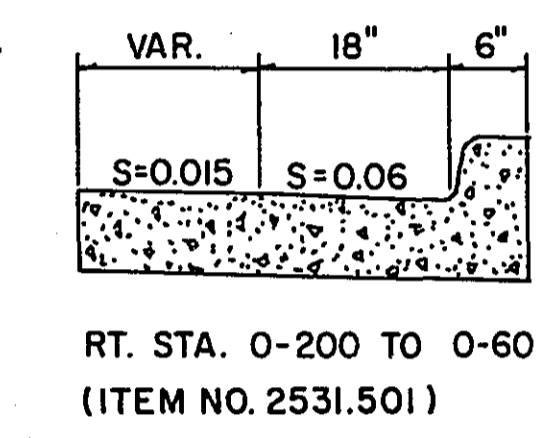
STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES
2021.501	MOBILIZATION	LUMP SUM	1
2031.503	FIELD LABORATORY, TYPE C	EACH	1
2104.510	REMOVE FENCE	L.F.	2440
2101.502	CLEARING	TREE	216
2101.507	GRUBBING	TREE	212
2104.502	REMOVE PAVEMENT	S.Y.	12,591
2104.503	REMOVE CURB AND GUTTER	L.F.	215
2104.506	REMOVE SIDEWALK	S.F.	590
2105.501	COMMON EXCAVATION	C.Y.	52,193
2105.523	COMMON BORROW	C.Y.	5,485
2130.501	WATER	(M) GAL.	200
2211.501	AGGREGATE BASE, CLASS 5	TON	15,204
2301.502	CONCRETE PAVEMENT, STANDARD WIDTH	S.Y.	32,448
2301.503	CONCRETE PAVEMENT, IRREGULAR WIDTH	S.Y.	3,935
2301.511	STRUCTURAL CONCRETE	C.Y.	8,075
2301.529	REINFORCEMENT BARS	POUND	29,000
2301.531	STANDARD JOINTS, DESIGN L-1	L.F.	11,108
2301.531	STANDARD JOINTS, DESIGN L-6	L.F.	19,936
2301.531	STANDARD JOINTS, DESIGN L-8	L.F.	5,578
2301.531	STANDARD JOINTS, DESIGN C-1	L.F.	15,604
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	17
2331.508	WEARING COURSE MIXTURE	TON	287
2451.503	GRANULAR BACKFILL	C.Y.	1918
2411.501	CONCRETE, MIX 3A32	C.Y.	3
2503.502	15" REINFORCED CONCRETE PIPE SEWER CL. II	L.F.	2606
2503.502	18" REINFORCED CONCRETE PIPE SEWER CL. II	L.F.	1531
2503.502	21" REINFORCED CONCRETE PIPE SEWER CL. II	L.F.	167
2506.506	CONSTRUCT MANHOLE DESIGN J	L.F.	8.8
2506.506	CONSTRUCT MANHOLE DESIGN A OR F	L.F.	5.9
2506.509	CONSTRUCT CATCH BASINS DESIGN RC-2	STRUCTURE	44
2506.509	CONSTRUCT CATCH BASINS DESIGN LP-5N	STRUCTURE	4
2506.511	RECONSTRUCT MANHOLES	L.F.	5.1
2506.516	CASTING ASSEMBLIES	ASSEMBLY	16
2506.521	INSTALL CASTINGS	ASSEMBLY	1
2506.522	ADJUST FRAME AND RING CASTING	ASSEMBLY	19
2501.536	15" CONCRETE APRONS	APRON	2
2521.501	4" CONCRETE WALK	S.F.	37,480
2531.501	CONCRETE CURB AND GUTTER DESIGN B618	L.F.	21,184
2531.501	CONCRETE CURB AND GUTTER DESIGN B636	L.F.	140
2531.503	CONCRETE MEDIAN	S.Y.	39
2531.507	7" CONCRETE DRIVEWAY PAVEMENT	S.Y.	140
2531.507	6" CONCRETE DRIVEWAY PAVEMENT	S.Y.	205
2535.501	BITUMINOUS CURB	L.F.	64
2575.505	SODDING	S.Y.	29,500
2575.531	COMMERCIAL FERTILIZER, ANALYSIS 12-12-12	TON	2.1
565.632	CONCRETE HANDHOLES	HANDHOLE	33
565.635	RIGID METALLIC CONDUIT, 3"	L.F.	1400
565.618	SIGNAL PEDESTAL FOUNDATION	FOUNDATION	1
504.679	ADJUST VALVE BOX	BOX	5
123.603	RENTAL, BACKHOE	HOUR	20
503.665	RELOCATE SANITARY SEWER SERVICE	L.F.	100
NON-PARTICIPATING SANITARY SEWER AND WATERMAIN			
2461.501	CONCRETE, MIX NO. 3B42	C.Y.	5
2503.503	12" CLAY SEWER, EXTRA STRENGTH	L.F.	190
2503.503	8" CLAY SEWER, EXTRA STRENGTH	L.F.	290
2506.506	CONSTRUCT MANHOLE, DESIGN A OR F	L.F.	139
2506.516	CASTING ASSEMBLIES	ASSEMBLY	10
2506.521	INSTALL CASTING ASSEMBLIES	ASSEMBLY	8
2451.505	GRAVEL BACKFILL	C.Y.	20
503.688	SANITARY SEWER SERVICE CONNECTION, 4" CISP	L.F.	490
503.688	SANITARY SEWER SERVICE CONNECTION, 6" CISP	L.F.	80
504.601	12" WATERMAIN CISJ CLASS 150	L.F.	5688
504.601	8" WATERMAIN CISJ CLASS 150	L.F.	198
504.601	6" WATERMAIN CISJ CLASS 150	L.F.	575
504.622	12" WATER GATE VALVE	EACH	12
504.622	8" WATER GATE VALVE	EACH	1
504.622	6" WATER GATE VALVE	EACH	6
504.614	HYDRANTS (INCL. 6" GATE VALVES)	HYDRANT	10
504.620	CAST IRON FITTINGS	POUND	12,000
504.630	1" CORPORATION COCK	CONNECTION	30
504.634	1" WATER VALVE AND BOX	ASSEMBLY	30
504.612	1" COPPER WATER SERVICE CONNECTION	L.F.	2325
503.657	CONCRETE ENCASMENT	L.F.	18
2503.502	88" SPAN REINFORCED CONCRETE PIPE SEWER CL. II	L.F.	300
2501.537	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH, 88" SPAN	APRON	2

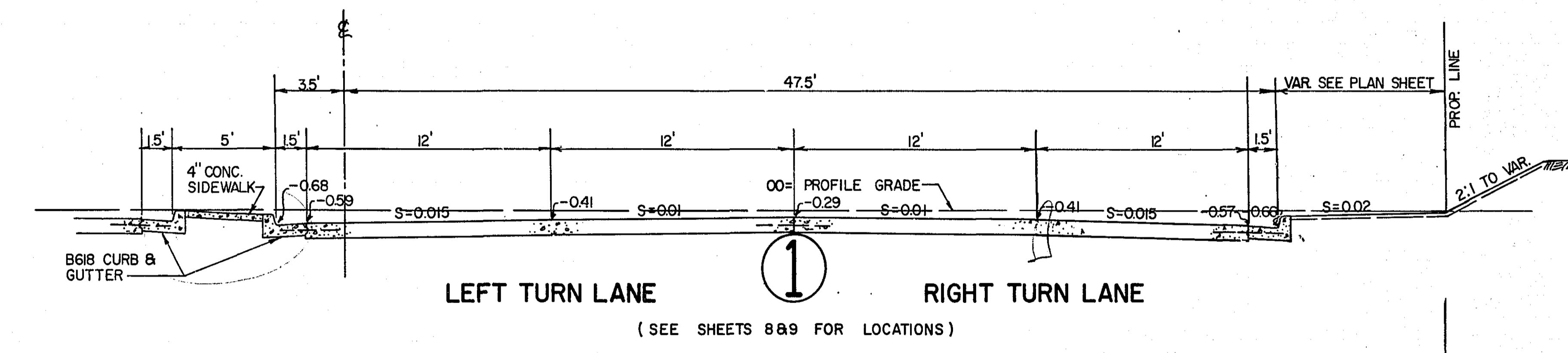
TYPICAL SECTIONS



STA. 0+33 TO STA. 20+00

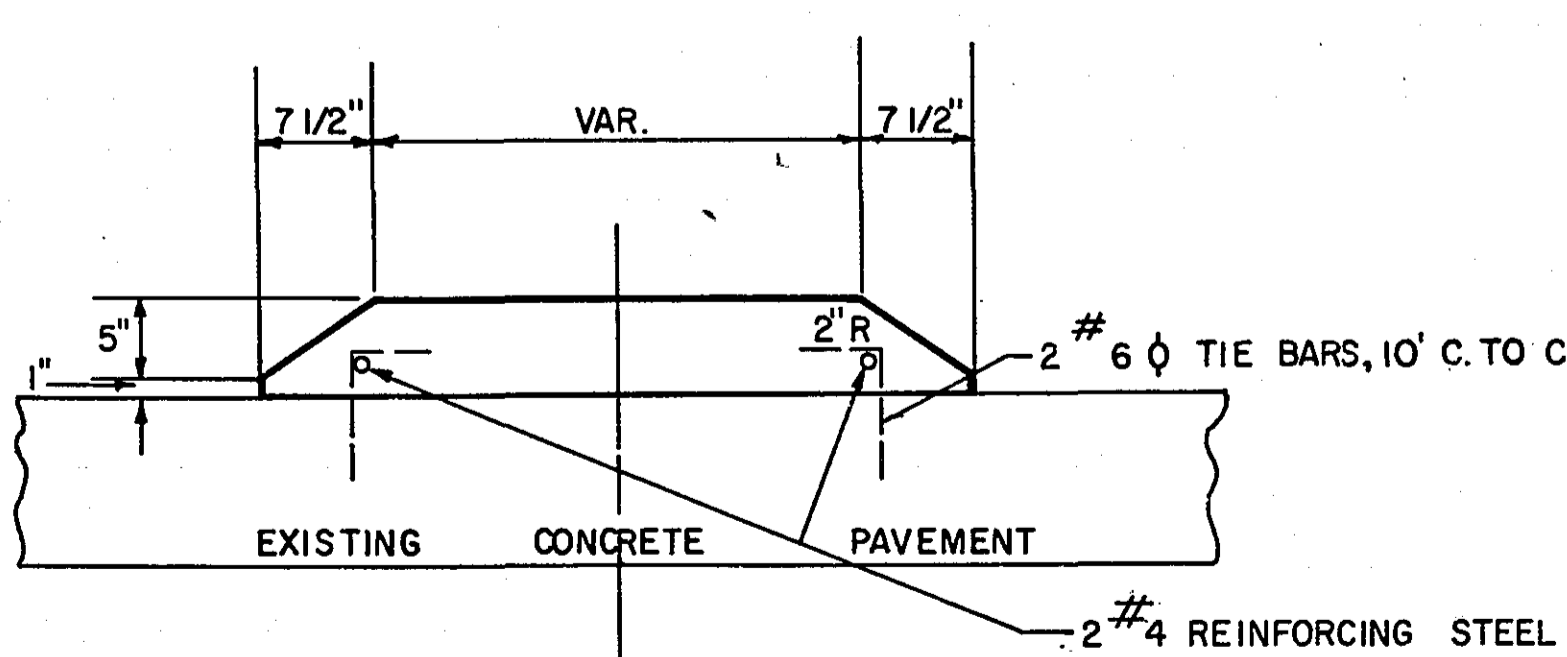
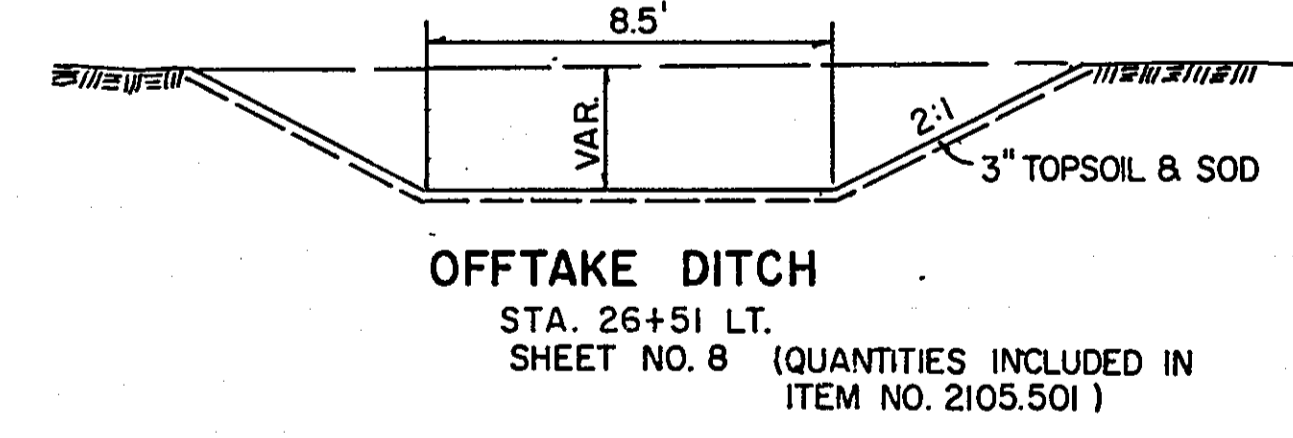


RT. STA. 0-200 TO 0-60 (ITEM NO. 2531.501)



STA. 20+00 TO STA. 54+94

- ① FOR CHECKING DEPTH OF INPLACE SANITARY SEWER LINES.
- ② INCLUDES 400 L.F. TO BE CONSTRUCTED WITH REINFORCING BARS 1/2" φ X 2'6"-2'4" C. TO C.
- ③ TO BE USED AS DIRECTED BY THE ENGINEER AS REQUIRED FOR SUPPORT OR PROTECTION OF SEWER CROSSINGS.

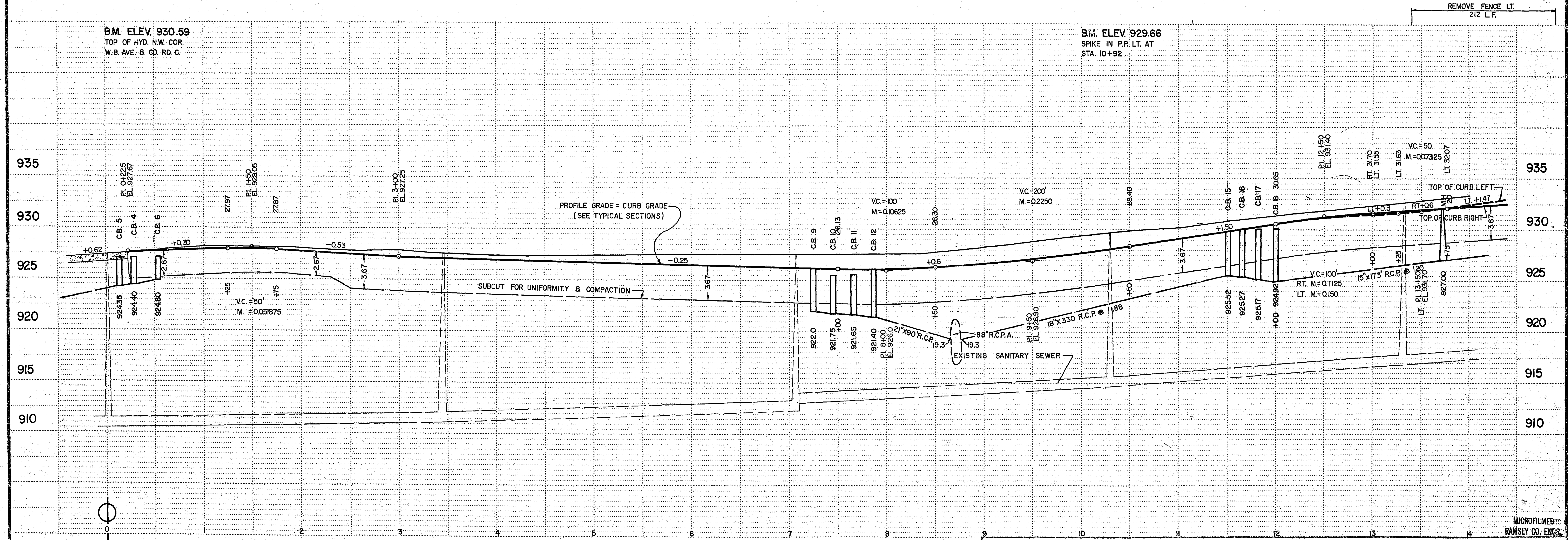
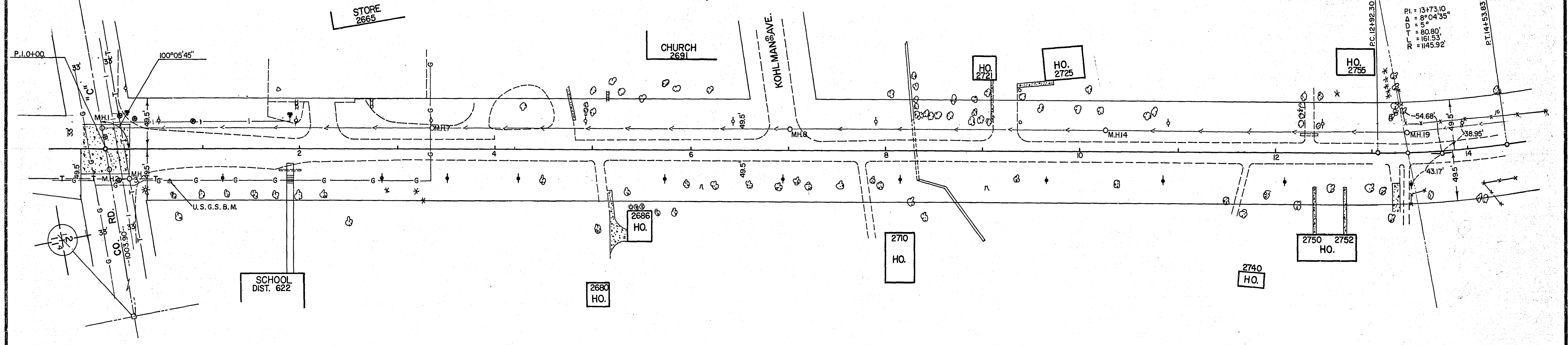


CONCRETE MEDIAN TIE BARS. DRILL 1" DIAMETER HOLES FOR TIE BARS. BACKFILL HOLES WITH GROUT CONSISTING OF 2 PARTS CEMENT SAND AND 1 PART PORTLAND CEMENT. POUND TIE BARS INTO HOLES IMMEDIATELY AFTER GROUT IS PLACED. GROUTING AND PLACING TIE BARS SHALL BE DONE IN CONJUNCTION WITH PLACEMENT OF CONCRETE FOR CONCRETE MEDIAN.

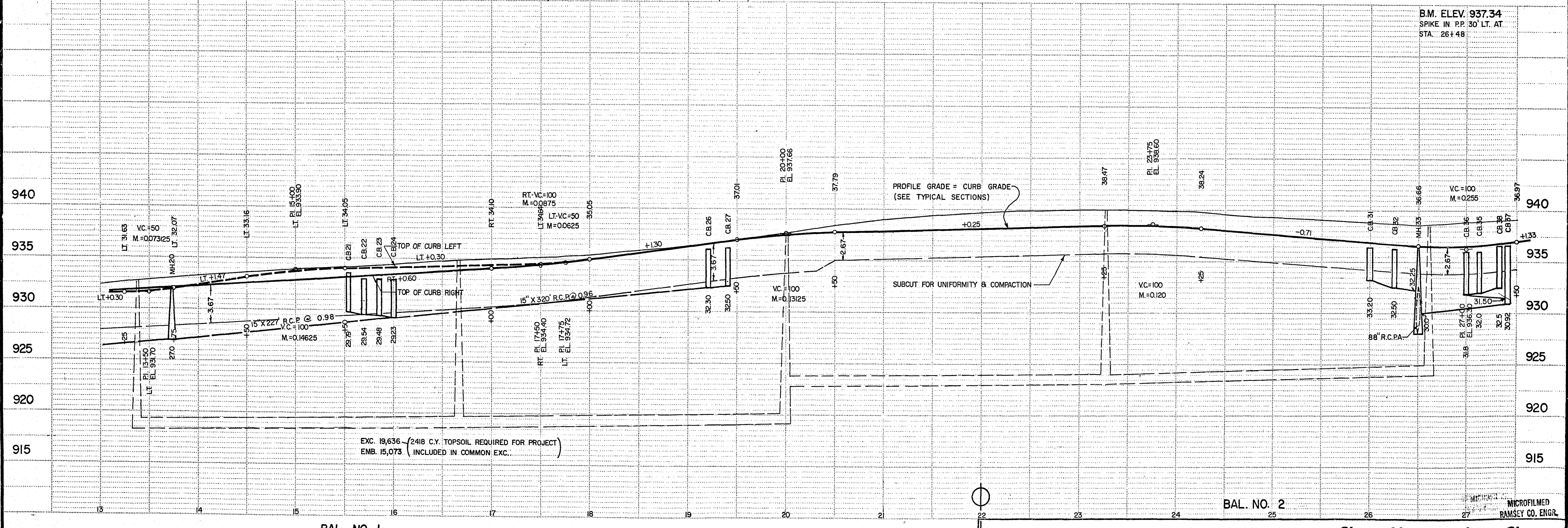
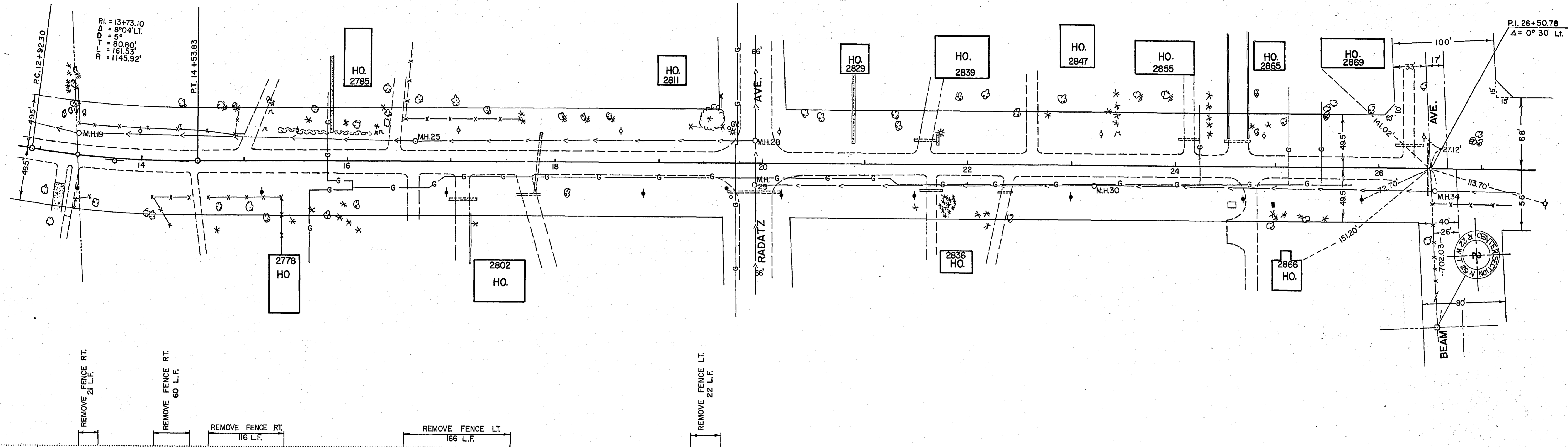
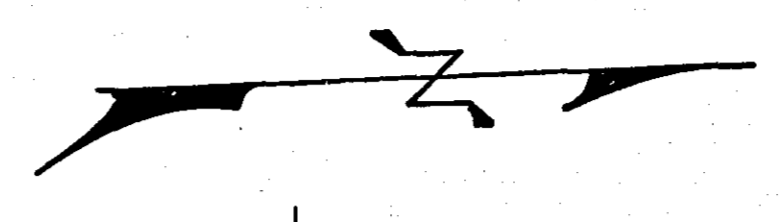
SOUTH OF CO. RD. "C"

STANDARD DETAIL PLATES

1016 B	CONCRETE PAVEMENT NON-REINFORCED
1070 E	REINFORCED PANEL OVER CULVERTS
1100 G	EXPANSION JOINTS
1120 J	CONTRACTION JOINTS
1140 I	LONGITUDINAL JOINTS
1141 B	PAVEMENT KEYWAY FOR KEYED JOINT CONSTRUCTION
1150 J	CONSTRUCTION OF HEADER JOINTS
3000 F	REINFORCED CONCRETE PIPE
3100 E	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
4000 G	MANHOLE OR CATCH BASIN
4005 H	MANHOLE OR CATCH BASIN
4009 E	MANHOLE OR CATCH BASIN
7065 D	BITUMINOUS CURB
4016 C	CURB OPENING CATCH BASIN
4102 C	MANHOLE OR CATCH BASIN RING CASTING
4110 D	COVER CASTING FOR MANHOLE
4180 F	MANHOLE STEP CASTING
7100 D	CONCRETE CURB & GUTTERS
7105 C	CONCRETE MEDIAN
7110 E	CURB & GUTTER CONSTRUCTION AT CATCH BASINS
7111 D	INSTALLATION OF CATCH BASIN CASTINGS
8000 C	STANDARD BARRICADES
8008 C	CONTRACTOR'S SIGN
8112 A	PEDESTAL FOUNDATION
8117 A	PRECAST CONCRETE HANDHOLES
9102 B	SODDING AT PIPE CULVERT ENDS
3014 D	REINFORCED CONCRETE PIPE-ARCH
3110 C	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
0010 A	SPECIFICATION REFERENCE TO STANDARD PLATES.



MICROFILMED BY RAMSEY CO. ENTG.



BAL. NO. 1

BAL. NO. 2

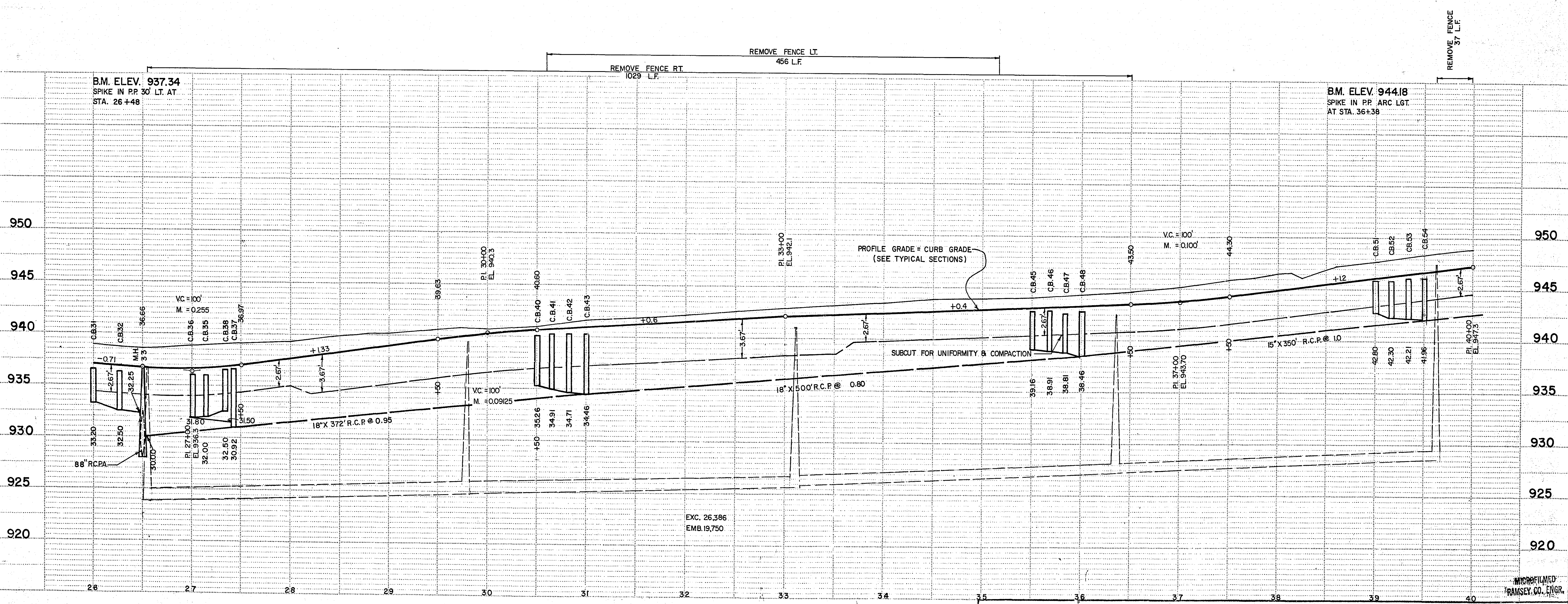
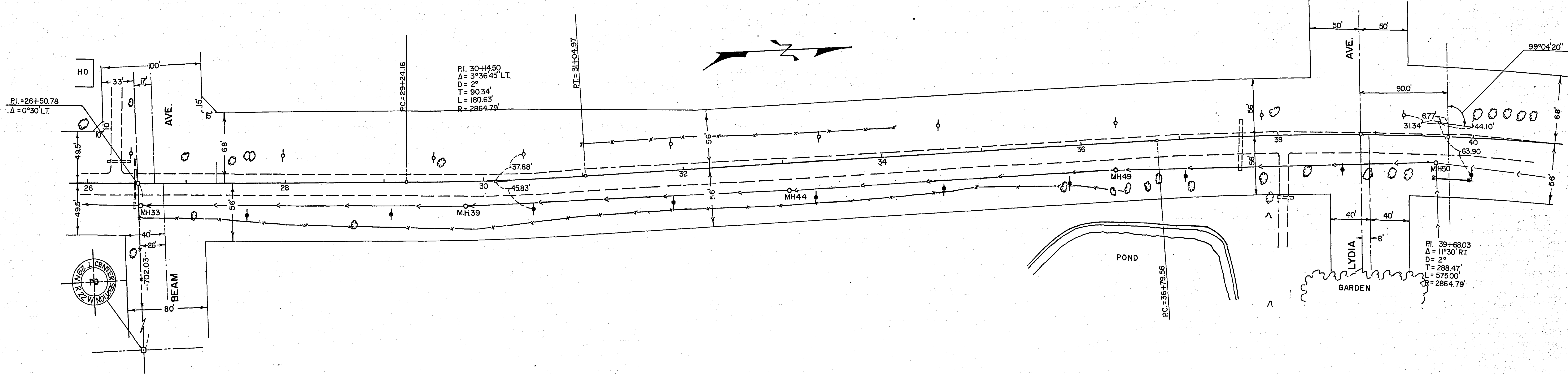
S. P. No. 62-665-08

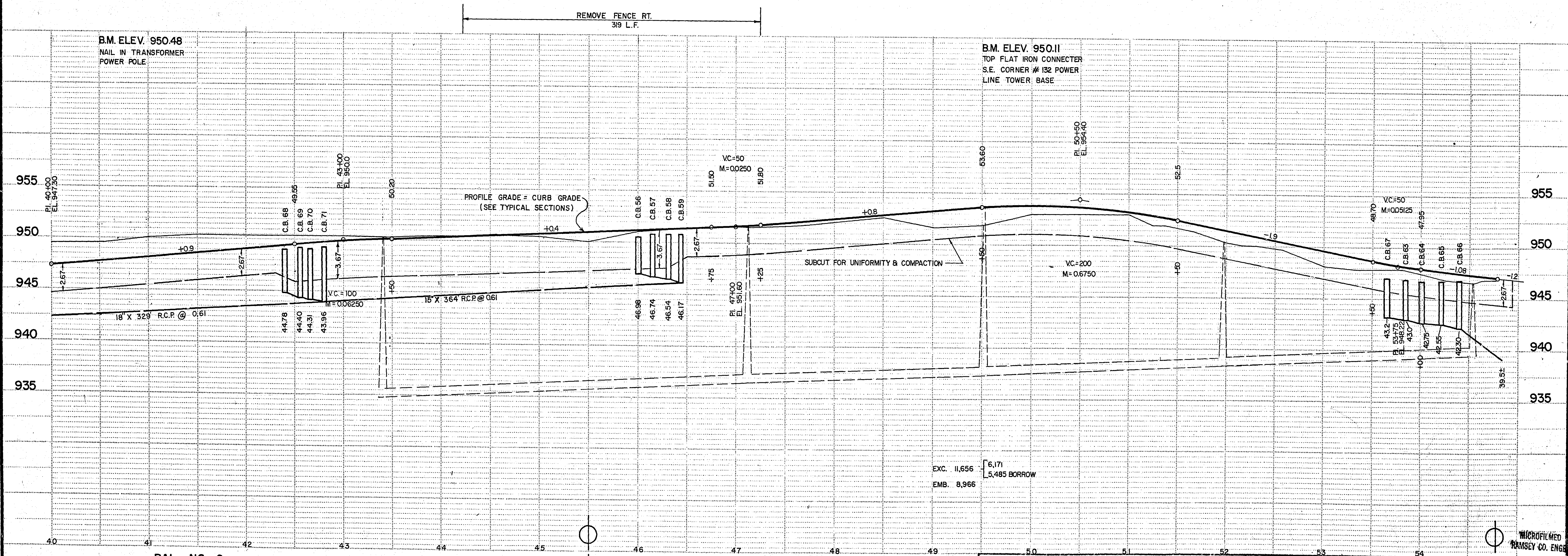
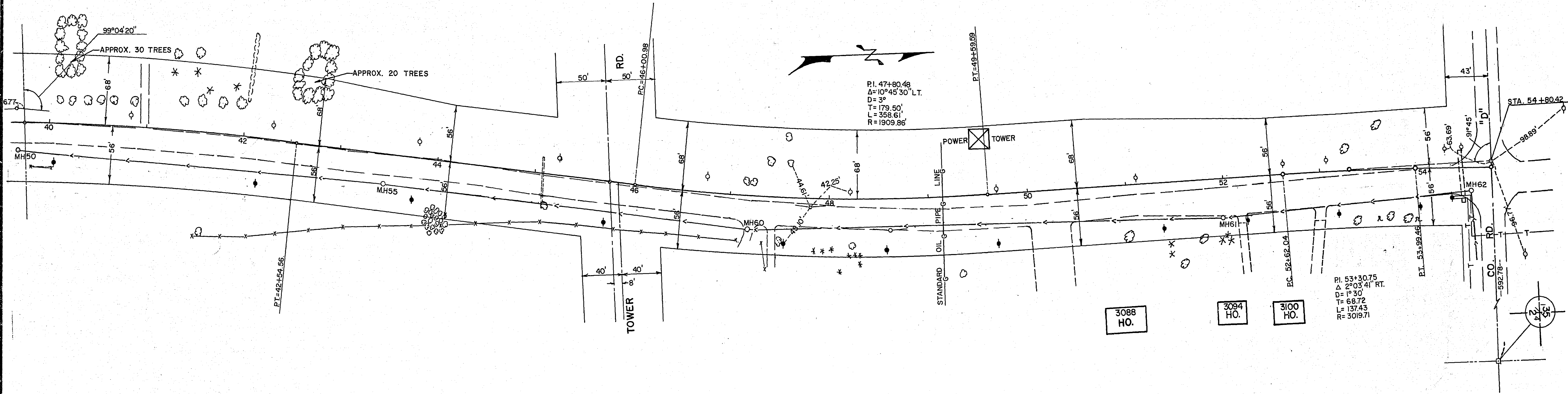
Sheet No. 5 of 26 Sheets

6887

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RAMSEY CO. ENGR.

NORSTAR © No. 102 - ST. PAUL - MINNEAPOLIS, MINNESOTA ©





NORTH STAR 8100 102 ST. PAUL - MINNEAPOLIS, MINNESOTA ©

BAL. NO. 2

BAL. NO. 3

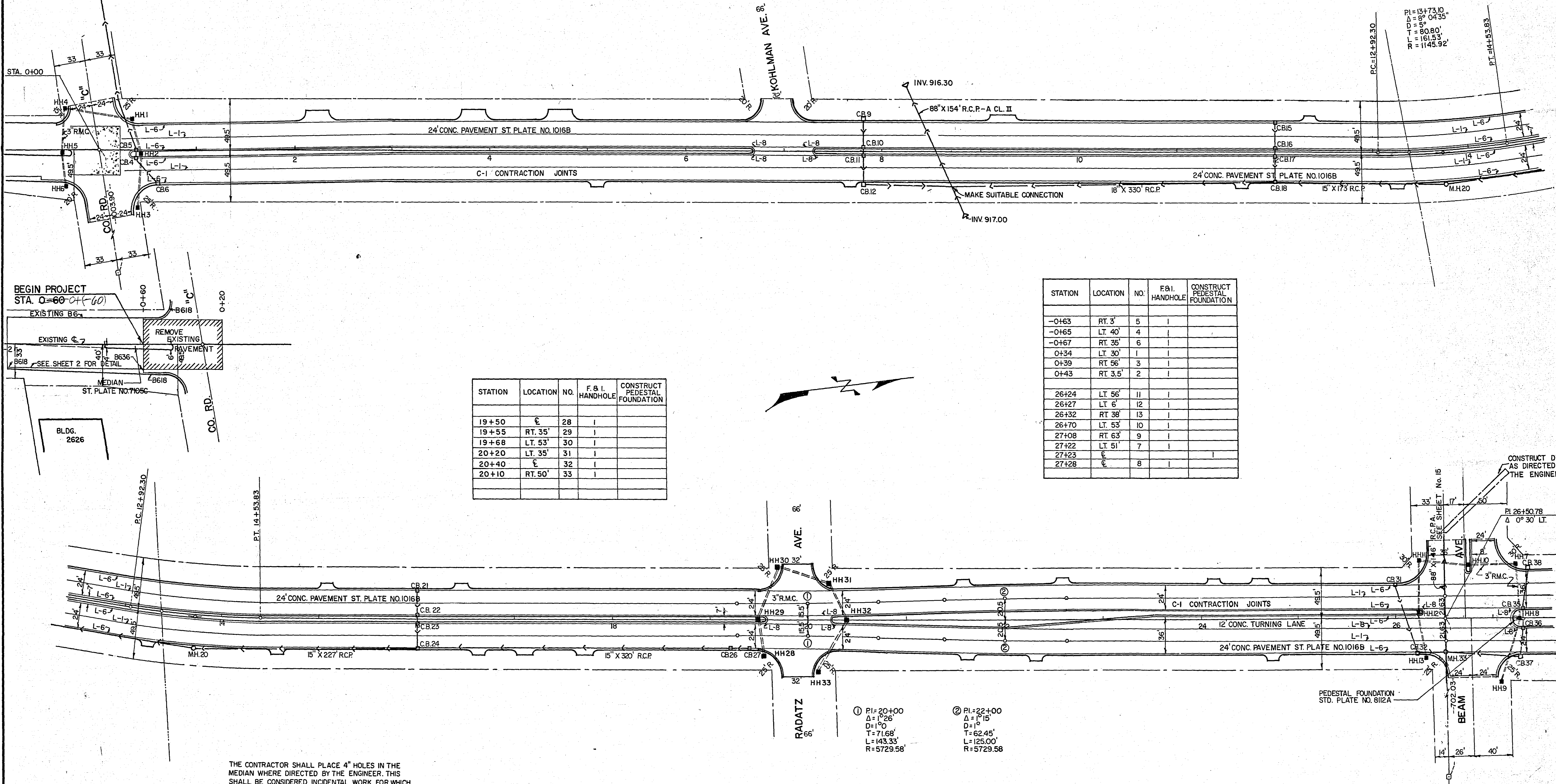
S.P. No. 62-665-08

Sheet No. 7 of 26 Sheets

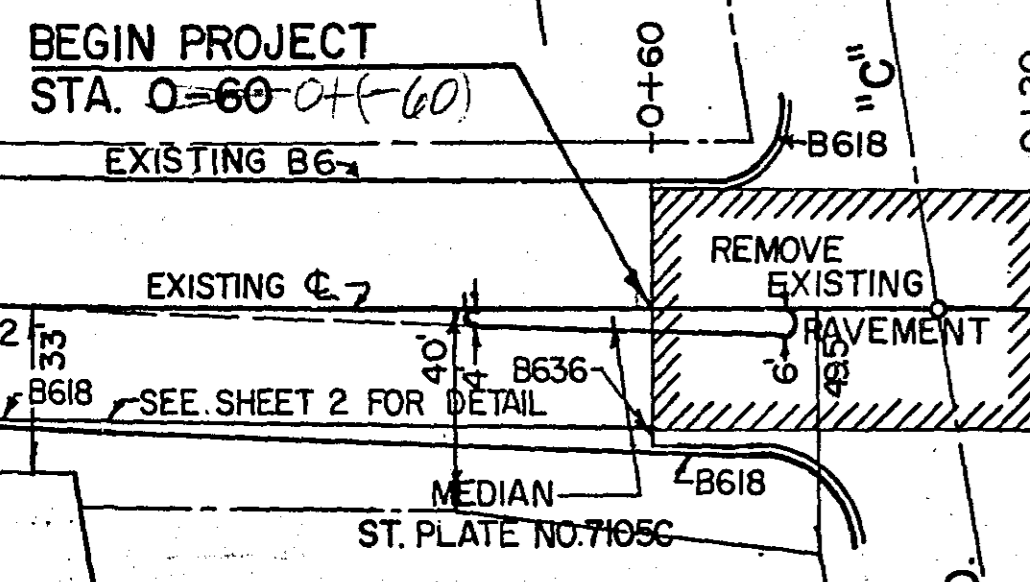
6887

MICROFILMED
RAMSEY CO. ENGR.

THE EXACT LOCATION AND ELEVATION TO BE DETERMINED IN THE FIELD BY ENGINEER.



PI=13+73.10
 Δ=8° 04'35"
 D=5'
 T=30.80'
 L=161.53'
 R=1145.92'



STATION	LOCATION	NO.	F. & I. HANDHOLE	CONSTRUCT PEDESTAL FOUNDATION
19+50	℄	28	I	
19+55	RT. 35'	29	I	
19+68	LT. 53'	30	I	
20+20	LT. 35'	31	I	
20+40	℄	32	I	
20+10	RT. 50'	33	I	

STATION	LOCATION	NO.	F. & I. HANDHOLE	CONSTRUCT PEDESTAL FOUNDATION
0+63	RT. 3'	5	I	
0+65	LT. 40'	4	I	
0+67	RT. 35'	6	I	
0+34	LT. 30'	1	I	
0+39	RT. 56'	3	I	
0+43	RT. 3.5'	2	I	
26+24	LT. 56'	11	I	
26+27	LT. 6'	12	I	
26+32	RT. 38'	13	I	
26+70	LT. 53'	10	I	
27+08	RT. 63'	9	I	
27+22	LT. 51'	7	I	
27+23	℄			I
27+28	℄	8	I	

THE CONTRACTOR SHALL PLACE 4" HOLES IN THE MEDIAN WHERE DIRECTED BY THE ENGINEER. THIS SHALL BE CONSIDERED INCIDENTAL WORK FOR WHICH NO DIRECT COMPENSATION SHALL BE MADE.

① PI=20+00
 Δ=1°26'
 D=1'0"
 T=71.68'
 L=143.33'
 R=5729.58'

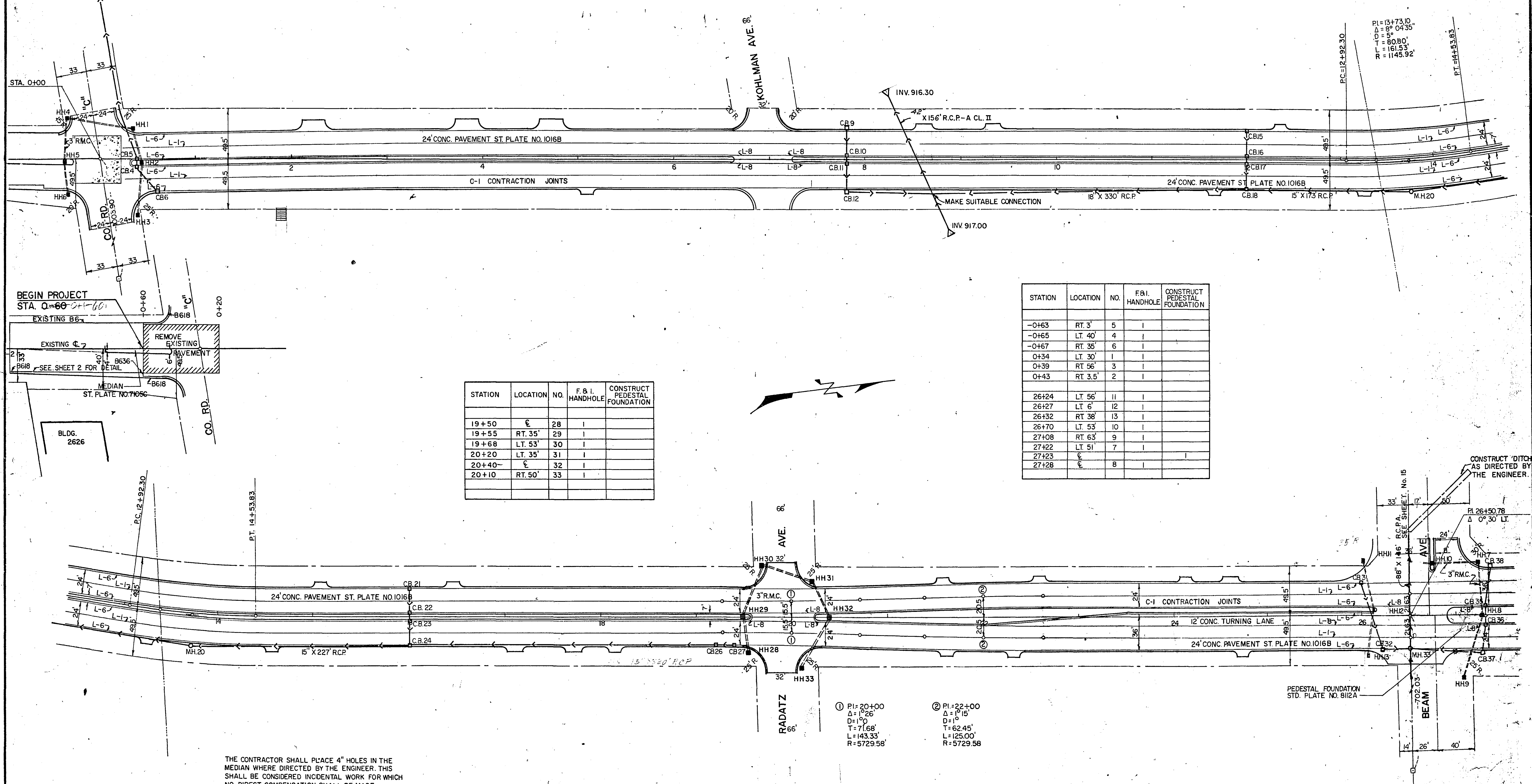
② PI=22+00
 Δ=1°15'
 D=1'0"
 T=62.45'
 L=125.00'
 R=5729.58'

CONSTRUCTION PLAN

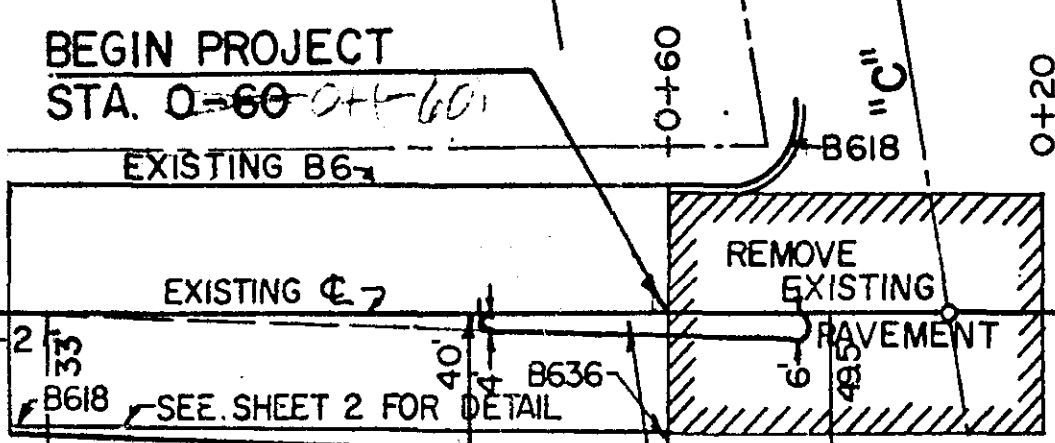
MICROFILMED
 RAMSEY CO. ENGR.

6887

THE EXACT LOCATION AND ELEVATION TO BE DETERMINED IN THE FIELD BY ENGINEER.



PI=13+73.10
 Δ=8° 04'35"
 T=80.80'
 L=161.53'
 R=1145.92'



STATION	LOCATION	NO.	F & I. HANDHOLE	CONSTRUCT PEDESTAL FOUNDATION
19+50	℄	28		
19+55	RT. 35'	29		
19+68	LT. 53'	30		
20+20	LT. 35'	31		
20+40	℄	32		
20+10	RT. 50'	33		

STATION	LOCATION	NO.	F & I. HANDHOLE	CONSTRUCT PEDESTAL FOUNDATION
-0+63	RT. 3'	5		
-0+65	LT. 40'	4		
-0+67	RT. 35'	6		
0+34	LT. 30'	1		
0+39	RT. 56'	3		
0+43	RT. 3.5'	2		
26+24	LT. 56'	11		
26+27	LT. 6'	12		
26+32	RT. 38'	13		
26+70	LT. 53'	10		
27+08	RT. 63'	9		
27+22	LT. 51'	7		
27+23	℄			
27+28	℄	8		

① PI=20+00
 Δ=1° 26'
 D=10'
 T=71.68'
 L=143.33'
 R=5729.58'

② PI=22+00
 Δ=1° 15'
 D=10'
 T=62.45'
 L=125.00'
 R=5729.58'

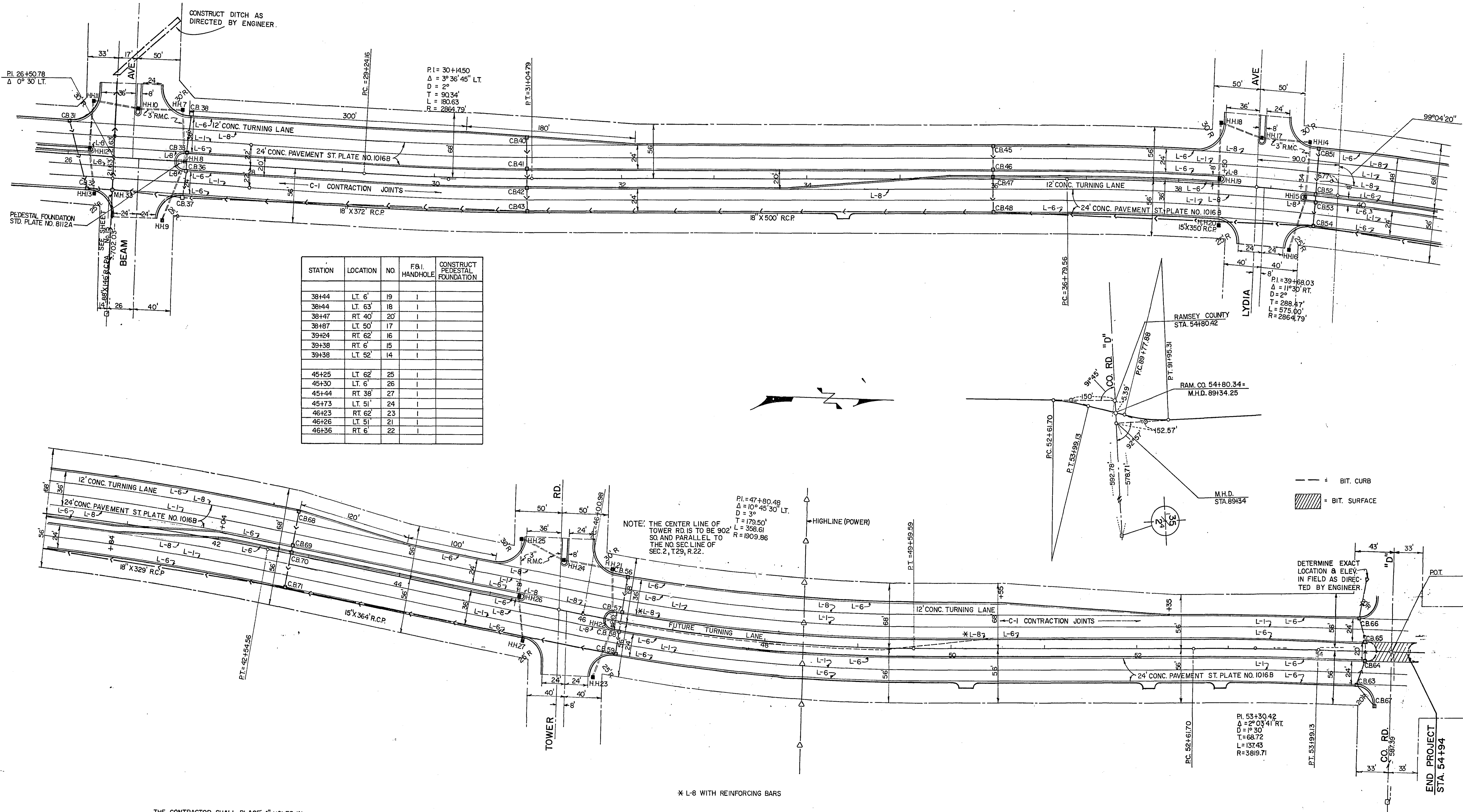
THE CONTRACTOR SHALL PLACE 4" HOLES IN THE MEDIAN WHERE DIRECTED BY THE ENGINEER. THIS SHALL BE CONSIDERED INCIDENTAL WORK FOR WHICH NO DIRECT COMPENSATION SHALL BE MADE.

CONSTRUCT 'DITCH' AS DIRECTED BY THE ENGINEER.

CONSTRUCTION PLAN

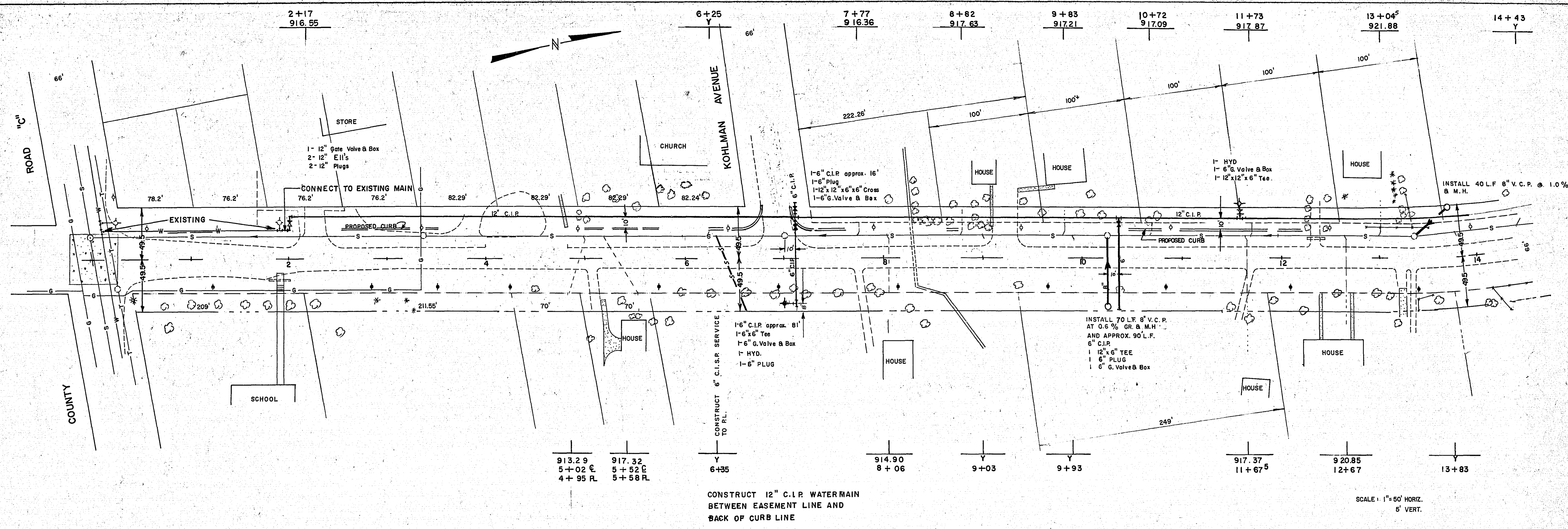
MICROFILMED
 RAMSEY CO. ENGR.

6887



FINAL SURVEY
 SURVEYED
 PLOTTED
 NOTE BOOK
 TEMPLATE
 NO. AREAS CHECKED

ORIGINAL SURVEY
 SURVEYED
 PLOTTED
 NOTE BOOK
 TEMPLATE
 NO. AREAS CHECKED



WHITE BEAR AVENUE

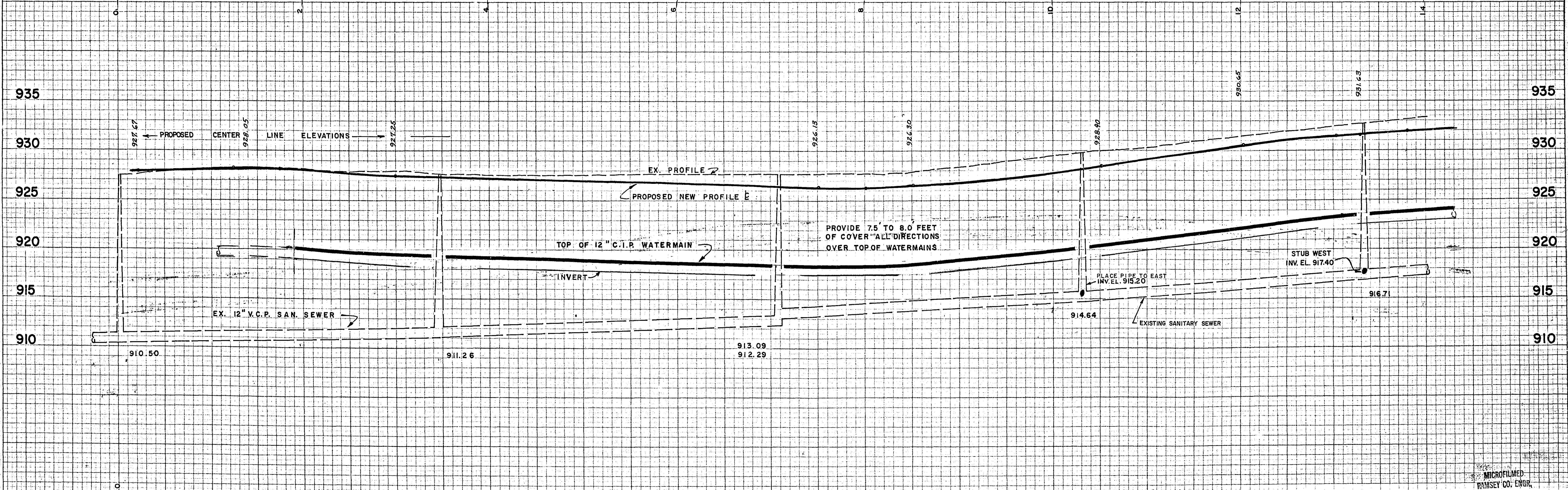


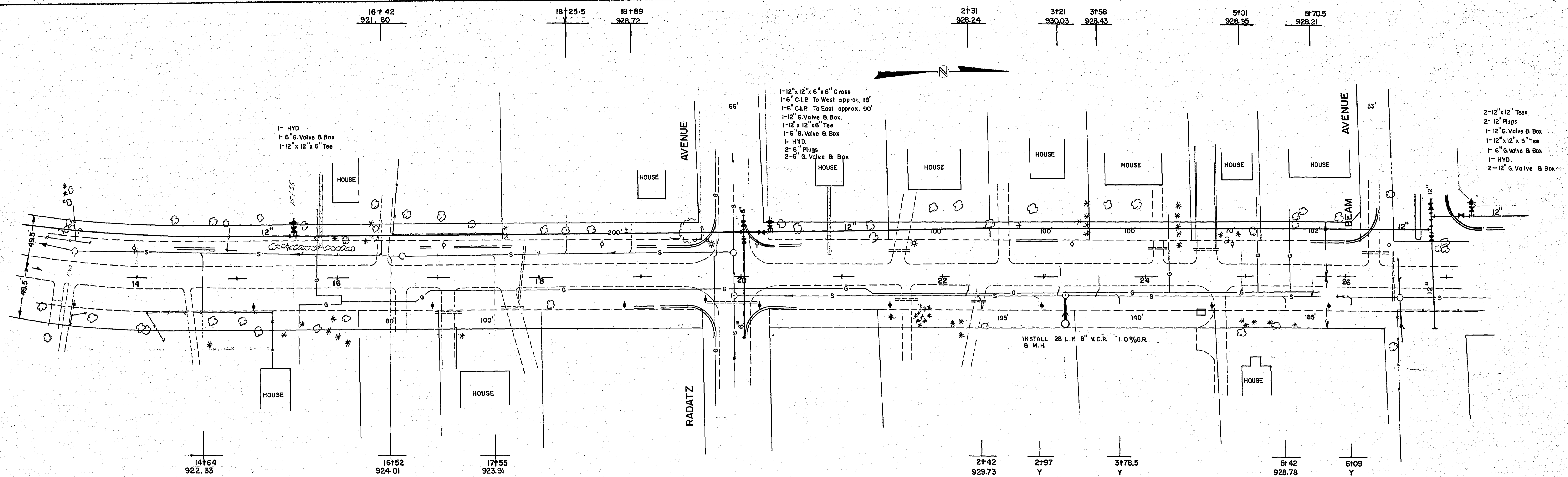
PLATE 4-CROSS SECTION D.P.R.R.E. STANDARD
 NATIONAL TRACING PAPER DIVISION
 13-P.B. CO., INC. INDIANAPOLIS, INDIANA

Survey Design
 Drawn Approved
 SHEET 20 OF 26 SHEETS
 NOVEMBER, 1968

6887

FINAL SURVEY
 SURVEYED BY: _____
 DATE: _____
 NOTE BOOK NO. _____
 AREA CHECKED: _____

ORIGINAL SURVEY
 SURVEYED BY: _____
 DATE: _____
 NOTE BOOK NO. _____
 AREA CHECKED: _____



SCALE: 1" = 50' HORIZ.
 1" = 5' VERT.

WHITE BEAR AVENUE

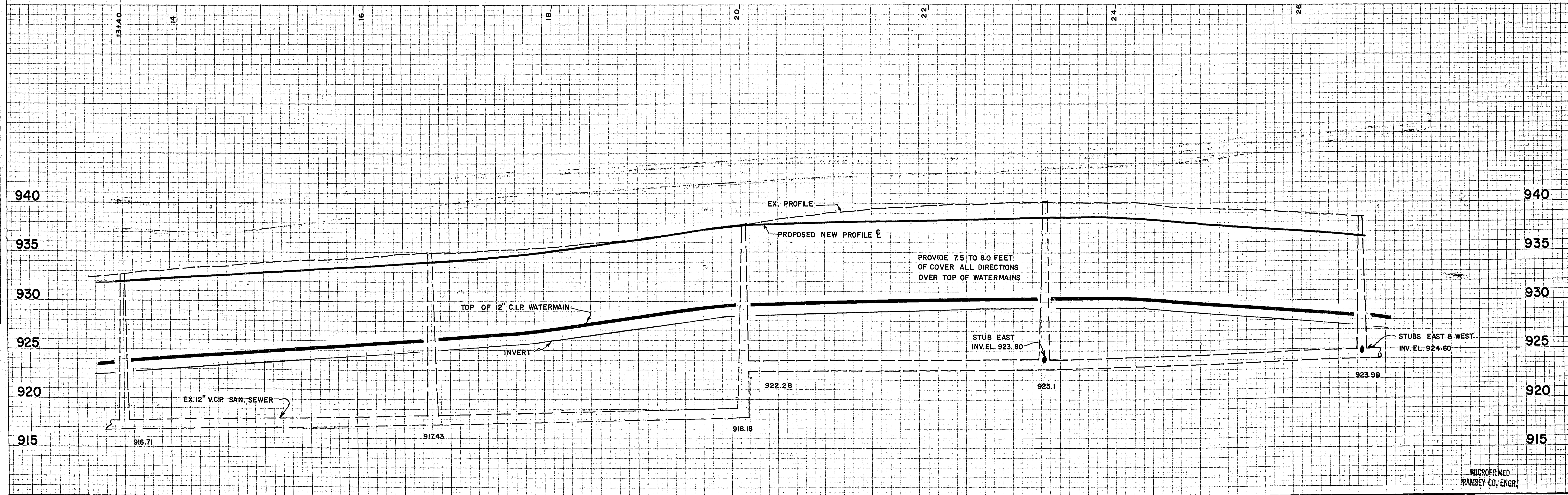


PLATE 4-CROSS SECTION OF P.R.C.P. STANDARD
 NATIONAL TRACING PAPER DIVISION
 107 P.C. CO., INC. INDIANAPOLIS, INDIANA

Survey Design Drawn Approved
 MICROFILMED
 RAMSEY CO., ENGR.
 SHEET 21 OF 26 SHEETS
 NOVEMBER, 1968

6887 2

DATE: _____
 BY: _____
 SURVEYING: _____
 PLOTTING: _____
 TEMPLATE: _____
 NOTE BOOK: _____
 AREAS CHECKED: _____

DATE: _____
 BY: _____
 SURVEYING: _____
 PLOTTING: _____
 TEMPLATE: _____
 NOTE BOOK: _____
 AREAS CHECKED: _____

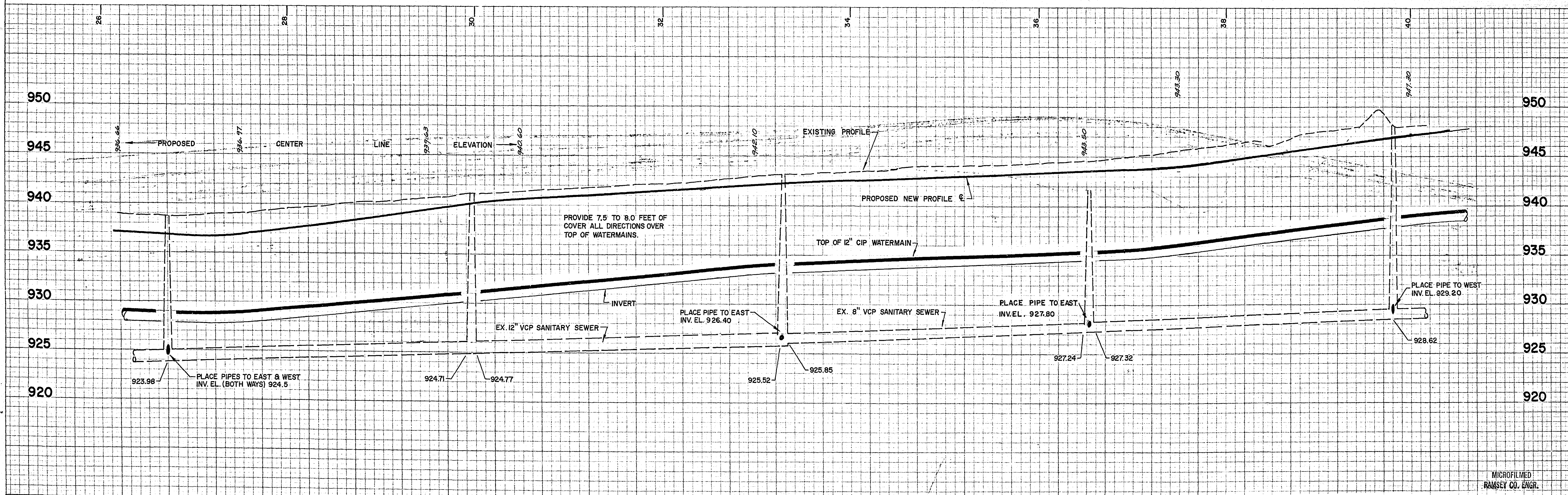
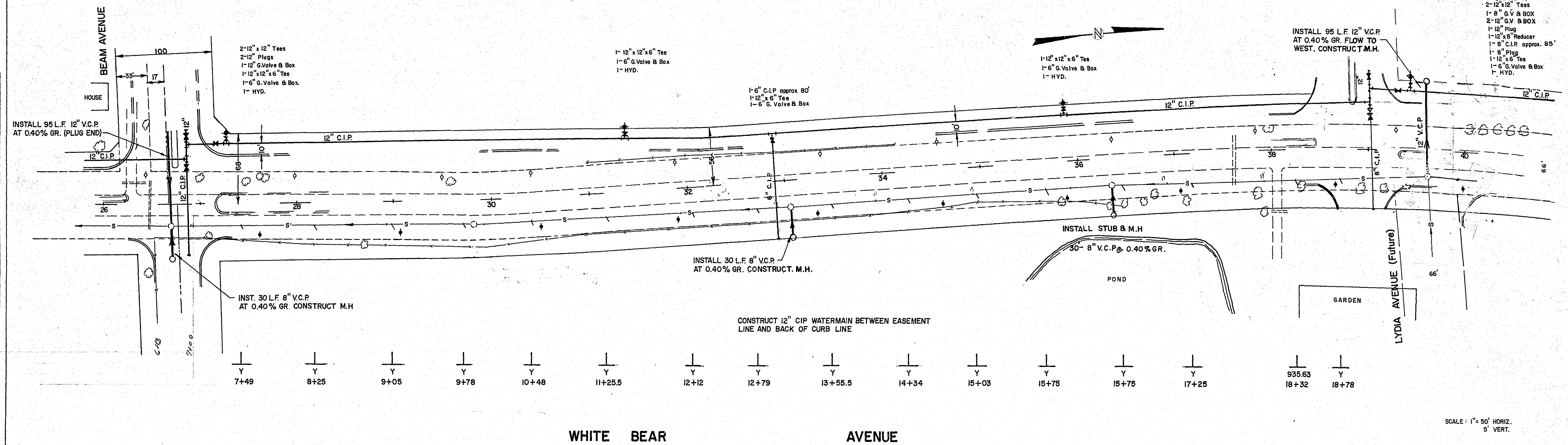


PLATE 4-CROSS SECTION O.P.R.A.E. STANDARD
 NATIONAL TRACING PAPER DIVISION
 INDIANAPOLIS, INDIANA

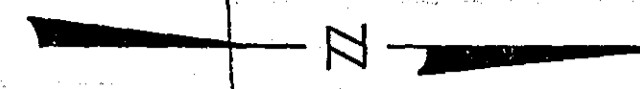
Survey: _____
 Design: _____
 Drawn: _____
 Approved: _____

MICROFILMED
 RAMSEY CO. ENGR.

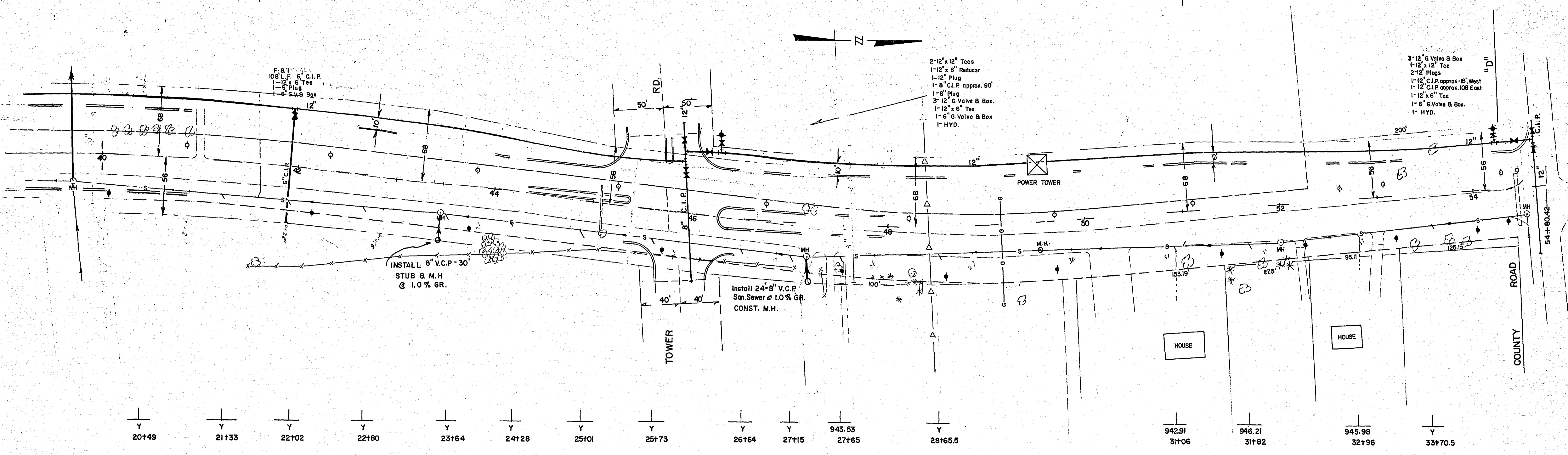
SHEET 22 OF 26 SHEETS
 NOVEMBER, 1968

21+68 PL.
21+71 C

31+15
Y



FINAL SURVEY BY DATE
SURVEYED BY
REVISIONS
NOTE BOOK NO.
AREAS CHECKED



Y 20+49 Y 21+33 Y 22+02 Y 22+80 Y 23+64 Y 24+28 Y 25+01 Y 25+73 Y 26+64 Y 27+15 945.53 27+65 Y 28+65.5 942.91 31+06 946.21 31+82 945.98 32+96 Y 33+70.5

SCALE 1" = 80' HORIZ.
1" = 5' VERT.

WHITE BEAR AVENUE

ORIGINAL SURVEY BY DATE
SURVEYED BY
REVISIONS
NOTE BOOK NO.
AREAS CHECKED

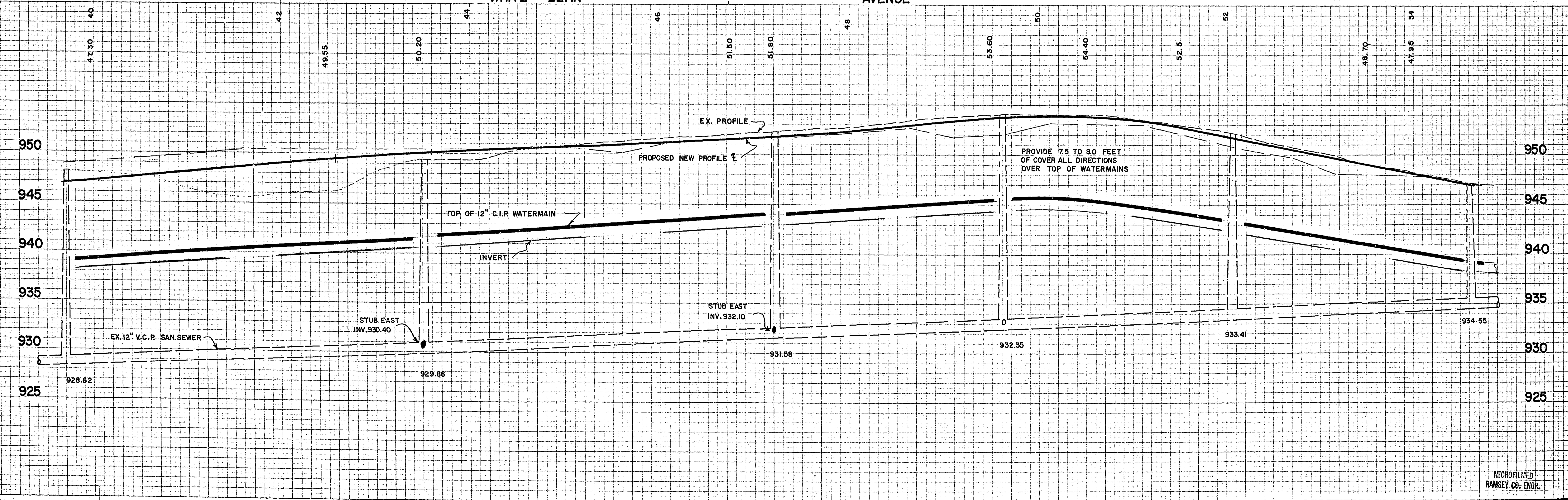
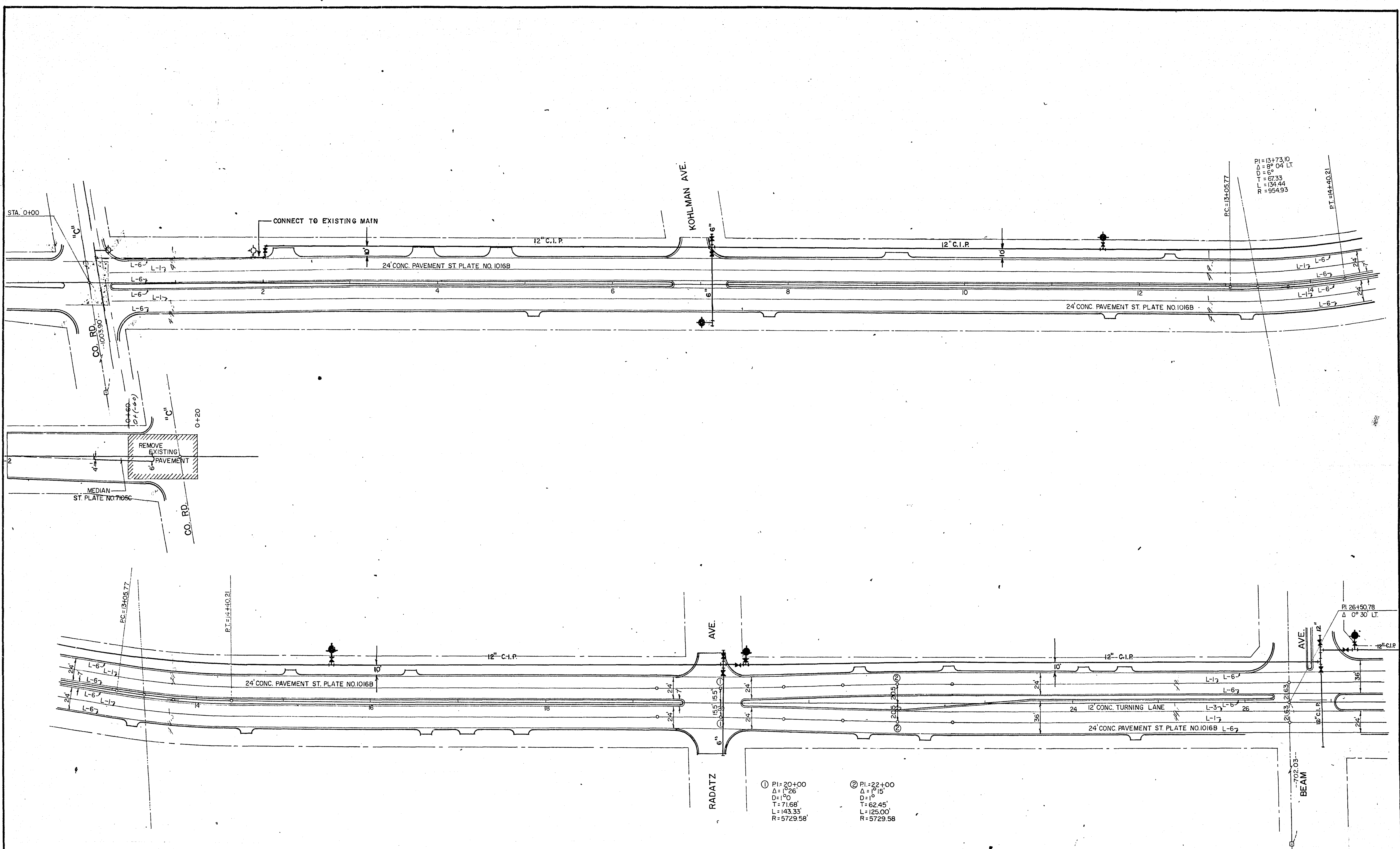


PLATE 4-CROSS SECTION O.P.H.A.R.E. STANDARD
NATIONAL TRACING PAPER DIVISION
100 P.M.L. CO., INC. INDIANAPOLIS, INDIANA

Survey Design Drawn Approved *W.C.*
SHEET 23 OF 26 SHEETS NOVEMBER, 1968

MICROFILMED
RAMSEY CO. ENGR.

6887 4

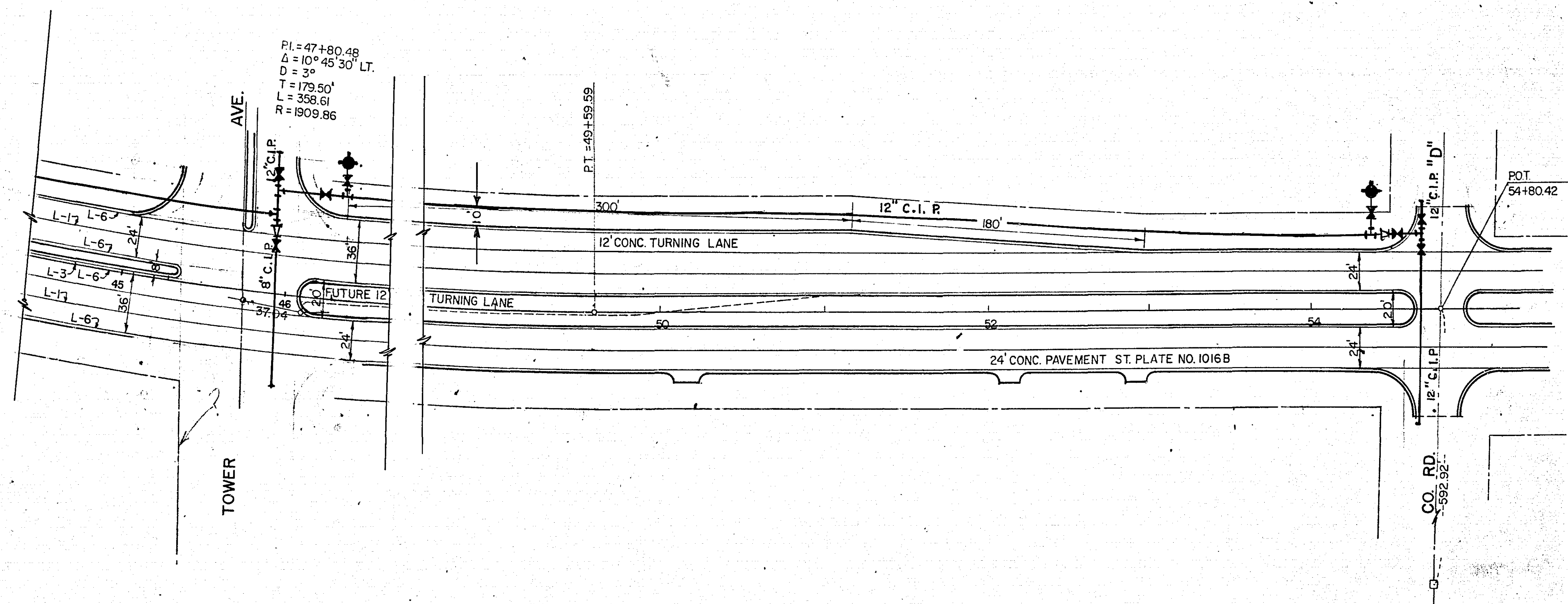
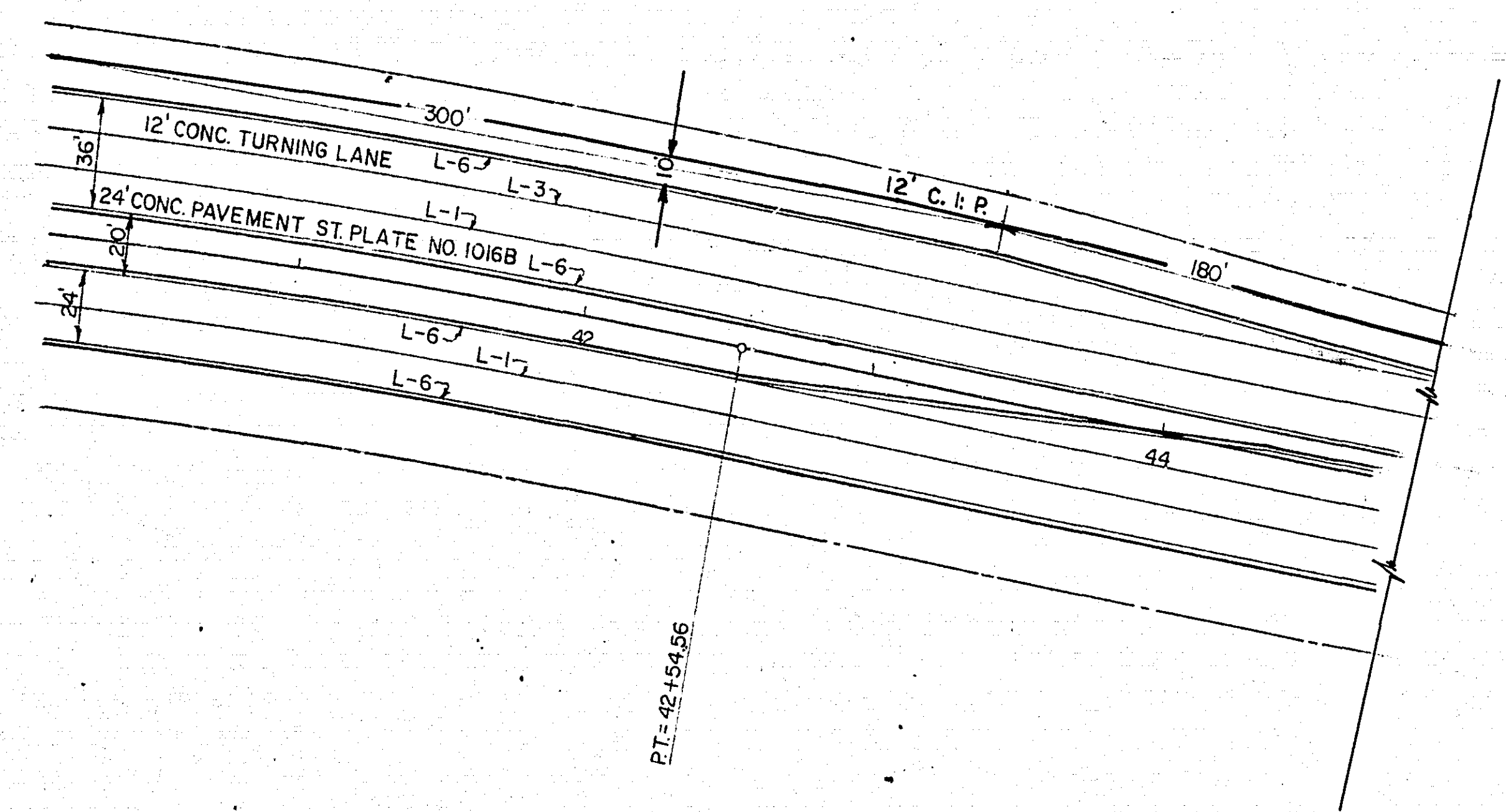
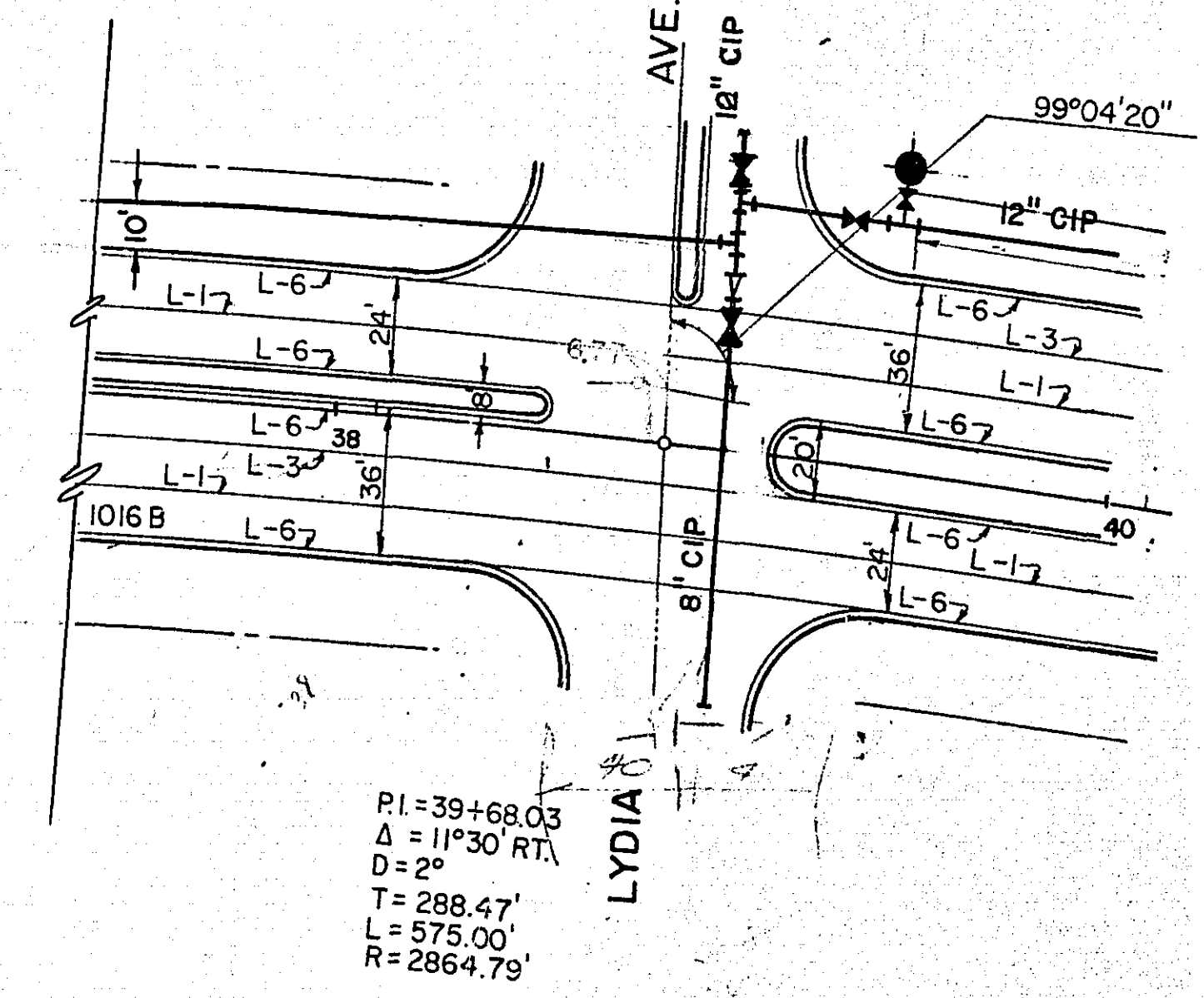
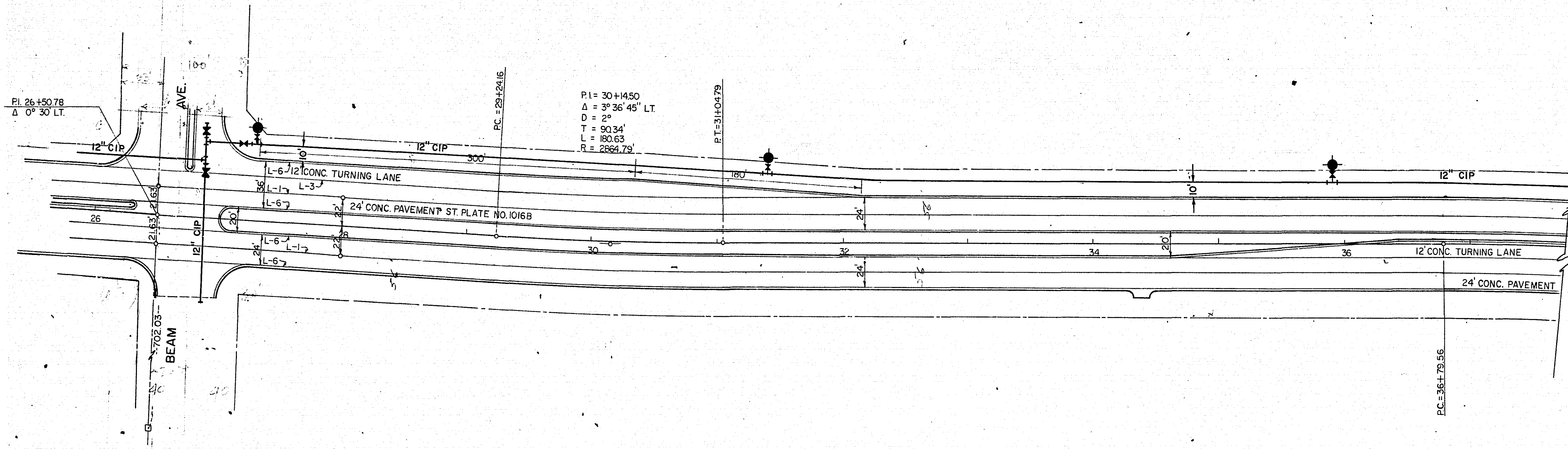


PI=13+73.10
 Δ=8° 04' LT
 T=67.33
 L=134.44
 R=954.93

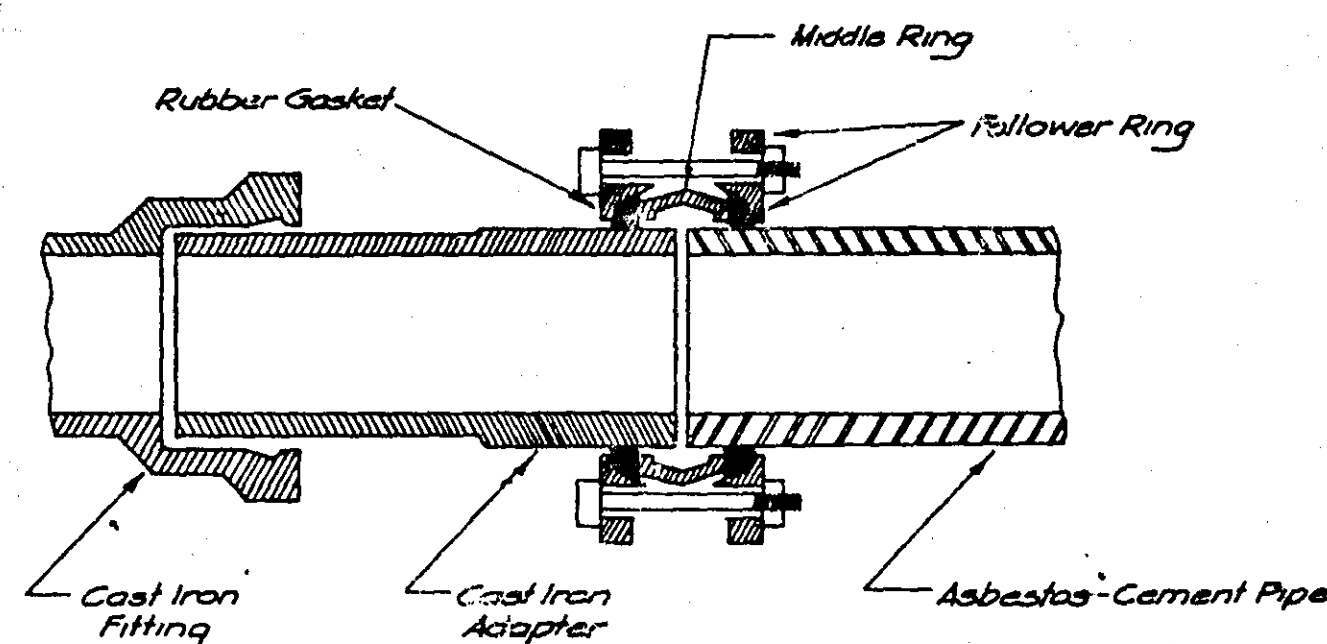
① PI=20+00
 Δ=1° 26'
 D=1° 0'
 T=71.68'
 L=143.33'
 R=5729.58'

② PI=22+00
 Δ=1° 15'
 D=1° 0'
 T=62.45'
 L=125.00'
 R=5729.58'

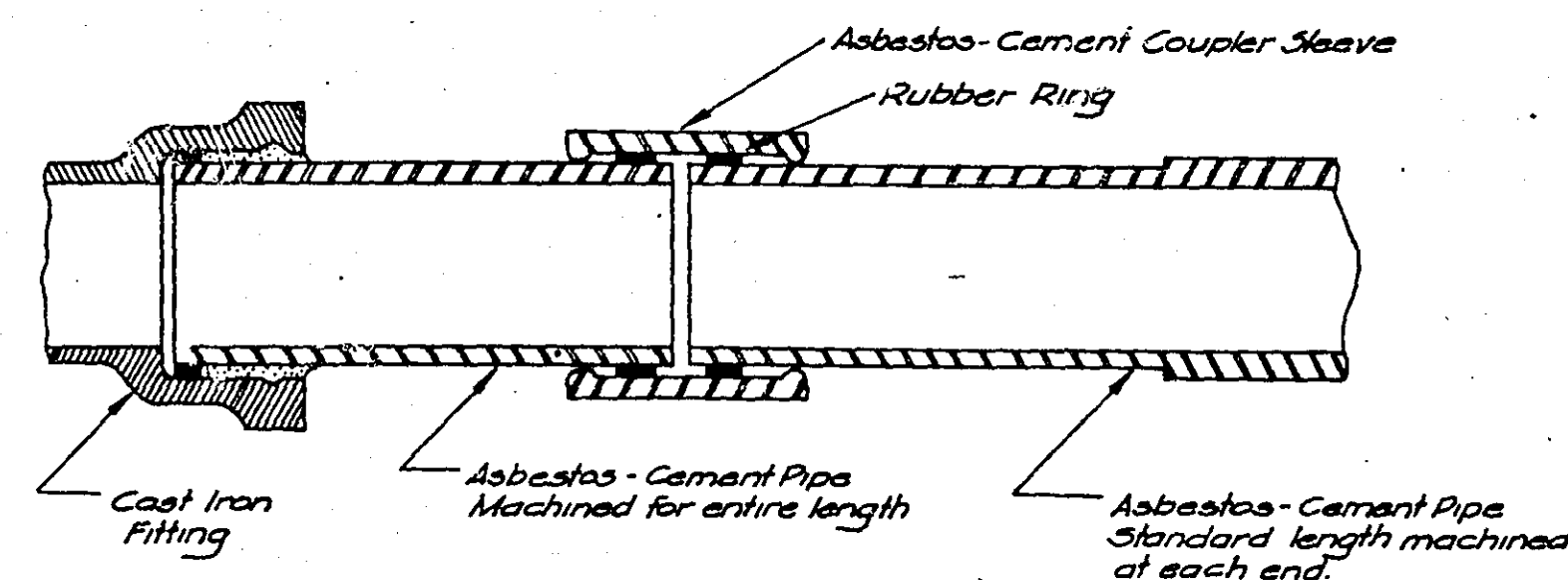
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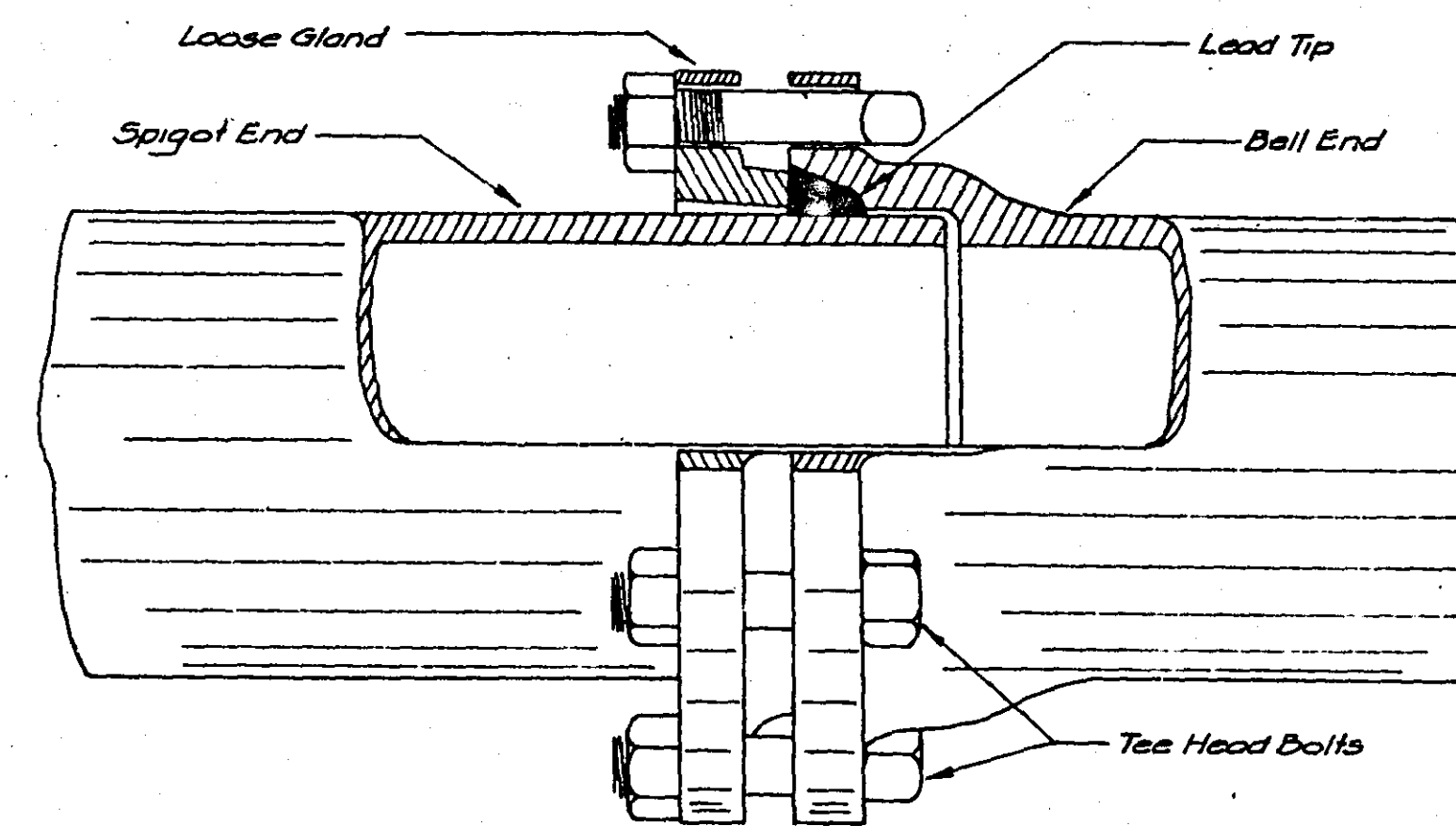
Size of pipe	Lbs. of lead per joint
4"	7.50
6"	10.25
8"	13.25
10"	16.00
12"	19.00



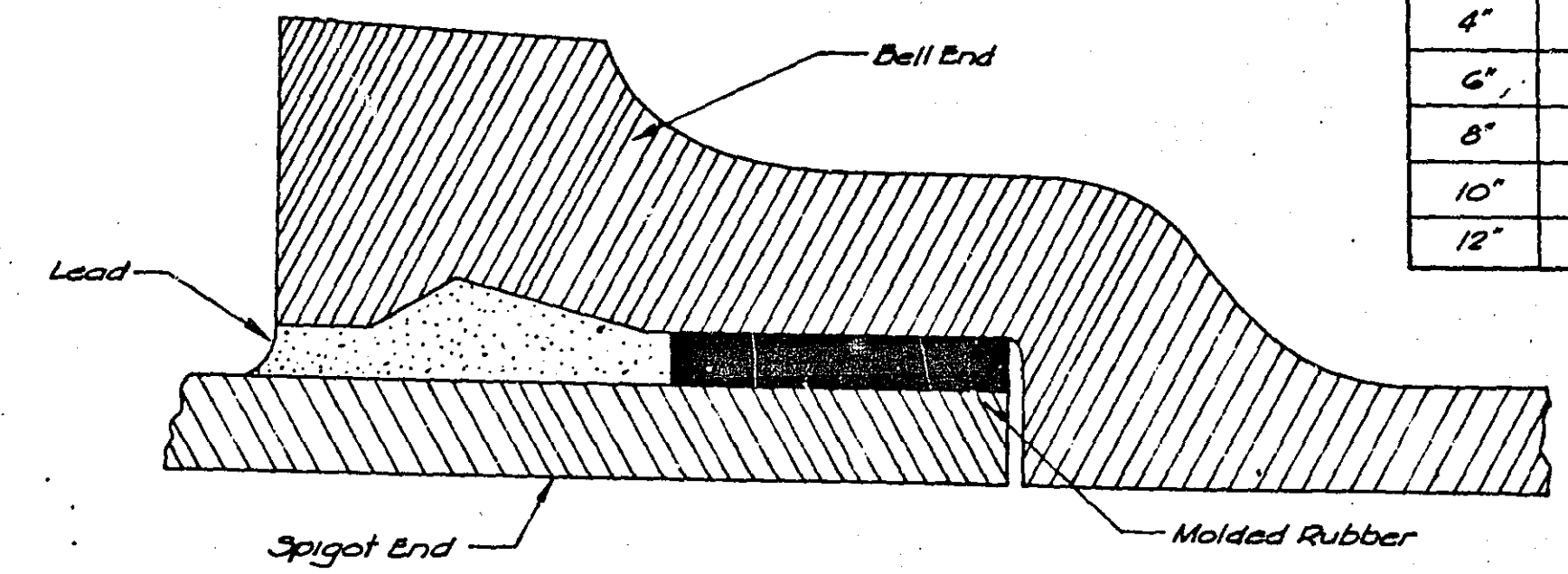
ASBESTOS - CEMENT PIPE TYPE 2



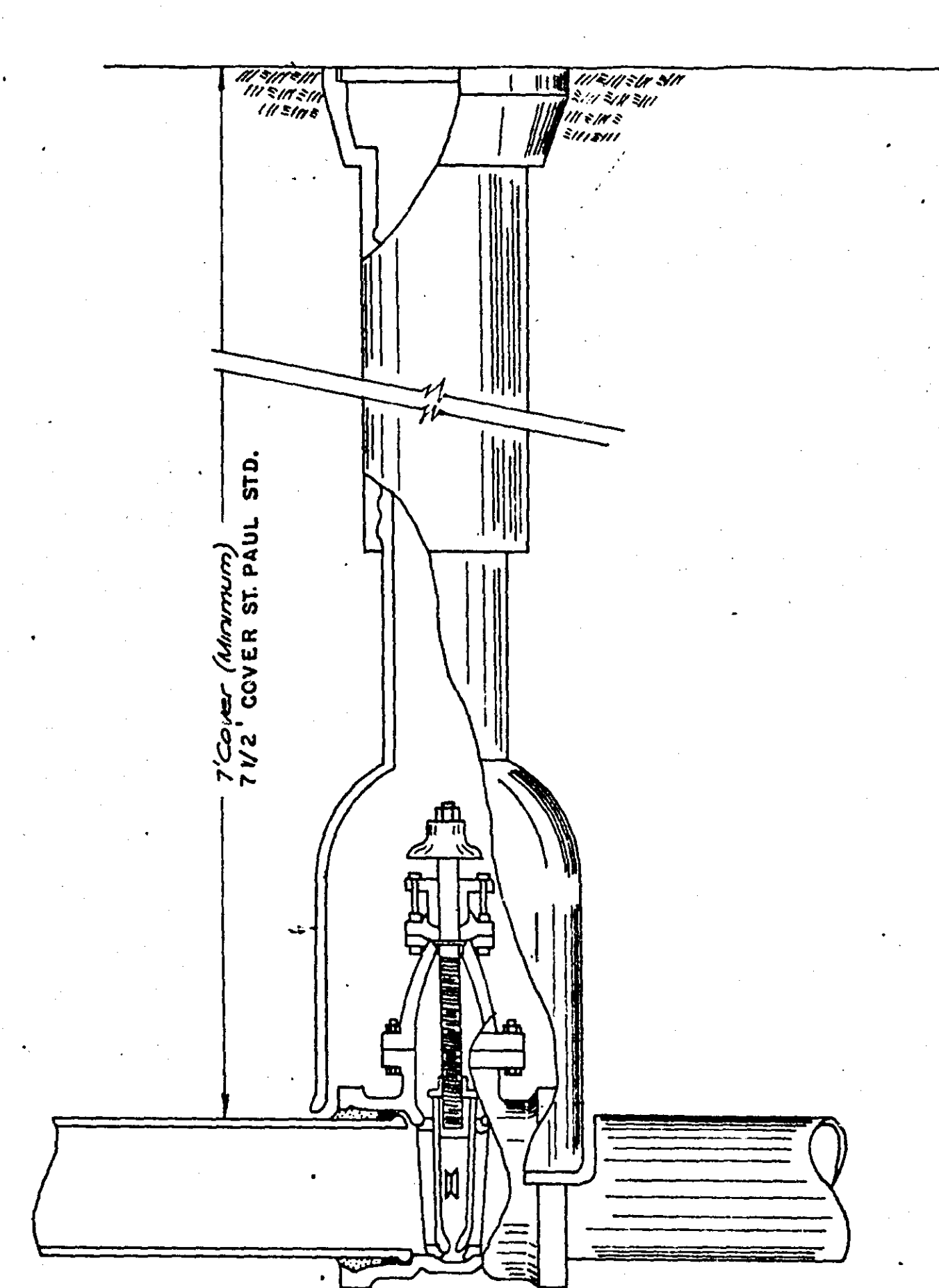
ASBESTOS - CEMENT PIPE TYPE 1



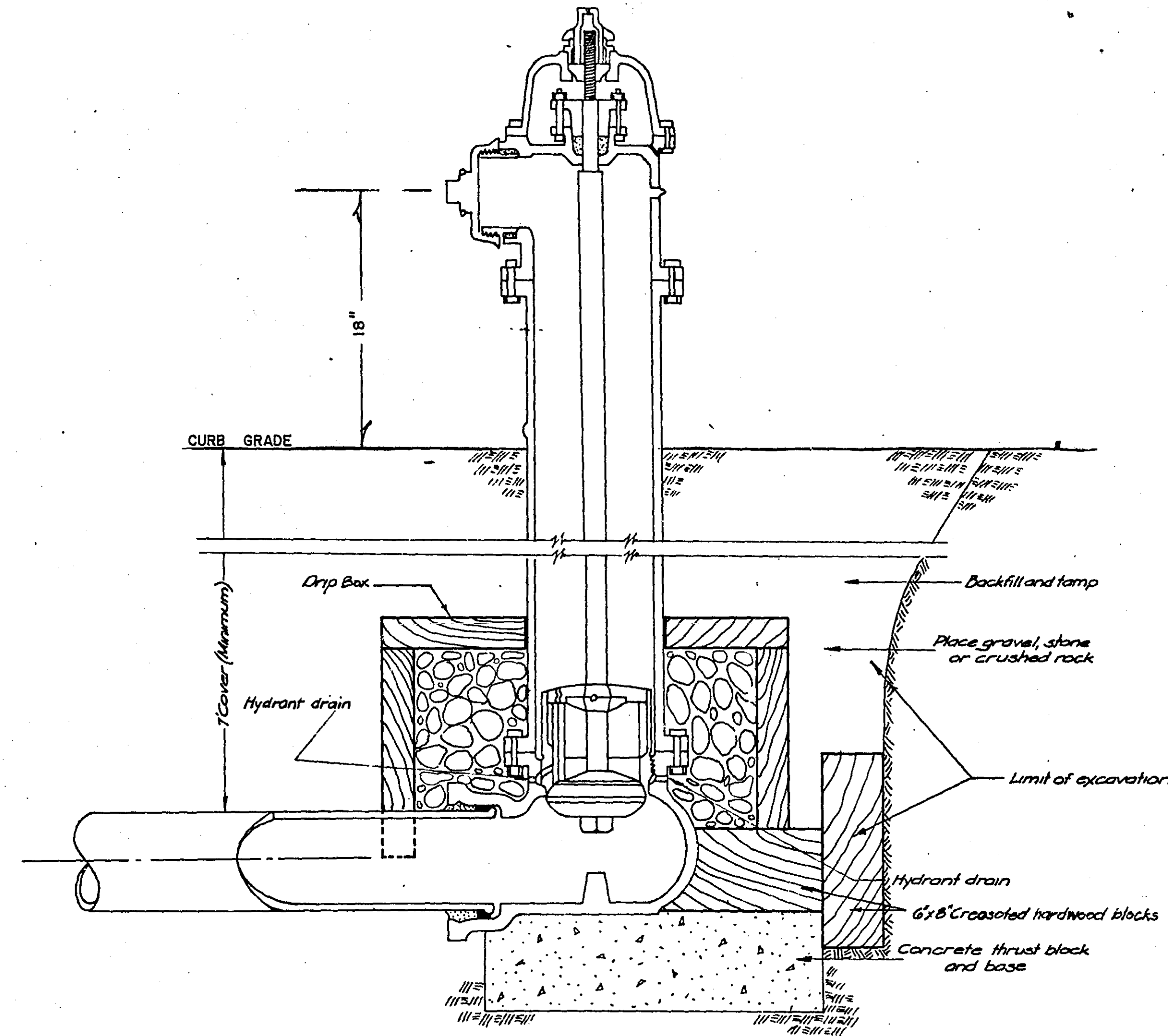
CAST IRON PIPE - MECHANICAL JOINT



CAST IRON PIPE - BELL AND SPIGOT JOINT

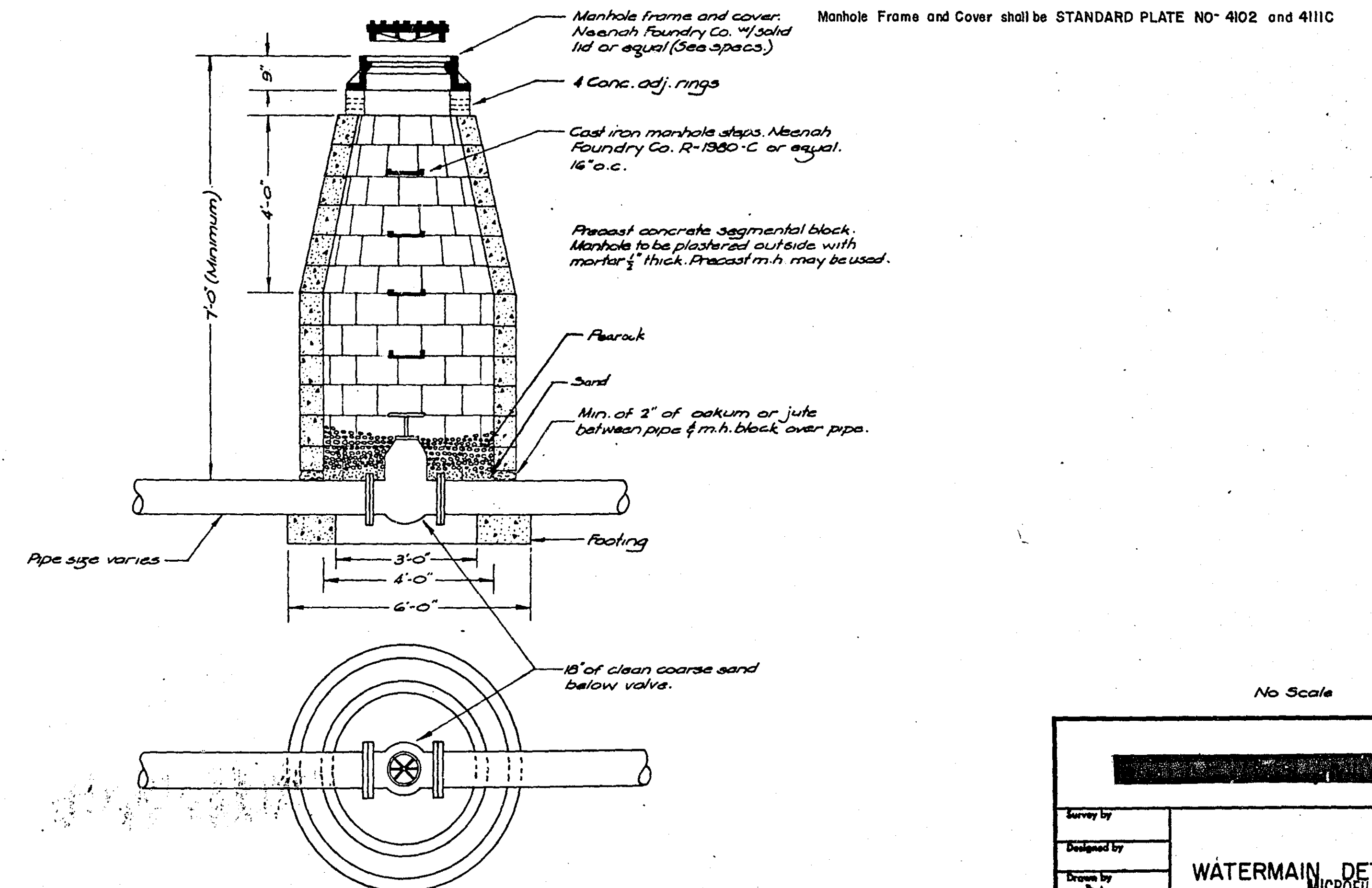


TYPICAL GATE VALVE AND BOX
(Cut-away view)



TYPICAL FIRE HYDRANT
(Cut-away view)

Note: Drip box to be crossbraced 2\"/>



No Scale

Survey by		Revision	
Designed by			
Drawn by			
Approved by			
WATERMAIN DETAILS			
MICROFILMED			
RAMSEY CO. ENGR.			
SHEET 26 OF 26 SHEETS		NOVEMBER, 1968	

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