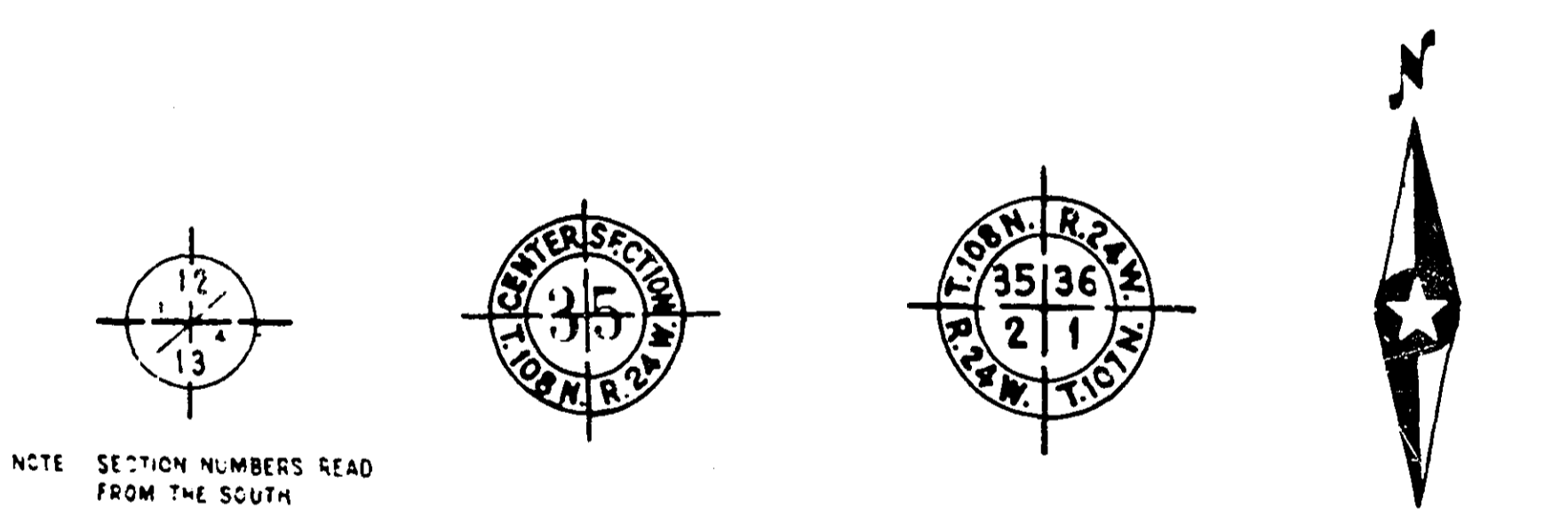


PLANS SYMBOLS

STATE LINE	-----	SPRINGS	○
COUNTY LINE	-----	MARSH	~~~~~
TOWNSHIP OR RANGE LINE	-----	TIMBER	(TIMBER)
SECTION LINE	-----	ORCHARD	~~~~~
QUARTER LINE	-----	BRUSH	~~~~~
SIXTEENTH LINE	-----	NURSERY	~~~~~
RIGHT-OF-WAY LINE	-----	CATCH BASIN	C.B. □
PRESENT RIGHT-OF-WAY LINE	-----	FIRE HYDRANT	▽
CONTROL OF ACCESS LINE	-----	CATTLE GUARD	XXXX
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	-----
RAILROAD	-----	S-STONE	-----
RAILROAD RIGHT-OF-WAY LINE	-----	C-CONCRETE	-----
RIVER OR CREEK	-----	T-TILE	-----
DRY RUN	-----	B-BRICK	-----
DRAINAGE DITCH	-----	ST-STUCCO	-----
DRAIN TILE	-----	IRON PIPE OR ROD	-----
CULVERT	-----	MONUMENT (STONE, CONCRETE, OR METAL)	-----
DROP INLET	-----	WOODEN HUB	-----
GUARD RAIL	-----	GRAVEL PIT	①
BARBED WIRE FENCE	-----	SAND PIT	②
WOVEN WIRE FENCE	-----	BORROW PIT	③
CHAIN LINK FENCE	-----	ROCK QUARRY	④
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	-----
PEDESTAL TELEPHONE CABLE TERMINAL	-----	BURIED ELECTRIC CABLE	-----
GAS MAIN	-----	AERIAL TELEPHONE CABLE	-----
WATER MAIN	-----	SEWER, (SANITARY OR STORM)	-----
		SEWER MANHOLE	-----



PIT DATA

COUNTY PIT NO. 1	Located in S.W. 1/4 OF S.W. 1/4 OF SEC. 13 T.29N., R.23W.
PIT NO. 2	Located in Dead Haul
PIT NO. 3	Located in Dead Haul
PIT NO. 4	Located in Dead Haul

SPECIFICATIONS

THE "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" DATED JANUARY 1, 1964 AS AMENDED BY "SUPPLEMENTAL SPECIFICATIONS" DATED FEBRUARY 1, 1966 SHALL GOVERN.

OFFICE OF COUNTY ENGINEER

RAMSEY COUNTY

CONSTRUCTION PLAN FOR GRADING AND BITUMINOUS SURFACING

COUNTY ROAD "C"

BETWEEN: DALE ST. AND: RICE ST. (T.H. 49)

FROM: A POINT 275' WEST OF THE SOUTHWEST CORNER OF SEC. 1 T.29N., R.23 W. TO: A POINT 1050' WEST OF THE SOUTHEAST CORNER OF SEC. 1 T. 29N., R.23W.

GROSS LENGTH	5489 FEET	1.039 MILES
BRIDGES-LENGTH	0 FEET	0 MILES
EXCEPTIONS-LENGTH	0 FEET	0 MILES
NET LENGTH	5489 FEET	1.039 MILES

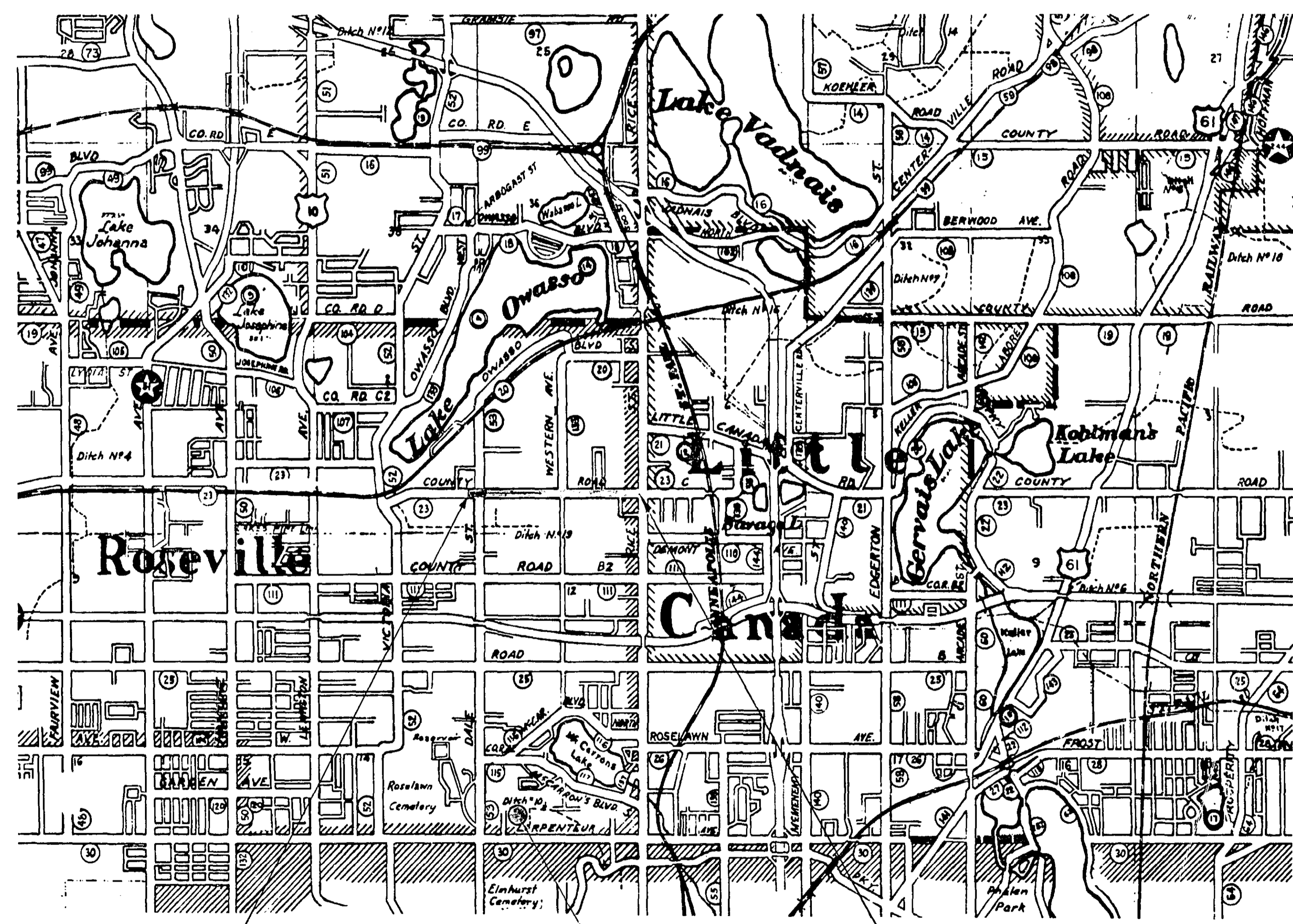
SCALES

PLAN, 1 inch = 50 Feet
PROFILE, Horiz. 1 inch = 50 Feet Vert 1 inch = 5 Feet
WORKING PLANS - Horiz. 1 inch = 50 Feet Vert 1 inch = 50 Feet
Cross-Sections 1 inch = 10 Feet
LAYOUT, 1 inch = 2640 Feet

DESIGN	DESIGNATION
A.D.T. 1966	= 3000
A.D.T. 1985	= 7000
DHV	= 160
D (DIRECTIONAL DISTRIBUTION)	=
T (HEAVY COMMERCIAL) 1985	= 10%
DESIGN SPEED	= 35 M.P.H.
DESIGN LOAD	= 9 TON
SOILS FACTOR	= 100%

INDEX

SHEET NO	DESCRIPTION
1	TITLE SHEET
2	TYPICAL SECTIONS & ESTIMATED QUANTITIES
3	DRAINAGE STRUCTURE CHART
4	DRAINAGE STRUCTURE CHART & DETAILS
5-8	PLAN PROFILES & CONSTRUCTION PLAN
9-11	STORM SEWER PLAN & PROFILES



BEGIN PROJECT STA. - 2+50 COUNTY PIT END PROJECT STA. 52+14

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.
Walter Anker ENGINEER REG. NO. 20247 DATE 5-16-66

RECOMMENDED FOR APPROVAL *Diane R. Ankler* COUNTY ENGINEER DATE 5-16-66
 APPROVED *H. F. Goodrich* VICE-CHAIRMAN OF THE RAMSEY COUNTY BOARD DATE 5-16-66

MINNESOTA STATE HIGHWAY DEPARTMENT

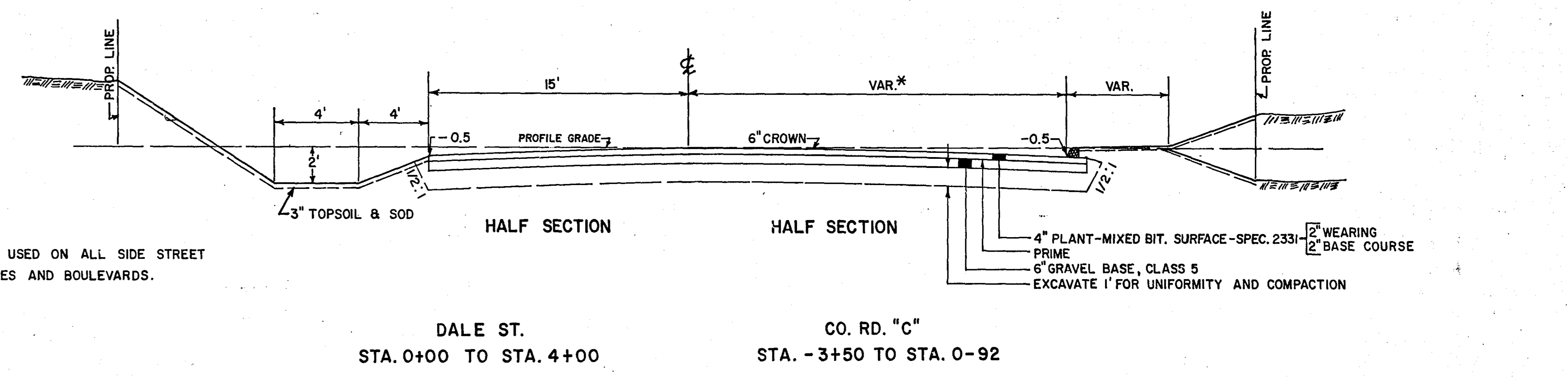
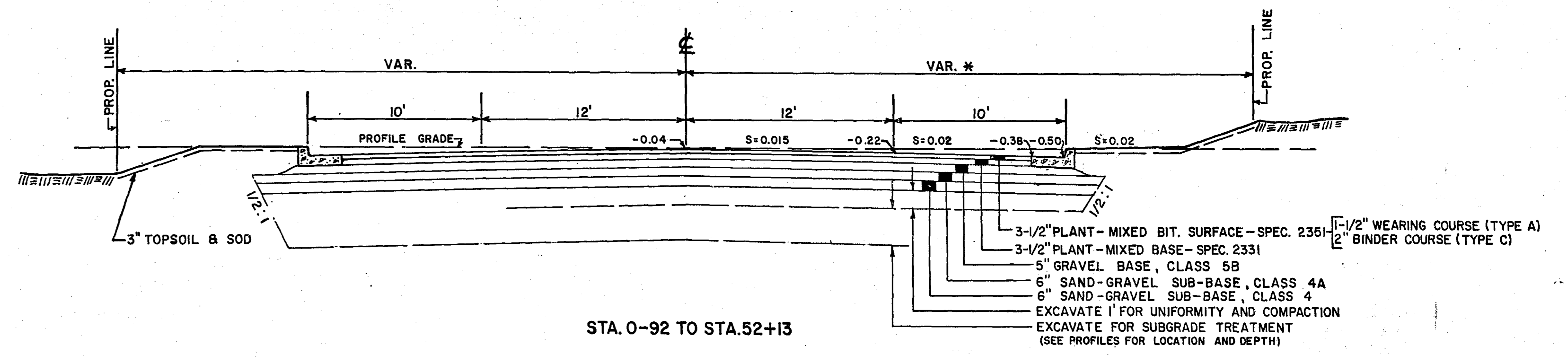
RECOMMENDED FOR APPROVAL *C.E. Weichselbaum* DATE 5-26-66
 RECOMMENDED FOR APPROVAL *J. T. Bengtson* DISTRICT STATE AID ENGINEER DATE 5-25-66
 APPROVAL *A. Johnson* ACTING STATE AID ENGINEER DATE 5-26-66

STATEMENT OF ESTIMATED QUANTITIES

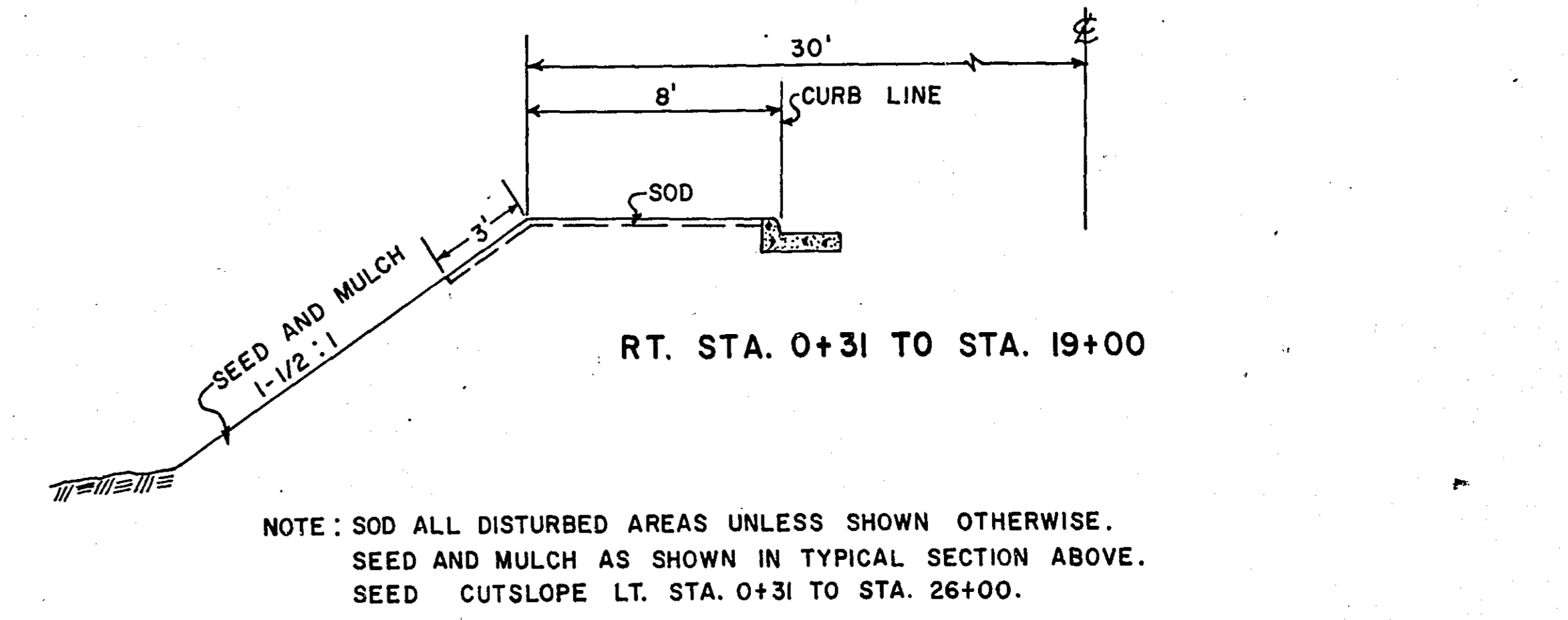
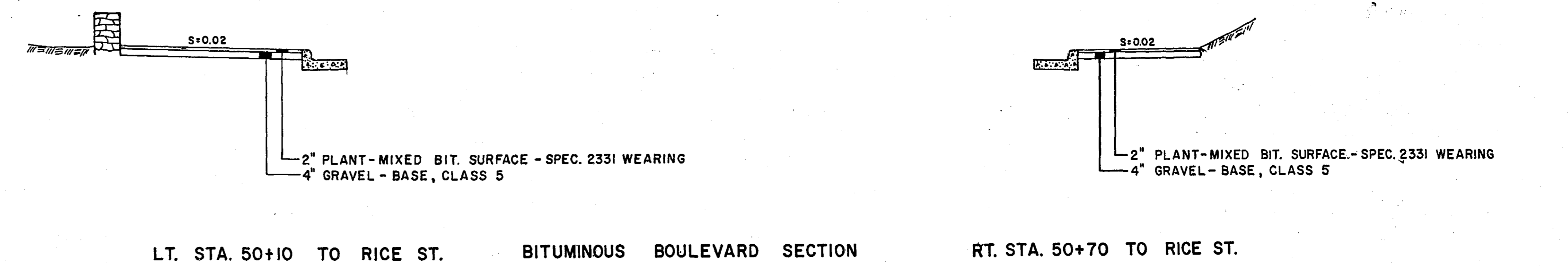
ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES
2031.503	FIELD LABORATORY, TYPE C	EACH	1
2101.501	CLEARING	ACRE	1
2101.502	CLEARING	TREE	12
2101.506	GRUBBING	ACRE	1
2101.507	GRUBBING	TREE	15
2104.504	REMOVE CURB	L.F.	60
2104.506	REMOVE SIDEWALK	S.Y.	53
2104.510	REMOVE FENCE	L.F.	587
2105.501	CLASS A EXCAVATION	C.Y.	43443
2105.510	TOPSOIL COVERING	C.Y.	1000
2110.513	SAND-GRAVEL MATERIAL DELIVERED	C.Y.	2000
2130.501	WATER	(M) GAL.	300
2201.526	GRAVEL SUB-BASE IN PLACE, CLASS 4	TON	8335
2201.526	GRAVEL SUB-BASE IN PLACE, CLASS 4A	TON	8335
2202.526	GRAVEL BASE IN PLACE, CLASS 5B	TON	8275
2331.501	BITUMINOUS MATERIAL FOR PRIME COAT	GALLON	7846
2331.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	1308
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	183
2331.509	WEARING COURSE MIXTURE + FILLER	TON	531
2331.514	BASE COURSE MIXTURE	TON	4400
2351.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	2615
2351.504	ASPHALT CEMENT	TON	246
2351.509	ASPHALTIC CONCRETE WEARING COURSE + FILLER	TON	2075
2351.510	ASPHALTIC CONCRETE BINDER COURSE	TON	2600
2356.505	BITUMINOUS MATERIAL FOR SEAL COAT	GALLON	4450
356.611	SEAL COAT AGGREGATE	TON	130
2503.512	F&I 12" R.C.P. SEWER, CLASS IV	L.F.	986
2503.512	F&I 15" R.C.P. SEWER, CLASS II	(1) L.F.	1398
2503.512	F&I 18" R.C.P. SEWER, CLASS II	(4) L.F.	372
2503.512	F&I 21" R.C.P. SEWER, CLASS II	L.F.	391
2503.512	F&I 24" R.C.P. SEWER, CLASS II	(2) L.F.	47
2503.512	F&I 27" R.C.P. SEWER, CLASS II	L.F.	2653
2503.512	F&I 30" R.C.P. SEWER, CLASS III	L.F.	177
2503.512	F&I 42" R.C.P. SEWER, CLASS IV	(2) L.F.	133
2503.514	F&I 15" C.M.P. SEWER	L.F.	20
2506.506	CONSTRUCT MANHOLES, DESIGN 1	L.F.	93.9
2506.506	CONSTRUCT MANHOLES, DESIGN 3	L.F.	105.8
2506.507	CONSTRUCT CATCH BASINS, DESIGN 2	L.F.	154.9
2506.507	CONSTRUCT CATCH BASINS, DESIGN L.P.	L.F.	9
2506.511	RECONSTRUCT MANHOLES	L.F.	37.6
2506.516	F&I CASTING ASSEMBLIES	ASSEMBLY	70
2506.521	INSTALL CASTING ASSEMBLIES	ASSEMBLY	6
2506.522	ADJUST FRAME RING AND CASTINGS	ASSEMBLY	11
2515.541	F&I CONCRETE APRONS FOR 12" S.C.P.	(3) APRON	3
2515.541	F&I CONCRETE APRONS FOR 15" S.C.P.	(3) APRON	2
2515.541	F&I CONCRETE APRON FOR 24" S.C.P.	(3) APRON	1
2513.501	GROUTED RIPRAP	C.Y.	15
2521.501	CONCRETE WALK 4" THICK	SQ. FT.	480
2531.501	CONCRETE CURB AND GUTTER, DESIGN B624	L.F.	11264
2531.502	CONCRETE CURB, DESIGN V6	L.F.	70
2531.507	CONCRETE DRIVEWAY PAVEMENT 8" THICK	S.Y.	95
2535.501	BITUMINOUS CURB	L.F.	1120
2574.501	ROADSIDE SEEDING, CLASS 15	ACRE	1.1
2575.501	SURFACE MULCHING, TYPE 1	TON	2.2
2575.506	SURFACE MULCHING, TYPE 6	GALLON	220
2576.501	SODDING	S.Y.	18,368
451.609	POROUS BACKFILL	TON	150
503.691	LOWER SANITARY SEWER SERVICE	L.F.	100
	INSULATE SANITARY SEWER SERVICE	L.F.	40
504.685	ADJUST WATER GATE HOUSING	HOUSING	5
504.686	ADJUST SERVICE GATE HOUSING	HOUSING	5
504.692	LOWER WATERMAIN	EACH	2
	INSULATE WATERMAIN	L.F.	30
	LOWER WATER SERVICE	L.F.	80
	INSULATE WATER SERVICE	L.F.	80
557.621	RESET BARBED WIRE FENCE, 3 WIRES, WOOD POSTS	L.F.	415
557.621	RESET BARBED WIRE FENCE, 3 WIRES, STEEL POSTS	L.F.	172

- (1) INCLUDES PLUG
- (2) INCLUDES 6-7 1/2" BENDS
- (3) INCLUDES TRASH GUARD
CRETEX NO. K-539 OR EQUAL (GALVANIZED METAL)
- (4) INCLUDES 1 PLUG AND 1 TEE
INTO 15" PIPE

TYPICAL SECTIONS



NOTE: 2331 WEARING TO BE USED ON ALL SIDE STREET APPROACHES, ENTRANCES AND BOULEVARDS.



STANDARD DETAIL PLATES

ITEM NO.	ITEM
3000D	REINFORCED CONCRETE PIPE
4016	CURB OPENING CATCH BASIN
4181	MANHOLE STEP CASTING
7021 C	CONCRETE CURB
7035 D	CURB RETURNS AT ENTRANCES
7065 B	BITUMINOUS CURB
7100 C	CONCRETE CURB AND GUTTER
7200 B	CONCRETE WALK
8000B-8009	STANDARD BARRICADE

CLEARING & GRUBBING

STA.	LOCATION	CLEAR TREE	GRUB TREE	CLEAR ACRE	GRUB ACRE
2+42	RT. 25'		1		
5+80 TO 12+98	RT.			0.52	0.52
12+98	LT. 37'	1	1		
15+97	LT. 27'		2		
16+65	LT. 42'	1	1		
16+66	LT. 40'	1	1		
18+42	LT. 42'	1	1		
18+62	LT. 42'	1	1		
18+80 TO 24+00	LT.			0.40	0.40
24+94	LT. 35'	1	1		
28+89	RT. 31'	1	1		
33+70	RT. 31'	1	1		
33+73	RT. 33'	1	1		
34+16	RT. 39'	1	1		
37+93	LT. 30'	1	1		
38+12	LT. 30'	1	1		
TOTAL		12	15	0.92	0.92

SLOPE CHART

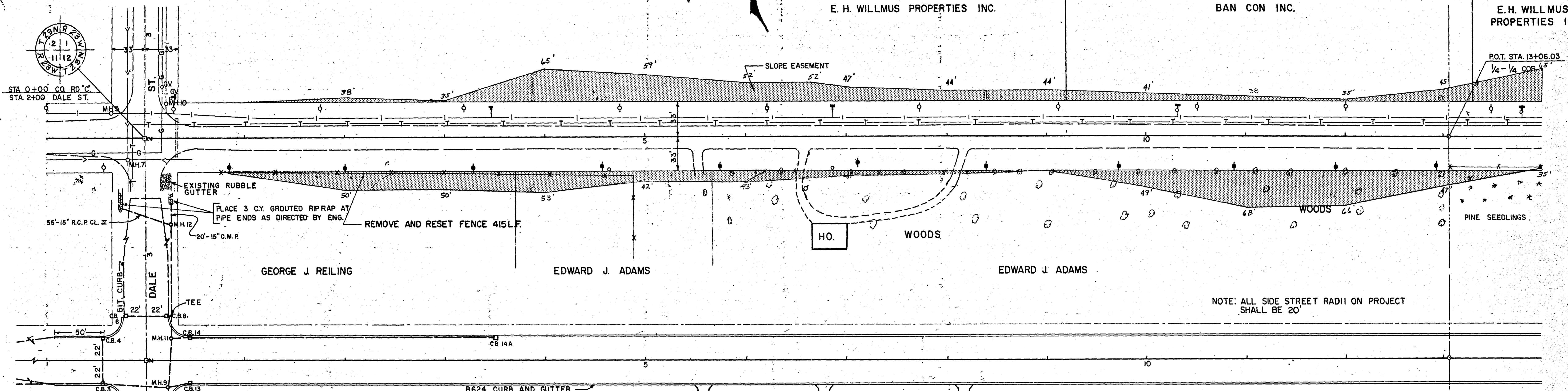
STA. TO STA.	LOCATION	FILL SLOPE	CUT SLOPE	REMARKS
0+00	5+00	RT.	1-1/2:1	FROM 30' RT. OUT
0+00	18+25	LT.	2-1/2:1	FROM PROP. LINE OUT
5+00	9+00	RT.	2:1	FROM PROP. LINE IN
9+00	15+00	RT.	1-1/2:1	FROM 30' RT. OUT
15+00	17+50	RT.	2:1	FROM PROP. LINE IN
18+25	25+75	LT.	1-1/2:1	FROM 30' LT. OUT
17+50	22+60	RT.	2:1	FROM 30' RT. OUT
22+60	26+00	RT.		BLVD. TO INTERSECT EXIST. BACKSLOPE.
26+00	29+00	RT.	2:1	FROM PROP. LINE IN
26+45	51+92	LT.		4:1 SLOPE AND MATCH TO GROUND AT PROP. LINE
29+00	51+92	RT.		

NOTE: SLOPES SHALL CONFORM TO RIGHT-OF-WAY WHERE THERE ARE NO EASEMENTS AND SHALL CONFORM TO SLOPE CHART UNLESS OTHERWISE DIRECTED BY ENGINEER.

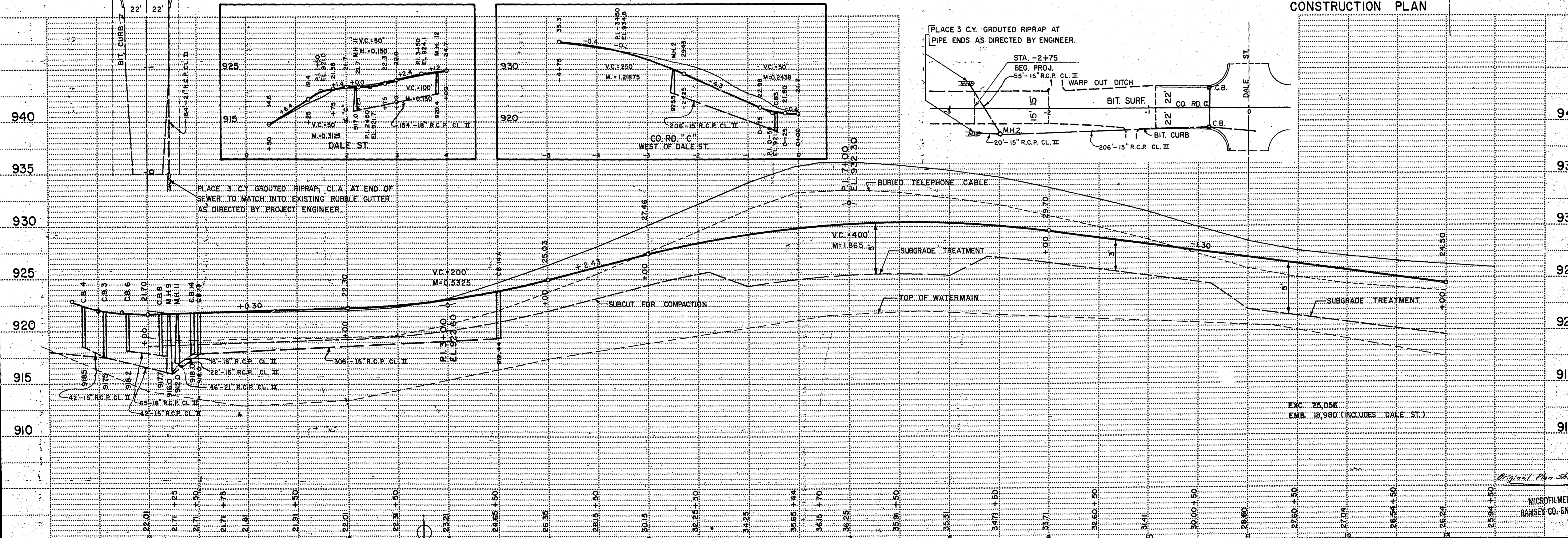
E. H. WILLMUS PROPERTIES INC.

BAN CON INC.

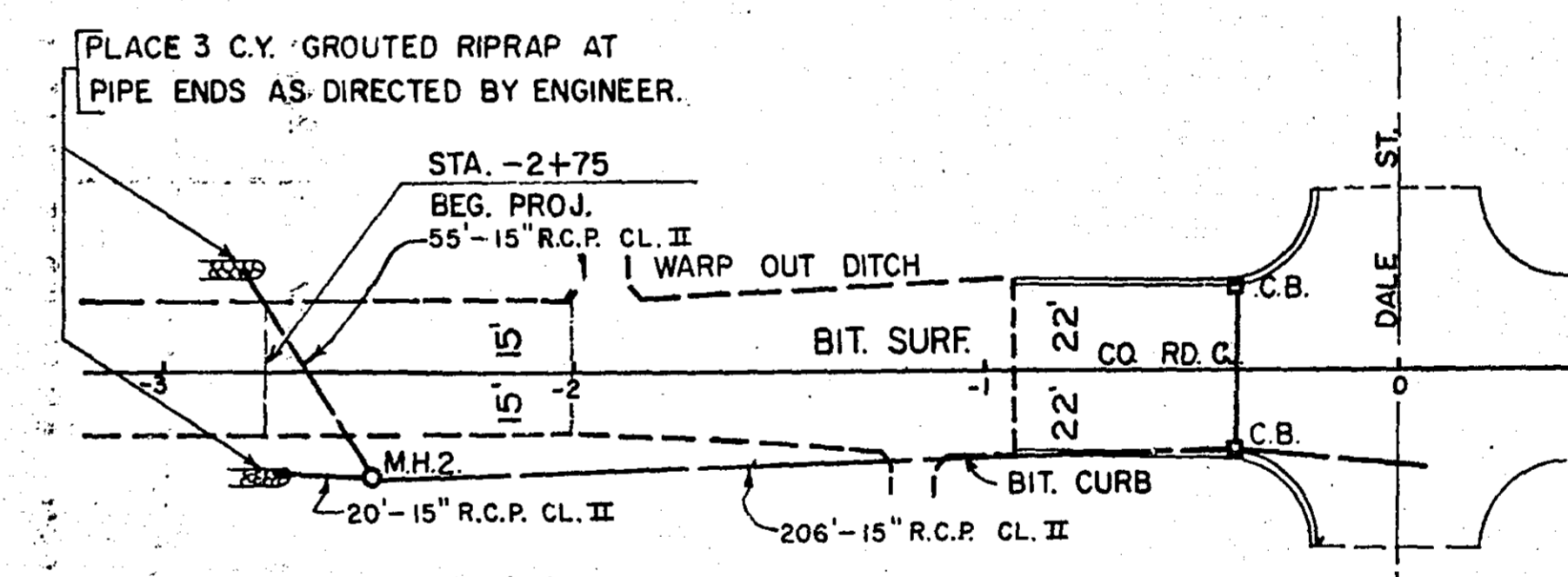
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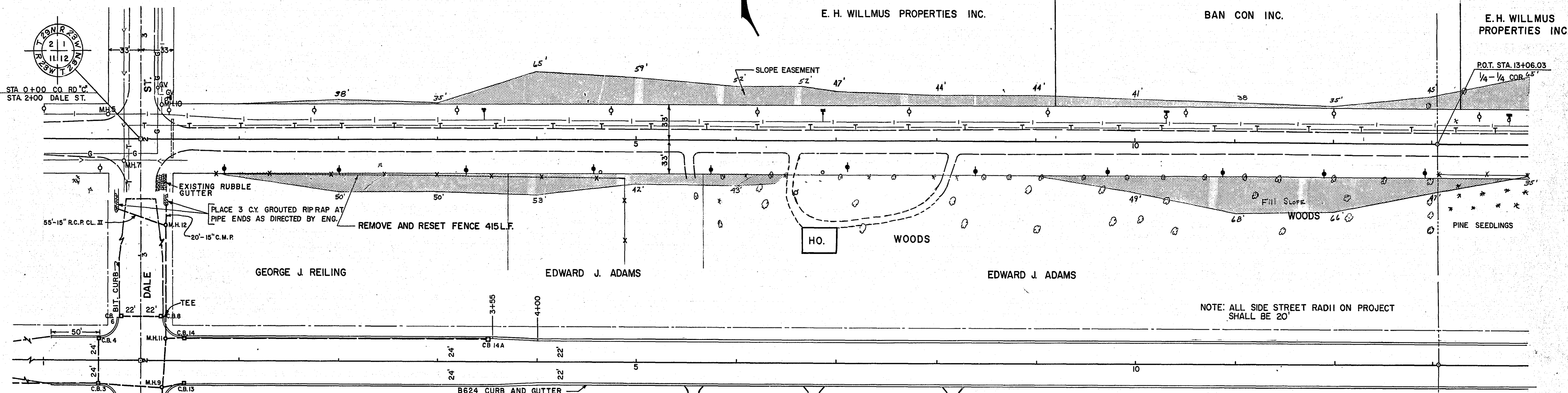
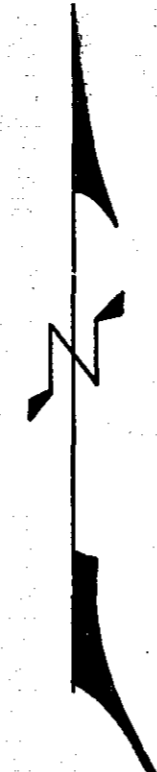


NOTE: ALL SIDE STREET RADII ON PROJECT SHALL BE 20'

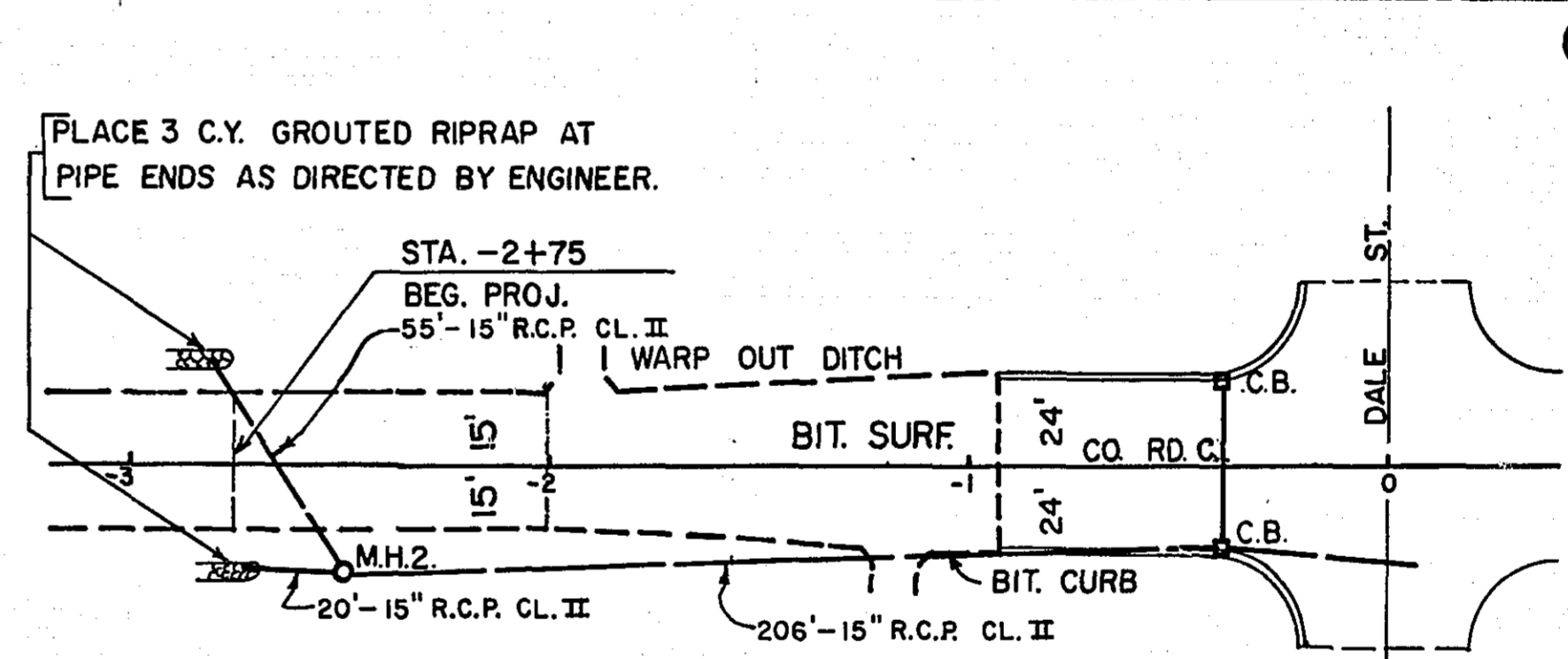
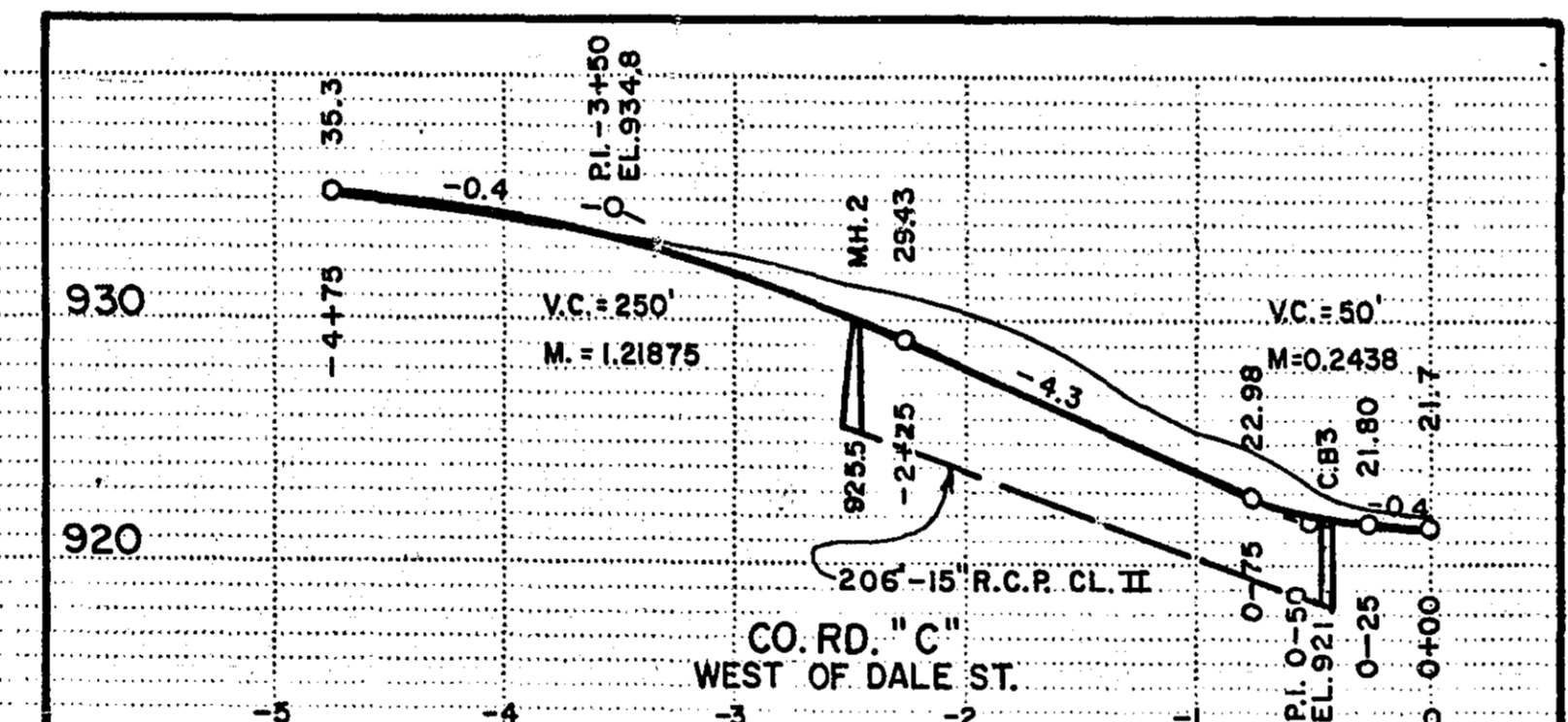
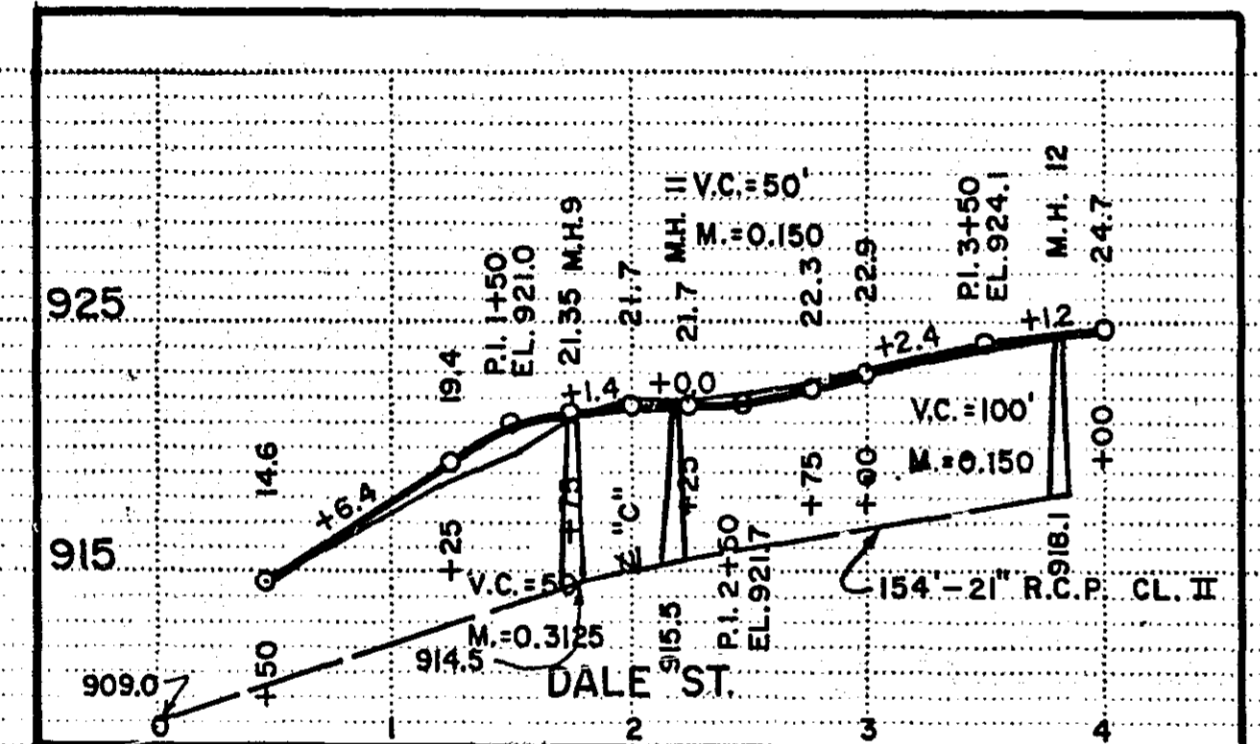


CONSTRUCTION PLAN

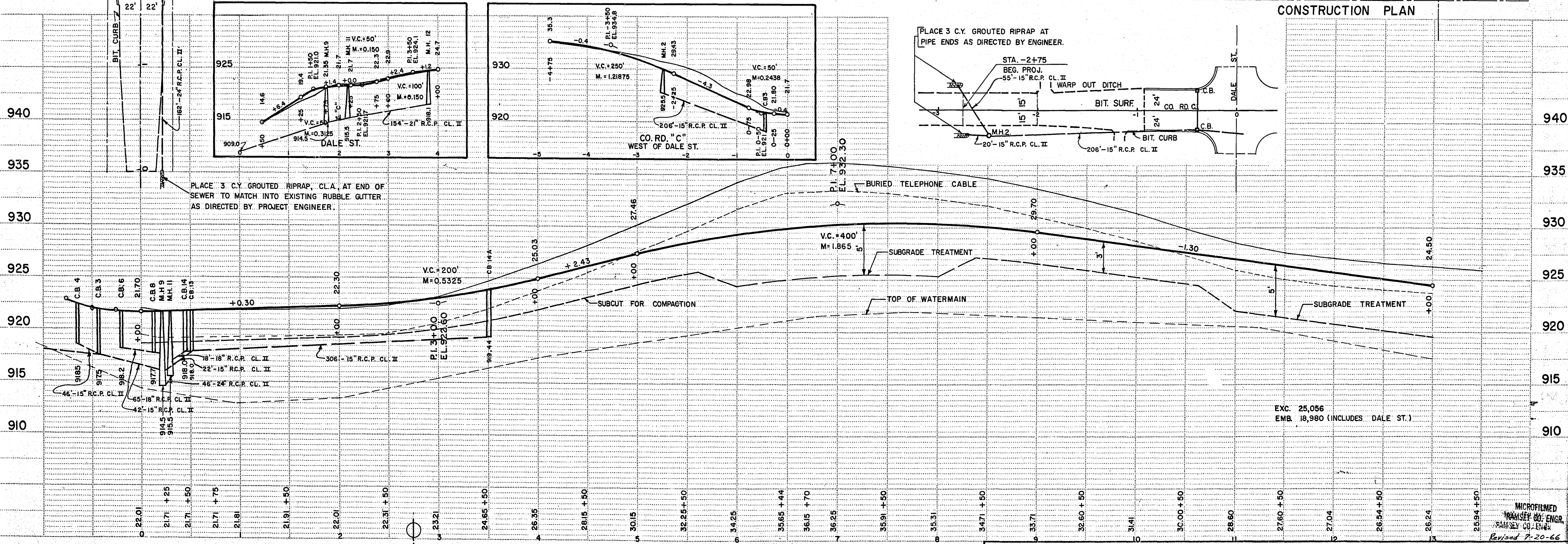




NOTE: ALL SIDE STREET RADII ON PROJECT SHALL BE 20'



CONSTRUCTION PLAN



PLACE 3 C.Y. GROUTED RIPRAP, CL.A. AT END OF SEWER TO MATCH INTO EXISTING RUBBLE GUTTER AS DIRECTED BY PROJECT ENGINEER.

PLACE 3 C.Y. GROUTED RIPRAP AT PIPE ENDS AS DIRECTED BY ENGINEER.

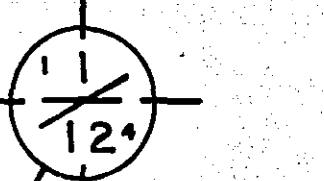
EXC. 25,056
EMB. 18,980 (INCLUDES DALE ST.)

MICROFILMED
MANAGER CO. ENGR.
REVISION CO. ENGR.
Revised 7-20-66

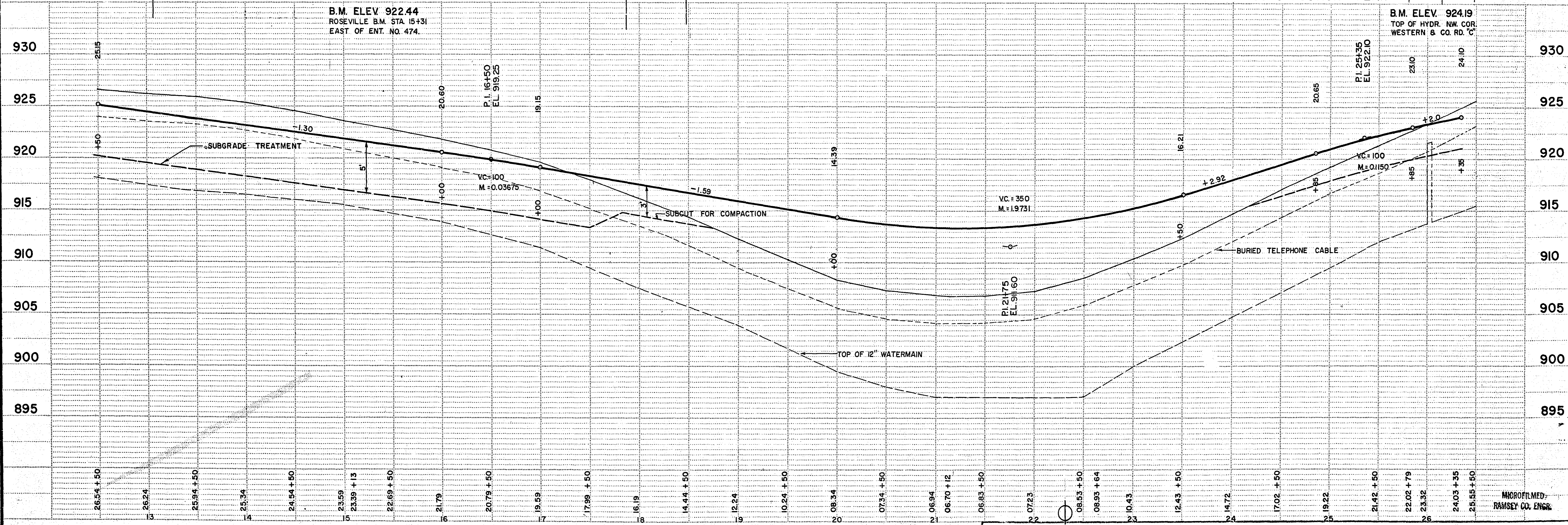
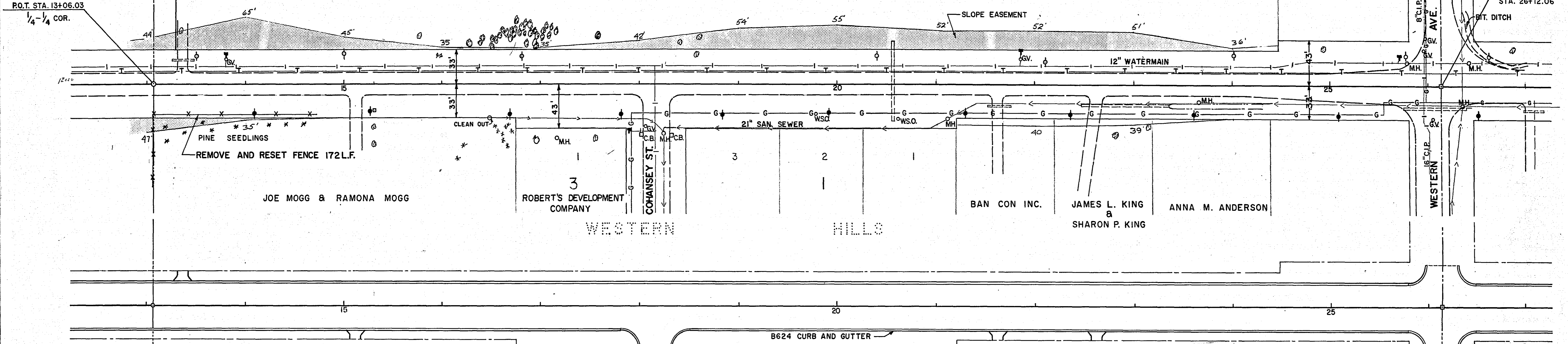
BAN CON INC.

E. H. WILLMUS PROPERTIES, INC.

P.O.T. STA. 13+06.03
1/4-1/4 COR.



P.I. 0°01' RT.
STA. 26+12.06



BAL. 1

S.A.P. NO. 62-623-04

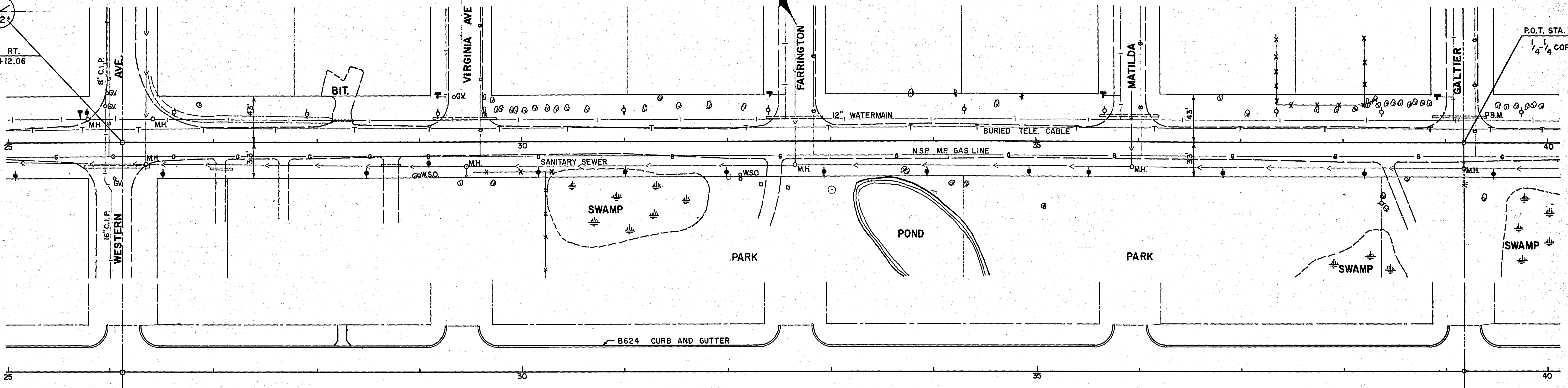
BAL. 2

Sheet No. 6 of 11 Sheets

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RAMSEY CO. ENGR.

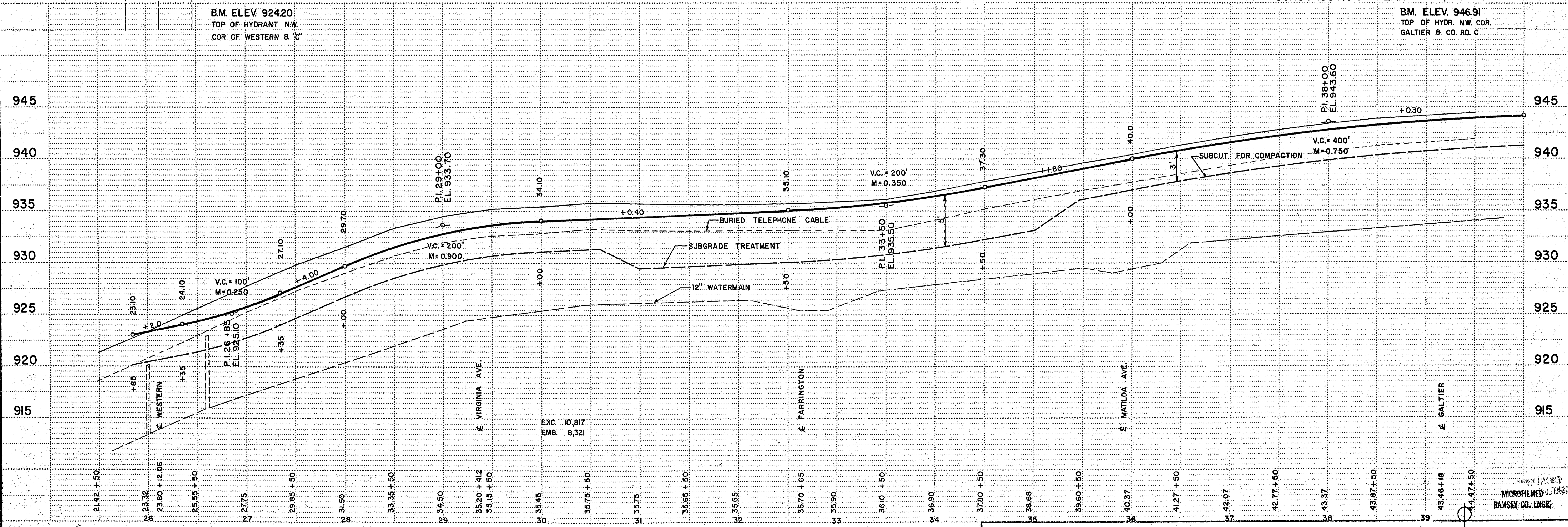
1859

P.I. 0°01' RT.
STA. 26+12.06



P.O.T. STA. 39+18.31
1/4-1/4 COR.

CONSTRUCTION PLAN



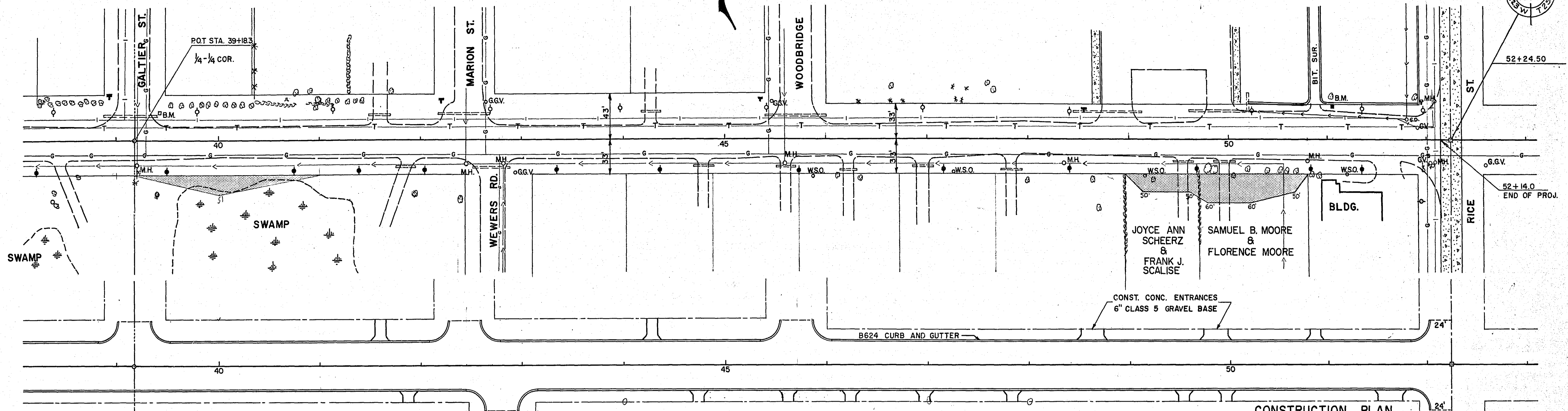
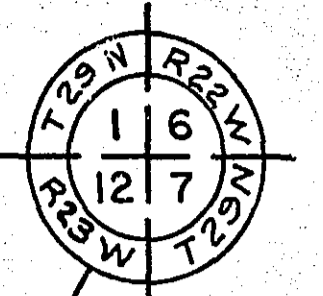
BAL. 2.

S.A.P. NO. 62-623-04

Sheet No. 7 of 11 Sheets

MICROFILMED
RAMSEY CO. ENGINEERS

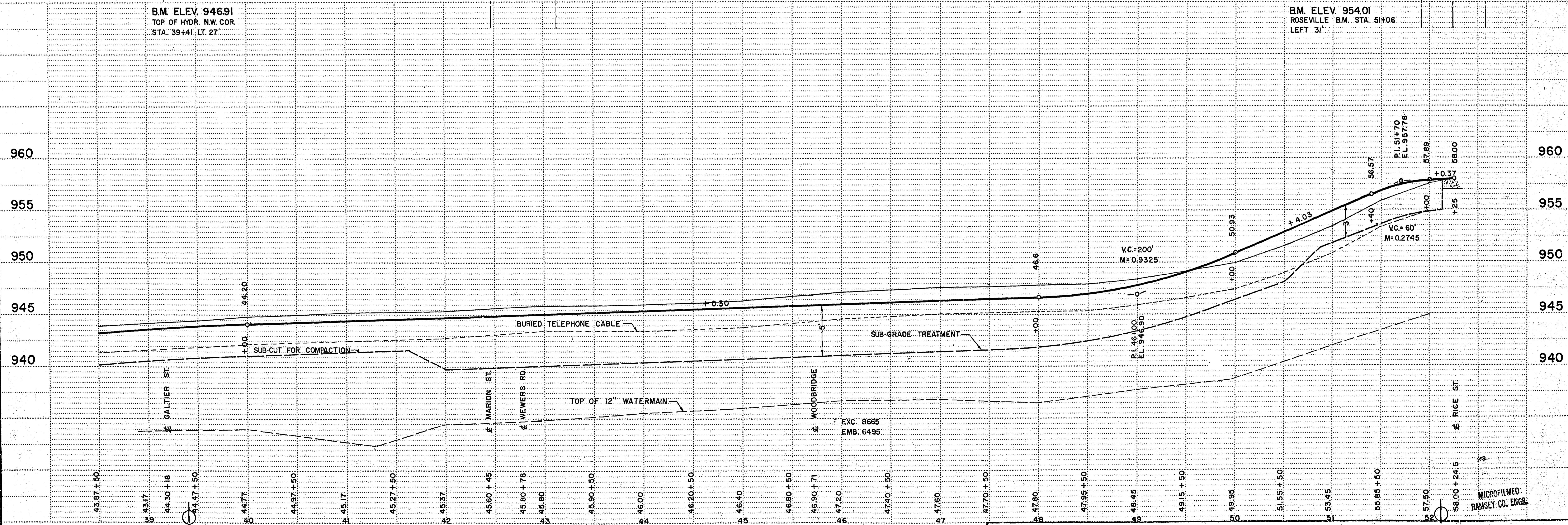
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CONSTRUCTION PLAN

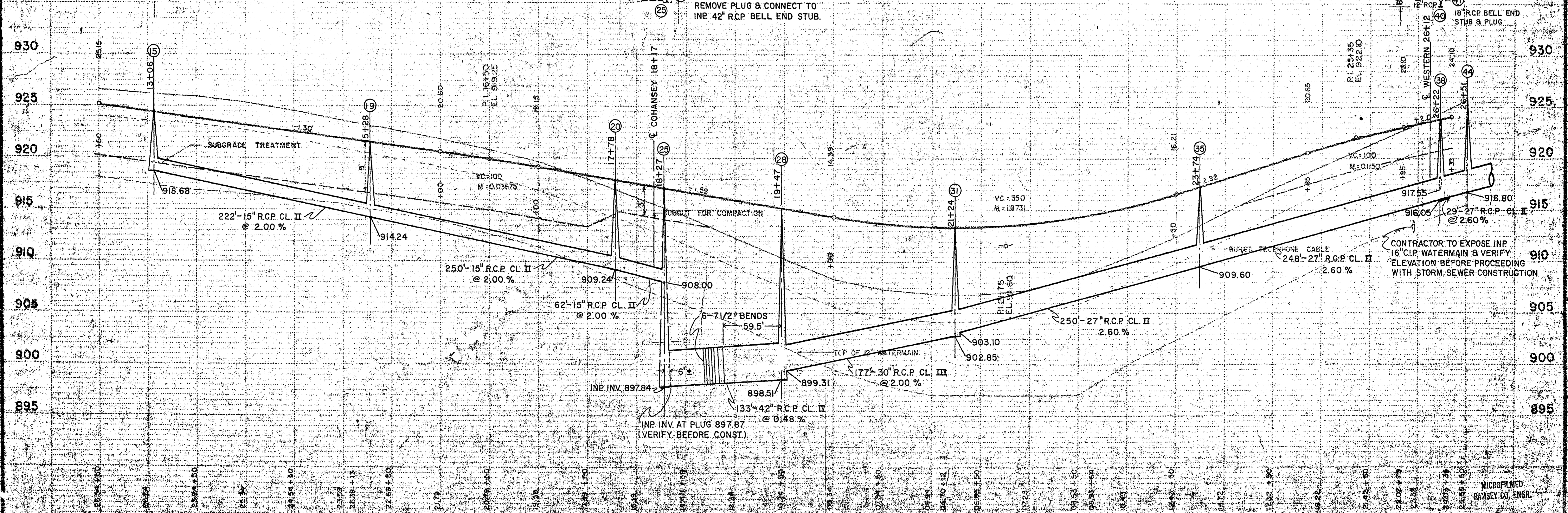
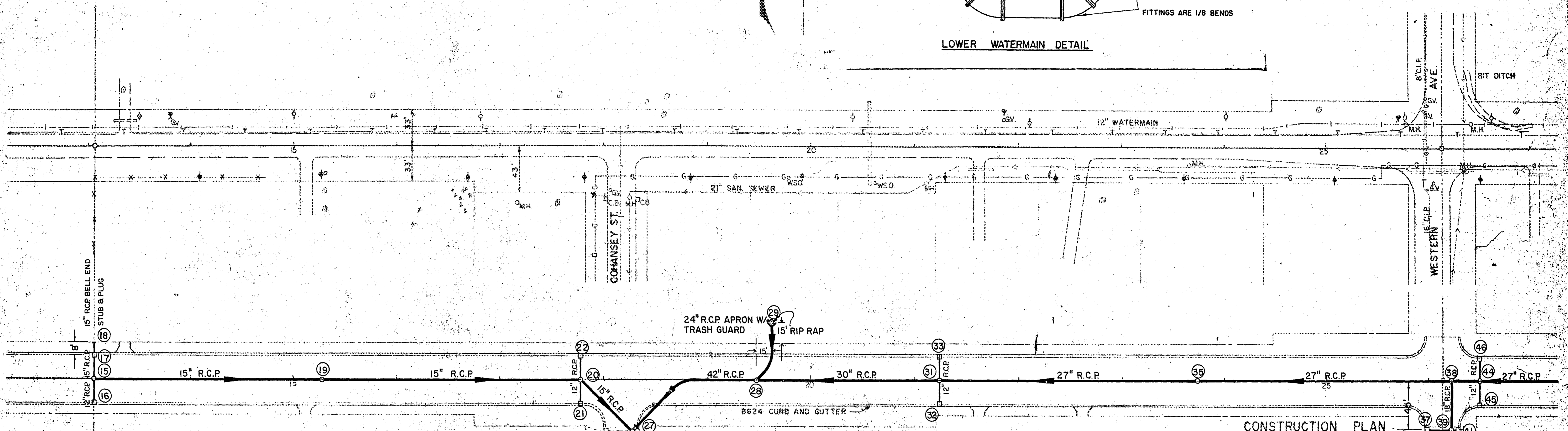
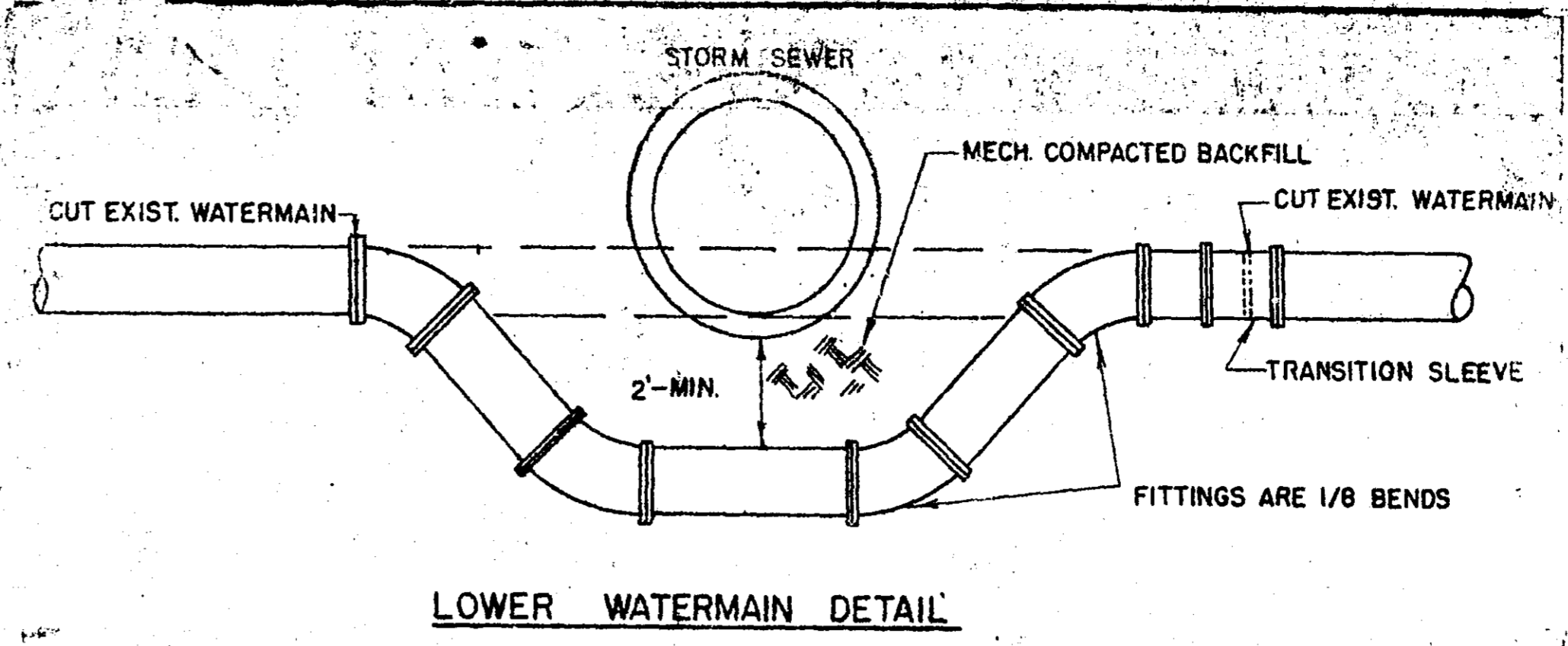
B.M. ELEV. 946.91
TOP OF HYDR. N.W. COR.
STA. 39+41 LT. 27'

B.M. ELEV. 954.01
ROSEVILLE B.M. STA. 51+06
LEFT 31'

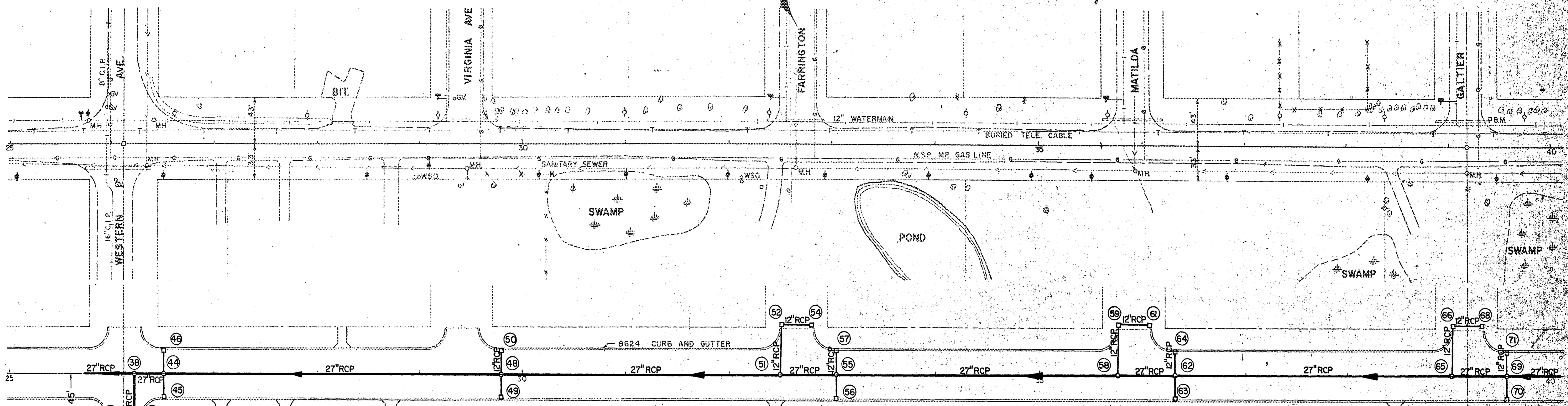


MICROFILMED
RAMSEY CO. ENGR.

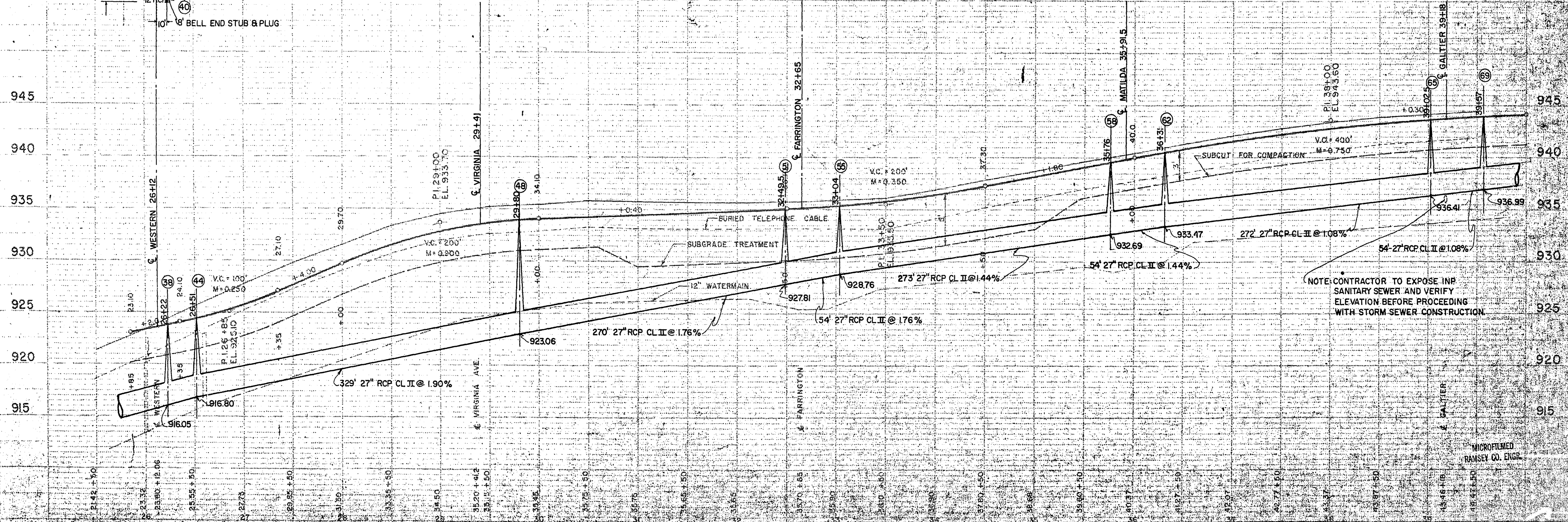
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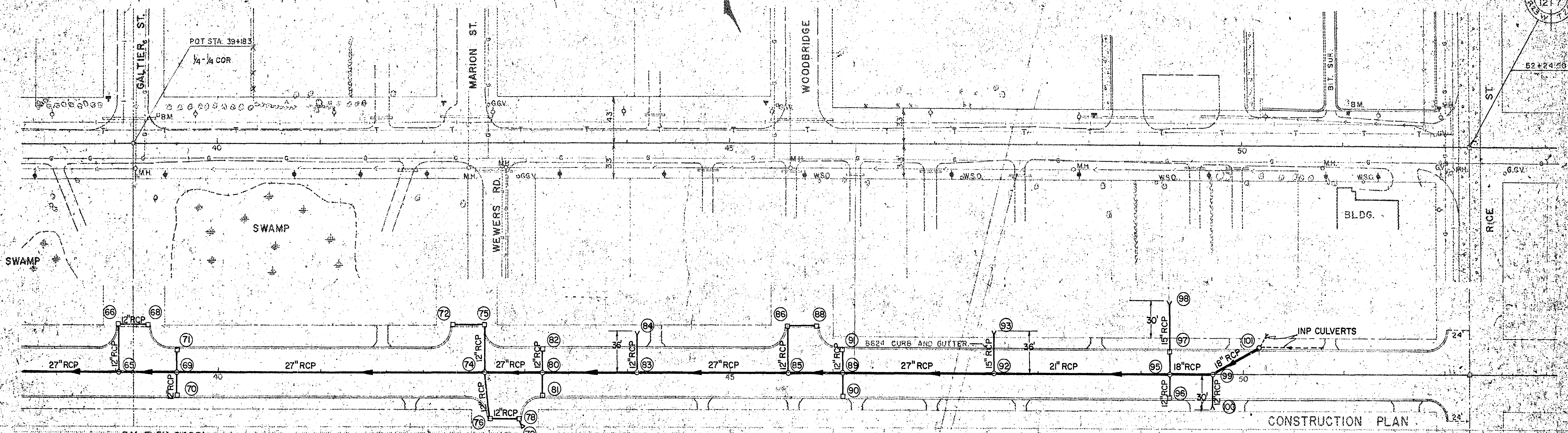
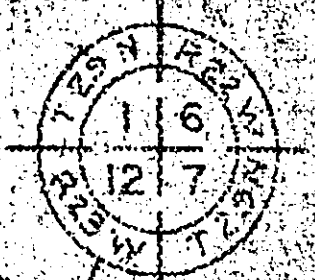
MICROFILMED
RANSEY CO. ENGR.



CONSTRUCTION PLAN



6759



BM ELEV. 94691
 TOP OF HYDR. N.W. COR.
 STA. 39+41 LT. 27"

CONSTRUCTION PLAN

BM ELEV. 95401
 ROSEVILLE B.M. STA. 3106
 LEFT 31"

