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)
F 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

FOR ADDITIONAL SYMBOLS
SEE TECHNICAL MANUAL

NOTE SECTION NUMBERS READ FROM THE SOUTH

PIT DATA

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

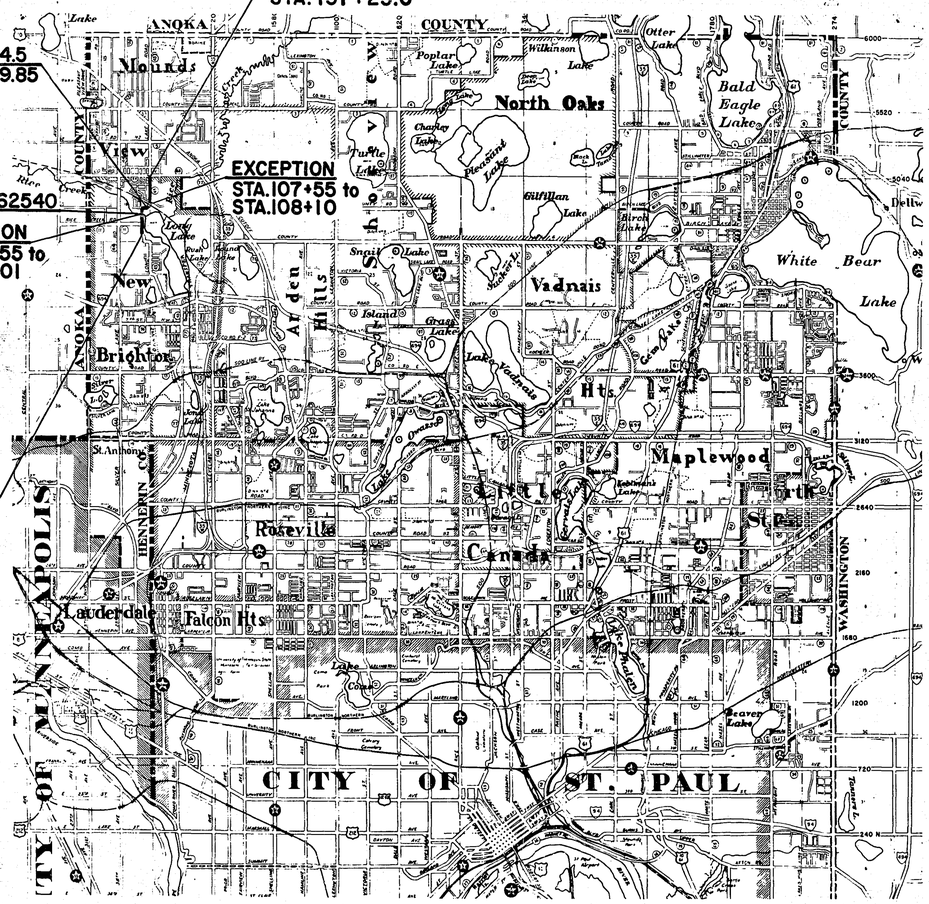
_____ PIT NO. _____ Located in ..... Dead Haul .....

GOVERNING SPECIFICATIONS

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

GROSS LENGTH	5,225.0	FEET =	0.990 MILES
BRIDGE LENGTH		FEET =	MILES
EXCEPTIONS	101.0	FEET =	0.019 MILES
NET LENGTH	5,124.0	FEET =	0.970 MILES

PLAN 10 30 50 / 20 40
PROFILE HORIZ. 10 30 50 / 20 40
PROFILE VERT. 5 10
CROSS SECTIONS 5 10
LAYOUT MAP 1 MILE



DESIGN DESIGNATION

ADT (CURRENT YEAR) 1986	= 5,100	DESIGN SPEED	30 MPH
ADT (FUTURE) YEAR 2006	= 7,000	BASED ON	STOPPING SIGHT DISTANCE
DHV (DESIGN HR. VOL.)	= 650	HEIGHT OF EYE 3.5'	HEIGHT OF OBJECT 0.5'
D (DIRECTIONAL DISTR.)	= 50 %	DESIGN SPEED NOT ACHIEVED AT:	—
T (HEAVY COMMERCIAL)	= 7 %	STA. ____ TO STA. ____	MPH ____
		STA. ____ TO STA. ____	MPH ____
Σ ,N 18 20 YEAR	= 625,000		
DESIGN LOAD	= 9 TON		
STABILOMETER "R" VALUE	= 70 STA. 108+25 TO 131+25		
	= 20 STA. 79+00 TO 108+25		

RAMSEY COUNTY
DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLAN: FOR GRADING, AGGREGATE BASE, BITUMINOUS BASE AND SURFACING, AND STORM SEWER.

LONG LAKE ROAD

BETWEEN: 19th STREET AND COUNTY ROAD H

FROM: A POINT 657.85 FEET WEST OF THE EAST LINE AND 542.60 FEET NORTH OF THE SOUTH LINE, ALL IN SECTION 18, TOWNSHIP 30 NORTH, RANGE 23 WEST.

TO: A POINT 45 FEET NORTH OF THE SOUTHEAST CORNER OF SECTION 7, TOWNSHIP 30 NORTH, RANGE 23 WEST.

S.A.P. 62-645-06
M.S.A.P. 147-020-09

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED QUANTITIES
3	TYPICAL SECTIONS
4	REMOVAL, CLEAR & GRUB, HYDRANT CHARTS & SUPERELEVATION DETAILS
5	STORM SEWER, ENTRANCE DETAILS
6	EXISTING DRAINAGE CHART
7	PROPOSED DRAINAGE CHART
8-15	PLAN & PROFILE SHEETS.
16-53	CROSS SECTIONS

SHEETS 52&53 USED IN PROJECT I694 to 19th
BJ. CM

DESIGN SQUAD _____ DATE _____
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 6-16-86 REG. NO. 14257 ENGR. David L. Kahl

RECOMMENDED FOR APPROVAL PHK TRAFFIC ENGR. DATE 6-12-86
RECOMMENDED FOR APPROVAL ENV. ENGR. DATE 6/12/86
RECOMMENDED FOR APPROVAL MAINT. ENGR. DATE 6/13/86
RECOMMENDED FOR APPROVAL RHP CONST. ENGR. DATE 6/13/86
RECOMMENDED FOR APPROVAL DESIGN ENGR. DATE 6/16/86
RECOMMENDED FOR APPROVAL SAE R/W ENGR. DATE 6/13/86
APPROVED COORDINATING ENGR. DATE 6-16-86

RECOMMENDED FOR APPROVAL Kenneth E. Walton COUNTY ENGINEER DATE 7-17-86
APPROVED CHAIR OF THE RAMSEY COUNTY BOARD DATE _____
APPROVED Leslie Propper CITY OF NEW BRIGHTON - ENGINEER DATE 6-18-86
APPROVED _____ DATE _____

MINNESOTA DEPARTMENT OF TRANSPORTATION
RECOMMENDED FOR APPROVAL Robert D. Mitchell ACTING STATE AID PLANS & SPECS ENGINEER DATE 9-8-86
RECOMMENDED FOR APPROVAL DISTRICT STATE AID ENGINEER DATE 8/14/86
APPROVAL William H. Sorg STATE AID ENGINEER DATE 9/9/86

PLAN REVISIONS		
DATE	SHEET NO.	BY
8/11/86	1,2,4,7,9,10,11,26-32	BJ
9/87	7-9, 12-15, 41-53	BJ

27-115

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No.** 1 **of** 53 **Sheets**

STATEMENT OF ESTIMATED QUANTITIES			TOTALS		M.S.A.P. 147-020-09 NEW BRIGHTON (1)		M.S.A.P. 147-020-09 & S.A.P. 62-645-06 OUTSIDE OF CENTER 24' (2)		CENTER 24' C & G (3)		S.A.P. 62-645-06 STORM SEWER (4)	
ITEM NO	ITEM	UNIT	ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES
2021.501	MOBILIZATION	L.S.	1				.5		.5			
2101.502	CLEARING	EACH	51				51					
2101.507	GRUBBING	EACH	49				49					
2104.501	REMOVE TIMBER RETAINING WALL	L.F.	67				67					
2104.501	REMOVE BITUMINOUS CURB	L.F.	1027				1027					
2104.501	REMOVE SEWER PIPE	L.F.	1241				1139		102			
2104.501	REMOVE PIPE CULVERTS	L.F.	106				58		48			
2104.501	REMOVE CURB & GUTTER	L.F.	1995				1995					
2104.503	REMOVE CONCRETE SIDEWALK	S.F.	1720				1720					
2104.505	REMOVE CONCRETE PAVEMENT	S.Y.	343				343					
2104.509	REMOVE CATCH BASINS	EACH	10				10					
2104.509	REMOVE MANHOLES	EACH	6				6					
2104.513	SAWING BITUMINOUS PAVEMENT	L.F.	2665				1020		1645			
2104.521	SALVAGE WOOD RAIL FENCE	L.F.	161				161					
2104.521	SALVAGE PLATE BEAM GUARDRAIL	L.F.	150				150					
2104.523	SALVAGE CASTINGS	EACH	16				16					
2104.523	SALVAGE CONCRETE APRONS	EACH	4				4					
2104.523	SALVAGE SIGN	EACH	1				1					
2105.501	COMMON EXCAVATION	C.Y.	32826				16413		16413			
2105.521	GRANULAR BORROW (L.V.)	C.Y.	6000				2677		3323			
2105.525	TOPSOIL BORROW (L.V.)	C.Y.	1498				1498					
2130.501	WATER	M.GAL.	8				4		4			
2211.501	AGGREGATE BASE CL. 6 (CL.5 100% CR.)	TON	11657				5963		5694			
2211.501	AGGREGATE BASE CL. 4	TON	3408				1499		1909			
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	422				170		252			
2331.508	WEARING COURSE MIXTURE	TON	406				406		—			
2331.510	BINDER COURSE MIXTURE	TON	2370				1060		1310			
2331.514	BASE COURSE MIXTURE	TON	5900				1966		3934			
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL.	2480				893		1587			
2361.504	ASPHALT CEMENT	TON	90				30		60			
2361.508	WEARING COURSE MIXTURE - MOD.	TON	1310				436		874			
2104.511	SAWING CONCRETE PAVEMENT	L.F.	205				205					
0412.602	INSTALL SIGN	EACH	1				1					
2451.513	FINE FILTER AGGREGATE (L.V.)	C.Y.	2								2	
2501.515	15" R.C. PIPE APRONS	EACH	2								2	
2501.515	18" R.C. PIPE APRONS	EACH	1								1	
2501.515	24" R.C. PIPE APRONS	EACH	1								1	
2501.515	36" R.C. PIPE APRONS	EACH	1								1	
2503.541	15" R.C.P. SEWER DESIGN 3006 CL.V	L.F.	3125								3125	
2503.541	15" R.C.P. SEWER DESIGN 3006 CL.V - JACKED	L.F.	30								30	
2503.541	18" R.C.P. SEWER DESIGN 3006 CL.V	L.F.	1764								1764	
2503.541	24" R.C.P. SEWER DESIGN 3006 CL.V	L.F.	64								64	
2503.541	36" R.C.P. SEWER DESIGN 3006 CL.V	L.F.	1006								1006	
2506.508	CONSTRUCT MANHOLES DESIGN 72-4020	EACH	6								6	
2506.508	CONSTRUCT MANHOLES DESIGN A OR F	EACH	13								13	
2506.509	CONSTRUCT CATCH BASINS DESIGN SP-2	EACH	9								9	
2506.509	CONSTRUCT CATCH BASINS DESIGN 72-4020	EACH	4								4	
2506.509	CONSTRUCT CATCH BASINS DESIGN LP 4-3	EACH	1								1	
2506.509	CONSTRUCT CATCH BASINS DESIGN LP 4-4	EACH	11								11	
2506.509	CONSTRUCT CATCH BASINS DESIGN LP 4-5	EACH	8								8	
2506.509	CONSTRUCT CATCH BASINS DESIGN LP 4-6	EACH	2								2	
2506.509	CONSTRUCT CATCH BASINS DESIGN LP 4-7	EACH	1								1	
2506.509	CONSTRUCT CATCH BASINS DESIGN LP 4-8	EACH	1								1	
2506.509	CONSTRUCT SURFACE DRAIN DESIGN A OR F	EACH	2								2	
2506.509	CONSTRUCT SURFACE DRAIN DESIGN C	EACH	1								1	
2506.511	RECONSTRUCT MANHOLE	L.F.	41.3				8.2		33.1			
2506.521	INSTALL CASTINGS	EACH	7				2		5			
2506.522	ADJUST FRAME & RING CASTINGS	EACH	17				7		10			
2511.505	HANDPLACED RIPRAP CL.IV 18" DEPTH	C.Y.	39								39	
2511.511	GRANULAR FILTER CL.IV 9" DEPTH	C.Y.	19.5								19.5	
2511.515	GEOTEXTILE FABRIC TYPE 4	S.Y.	78								78	
2521.501	4" CONCRETE WALK	S.F.	21848		20170		1678					
2531.501	CONCRETE CURB & GUTTER DES. B624	L.F.	10485						10485			
2531.507	6" CONCRETE DRIVEWAY PAVEMENT	S.Y.	400				400					
2535.501	BITUMINOUS CURB	L.F.	690				690					
0501.569	TRASH GUARD FOR 15" R.C. APRON	EACH	2								2	
0501.569	TRASH GUARD FOR 18" R.C. APRON	EACH	1								1	
0501.569	TRASH GUARD FOR 24" R.C. APRON	EACH	1								1	
0501.569	TRASH GUARD FOR 36" R.C. APRON	EACH	1								1	
2554.511	INSTALL PLATE BEAM GUARDRAIL	L.F.	150				150					
2575.505	SODDING	S.Y.	19985				19985					
2575.531	COMMERCIAL FERTILIZER ANALYSIS 12-12-12	TON	0.7				0.7					
0575.603	SILT CURTAIN TYPE B	L.F.	816				816					
0557.603	INSTALL WOOD RAIL FENCE	L.F.	161				161					
0504.602	ADJUST VALVE BOX	EACH	23				23					
0504.602	RELOCATE HYDRANT	EACH	3				3					
0504.602	ADJUST HYDRANT	EACH	3				3					

STANDARD DETAIL PLATES	
0004 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 K	REINFORCED CONCRETE PIPE
3006 E	GASKET JOINT FOR R.C. PIPE
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133 B	RIPRAP AT RCP OUTLETS
3145 E	CONCRETE PIPE TIES
4000 I	MANHOLE OR CATCH BASIN
4002 E	MANHOLE OR CATCH BASIN
4005 K	MANHOLE OR CATCH BASIN
4010 G	CONCRETE SHORT CONE AND ADJUSTING RING
4011 D	PRECAST CONCRETE BASE
4020 E	MANHOLE OR CATCH BASIN
4021 C	PRECAST CURB OPENING CATCH BASIN
4101 C	RING CASTING FOR MANHOLE OR CATCH BASIN
4108 E	MANHOLE ADJUSTING RINGS
4110 D	COVER CASTING FOR MANHOLE
4140 D	SPECIAL GRATE CASTINGS FOR CATCH BASIN
4180 H	MANHOLE OR CATCH BASIN STEP
7036 C	PEDESTRIAN CURB RAMP
7065 C	BITUMINOUS CURB
7100 F	CONCRETE CURB AND GUTTERS
8000 I	STANDARD BARRICADES
8002 F	PERMANENT BARRICADE
8003 B	BREAKAWAY SIGN SUPPORT
8307 M	STRUCTURAL PLATE BEAM GUARDRAIL
9102 C	SODDING AT PIPE CULVERT ENDS

QUANTITY NOTES

(1) 100% MSAP FUNDED

(2) 75% MSAP FUNDED
25% SAP FUNDED

(3) 100% SAP FUNDED

(4) 64.3% SAP FUNDED
35.7% LOCALLY FUNDED

CONSTRUCTION NOTES

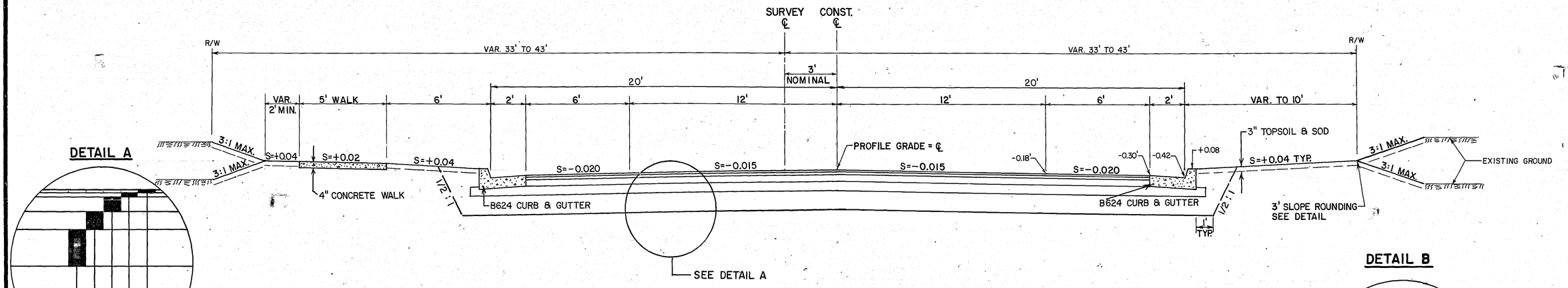
- PROVIDE DRAINAGE OUTLETS FOR ALL SUBCUTS DURING CONSTRUCTION. DITCHES SHOULD BE DEEPER THAN SUBCUT TO PROVIDE OUTLET DRAINAGE.
- TAPER ENDS OF SUBCUT TO A 20:1 SLOPE UNLESS OTHERWISE RECOMMENDED.
- WHERE THE PROPOSED SUBCUT IS LOCATED UNDER INPLACE BASE AND BITUMINOUS SURFACING OR CONCRETE PAVEMENT, THE ENDS OF SUBCUT SHALL BE VERTICAL FOR THE DEPTH OF THE BITUMINOUS OR CONCRETE AND 2:1 IN AGGREGATE BASE.
- STRIP TOPSOIL FROM ALL AREAS TO BE DISTURBED BY CONSTRUCTION AND STOCKPILE (IF PRACTICAL) FOR REPLACEMENT LATER AS SLOPE DRESSING.
- PROVIDE FOR REMOVAL AND DISPOSAL OF (OUTSIDE THE CONSTRUCTION ZONE) ANY INPLACE SURFACING AND STRUCTURES THAT WILL INTERFERE WITH CONSTRUCTION.
- FROM A SOILS STANDPOINT, TRAFFIC SHOULD BE MAINTAINED NO CLOSER THAN AN IMAGINARY 2:1 LINE DRAWN FROM THE BOTTOM OF ANY EXCAVATION INTESECTING THE SURFACE.
- THE ORDINARY COMPACTION METHOD SHALL BE USED ON THIS PROJECT.
- THE CONTACTOR SHALL OBTAIN FROM THE UTILITY COMPANIES, THE EXACT LOCATION OF ANY UNDERGROUND UTILITIES WHICH HE MAY ENCOUNTER IN THE PREFORMANCE OF HIS WORK.
- TOP OF "GRADING GRADE" IS DEFINED AS THE TOP OF THE EMBANKMENT MATERIAL OR THE BOTTOM OF THE BITUMINOUS OR AGGREGATE BASE COURSE.
- NO PENETRATION PRIME IS REQUIRED ON THIS PROJECT
- PROVIDE A TACK COAT, SPEC. 2357.2A, BETWEEN BITUMINOUS COURSES.
- SILT FENCE SHALL BE INSTALLED AT ALL CATCH BASINS AND AT OTHER DRAINAGE STRUCTURES AS INDICATED ON SHEET 7. SEE SUPPLEMENTAL SPECIFICATION FOR INSTALLATION REQUIREMENTS.

REVISIONS	DATE	BY	REVISIONS	DATE	BY
STORM SEWER	8/11/86	SB	COMMON EXCAVATION	9/30/86	KH
Quantity Adjustments	8/13/86	T.P.	REMOVE CONCRETE SIDEWALK	10/3/86	KH
STORM SEWER	9/25/86	K.H.	STORM SEWER	3/5/87	ET
STORM SEWER STRUCTURES	9/25/86	K.H.	GRANULAR BORROW	6/1/87	TL
GRANULAR BORROW ADDED	9/30/86	K.H.			

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 _____ REG. NO. _____

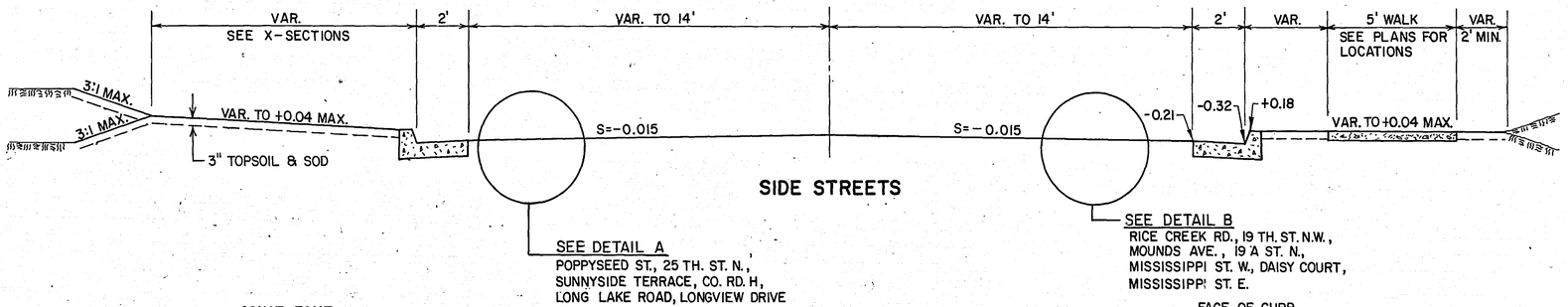
27-115



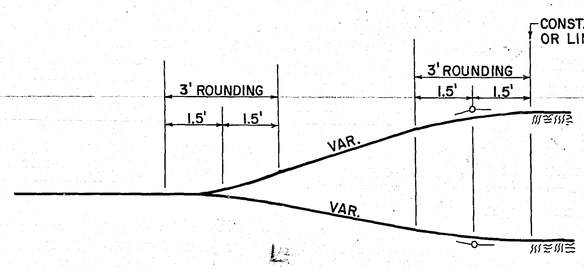
TYPICAL SECTION
LONG LAKE ROAD
STA. 108+10 TO STA. 131 +25

TYPICAL SECTION
LONG LAKE ROAD

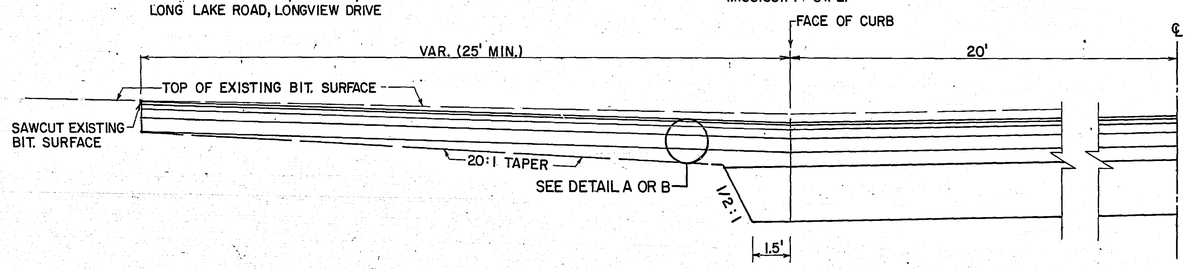
STA. 79 +00 TO STA. 108+10



SIDE STREETS



SLOPE ROUNDING DETAIL



TYPICAL SIDE STREET APPROACH

REVISIONS	DATE	BY	REVISIONS	DATE	BY
SUBCUT STATIONING CHANGED	9/30/86	KH			
SIDESTREET SUBCUTS	9/30/86	KH			
DETAIL B - 6" AGGREGATE REVISED	4/6/87	DM			

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 _____ REG. NO. _____

27-115
TYPICAL SECTIONS

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 Sheet No. 3 of 53 Sheets

Fed. Proj. No.

REMOVALS & SALVAGES

STATION	LOCATION	REMOVE BIT. CURB	REMOVE CONC. C & G	REMOVE CONC. SIDEWALK	REMOVE CONC. PAVEMENT	REMOVE SEWER PIPE	REMOVE PIPE CULVERTS	REMOVE CATCH BASINS	REMOVE MANHOLES	REMOVE TIMBER WALL	SALVAGE WOOD RAIL FENCE	SALVAGE CONC. APRONS	SALVAGE CASTINGS	SALVAGE PLATE BEAM GUARDRAIL	SALVAGE SIGN
		L.F.	L.F.	S.F.	S.Y.	L.F.	L.F.	EACH	EACH	L.F.	L.F.	EACH	EACH	L.F.	EACH
80+00 to 80+30	LT. & RT. 40'		77												
81+20 to 82+00	RT. 22'										80				
82+75	RT. 24'									26					
82+95	LT. 30'										20				
83+10	RT. 13'			150											
83+15 to 83+58	LT. 36'+		24												
83+85	RT. 30'										20				
83+95	℄						46								
83+50 to 87+00	LT. 30'					426			1				1		
84+83	LT. 28'								1			1	1		
86+24	LT. 24'							1					1		
86+35					27										
86+97	LT. 54'											1			
86+61	RT. 25'							1					1		
86+86	LT. 36'							1					1		
90+00	LT. 20'						60								
90+00 to 90+30	LT. 65'	22													
91+10	RT. 35'									6					
91+80 to 93+55	LT. 23'+					175		1					1		
92+50	RT. 20'		15												
92+55	LT. 28'								1				1		
92+70 to 93+35	LT. 25'+			170	18				1				1	55	
93+55	LT. 33'											1			
94+02	LT. 33'											1			
94+10	LT. 33'					22									
94+25 to 95+40	LT. 25'+			575										95	
95+30	RT. 22'		10												
96+48 to 96+66	RT. 20'				25					30					
97+40 to 97+80	RT. 25'				32										
99+00	RT. 30'				58										
99+50 to 101+15	LT. 100'+		255												
100+70 to 100+80	LT. 50			50				1					1		
101+07	LT. 36							1					1		
100+80 to 105+30	LT. & RT.					600									
101+00	RT. 30'				106										
101+80	RT. 35'										6				
102+72 to 107+15	RT. 25'+		740												
103+64	LT. 30'								1				1		
105+10	RT. 75'							1					1		
105+10	RT. 58'								1				1		
105+28	LT. 22'							1					1		
105+31	RT. 106'							1					1		
106+80	RT. 28'				19										
108+03 to 109+70	LT. 14'	170													
112+85 to 120+85	RT. 22'+		781	650		18		1					1		
118+85	LT. 25'				11										
122+80 to 123+10	RT. 40'+				47										1
124+00 to 124+32	RT. 45'		22												
127+15 to 127+48	RT. 50'		36												
129+60 to 130+65	RT. 20'	115													
129+80 to 130+60	LT. 15'	90													
131+00 to 131+25	LT. 25'	35													
130+96 to 131+25	RT. 25'	35													
130+50	LT. 30'			125											
88+82 to 89+04	LT. 18'														
90+90 to 91+12	LT. 23'														
95+32 to 96+01	RT. 24'														
97+08 to 97+48	LT. 24'														
83+60	LT. 37'										20				
16+15 to 16+80	RT. 20'	30													
18+22	RT. 20										15				
19+00 to 19+15	RT. 20'		35							5					
19+15 to 19+35	RT. 33'														
16+69 to 18+91	RT. 15'	235													
19+14 to 22+08	RT. 15'	295													
		1027	1995	1720	343	1241	106	10	6	67	161	4	16	150	1

CLEAR & GRUB CHART

STATION	LOCATION LT.	LOCATION RT.	DESCRIPTION
LONG LAKE ROAD			
80+45		32'	4" PINE
+58		32'	4" PINE
+70		32'	4" PINE
+84		32'	4" PINE
+98		32'	4" PINE
81+10		31'	4" PINE
82+66		34'	TWIN 8" ELM
84+92	33'		6" ASH
88+24	42'		TWIN 6" PLUM
+27	42'		6" PLUM
89+44	39'		12" POPLAR
+49	36'		12" POPLAR
91+30		34'	10" PINE
+41		33'	10" PINE
+53		32'	10" PINE
+57		36'	10" PINE
+63		35'	10" PINE
+67		31'	10" PINE
+74		31'	10" PINE
+81		32'	10" PINE
92+00		32'	10" PINE
+09		32'	10" PINE
+16		32'	10" PINE
95+37		29'	18" COT.WOOD
96+06	40'		TWIN 6" ELM
97+80	34'		17" PINE
115+89	32'		STUMP
121+68		29'	TWIN 4" APPLE
122+14		35'	14" OAK
+32		31'	12" MAPLE
128+11		28'	40" COT.WOOD
+49		28'	18" ELM
129+56		26'	4" BEECH
130+22		38'	STUMP
+27		28'	24" OAK

STATION	LOCATION LT.	LOCATION RT.	DESCRIPTION
COUNTY ROAD H			
11+31		26'	18" ELM
+55		27'	24" ELM
+60		34'	6" ASH
+63		32'	6" ASH
12+82		31'	10" MAPLE
13+00		33'	10" PINE
+66		33'	4" MAPLE
+98		36'	12" ASH
14+40		40'	12" MAPLE
+65		36'	12" MAPLE
15+01		32'	12" PINE
18+12		26'	8" PINE
+31		17'	8" PINE
+33		31'	8" PINE

HYDRANT CHART

STATION	LOCATION	
LONG LAKE ROAD		
81 + 56	LT. 26'	RELOCATE
86 + 98	LT. 75'	RELOCATE
99 + 55	LT. 34'	ADJUST
105 + 30	RT. 122	OK
109 + 73	RT. 26'	RELOCATE
117 + 73	RT. 39'	OK
123 + 95	RT. 28'	ADJUST
130 + 58	RT. 46'	ADJUST
131 + 15	RT. 25'	OK
CO. RD. H		
16 + 20	RT. 20'	OK
16 + 28	LT. 36'	OK
19 + 66	LT. 33'	OK
22 + 86	LT. 33'	OK

ALL HYDRANT WORK SHALL BE PERFORMED AS DIRECTED BY THE CITY OF NEW BRIGHTON WATER UTILITY.

REVISIONS	DATE	BY
SUPERELEVATION DETAIL REVISED	9/11/86	B.J.
REMOVE BIT CURB, REMOVE CONC. C&G	10/3/86	K.H.
REMOVE CONC. SIDEWALK REMOVE CONC. PAVEMENT	10/3/86	K.H.
SALVAGE CASTINGS	10/3/86	K.H.

REVISIONS	DATE	BY

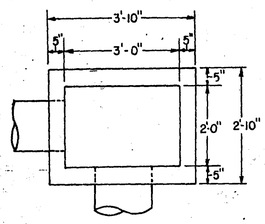
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ REG. NO. _____

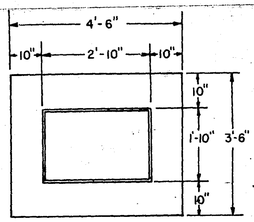
27-115

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

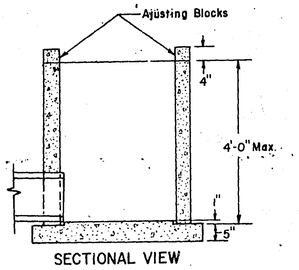
Sheet No. 4 of 53 Sheets



CATCH BASIN PLAN



BASE SLAB PLAN



SECTIONAL VIEW
CATCH BASIN & BASE SLAB

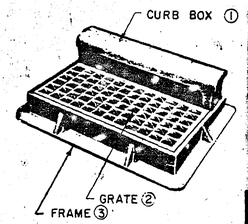
NOTES:

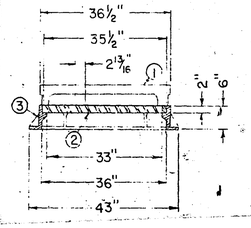
1. TO BE USED WITH NEENAH R-3067-L OR EQUAL.
2. PIPE CUT-OUTS TO BE LOCATED WHERE REQUIRED.
3. ALTERNATE CAST-IN-PLACE BASE SLAB CAN BE USED.
4. INSTALL AS PER MN./DOT STD. PLATE NO. 7111E
5. REINFORCING: SINGLE LINE STEEL WIRE FABRIC,
   WALL = W3.5 x W3.0 HAVING A AREA OF NOT LESS THAN .21 SQ. IN. PER. FOOT OF HEIGHT.
   BASE = W4.0 X W4.0 HAVING A AREA OF NOT LESS THAN .16 SQ. IN. PER. FOOT OF HEIGHT

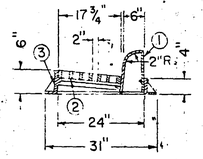
CASTING ASSEMBLY
(FOR DESIGN SPECIAL 2 CATCH BASIN)

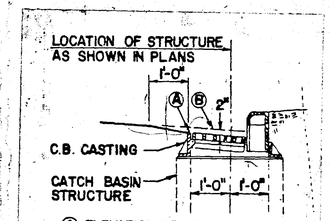
NOTES:

1. MATERIALS: CAST GRAY IRON, CLASS 30, MN/DOT SPEC. REFERENCE 3321
2. CURB BOX HEIGHT SHALL BE ADJUSTABLE 6" TO 9"
3. SEE CATCH BASIN-DESIGN SPECIAL 2 DETAIL FOR CASTING INSTALLATION DETAIL.

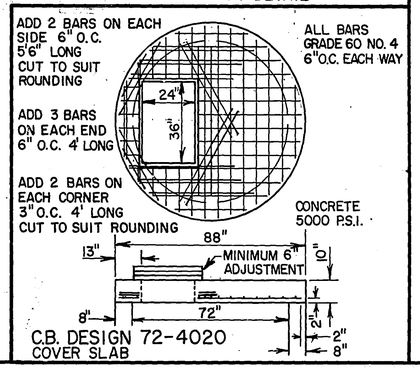




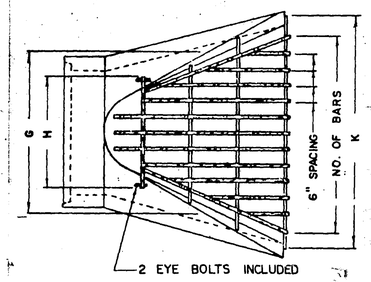


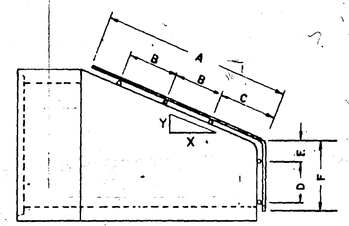


INSTALLATION DETAIL



TRASH GUARD (GALVANIZED)
(FOR CONCRETE APRON)





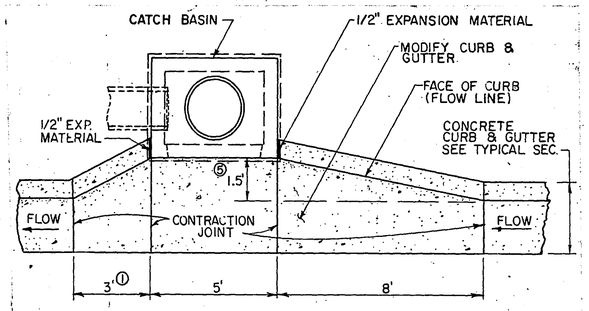
1/2" BARS FOR LONGITUDINAL INTERIOR BARS, WELD EACH INTERSECTION.

3/4" BARS FOR TRANSVERSE AND EDGE REINFORCEMENT.

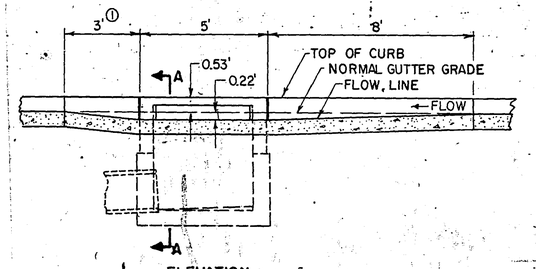
CONTRACTOR SHALL FURNISH SUITABLE LOCKING DEVICE APPROVED BY ENGINEER.

SIZE	NO. OF BARS	SLOPE	A	B	C	D	E	F	G	H	K
12"	5	3 to 1	24	10	10	5	2	8	24		30
15"	6	"	24	10	10	6	2	10	26		34
18"	7	"	24	10	10	6	3	12	28		40
21"	8	"	36	16	16	7	3	12	34		50
24"	9	"	44	20	20	10	4	16	36		52
27"	10	"	50	23	23	10	4	16	38		58
30"	11	"	56	26	26	12	4	18	42		64
36"	13	"	64	30	30	12	4	18	48		76
42"	15	"	68	32	32	16	8	26	60		88
48"	16	"	76	36	36	14	10	28	62		92
54"	17	24 to 1	76	36	36	16	12	32	68		96

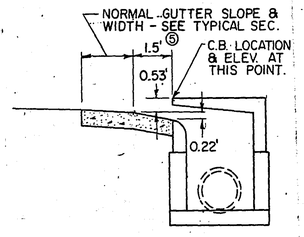
CURB OPENING CATCH BASIN - DESIGN LP
INSTALLATION DETAIL



PLAN VIEW



ELEVATION
(AT FLOW LINE)

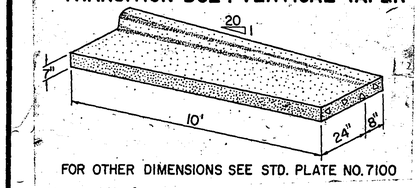


SECTION A-A

NOTES:

1. DIMENSION SHALL BE 8' WHEN STRUCTURE INSTALLED AT LOW POINT IN GRADE
2. CATCH BASIN - DESIGN LP - SEE MN/DOT STD. PL. NO. 4021
3. TOP OF CATCH BASIN SHALL BE INSTALLED AT SAME SLOPE AS BLVD. GRADES AND TOP OF CURB GRADE EACH SIDE OF STRUCTURE.
4. ELEVATION OF STRUCTURE IS COMPUTED AT LOCATION SHOWN IN SEC. A-A AT ℄ OF C.B. OPENING.
5. CB145 & CB148 SET BACK IS 0.0'

TRANSITION B624 VERTICAL TAPER



FOR OTHER DIMENSIONS SEE STD. PLATE NO. 7100

REVISIONS	DATE	BY	REVISIONS	DATE	BY
BERM DETAIL ADDED	7/21/86	K.H.			
CATCH BASIN - LP	3/5/87	ET			

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 _____ REG. NO. _____

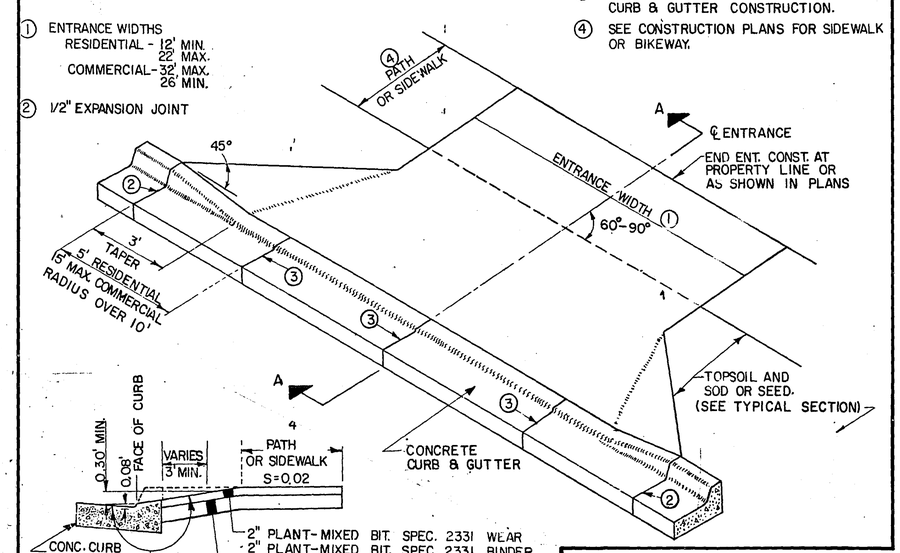
ENTRANCE DETAIL

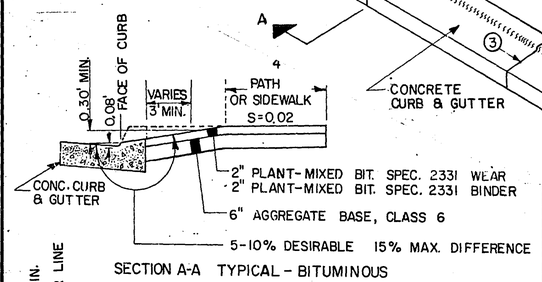
① ENTRANCE WIDTHS
RESIDENTIAL - 12' MIN. 22' MAX.
COMMERCIAL - 32' MAX. 26' MIN.

② 1/2" EXPANSION JOINT

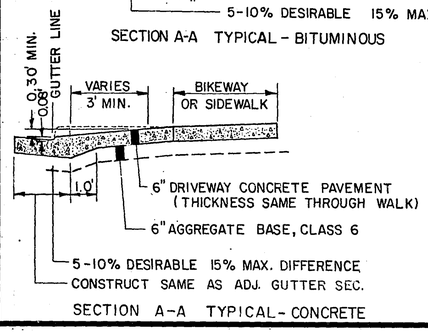
③ PLACE JOINTS AS REQUIRED FOR CONC. CURB & GUTTER CONSTRUCTION.

④ SEE CONSTRUCTION PLANS FOR SIDEWALK OR BIKEWAY.



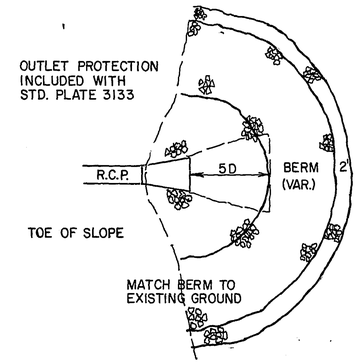


SECTION A-A TYPICAL - BITUMINOUS

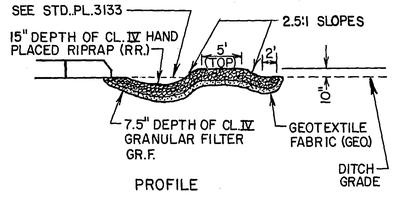


SECTION A-A TYPICAL - CONCRETE

FILTER BERM DETAIL
(NO SCALE)



PLAN VIEW



PROFILE

FILTER BERM NOTES

LOCATION OF ROCK FILTER BERM WILL BEGIN AND MATCH THE RIPRAP AT OUTFALL STRUCTURE PER STD. PL. 3133

FILTER BERM RIPRAP & GRANULAR FILTER QUANTITIES ARE INCLUDED IN THE QUANTITIES DESIGNATED BY STD. PLATE 3133

GEOTEXTILE FABRIC SHALL BE A NON-WOVEN TYPE IV AND MEET THE REQUIREMENTS OF SPECIFICATION 3733.2

ESTIMATED QUANTITIES

BERM NO.	LOCATION	RR.	GR. F.	GEO.	TOP EL.
1	22+50 RT.	70	39 C.Y.	195 C.Y.	78 S.Y.	871.33

27-115

DRAINAGE CHART

STATION	LOCATION	NO.	TYPE	DESIGN	CONST. HEIGHT LIN. FT	CASTING ASSEMBLY	ELEVATION PROFILE	ELEVATION ORIGNAL GRATE OR RING	ELEVATION NEW GRATE OR RING	ELEVATION C.B. or M.H. INVERT	ADJUST CASTING ASSEMBLY	RECONSTRUCT CATCH BASIN OR MANHOLE LIN. FT.	INSTALL CASTING ASSEMBLY	FURNISH AND INSTALL PIPE SEWER REINFORCED CONCRETE PIPE 12"	15"	18"	21"	24"	36"	CORRUGATED STEEL PIPE 12"	15"	18"	APRON	CLASS	DRAINS TO STRUCTURE NO.	DRAINS TO INVERT EL.	REMARKS
				EXISTING STRUCTURES																							
80+25	LT. 1	1	M.H.	SAN.			897.0	897.35	896.91	888.70	1																
83+50	LT. 1	2	M.H.	SAN.			889.55	889.87	889.47	880.17		4.3	1														
83+50	LT.35	3	M.H.	STORM			889.55	889.86	—	881.87																	REMOVE Ⓐ
84+83	LT.28	4	M.H.	STORM			887.16	887.84	—	880.24																	REMOVE M.H. ⒶⒷ
86+20	LT.36	5	M.H.	NSP			884.69	884.87	—	880.51																	OK
86+20	LT.85	6	M.H.	NSP			884.69	—	—	—																	OK
86+24	LT.24	7	C.B.	STORM			884.62	884.37	—	878.37																	REMOVE Ⓐ
86+61	RT.25	8	C.B.	STORM			883.95	884.36	—	877.06																	REMOVE Ⓐ
86+66	RT. 5	9	M.H.	SAN.			883.86	884.42	883. 72	876.22		6.8	1														
86+86	LT.36	10	C.B.	STORM			883.50	883.60	—	880.35																	REMOVE ⒶⒷ
89+05	LT.24	11	M.H.	SAN.			879.56	878.47	879.24	870.29	1																
89+99	LT. 3	12	M.H.	SAN.			877.87	879.18	877.85	867.88		7.6	1														
91+73	LT.19	13	M.H.	SAN.			875.32	874.93	874.90	863.49	1																
91+80	LT.23	14	S.D.	STORM			875 .24	875.32	—	871.40																	REMOVE Ⓐ
92+32	LT.21	15	M.H.	SAN.			874.64	874.49	974.22	862.00	1																
92+55	LT.28	16	M.H.	STORM			874.38	874.07	—	869.47																	REMOVE Ⓐ
93+13	LT.22	17	M.H.	SAN.			—	873.50	—	859.07																	OK
93+35	LT.32	18	M.H.	STORM			—	873.38	873.38	865.83																	REMOVE Ⓐ
93+37	LT.20	19	C.B.	STORM			—	873.15	—	866.35																	OK
93+37	RT.20	20	C.B.	STORM			—	873.15	—	868.55																	OK
93+52	LT.32	21	APRON	STORM			—	—	—	865.37																	SALVAGE Ⓑ
94+02	LT.32	22	APRON	STORM			—	—	—	865.32																	SALVAGE Ⓑ
94+15	LT.40	23	M.H.	SAN.			—	869.54	—	859.04																	OK
94+18	LT.20	24	C.B.	STORM			—	872.85	—	867.20																	OK
94+18	RT.20	25	C.B.	STORM			—	872.89	—	868.24																	OK
94+25	LT.30	26	M.H.	STORM			—	872.36	872.36	865.86		6.0	1			18'									118	865.32	RECONSTRUCT
95+28	LT.15	27	M.H.	SAN.			—	874.90	—	863.22																	OK
95+28	LT.24	28	L.S.	SAN.			—		—	851.50																	OK (OLD LIFT STATION)
97+66	LT. 5	29	M.H.	SAN.			885.06	885.50	884.96	870.16	1																
99+90	LT.89	30	M.H.	SAN.			—	894.69	895.0±	870.69	1																EXACT ELEV. IN FIELD
100+06	LT.110	31	M.H.	SAN.			—	894.29	—	883.29																	OK
100+76	LT.47	32	C.B.	STORM			—	893.25	—	888.55																	REMOVE Ⓐ
100+93	LT.52	33	M.H.	SAN.			—	894.16	893.8±	884.26	1																EXACT ELEV. IN FIELD
101+07	LT.36	34	C.B.	STORM			—	893.56	—	887.76																	REMOVE Ⓐ
103+64	LT.30	35	M.H.	STORM			—	892.02	—	886.52																	REMOVE Ⓐ
105+00	RT.145	36	C.B.	STORM			—	884.56	—	877.26																	OK
105+09	RT.73	37	C.B.	STORM			—	886.59	—	880.59																	REMOVE Ⓐ
105+10	RT.145	38	M.H.	STORM			—	884.33	—	877.03																	OK
105+28	LT.22	39	C.B	STORM			—	889.55	—	885.65																	REMOVE Ⓐ
105+31	RT.106	40	C.B.	STORM			—	886.01	—	878.81																	REMOVE Ⓐ
105+10	RT.58	41	M.H.	STORM			—		—																		REMOVE Ⓐ
110+36	LT.64	42	M.H.	SAN.			—	898.75	898.7±	885.45	1																EXACT ELEV. IN FIELD
110+57	RT. 1	43	M.H.	SAN.			899.38	900.09	899. 33	886.09		6.7'	1														INSIDE DROP SECTION
113+17	RT. 2	44	M.H.	SAN.			899.51	899.52	899. 48	887.04	1																
116+00	RT.97	45	S.D.	STORM			—	—	—	889.5																	OK
116+01	RT.29	46	C.B.	STORM			898.10	899.2±	897. 4±	893.0±		2.2	1														EXACT ELEV. IN FIELD
116+17	RT. 1	47	M.H.	SAN.			897.87	897.78	897. 82	888.38	1																
116+56	RT.29	48	C.B.	STORM			897.82	897.13	897.2±	893.93	1																EXACT ELEV. IN FIELD
116+60	RT.63	49	M.H.				—	899.73	—	888.83																	OK
117+00	RT.23	50	C.B.	STORM			897.60	896.37	897.2±	890.57	1																EXACT ELEV. IN FIELD
117+88	RT.22	51	C.B.	STORM			—	895.70	—	890.3																	REMOVE Ⓐ
119+18	RT. 1	52	M.H.	SAN.			898.55	898.57	898.50	889.39	1																
122+17	LT. 1	53	M.H.	SAN.			906.05	907.27	906.00	891.27		7.7'	1														
124+14	RT. 1	54	M.H.	SAN.			906.90	907.33	906.85	892.53	1																
127+35	LT. 1	55	M.H.	SAN.			904.66	905.90	904.58	893.90	1																
130+58	LT. 1	56	M.H.	SAN.			904.28	904.99	904.20	894.99	1																
130+95	LT. 5	57	M.H.	SAN.			904.47	904.83	904.33	893.63	1																
				PAGE TOTAL:							17	41.3'	7			18'											

Ⓐ SALVAGE CASTING

Ⓑ SALVAGE APRON

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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 _____ REG. NO. _____

EXISTING DRAINAGE CHART 27-115

S.A.P. NO. 62-645-06 ; M.S.A.P. 147-020-09 Sheet No. 6 of 53 Sheets

DRAINAGE CHART

LONG LAKE ROAD
CO. RD. H

STATION	LOCATION	NO.	TYPE	DESIGN	CONST. HEIGHT LIN. FT.	CASTING ASSEMBLY	ELEVATION PROFILE	ELEVATION ORIGNAL GRATE OR RING	ELEVATION NEW GRATE OR RING	ELEVATION C.B. or M.H. INVERT	ADJUST CASTING ASSEMBLY	RECONSTRUCT CATCH BASIN OR MANHOLE LIN. FT.	INSTALL CASTING ASSEMBLY	FURNISH AND INSTALL PIPE SEWER REINFORCED CONCRETE PIPE 12"	15"	18"	21"	24"	36"	CORRUGATED STEEL PIPE 12"	15"	18"			APRON	CLASS	DRAINS TO STRUCTURE NO.	DRAINS TO INVERT EL.	REMARKS
				PROPOSED STRUCTURES																									
104+21	RT. 21.5'	129A	C.B.	LP4-6		C	891.46		891.57	885.48					48											129	885.04	
79+25	LT. 29'	100	A.P.							897.50					37										15"	102	895.48	F & I TRASH GUARD
79+67	RT. 21.5'	101	C.B.	LP4-5		C	898.34		898.45	893.46					46											102	893.00	
79+67	LT. 21.5'	102	C.B.	LP4-5		C	898.34		898.45	892.80					347											104	884.78	
83+50	LT. 35'	103	M.H.	72-4020		A	889.55		889.8±	881.87									150							107	880.17	
83+16	LT. 27'	104	M.H.	72-4020	5.2	A	890.22		889.6±	884.55					36											EXISTING 3	884.23	
83+16	LT. 46'	105	C.B.	SP-2	4.1	B	890.22		889.4±	885.50					18											104	885.36	
82+78	RT. 21.5'	106	C.B.	LP4-5		C	891.09		891.20	885.90					63											104	885.3	
84+99	LT. 23'	107	M.H.	72-4020	7.1	A	886.85		887.1±	880.13									125							109	878.92	
84+99	LT. 39'	108	S.D.	C	3.9	D	886.85		886.0±	882.25					16											107	882.09	
86+26	LT. 22'	109	C.B.	72-4020	5.4	B	884.58		884.0±	878.85									78							111	877.07	
86+92	RT. 21.5'	110	C.B	LP4-4		C	883.39		883.50	879.50					50											111	879.02	
87+08	LT. 24'	111	C.B	72-4020	5.7	B	883.11		882.5±	876.99									280							112	872.02	
86+99	LT. 54'	111A	S.D.	A OR F	4.6	D	883.27		882.5±	878.00					33											111	877.71	
89+83	LT. 23'	112	C.B.	72-4020	6.2	B	878.12		877.6±	871.95									50							113	871.12	
90+32	LT. 22.5'	113	C.B.	72-4020	6.0	B	877.31		876.8±	871.05									125							116	868.99	
90+28	LT. 60'	114	AP				877.35			876.00					30										15"	113	872.70	F & I TRASH GUARD
90+32	RT. 21.5'	115	C.B.	LP4-4		C	877.27		877.38	873.00					48											113	872.56	
91+49	LT. 28'	116	M.H.	72-4020	7.1	A	875.60		875.94	868.92									58							115B	~~865.98~~ 868.06 9/87	
93+55	LT. 32.5'	117	AP							865.37															36"	RICE CR.		F & I TRASH GUARD
94+01	LT. 32.5'	118	AP							865.32															18"	RICE CR.		F & I TRASH GUARD
96+53	LT. 21.5'	119	C.B.	LP4-5		C	880.53		880.64	874.94						228										EXISTING 26	865.98	
97+00	RT. 21.5'	120	C.B.	LP4-4		C	882.43		882.54	877.58						66										119	875.10	
98+25	RT. 25'	121	M.H	A OR F	6.5	A	887.38		887.6±	881.26						122										120	877.72	
99+57	RT. 21.5'	122	C.B.	LP4-8		C	891.26		891.37	882.75						120										121	881.59	
99+58	LT. 35'	123	C.B.	SP-2	4.2	B	891.28		891.7±	887.71					58											122	887.17	
100+01	LT. 35'	124	C.B.	SP-2	4.2	B	892.10		892.4±	888.43					46											123	887.76	
100+66	LT. 35'	125	C.B.	SP-2	4.4	B	892.93		893.2±	889.00					32											126	888.72	
100+96	LT. 35'	126	C.B.	SP-2	4.9	B	893.15		893.4±	888.68					10											127	888.62	
101+05	LT. 34.5'	127	M.H.	A OR F	10.7	A	893.20		894.1±	883.56					160											122	882.78	
103+21	LT. 22.5'	128	M.H.	A OR F	8.8	A	893.00		893.1±	884.62					214											127	883.58	
104+04	LT. 23'	129	M.H.	A OR F	6.9	A	891.65		891.8±	885.01					78											128	884.64	
105+62	LT. 21.5'	130	C.B.	LP4-4		C	890.20		890.31	885.75					147											129	885.03	
105+62	RT. 21.5'	131	C.B.	LP4-4		C	890.20		890.88	886.20					46											130	885.78	
105+16	RT. 119'	132	C.B.	SP-2	7.4	B	890.51		885.3±	878.1±																EXISTING 38		BUILD OVER EX. 15" R.C.P.
107+31	RT. 23'	133	M.H.	A OR F	7.5	A	893.13		893.4±	886.00					268											132	880.4±	
108+01	RT. 21.5'	134	C.B.	LP4-7		C	893.93		894.04	886.86					16											133A	886.57	
108+20	LT. 21.5'	135	C.B.	LP4-6		C	894.19		894.30	888.25					50											134	887.08	
110+14	LT. 34'	136	C.B.	SP-2	3.9	B	898.61		897.8±	894.09					194											135	888.42	
110+58	LT. 41'	137	C.B.	SP-2	4.1	B	899.40		898.5±	894.56					44											136	894.16	
117+70	RT. 20'	138	M.H.	A OR F	6.4	A	897.37		897.4±	891.1±																EXISTING 50		BUILD OVER EX. 18" R.C.P.
117+70	LT. 21.5'	139	C.B.	LP4-5		C	897.37		897.48	892.29					42											138	891.91	
117+89	RT. 23'	140	C.B.	LP4-5		C	897.38		897.46	892.30					20											138	892.14	
120+70	LT. 21.5'	141	C.B.	LP4-4		C	902.27		902.38	897.47					300											139	892.35	
120+70	RT. 21.5'	142	C.B.	LP4-4		C	902.27		902.38	897.95					46											141	897.53	
126+80	RT. 21.5'	143	C.B	LP4-4		C	905.04		905.15	901.23					60											144	900.67	
127+18	LT. 21.5'	144	C.B.	LP4-4		C	904.77		904.88	900.65					188											146	899.73	
128+86	RT. 200'	145	C.B.	LP4-4		C	903.61		903.72	900.17					48											146	899.73	
129+05	LT. 21.5'	146	C.B.	LP4-3		C	903.58		903.69	899.71					118											147	899.14	
Revised 9/87 130+24	LT. 21.5'	147	C.B.	LP4-5		C	904.12		904.23	899.12					~~48~~ 46											148	~~900.82~~ 900.70	
Revised 9/87 ~~130+34~~ 130+42	~~RT. 200'~~ RT. 21.5'	148	C.B.	~~LP4-5~~ 5902	~~4.9~~ 4.6	~~B~~ C	~~904.17~~ 904.24		~~904.28~~ 903.61	~~898.00~~ 898.86							~~20~~ 40									149	~~900.50~~ 900.78	
107+94	RT. 38'	133A	M.H.	A OR F	7.2	A	893.88		893.5±	886.40					65											133	886.16	30 L.F. JACKED UNDER RR.
93+35	LT. 32'	116A	M.H.	72-4020	7.7	A	873.52		873.38	865.83										10						117	865.37	
Revised 9/87 10+25	RT. 6°	149	M.H.	A OR F	6.7	A	——		905.0± 905.1±	898.76 898.48					~~6~~	285 296										150	897.26 897.05	6' STUB FOR FUTURE SEWER
Revised 9/87 13+21	RT. 6°	150	M.H.	A OR F	9.5	D A	——		905.4±	897.03						284 287										152	896.62	
Revised 9/87 13+25	RT. 18'	151	S.D.	A OR F	5.1	D			905.5±	900.5					18 & 6											150	900.42	6' STUB FOR FUTURE SEWER
Revised 9/87 16+09	RT. 6°	152	M.H.	A OR F	11.7	A	——		907.0± 906.3±	893.42 894.75						93 169										153 154	893.19 893.93	
Revised 9/87 16+09	RT. 13°	151 153	C.B.	SP-2	5.8 3.9	B	——		906.2±	900.30 901.8					19 7											152	900.41 901.78	
Revised 9/87 17+77	RT. 24°	154	M.H.	A OR F	13.6	A			907.4±	893.01						101 108										154 155	892.26 893.39	
Revised 9/87 18+86	RT. 24°	155	M.H.	A OR F	9.6	A			902.8±	893.32						207 310										155 156	893.88 895.96	
Revised 9/87 21+96	RT. 24°	156	M.H.	A OR F	10.1	A			882.3± 880.3±	871.13 870.94										66 64						157	870.50	
22+50	RT. 70'	157	AP			A				870.50															24"	RICE CR.		F & I TRASH GUARD ①
92+05	RT. 22'	115A	C.B	LP4-4		C	874.96		875.07	870.55					50											115B	870.09	
92+06	LT. 27'	115B	MH	72-4020	7.4	A	874.96		875.26	867.99										130						116A	865.98	

① CONSTRUCT BERM, SEE DETAIL SHEET 5

MANHOLES, CATCH BASINS & SURFACE DRAINS

DESIGN A OR F – SEE MN/DOT STD. PL. NO. 4000 OR 4005
DESIGN SPECIAL 2 – SEE DETAIL SHEET NO. 5
DESIGN LP 4 – HT – SEE MN/DOT STD. PL. NO. 4021 & DETAIL SHEET NO. 5
DESIGN 4019 – SEE MN/DOT STD. PL. NO. 4019
DESIGN C – SEE MN/DOT STD. PL. NO. 4002

CASTING ASSEMBLIES

A= { DESIGN A OR F, 4020 (MANHOLE)
RING CASTING – MN/DOT NO. 700-7 – SEE STD. PL. NO. 4101, 4108
COVER CASTING – MN/DOT NO. 712 – SEE STD. PL. NO. 4110

B= { DESIGN – SPECIAL 2, 72-4020
FRAME, GRATE & CURB BOX (SEE DETAIL SHEET NO. 5)

C= { DESIGN – LP
RING CASTING – MN/DOT NO. 790-2 MODIFIED – SEE STD. PL. NO. 4021
COVER CASTING – MN/DOT NO. 712 – SEE STD. PL. NO. 4110

D= { DESIGN C (SURFACE DRAIN)
RING CASTING – MN/DOT NO. 700-7 – SEE STD. PL. NO. 4101
GRATE CASTING – MN/DOT NO. 720 – SEE STD. PL. NO. 4140

NOTE: INCLUDE IN PRICE OF STRUCTURE, NOT A SEPARATE PAY ITEM.

TOTALS

ITEM	QUANTITY
CATCH BASIN DESIGN	
LP 4-3	1 EACH
LP 4-4	11 EACH
LP 4-5	78 EACH
LP 4-6	2 EACH
LP 4-7	1 EACH
LP 4-8	1 EACH
72-4020	4 EACH
SP-2	~~10~~ 9 EACH
SURFACE DRAIN DESIGN	
C	1 EACH
A OR F	2 EACH
MANHOLE DESIGN	
A OR F	~~12~~ 13 EACH
72-4020	6 EACH

ITEM	QUANTITY
15" R.C. PIPE APRON	2 EACH
18" R.C. PIPE APRON	1 EACH
24" R.C. PIPE APRON	1 EACH
36" R.C. PIPE APRON	1 EACH
15" R.C. PIPE JACKED	30 L.F.
15" R.C. PIPE	~~328~~ 3100 L.F. 9/87
18" R.C. PIPE	~~1764~~ 1712 L.F. 9/87
24" R.C. PIPE	~~64~~ 86 L.F. 9/87
36" R.C. PIPE	1006 L.F.
HANDPLACED RIPRAP CL. IV	39 C.Y.
GRANULAR FILTER CL. IV	19.5 C.Y.
GEOTEXTILE FABRIC	78 S.Y.

SILT CURTAIN TABULATION
(SILT CURTAIN TYPE B.)

36 CATCH BASINS ESTIMATED @ 18' EACH = 648 L.F.
3 SURFACE DRAINS ESTIMATED @ 21' EACH = 63 L.F.
5 APRONS ESTIMATED @ 21' EACH = 105 L.F.

TOTAL = 816 L.F.

REVISIONS	DATE	BY
CB 129A	8/8/88	SB
CB 115 A & MH 115B	9/23/88	K.H.
CB143 TO CB149	3/5/87	ET
CB 147 to APRON 157	9/23/87	B.J.

REVISIONS	DATE	BY

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 _____ REG. NO. _____

PROPOSED DRAINAGE CHART REVISED 9/87 27-115

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 Sheet No. 7R of 53 Sheets

	PLOTTED BY	DATE	CHECKED BY	DATE
TOPOGRAPHY				
UTILITIES				
PROFILE				

NEW BRIGHTON

MATCH B624 C & G TO EXISTING IN 10'

19TH ST. NW.

+50 BEGIN B624 C & G LT & RT.

AP 100

C.B. 102

REMOVE EXISTING CONC. C & G

SAWCUT

RELOCATE HYDRANT AS DIRECTED

SALVAGE & INSTALL FENCE AS DIRECTED

CONSTRUCT 5' CONCRETE WALK

CONST. LIMITS

19A ST. N.

REMOVE EXISTING CONC. C & G

MATCH B624 C & G TO EXISTING IN 10'

CB105

MH 103

GV.

MH. 104

REMOVE MH.

MH. 3

SALVAGE & INSTALL FENCE AS DIRECTED

REMOVE MH.

SALVAGE APRON

S.D. 108

MH. 4

MH. 107

CB109

CB7

SURVEY P.C. STA. 85+67.72

SAWCUT MATCH EXISTING

TAPER BIT. TO MATCH EXISTING

20TH ST. N.

RICE CREEK RD.

GRADE TO DRAIN

RELOCATE HYDRANT AS DIRECTED

PROPOSED 10' R/W ACQUISITION

CONSTRUCT 5' CONCRETE WALK

SALVAGE APRON

NSP MH.5

CB10

CB11

REMOVE CB.

SD 111A

ABANDONED 8" C.I.P. FORCE MAIN

B624 C & G

CONST. ℄

SURVEY ℄

SIXTEENTH LINE

REMOVE C.B. AND PLUG PIPE AS DIRECTED

CB110

SURVEY P.T. STA. 88+29.50

1801

1924

1927 GAR.

1800 GAR.

1981

2015

2001

1875

1887

1903

1915

1927

1939

1951

1975

1987

ABANDONED 8" C.I.P. FORCE MAIN

SIXTEENTH LINE

SURVEY ℄

G 8" HP

B624 C & G

C.B. 101

RELOCATE ENTRANCE

REMOVE EXISTING CONC. C & G

SAWCUT AS DIRECTED

MATCH B624 C & G TO EXISTING IN 10'

SALVAGE & INSTALL FENCE AS DIRECTED

CONST. LIMITS

REMOVE TIMBER RETAINING WALL

C.B. 106

REMOVE SIDEWALK

REMOVE CULVERT

SALVAGE & INSTALL FENCE AS DIRECTED

REMOVAL OF TIMBER CURB INCIDENTAL

TIMBER CURB

PLANTER

CONST. P.C. STA. 85+24.43

MH. 1

MH. 2

MH. 3

MH. 4

MH 107

SD 108

CB 7

CB 8

CB 9

CB 10

CB 11

SD 111A

CB 109

CB 105

MH 104

CB 106

CB 102

CB 101

LONG LAKE ROAD

NEW BRIGHTON

2" INSULATION — WATER SERVICES SEE CONST. NOTE SHEET 12.

SURVEY	CONST.
P.I. = 87+00.14	P.I. = 86+84.63
Δ = 20°56'	Δ = 21°06'13"
D = 7°59'37"	D = 6°39'44"
T = 132.42'	T = 160.20
L = 261.88'	L = 316.76
R = 716.78'	R = 860.01'
	E = 14.79

905 / 900 / 895 / 890 / 885 / 880 / 875 / 870

EXISTING PROFILE GRADE = SURVEY ℄

PROFILE GRADE = CONST. ℄

2.33%

-1.8%

-1.0%

347 L.F. 15" R.C.P. @ 2.34%

349

2' SUBGRADE CORRECTION

3.58'

8" VCP

AP 100 — 20.1 — 897.50 / 38 / 37 L.F. 15" R.C.P. @ 4.7% + APRON — 896.62 / 895.48 — 892.80 / 892.67

C.B. 102 — 47 / 48 L.F. 15" R.C.P. @ 1.0% — 892.80 / 892.59

C.B. 101 — 893.00 / 894.29 — 893.46 / 893.32 / 894.97

MH 104 — 884.62 / 884.78 / 884.55 / 884.62 — 883.64 / 884.23

38 / 28 L.F. 15" R.C.P. @ 1.0% — 2' — 881.87 / 881.64

150 / 145 L.F. 36" R.C.P. @ 1.18% 24" RCP

MH 107 — 880.17 / 880.13 / 880.10

SD 108 — 881.91 / 882.26 — 880.13 / 880.10 — 18 / 25 L.F. 15" R.C.P @ 1.0%

125 / 126 L.F. 36" R.C.P. @ 1.0% 24" RCP

CB 109 — 12" RCP — 84 / 29 L.F. 36" RCP @ 2.4% — 24" RCP — 878.92 — 878.85 / 878.77

CB 111 — 877.65 / 877.07 — 878.99 / 876.75 — 8" VCP

CB 8 / CB 9 / CB 10 / SD 111A — 50 L.F. 15" R.C.P. @ 1.0% — 879.28 / 879.58 — 878.92 / 878.55 — 33 L.F. 15" R.C.P @ 1.0% — 878.0 / 877.92 — 877.53 / 877.43

CB 105 — MH 104 — CB 106 — 61 / 60 L.F. 15" RCP @ 1.0% — 885.26 / 885.5 — 884.62 / 885.3 — 885.9 / 885.17 — 16 L.F. 15" R.C.P. @ 1.0% — 20 — 885.30 / 884.76 — 884.55

VC = 50'
M = 0.033125

2' SUBGRADE CORRECTION

CAP ALL ABANDONED CONDUITS EXPOSED DURING CONSTRUCTION

P.T. 83+50 EL. 889.55

EL. 890.59

PI 83+25 EL. 890.00

REMOVE

ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: M.R.
DATE: 2-23-90

REVISIONS	DATE BY	REVISIONS	DATE BY
SUBCUT CHANGED	3/27/90 K.H.		
H.P. Insulation	9/26/90 B.J.		

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 _____ REG. NO. _____

79 80 81 82 83 84 85 86 87 REVISED 9/97 88

27-115

S.A.P. NO. 62-645-06; M.S.A.P. 147-020-09

Sheet No. 8R of 53 Sheets

TOPOGRAPHY	PLOTTED BY	DATE	CHECKED BY	DATE
UTILITIES	PLOTTED BY	DATE	CHECKED BY	DATE
PROFILE	PLOTTED BY	DATE	CHECKED BY	DATE

REMOVE BIT. CURB AS DIRECTED AND MATCH B624 TO EXISTING

NEW BRIGHTON

LONG LAKE

MOUNDS VIEW AVE.

2050 2060 2028 2080 2051 2031 2025 2015 2065 2103 2105 2151

REMOVE BIT. CURB

SAWCUT

APRON 114

20'R

CONST. LIMITS

SURVEY P.T. STA. 88+25.60

CONSTRUCT 5' CONCRETE WALK

PROPOSED 10' R/W ACQUISITION

ABANDONED 8" C.I.P. FORCE MAIN

B624 C&G

8" C.I.P.

CONST. ℄

SURVEY ℄

T-BUR

6-6" HP

CB 112 MH 12

CB 113

REMOVE

CB 115

CB 115A

MH 115B

MH 116

MH 13

MH 15

MH 16

MH 17

MH 18

MH 116A

APRON 117

APRON 118

APRON 21

APRON 22

M.H. 23

M.H. 27

SD 14

ABANDONED 8" C.I.P. FORCE MAIN

8" PUMP STATION

REMOVE BLOCK RETAINING WALL

SPRINKLERS

RELOCATE SPRINKLER HEADS AS DIRECTED PAYMENT INCIDENTAL

REMOVE C&G AS DIRECTED

EXISTING B624

EXISTING BOARD FENCE

SALVAGE & INSTALL GUARDRAIL

SALVAGE & INSTALL RIPRAP AT APRONS 117 & 118 AS DIRECTED

REMOVE & REPLACE CONC. SW. AS DIRECTED

SALVAGE APRONS

REMOVE MH 18

RICE CREEK

BRIDGE 62540

LONG LAKE ROAD

CONSTRUCT TIMBER WALL AS DIRECTED (SEE DETAIL SHEET)

MATCH EXISTING C.& G.

CONSTRUCT 5' CONCRETE WALK

CONST. ℄ & SURVEY ℄

TEL BOX

REMOVE C.& G. AS DIRECTED

REMOVE TIMBER WALL

C.B. 119

C.B. 120

C.B. 19

C.B. 20

C.B. 24

C.B. 25

M.H. 26

M.H. 2

L.S. 28

10' SEWER EASEMENT

20' SEWER EASEMENT

GRAVEL

8" V.C.P.

CONST. P.T. STA. 91+90.42

+02 BEGIN TAPER

+57 END TAPER AND MATCH EXISTING

+77 BEGIN TAPER

+57 END TAPER AND MATCH EXISTING

+43 BEGIN TAPER +48 BEGIN TIMBER WALL

+43 END TAPER

+30 BEGIN TAPER

+30 END TAPER

SURVEY P.T. STA. 91+59.63

SURVEY P.C. STA. 89+95.80

CONST. P.T. STA. 88+41.19

CONST. P.C. STA. 89+45.76

SURVEY

P.I. = 90+80.00
Δ = 32° 36'
D = 19° 53' 55"
T = 84.20'
L = 163.83'
R = 287.94

CONST.

P.I. = 90+71.5
Δ = 32° 36'
D = 13° 19' 29"
T = 125.74'
L = 244.66'
R = 430'
E = 17.88'

2" INSULATION — WATER SERVICE SEE CONST. NOTE SHEET 12.

N

0 10 20 30 40 50

ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: M.R
DATE: 2-23-90

REVISIONS	DATE BY	REVISIONS	DATE BY
Horizontal Curve	6/6/91 B.J.		
Bridge 62540	8/13/91 T.P.		
M.H. 116B & CB 115A	9/25/91 K.H.		
H&D Insulation	9/21/92 B.J.		

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 _____ REG. NO _____

EL. 879.06 PI 96+45 EL. 880.22 EL. 881.23 C.B. 120 C.B. 119

66 L.F. 18" R.C.P. @ 4.0%

879.20 878.10 876.72 874.94 875.01

2' SUBGRADE CORRECTION

VC = 185'

+4.86%

+4.0%

20:1

228 L.F. 18" R.C.P. @ 4.0%

227

15" RCP

VC = 50'
M = 0.04125

EXISTING PROFIL GRADE = SURVEY ℄

PROFILE GRADE = CONST. ℄

-1.8%

-1.14%

0.34%

269
280 L.F. 36" R.C.P. @ 1.8%

50 L.F. 36" R.C.P. @ 1.8%

727
728 L.F. 36" R.C.P. @ 1.7%

61
50 L.F. 36" R.C.P. @ 1.5%

132
150 L.F. 36" R.C.P. @ 1.6%

10 L.F. 36" R.C.P. @ 2.5% + APRON

18 L.F. 18" R.C.P. @ 2.25% + APRON

42 L.F. 15" R.C.P. @ 1.0%

49 @ 1.0%

30 L.F. 15" RCP @ 9.7% + APRON

APRON & RCP ELIMINATED FROM PLANS

EXCEPTION BRIDGE 62540

RECONSTRUCT MH 26

REMOVE MH 116A

2' SUBGRADE CORRECTION

8" V.C.P.

15" RCP

EL. 876.77 CB 115 PI 90+85 EL. 876.32 EL. 876.04

876.0 872.70 872.56 872.42 873.06 873.0 867.47 868.02 870.00 870.12 870.55 870.51 865.98 865.71 865.37 865.32 865.83 865.23 865.98 866.55 865.95 866.22 878.92 871.92 871.72 871.12 871.05 871.02 868.93 868.92 868.40 868.06 867.95 867.47

M.H. 11 M.H. 12 APRON 114 CB 113 M.H. 13 S.D. 14 M.H. 15 M.H. 16 M.H. 17 M.H. 18 C.B. 19 C.B. 20 APRON 21 APRON 22 M.H. 23 C.B. 24 C.B. 25 M.H. 26 M.H. 27

885 880 875 870 865

86 89 90 RC 90+60 91 FT 91+10 92 RC 92+60 93 94 95 96 RC 96+20 FT 96+70 97

27-115

REVISED 9/87

S.A.P. NO. 62-645-06; M.S.A.P. 147-020-09

Sheet No. 9R of 53 Sheets

	PLOTTED BY	DATE	CHECKED BY	DATE
TOPOGRAPHY				
UTILITIES				
PROFILE				

SAWCUT AS DIRECTED

TRANSITION FROM B624 C&G TO EXISTING S-5 IN 10'

REMOVE EXISTING CONC. C & G AS DIRECTED

MISSISSIPPI ST.

NEW BRIGHTON

REMOVE EXISTING ROAD

ADJUST HYDRANT AS DIRECTED

CONSTRUCT 5' CONCRETE WALK

REMOVE EXISTING ROAD & C&G AS DIRECTED

REMOVE SIDEWALK AS DIRECTED

REMOVE C.B.

DAISY COURT

CB124

CONSTRUCT 5' CONCRETE WALK

CB123

CB125

CB122

CB121

CB120

MH39

MH38

MH33

MH32

MH31

MH30

MH29

MH128

MH127

MH121

SURVEY ℄ CONST. ℄

CONST. LIMITS

REMOVE CONC.

REMOVE CONCRETE

SALVAGE & INSTALL FENCE

MATCH LINE

LONG LAKE ROAD

B624 C&G

6" C.I.P.

8" C.I.P.

6"-8" H.P.

SAWCUT

REMOVE CONCRETE

CONST. P.C. STA. 97+86.4

SURVEY P.C. STA. 97+97.21

CONST. P.T. STA. 101+91.04

SURVEY

P.I. = 100+26.23
Δ = 77°16'48" RT.
D = 19°05'55"
T = 239.83'
L = 404.64'
R = 300.00'
E = 84.08'

CONSTRUCTION

P.I. = 100+26.23
Δ = 77°16'48" RT.
D = 19°05'55"
T = 239.83'
L = 404.64'
R = 300.00'
E = 84.08'

2130 2151 2167 2189 2199 2198 2202 2211 2111/2203

NEW BRIGHTON

MATCH LINE

SURVEY
P.I. = 105+59.06
Δ = 88°46'
D = 19°53'55"
T = 281.81'
L = 446.095'
R = 287.939'

CONSTRUCTION
P.I. = 105+58.68
Δ = 88°46.00" LT.
D = 19°05'55"
T = 293.61'
L = 464.78'
LR = 300.00'
E = 119.00'

1699 1635 1697 2205 2209 1503

CONST. LIMITS

10' UTILITY EASEMENT

DO NOT DISTURB PINES

REMOVE C.B.

CB130

CB131

CB132

CB129A

REMOVE EXISTING ROAD & C&G AS DIRECTED

REMOVE M.H.

MH41

MH35

MH129

CONSTRUCT 5' CONCRETE WALK

REMOVE C. & G. B618 C.&G.

B624 C&G

B618 C. & G.

CATV

GAS SHUT-OFF

GAS VALVE

TEL BOX

SEPTIC CLEAN OUT

SAWCUT AS DIRECTED

TAPER FROM B624 C&G TO EXISTING B618 C&G IN 10'

MISSISSIPPI ST.

CONST. P.C. STA. 102+65.07

SURVEY P.C. STA. 102+77.43

15" CMP

136' R

180' R

25' R

20' R

ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: B.W.
DATE: 2/20/96

EXISTING PROFILE GRADE = SURVEY ℄

PROFILE GRADE = CONST. ℄

+0.5%

+4.0%

-1.0%

0.79%

1.0%

VC = 300'
M = 1.31

VC = 50'
M = 0.09375

2' SUBGRADE CORRECTION

3.58'

BUILD CB132 OVER EXISTING 18" R.C.P.

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 REG. NO.

REVISIONS	DATE	BY	REVISIONS	DATE	BY
HORIZONTAL CURVES	5/9/96	BJ			
SUBCUT CHANGED	9/27/96	KH			

P.C. 101+00
P.T. 101+75
P.C. 102+00
P.T. 102+25

97 98 99 100 101 102 103 104 105 106

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S.A.P. NO. 62-645-06; M.S.A.P. 147-020-09

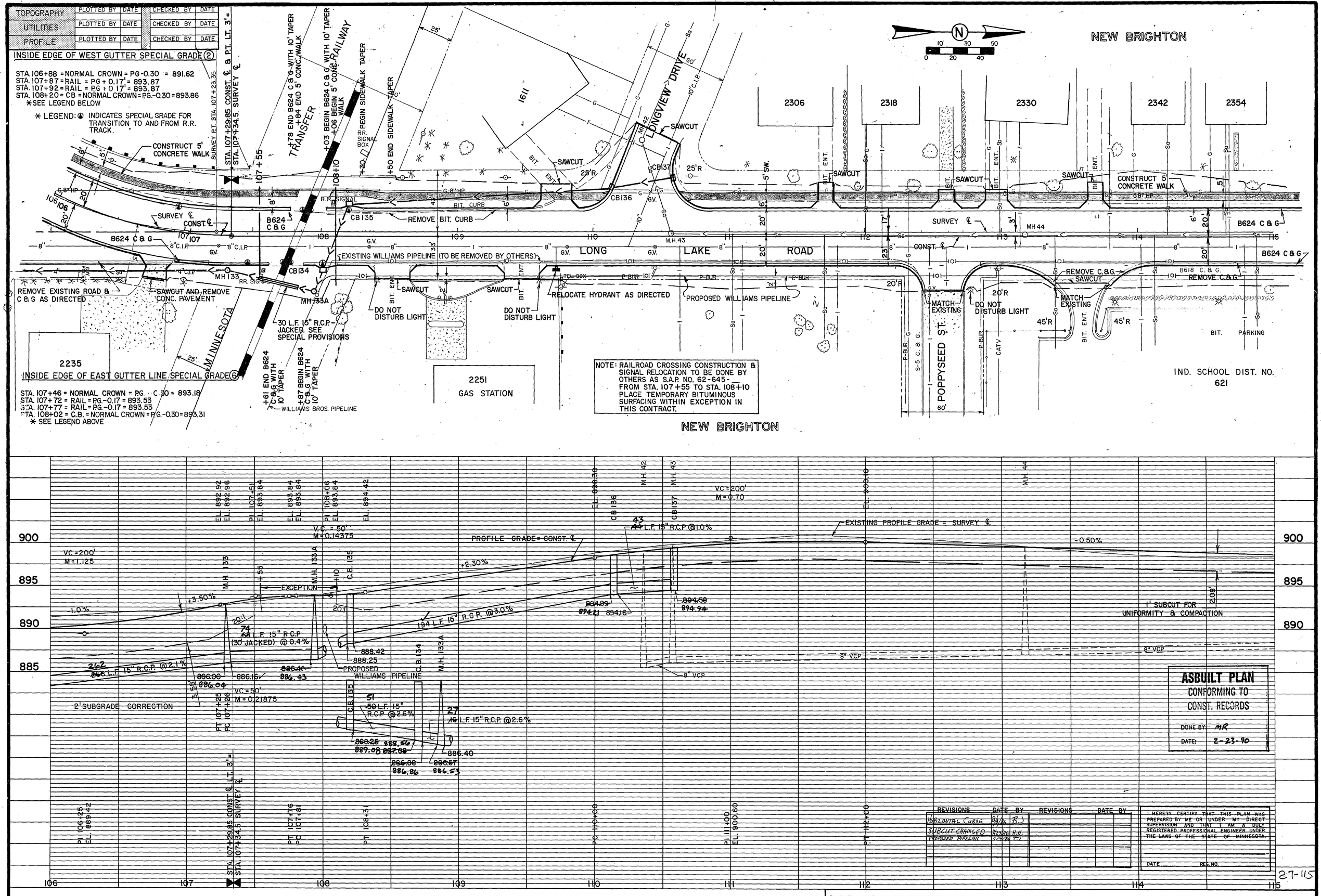
Sheet No. 10 of 53 Sheets

	PLOTTED BY	DATE	CHECKED BY	DATE
TOPOGRAPHY				
UTILITIES				
PROFILE				

INSIDE EDGE OF WEST GUTTER SPECIAL GRADE (2)

STA. 106+88 = NORMAL CROWN = PG -0.30 = 891.62
STA. 107+87 = RAIL = PG + 0.17' = 893.87
STA. 107+92 = RAIL = PG + 0.17' = 893.87
STA. 108+20 = CB = NORMAL CROWN = PG -0.30 = 893.86
* SEE LEGEND BELOW

* LEGEND: ④ INDICATES SPECIAL GRADE FOR TRANSITION TO AND FROM R.R. TRACK.



NOTE: RAILROAD CROSSING CONSTRUCTION & SIGNAL RELOCATION TO BE DONE BY OTHERS AS S.A.P. NO. 62-645- FROM STA. 107+55 TO STA. 108+10 PLACE TEMPORARY BITUMINOUS SURFACING WITHIN EXCEPTION IN THIS CONTRACT.

INSIDE EDGE OF EAST GUTTER LINE SPECIAL GRADE (6)

STA. 107+46 = NORMAL CROWN = PG - C.30 = 893.18
STA. 107+72 = RAIL = PG -0.17 = 893.53
STA. 107+77 = RAIL = PG -0.17 = 893.53
STA. 108+02 = C.B. = NORMAL CROWN = P.G. -0.30 = 893.31
* SEE LEGEND ABOVE

ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: MR
DATE: 2-23-90

REVISIONS	DATE	BY
HORIZONTAL CURVE	9/96	B.J.
SUBCUT CHANGED	10/96	K.H.
PROPOSED PIPELINE	5/97	T.L.

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 _____ REG. NO. _____

27-115

S.A.P. NO. 62-645-06; M.S.A.P. 147-020-09

Sheet No. 11 of 53 Sheets

TOPOGRAPHY	PLOTTED BY	DATE	CHECKED BY	DATE
UTILITIES	PLOTTED BY	DATE	CHECKED BY	DATE
PROFILE	PLOTTED BY	DATE	CHECKED BY	DATE

NEW BRIGHTON

N

0 10 20 30 40 50

2366 2378 2380 2406 2418 2430 2442 2454 2466 2478

SUNNYSIDE TERRACE

60'

CONSTRUCT 5' CONCRETE WALK

SAWCUT

B624 C & G

END B624 C.& G. WITH 10' TAPER

CB139

REMOVE EXISTING 18" R.C.P. BETWEEN CB 51 & MH 138

REMOVE C.B.

8" C.I.P. REMOVE C & G AS DIRECTED

LONG LAKE ROAD

SURVEY ℄

CONST. ℄

EXISTING WILLIAMS PIPELINE (TO BE REMOVED BY OTHERS)

CB141

CB142

MH47 MH138 MH53

C.B.46 C.B.48 C.B.50 C.B.51

EX. 18" R.C.P.

REMOVE C & G AS DIRECTED

MATCH EXISTING

REMOVE & CONSTRUCT CONCRETE SIDEWALK

45'R

M.H. 49

SIGN

SAWCUT AND MATCH EXISTING

B618 C. & G.

PROPOSED WILLIAMS PIPELINE

DO NOT DISTURB

BIT. PARKING

DO NOT DISTURB 18" CONC. BASE

REMOVE CHAIN LINK FENCE AS DIRECTED

SALVAGE & RELOCATE POSTS AS DIRECTED PAYMENT INCIDENTAL

SALVAGE & RELOCATE SIGN AS DIRECTED

ADJUST HYDRANT AS DIRECTED

WMG BRGS PIPELINE

P-BUR CATV

G.V.

POST

2455 CHURCH

IND. SCHOOL DIST. NO. 621
2425

NEW BRIGHTON

EX. 12" R.C.P.

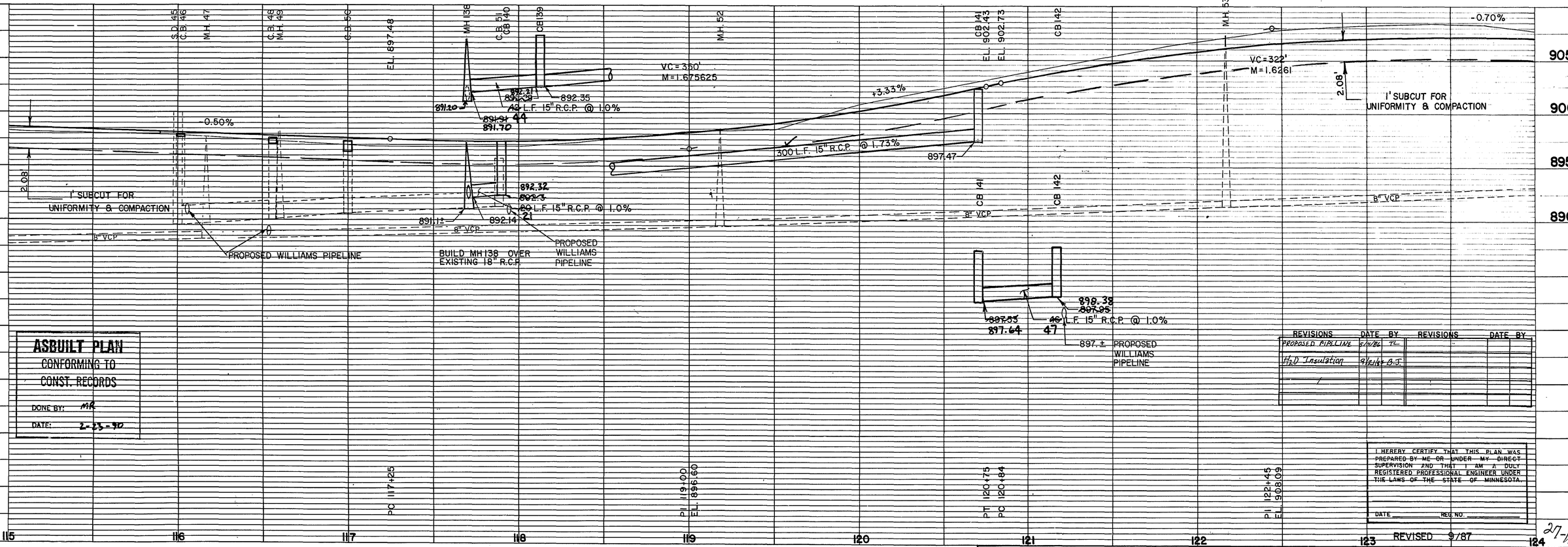
EX. 21" R.C.P.

EX. 24" R.C.P.

S.D.45

2" INSULATION – WATER SERVICES

CONTRACTOR SHALL VERIFY EXACT LOCATION OF EACH SERVICE TO BE INSULLATED. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF NEW BRIGHTON WATER UTILITY. PAYMENT SHALL BE AS ITEM NO. 0504.605 2" POLYSTRENE INSULLATION BY THE S.Y. WHICH SHALL BE COMPENSATION IN FULL FOR ALL WORK & MATERIALS REQUIRED.



115 116 117 118 119 120 121 122 123 124

REVISIONS	DATE	BY	REVISIONS	DATE	BY
PROPOSED PIPELINE	5/14/87	TC			
H2O Insulation	9/21/87	B.S.			

ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: MR
DATE: 2-23-90

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 _____ REG. NO. _____

REVISED 9/87

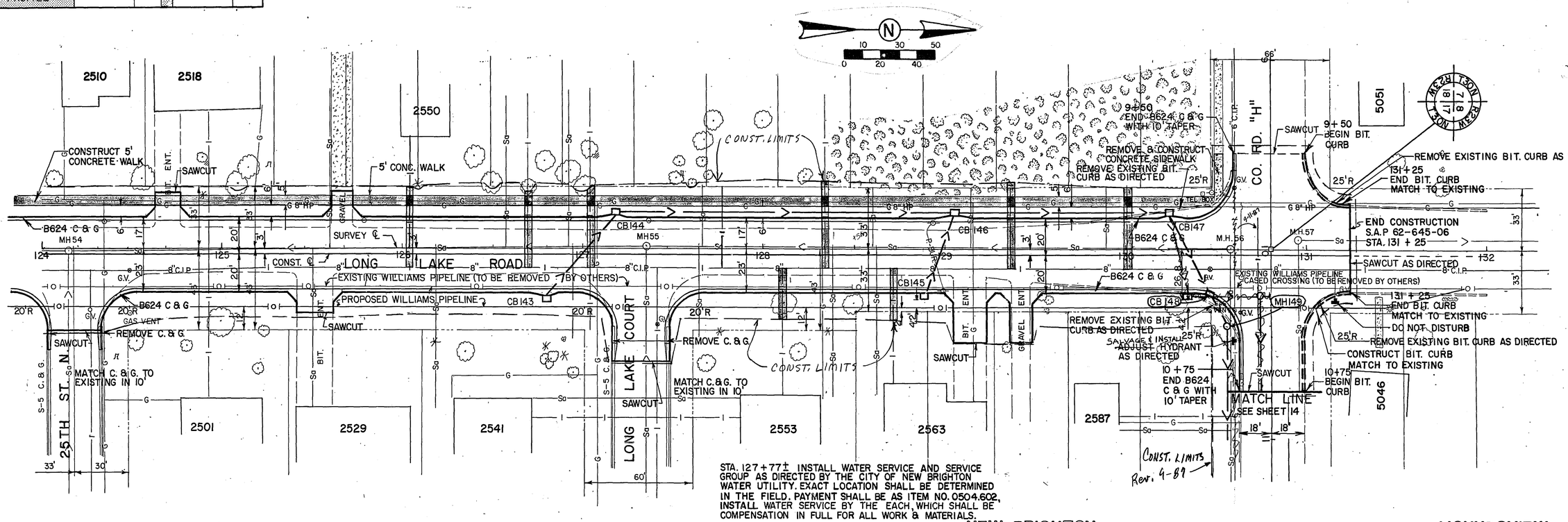
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S.A.P. NO. 62-645-06; M.S.A.P. 147-020-09

Sheet No. 12 R of 53 Sheets

TOPOGRAPHY	PLOTTED BY	DATE	CHECKED BY	DATE
UTILITIES	PLOTTED BY	DATE	CHECKED BY	DATE
PROFILE	PLOTTED BY	DATE	CHECKED BY	DATE

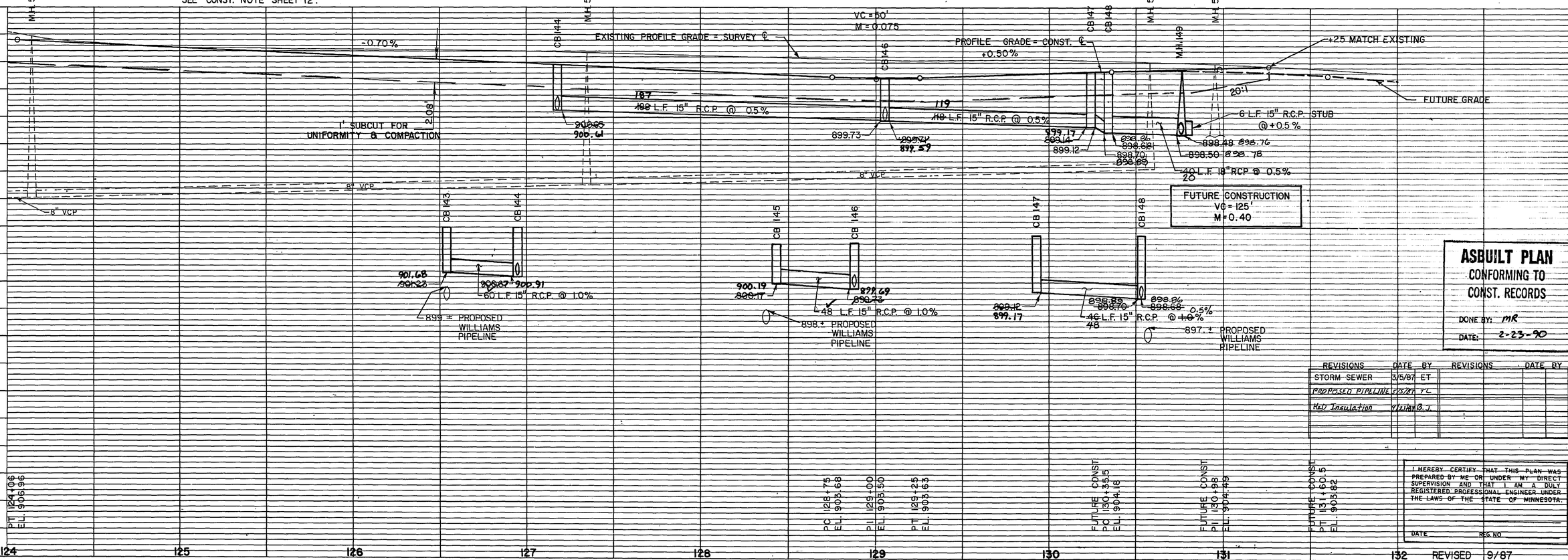
NEW BRIGHTON MOUNDSVIEW



STA. 127+77± INSTALL WATER SERVICE AND SERVICE GROUP AS DIRECTED BY THE CITY OF NEW BRIGHTON WATER UTILITY. EXACT LOCATION SHALL BE DETERMINED IN THE FIELD. PAYMENT SHALL BE AS ITEM NO. 0504.602, INSTALL WATER SERVICE BY THE EACH, WHICH SHALL BE COMPENSATION IN FULL FOR ALL WORK & MATERIALS.

NEW BRIGHTON MOUNDSVIEW

2" INSULATION — WATER SERVICE SEE CONST. NOTE SHEET 12.



ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: MR
DATE: 2-23-90

REVISIONS	DATE	BY	REVISIONS	DATE	BY
STORM SEWER	3/6/87	ET			
PROPOSED PIPELINE	7/31/87	TC			
H.D. Insulation	7/31/87	B.J.			

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DATE REG. NO

REVISED 9/87

S.A.P. NO. 62-645-06; M.S.A.P. 147-020-09

Sheet No. 13R of 53 Sheets

TOPOGRAPHY	PLOTTED BY	DATE	CHECKED BY	DATE
UTILITIES	PLOTTED BY	DATE	CHECKED BY	DATE
PROFILE	PLOTTED BY	DATE	CHECKED BY	DATE

MOUNDSVIEW

T.30N. R.23W. 7 8 18 17 T.30N. R.23W.

N

0 10 20 30 40 50

2521 2515 2505 2503 2491 2409 5064 5046

STA. 10+00 CO. RD. "H" = STA. 130+80.56 L.L.R.

MATCH LINE STA. 10+75

CO. RD. "H"

IRONDALE RD.

REPLACE IN KIND:
1 1/2" 2331 BIT. WEAR
1 1/2" 2331 BIT. BINDER
6" AGG. BASE CL. 6

MH58 MH59 MH60 MH61 MH62 MH63 MH149 MH150 MH151 MH152 MH153 MH154 SD150 CB151

M.H. 60 SALVAGE & INSTALL HYDRANT AS DIRECTED

GAS VALVE

GRADE TO DRAIN

SAWCUT AS DIRECTED

2" MP(STEEL) 6" C.I.P. 24" 15 6" C.I.P.

4"HP(STEEL) PROTECT

REMOVE & CONSTRUCT BIT. CURB

REMOVE & CONSTRUCT CONCRETE CURB AS DIRECTED; PAYMENT SHALL BE MADE AS B624 C & G BY L.F.

CLEAR & GRUB

SAVE IF POSSIBLE

SAWCUT

SAVE

SALVAGE & INSTALL SPLIT RAIL FENCE AS DIRECTED

SAWCUT SAVE

SAWCUT

CLEAR & GRUB

REMOVE & CONSTRUCT 1/C BIT. CURB AS DIRECTED

SAWCUT AS DIRECTED

CLEAR & GRUB

Const. Limits 1551

Const. Limits

CONST. LIMITS

Const. Limits

SALVAGE & INSTALL HYDRANT AS DIRECTED

2" MP GAS MAIN TO BE REPLACED WITH 2" PLASTIC 3' NORTH OF SOUTH R/W.

EXISTING POWER & TELEPHONE POLES ARE TO BE RELOCATED BETWEEN LONG LAKE RD. & 14th AVE.

THE CONTRACTOR SHALL COORDINATE HIS WORK WITH UTILITIES IN THE AREA.

LONG LAKE ROAD

EXISTING WILLIAMS PIPELINE

PROPOSED WILLIAMS PIPELINE

14 TH. AVE. N.

PROTECT

2587 1511 1451 1431 1411 2581 1321

NEW BRIGHTON

MH149 H.75 MATCH EXISTING

MH 150 MH 59

MH 152 M.H. 61 MH 153 MH 62 MH 63 M.H. 154

SURVEY ℄ = PROFILE GRADE

905 900 895 890

T.C. = 905.5

I.E. = 896.6±

EXISTING 24" SANITARY FORCE MAINS

285 L.F. 18" RCP @ -0.50%

8" V.C.P.

PROPOSED WILLIAMS PIPELINE

898.76

~~897.38~~ 897.21

~~895.05~~ 895.97

284 L.F. 18" RCP @ -0.50%

T.C. = 907.4

EXISTING 8" V.C.P. I.E. = 897.5±

95 ~~83~~ L.F. 18" RCP @ -0.50%

~~893.82~~ ~~893.63~~ 893.65

893.19

~~893.17~~ 893.26

187 ~~184~~ L.F. 18" RCP @ -0.50%

~~892.26~~ ~~892.06~~ 892.17

EXISTING 2-24" SANITARY FORCE MAINS

10 L.F. 15" R.C.P. @ -1.0%

10 L.F.

~~900.67~~ ~~900.50~~

~~900.44~~ 899.39

893.63

MH 152 CB 151

10 11 12 13 14 15 16 17 18 19

ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: M. R.
DATE: 2-23-90

REVISIONS	DATE	BY	REVISIONS	DATE	BY
STORM SEWER	3/5/87	ET			
PROPOSED PIPELINE	5/5/87	TL			
UTILITIES & STORM SEW	9/16/87	B.J.			

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 _____ REG NO _____

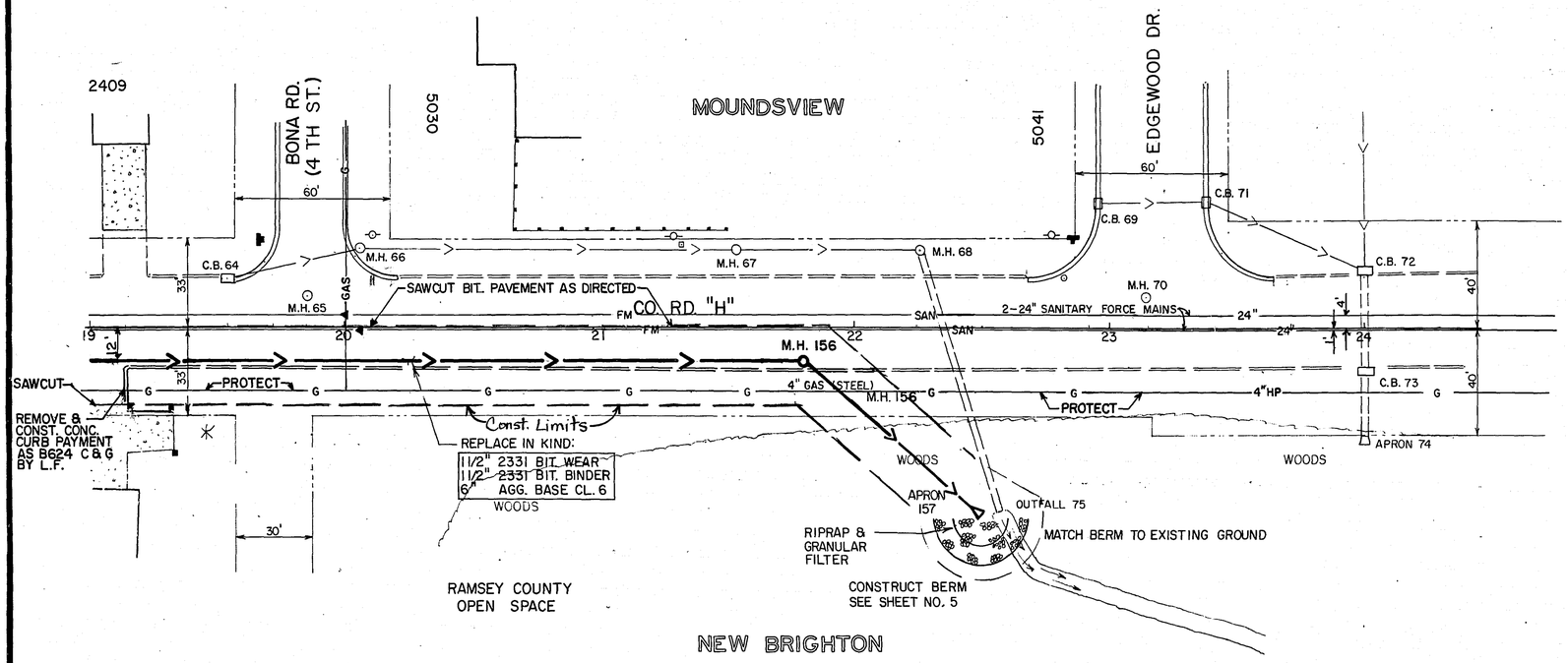
27-115

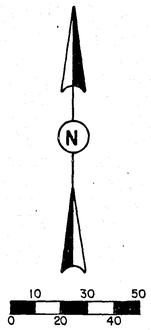
REVISED 9/87

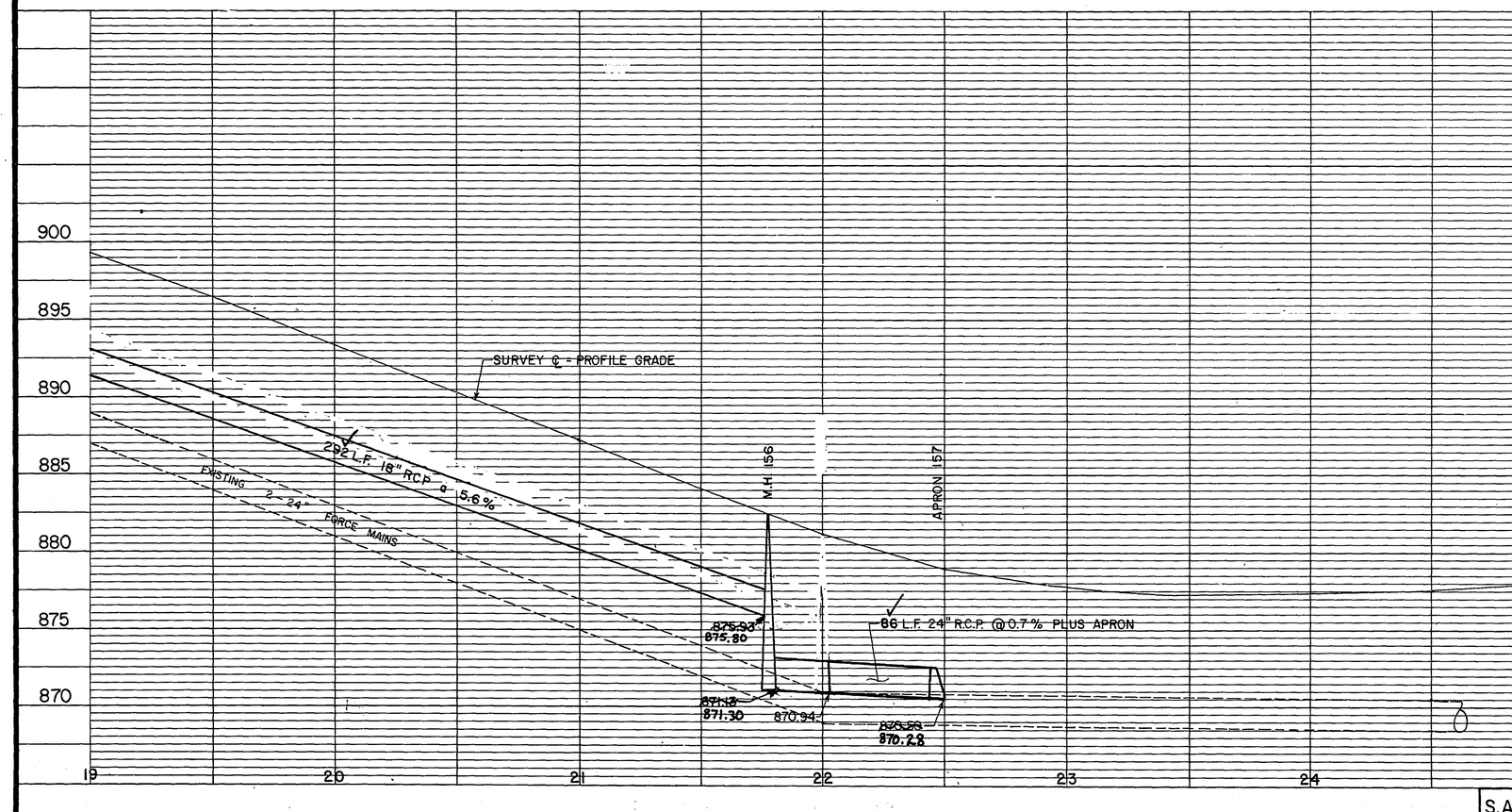
S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

Sheet No. 14R of 53 Sheets

	PLOTTED BY	DATE	CHECKED BY	DATE
TOPOGRAPHY				
UTILITIES	PLOTTED BY	DATE	CHECKED BY	DATE
PROFILE	PLOTTED BY	DATE	CHECKED BY	DATE







ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: MR
DATE: 2-23-90

REVISIONS	DATE	BY	REVISIONS	DATE	BY
BERM @ AP. 157	11/29/86	KH			

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 REG. NO.

REVISED 9/87

27-115

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

Sheet No. 15R of 53 Sheets

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
80+01 897.91 97.55						
79+97 897.98 97.64	248	248	0	112	0	0
79+82 898.26 97.99	156	156	1	76	0	0
79+50 898.84 98.74	204	204	13	104	0	0
79+00 899.90	181	181	17	81	0	0

SO. GUTTER LINE 19TH ST.

1/16 LINE

SURVEY ℄

CONST ℄

CONC. GUTTER

CONSTRUCT ENTRANCE

R/W

GRAVEL ENT.

RELOCATE TO 19th ST.

FUTURE CONCRETE WALK

PROPOSED 15" RCP

MATCH EXISTING V/P LINE

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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 _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

Sheet No. 16 of 53 Sheets

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COPY EQUIPMENT FORM # 75080

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
81+40	414	414	21	196	0	0
80+84	394	394	6	182	0	0
80+31	620	620	5	262	0	0
80+25	137	137	0	56	0	0

R/W
HO.
SURVEY ℄
81+40 894.67 94.21
1/16 LINE
CONST ℄
℄ CONC. ENT.
CONC.

R/W
SURVEY ℄
80+84 895.94 95.61
1/16 LINE
CONST ℄
℄ CONC. ENT.
CONC.
R/W
HO.

SURVEY ℄
80+31 897.21 96.85
1/16 LINE
CONST. ℄
NO. GUTTER LINE 19TH ST.
+1.1% TO 100'
CONC. GUTTER

SURVEY ℄
80+25 897.35 96.99
1/16 LINE
CONST. ℄
NO. GUTTER LINE 19TH ST.
+2.5% TO 100'
CONC. GUTTER

SURVEY ℄
80+15 897.59 97.22
℄ 19TH ST.
1/16 LINE
CONST. ℄
+.05% TO 100'
-2.20% TO 100'
PROPOSED 15" R.C.P.

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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 _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 17 of 53 Sheets**

27-115

COPY EQUIPMENT FORM #1 75080

Fed. Proj. No.

COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
155	155	2 HO.	67	0	0
156	156	2 HO.	67	0	0
138	138	3	58	0	0
560	560	22	238	0	0
189	189	14	88	0	0

SURVEY ℄ ℄ 19 TH TERRACE WEST

83+30 890.29 89.93

1/16 LINE — CONST. ℄ ✓

R/W

SURVEY ℄

83+15 890.57 90.24

1/16 LINE — CONST. ℄ ✓

SO. GUTTER LINE 19 TH TERRACE WEST

+0.96% TO 102' (C.B. GUTTER)

CB CONC. GUTTER

M.H. 104

HO.

SURVEY ℄

R/W

83+00 890.89 90.58

1/16 LINE — CONST. ℄ ✓

℄ BIT. ENT.

SURVEY ℄

82+27 892.71 92.28

1/16 LINE — CONST. ℄ ✓

℄ BIT. ENT.

SURVEY ℄

R/W

82+00 893.25 92.91

1/16 LINE — CONST. ℄

R/W

PROPOSED 15" R.C.P.

○ EX 8" V.C.P.

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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 _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

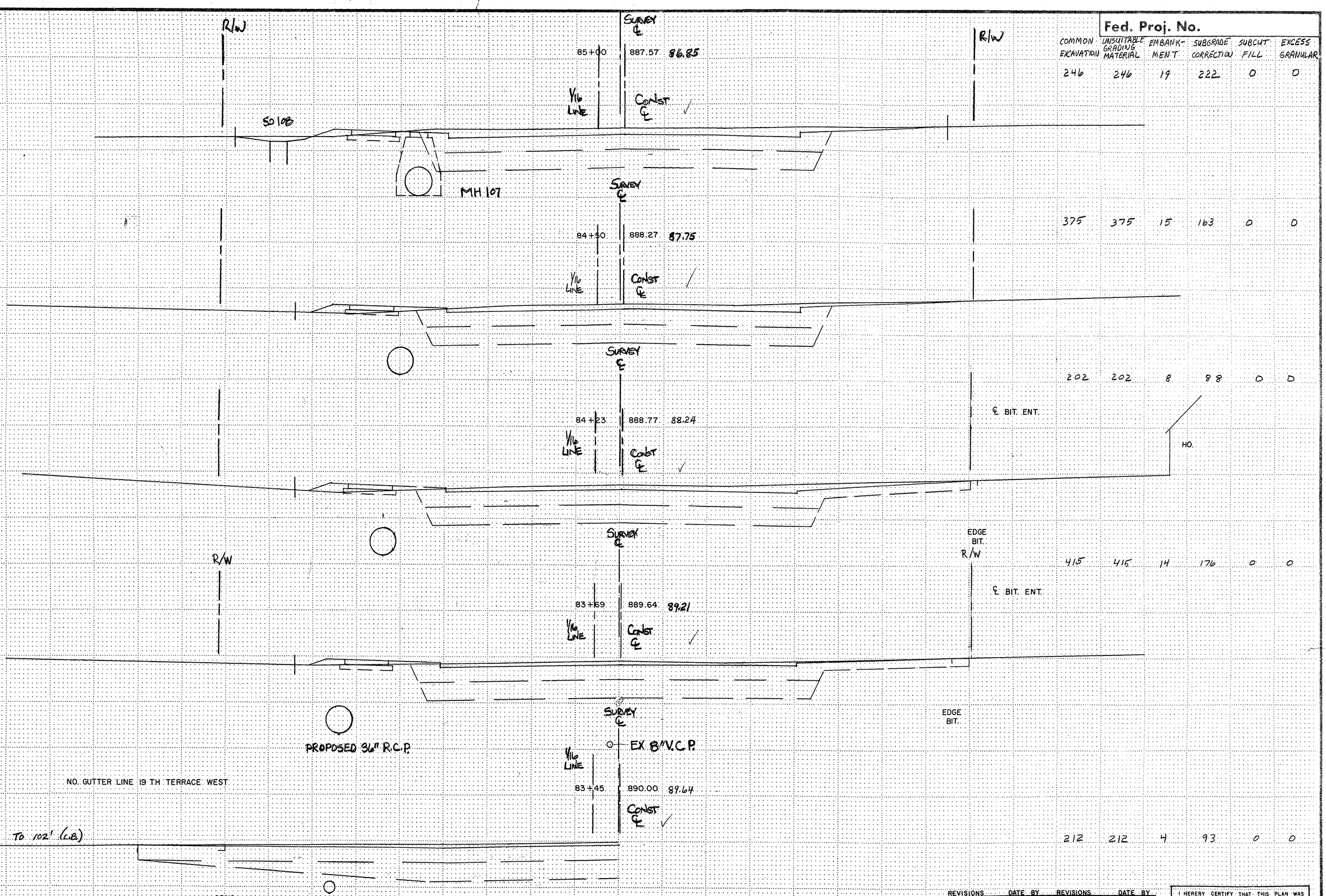
Sheet No. 18 of 53 Sheets

27-115

COPY EQUIPMENT FORM #1 75000

Fed. Proj. No.

COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
246	246	19	222	0	0
375	375	15	163	0	0
202	202	8	88	0	0
415	415	14	176	0	0
212	212	4	93	0	0



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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 _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 19 of 53 Sheets**

27-115

COPY EQUIPMENT FORM #1 75080

Fed. Proj. No.

COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
257	257 HO.	2	108	0	0
376	376	2	148	0	0
316	316	3	125	0	0
297	297	8	127	0	0
228	228	9	104	0	0

-1.54% TO 100'

B

SAWCUT

℄ RICE CREEK ROAD

86+68 | 884.39 | 83.83

SURVEY ℄

CONST. ℄

1/16 LINE

EXISTING M.H. 9

R/W

B

SO. EDGE BIT. RICE CREEK ROAD

86+53 | 884.68 | 84.10

CONST. ℄ | SURVEY ℄ | 1/16 LINE

-1.05% TO 100'

A

SAWCUT

RADIUS RICE CREEK ROAD

86+35 | 884.93 | 84.92

CONST. ℄ | SURVEY ℄ | 1/16 Line

R/W

℄ CONC. ENT.

SAWCUT

HO.

A

R/W

SURVEY ℄

86+00 | 885.57 | 85.05

1/16 LINE

CONST. ℄

CONC.

R/W

SURVEY ℄

85+68 | 886.17 | 885.63

1/16 LINE

CONST ℄

℄ BIT. ENT.

R/W

HO.

CONC. ENT.

2' SUBGRADE CORRECTION

PROPOSED 36" R.C.P.

EX 8" V.C.P

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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DATE _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

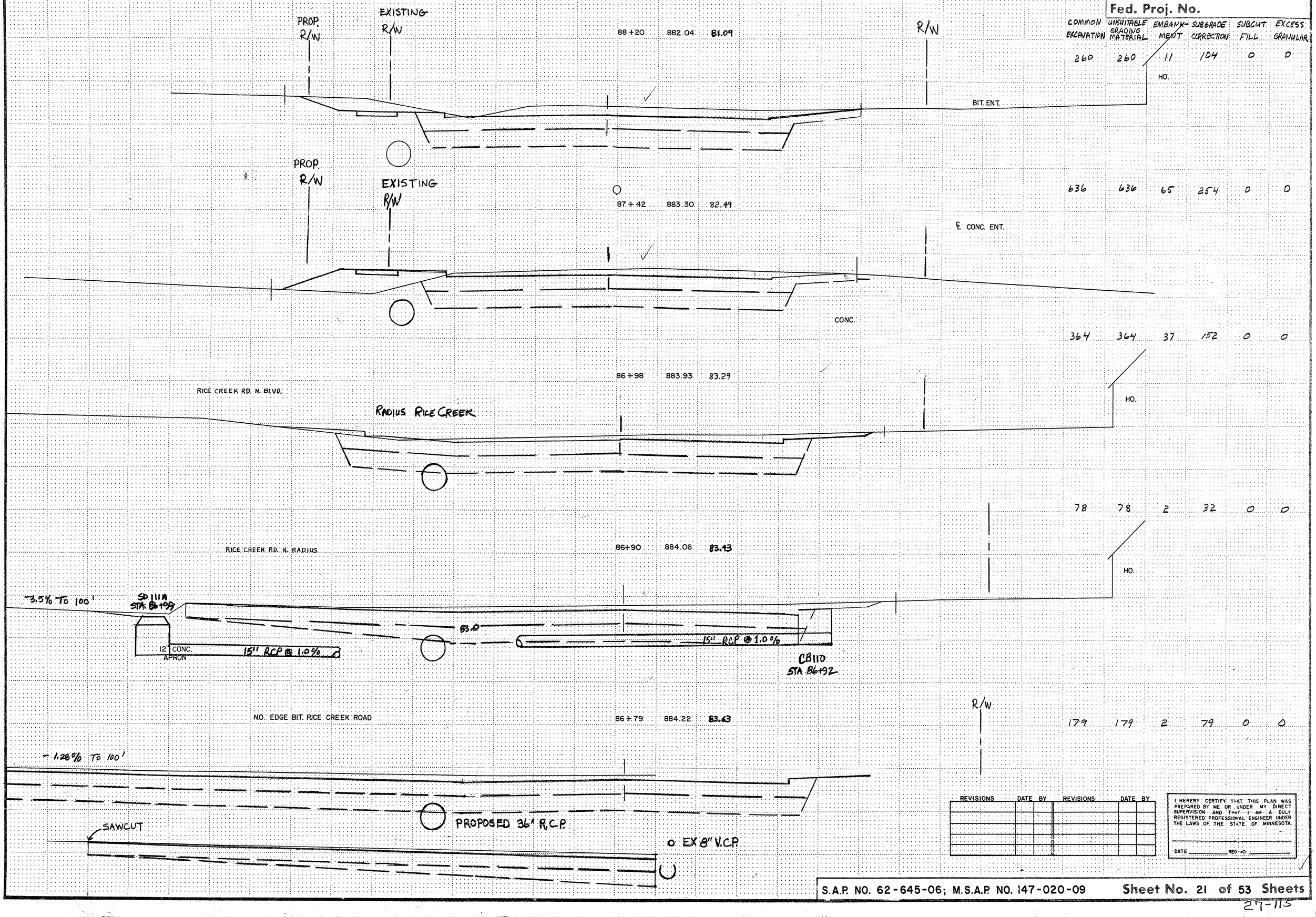
Sheet No. 20 of 53 Sheets

27-115

COPY EQUIPMENT FORM #1 73080

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
88+20 882.04 81.09	260	260	11	104	0	0
87+42 883.30 82.49	636	636	65	254	0	0
86+98 883.93 83.29	364	364	37	152	0	0
86+90 884.06 83.13	78	78	2	32	0	0
86+79 884.22 83.63	179	179	2	79	0	0



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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DATE _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

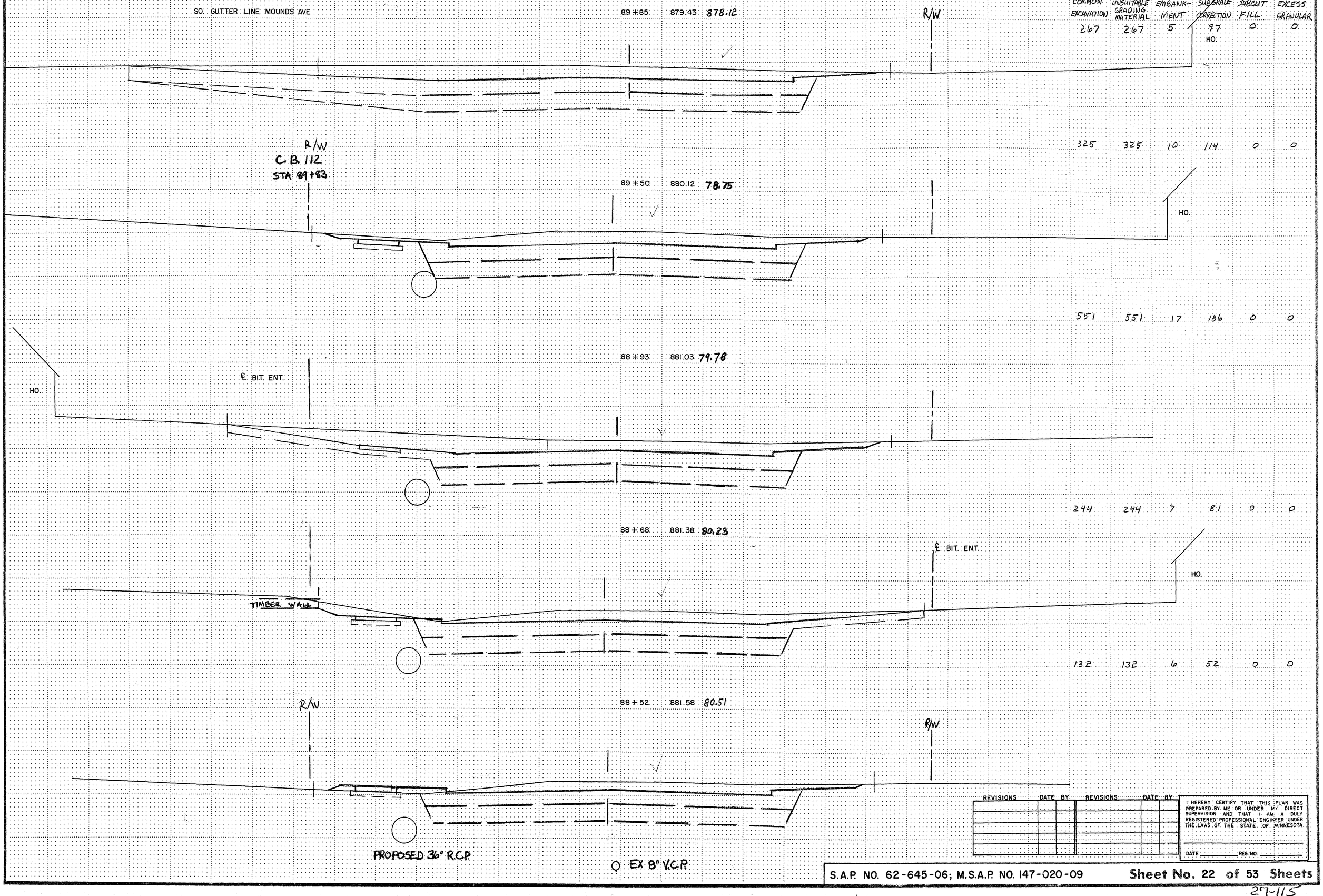
Sheet No. 21 of 53 Sheets

27-113

COPY EQUIPMENT FORM # 75580

Fed. Proj. No.

COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
267	267	5	97	0	0
325	325	10	114	0	0
551	551	17	186	0	0
244	244	7	81	0	0
132	132	6	52	0	0



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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: REG. NO:

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

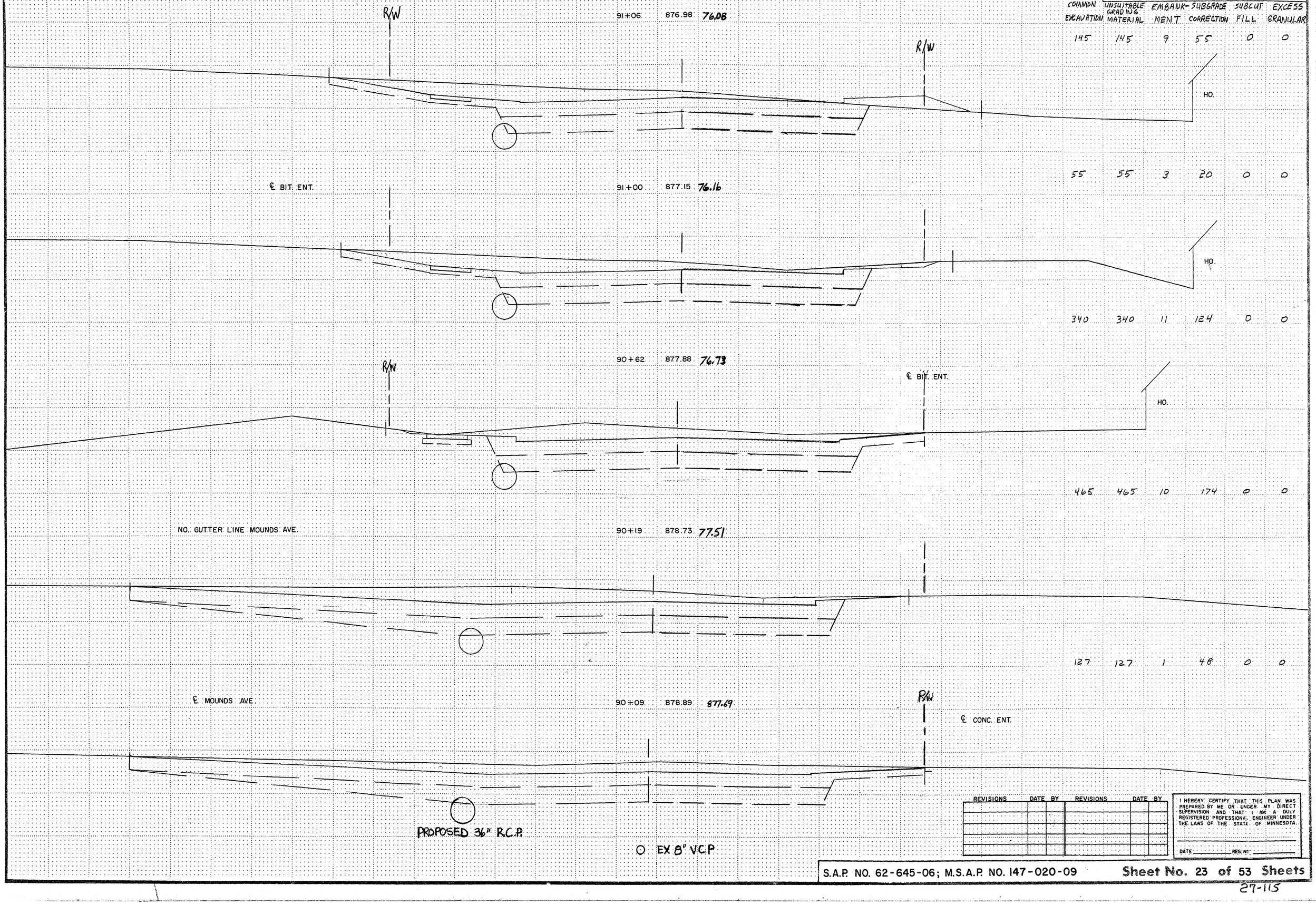
Sheet No. 22 of 53 Sheets

27-115

COPY EQUIPMENT FORM #1 75080

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
91+06 876.98 76.08 R/W	145	145	9	55	0	0
91+00 877.15 76.16 ℄ BIT. ENT.	55	55	3	20	0	0
90+62 877.88 76.73 R/W	340	340	11	124	0	0
90+19 878.73 77.51 NO. GUTTER LINE MOUNDS AVE.	465	465	10	174	0	0
90+09 878.89 877.69 ℄ MOUNDS AVE.	127	127	1	48	0	0



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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DATE _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

Sheet No. 23 of 53 Sheets

27-115

COPY EQUIPMENT FORM #1 - 73080

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
92+68 874.23						
92+33 874.70 74.64	62	62	6	12	0	0
91+91 875.20 75.12	247	247	23	97	0	0
91+50 876.18 75.58	281	281	30	134	0	0
91+23 876.70 75.89	197	197	14	88	0	0

R/W

℄ BIT. ENT.

REMOVE & REPLACE ENTRANCE AS DIRECTED

PROPOSED 36" RCP

MATCH EXISTING ROAD STA. 92+50 ±

MATCH C+G RT. STA. 92+40 ±

HO.

+68 Begin 20:1 Subgrade Correction Taper

MH 116

PROPOSED 36" RCP

① EX 8" V.C.P.

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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____ REG. NO.____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 24 of 53 Sheets**

27-115

COPY EQUIPMENT FORM # 75380

Fed. Proj. No.

R/W

95 + 00 874.25

R/W

PROPOSED 18" RCP

94 + 50 873.48

SIDEWALK

PROPOSED 18" RCP

BRIDGE ENDS STA. 94 + 01.5

94 + 00 873.23

SIDEWALK

AP 118
PROPOSED 18" R.C.P.

BRIDGE BEGINS STA. 93 + 54.5

93 + 50 873.47

SIDEWALK

PROPOSED 36" RCP

AP 117

R/W

93 + 00 873.84

R/W

SIDEWALK

PROPOSED 36" RCP

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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DATE _____ REG. NO. _____

① EX 8" V.C.P.

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

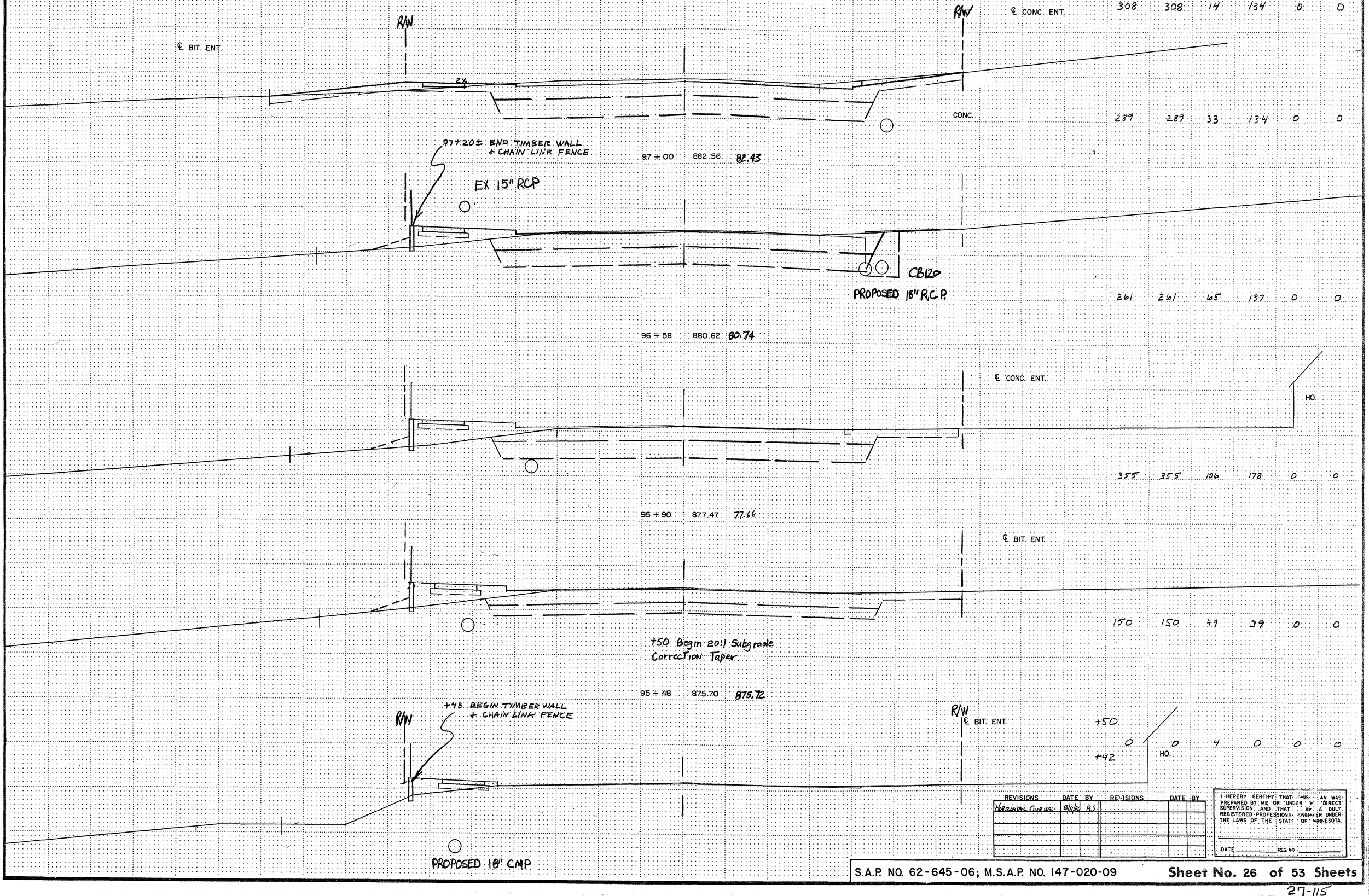
Sheet No. 25 of 53 Sheets

27-115

COPY EQUIPMENT FORM #: 75080

Fed. Proj. No.

			COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANKMENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
97 + 41	884.46	84.07						
℄ CONC. ENT.			308	308	14	134	0	0
CONC.			289	289	33	134	0	0
97 + 00	882.56	82.43						
PROPOSED 18" R.C.P.			261	261	65	137	0	0
96 + 58	880.62	80.74						
℄ CONC. ENT.			355	355	106	178	0	0
95 + 90	877.47	77.66						
℄ BIT. ENT.			150	150	49	39	0	0
95 + 48	875.70	875.72						
℄ BIT. ENT.			+50 0 +42	0	4	0	0	0



REVISIONS	DATE	BY	REVISIONS	DATE	BY
Horizontal Curves	8/1/02	BJ			

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 _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

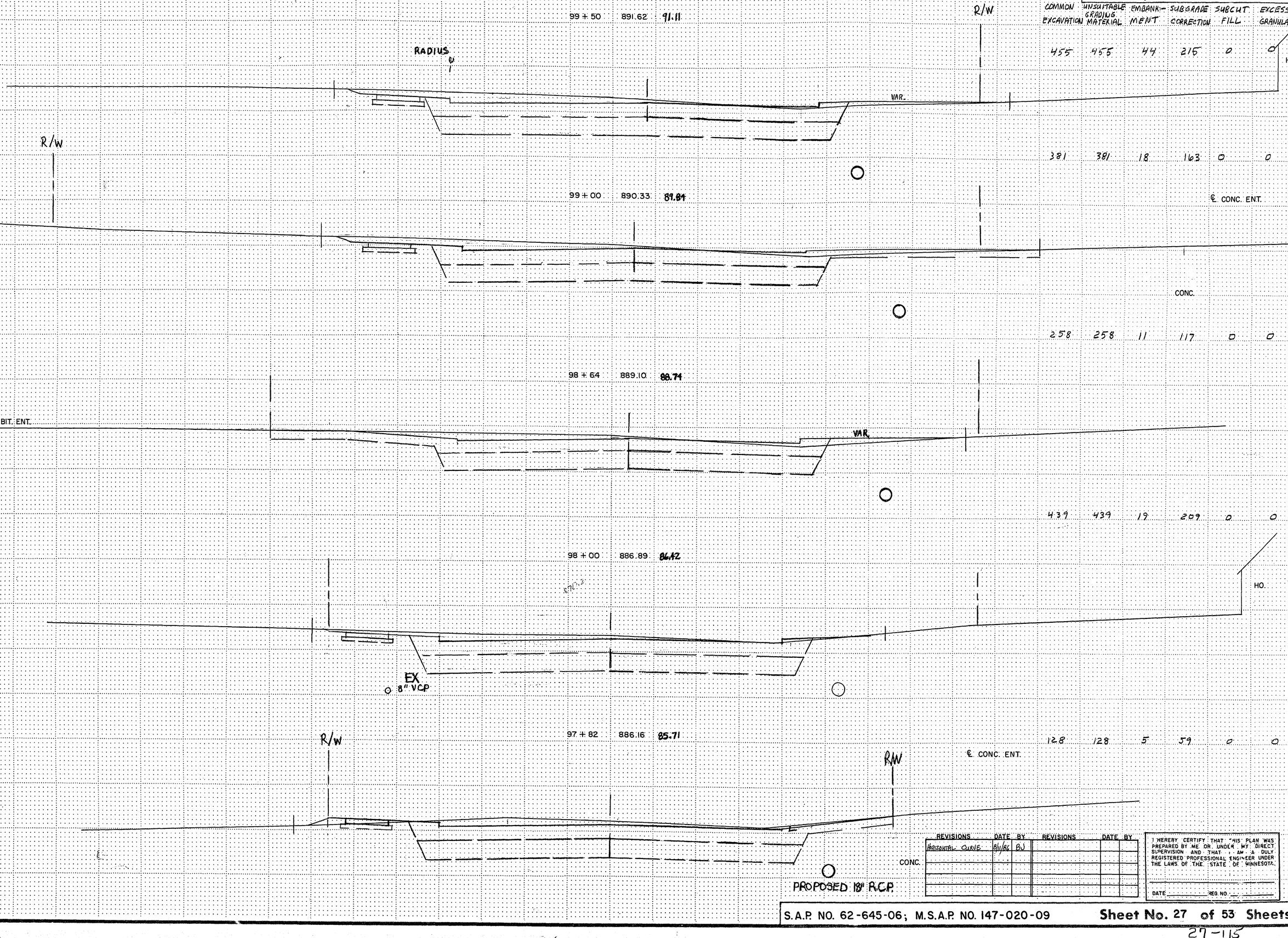
Sheet No. 26 of 53 Sheets

27-115

COPY EQUIPMENT FORM #1 70080

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
99 + 50 891.62 91.11	455	455	44	215	0	0
99 + 00 890.33 89.84	381	381	18	163	0	0
98 + 64 889.10 88.74	258	258	11	117	0	0
98 + 00 886.89 86.42	439	439	19	209	0	0
97 + 82 886.16 85.71	128	128	5	59	0	0



REVISIONS	DATE	BY	REVISIONS	DATE	BY
HORIZONTAL CURVE	8/11/86	BJ			

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DATE _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 27 of 53 Sheets**

27-115

COPY EQUIPMENT FORM #1 75080

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
℄ CONC. ENT.	490	490	11	214	0	0
CONC.	174	174	2	70	0	0
CONC. ENT.	146	146	4	61	0	0
CONC.	110	110	7	49	0	0
CONC.	434	434	43	215	0	0

R/W

EAST GUTTER LINE DAISY COURT

RELOCATE DAISY COURT RADIUS

100+95 893.59 93.14

R/W

SAWCUT

59 53 43

M.H. 93

CONC. GUTTER

CONC. GUTTER

15" R.C.P.

EX 8" VCP

CONC.

CONC.

℄ DAISY COURT

100+80 893.50 93.05

R/W

SAWCUT

CONC. ENT.

59 53 43

CONC.

RADIUS DAISY CT.

100+65 893.41 92.92

WEST GUTTER LINE DAISY COURT

RELOCATE DAISY COURT RADIUS

R/W

CONC. ENT.

-1.86% TO 95'

52.5 43

CONC.

100+50 893.23 92.77

R/W

R/W

53.5 42

SIDEWALK

100+00 892.54 92.09

N. GUTTER MISS. ST.

RELOCATE MISSISSIPPI ST.

R/W

2' Subgrade Correction

O PROPOSED 15" RCP

REVISIONS	DATE	BY	REVISIONS	DATE	BY
Horizontal Curve	8/11/86	BJ			

I HERERY 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.

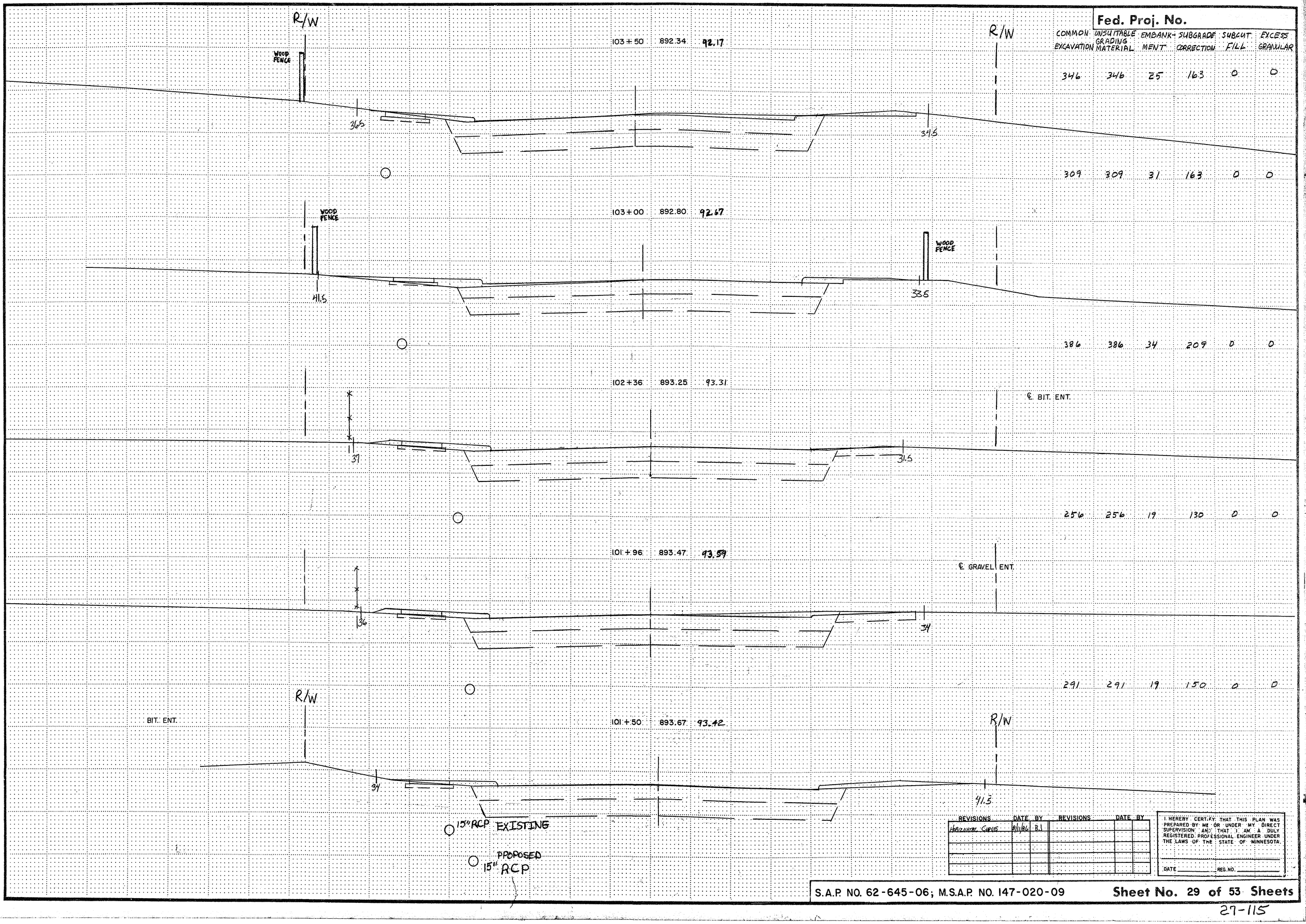
DATE _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09. **Sheet No. 28 of 53 Sheets**

COPY EQUIPMENT FORM #1 75080

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
103+50 892.34 92.17	346	346	25	163	0	0
103+00 892.80 92.67	309	309	31	163	0	0
102+36 893.25 93.31	386	386	34	209	0	0
101+96 893.47 93.59	256	256	19	130	0	0
101+50 893.67 93.42	291	291	19	150	0	0



REVISIONS	DATE	BY	REVISIONS	DATE	BY
HORIZONTAL CURVES	8/11/86	BJ			

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DATE _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 29 of 53 Sheets**

27-115

COPY EQUIPMENT FORM #1 76080

Fed. Proj. No.

COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
386	386	19	163	0	0
379	379	36	163	0	0
386	386	42	167	0	0
464	464	48	228	0	0
444	444	44	224	0	0

R/W

106+00 891.40 90.30

36.5

VAR.

53.5

REMOVE EXISTING ROADWAY

2' Subgrade Correction

105+50 891.07 90.24

PROPOSED 15" R.C.P.

105+00 891.15 90.67

11 3:1

VAR.

REMOVE EXISTING ROADWAY

85'

GUTTER

8A

RADIUS MISS. ST.

10

VAR.

℄ MISSISSIPPI ST.

104+50 891.49 91.47

0.00 PC

+1.0%

PI

-5.5%±

50' V.C.
M=0.28125

PT

MISSISSIPPI ST.

+1.0%

REMOVE EXISTING ROADWAY

38.5

2' Subgrade Correction

R/W

104+00 891.87 91.67

RELOCATE MISSISSIPPI STREET

38

56

EX 15" R.C.P.

PROPOSED 15" R.C.P.

REVISIONS	DATE	BY	REVISIONS	DATE	BY
HORIZONTAL CURVE	8/11/86	RJ			

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DATE _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 30 of 53 Sheets**

27-115

COPY EQUIPMENT FORM #1 73589

Fed. Proj. No.

SOUTH RAIL

			COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
107+81	893.78	93.84						
			12	12	5	2	0	0
107+50	893.17	93.60						
107+18± Begin 20:1 Subcut Taper								
			216	216	66	102	0	0
107+00	892.34	92.12						
			136	136	13	65	0	0
106+80	892.17	91.57						
			223	223	11	98	0	0
106+50	891.95	90.93						

R/W

37

+55

TOP RAIL

3:1

40.5

R/W

41.5

34

CONC.

CONC.

℄ CONC. ENT.

39

2.0%

36

CONC.

CONC.

R/W

R/W

35

REMOVE EXISTING ROADWAY

PROPOSED 15" R.C.P.

CONC.

REVISIONS	DATE	BY	REVISIONS	DATE	BY
Horizontal Curve	8/11/86	RJ			

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DATE _____ REG. NO. _____

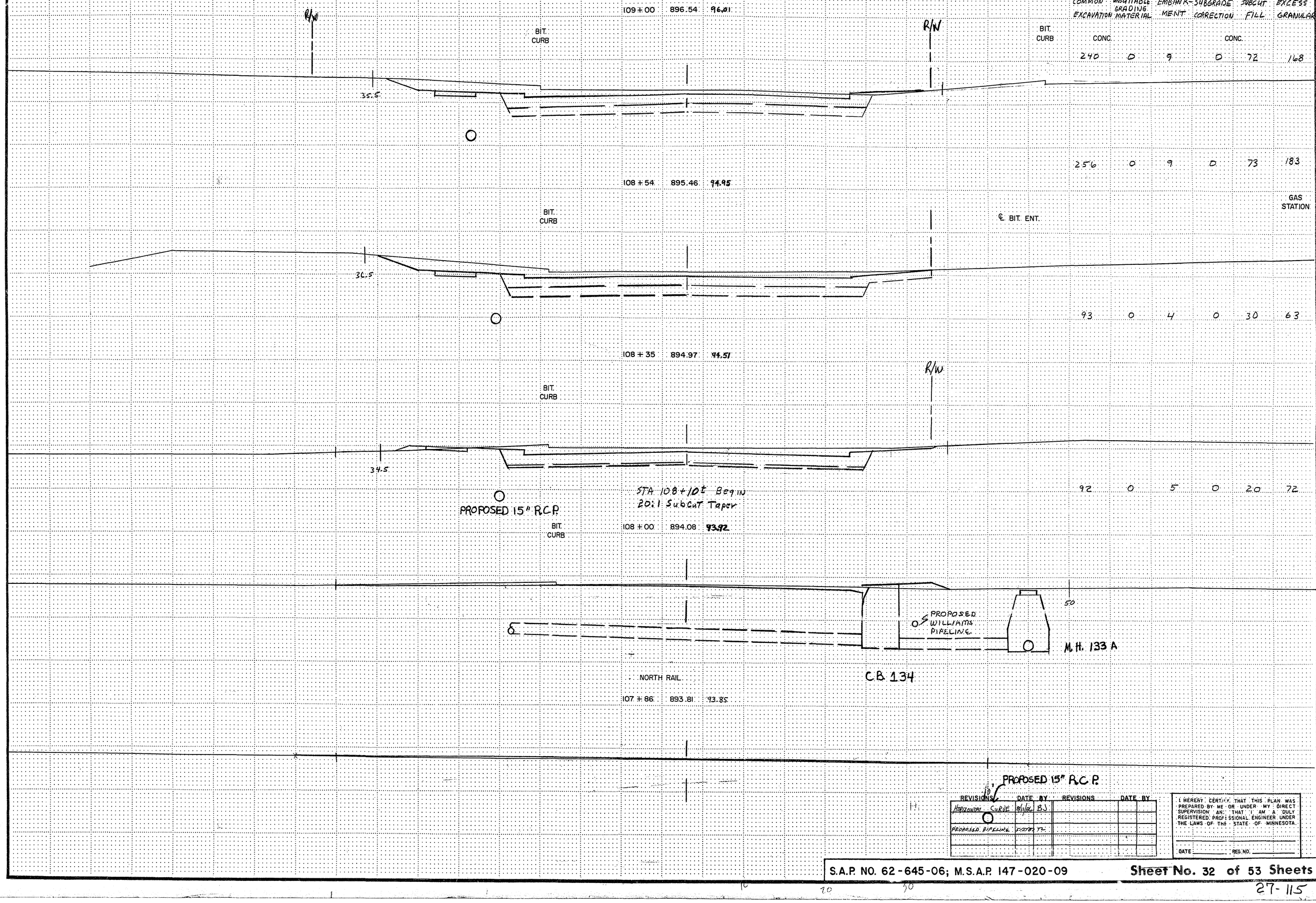
S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 31 of 53 Sheets**

COPY EQUIPMENT FORM #1 73080

27-115

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
109+00 BIT. CURB	240	0	9	0	72	168
108+54 BIT. CURB	256	0	9	0	73	183
108+35 BIT. CURB	93	0	4	0	30	63
108+00 BIT. CURB	92	0	5	0	20	72
NORTH RAIL 107+86						



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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DATE _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. 147-020-09

Sheet No. 32 of 53 Sheets

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COPY EQUIPMENT FORM #1 75080

Fed. Proj. No.

	111+00	900.35	899.90	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANKMENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
				236	0	13	0	80	156
	110+50	899.70	99.28	330	0	10	0	126	204
END OF PROPOSED 15" R.C.P.				156	0	2	0	64	92
LONGVIEW DRIVE	110+32	899.37	98.96	215	0	6	0	85	130
	110+00	898.81	98.30	273	0	12	0	88	185
PROPOSED 15" R.C.P.	109+45	897.59	897.04						

R/W BIT. CURB

R/W ℄ BIT. ENT.

GAS STATION

EX 8" V.C.P.

PROPOSED WILLIAMS PIPELINE

REVISIONS	DATE	BY	REVISIONS	DATE	BY
PROPOSED PIPELINE	7/30/07	TL			

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 _____ REG. NO _____

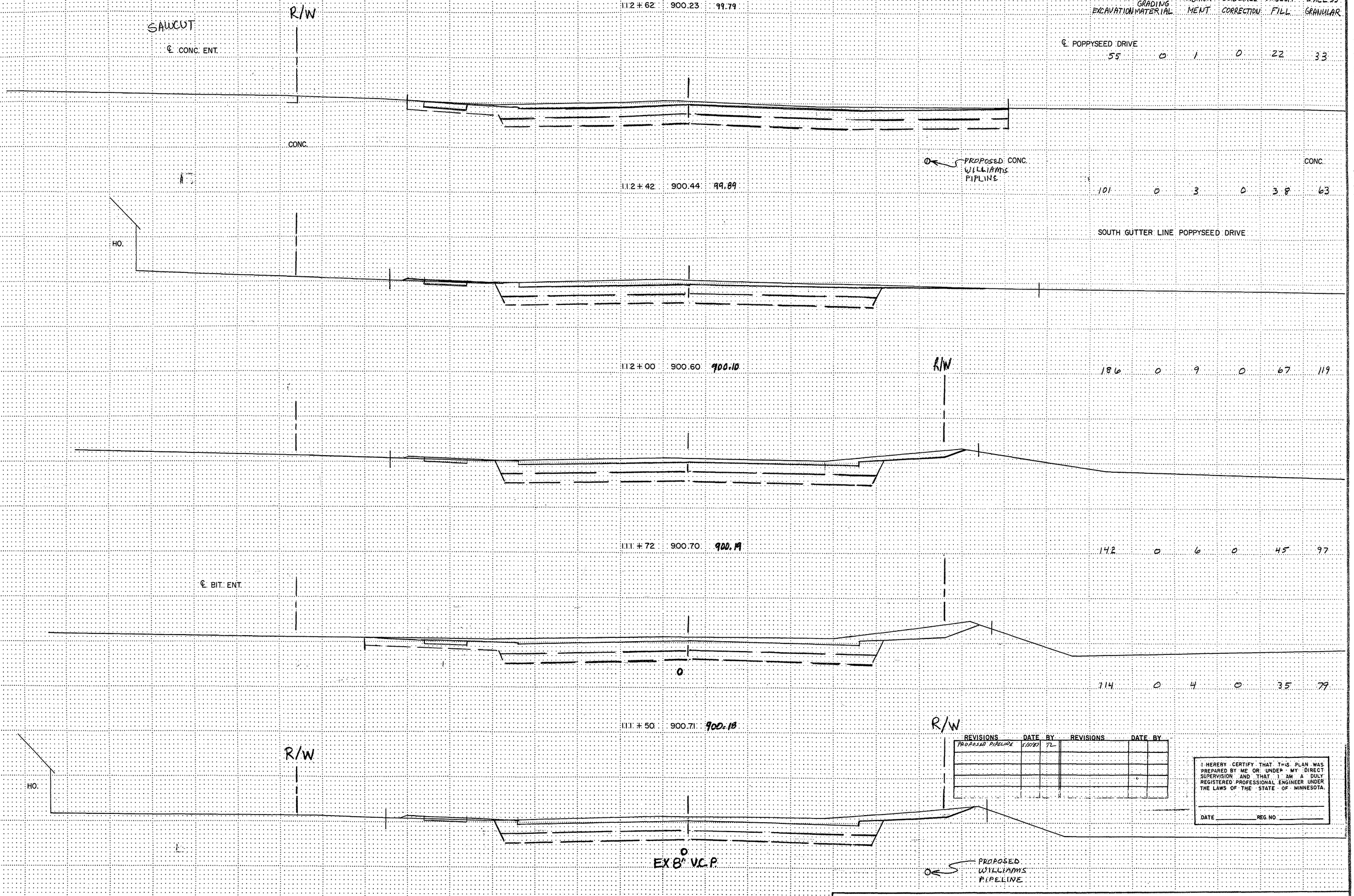
S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 33 of 53 Sheets**

27-116

COPY EQUIPMENT FORM #1 76080

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
112+62 900.23 99.79 ℄ POPPYSEED DRIVE	55	0	1	0	22	33
112+42 900.44 99.89 SOUTH GUTTER LINE POPPYSEED DRIVE	101	0	3	0	38	63
112+00 900.60 900.10	186	0	9	0	67	119
111+72 900.70 900.19	142	0	6	0	45	97
111+50 900.71 900.18	114	0	4	0	35	79



REVISIONS	DATE	BY	REVISIONS	DATE	BY
PROPOSED PIPELINE	5/15/87	TL			

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 _____ REG. NO _____

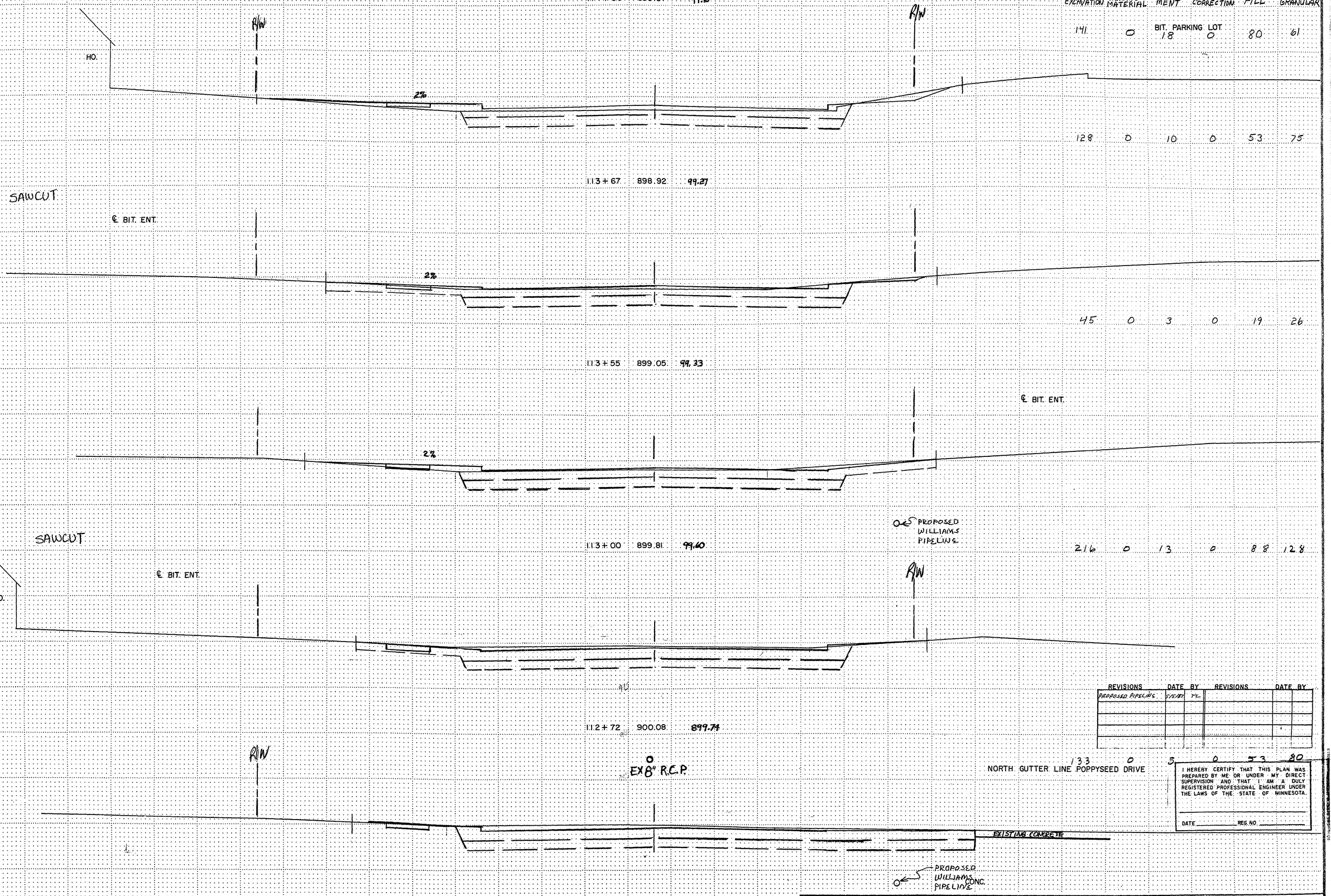
S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 34 of 53 Sheets**

27-115

COPY EQUIPMENT FORM #1 75080

Fed. Proj. No.

COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
141	0	BIT. PARKING LOT 18	0	80	61
128	0	10	0	53	75
45	0	3	0	19	26
216	0	13	0	88	128
133	0	3	0	53	80



REVISIONS	DATE	BY	REVISIONS	DATE	BY
PROPOSED PIPELINES	7/15/87	TC			

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.

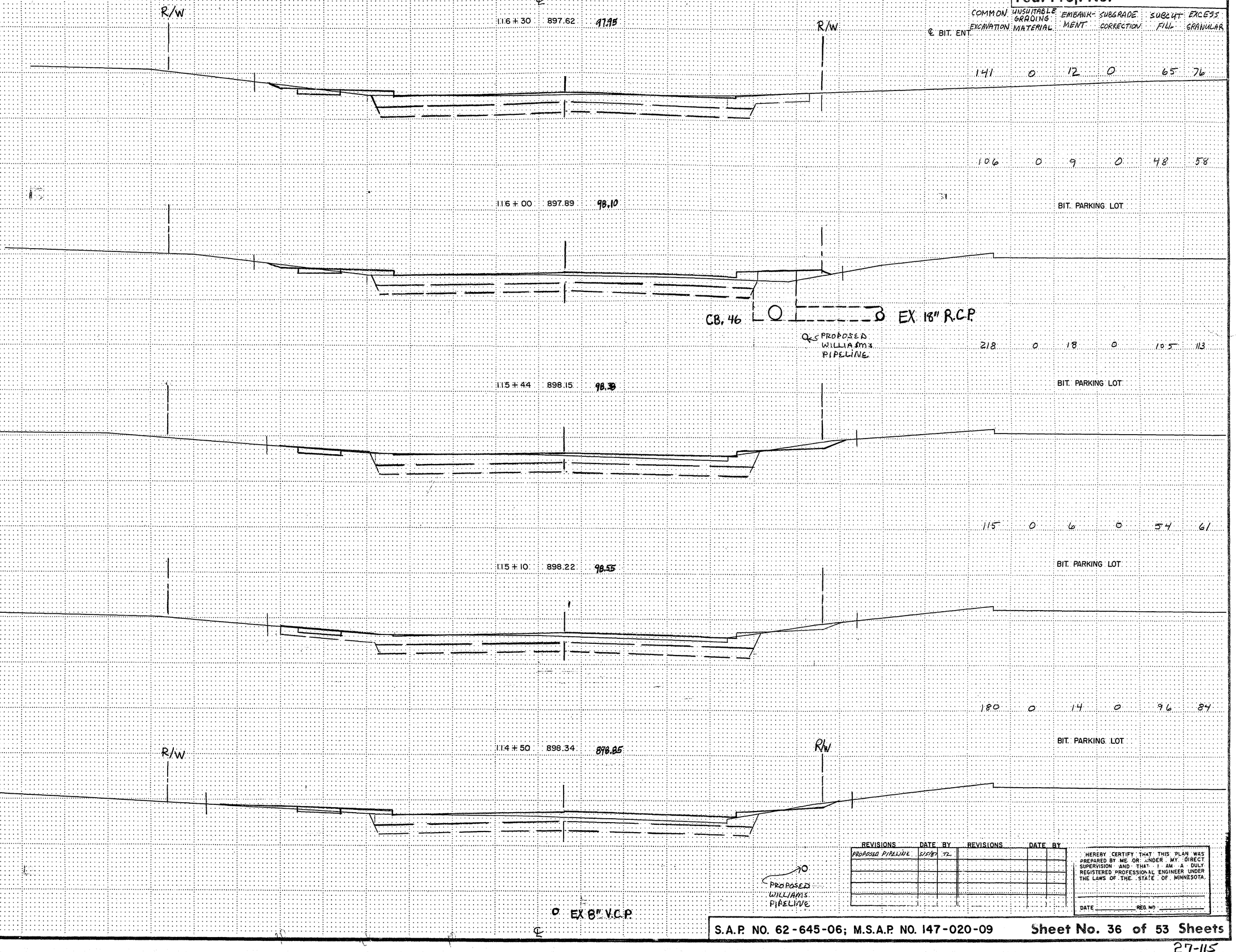
DATE _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 35 of 53 Sheets**

27-115

COPY EQUIPMENT FORM #1 75080

Fed. Proj. No.



	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBGR FILL	EXCESS GRANULAR
	141	0	12	0	65	76
	106	0	9	0	48	58
	218	0	18	0	105	113
	115	0	6	0	54	61
	180	0	14	0	96	84

REVISIONS	DATE	BY	REVISIONS	DATE	BY
PROPOSED PIPELINE	5/5/87	TL			

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 _____ REG. NO _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

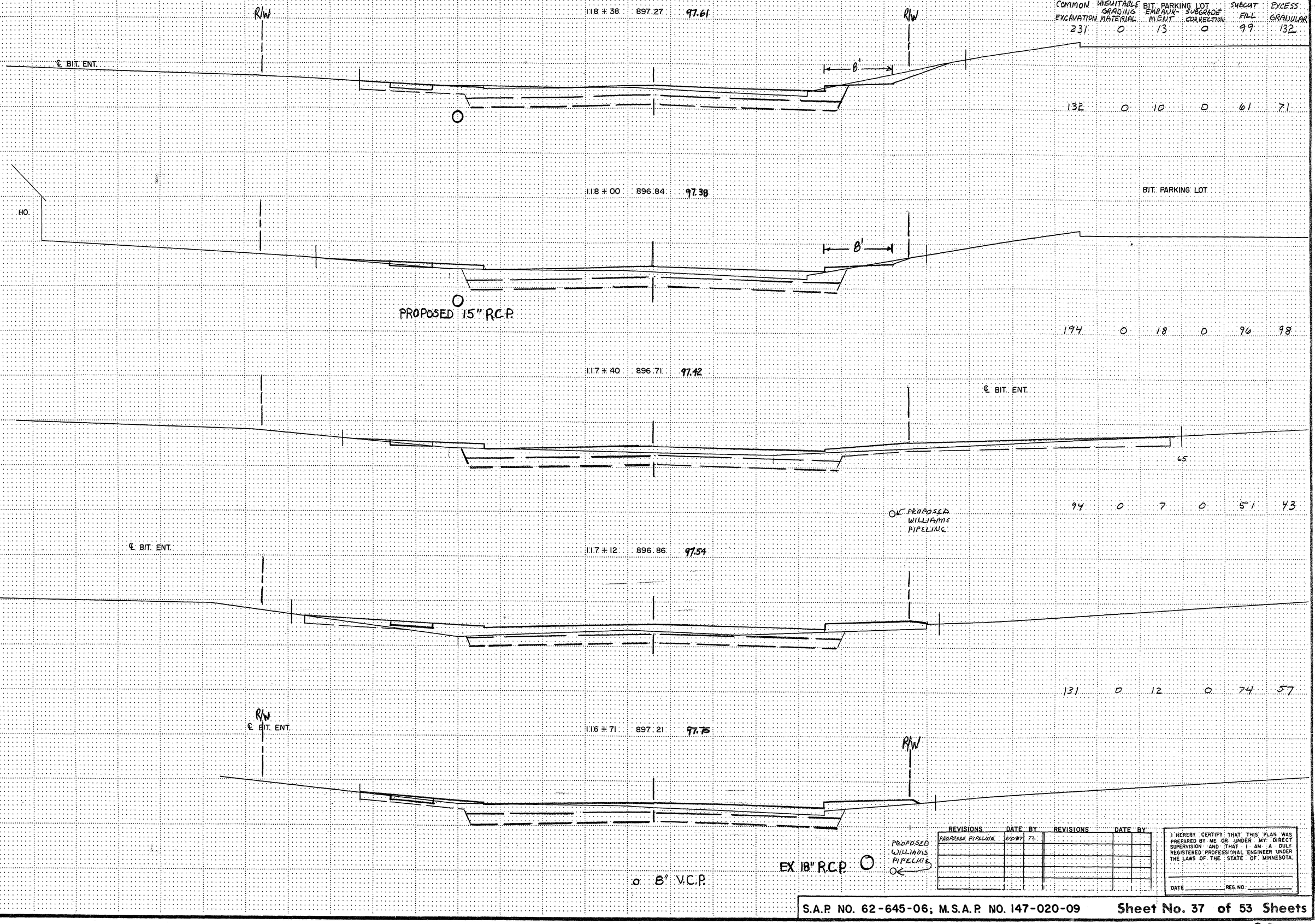
Sheet No. 36 of 53 Sheets

27-115

COPY EQUIPMENT FORM #1 75080

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	BIT. PARKING LOT EMBANKMENT	BIT. PARKING LOT SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
118 + 38 897.27 97.61	231	0	13	0	99	132
118 + 00 896.84 97.38	132	0	10	0	61	71
117 + 40 896.71 97.42	194	0	18	0	96	98
117 + 12 896.86 97.54	94	0	7	0	51	43
116 + 71 897.21 97.75	131	0	12	0	74	57



REVISIONS	DATE	BY	REVISIONS	DATE	BY
PROPOSED PIPELINE	6/5/87	TL			

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DATE _____ REG NO. _____

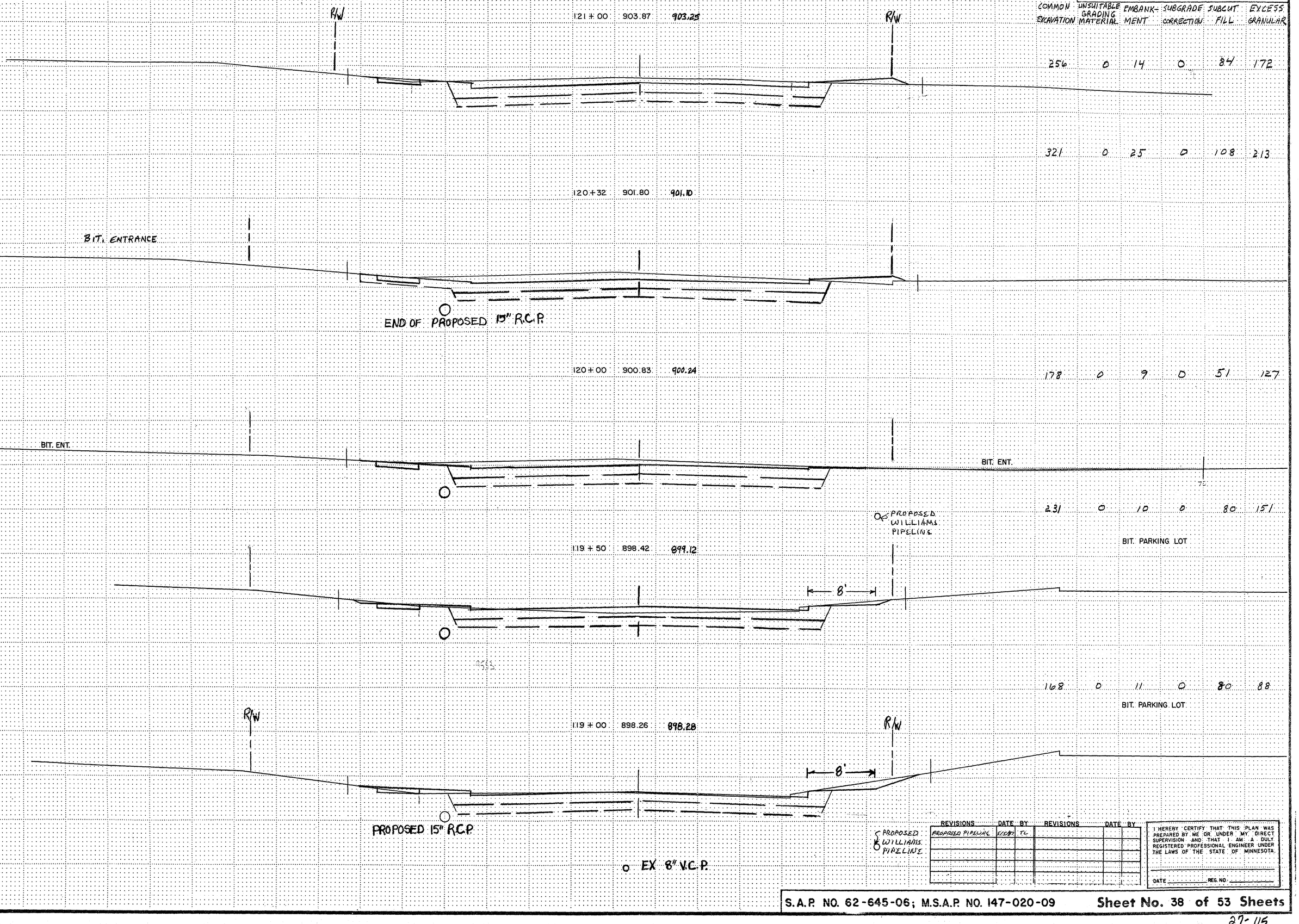
S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 37 of 53 Sheets**

27-115

COPY EQUIPMENT FORM #1 75980

Fed. Proj. No.

COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
256	0	14	0	84	172
321	0	25	0	108	213
178	0	9	0	51	127
231	0	10	0	80	151
168	0	11	0	80	88



REVISIONS	DATE	BY	REVISIONS	DATE	BY
PROPOSED PIPELINE	5/5/97	TL			

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DATE _____ REG. NO. _____

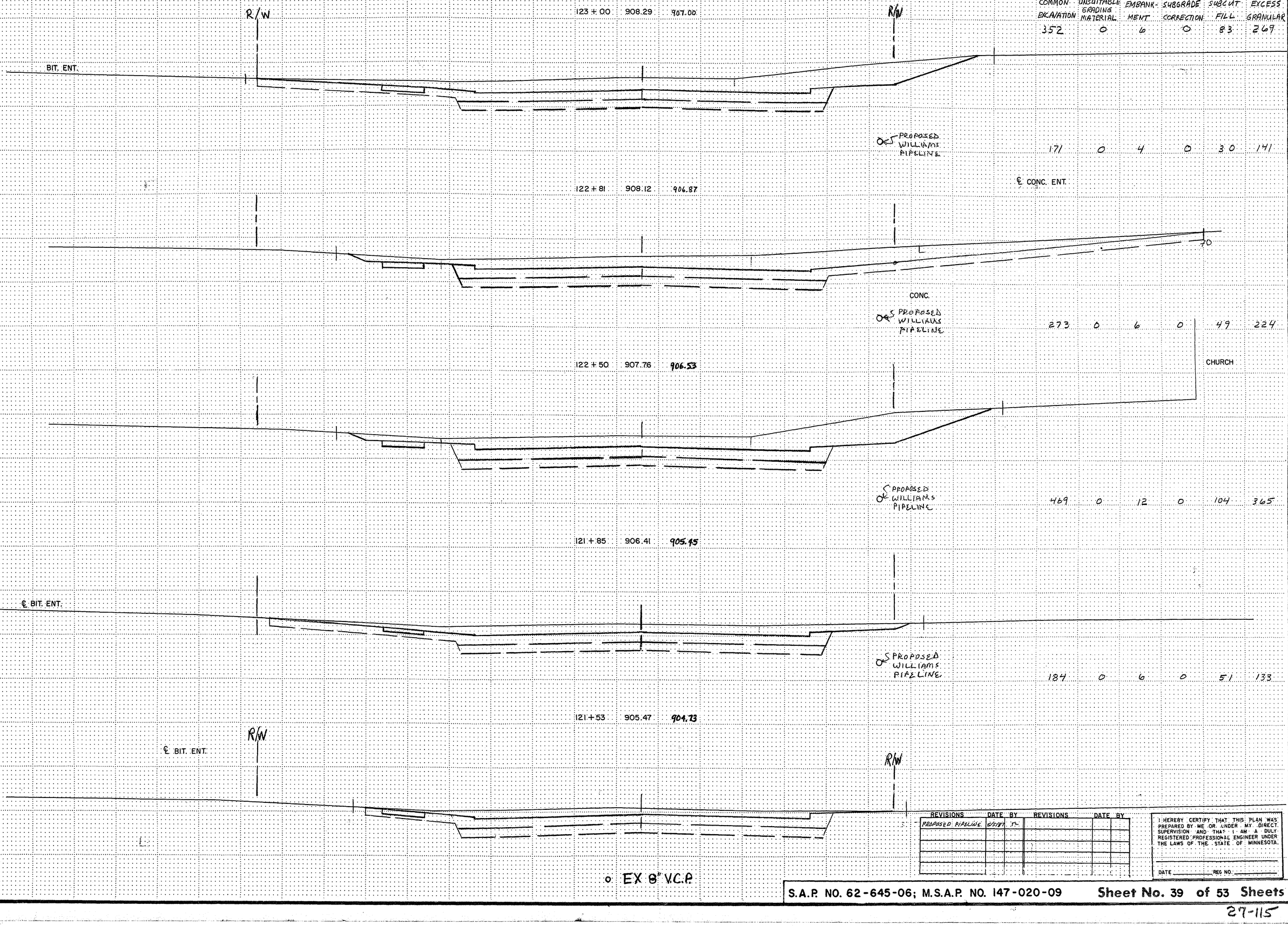
S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 38 of 53 Sheets**

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COPY EQUIPMENT FORM #1 75080

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
123+00 908.29 907.00	352	0	6	0	83	269
122+81 908.12 906.87	171	0	4	0	30	141
122+50 907.76 906.53	273	0	6	0	49	224
121+85 906.41 905.45	469	0	12	0	104	365
121+53 905.47 904.73	184	0	6	0	51	133



REVISIONS	DATE	BY	REVISIONS	DATE	BY
PROPOSED PIPELINE	6/5/87	TL			

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 _____ REG NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 39 of 53 Sheets**

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COPY EQUIPMENT FORM #1 75080

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
124 + 20 907.19 906.86 RW — ℄ 25 TH ST. NW.	64	0	1	0	25	39
O PROPOSED WILLIAMS PIPELINE	104	0	2	0	38	66
124 + 03 907.62 906.98 RW — SOUTH GUTTER LINE 25 TH ST. NW.	247	0	4	0	81	166
123 + 70 908.25 907.14 R/W — NORTH GUTTER LINE SUNNYSIDE TERRACE	137	0	2	0	40	97
123 + 55 908.35 907.16 R/W — ℄ SUNNYSIDE TERRACE						
123 + 39 908.42 907.15 R/W — SOUTH GUTTER LINE SUNNYSIDE TERRACE	152	0	2	0	43	109
O EX 8" V.C.P.						

PROPOSED WILLIAMS PIPELINE

REVISIONS	DATE	BY	REVISIONS	DATE	BY
PROPOSED PIPELINE	5/6/87	TL			

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 _____ REG NO _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 40 of 53 Sheets**

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COPY EQUIPMENT FORM #1 75080

Fed. Proj. No.

COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANKMENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
152	0	8	0	51	101
104	0	6	0	35	69
196	0	14	0	73	123
122	0	11	0	49	73
181	0	10	0	73	108

℄

R/W

℄ CONC. ENT.

125 + 68 906.27 905.88

CONC. GRAVEL

R/W

HO.

125 + 46 906.29 905.98

℄ BIT. ENT.

OES PROPOSED WILLIAMS PIPELINE

125 + 00 906.38 906.30

HO.

℄ BIT. ENT

124 + 69 906.56 906.52

R/W

REVISIONS	DATE	BY	REVISIONS	DATE	BY
PROPOSED PIPELINE	5/15/07	TL			

NORTH GUTTER LINE 25 TH ST. NW.

124 + 31 907.00 906.79

R/W

○ EX 8" V.C.P.

OES PROPOSED WILLIAMS PIPELINE CONC.

℄

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 _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 41 of 53 Sheets**

27-115

COPY EQUIPMENT FORM #1 75980

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
127 + 31 905.92	143	0	4	0	46	97
127 + 16 905.96	136	0	3	0	43	93
127 + 00 906.02	117	0	4	0	36	81
126 + 50 906.12	263	0	19	0	80	183
126 + 00 906.20	244	0	18	0	80	164

℄

R/W

904.69

℄ LONG LAKE COURT

℄ PROPOSED WILLIAMS PIPELINE

904.79

SOUTH GUTTER LINE LONG LAKE COURT

CONC.

R/W

904.90

O PROPOSED 15" R.C.P.

905.25

HO.

REVISIONS	DATE	BY	REVISIONS	DATE	BY
PROPOSED PIPELINE	5/5/87	TL			

905.60

O EX 8" V.C.P.

R/W

R/W

HO.

℄ PROPOSED WILLIAMS PIPELINE

℄

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DATE _____ REG. NO: _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

Sheet No. 42 of 53 Sheets

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COPY EQUIPMENT FORM #1 75080

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
129 + 40 905.22	441	0	11	0	96	345
129 + 15 905.21	214	0	5	0	40	174
128 + 50 905.42	496	0	20	0	104	392
128 + 00 905.57	310	0	24	0	80	230
127 + 47 905.82	395	0	20	0	119	276

R/W 903.71 ℄ GRAVEL ENT. R/W

O.K.'S PROPOSED WILLIAMS PIPELINE

903.59 ℄ BIT. ENT.

903.85

903.20 R/W HO.

O.K.'S PROPOSED WILLIAMS PIPELINE

EX 8" V.C.P

R/W 904.57

O PROPOSED 15" R.C.P. CONC.

NORTH GUTTER LINE LONG LAKE COURT

REVISIONS	DATE	BY	REVISIONS	DATE	BY
PROPOSED PIPELINE	5/15/81	TL			

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 _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 43 of 53 Sheets**

27-115

COPY EQUIPMENT FORM #1 72080

Fed. Proj. No.

	COMMON EXCAVATION	UNSUITABLE GRADING MATERIAL	EMBANK-MENT	SUBGRADE CORRECTION	SUBCUT FILL	EXCESS GRANULAR
TOTALS:	32826	20043	1867	8865	4203	8580

SEE SHEET 53 FOR EARTHWORK SUMMARY

℄

131 + 50 904.48

R/W

BIT. CURB

R/W

131+05 Begin 2011 Subcut Taper

STA. 131+25 MATCH EXISTING 904.68±

130 + 98 904.91

190 0 3 0 0 190

NORTH GUTTER LINE COUNTY ROAD 'H'

904.50

SAWCUT

-2%

NORTH GUTTER LINE COUNTY ROAD 'H'

130 + 81 905.03

℄ COUNTY ROAD 'H'

℄ PROPOSED WILLIAMS PIPELINE

216 0 0 0 80 136

904.42

SAWCUT

+2%

130 + 62 905.01

253 0 0 0 89 164

SOUTH GUTTER LINE COUNTY ROAD 'H'

904.32

SAWCUT

-2%±

+2%

SOUTH GUTTER LINE COUNTY ROAD 'H'

PROPOSED 18" R.C.P.

℄ PROPOSED WILLIAMS PIPELINE

R/W

130 + 00 905.31

609 0 6 0 195 414

R/W

904.01

PROPOSED 15" R.C.P.

℄

REVISIONS	DATE	BY	REVISIONS	DATE	BY
PROPOSED PIPELINE	07/08/11	TL			

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 _____ REG. NO. _____

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

Sheet No. 44 of 53 Sheets

27-115

COPY EQUIPMENT FORM #1 75080

Fed. Proj. No.

R/W

BIT. CURB

132 + 00 903.99

R/W

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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 _____ REG. NO. _____

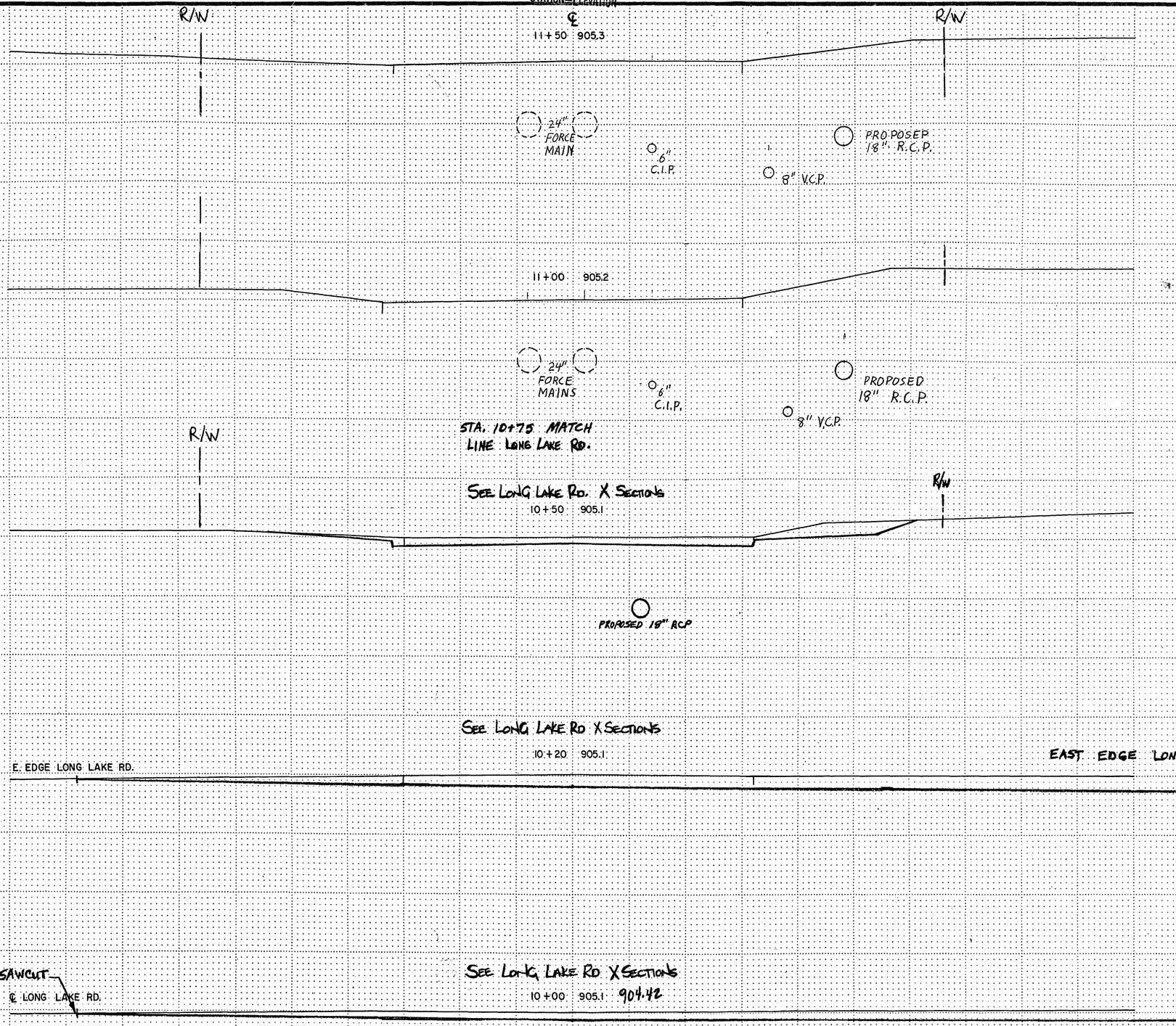
S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 45 of 53 Sheets**

27-115

COPY EQUIPMENT FORM #1 75080

STATION–ELEVATION

Fed. Proj. No.



o EX. 8" V.C.P.

REVISIONS	DATE	BY	REVISIONS	DATE	BY
UTILITIES	9/14/67	E.T.			

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 _____ REG. NO. _____

COUNTY ROAD H

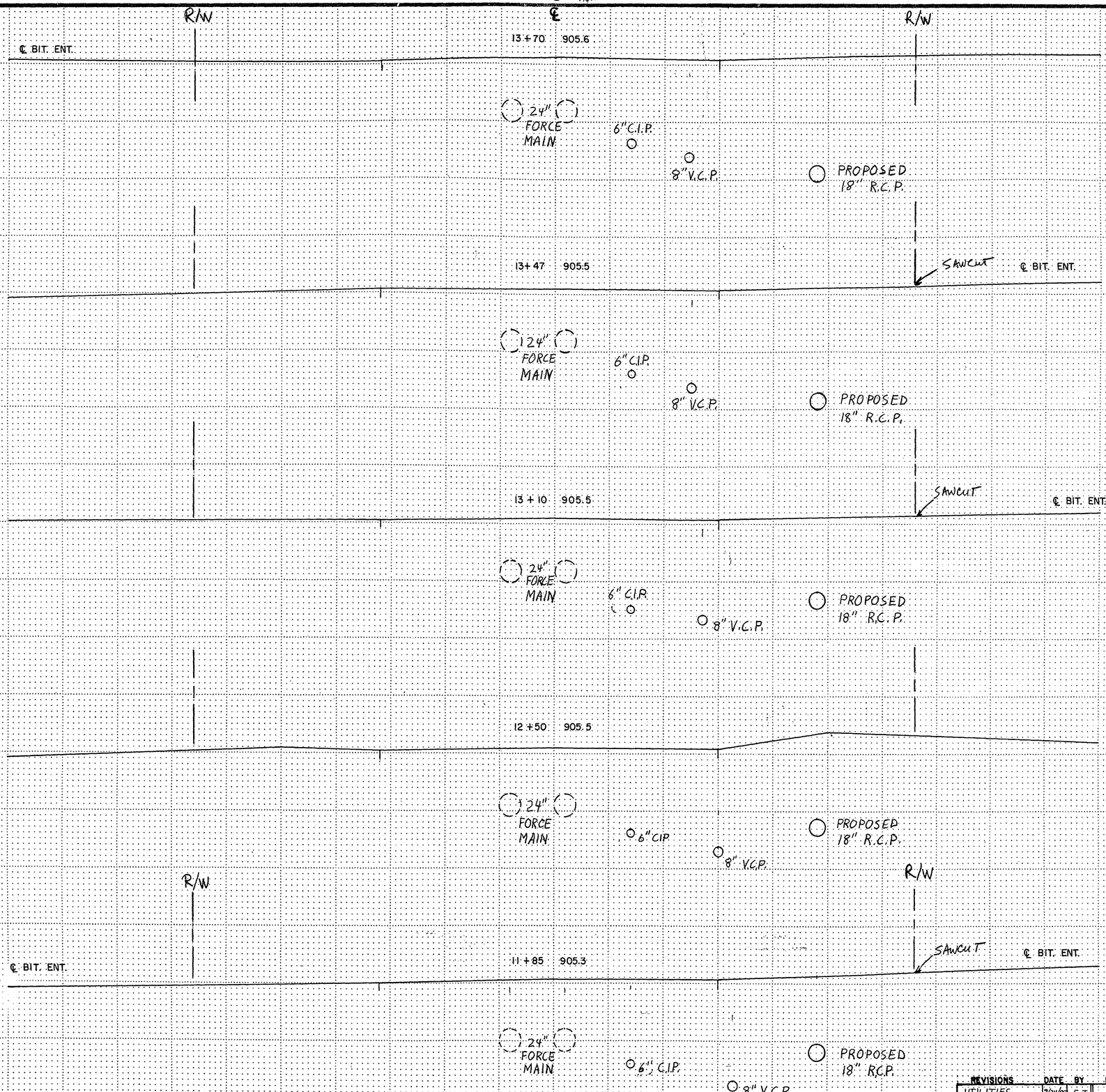
S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 Sheet No. 46 of 53 Sheets

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COPY EQUIPMENT FORM #1 - 72080

STATION–ELEVATION

Fed. Proj. No.



REVISIONS	DATE	BY	REVISIONS	DATE	BY
UTILITIES	7/24/87	E.T.			

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 _____ REG. NO. _____

COUNTY ROAD H

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

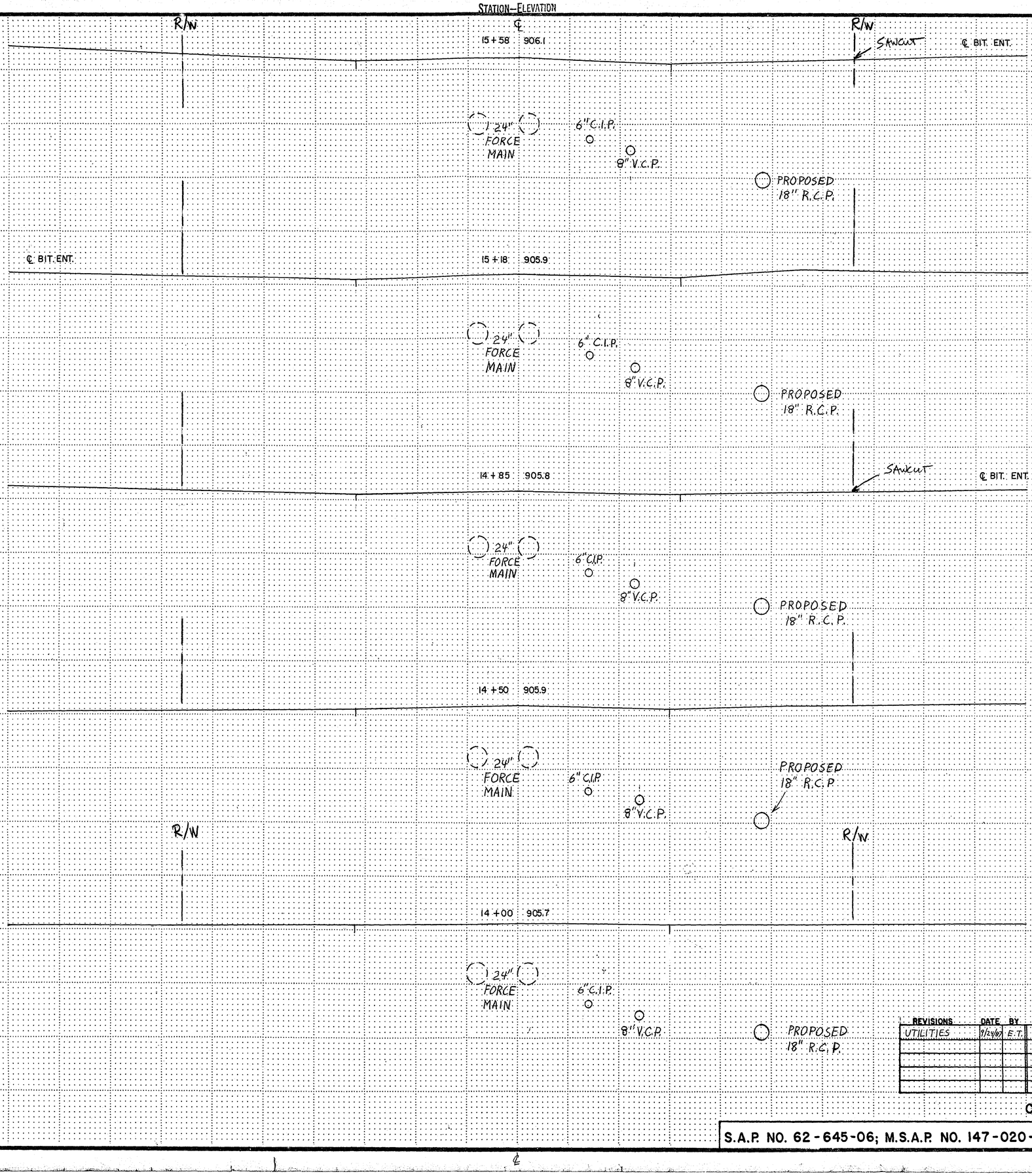
Sheet No. 47 of 53 Sheets

27-115

COPY EQUIPMENT FORM #1 73088

STATION–ELEVATION

Fed. Proj. No.



REVISIONS	DATE	BY	REVISIONS	DATE	BY
UTILITIES	9/24/07	E.T.			

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 _____ REG. NO. _____

COUNTY ROAD H

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09

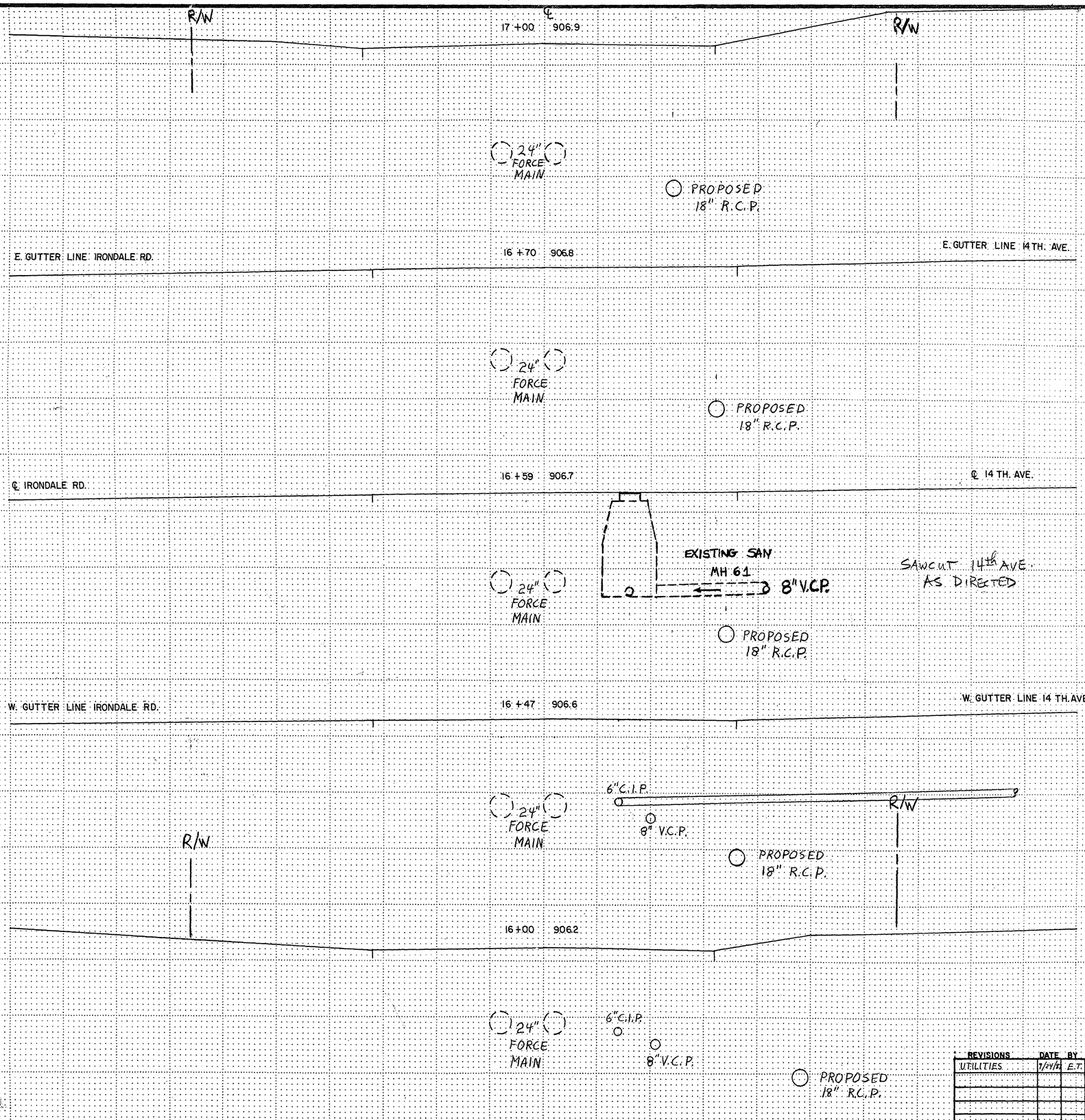
Sheet No. 48 of 53 Sheets

27-115

COPY EQUIPMENT FORM #1 75080

STATION—ELEVATION

Fed. Proj. No.



REVISIONS	DATE	BY	REVISIONS	DATE	BY
UTILITIES	7/21/11	E.T.			

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 _____ REG. NO. _____

COUNTY ROAD H

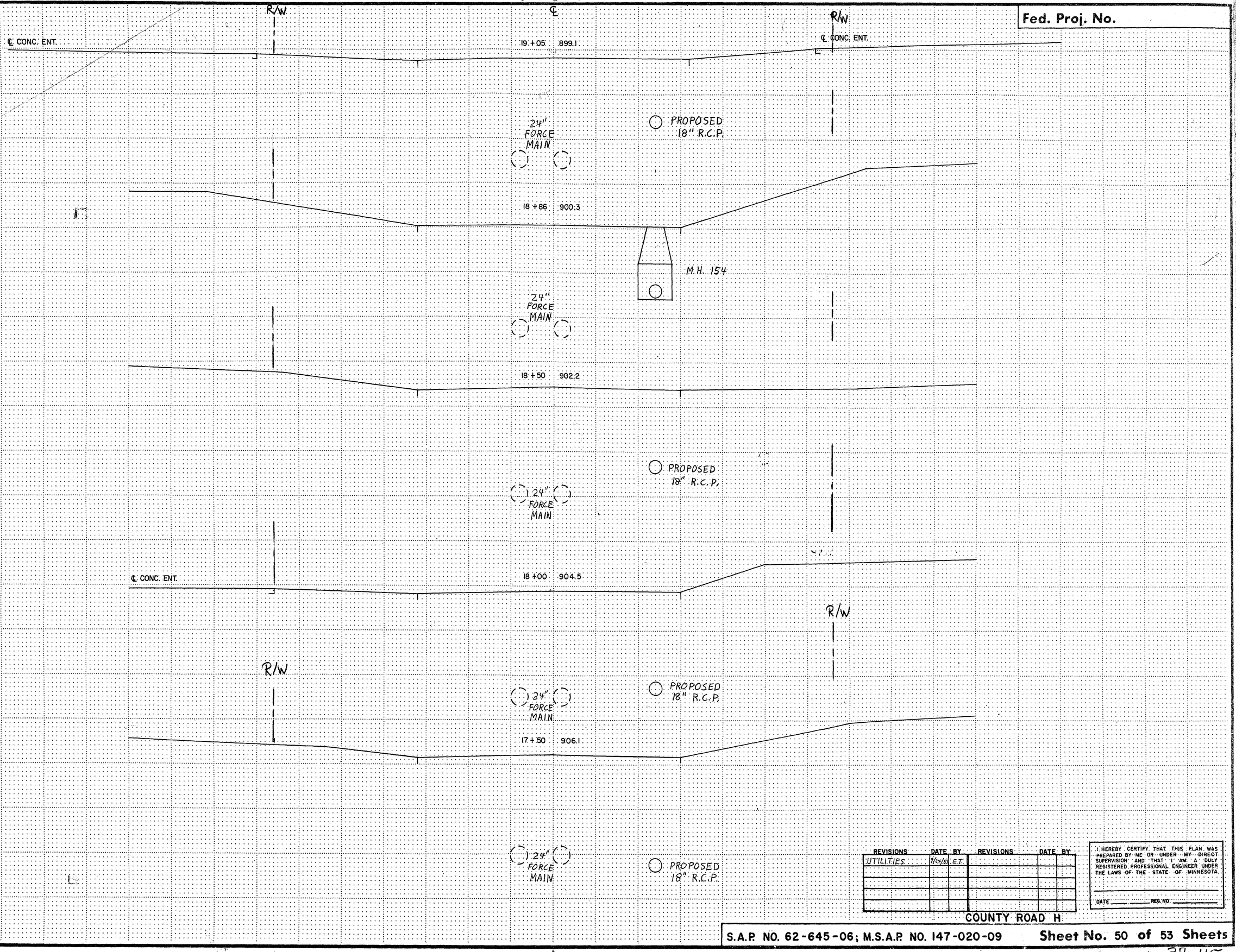
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27-115

COPY EQUIPMENT FORM #1 70580

STATION–ELEVATION

Fed. Proj. No.



REVISIONS	DATE	BY	REVISIONS	DATE	BY
UTILITIES	9/24/68	E.T.			

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 _____ REG. NO. _____

COUNTY ROAD H

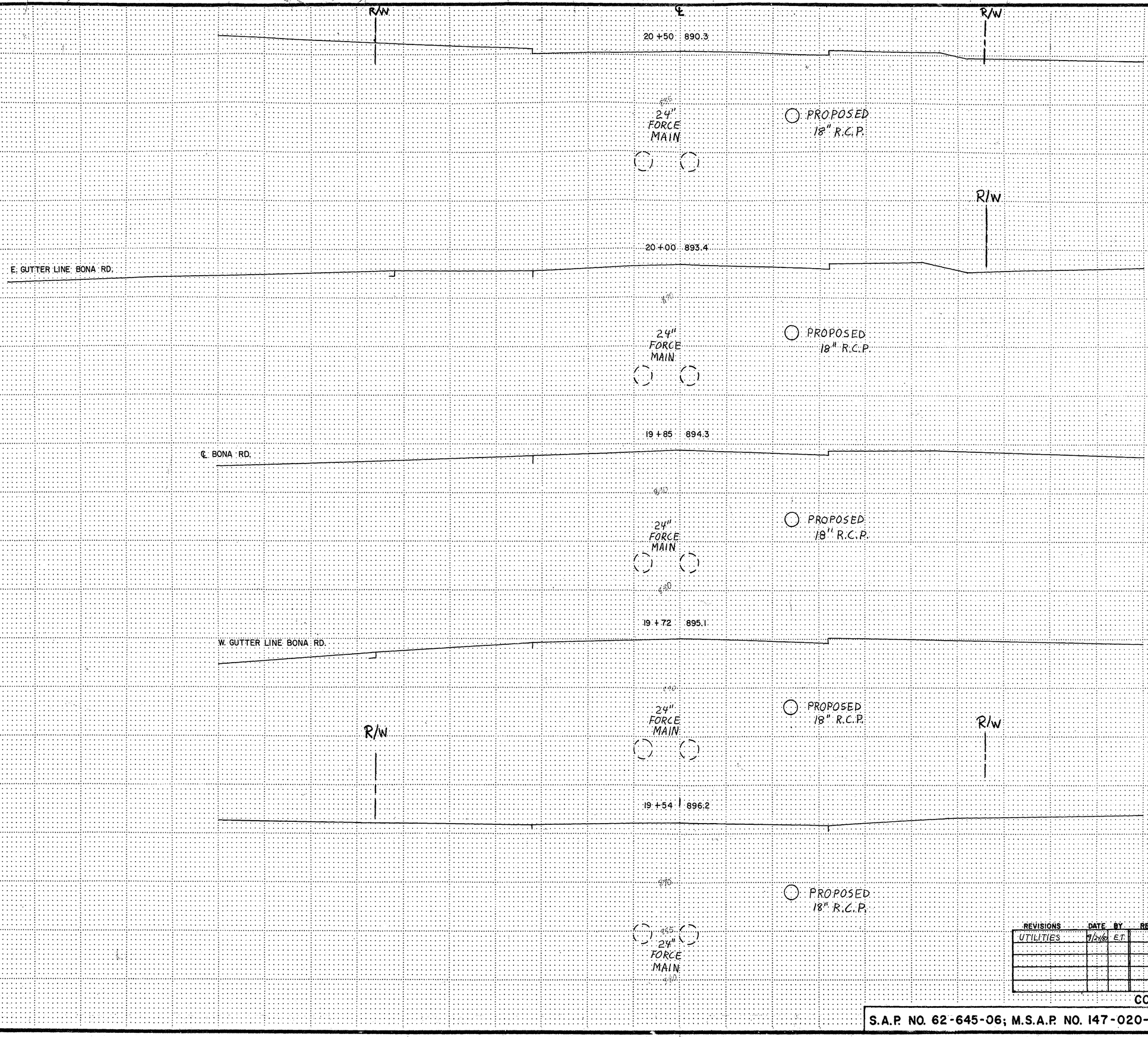
S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 50 of 53 Sheets**

27-115

COPY EQUIPMENT FORM #1 75080

STATION—ELEVATION

Fed. Proj. No.



REVISIONS	DATE	BY	REVISIONS	DATE	BY
UTILITIES	9/21/82	E.T.			

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 _____ REG. NO. _____

COUNTY ROAD H

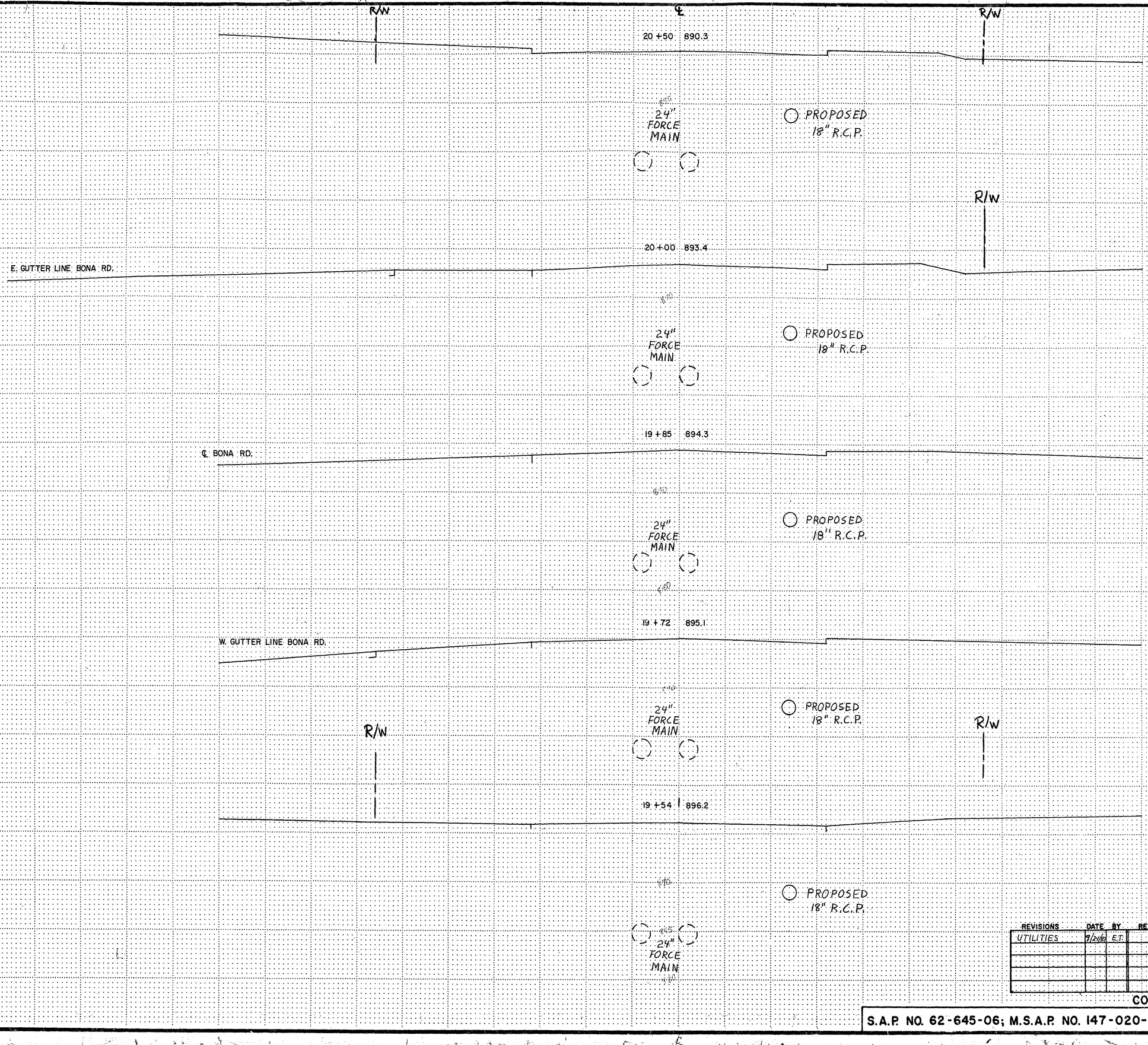
S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 51 of 53 Sheets**

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COPY EQUIPMENT FORM #1-75080

STATION–ELEVATION

Fed. Proj. No.



REVISIONS	DATE	BY	REVISIONS	DATE	BY
UTILITIES	9/24/12	E.T.			

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 _____ REG. NO. _____

COUNTY ROAD H

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 51 of 53 Sheets**

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COPY EQUIPMENT FORM #1 75080

STATION–ELEVATION

Fed. Proj. No.

W. GUTTER LINE EDGEWOOD DR.

C.B. 69

℄

22+92 877.5

R/W

R/W

22+50 878.9

870.50

PROPOSED 24" RCP APRON

22+00 881.2

24" FORCE MAIN

PROPOSED 24" R.C.P.

21+50 884.1

24" FORCE MAIN

PROPOSED 18" R.C.P.

R/W

R/W

21+00 887.2

24" FORCE MAIN

PROPOSED 18" R.C.P.

REVISIONS	DATE	BY	REVISIONS	DATE	BY
UTILITIES	9/24/97	E.T.			

COUNTY ROAD H

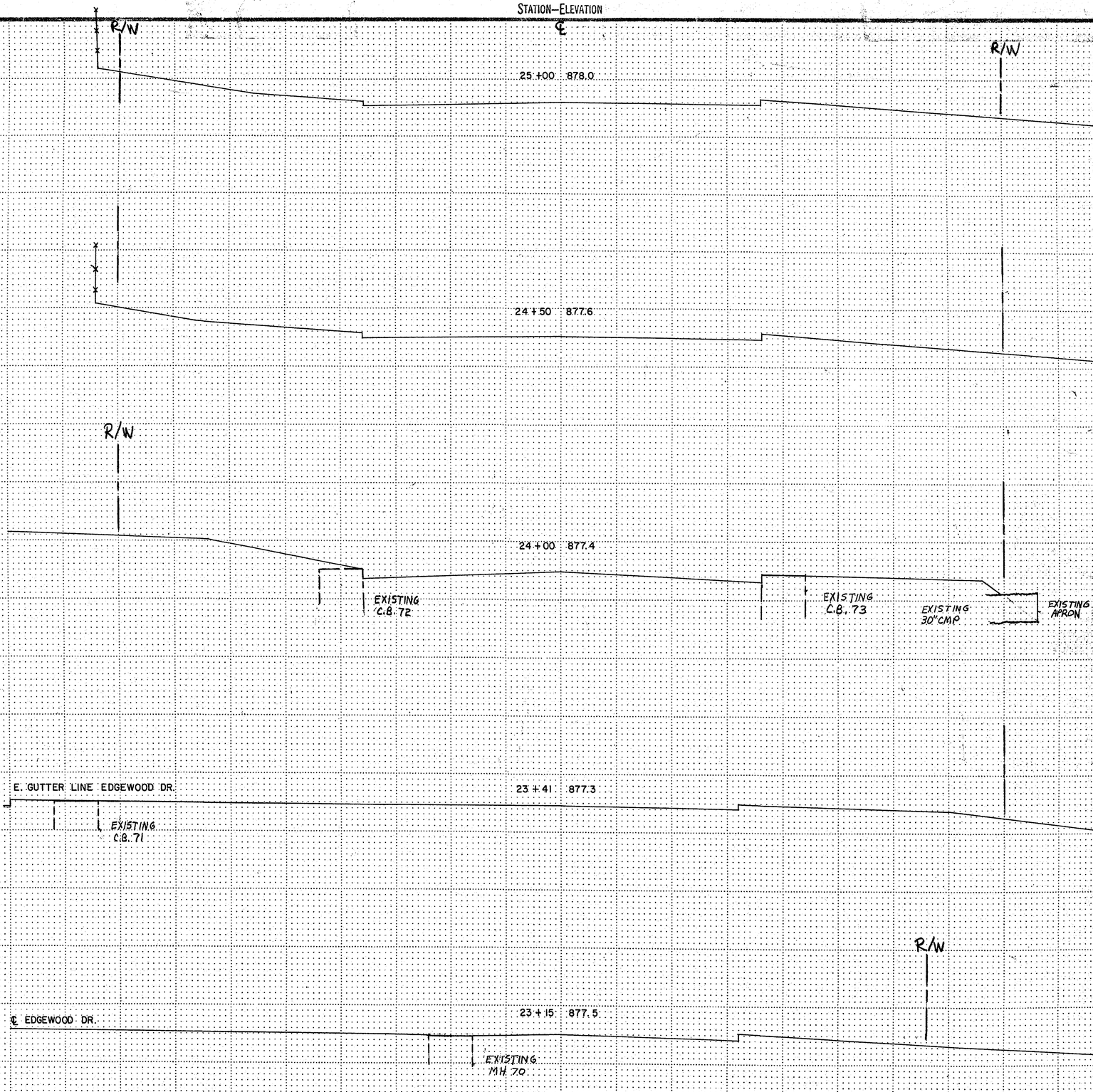
S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 Sheet No. 52 of 53 Sheets

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COPY EQUIPMENT FORM #1 75080

STATION—ELEVATION



Fed. Proj. No.

PHASE I
EARTHWORK TOTALS
STA. 79+00 TO 92+60

COMMON EXCAVATION STA. 79+00 TO STA. 92+60	11,431 C.Y.
UNSUITABLE GRADING MATERIAL STA. 79+00 TO STA. 92+60	11,431 C.Y.
EMBANKMENT STA 79+00 TO STA. 92+60	459 C.Y.
SUBGRADE CORRECTION STA 79+00 TO STA. 92+60	4844 C.Y.
EXCESS GRANULAR MATERIAL STA. 108+10 TO STA. 92+60	~~0~~ C.Y.
SUBCUT BACKFILL STA. 108+10 TO STA. 92+60	~~0~~ C.Y.

SUMMARY PHASE I

UNSUITABLE GRADING MATERIAL	11,431 C.Y.
EMBANKMENT (459 C.Y. X 1.3)	- 597 C.Y. (L.V.)
-COMMON EXCAVATION EXCESS	10,834 C.Y.
SUBGRADE CORRECTION (4844 X 1.1)	5328 C.Y. (L.V.)
GRANULAR MATERIAL	
GRANULAR BORROW NEEDED	5328 C.Y. (L.V.)

PHASE II
EARTHWORK TOTALS
STA 95+40 TO STA 131+25

COMMON EXCAVATION STA. 95+40 TO STA 107+35 = STA. 108+10 TO STA 131+25 = TOTAL	8,612 C.Y. 12,783 C.Y. 21,395 C.Y.
UNSUITABLE GRADING MATERIAL STA 95+40 TO STA 107+35	8,612 C.Y.
EMBANKMENT STA. 95+40 TO STA 131+25	847 C.Y.
SUBGRADE CORRECTION STA. 95+40 TO STA 107+35	4,021 C.Y.
EXCESS GRANULAR MATERIAL STA. 108+10 TO STA 131+25	8,580 C.Y.
SUBCUT BACKFILL STA 108+10 TO STA 131+25	4,203 C.Y.

SUMMARY PHASE II

UNSUITABLE GRADING MATERIAL (COMMON EXC. STA. 95+40 TO STA 107+35)	8,612 C.Y.
EMBANKMENT 847 C.Y. X 1.3 =	-1,101 C.Y.(L.V.)
-COMMON EXCAVATION EXCESS	7,511 C.Y.
COMMON EXCAVATION STA. 108+10 TO STA 131+25	12,783 C.Y.
SUBCUT BACKFILL 4203 X 1.1 =	-4,623 C.Y.(L.V.)
-COMMON EXCAVATION EXCESS =	8,160 C.Y.
EXCESS GRANULAR MATERIAL	8,160 C.Y.
SUBGRADE CORRECTION 4021 X 1.1 =	-4,423 C.Y.(L.V.)
-COMMON EXCAVATION EXCESS	3,737 C.Y.

COMMON EXCAVATION EXCESS PHASE II
STA 95+40 TO STA 107+35 7,511 C.Y.
STA 108+10 TO STA 131+25 = 3,737 C.Y.
TOTAL = 11,248

COUNTY ROAD H

S.A.P. NO. 62-645-06; M.S.A.P. NO. 147-020-09 **Sheet No. 53 of 53 Sheets**

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