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

NOTE SECTION NUMBERS READ FROM THE SOUTH

PIT DATA

PIT NO. ____ Located in ____ Haul ____

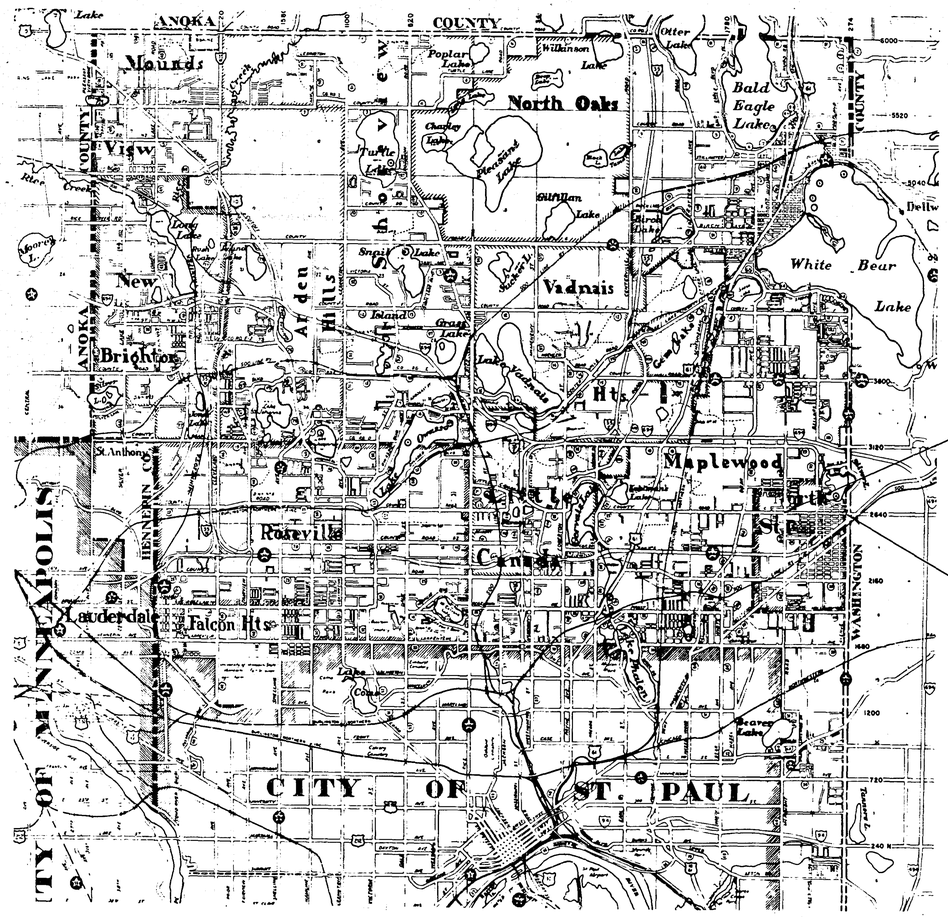
PIT NO. ____ Located in ____ Haul ____

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

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

	FEET		MILES
GROSS LENGTH	5,142.0	=	0.9738
BRIDGE LENGTH	0.0	=	0.0
EXCEPTION	0.0	=	0.0
NET LENGTH	5,142.0	=	0.9738

PLAN 10 30 50
PROFILE HORIZ. 10 30 50 / 20 40
PROFILE VERT. 5 10
CROSS SECTIONS 5 10
LAYOUT MAP 5,280'



RAMSEY COUNTY
DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLAN: FOR GRADING, AGGREGATE BASE, BITUMINOUS BASE AND SURFACING, STORM SEWER, WATERMAIN, AND CONCRETE CURB AND GUTTER.

COUNTY ROAD "C"

BETWEEN: McKNIGHT ROAD AND CENTURY AVE.

FROM: A POINT 55.81 FEET EAST OF THE NORTHWEST CORNER OF SECTION 12, TOWNSHIP 29 N, RANGE 22 W.

TO: A POINT 23.69 FEET WEST OF THE NORTHEAST CORNER OF SECTION 12, TOWNSHIP 29 N, RANGE 22 W.

CITY OF NORTH ST. PAUL

S.A.D. PROJECT 8401

WATERMAIN ON 17TH AVE., DIVISION STREET (S.T.H. NO. 120) & S.T.H. NO. 36

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED QUANTITIES
3	TYPICAL SECTIONS
4	DETAILS — ENTRANCES AND CATCH BASINS
5	REMOVALS CHART
6	CLEAR AND GRUB CHART
7-8	EXISTING DRAINAGE CHART
9	PROPOSED DRAINAGE CHART
10-16	PLAN AND PROFILE SHEETS
17-53	CROSS SECTIONS
54-62	NORTH ST. PAUL WATERMAIN PROJECT S.A.D. 8401 THIS PLAN CONTAINS 62 SHEETS

DESIGN DESIGNATION

S.A.P. NO. 62-623-23

	McKNIGHT RD. to HELEN ST.	HELEN ST. to T.H. 120
ADT (CURRENT YEAR) 1983	4,100	4,100
ADT (FUTURE YEAR) 2002	6,560	6,560
Σ, N·20 YEAR	1,244,964	1,244,964
DESIGN LOAD	10 TON	10 TON
STABILOMETER "R" VALUE	30	30
DESIGN SPEED	30 MPH	30 MPH

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 1/16/85 REG. NO. 13501 ENGR. Larry Fullhart

RECOMMENDED FOR APPROVAL RJK TRAFFIC ENGR. DATE 1-17-85
RECOMMENDED FOR APPROVAL DOS ENV. ENGR. DATE 1/3/85
RECOMMENDED FOR APPROVAL MSK MAINT ENGR DATE 1/9/85
RECOMMENDED FOR APPROVAL DRG RHP CONST. ENGR DATE 1/4/85
RECOMMENDED FOR APPROVAL LKF DESIGN ENGR. DATE 1/16/85
RECOMMENDED FOR APPROVAL RJP R/W ENGR. DATE 1/8/85
APPROVED Wayne Tomsche COORDINATED ENGR. DATE 1-18-85

RECOMMENDED FOR APPROVAL Kenneth B. Wolter COUNTY ENGINEER DATE 1-29-85
APPROVED Robert L. Peterson CHAIRMAN OF THE RAMSEY COUNTY BOARD DATE 4-1-85
APPROVED David L. Kotilnek CITY ENGINEER, CITY OF NORTH SAINT PAUL DATE 1-17-85
APPROVED ____ DATE ____

MINNESOTA DEPARTMENT OF TRANSPORTATION
RECOMMENDED FOR APPROVAL Delvert O. Olstedt DATE 2-26-85
RECOMMENDED FOR APPROVAL ____ DISTRICT STATE AID ENGINEER DATE 2/4/85
APPROVAL ____ DATE 2/27/85

PLAN REVISIONS		
DATE	SHEET NO.	BY

S.A.P. No. 62-623-23, S.A.D. 8401

Sheet No. 1 of 62 Sheets

26-128

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO	ITEM	UNIT	ESTIMATED QUANTITIES	FINAL ESTIMATED QUANTITIES	S.A.P. NO. 62-623-23 N. ST. PAUL RAMSEY CO.	S.A.P. NO. 62-623-23 RAMSEY COUNTY	NON-PART.① NORTH ST. PAUL
2021.501	MOBILIZATION	L.S.	1		0.5	0.5	
2101.502	CLEARING	TREE	40		40		
2101.507	GRUBBING	TREE	39		39		
2104.503	REMOVE CONCRETE WALK	S.F.	9,582		9,582		
2104.501	REMOVE CONCRETE CURB	L.F.	35		35		
2104.501	REMOVE BITUMINOUS CURB	L.F.	433		433		
2104.501	REMOVE CURB & GUTTER	L.F.	616		586		30
2104.501	REMOVE SEWER PIPE	L.F.	796		580	216	
2104.505	REMOVE CONCRETE PAVEMENT	S.Y.	358		333		25
2104.509	REMOVE CATCH BASINS OR MANHOLES	EACH	23		23		
2104.521	SALVAGE WOOD RAIL FENCE	L.F.	88		88		
2104.521	SALVAGE CHAIN LINK FENCE	L.F.	75		75		
2104.521	SALVAGE METAL RAILING	L.F.	20		20		
2104.523	SALVAGE PLANTER	EACH	1		1		
2104.523	SALVAGE SIGN	EACH	2		2		
0104.603	SALVAGE FLAGSTONE WALL	S.F.	56		56		
2105.501	COMMON EXCAVATION	C.Y.	44792 (P)		22396 (P)	22396 (P)	
2105.525	TOPSOIL BORROW (LV)	C.Y.	821		691		130
2130.501	WATER	(M)GAL.	200		100	100	
2211.501	AGGREGATE BASE, CL. 6 (OR CL. 5, 100% CRUSHED)	TON	10,311		5,347 ②	4,964	
2211.501	AGGREGATE BASE, CLASS 4	TON	13,568		6,535 ③	7,033	
0301.604	SAWCUT CONCRETE PAVEMENT	L.F.	225		225		
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	326		133	190 ④	3
2331.508	WEARING COURSE MIXTURE	TON	75		52		23
2331.510	BINDER COURSE MIXTURE	TON	2,343		959	1,361 ④	23
2331.514	BASE COURSE MIXTURE	TON	4,536		1,814	2,722 ④	
0331.603	SAWCUT BITUMINOUS PAVEMENT SURFACE	L.F.	1,097		1,097		
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL.	2,625		1,050	1,575 ④	
2361.504	ASPHALT CEMENT	TON	74		30	44 ④	
2361.508	WEARING COURSE MIXTURE	TON	1,134		454	680 ④	
2411.507	CONCRETE STEPS	EACH	2		2		
0411.603	INSTALL FLAGSTONE WALL	S.F.	20		20		
0412.602	INSTALL SIGN	EACH	2		2		
0412.602	INSTALL PLANTER	EACH	1		1		
0412.603	INSTALL METAL RAILING	L.F.	13		13		
2451.513	FINE FILTER AGGREGATE (LV)	C.Y.	43		33	10	
2502.541	6" PERFORATED P.V.C. PIPE DRAIN	L.F.	511		391	120	
2503.541	12" R.C. PIPE SEWER, DESIGN 3006, CLASS V	L.F.	260			260	
2503.541	15" R.C. PIPE SEWER, DESIGN 3006, CLASS V	L.F.	1,551			1,551	
2503.541	18" R.C. PIPE SEWER, DESIGN 3006, CLASS V	L.F.	339			339	
2503.541	21" R.C. PIPE SEWER, DESIGN 3006, CLASS V	L.F.	32			32	
2506.508	CONSTRUCT MANHOLES, DESIGN A OR B	EACH	7			7	
2506.509	CONSTRUCT CATCH BASINS, DESIGN LP4	EACH	23			23	
2506.509	CONSTRUCT CATCH BASINS, DESIGN LP8	EACH	1			1	
2506.509	CONSTRUCT CATCH BASINS, DESIGN S.P.-2	EACH	8			8	
2506.509	CONSTRUCT SURFACE DRAINS, DESIGN C	EACH	1			1	
2506.511	RECONSTRUCT MANHOLES	L.F.	22.0		22.0		
2506.516	CASTING ASSEMBLIES	EACH	7			7	
2506.521	INSTALL CASTINGS	EACH	12		12		
2506.522	ADJUST FRAME AND RING CASTINGS	EACH	9		7	2	
2506.512	RECONSTRUCT CATCH BASINS	L.F.	33.3		33.3		
2521.501	4" CONCRETE WALK	S.F.	8,393		7,976		417
0521.604	SAWING CONCRETE WALK	L.F.	302		302		
2531.501	CONCRETE CURB AND GUTTER, DESIGN B624	L.F.	10396		10,366		30
2531.507	6" CONCRETE DRIVEWAY PAVEMENT	S.Y.	1,168		1,168		
0557.603	INSTALL WOOD RAIL FENCE	L.F.	88		88		
0557.603	INSTALL CHAIN LINK FENCE	L.F.	65		65		
2675.505	SODDING	S.Y.	9,832		8,282 ⑤		1,550
2575.531	COMMERCIAL FERTILIZER, ANALYSIS 12-12-12	TON	0.3		0.3		
0575.603	SILT CURTAIN TYPE A	L.F.	660			660	

(P) DENOTES PLAN QUANTITY

① NORTH SAINT PAUL WATERMAIN PROJECT NO. S.A.D. 8401.
② $\frac{22.3}{46.3}$ OF ROADWAY QUANTITIES PLUS DRIVEWAY AND WALK QUANTITIES.
③ $\frac{22.3}{46.3}$ OF ROADWAY QUANTITIES.
④ $\frac{24}{40}$ OF ROADWAY QUANTITIES.
⑤ SOD SHALL CONTAIN A MINERAL SOIL PER SPEC. 3878.

STANDARD DETAIL PLATES

0004A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000I	REINFORCED CONCRETE PIPE
3006D	GASKET JOINT FOR REINFORCED CONCRETE PIPE
3145C	CONCRETE PIPE TIES
4000I	MANHOLE OR CATCH BASIN
4002E	MANHOLE OR CATCH BASIN
4005K	MANHOLE OR CATCH BASIN
4009G	MANHOLE OR CATCH BASIN (FOR RECONSTRUCT MANHOLES)
4010F	CONCRETE SHORT CONE AND ADJUSTING RING
4011D	PRECAST CONCRETE BASE
4021C	PRECAST CURB OPENING CATCH BASIN
4101C	RING CASTING FOR MANHOLE OR CATCH BASIN
4108E	MANHOLE ADJUSTING RINGS
4110D	COVER CASTING FOR MANHOLE
4180G	MANHOLE OR CATCH BASIN STEP
7036C	PEDESTRIAN CURB RAMP
7100F	CONCRETE CURB AND GUTTERS
8000H	STANDARD BARRICADES
8003B	BREAKAWAY SIGN SUPPORT (PLASTIC)
9322I	CHAIN LINK FENCE (FOR INSTALL FENCE)

NORTH ST. PAUL S.A.D. 8401

STATEMENT OF ESTIMATED QUANTITIES (CONT.)

S.A.P. NO. 62-623-23 — NON-PARTICIPATING

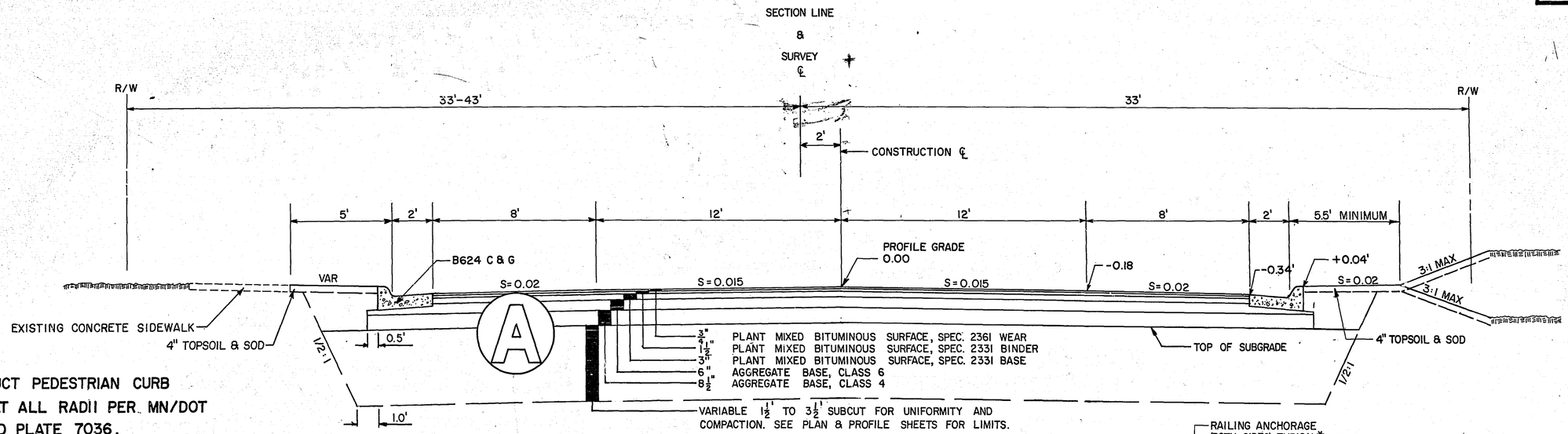
ITEM NO.	ITEM	UNIT	ESTIMATED QUANTITIES	FINAL ESTIMATED QUANTITIES	N. ST. PAUL RAMSEY CO.	RAMSEY COUNTY	NORTH ST. PAUL
2104.509	REMOVE MANHOLE	EACH	12			12	
2211.501	AGGREGATE BASE - CLASS 5, 100% CRUSHED	TON	104				104
2451.507	GRANULAR BEDDING (L.V.)	C.Y.	200				200
0503.602	CASTING ASSEMBLIES	EACH	9				9
0503.603	RECONSTRUCT OUTSIDE DROP SECTION	L.F.	4.5		4.5		
0503.603	RECONSTRUCT MANHOLE	L.F.	79			79	
2531.507	8" CONCRETE DRIVEWAY PAVEMENT	S.Y.	10				10
2535.501	BITUMINOUS CURB	L.F.	20				20
0504.602	ADJUST VALVE BOX	EACH	5		5		
0504.602	RELOCATE HYDRANT	EACH	1		1		
0504.603	6" WATERMAIN - DUCTILE IRON, CLASS 52	L.F.	3,575				3,575
0504.602	HYDRANTS	EACH	7		5		2
0504.602	6" GATE VALVE & MANHOLE	EACH	7				7
0504.602	8" GATE VALVE & MANHOLE	EACH	1				1
0504.602	6" GATE VALVE & BOX	EACH	7		5		2
0504.620	C.I. FITTINGS	L.B.	1,565				1,565
0504.602	REMOVE & SALVAGE HYDRANTS	EACH	6		5		1
0504.602	RECONNECT WATER SERVICE	EACH	28				28
0504.605	3" POLYSTYRENE INSULATION	S.Y.	3		3		
0504.602	3/4" CORPORATION STOP (REPLACEMENT SERVICE)	EACH	25				25
0504.602	3/4" CURB STOP & BOX (REPLACEMENT SERVICE)	EACH	25				25
0504.603	3/4" COPPER SERVICE (REPLACEMENT SERVICE)	L.F.	825				825
0504.602	CONNECT TO INPLACE WATERMAIN	EACH	2				2
0504.602	CUT IN & CONNECT TO INPLACE WATERMAIN	EACH	4				4
0503.603	4" C.I.S.P. REPLACEMENT SERVICE	L.F.	825				825
0503.602	EXCAVATE TO LOCATE SEWER SERVICE	EACH	50				50

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Larry K. Feldhaus
Date 3-07-85 Reg. No. 13501

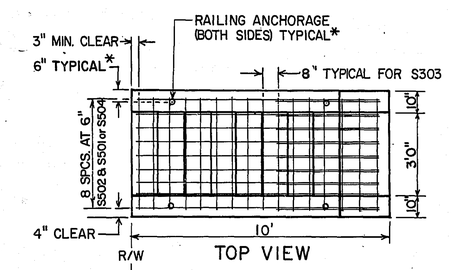
ESTIMATED QUANTITIES

S.A.P. NO. 62-623-23 — Sheet No. 2 of 62 Sheets



CONSTRUCT PEDESTRIAN CURB RAMPS AT ALL RADII PER MN/DOT STANDARD PLATE 7036.

TYPICAL SECTION — COUNTY ROAD "C"

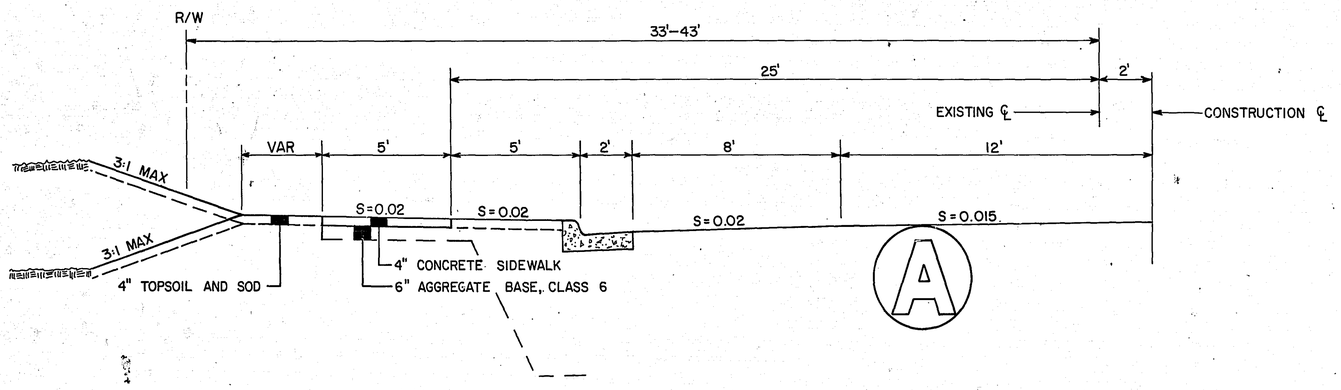


REINFORCING BAR CHARTS

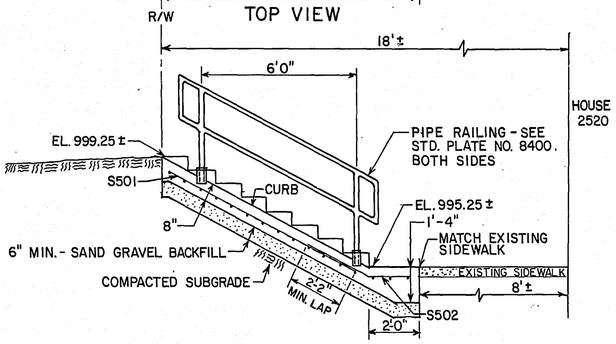
MARK	NO.	LENGTH	LOCATION
S501	9	8'	STEPS LONGTDL. (BENT)
S502	9	4'2"	STEPS LONGTDL. (BENT)
S303	16	4'	STEPS TRANSVERSE

MARK	NO.	LENGTH	LOCATION
S504	9	4'	STEPS LONGTDL. (BENT)
S502	9	4'2"	STEPS LONGTDL. (BENT)
S303	10	4'	STEPS TRANSVERSE

*PROVIDE RAILING AT STATION 186+48 RT. ONLY
USE S504 BAR AT STATION 205+68 RT. IN PLACE OF S501 BAR.



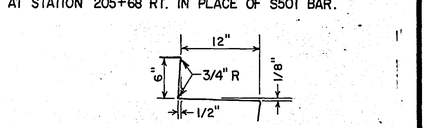
SIDEWALK REPLACEMENT



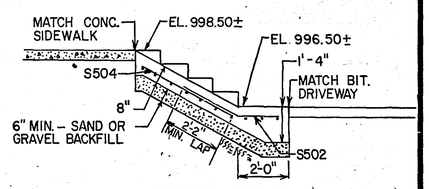
STATION 186+48 RT.

CONCRETE STAIRS DETAIL

SCALE: 1" = 3'

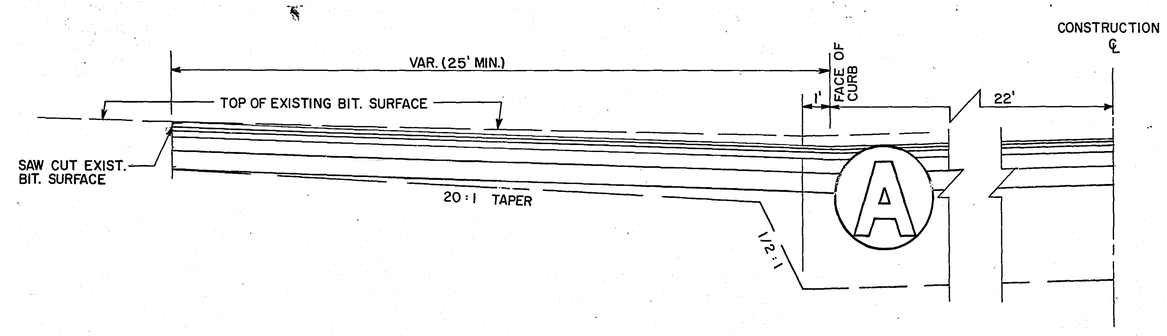


TREAD & RISER DETAIL

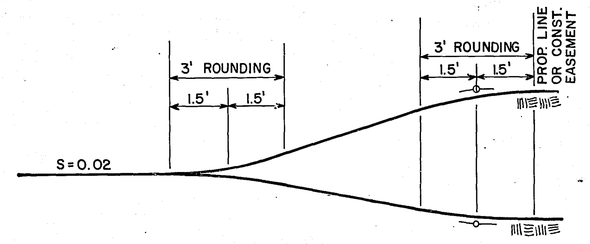


STATION 205+68 RT.

CONSTRUCT STEPS ON A 2:1 SLOPE.
CONCRETE MIX SHALL BE 3A32.
FINISH STAIR TREADS WITH BROOMED FINISH.



TYPICAL SIDE STREET APPROACH



SLOPE ROUNDING DETAIL

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 3-09-95 Reg. No. 13501

TYPICAL SECTIONS

S.A.P. NO. 62-623-23

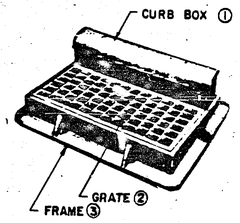
Sheet No. 3 of 62 Sheets

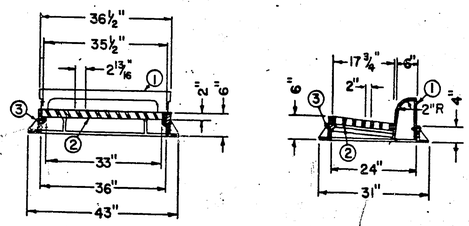
26-128

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.

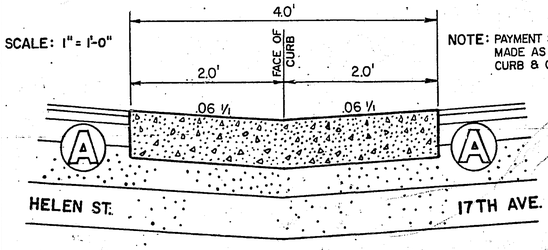




TYPE "V" DETAIL

CONCRETE GUTTER DELINEATOR THROUGH HELEN ST. (NORTH SIDE ONLY)
STA. 183+38± TO STA. 184+10± (LT. 22' TO FACE OF CURB)

SCALE: 1" = 1'-0"



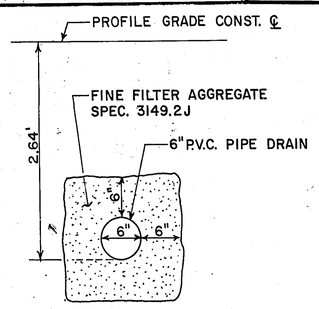
NOTE: PAYMENT SHALL BE MADE AS B624 CONC. CURB & GUTTER

SECTION A-A

SUBSURFACE DRAINS

LOCATION	STRUCTURES	LENGTH
161+75±	C.B. 101 & C.B. 102	50 L.F.
164+95±	C.B. 105 & C.B. 106	50 L.F.
189+10±	C.B. 117 & M.H. 118	30 L.F.
	C.B. 119 & M.H. 118	20 L.F.
193+20±	C.B. 122 & C.B. 65	40 L.F.
	C.B. 123 & C.B. 65	9 L.F.
	C.B. 122 & C.B. 124	41 L.F.
	C.B. 123 & C.B. 126	60 L.F.
	C.B. 124 & M.H. 125	46 L.F.
	C.B. 126 & M.H. 125	9 L.F.
208+23±	C.B. 136 & C.B. 137	50 L.F.
	C.B. 137 & M.H. 139	52 L.F.
	M.H. 138 & M.H. 139	38 L.F.
	M.H. 138 STUB SOUTH	16 L.F.

TOTAL 511 L.F

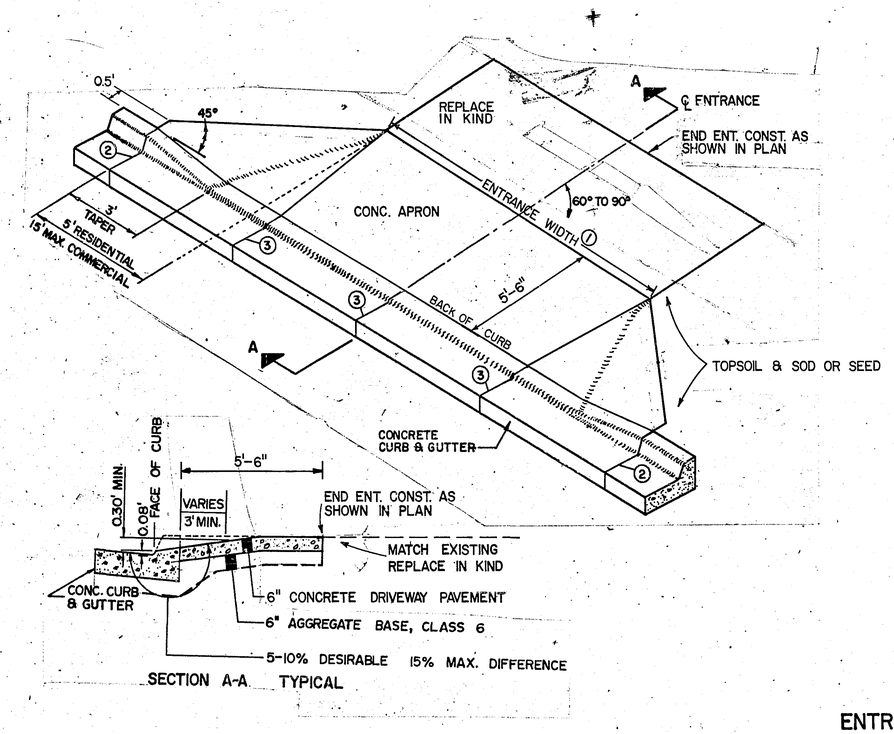


SUBSURFACE DRAIN DETAIL

① PERFORATED DRAINS SHALL BE (ABS), (PVC), (PS), OR EQUIVALENT.

② THE PERFORATED PIPE SHALL BE IMBEDDED IN A MINIMUM OF 6" OF FINE FILTER AGGREGATE SPEC. 3149.2J

SOUTH SIDE WITHOUT SIDEWALK



SECTION A-A TYPICAL

NORTH SIDE WITH SIDEWALK

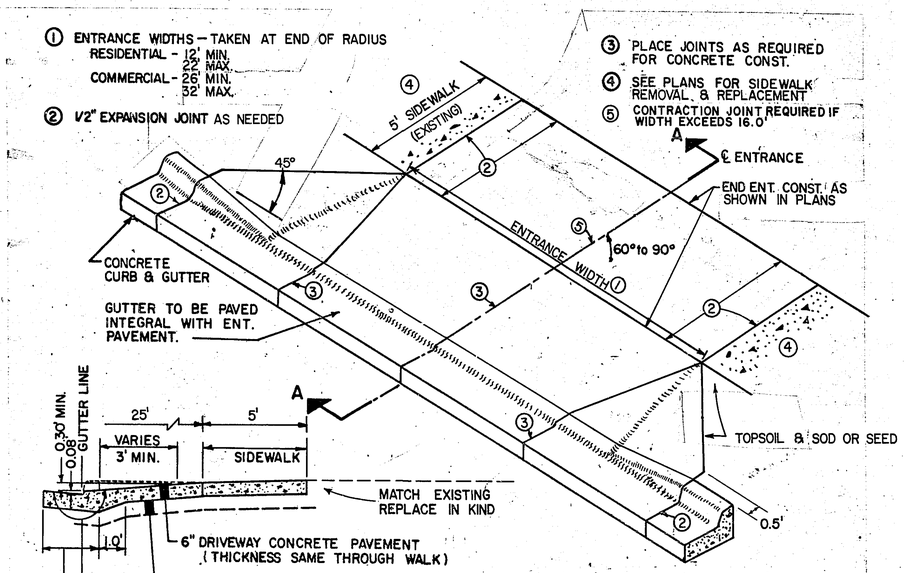
① ENTRANCE WIDTHS — TAKEN AT END OF RADIUS
RESIDENTIAL - 12' MIN. 22' MAX.
COMMERCIAL - 26' MIN. 32' MAX.

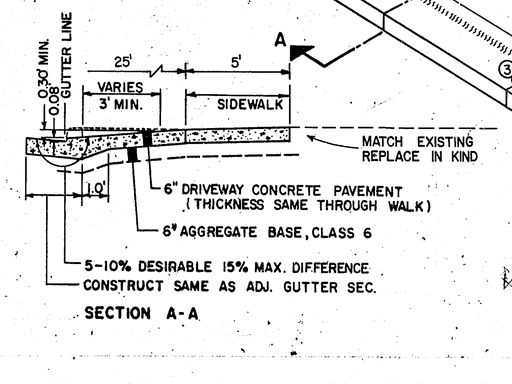
② 1/2" EXPANSION JOINT AS NEEDED

③ PLACE JOINTS AS REQUIRED FOR CONCRETE CONST.

④ SEE PLANS FOR SIDEWALK REMOVAL & REPLACEMENT

⑤ CONTRACTION JOINT REQUIRED IF WIDTH EXCEEDS 16.0'

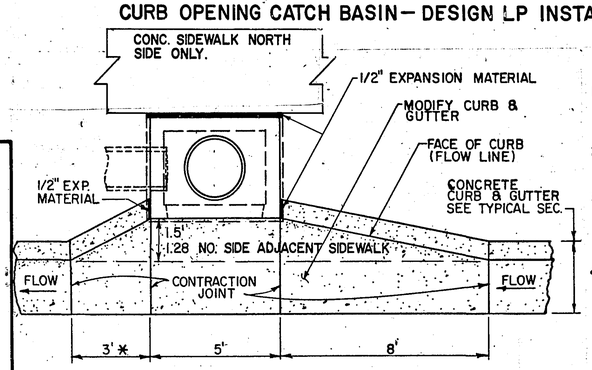




SECTION A-A

ENTRANCE DETAILS

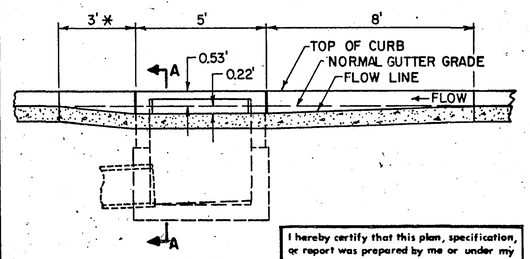
CURB OPENING CATCH BASIN — DESIGN LP INSTALLATION DETAIL



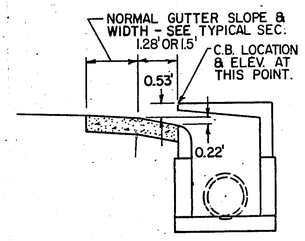
PLAN VIEW

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. 4021C.
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.



ELEVATION (AT FLOW LINE)

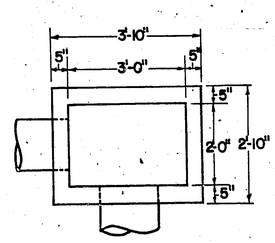


SECTION A-A

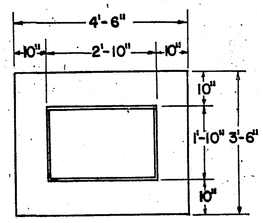
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date _____ Reg. No. _____

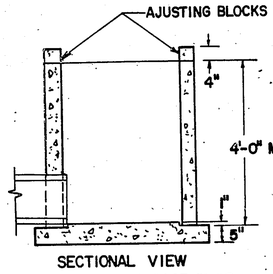
CATCH BASIN DESIGN NO. SPECIAL 2



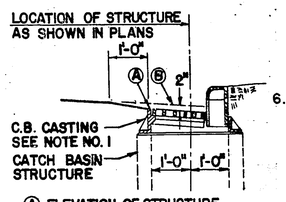
CATCH BASIN PLAN



BASE SLAB PLAN



SECTIONAL VIEW CATCH BASIN & BASE SLAB



Ⓐ ELEVATION OF STRUCTURE COMPUTED AT THIS LOCATION
Ⓑ NORMAL GUTTER GRADE

INSTALLATION DETAIL

NOTES

1. CASTING ASSEMBLY — SEE DETAIL THIS SHEET.
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. 7111 & DETAIL THIS SHEET.
5. REINFORCING: SINGLE LINE STEEL WIRE FABRIC.
   WALL = W3.5 x W3.0 HAVING AN AREA OF NOT LESS THAN .21 SQ. IN. PER FOOT OF HEIGHT.
   BASE = W4.0 W4.0 HAVING AN AREA OF NOT LESS THAN .16 SQ. IN. PER FOOT OF HEIGHT.
6. ALTERNATE CONSTRUCTION — THE CATCH BASIN MAY BE CONSTRUCTED OF BLOCK OR BRICK CONFORMING TO THE REQUIREMENTS OF MN./DOT SPEC. 2506 AND AS DIRECTED BY THE ENGINEER.

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Zilka

Date 3-26-85 Reg. No. 13501

ENTRANCE & CATCH BASIN DETAILS

S.A.P. No. 62-623-23 Sheet No. 4 of 62 Sheets

26-128

REMOVALS

STATION	LOCATION SURVEY ℄	CONCRETE SIDEWALK SF	CONCRETE PAVEMENT SY	R.C. PIPE LF	M.H. & C.B. EACH	CONCRETE C & G LF	BIT. CURB LF	CONCRETE CURB LF		
159+27	23' LT		4							
+67	23' RT		10							
160+60	25' LT	110								
161+25				45	1					
+37	25' LT	50	7							
162+10	25' LT	50	7							
163+40	5' LT	110								
+53	22' LT			28	1					
+68	28' LT					17				
164+00	35' RT			13	1		85			
+04	28' LT					17				
+20	22' LT			46	1					
+30	35' RT			28	1					
168+17	22' LT			44	1					
+60			10							
169+20			3							
170+52				8	1	28				
+85				30	1					
172+05	25' LT	50					70			
+55	25' LT	50								
+63	22' LT			45	1					
175+26	27' RT					20				
+28	25' LT	50					53			
+48	22' RT						35			
+75	25' LT	50								
176+84	22' LT			50	1					
177+00	28' RT			18	1	12	10			
+38	25' LT	1550								
+40	40' RT			35	1	12	25			
+55	22' RT			24	1					
179+70	28' RT	18								
+95	19' RT		13							
183+40	25' LT	50								
+45	22' RT	100						35		
+56	33' LT						24			
184+05	25' LT	780								
+48	22' RT	36								
185+25	21' RT	30								
+65	20' RT		18							
186+48	22' RT	63 (INCLUDES STEPS)								
187+35	15' RT		27							
+65	25' LT	115								
188+92	25' LT	530								
189+30	24' LT			33	1					
+43	19' RT			10	1					
+78	30' LT	40								

REMOVALS

STATION	LOCATION SURVEY ℄	CONCRETE SIDEWALK SF	CONCRETE PAVEMENT SY	R.C. PIPE LF	M.H. & C.B. EACH	CONCRETE C&G LF	BIT CURB LF	CONCRETE CURB LF		
190+00	19' RT					41				
+00	22' LT	128		12	1	76				
+23	22' LT			48	2					
+23	35' RT		98							
+62	37' LT	2945		48	1	66				
+62	20' RT	144				31				
195+68	23' RT		28			160				
196+00	28' RT	200								
+29	23' RT		25							
+65	28' RT	200								
+91	25' LT	25								
+91	27' RT	116								
+97	34' LT	8								
+99	18' LT			37	1					
197+36	16' LT			34	1					
+60	25' LT	50								
198+60	31' RT	18								
+96	29' RT	36								
199+28	25' LT	20								
+83	25' RT	15								
200+14	20' RT		9							
+47	20' RT		21							
+64	20' RT	23								
201+82	24' RT	20								
202+07	25' LT	215								
+11	21' RT		19							
+37	25' RT	21								
+60	30' RT	404				90	21			
203+48	20' LT	55					12			
+84	31' LT	70					21			
+84	49' RT					16	21			
204+20	15' RT	76								
+69	15' RT		28							
205+68	16' RT	122 (INCLUDES STEPS)								
+98	25' LT	110								
206+55	25' LT	110								
+76	20' RT	39								
207+48	25' LT	50	6							
+83	24' RT	50								
208+17	25' LT	440								
+45	14' RT			160	2					
+90	25' RT	40								
209+41	23' LT						21			
+41	21' RT						35			
TOTALS		9582	333	796	23	586	433	35		

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

John K. Fallbl

Date 3-08-85 Reg. No. 13501

REMOVAL CHART

S.A.P. NO. 62-623-23

Sheet No. 5 of 62 Sheets

26-128

SALVAGE AND INSTALL CHART

STATION	LOCATION	QUAN.	ITEM
NOTE: ALL ITEMS SHALL BE INSTALLED ON PRIVATE PROPERTY.			
169 + 73	RT. 35'	50 LF.	6' CHAIN LINK FENCE
184 + 40	RT. 34'	1 EACH	PLANTER
185 + 50	RT. 20'	20 LF.	SPLIT RAIL FENCE
187 + 25	RT. 25'	10 LF.	METAL RAILING
191 + 98	LT. 32'	10 LF.	WROUGHT IRON RAILING
192 + 97	LT. 31'	24 LF.	SPLIT RAIL FENCE
194 + 79	LT. 34'	5 LF.	CHAIN LINK FENCE
194 + 84	LT. 32'	44 LF.	WOOD RAIL FENCE
195 + 30	LT. 32'	5 LF.	CHAIN LINK FENCE
206 + 53	RT. 26'	15 LF.	4' WIRE FENCE (INSTALL 5 L.F.)
206 + 55	RT. 25'	45 SF.	FLAGSTONE WALL (INSTALL 20 SF.)
208 + 38	RT. 24'	1 EACH	SIGN
209 + 50	RT. 35'	1 EACH	SIGN

ITEM	TOTAL QUANTITY
CHAIN LINK FENCE	75 LF.
PLANTER	1 EACH
WOOD RAIL FENCE	88 LF.
METAL RAILING	20 LF.
FLAGSTONE WALL	45 SF.
SIGN	2 EACH

HYDRANT CHART - S.A.D. 8401

STATION	LOCATION		
McKNIGHT ROAD TO HELEN ST.			
160 + 81	LT. 38		
163 + 60	LT. 37		
167 + 89	LT. 31		
170 + 90	RT. 36		
175 + 90	LT. 37		
179 + 81	LT. 23		

ALL UTILITY WORK SHALL BE DONE AS DIRECTED BY CITY OF NORTH ST. PAUL. SEE S.A.D. 8401 PLAN SHEETS AND SPECIAL PROVISIONS FOR UNDERGROUND UTILITY CONSTRUCTION.

CLEAR AND GRUB CHART

STATION	LOCATION LT.	LOCATION RT.	DESCRIPTION	CLEAR	GRUB
ALL LOCATIONS ARE FROM SURVEY ℄					
McKNIGHT ROAD TO MARGARET ST.					
165 + 85		31'	STUMP	0	1
166 + 10		32'	STUMP	0	1
166 + 17		32'	STUMP	0	1
166 + 18		39'	STUMP	0	1
170 + 12		31'	10" MAPLE	1	1
173 + 47		30'	34" MAPLE	1	1
178 + 74		29'	10" ELM	1	1
185 + 78		23'	30" ASH	1	1
186 + 87		24'	36" MAPLE	1	1
188 + 00		23'	32" MAPLE	1	1
188 + 36		25'	QUINT. 14" MAPLE	4	1
189 + 00		22'	34" MAPLE	1	1
189 + 35		23'	40" MAPLE	1	1
189 + 70		24'	20" ELM	1	1
189 + 84		22'	10" PINE	1	1
MARGARET ST. TO T.H. 120					
192 + 21	34'		TWIN 33" MAPLE	2	1
192 + 36		24'	28" MAPLE	1	1
192 + 54		24'	29" MAPLE	1	1
192 + 68	35'		5" MAPLE	1	1
192 + 88		24'	35" MAPLE	1	1
194 + 42		23'	TWIN 26" MAPLE	2	1
195 + 45		23'	66" MAPLE	1	1
200 + 71		23'	30" MAPLE	1	1
200 + 78		23'	12" MAPLE	1	1
201 + 06		23'	TWIN 30" MAPLE	2	1
201 + 41		23'	30" MAPLE	1	1
202 + 84		24'	6" MAPLE	1	1
203 + 22		23'	6" ASH	1	1
206 + 71		25'	6" APPLE	1	1
206 + 85		25'	6" APPLE	1	1
207 + 51		24'	10" PINE	1	1
208 + 00		27'	12" PINE	1	1
208 + 73		28'	12" PINE	1	1
208 + 85		35'	STUMP	0	1
209 + 14		28'	4" PINE	1	1
209 + 40		32'	6" PINE	1	1
209 + 47		31'	5" PINE	1	1
ADDITIONAL					
186 + 33		33'	5" BIRCH	1	1
186 + 35		35'	5" BIRCH	1	1
TOTALS				40	39

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Feldhaus

Date 3-08-85 Reg. No. 13591

MISCELLANEOUS CHARTS

S.A.P. NO. 62-623-23 ; S.A.D. 8401

Sheet No. 6 of 62 Sheets

26-168

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"	CORRUGATED STEEL PIPE 12"	15"	18"	APRON	CLASS	DRAINS TO: STRUCTURE NO.	INVERT EL.	REMARKS	
			EXISTING																								
154+11	RT. 22	1	ST	SD		7"																					
154+17	LT. 21	2	ST	MH				963.15																			
154+92	RT. 22	3	SAN	MH		9"		963.85																			
155+02	LT. 29	4	WATER	MH		9"		964.16																			
157+18	RT. 24	5	ST	CB		11"		963.92																			
157+19	LT. 27	6	ST	CB		LP4		964.32																			
157+31	LT. 27	7	WATER	MH		7"		964.17																			
157+61	RT. 21	8	SAN	MH				964.94																			
157+62	LT. 19	8A	SAN	MH		11"		965.22																			
157+68	RT. 58	10	ST	MH		9"		964.75																			
157+74	RT.39	11	WATER	MH		9"		964.78																			
157+74	LT. 40	12	WATER	MH		9"		965.20																			
157+82	LT.14	13	TEL.	MH		11"		965.09																			
157+89	LT.64	14	ST	CB		LP4		965.45																			
157+93	LT. 19	15	WATER	MH		9"		964.78																			
157+42	RT.18	9	ST	MH																							
161+24	LT22	16	ST	CB		9"	963.06	962.66	—	958.16																REMOVE	
161+26	RT22	17	ST	CB		6"	963.04	962.57	962.68	951.07		5.5'	1													CONVERT TO MANHOLE	(1)
163+53	LT22	18	ST	CB		9"	963.89	962.90	—	957.90																REMOVE	
163+81	LT23	19	SAN	MH		12"	963.96	963.46	963.5±	954.66	1															ADJUST	
164+00	RT34	20	ST	CB		9"	963.91	963.15	—	959.45																REMOVE	
164+06	RT22	21	ST	MH		9"	963.88	963.27	963.52	952.27	1															ADJUST	
164+14	LT14	22	WATER	MH		9"	963.84	963.52	963.58	956.22	1															ADJUST	
164+19	LT22	23	ST	CB		9"	963.81	962.87	—	957.47																REMOVE	
164+29	RT35	24	ST	CB		9"	963.77	963.14	—	957.94																REMOVE	
164+54	RT22	25	ST	CB		6"	963.64	962.82	963.28	952.33		4.9'	1													CONVERT TO MANHOLE	(1)
171+40	RT.90	31A	ST	SD					—																	OK - LEAVE AS IS	
168+16	LT. 22	26	ST	CB		9"	965.30	964.50	—	959.20																REMOVE	
168+16	RT. 21	27	ST	CB		6"	965.30	964.35	964.94	953.75		6.1'	1													CONVERT TO MANHOLE	(1)
170+45	RT. 21	28	ST	MH		9"	967.22	967.04	966.88	954.74	1															ADJUST	
170+54	RT. 38	29	ST	CB		9"	967.29	966.96	—	961.96																REMOVE	
170+56	RT. 31	30	ST	MH			967.31	966.9±	966.9±			5.8'±	1													UNABLE TO OPEN	
170+83	RT. 36	31	ST	CB		9"	967.54	967.24	—	961.94																REMOVE	
171+01	LT. 14	32	WATER	MH		9"	967.69	967.3±	967.41	960.3±	1															ADJUST	
172+18	LT. 28	33	ST	MH		9"	968.69	967.50	968.0±	958.29		5.0'	1														
172+19	RT. 21	34	ST	CB		6"	968.90	967.48	968.54	956.68		7.0'	1													CONVERT TO MANHOLE	(1)
172+41	LT. 48	35	WATER	MH			969.09	967.53	—																	OK - LEAVE AS IS	
172+62	LT. 22	36	ST	CB			969.27	968.25	—	963.25																REMOVE	
173+23	LT. 23	37	TEL	MH		12"	969.79	969.66	969.83	955.66																ADJUST BY OTHERS	
175+23	LT. 16	38	TEL	MH		12"	971.31	971.09	970.99	962.69																ADJUST BY OTHERS	
175+48	RT. 22	39	ST	CB		6"	971.62	970.89	971.26	959.39		5.3'	1													CONVERT TO MANHOLE	(1)
175+68	LT. 49	40	WATER	MH		9"	971.90	970.53	—																	OK - LEAVE AS IS	
176+13	LT. 09	41	WATER	MH		9"	972.90	972.76	972.71	963.86	1															ADJUST	
176+84	LT. 21	42	ST	CB		6"	974.38	973.55	—	969.45																REMOVE	
177+03	RT. 38	43	ST	CB		6"	974.91	974.80	—	970.10																REMOVE	
177+07	RT. 23	44	ST	MH		9"	975.03	975.38	974.67	966.38		5.0'	1														
177+38	RT. 38	45	ST	CB		6"	975.99	975.04	—	972.14																REMOVE	
177+55	RT. 21	46	ST	CB		6"	976.56	976.22	—	970.52																REMOVE	
182+84	LT. 22	47	TEL	MH		12"	997.10	997.51	997.14	986.71																ADJUST BY OTHERS	
182+97	LT. 22	48	TEL	MH		12"	997.60	997.90	997.64	987.10																ADJUST BY OTHERS	
177+34	RT.35	44A	ST	MH		9"	975.86	975.18	975.5±	970.02	1															ADJUST (Remove 8.26	ML BJ

NOTES

(1) EXISTING STRUCTURES SHALL BE RECONSTRUCTED & CONVERTED TO MANHOLES. NEW CASTINGS SHALL BE: RING CASTING MN./DOT. NO. 700-7 & COVER CASTING MN./DOT. NO. 712. PAYMENT SHALL BE MADE AS ITEM NOS. 2506.516, 2506.521 AND 2506.511.

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Fobbe

Date 3-06-85 Reg. No. 13501

EXISTING DRAINAGE CHART

CASTINGS — A= RING CASTING M.H.D. NO. 700-7, COVER CASTING NO.712 (INCLUDE WITH STRUCTURE, NOT SEPARATE PAY ITEM). B= NEENAH INLET FRAME, GRATE, & CURB BOX NO. R-3067 OR EQUAL (INCLUDE WITH STRUCTURE, NOT SEPARATE PAY ITEM).

MANHOLES & CATCH BASINS — SP -2, DETAIL ON SHEET NO.4; A.ORF, M.H.D. STD. PLATE NO.4000 OR 4005

S.A.P NO. 62-623-23 ; S.A.D. 8401

Sheet No. 7 of 62 Sheets

26-128

DRAINAGE CHART

STATION	LOCATION SURVEY ℄	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"			CORRUGATED STEEL PIPE 12"	15"	18"			APRON	CLASS	DRAINS TO: STRUCTURE NO.	INVERT EL.	REMARKS	
		EXISTING																												
183+44	LT. 09	49	WATER	MH			999.41	999.47	999.23	991.37	1																		ADJUST	
183+69	RT. 01	50	SAN	MH		9"	1000.06	1000.23	1000.04	985.13																			REMOVE & RECONSTRUCT	(2)
183+93	LT. 26	51	TEL	MH		12"	1000.54	1001.14	—	990.14																			WARP TO MATCH CASTING	
183+99	LT. 21	52	TEL	MH			1000.64	1001.02	—	990.14																			WARP TO MATCH CASTING	
184+15	LT. 08	53	WATER	MH		9"	1000.87	1000.86		993.56																			REMOVE	(2)
186+43	LT. ℄	54	SAN	MH		9"	999.03	999.17	998.98	987.17																			REMOVE & RECONSTRUCT	(2) 2.5' DROP SECTION
189+29	LT. 23	55	ST	CB		11"	997.76	996.49	—	992.0																			REMOVE	
189+44	RT. 19	56	ST	CB		11"	997.84	994.97	—	991.47																			REMOVE	
190+08	LT. 21	57	ST	CB		6"	997.70	996.86	—	993.16																			REMOVE	
190+22	LT. 35	58	ST	CB		6"	997.53	997.11	—	995.11																			REMOVE	
190+23	LT. 21	59	ST	MH		9"	997.51	996.74	—	993.44																			REMOVE	
190+39	RT. 09	60	ST	MH			997.24	996.69	997.11	990.68		6.2'	1																	
190+43	LT. 01	61	SAN	MH		9"	997.16	996.70	997.10	985.70																			REMOVE & RECONSTRUCT	(2)
190+63	LT. 37	62	ST	CB		6"	996.70	996.45	—	993.65																			REMOVE	
191+05	RT. 22	63	TEL	MH		11"	993.45	993.48	993.03																				ADJUST BY OTHERS	
189+04	LT. 19±	52A	TEL	MH		12"	997.67	997.19	997.28	988.39																			ADJUST BY OTHERS	
189+45	RT. 09±	56A	ST	MH			997.85		997.71				1																UNABLE TO OPEN	
192+93	LT. 13	64	ST	CB		9"	988.49	987.56	988.23	984.06		1'	1																CONVERT TO MANHOLE	(1)
193+19	RT. 18	65	ST	CB		11"	988.06	987.48	987.78	983.70		3.5'	1																CONVERT TO MANHOLE	(1)(3)
193+21	RT. 01	66	SAN	MH			988.04	987.76	988.04																				REMOVE & RECONSTRUCT	(2)
196+93	LT. 12	67	WATER	MH		9"	991.23	991.20		984.10																			REMOVE	(2)
197+00	LT. 19	68	ST	CB		9"	991.32	991.00	—	986.70																			REMOVE	
197+12	RT. 02	69	SAN	MH		9"	991.45	991.24	991.43	981.34																			REMOVE & RECONSTRUCT	(2) 2.0' DROP SECTION
197+19	RT. 17	70	ST	MH		9"	991.52	990.98	991.27	980.94	1																			
197+36	LT. 17	71	ST	CB		9"	991.66	990.67	—	986.17																			REMOVE	
197+60	LT. 11	72	WATER	MH		9"	991.96	991.44		983.44																			REMOVE	(2)
197+74	RT. 25	73	TEL	MH		13"	992.38	991.32	992.42	982.12																			ADJUST BY OTHERS	
200+56	RT. 00	74	SAN	MH			993.78	993.81	993.73																				REMOVE & RECONSTRUCT	(2)
203+70	LT. 03	75	SAN	MH		9"	996.89	996.93	996.80	988.53																			REMOVE & RECONSTRUCT	(2)
203+40	RT. 22	76	TEL	MH		13"	996.52	996.73	996.16	987.53																			ADJUST BY OTHERS	
206+63	LT. 01	77	SAN	MH		9"	993.19	992.76	993.13	984.56																			REMOVE & RECONSTRUCT	(2)
208+45	RT. 14	78	ST	CB		9"	989.60	990.33	—	986.93																			REMOVE	
208+73	LT. 18	79	ST	CB		9"	989.90	988.43	—	985.53																			REMOVE	
209+63	RT. 00	80	SAN	MH		11"	991.66	991.71	—																				REMOVE & RECONSTRUCT	(2)
209+65	RT. 15	81	ST	MH		9"	991.70	991.72	—																				OK—LEAVE	
				TOTALS							9	55.3	12																	

NOTES

(1) EXISTING STRUCTURES SHALL BE RECONSTRUCTED & CONVERTED TO MANHOLES. NEW CASTINGS SHALL BE: RING CASTING MN./DOT. NO. 700-7 & COVER CASTING MN./DOT. NO. 712. PAYMENT SHALL BE MADE AS ITEM NOS. 2506.511, 2506.516 AND 2506.521.

(2) WORK TO BE DONE UNDER S.A.D. 8401. SEE S.A.D. 8401 PLAN SHEETS FOR EACH STRUCTURE. (SHEET 54 TO SHEET 60).

(3) EXISTING 12" RCP BETWEEN MH 65 & 70 TO REMAIN IN PLACE.

CASTINGS — [A= RING CASTING M.H.D. NO. 700-7, COVER CASTING NO.712 (INCLUDE WITH STRUCTURE, NOT SEPARATE PAY ITEM). B= NEENAH INLET FRAME, GRATE, & CURB BOX NO. R-3067 OR EQUAL (INCLUDE WITH STRUCTURE, NOT SEPARATE PAY ITEM).

MANHOLES & CATCH BASINS — [SP-2, DETAIL ON SHEET NO.4; A. OR F, M.H.D. STD. PLATE NO.4000 OR 4005

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Feldhake

Date 3-08-85 Reg. No. 13501

EXISTING DRAINAGE CHART

S.A.P. NO. 62-623-23 ; S.A.D. 8401

Sheet No. 8 of 62 Sheets

26-128

DRAINAGE CHART

PROPOSED

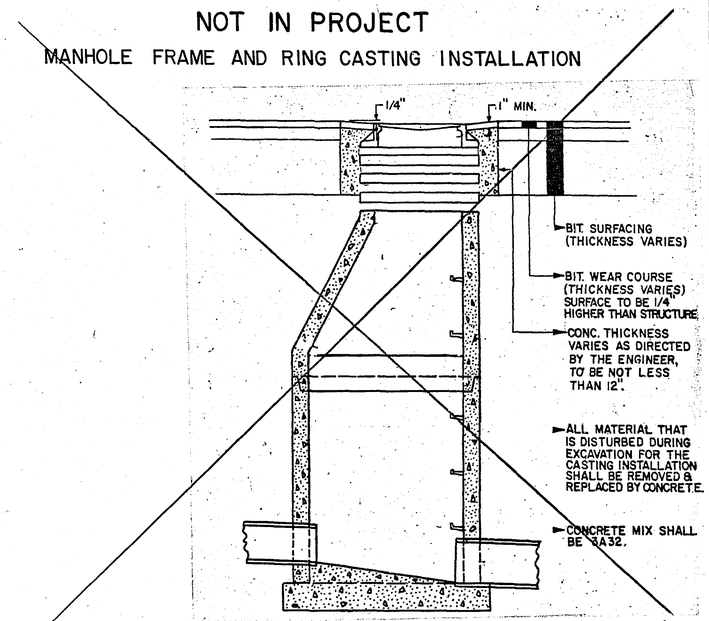
STATION	LOCATION CONST. ℄	NO.	TYPE	DESIGN	CONST HEIGHT LIN. FT	CASTING ASSEMBLY	ELEVATION PROFILE	ELEVATION ORIGNAL GRATE OR RING	ELEVATION NEW GRATE OR RING	ELEVATION C.B. or M.H. INVERT	ADJUST CASTING ASSEMBLY	RECONSTRUCT CATCH BASIN OR MANHOLE LIN. FT.	INSTALL CASTING ASSEMBLY	FURNISH AND INSTALL PIPE SEWER REINFORCED CONCRETE PIPE 12"	15"	18"	21"	24"			CORRUGATED STEEL PIPE 12"	15"	18"			APRON	CLASS	DRAINS TO STRUCTURE NO.	DRAINS TO INVERT EL.	REMARKS
161+75	LT. 23.3	101	CB	LP4	3.9	C	962.83		962.90	958.50					50												102	958.00	SUBSURFACE DRAIN
161+75	RT. 23.5	102	CB	LP4	4.4	C	962.83		962.90	958.00					48												17	957.52	SUBSURFACE DRAIN
164+01	RT. 49.5	103	CB	SP-2	3.4	B	963.90		963.1±	959.88					28												104	959.60	
164+30	RT. 49.5	104	CB	SP-2	3.7	B	963.76		963.1±	959.60					40												25	959.20	
164+94	LT. 23.3	105	CB	LP4	4.5	C	963.47		963.54	958.90					50												106	958.40	SUBSURFACE DRAIN
164+94	RT. 23.5	106	CB	LP4	5.0	C	963.47		963.54	958.40					40												25	958.0	SUBSURFACE DRAIN
170+55	RT. 49	107	CB	SP-2	5.3	B	968.15		967.1±	962.00					20												30	961.80	
170+85	RT. 34	108	CB	SP-2	6.5	B	968.41		967.1±	960.80					30												30	960.50	
172+20	RT. 23.5	109	CB	LP4	4.8	C	968.71		968.78	963.50					4												34	963.46	
172+82	LT. 23.3	110	CB	LP4	4.6	C	969.24		969.31	964.25					65												33	963.60	
176+12	LT. 23.3	111	CB	LP4	5.8	C	972.68		972.75	966.50					77												39	965.73	
177+04	RT. 49	112	CB	SP-2	5.4	B	974.94		974.7±	969.50					28												44	969.22	
177+39	RT. 49	113	CB	SP-2	5.2	B	976.01		975.0±	970.00					32												112	969.68	
177+76	RT. 23.5	114	CB	LP4	5.6	C	977.31		977.38	971.25					66												44	969.93	
180+35	LT. 23.3	115	CB	LP4	5.2	C	987.38		987.45	981.80					50												116	981.30	
180+35	RT. 23.5	116	CB	LP4	5.7	C	987.38		987.45	981.30				260													114	973.00	
189+11	LT. 23.3	117	CB	LP4	5.3	C	997.68		997.75	992.00					32												118	991.68	SUBSURFACE DRAIN
189+11	RT. 6	118	MH	A or F	6.1	A	997.68		997.57	991.60					36												56A	991.0±	SUBSURFACE DRAIN
189+11	RT. 23.5	119	CB	LP4	5.3	C	997.68		997.75	992.00					18												118	991.82	SUBSURFACE DRAIN
190+20	LT. 39	120	CB	LP8	5.6	C	997.56		997.63	991.50					50												60	991.00	
190+68	LT. 54	121	CB	LP4	4.4	C	996.57		996.64	991.70					68												60	991.02	
193+20	LT. 23.3	122	CB	LP4	3.3	C	988.05		988.12	984.30					41												65	983.89	SUBSURFACE DRAIN
193+20	RT. 23.5	123	CB	LP4	3.4	C	988.05		988.12	984.20					9												65	984.11	SUBSURFACE DRAIN
193+60	LT. 23.3	124	CB	LP4	3.1	C	987.69		987.76	984.20					46												125	983.74	SUBSURFACE DRAIN
193+81	RT. 15	125	MH	A or F	4.2	A	987.65		987.43	983.45±					—						BUILD OVER EXISTING								SUBSURFACE DRAIN
193+81	RT. 23.5	126	CB	LP4	3.7	C	987.65		987.76	983.65					9												125	983.56	SUBSURFACE DRAIN
193+81	RT. 23.5	126	CB		3.7	C	987.65		987.76	983.65						339											129	982.29	SUBSURFACE DRAIN
197+05	LT. 50	127	CB	SP-2	4.0	B	991.37		991.4±	987.64					14												128	987.50	
197+20	LT. 50	128	MH	A or F	5.5	A	991.53		991.8±	986.4±					—												—	—	BUILD OVER EXISTING
197+20	RT. 25	129	MH	A or F	9.9	A	991.53		990.8±	980.94‡					—												—	—	BUILD OVER EXISTING
197+30	RT. 25	130	MH	A or F	5.3	A	991.62		990.8±	985.60					10												129	985.60	
197+30	RT. 25	130	MH	STUB PIPE FOR FUTURE CONSTRUCTION													32										—	—	PLUG AS DIRECTED
197+47	LT. 50	131	CB	SP-2	3.6	B	991.76		991.2±	987.77					27												128	987.50	
197+95	LT. 23.3	132	CB	LP4	5.0	C	992.18		992.25	986.80					50												133	986.30	
197+95	RT. 23.5	133	CB	LP4	5.5	C	992.18		992.25	986.25					65												130	985.60	
199+25	LT. 23.3	134	CB	LP4	4.5	C	993.06		993.13	988.10					50												135	987.60	
199+25	RT. 23.5	135	CB	LP4	5.0	C	993.06		993.13	987.60					130												133	986.30	
208+13	RT. 23.5	136	CB	LP4	3.5	C	989.54		989.61	985.61					52												137	985.48	SUBSURFACE DRAIN
208+23	LT. 23.3	137	CB	LP4	3.6	C	989.53		989.60	985.48					52												139	985.35	SUBSURFACE DRAIN
208+74	RT. 13	138	MH	A or F	4.0	A	989.91		989.71	985.25					92												81	985.12	SUBSURFACE DRAIN
208+74	LT. 25	139	MH	A or F	4.2	A	989.91		990.0±	985.35					38												138	985.25	SUBSURFACE DRAIN
209+02	LT. 38	140	SD	A or F	3.3	D	990.44		989.2±	985.44					34												139	985.35	
														260	1551	339	32												

LP4 - 23
LP8 - 1
SP-2 - 8
MH A OR F - 7

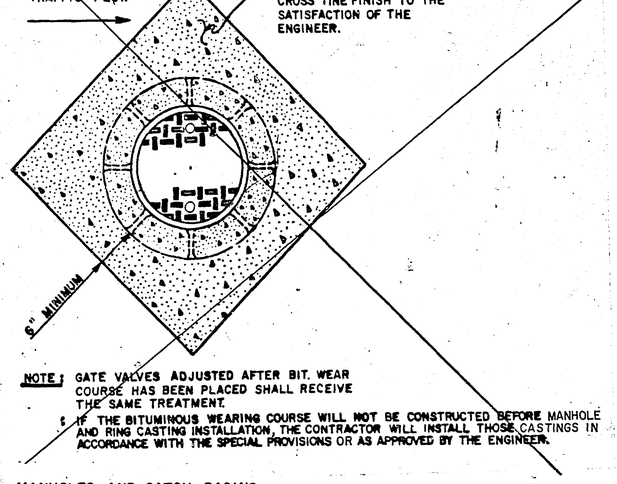
S.D. DESIGN C - 1

NOT IN PROJECT

MANHOLE FRAME AND RING CASTING INSTALLATION



MANHOLE COVER TOP VIEW



NOTE: GATE VALVES ADJUSTED AFTER BIT. WEAR COURSE HAS BEEN PLACED SHALL RECEIVE THE SAME TREATMENT.

‡ IF THE BITUMINOUS WEARING COURSE WILL NOT BE CONSTRUCTED BEFORE MANHOLE AND RING CASTING INSTALLATION, THE CONTRACTOR WILL INSTALL THOSE CASTINGS IN ACCORDANCE WITH THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

MANHOLES AND CATCH BASINS

DESIGN A OR F - SEE MN/DOT STD. PL. NO. 4000 OR 4005
DESIGN SP-2 - SEE DETAIL SHEET NO. 4
DESIGN LP4-HT - SEE MN/DOT STD. PL. NO. 4021 AND DETAIL SHEET NO. 4

CASTING ASSEMBLIES

A= DESIGN A OR B, J, 4019 (MANHOLE); RING CASTING - MN/DOT NO. 700-7; COVER CASTING - MN/DOT NO. 712

B= DESIGN - SP-2; FRAME, GRATE, AND CURB BOX (SEE DETAIL SHEET NO. 4)

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

D= DESIGN A OR F, SURFACE DRAIN; RING CASTING - MN/DOT NO. 700-7; GRATE CASTING - MN/DOT NO. 720

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

Harry Feldhaus

Date 3 06 85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

PROPOSED DRAINAGE CHART

S.A.P. NO. 62-623-23

Sheet No. 9 of 62 Sheets

26-128

	PLOTTED BY	DATE	CHECKED BY	DATE
TOPOGRAPHY				
UTILITIES				
PROFILE				

BEGIN CONSTRUCTION
STA. 158+18

+22 BEGIN TAPER

+42 END TAPER

CONSTRUCTION LIMITS

10 30 50
0 20 40

N

HO. 2225 HO. 2233 HO. 2239 HO. 2245 HO. 2255 HO. 2267 HO. 2277 HO. 2285 HO. 2295 HO. 2299 HO. 2305

HO. 2232 HO. 2631 HO. 2268 HO. 2276 HO. 2284 HO. 2290 HO. 2294 HO. 2300 HO. 2304 HO. 2310

RD. McKNIGHT

WALL

C.B.2 C.B.14 C.B.61 C.B.5 C.B.101 C.B.102 C.B.17

S.D.1

W.M.H. 43' W.M.H.7 W.M.H.15

M.H.8A M.H.13 M.H.9 M.H.8 M.H.11 M.H.10

W.S.O. M.H.12

G.S.O.

T-BUR P-BUR SA BIT. SE G

30:1 TAPER

SAWCUT AS DIRECTED

TAPER TO MATCH EXISTING ℄ CURB AND GUTTER

SECTION LINE & SURVEY ℄

CONST. ℄

SECTION LINE

SUBSURFACE DRAIN

154 155 156 157 158 159 160 161 162 163

33' 22' 43'

CO. RD. C SECTION LINE P.O.T. STA. 157+62.19 =
McKNIGHT RD. SECTION LINE P.O.T.

T 30 N R 22 W
R 22 W T 29 N
2 1 11 12

REMOVE AND REPLACE 4" CONCRETE SIDEWALK

C.B. 102 C.B. 101
958.00 958.50
50 L.F. 15" RCP @ 1.0%
50 L.F. 6" PVC PIPE

975 970 965 960 955

E.L. 964.5
E.L. 962.90
E.L. 962.91

STA. 158+18
M.H. 10
2.25'
20:1
5.15'
949.45

V.C.=60'
M= 0.07750
EXISTING GRADE
PROPOSED GRADE
C.B. 117
C.B. 102
C.B. 101
-0.60 %
+0.64%
5.15'
3.5' SUBCUT FOR UNIFORMITY AND COMPACTION.
957.52
958.00
48 L.F. 15" RCP @ 1.0%
EXISTING 48" R.C.P.
EXISTING 48" R.C.P.
951.07

P.C. 158+50
E.L. 962.75
P.T. 161+75
E.L. 962.75
P.T. 162+00

REVISIONS	DATE	BY	REVISIONS	DATE	BY

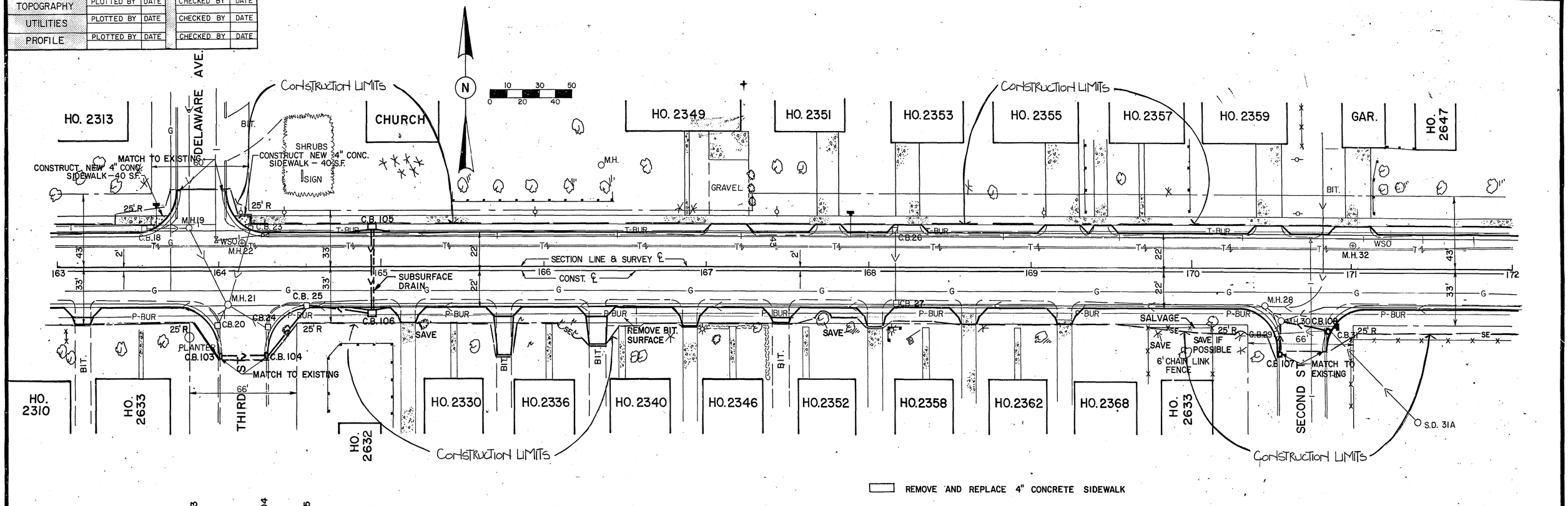
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Barry K. Fullerton
Date 3-05-85 Reg. No. 13501

S.A.P. NO. 62-623-23

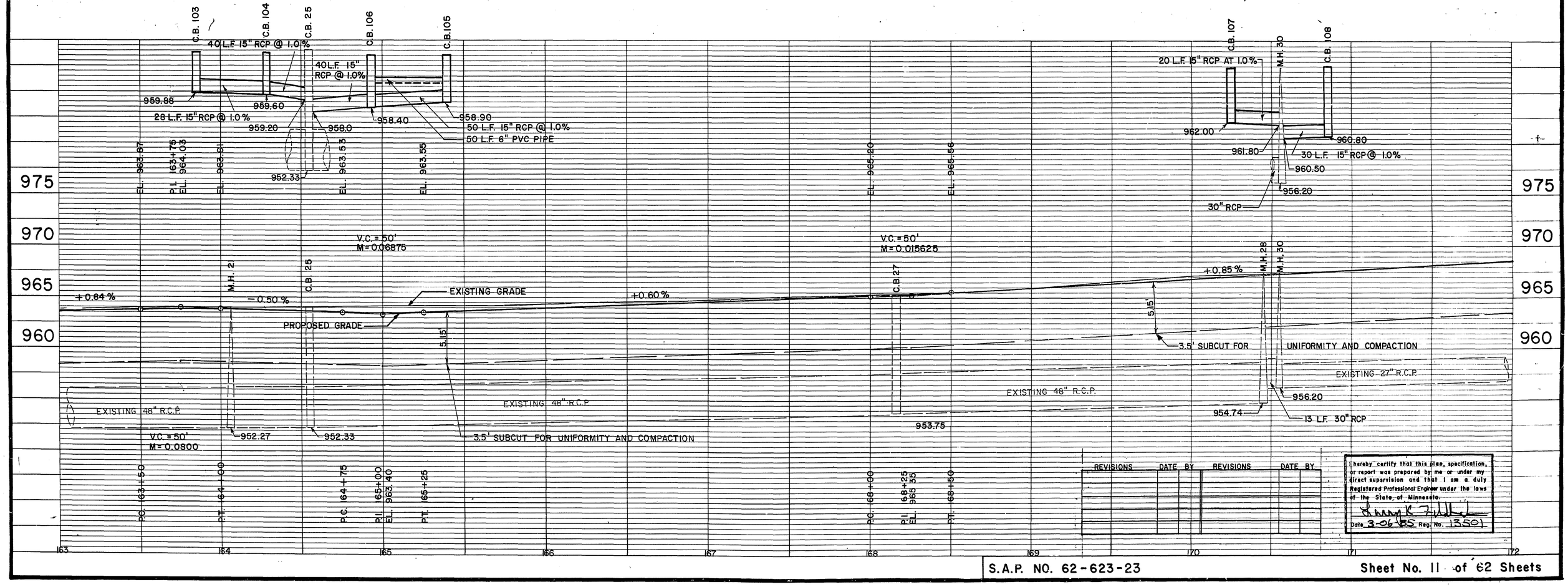
Sheet No. 10 of 62 Sheets

26-128

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



REMOVE AND REPLACE 4" CONCRETE SIDEWALK



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date 3-06-85 Reg. No. 13501

S.A.P. NO. 62-623-23

Sheet No. 11 of 62 Sheets

26-128

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

BIT. CURB
MATCH TO EXISTING BIT. CURB
2ND ST. N.W.
60'
CONSTRUCTION LIMITS
HO. 2646
GAR.
GAR.
HO. 2647
BIT. CURB
MATCH TO EXISTING BIT. CURB
1ST ST. N.W.
60'
BIT. CURB
HO. 2646
GAR.
BIT. PARKING LOT
BIT. PARKING LOT
CONSTRUCTION LIMITS
GRAVEL
SIGN
N
10 30 50
0 20 40
25'R
M.H. 36
M.H. 33
C.B. 110
T.M.H. 37
T-BUR
C.B. 36
M.H. 38
M.H. 40
C.B. 111
M.H. 41
C.B. 42
T-BUR
C.B. 115
SECTION LINE & SURVEY ℄
CONST ℄
172 173 174 175 176 177 178 179 180 181
43' 22' 33' 22' 45' 33' 22' 33'
C.B. 34
C.B. 109
P-BUR
6' C-L
BIT. PATH
MATCH TO EXISTING CONC. CURB AS DIRECTED.
B6 CURB
C.B. 39
15'R
MATCH TO EXISTING BIT. CURB AS DIRECTED.
BIT. PARKING LOT
BIT. CURB
M.H. 44
M.H. 44A
C.B. 43
C.B. 45
C.B. 46
C.B. 114
C.B. 112
C.B. 113
FIRST ST
66'
NORTH ST. PAUL SUB-STATION
NORTH ST. PAUL CONTROL STATION (ELECT)
GRAVEL
GAR.
HO. 2460
C.B. 116
BIT. PARKING LOT
RELOCATE ENT.
MATCH TO EXISTING BIT. CURB
CONSTRUCTION LIMITS

REMOVE AND REPLACE 4" CONCRETE SIDEWALK

M.H. 33
C.B. 110
65 L.F. 15" RCP @ 1.0%
963.60
954.25
958.26
C.B. 34
C.B. 109
4 L.F. 15" RCP @ 1.0%
963.50
963.46
956.98
27" RCP
957.91
956.98
EXISTING GRADE
+0.85 %
PROPOSED GRADE
5'-1.5"
3.5' SUBCUT FOR UNIFORMITY AND COMPACTION.
EXISTING 24" RCP
EL. 971.00
℄ 175+00
C.B. 39
77 L.F. 15" RCP @ 1.0%
965.73
966.50
958.19
C.B. 111
C.B. 39
958.19
℄ 175+00
EXISTING 18" RCP
966.50
P.I. 176+50
EL. 972.36
M.H. 44
28 L.F. 15" RCP @ 1.0%
C.B. 112
C.B. 113
969.22
969.50
969.68
970.00
32 L.F. 15" RCP @ 1.0%
966.38
EL. 978.21
℄ 178+00
VC = 300'
M = 1.14375
M.H. 44
C.B. 45
C.B. 46
C.B. 114
969.93
970.52
971.64
971.25
973.00
66 L.F. 15" RCP @ 2.0%
C.B. 116
C.B. 115
981.30
981.30
50 L.F. 15" RCP @ 1.0%
C.B. 116
+3.90 %
981.30
260 L.F. 12" RCP @ 3.19 %
3'-10"
1.5' SUBCUT FOR UNIFORMITY AND COMPACTION
990
985
980
975
970
965
960

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Larry K. Wilcox
Date 3-06-85 Reg. No. 13501

S.A.P. NO. 62-623-23

Sheet No. 12 of 62 Sheets

26-128

	PLOTTED BY	DATE	CHECKED BY	DATE
TOPOGRAPHY				
UTILITIES				
PROFILE				

CONSTRUCTION LIMITS

NOTE:
CONSTRUCT GUTTER DELINEATOR THROUGH HELEN ST. NORTH SIDE ONLY.

SEE SHEET 4 FOR TYPE "V" DETAIL ON CONCRETE DELINEATOR.

NOTE: SPECIAL GUTTER GRADE LEFT
STA. 184+07 TO STA. 184+68 = + 0.5 %
STA. 184+68 TO STA. 185+50 = - 1.41 %

HO. 2485 · HO. 2493 · HO. 2503 · HO. 2515 · HO. 2525 · HO. 2535 · HO. 2541 · HO. 2543 · HO. 2553

MATCH TO EXISTING · CONSTRUCT NEW 4" CONC. SIDEWALK - 36 S.F.

FLAGSTONE WALL · STEPS · TIMBER WALL · SUBSURFACE DRAIN

M.H. 47 · M.H. 48 · M.H. 49 · M.H. 50 · M.H. 52 · M.H. 53 · M.H. 54 · M.H. 52A · M.H. 118 · M.H. 56A

C.B. 117 · C.B. 55 · C.B. 56 · C.B. 119

SECTION LINE & SURVEY ℄ · CONST. ℄ · CO. RD. C SECTION LINE P.O.T. STA. 183+73.60 = HELEN ST. ℄ P.O.T. STA.

INPLACE TELEPHONE DUCT · TEL. BURIED · SALVAGE · PLANTER · GRADE TO DRAIN · CONSTRUCT STEPS AND SIDEWALK · GRAVEL · METAL RAILING · BLOCK WALL · RELOCATE ENT.

GAR. · APT. BLDG. · BLDG. 2512 · HO. 2504 · HO. 2520 · HO. 2524 · HO. 2540 · HO. 2548 · HO. 2631

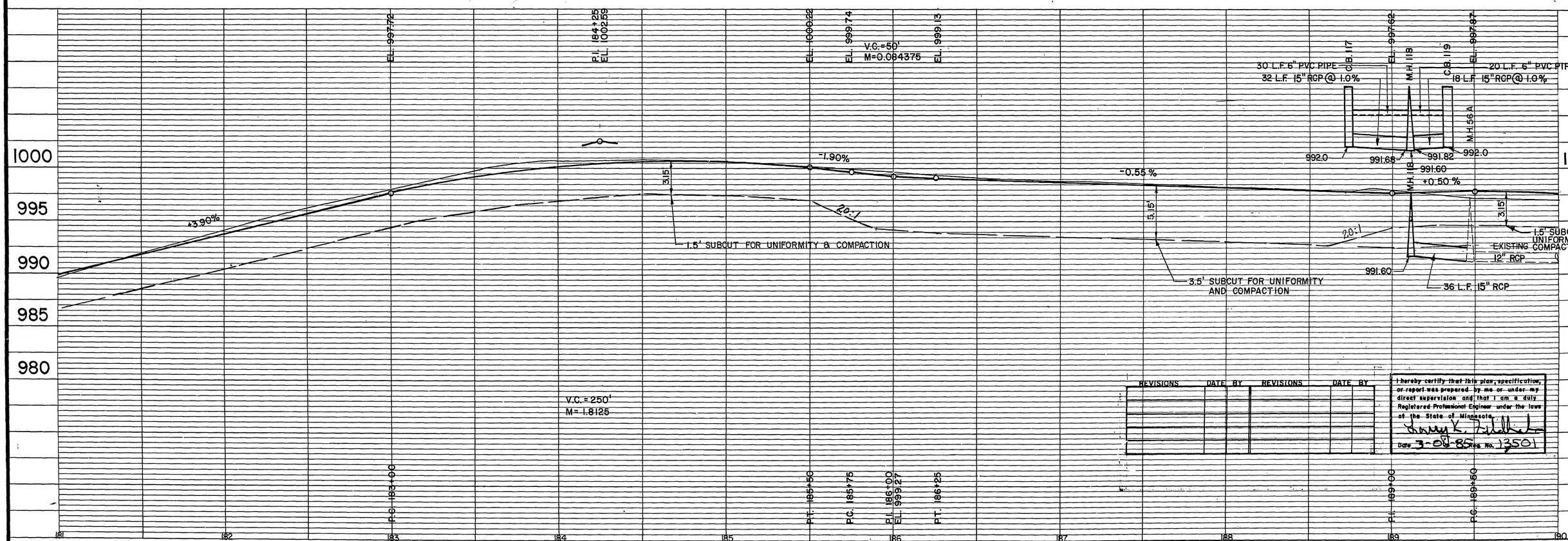
CONSTRUCTION LIMITS
(VARIABLE SLOPES - TO BE DETERMINED IN THE FIELD BY THE ENGINEER)

CONSTRUCTION LIMITS

▭ REMOVE AND REPLACE 4" CONCRETE SIDEWALK

N

10 30 50
0 20 40



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Zilliacus
Date 3-08-85 Reg. No. 13501

S.A.P NO. 62-623-23

Sheet No. 13 of 62 Sheets

26-128

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

1. GUTTER GRADES
A.= 998.33±
B.= 996.50
C.= 997.35
D.= 997.43

2. GUTTER GRADES
A.= 998.02±
B.= 996.70
C.= 997.16
D.= 995.43
E.= 994.89

3. GUTTER GRADES
A.= 996.49±
B.= 996.59
C.= 997.35
D.= 997.43

4. GUTTER GRADES
A.= 996.35
B.= 996.23
C.= 995.43
E.= 994.89

MATCH TO EXISTING

CONSTRUCTION LIMITS

CONSTRUCT NEW ENTRANCE

HO. 2571 HO. 2575 HO. 2579 HO. 2581 HO. 2591 HO. 2603 HO. 2607 HO. 2617 HO. 2629 HO. 2633 HO. 2606 HO. 2632

SALVAGE RAILING

SALVAGE WOOD RAIL SIGN

SALVAGE CHAIN LINK

SALVAGE WOOD RAIL

CONSTRUCT NEW 4" CONC. SIDEWALK-25 SF.

CONSTRUCT NEW 4" CONC. SIDEWALK-15 SF.

TAPER TO MATCH EXISTING

C.B.120 C.B.121 C.B.58 C.B.62 C.B.57 C.B.64 C.B.122 C.B.124 C.B.65 C.B.123 C.B.126 C.B.127 C.B.131 C.B.71 C.B.132 C.B.133

M.H.59 M.H.60 M.H.61 M.H.63 M.H.66 M.H.125 M.H.128 M.H.72 M.H.69 M.H.70 M.H.73 M.H.130 M.H.129

SECTION LINE & SURVEY ℄

CONST. ℄

SUBSURFACE DRAIN

CHURCH

GYM SET

BIT. PARKING LOT

BLDG. 2618

MARGARET ST.

CHARLES ST.

MATCH TO EXISTING SIGN

TAPER TO MATCH EXISTING

REMOVE AND REPLACE 4" CONCRETE SIDEWALK

50 L.F. 15" RCP @ 1.0%
68 L.F. 15" RCP @ 1.0%
991.50 991.00 991.02 990.68 991.70

41 L.F. 6" PVC PIPE
41 L.F. 15" RCP @ 1.0%
40 L.F. 6" PVC PIPE
46 L.F. 6" PVC PIPE
46 L.F. 15" RCP @ 1.0%
VC = 250'
M = 1.703125'
984.30 983.89 984.20 984.11 983.70 984.20 983.74 983.65 983.56 983.45±

60 L.F. 6" PVC PIPE
9 L.F. 6" PVC PIPE
9 L.F. 15" RCP @ 1.0%
9 L.F. 6" PVC PIPE
9 L.F. 15" RCP @ 1.0%

14 L.F. 15" RCP @ 1.0%
27 L.F. 15" RCP @ 1.0%
991.3 991.5± 991.3 987.64 987.50 987.50 986.4± (BUILD OVER EXISTING)

50 L.F. 15" RCP @ 1.0%
986.25 986.30 986.80

65 L.F. 15" RCP @ 1.0%
30 L.F. 15" RCP @ 1.0%
986.25 986.30 985.60

32 L.F. 21" RCP @ 0.61%
10 L.F. 5" RCP FLAT
PLUG BOTH ENDS
985.60 982.29 980.94± (BUILD OVER EXISTING)

339 L.F. 18" R.C.P. @ 0.4%
V.C. = 50'
M = 0.058125'
V.C. = 50'
M = 0.375
V.C. = 200'
M = 1.3550'

+0.50% -4.92% +0.53% +1.46% +0.86% +0.55%

PROPOSED GRADE
EXISTING GRADE
EX. 12" RCP
12" RCP
EXISTING 12" R.C.P. @ 0.4%
1.5' SUBCUT FOR UNIFORMITY AND COMPACTION
3.5' SUBCUT FOR UNIFORMITY AND COMPACTION
20:1

P.C. 191+50 P.T. 191+55 P.I. 192+80 EL. 987.05 P.C. 193+00 P.T. 194+05 P.C. 194+50 P.T. 195+00 P.C. 196+75 P.I. 197+00 EL. 991.36 P.I. 198+50

EL. 993.45 EL. 993.20 EL. 987.71 EL. 987.35 P.I. 194+75 EL. 988.08 EL. 988.45 EL. 990.99 EL. 992.86

REVISIONS	DATE BY	REVISIONS	DATE BY

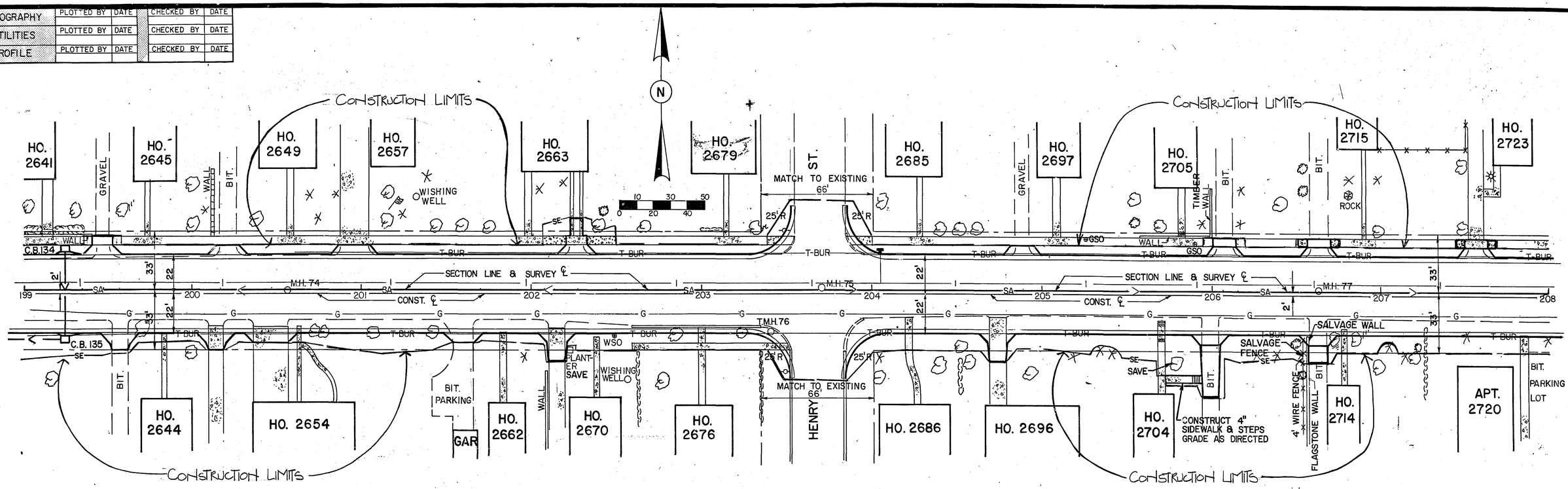
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE 3-08-85 REG. NO 18501

S.A.P. NO. 62-623-23

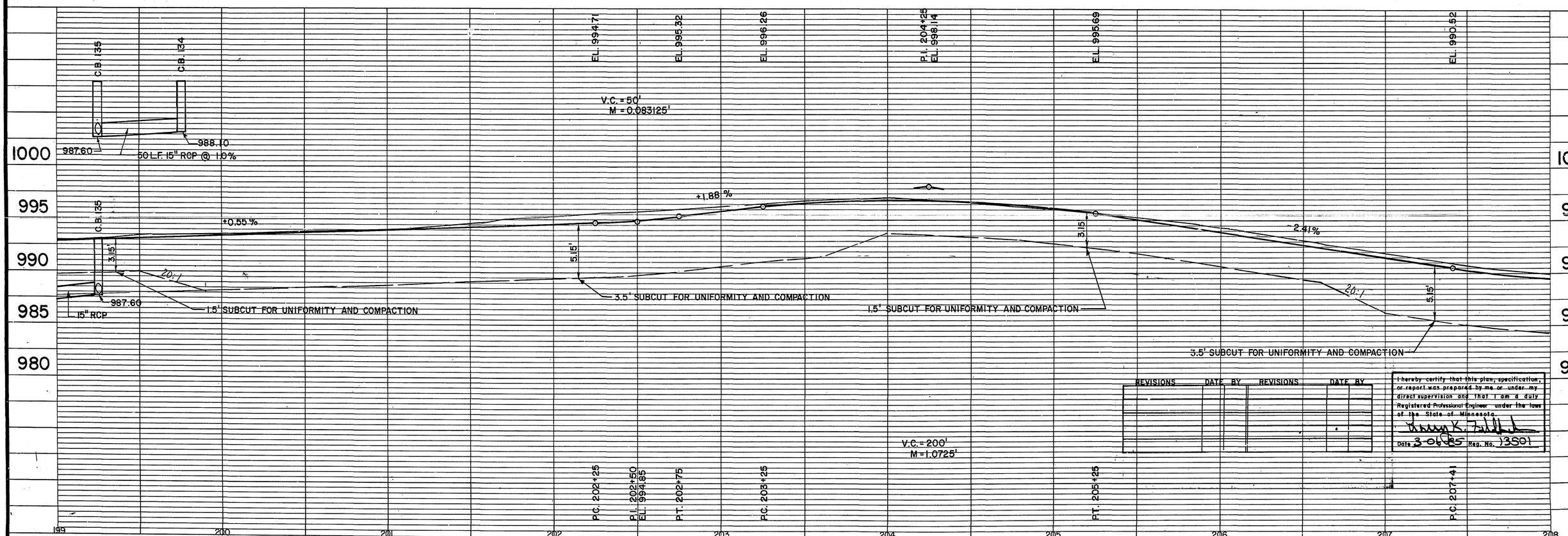
Sheet No. 14 of 62 Sheets

26-128

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



REMOVE AND REPLACE 4" CONCRETE SIDEWALK



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

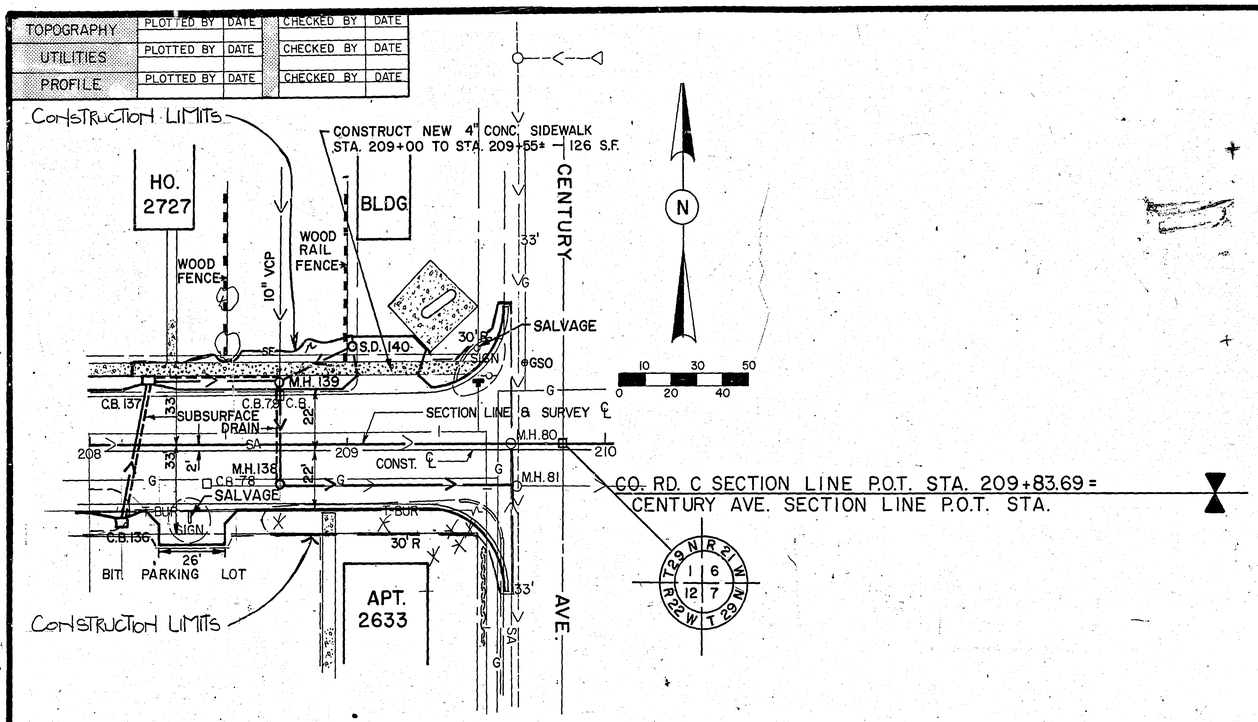
Date 3-06-85 Reg. No. 13501

S.A.P. NO. 62-623-23

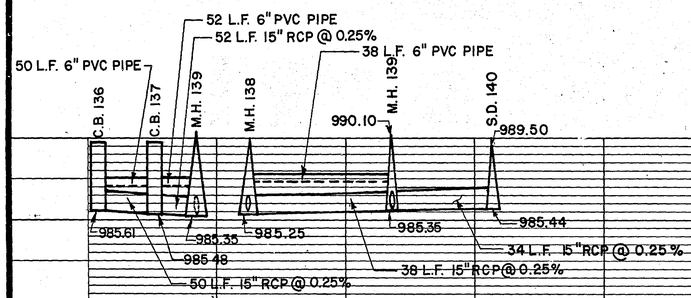
Sheet No. 15 of 62 Sheets

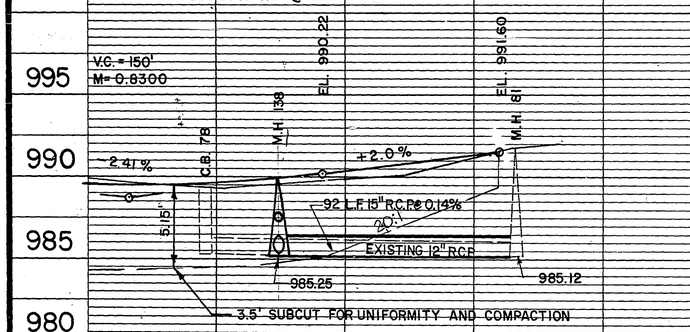
26-128

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



REMOVE AND REPLACE 4" CONCRETE SIDEWALK





REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Ronny K. Tibbetts

Date 3-06-85 Reg. No. 13551

S.A.P. NO. 62-623-23

Sheet No. 16 of 62 Sheets

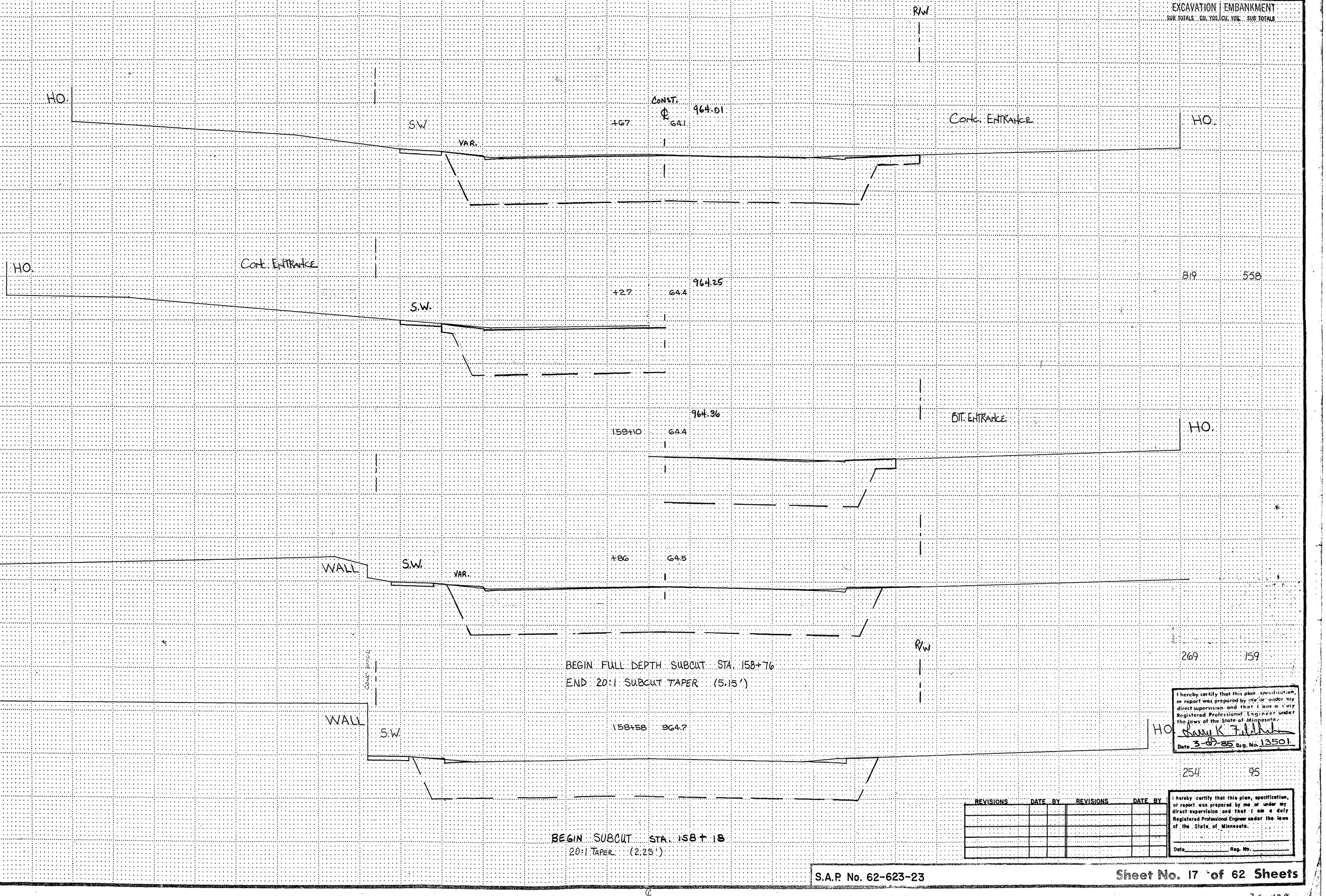
26-128

STATION–ELEVATION

Fed. Proj. No.

EXCAVATION | EMBANKMENT

SUB TOTALS | CU. YDS. | CU. YDS. | SUB TOTALS



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

Date 3-07-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

Sheet No. 17 of 62 Sheets

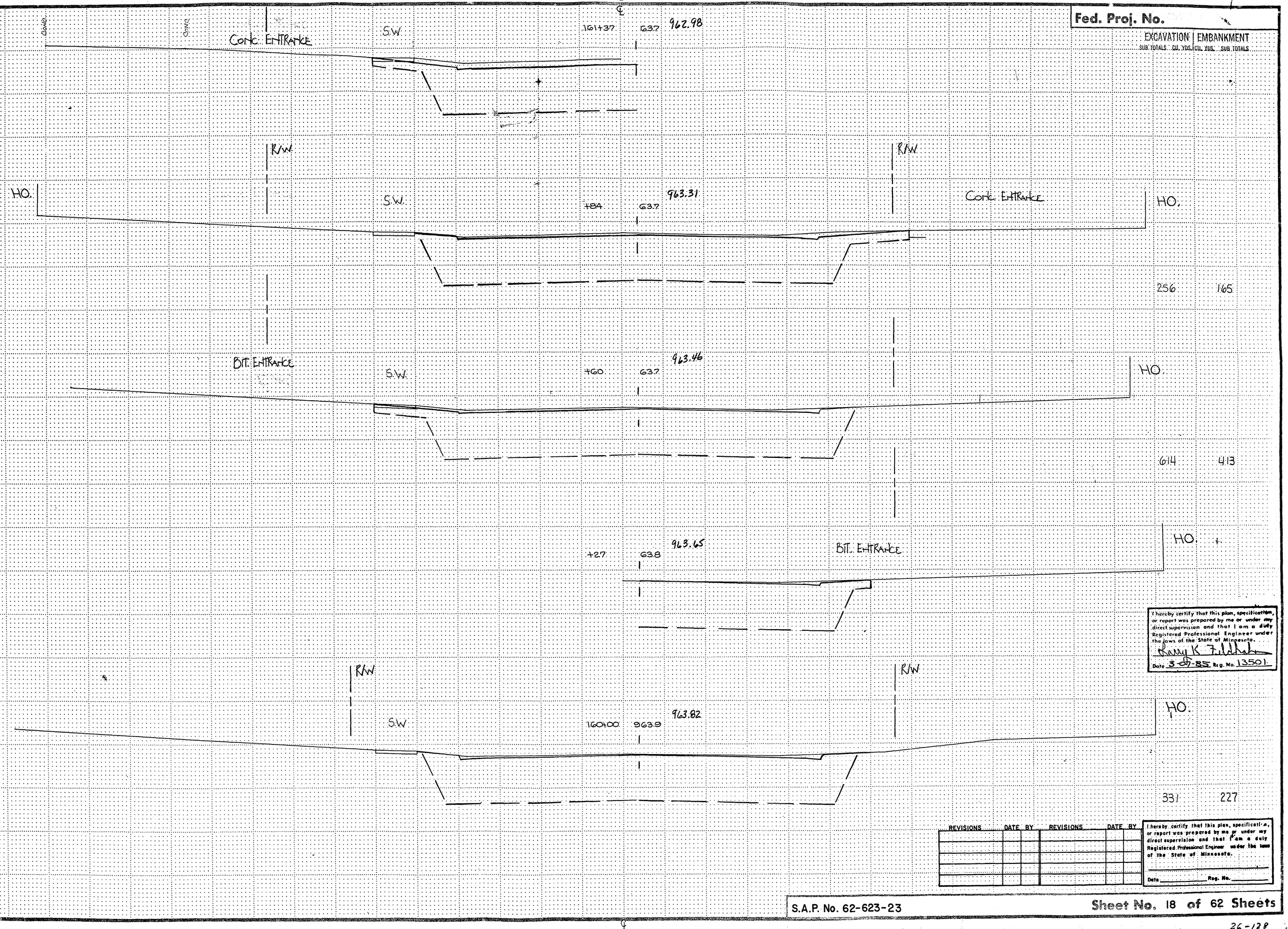
26-128

STATION—ELEVATION

Fed. Proj. No.

EXCAVATION | EMBANKMENT

SUB TOTALS	CU. YDS. EXCL. YDS.	SUB TOTALS
256	165	
614	413	
331	227	



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

Date 3-07-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

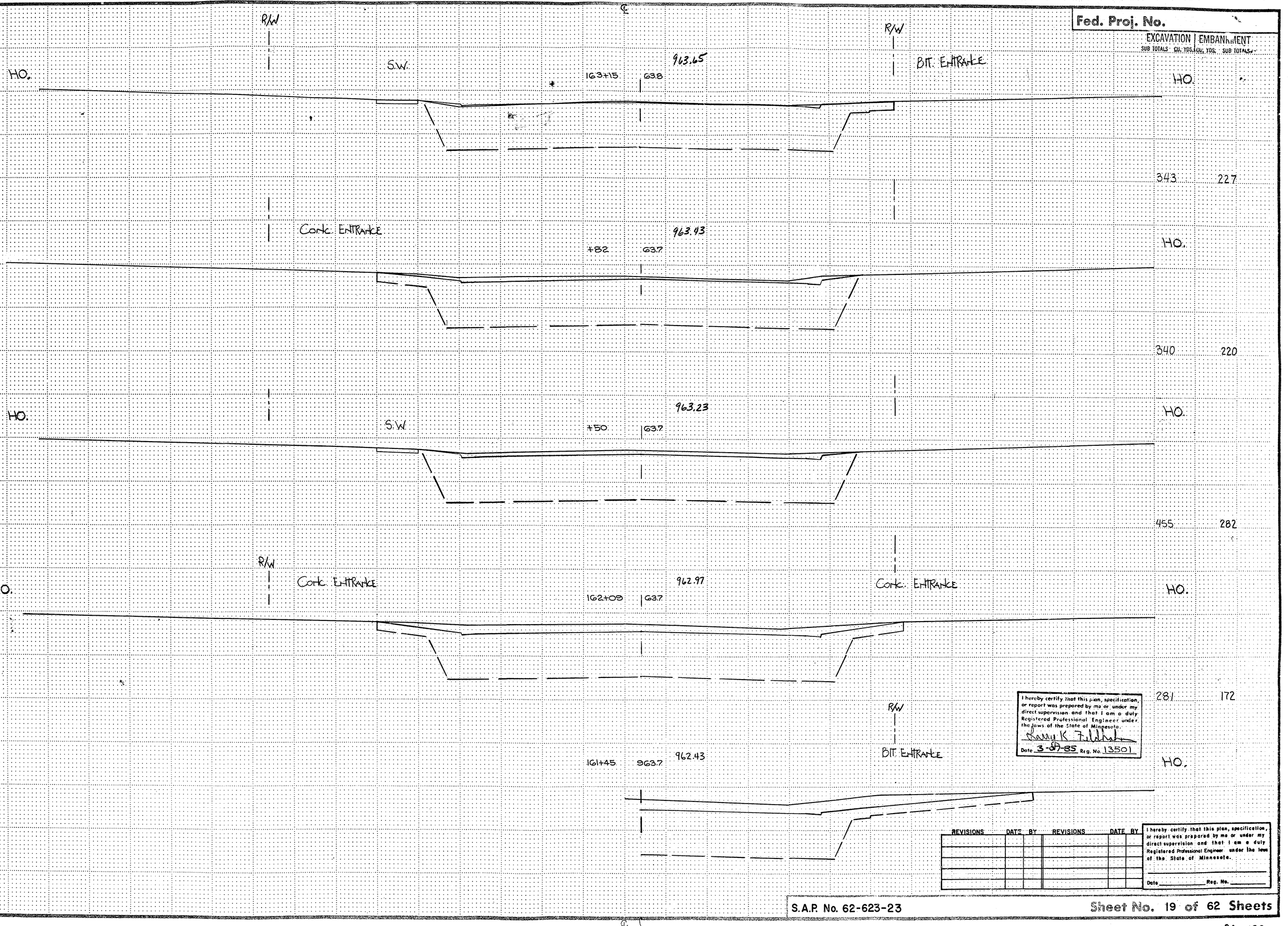
Sheet No. 18 of 62 Sheets

26-128

STATION—ELEVATION

Fed. Proj. No.

EXCAVATION | EMBANKMENT
SUB TOTALS CU. YDS. | CU. YDS. SUB TOTALS



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

Harry K Tillotson

Date 3-07-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

Sheet No. 19 of 62 Sheets

26-128

STATION—ELEVATION

℄

Fed. Proj. No.

EXCAVATION | EMBANKMENT

SUB TOTALS CU. YDS. | CU. YDS. SUB TOTALS

EAST GUTTERLINE 3RD ST. RT.

963.79

+29 64.0

3 RD. ST.

20:1

CONSTRUCT SP.-2 CB.

EAST GUTTERLINE DELAWARE RT.

963.92

DELAWARE

+03 63.9

MATCH EXISTING

20:1

412 219

WEST GUTTERLINE 3RD ST. RT.

963.93

3 RD. ST.

164+00 63.9

20:1

CONSTRUCT SP-2 CB

WEST GUTTERLINE DELAWARE LT.

963.96

DELAWARE

+73 64.0

MATCH EXISTING

20:1

266 163

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

Date 3-08-85 Reg. No. 13501

R/W

S.W.

963.87

163+50 9639

R/W

HO.

344 241

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

Sheet No. 20 of 62 Sheets

26-128

STATION—ELEVATION

Fed. Proj. No.

						EXCAVATION	EMBANKMENT
						SUB TOTALS CU. YDS.	CU. YDS. SUB TOTALS
R/W	S.W. VAR.	+33	G4.5	964.24	R/W BIT. ENTRANCE	HO.	
						328	227
	S.W. VAR.	166+00	G4.3	964.04		HO.	
		+75	G4.2	963.89	BIT. ENTRANCE	856	579
BLDG.	S.W. VAR.	165+16	G4.1	963.54	Cork. ENTRANCE	655	455
R/W	S.W. VAR.	164+50	964.0	963.68	R/W	554	333

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

Harry K. Fieldhahn

Date 3-5-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

Sheet No. 21 of 62 Sheets

26-128

STATION—ELEVATION

℄

Fed. Proj. No.

	EXCAVATION SUB TOTALS CU. YDS.	EMBANKMENT SUB TOTALS CU. YDS.
	569	400
	305	214
	253	179
	540	379

HO. R/W S.W. 965.26 Cont. Entrance R/W HO.
168+03 65.3

HO. Cont. Entrance S.W. 965.09 HO.
+75 65.1

HO. S.W. 964.91 Bit. Entrance HO.
+45 65.0

HO. GRAVEL ENTRANCE S.W. 964.72 HO.
167+14 64.8

R/W S.W. 964.57 R/W Conc. Entrance
166+88 64.7

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Larry K. Fullerton
Date 3-09-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date _____ Reg. No. _____

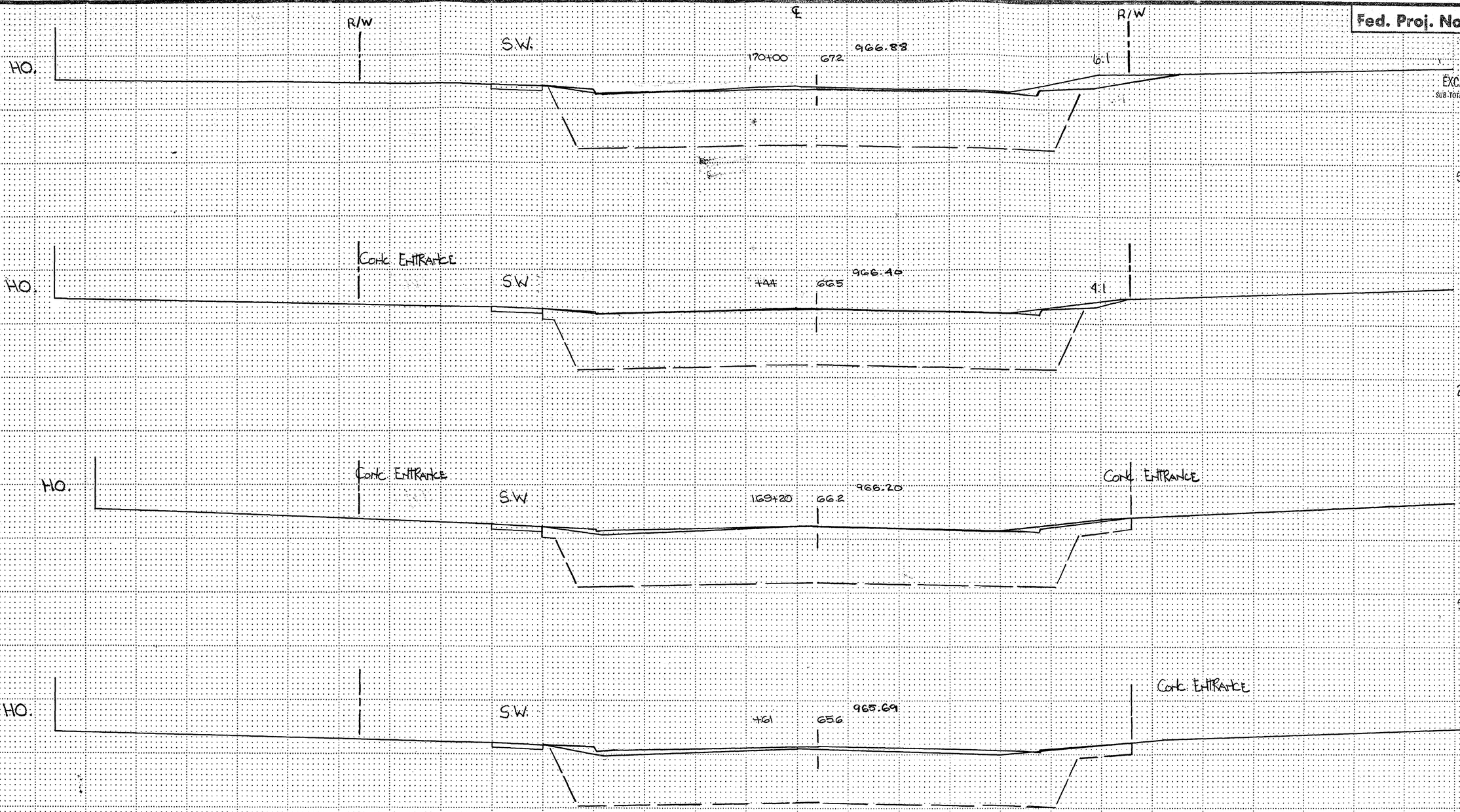
S.A.P. No. 62-623-23

Sheet No. 22 of 62 Sheets

℄

STATION–ELEVATION

Fed. Proj. No.



EXCAVATION SUB-TOTALS CU. YDS.	EMBANKMENT CU. YDS. SUB-TOTALS
566	386
237	165
555	406
542	400

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

Date 3-07-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

Sheet No. 23 of 62 Sheets

26-128

STATION—ELEVATION

℄

HO. R/W S.W. R/W

+50 68.1 968.15

VAR. 3'± FE

EXCAVATION | EMBANKMENT

TOTALS · CU. YDS. · CU. YDS. · SUB-TOTALS

443 317

HO. Conc. Entrance S.W.

171+04 67.7 967.76

VAR. 3'± FE

221 146

EAST GUTTERLINE N. 2ND RT.

+83 67.5 967.58

20:1 Reconstruct ~~CB~~ #31 To Match New Radius

330 204

WEST GUTTERLINE N. 2ND RT.

+54 67.4 967.33

20:1

68 43

R/W Conc. Entrance S.W. R/W

170+48 967A 967.28

513 341

Fed. Proj. No.

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

Date 3-07-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

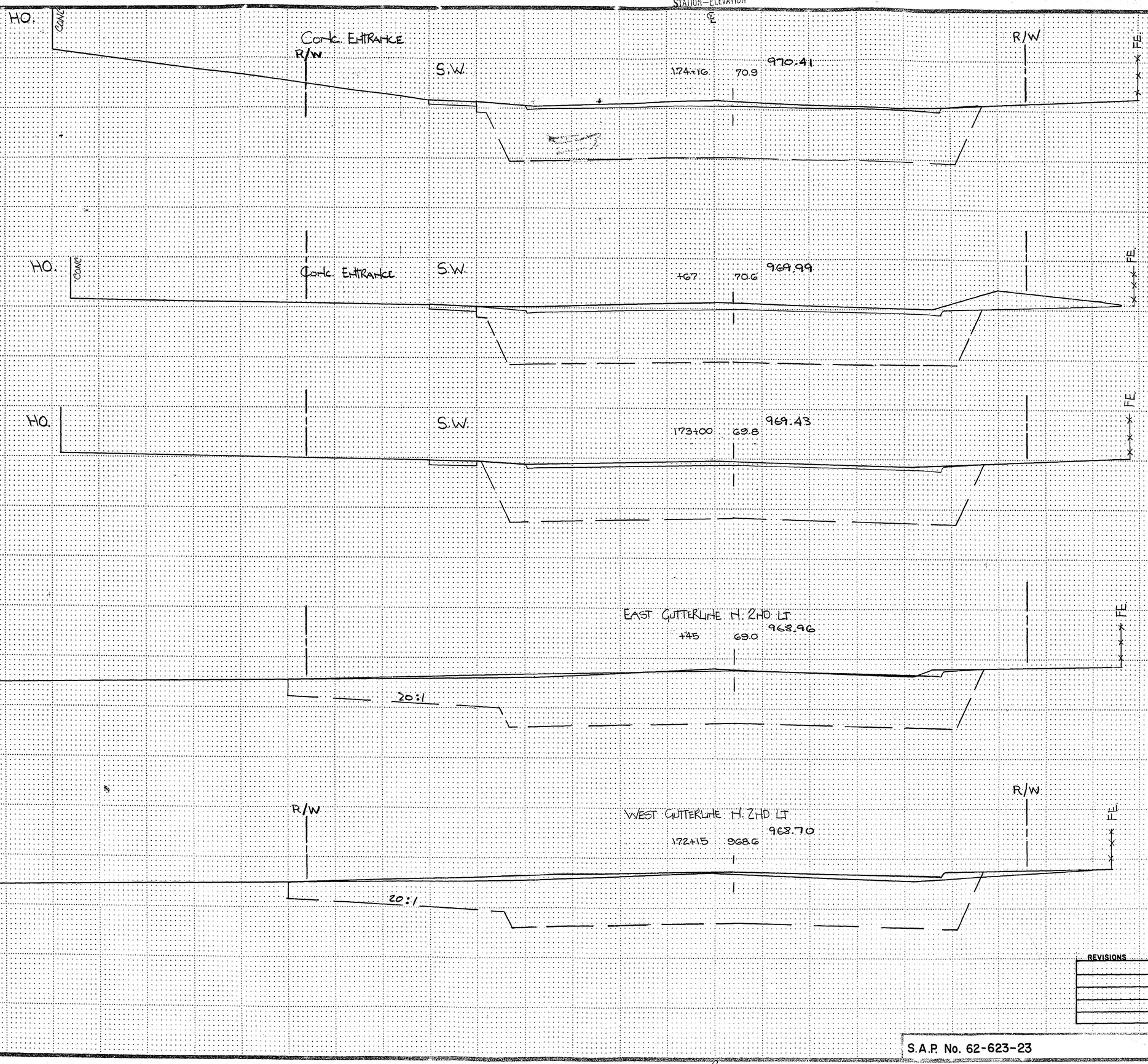
S.A.P. No. 62-623-23

Sheet No. 24 of 62 Sheets

℄

26-128

STATION—ELEVATION



Fed. Proj. No.

EXCAVATION | EMBANKMENT

SUB TOTALS | CU. YDS. | CU. YDS. | SUB TOTALS

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

Larry K Fullstone

Date 3-07-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

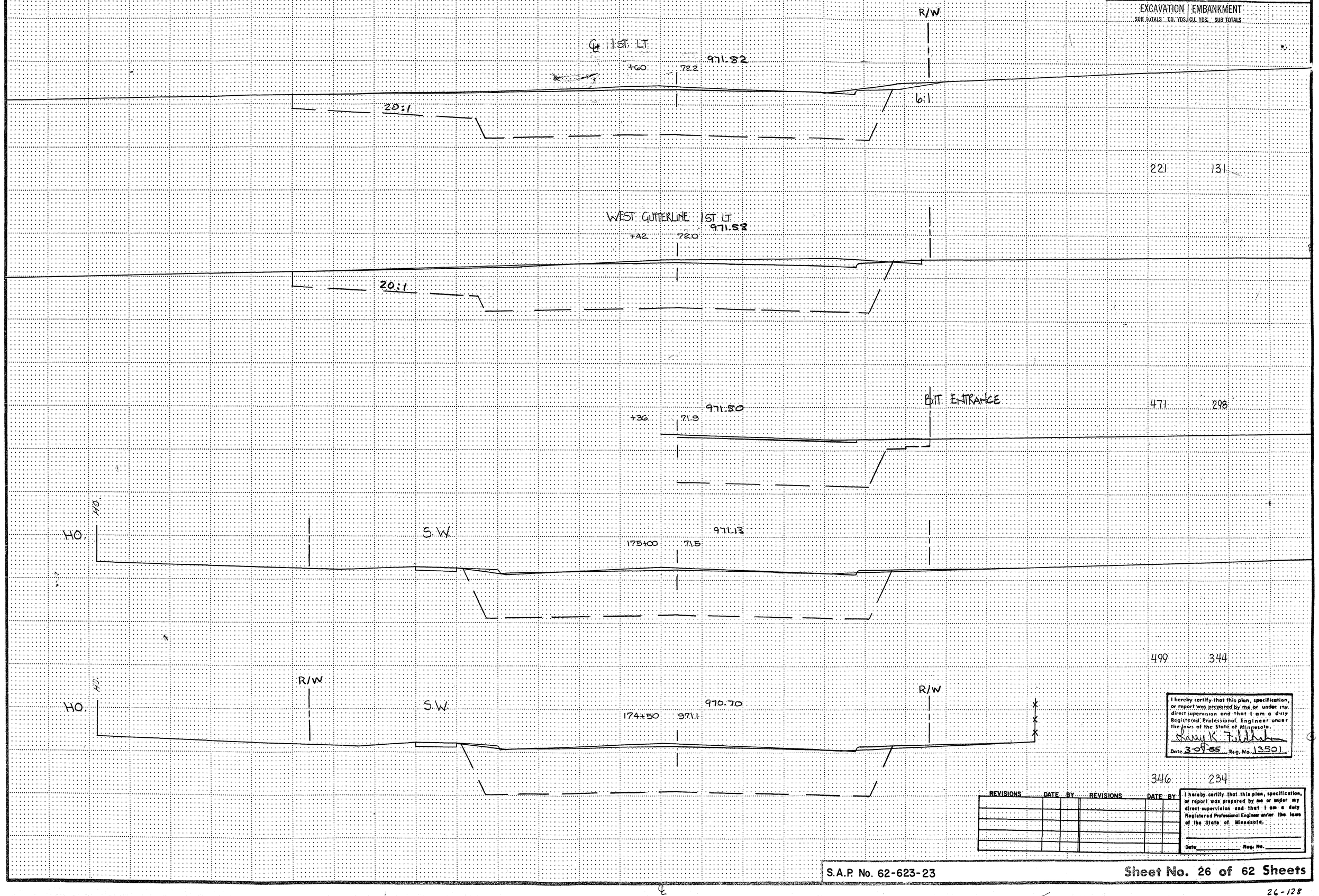
Sheet No. 25 of 62 Sheets

26-128

STATION–ELEVATION

Fed. Proj. No.

EXCAVATION SUB TOTALS	EXCAVATION CU. YDS.	EMBANKMENT CU. YDS.	EMBANKMENT SUB TOTALS



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

Larry K. Fullerton

Date 3-09-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

Sheet No. 26 of 62 Sheets

26-128

STATION–ELEVATION

Fed. Proj. No.

	EXCAVATION SUB-TOTALS CU. YDS.	EMBANKMENT CU. YDS. SUB-TOTALS
EAST GUTTERLINE 1ST ST. 976.07 +39 76.8		
R/W		
20:1		
R/W GRAVEL ENTRANCE S.W.	305	122
℄ GRAVEL ENT. LT. WEST-GUTTERLINE 1ST ST. 974.95 177+03 75.4		
20:1		
END 20:1 SUBCUT TAPER STA. 176+90	257	126
R/W CONC ENTRANCE S.W. HO.		
℄ CONC. ENT. LT. 974.04 +70 74.3		
BEGIN 20:1 SUBCUT TAPER STA. 176+50	676	463
R/W S.W.		
972.49 176+00 72.8		
5:1		
EAST GUTTERLINE 1ST LT. & ℄ BIT. ENT. RT. 972.01 175+72 72.3	313	199
R/W BIT. ENTRANCE		
20:1	147	88

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Lonny K Fiddler

Date 3-07-85 Reg. No. 13501

S.A.P No. 62-623-23

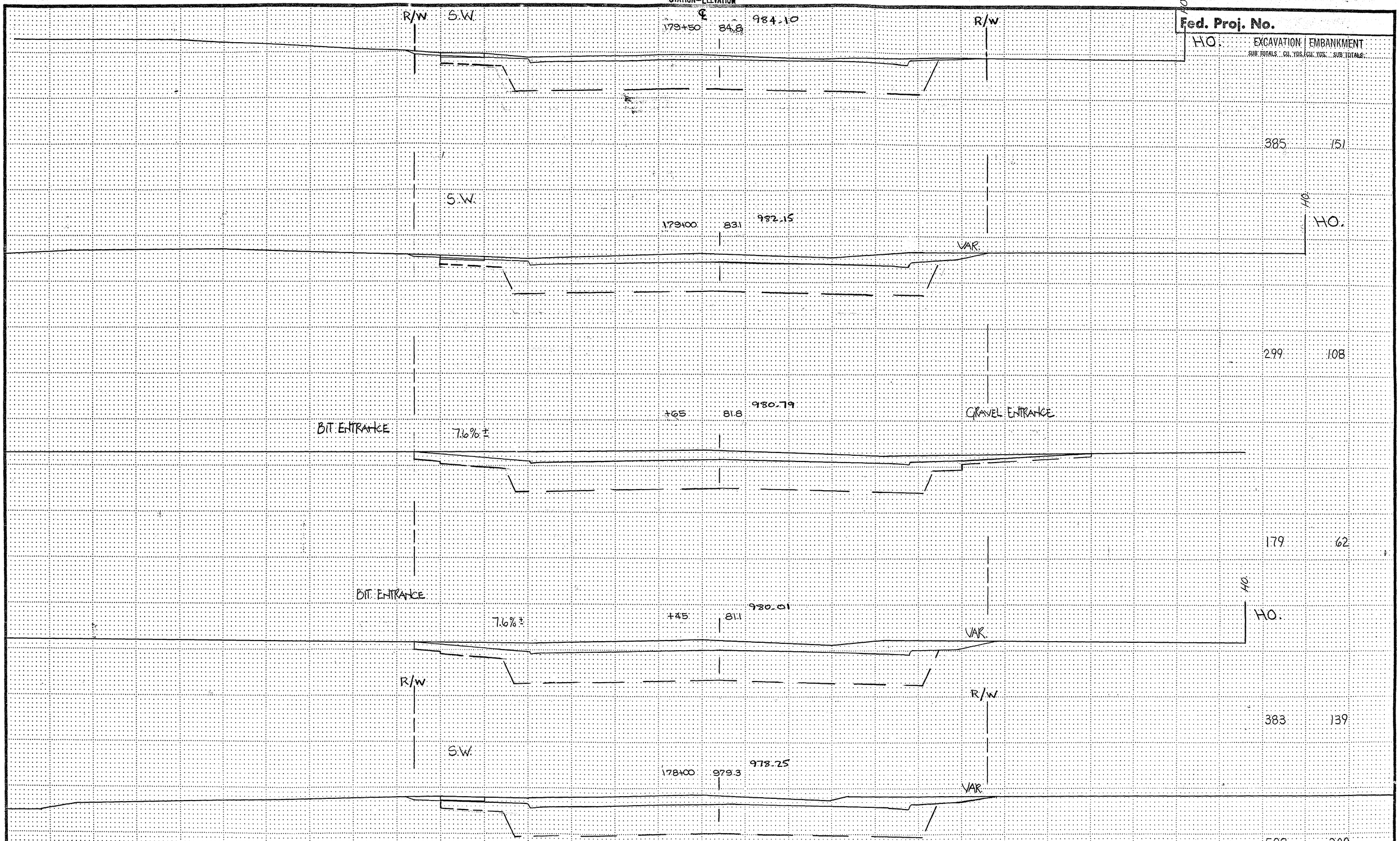
Sheet No. 27 of 62 Sheets

26-128

STATION—ELEVATION

Fed. Proj. No.

	EXCAVATION SUB TOTALS CU. YDS.	EMBANKMENT CU. YDS. SUB TOTALS
	385	151
	299	108
	179	62
	383	139
	508	200



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date 3-07-85 Reg. No. 13501

S.A.P. No. 62-623-23

Sheet No. 28 of 62 Sheets

℄

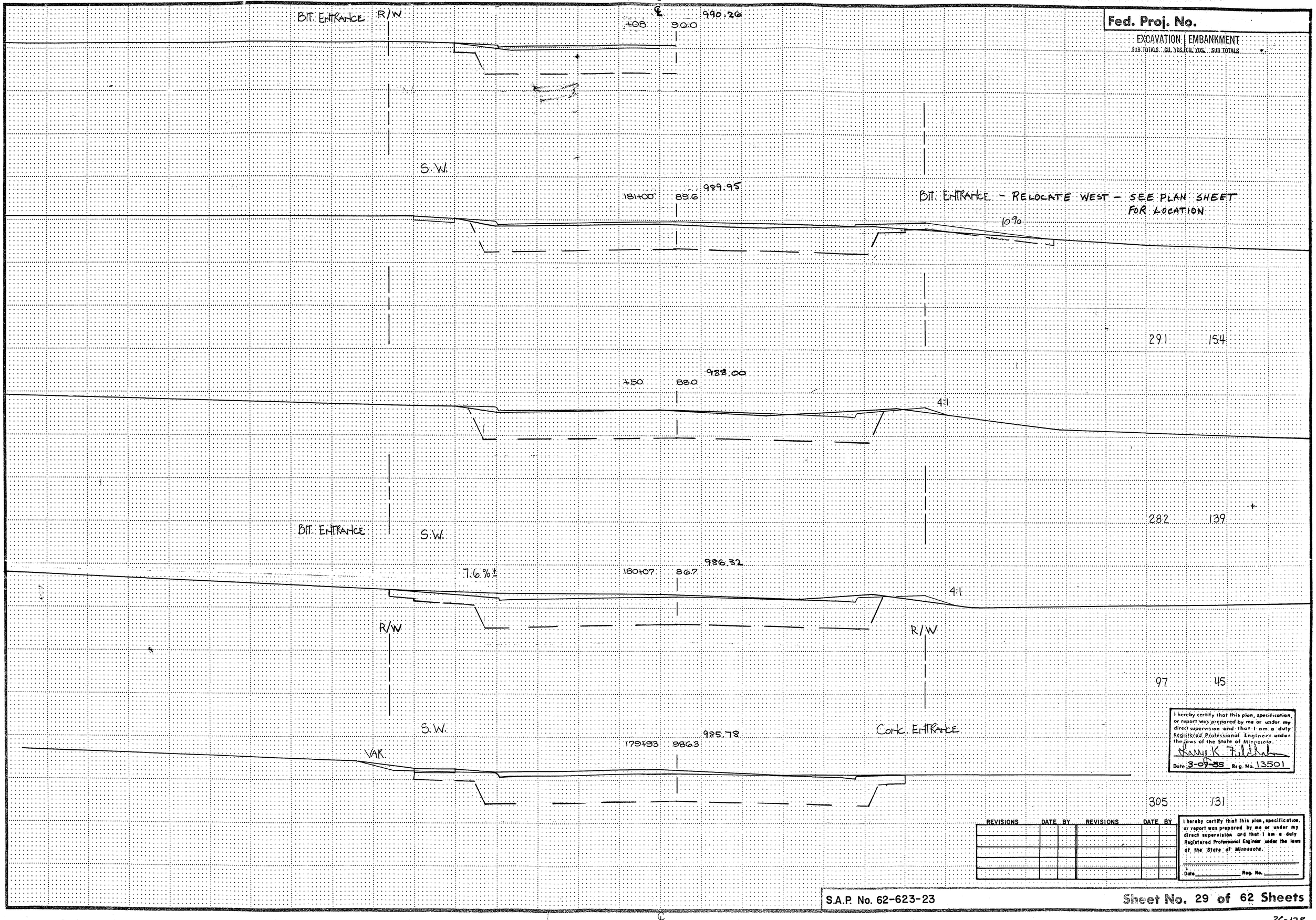
26-129

STATION–ELEVATION

Fed. Proj. No.

EXCAVATION | EMBANKMENT

SUB. TOTALS CU. YDS. | CU. YDS. SUB TOTALS



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

Date 3-09-95 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

Sheet No. 29 of 62 Sheets

26-128

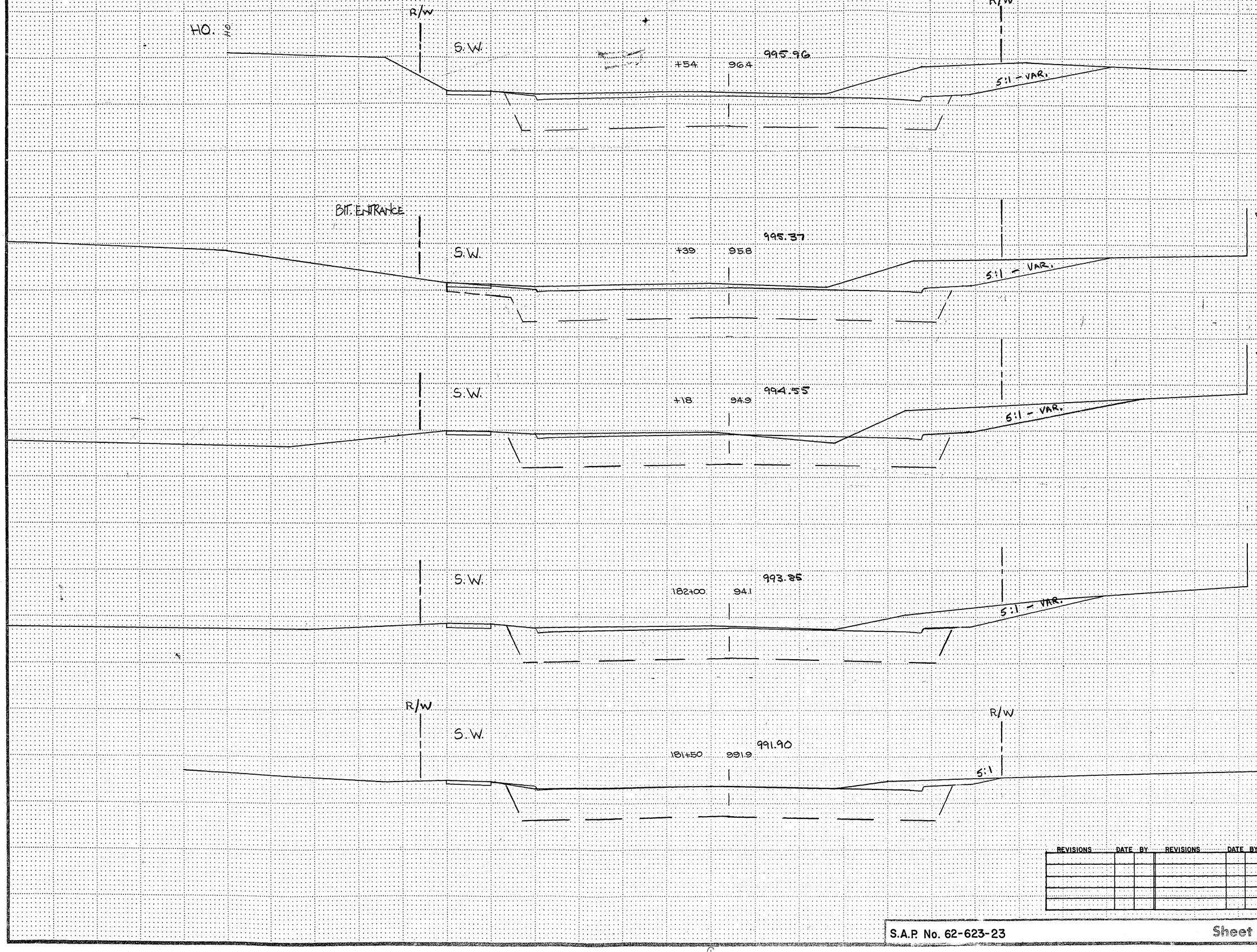
STATION–ELEVATION

℄

Fed. Proj. No.

EXCAVATION | EMBANKMENT

SUB TOTALS | CU. YDS. | CU. YDS. | SUB TOTALS



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

Date 3-09-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

Sheet No. 30 of 62 Sheets

℄

26-128

STATION ELEVATION

℄

EAST GUTTERLINE HELEN ST. RT. & LT.

1000.34

+91 1000.7

0.0 %

20:1

20:1

206 69

℄ HELEN ST.

999.96

+72 1000.4

0.0%

20:1

20:1

180 61

NOTE: SPECIAL GUTTER GRADES BETWEEN STA. 183+50± AND STA. 185+50± (SEE PLAN)

WEST GUTTERLINE HELEN ST. LT.

999.60

+57 1000.0

0.0 %

20:1

WEST GUTTERLINE HELEN ST. RT.

999.49

~~+58~~ 998

20:1

475 182

R/W

R/W

S.W.

VAR.

997.75

183+00 998.1

5:1 - VAR.

BLDG.

379 138

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date 3-07-85 Reg. No. 13501

Fed. Proj. No.

EXCAVATION SUB TOTALS CU. YDS.	EMBANKMENT CU. YDS. SUB TOTALS

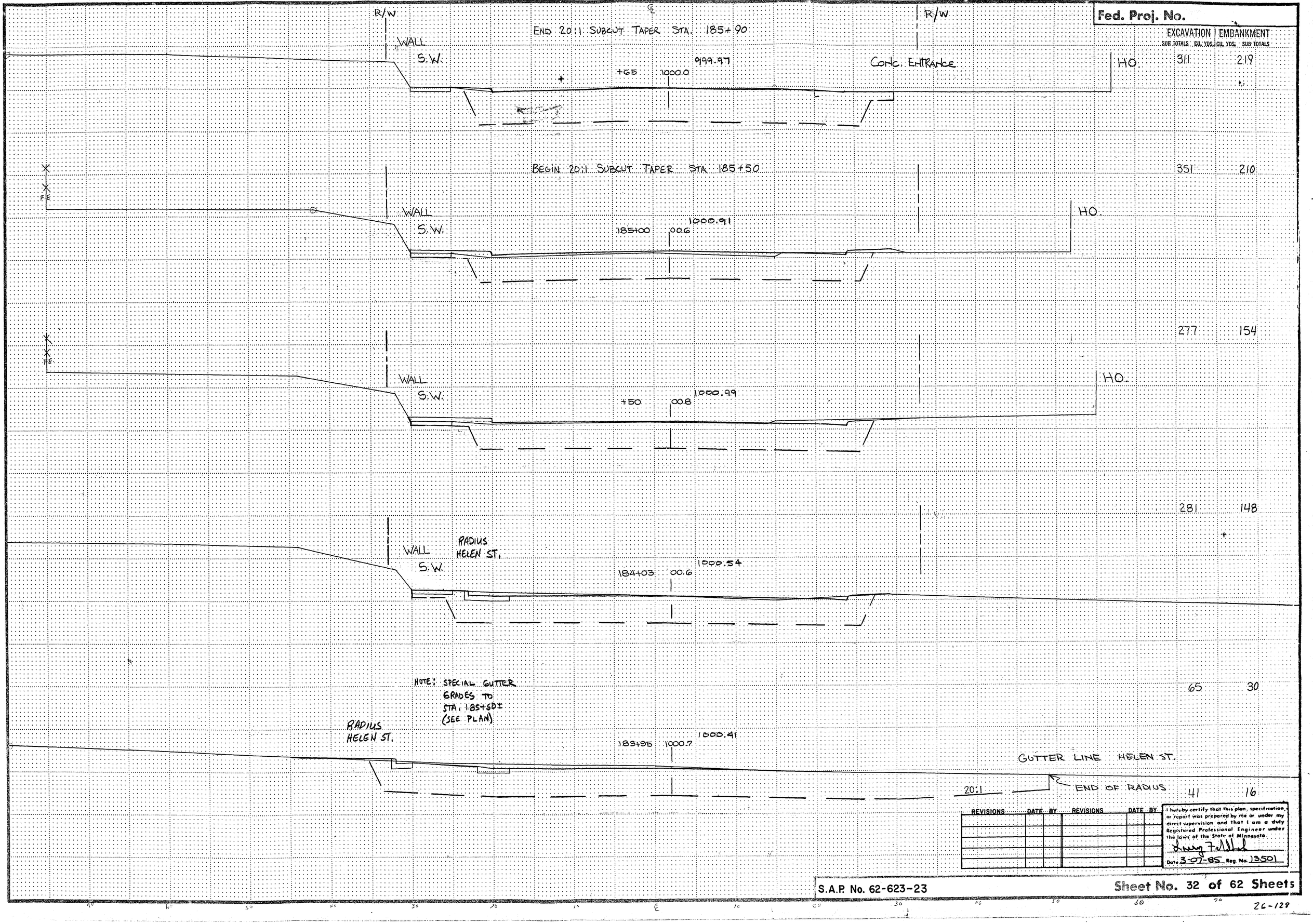
S.A.P. No. 62-623-23

Sheet No. 31 of 62 Sheets

℄

26-128

STATION–ELEVATION



Fed. Proj. No.

	EXCAVATION SUB TOTALS CU. YDS.	EMBANKMENT SUB TOTALS CU. YDS.
	311	219
	351	210
	277	154
	281	148
	65	30
	41	16

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date 3-07-85 Reg. No. 13501

S.A.P. No. 62-623-23

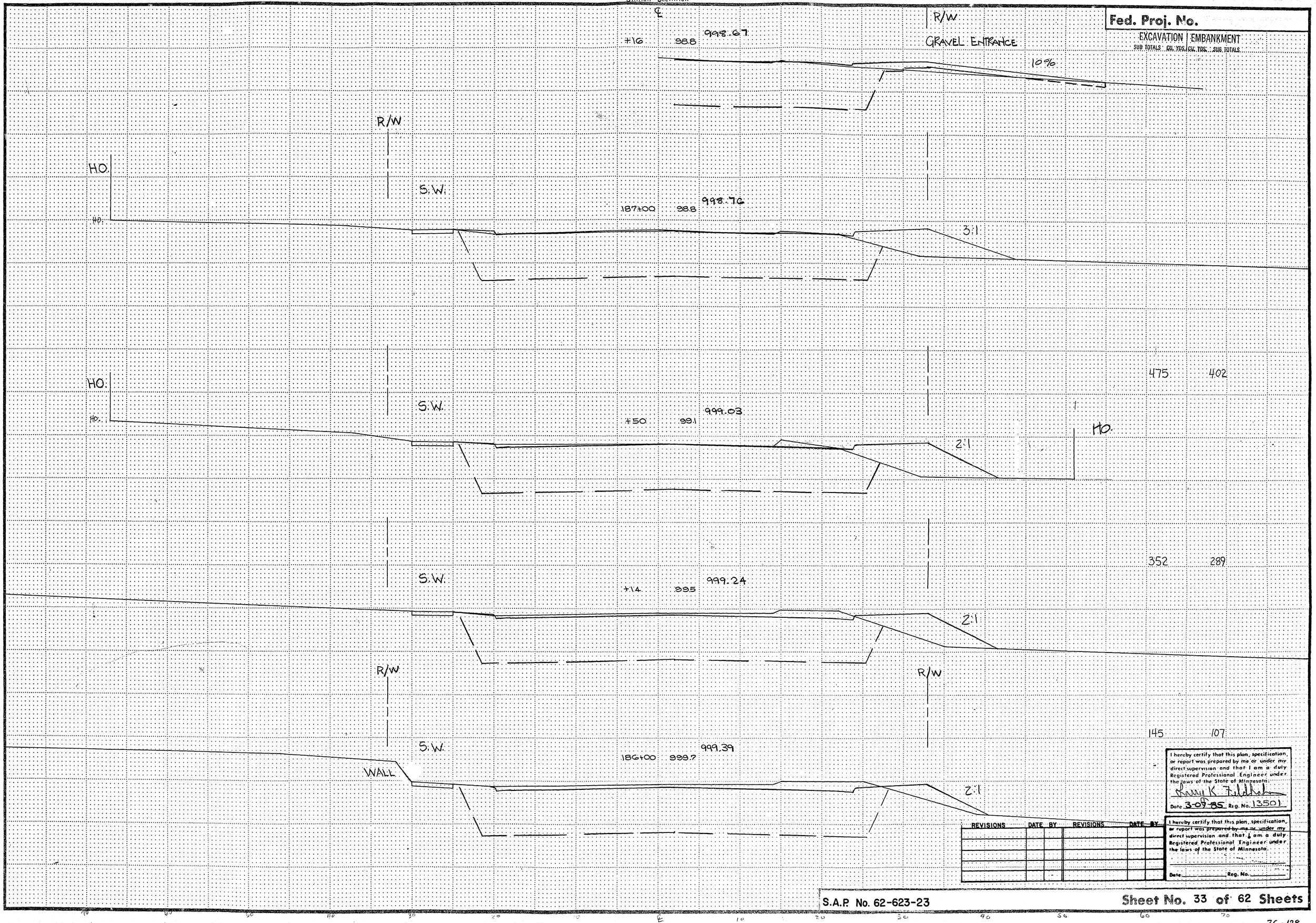
Sheet No. 32 of 62 Sheets

26-129

STATION–ELEVATION

Fed. Proj. No.

EXCAVATION | EMBANKMENT
SUB TOTALS CU. YDS. | CU. YDS. SUB TOTALS



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date 3-09-85 Reg. No. 13501

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

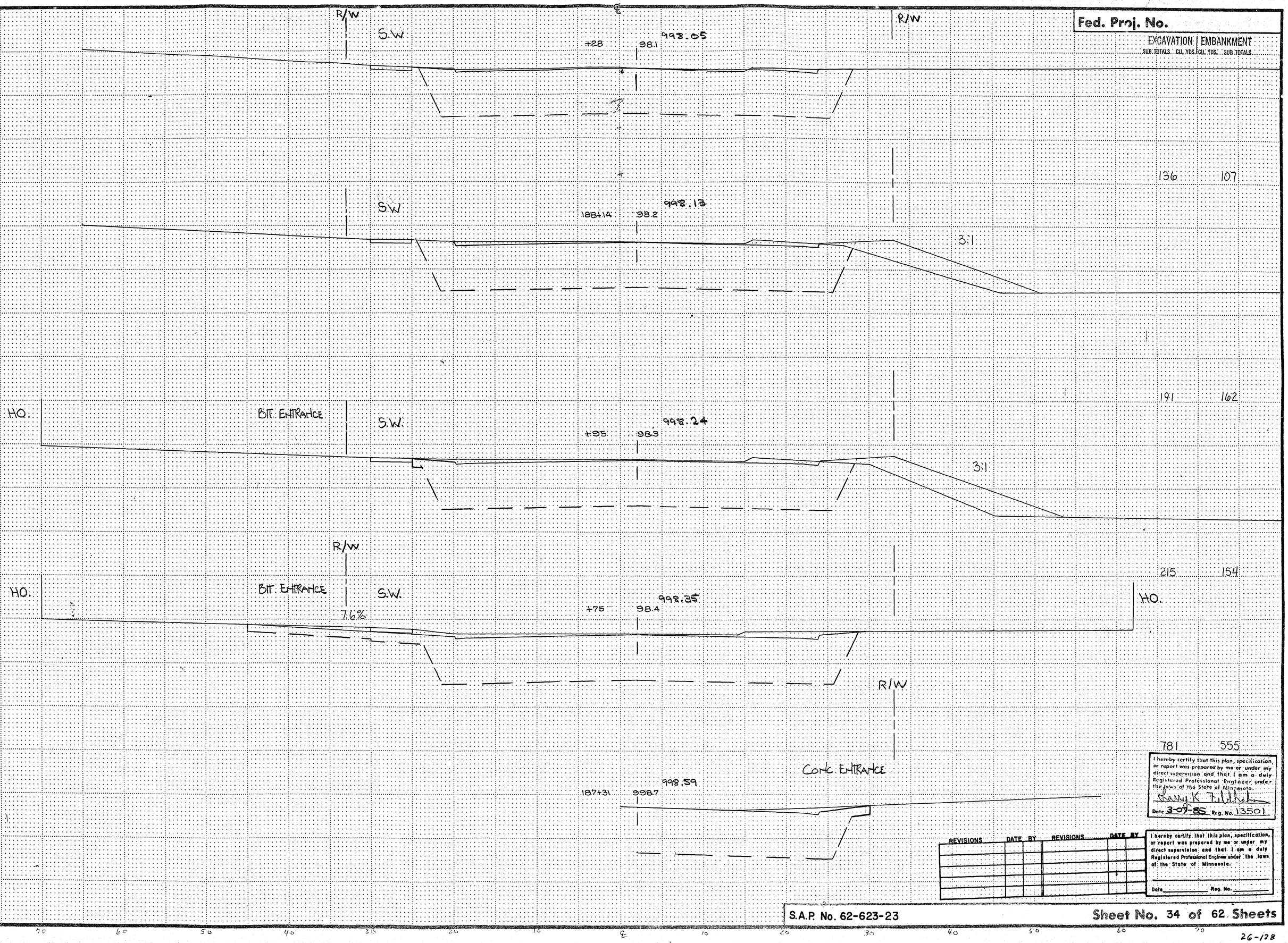
Sheet No. 33 of 62 Sheets

26-128

STATION–ELEVATION

Fed. Proj. No.

EXCAVATION | EMBANKMENT
SUB TOTALS | CU. YDS. | CU. YDS. | SUB TOTALS



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

Date 3-07-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

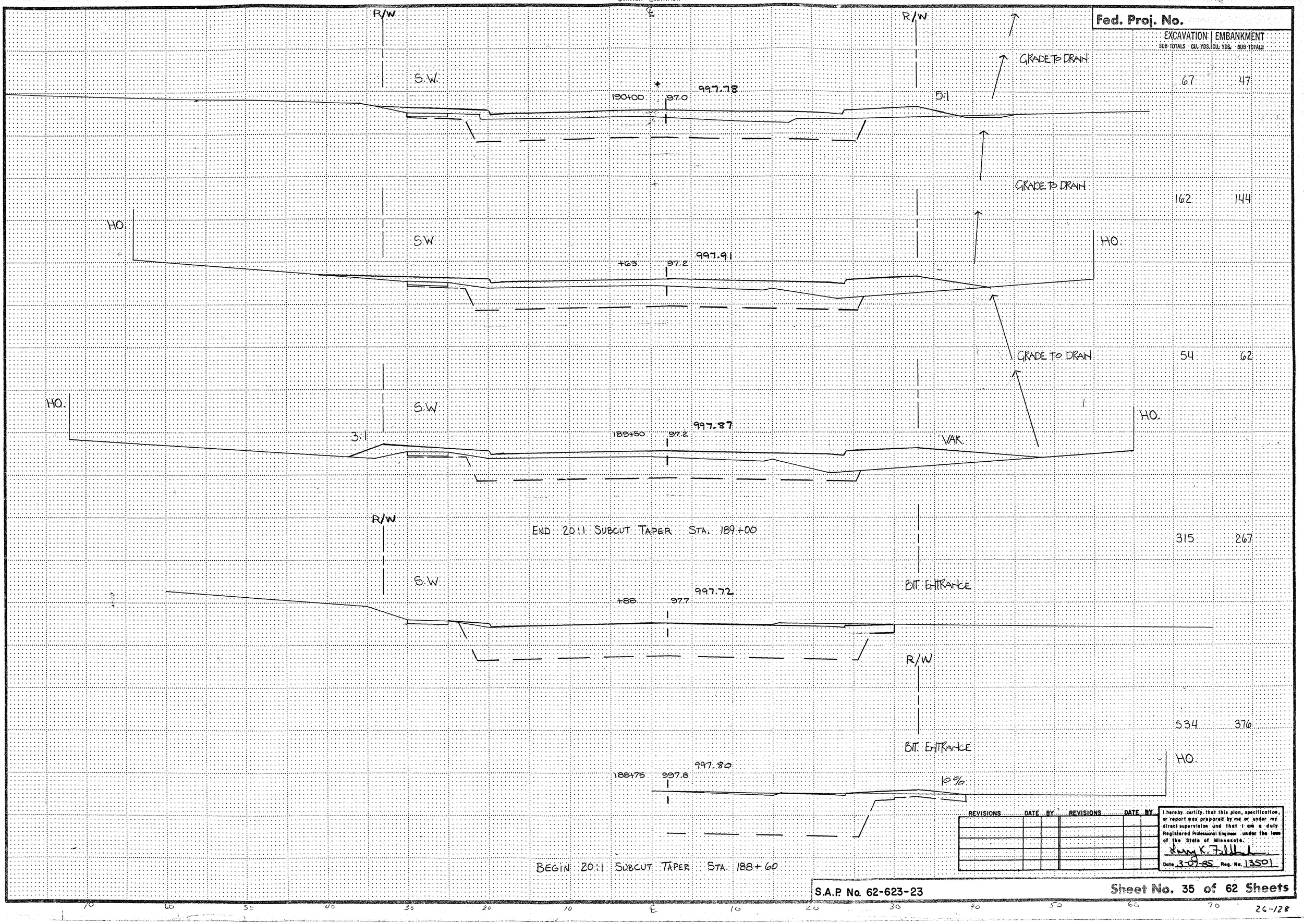
Sheet No. 34 of 62 Sheets

26-128

STATION—ELEVATION

Fed. Proj. No.

	EXCAVATION SUB-TOTALS CU. YDS.	EMBANKMENT SUB-TOTALS CU. YDS.
	67	47
	162	144
	54	62
	315	267
	534	376



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Fullhart

Date 3-07-85 Reg. No. 13501

S.A.P. No. 62-623-23

Sheet No. 35 of 62 Sheets

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70

26-128

STATION–ELEVATION

Fed. Proj. No.

EXCAVATION | EMBANKMENT
SUB TOTALS CU. YDS. | CU. YDS. SUB TOTALS

EAST GUTTERLINE MARGARET ST. RT.

996.63

+66 96.2

MATCH EXISTING

20:1

96.35 @ 100'

MATCH EXISTING

EAST GUTTERLINE MARGARET ST. LT.

996.70

+63 96.2

996.70

LP-1

98.73 @ 100'

20:1

289 126

MATCH EXISTING

℄ MARGARET ST.

997.16

+43 96.7

4.69 %

997.16

0.0 %

0.73 %

MATCH EXISTING

99.4 @ 100'

20:1

96.69 @ 100'

MATCH EXISTING

WEST GUTTERLINE MARGARET ST. LT.

997.51

+23 96.8

4.69 %

996.50

98.84 @ 100'

20:1

297 127

WEST GUTTERLINE MARGARET ST. RT.

997.53

+22 96.8

996.53

MATCH EXISTING

20:1

96.16 @ 100'

90 44

← Conc. S.W. →

997.65

PED RAMP

190+13 997.0

← Conc. S.W. →

PED RAMP

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Fiddick

Date 3-0-85 Reg. No. 13501

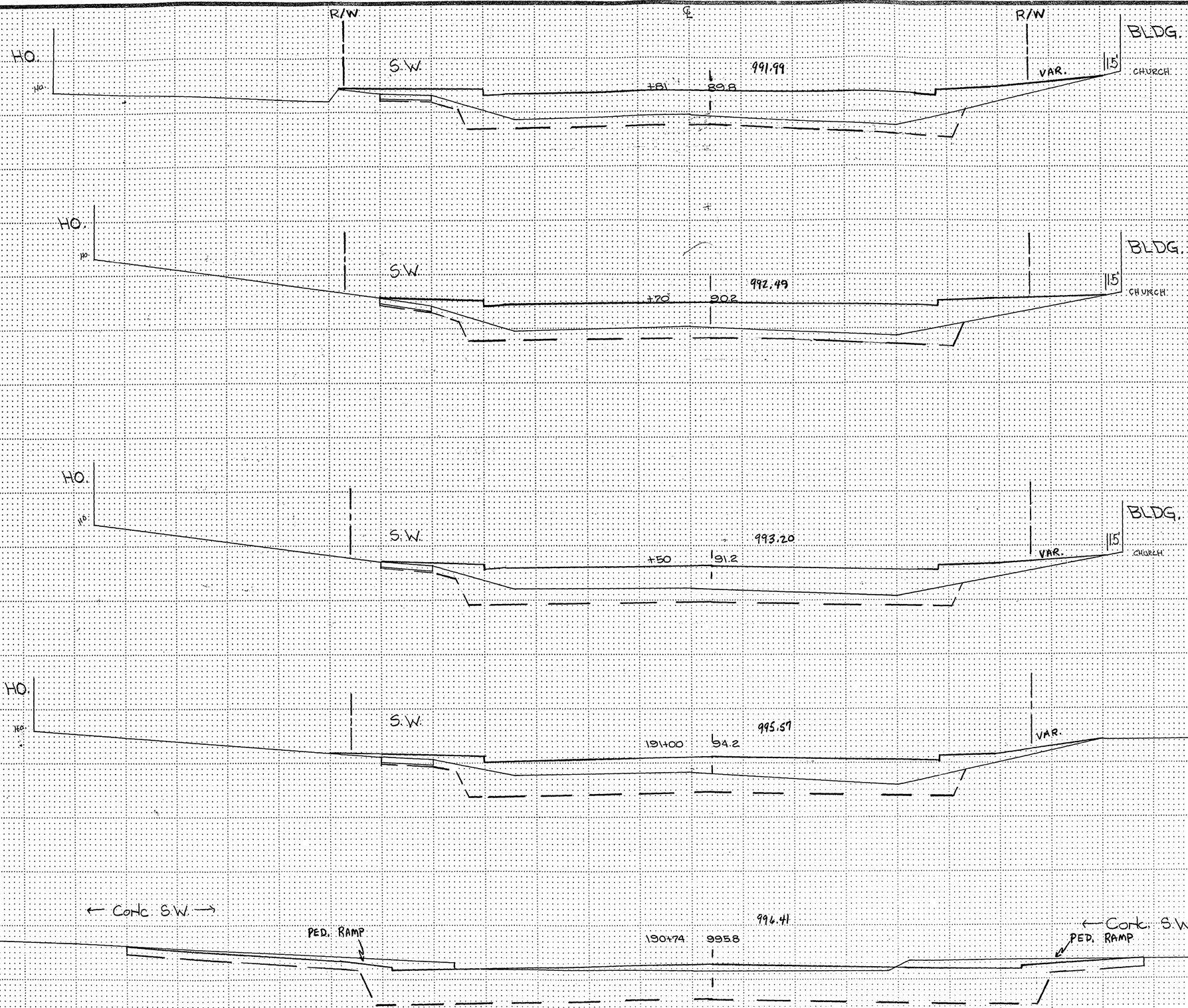
S.A.P. No. 62-623-23

Sheet No. 36 of 62 Sheets

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70

26-128

STATION—ELEVATION



Fed. Proj. No.

EXCAVATION SUB TOTALS CU. YDS.	EMBANKMENT SUB TOTALS CU. YDS.
18	41
44	69
139	165
159	95
114	50

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Harry K Fillebrown
Date 3-07-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date _____ Reg. No. _____

S.A.P. No. 62-623-23

Sheet No. 37 of 62 Sheets

26-128

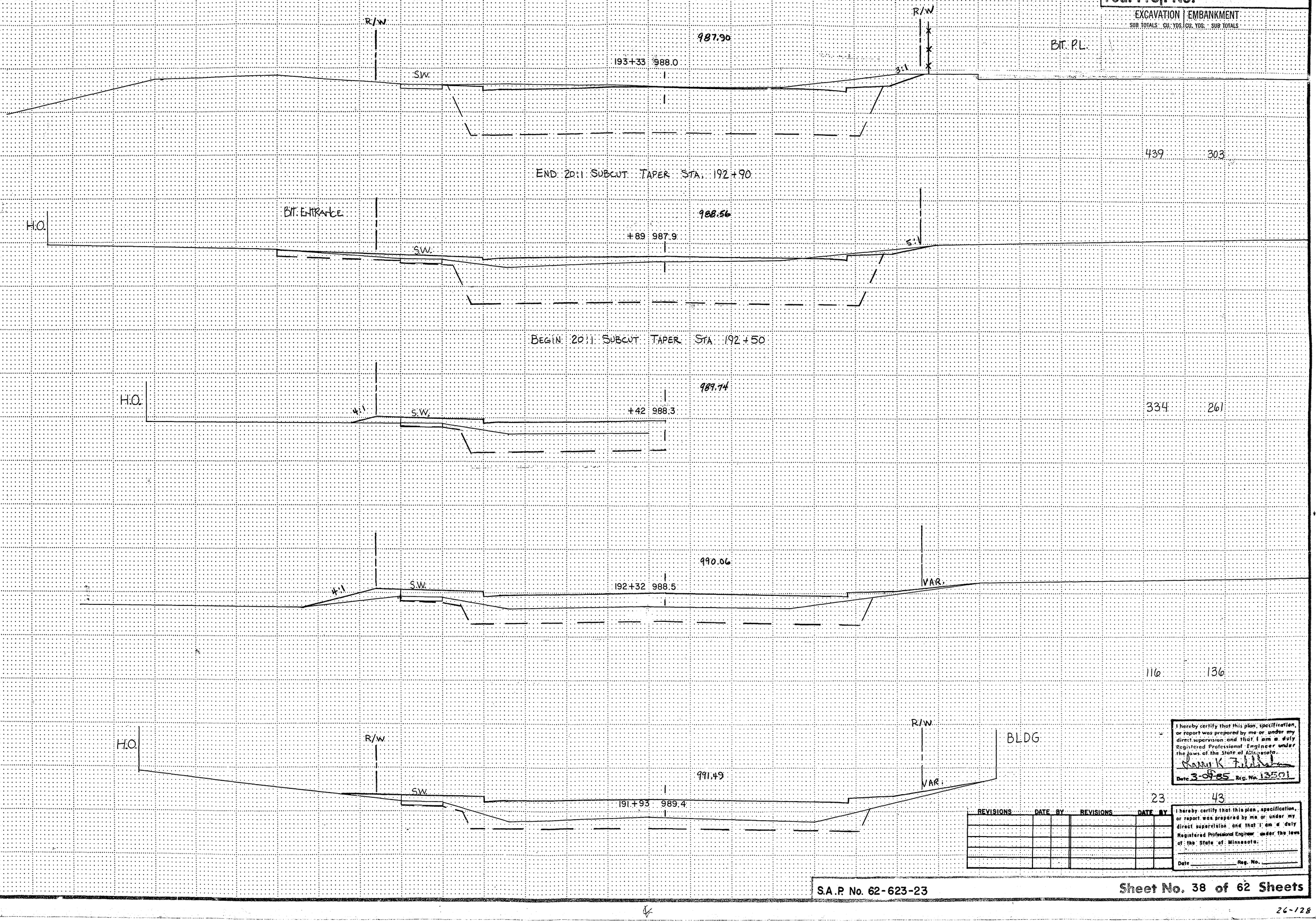
STATION–ELEVATION

℄

Fed. Proj. No.

EXCAVATION | EMBANKMENT

SUB TOTALS CU. YDS. CU. YDS. SUB TOTALS



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

DANNY K. [illegible]

Date 3-05-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

Sheet No. 38 of 62 Sheets

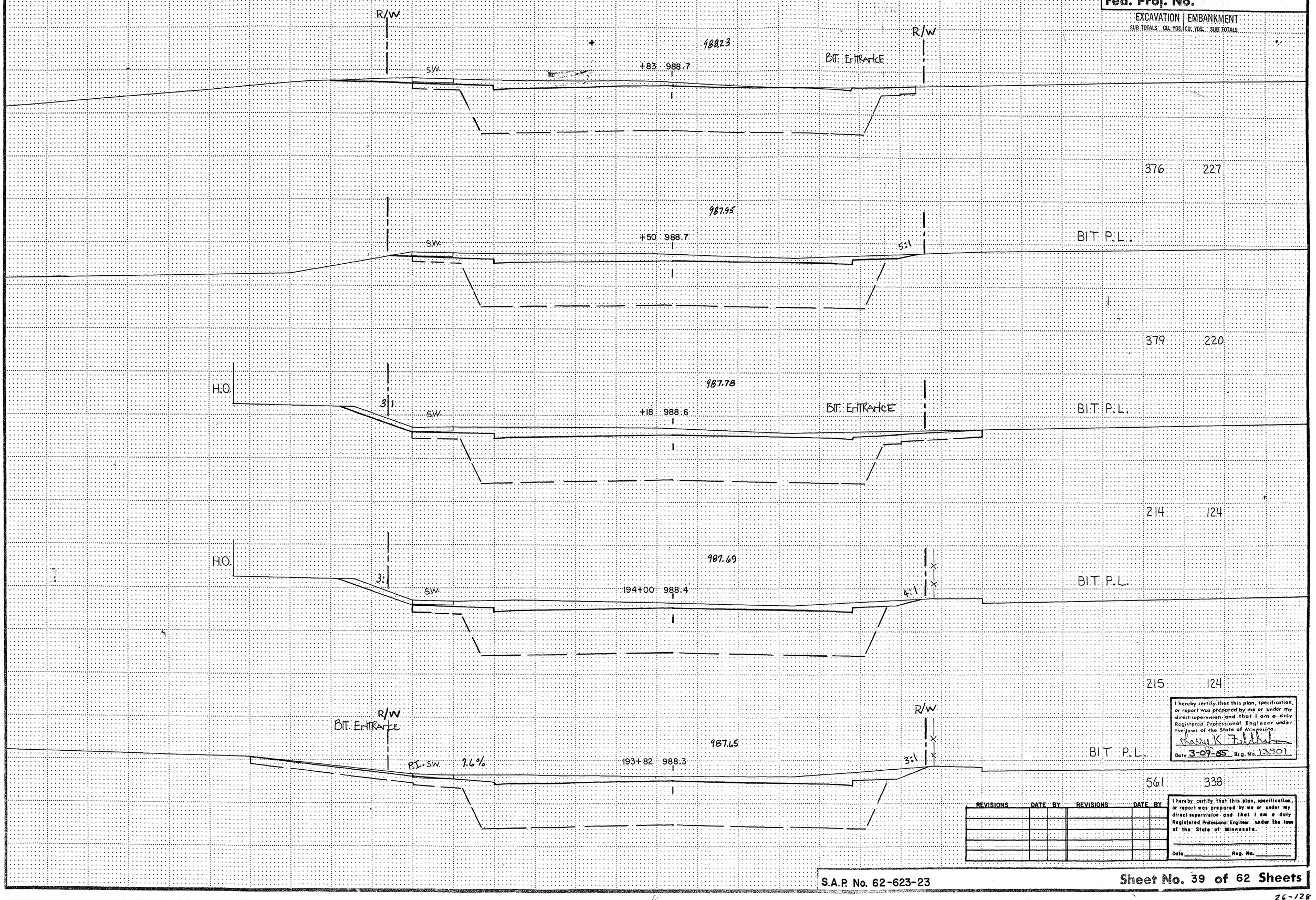
26-128

STATION–ELEVATION

℄

Fed. Proj. No.

	EXCAVATION SUB TOTALS CU. YDS.	EMBANKMENT CU. YDS. SUB TOTALS
	376	227
	379	220
	214	124
	215	124
	561	338



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

RANDY K FILLMAN

Date 3-09-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

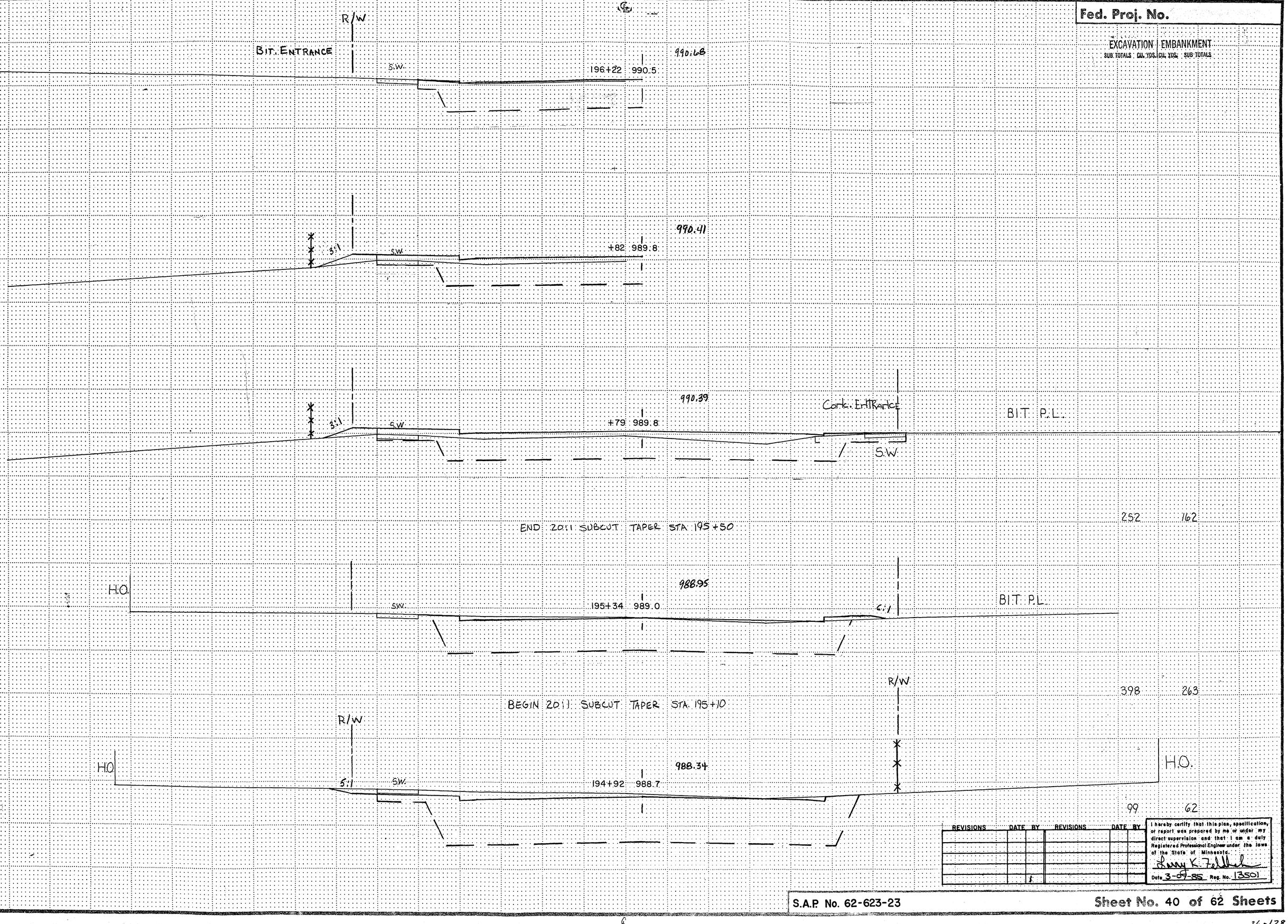
Sheet No. 39 of 62 Sheets

26-128

STATION—ELEVATION

Fed. Proj. No.

EXCAVATION | EMBANKMENT
SUB TOTALS | CU. YDS. | CU. YDS. | SUB TOTALS



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Feldhaus

Date 3-09-85 Reg. No. 13501

S.A.P. No. 62-623-23

Sheet No. 40 of 62 Sheets

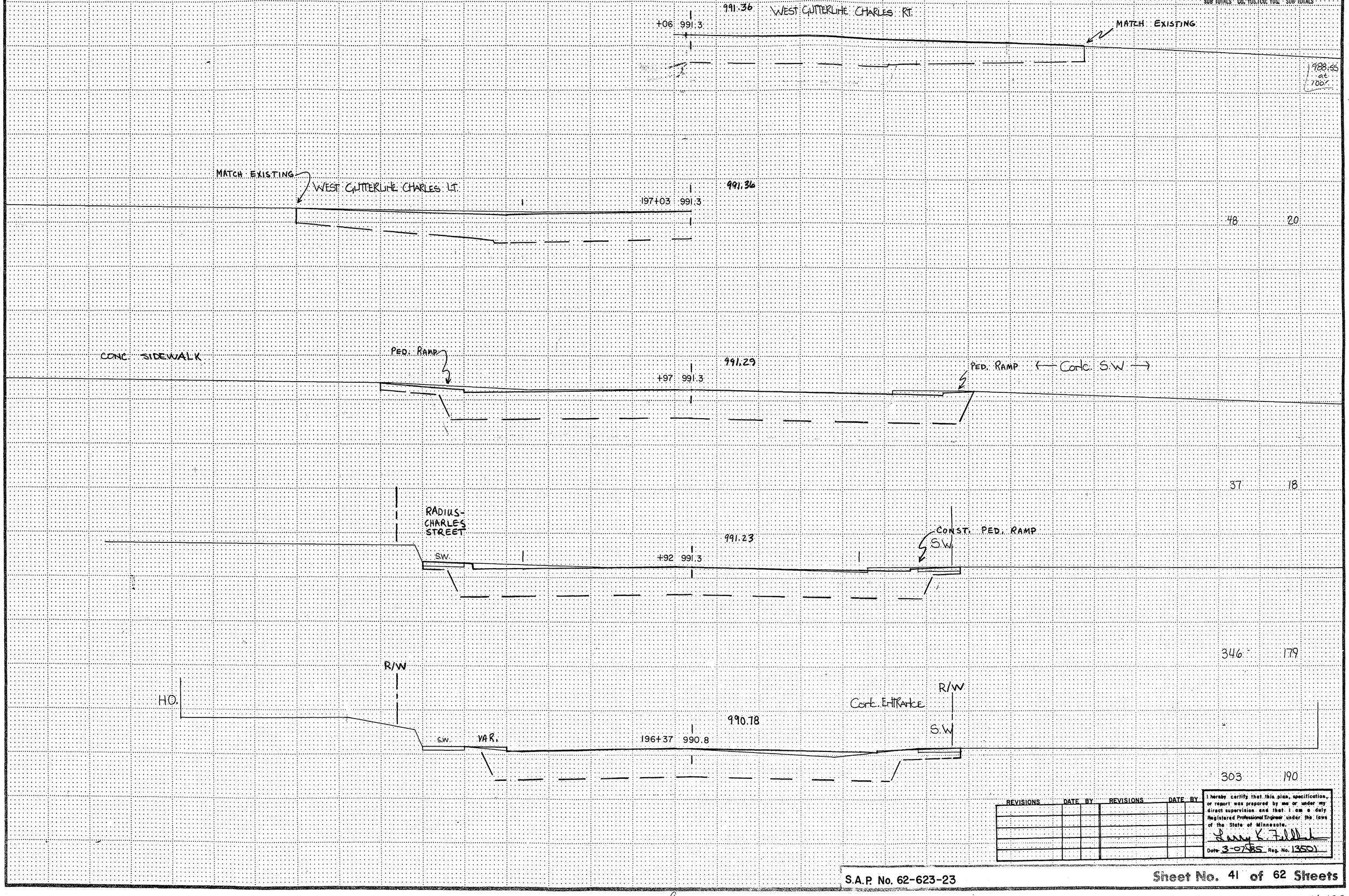
26-128

STATION–ELEVATION

℄

Fed. Proj. No.

EXCAVATION SUB TOTALS CU. YDS.	EMBANKMENT SUB TOTALS CU. YDS.



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Fiddler

Date 3-07-85 Reg. No. 13501

S.A.P. No. 62-623-23

Sheet No. 41 of 62 Sheets

℄

26-128

STATION–ELEVATION

℄

Fed. Proj. No.

EXCAVATION | EMBANKMENT
SUB-TOTALS CU. YDS. | CU. YDS. SUB-TOTALS

H.O.

R/W

S.W. VAR.

991.99

+73 991.7

3:1

R/W

H.O.

187 89

RADIUS CHARLES

GRAVEL ENTRANCE (CLOSE)

991.78

+48 991.5

20:1

93 41

991.72

EAST GUTTERLINE CHARLES RT.

+41 991.4

20:1

988.2 at 100'

EAST GUTTERLINE CHARLES LT.

991.69

+38 991.4

992.2 at 100'

20:1

157 65

℄ CHARLES RT. & LT.

MATCH EXISTING

CONST. "V" GUTTER

991.53

197+19 991.3

MATCH EXISTING

993.0 at 100'

20:1

20:1

153 66

988.7 at 100'

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

Larry K. Talbitzer

Date 3-07-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

Sheet No. 42 of 62 Sheets

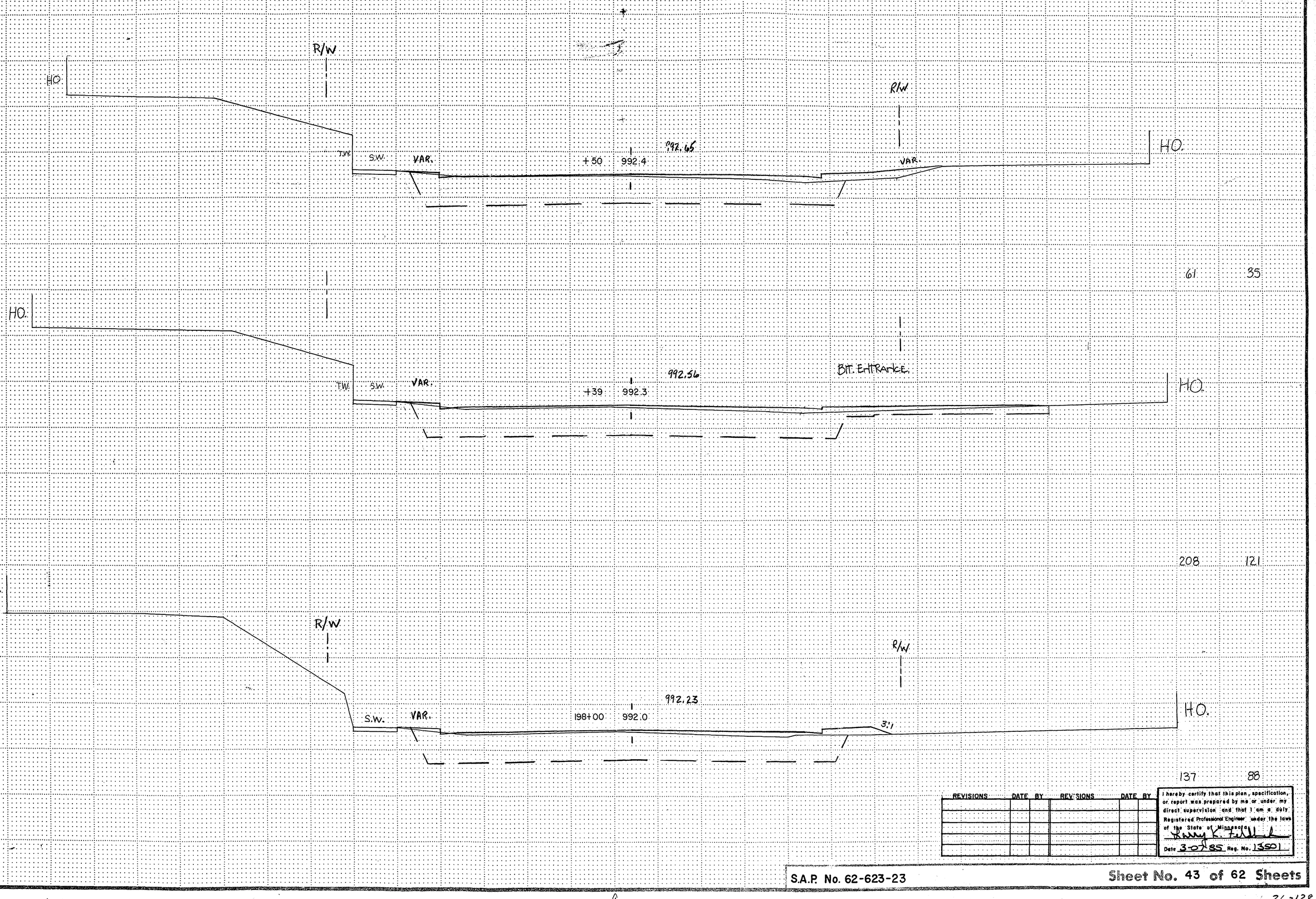
℄

26-128

STATION–ELEVATION

Fed. Proj. No.

EXCAVATION | EMBANKMENT
SUB TOTALS | CU. YDS. | CU. YDS. | SUB TOTALS



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date 3-07-85 Reg. No. 13501

S.A.P. No. 62-623-23

Sheet No. 43 of 62 Sheets

26-128

STATION–ELEVATION

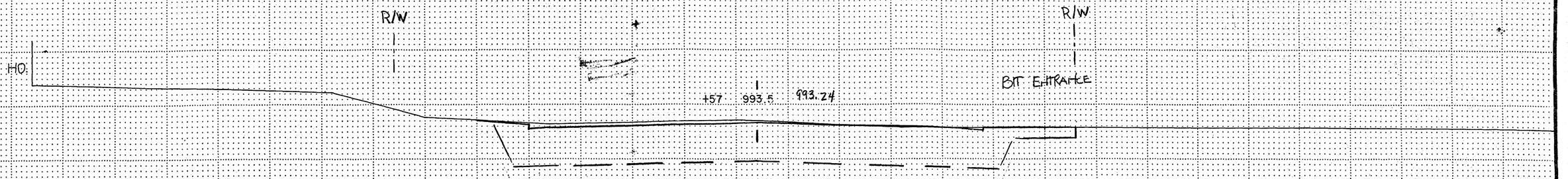
Fed. Proj. No.

EXCAVATION | EMBANKMENT

SUB TOTALS CU. YDS. | CU. YDS. SUB TOTALS

℄

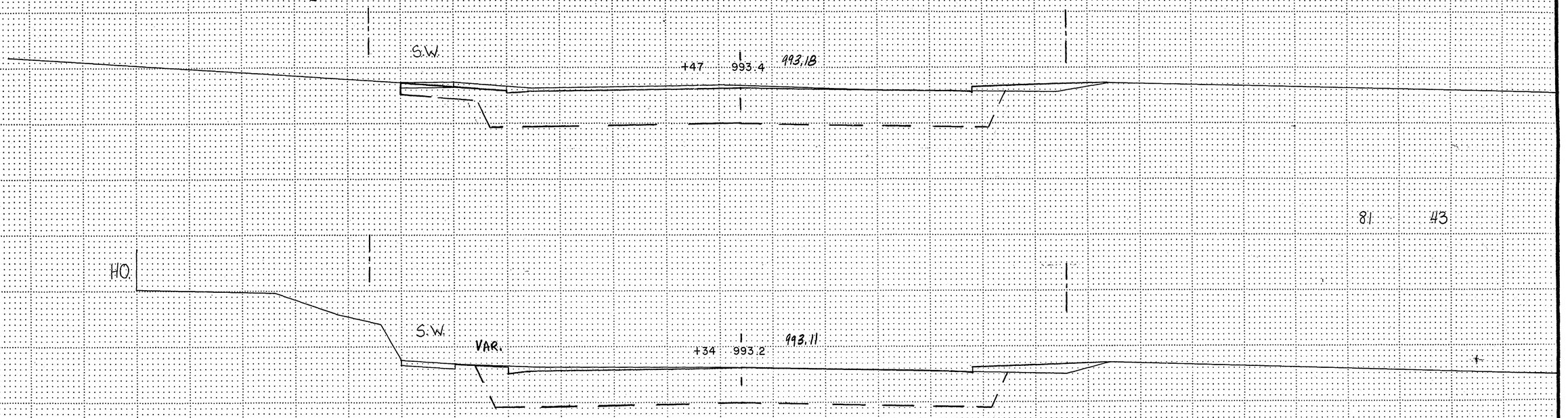
END 20:1 SUBCUT TAPER STA. 199+90



BEGIN 20:1 SUBCUT TAPER STA. 199+50

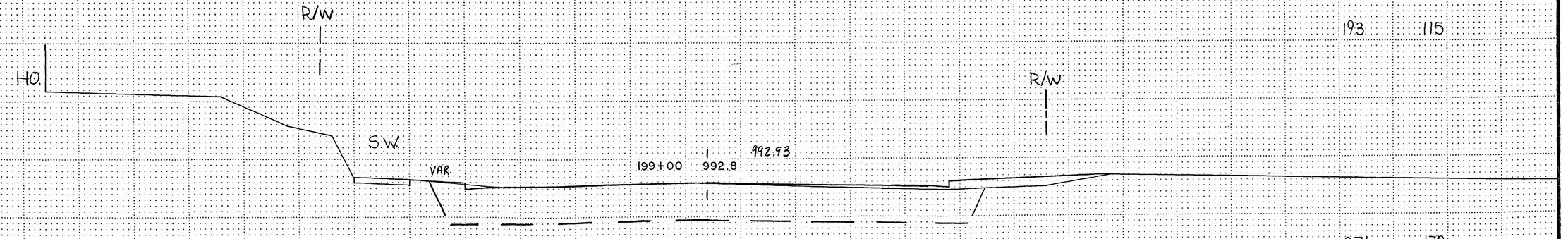
67 33

℄ GRAVEL ENTRANCE



81 43

193 115



271 170

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date 3-07-85 Reg. No. 13501

S.A.P. No. 62-623-23

Sheet No. 44 of 62 Sheets

℄

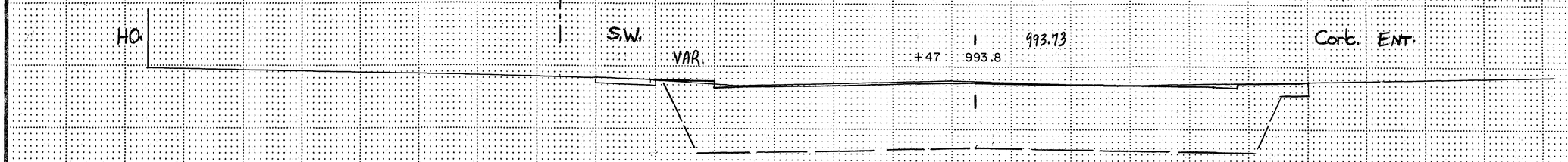
26-128

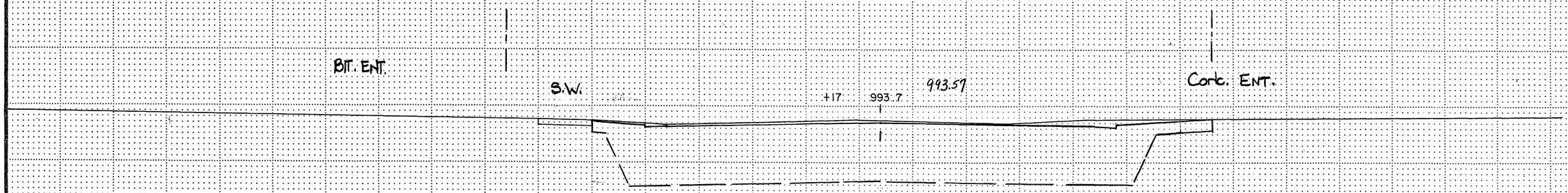
STATION—ELEVATION

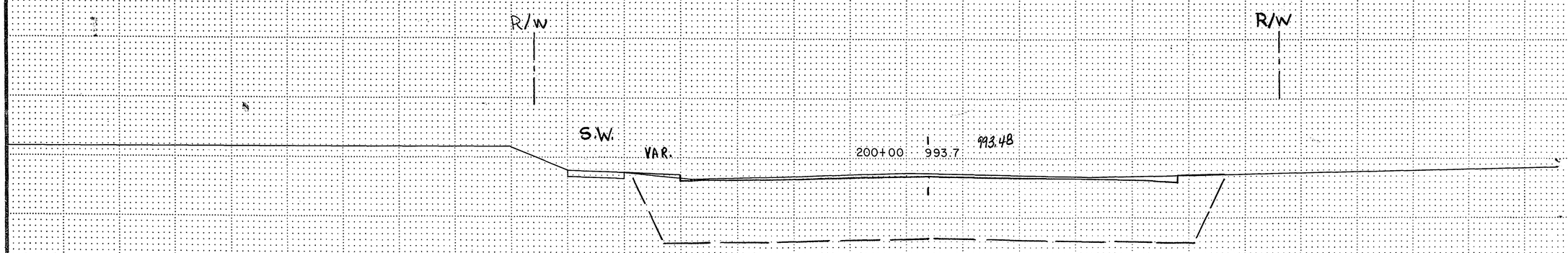
℄

Fed. Proj. No.

EXCAVATION SUB TOTALS CU. YDS.	EMBANKMENT CU. YDS. SUB TOTALS
307	202
171	116
372	240







REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Fellbaum

Date 3-07-85 Reg. No. 13501

S.A.P. No. 62-623-23

Sheet No. 45 of 62 Sheets

℄

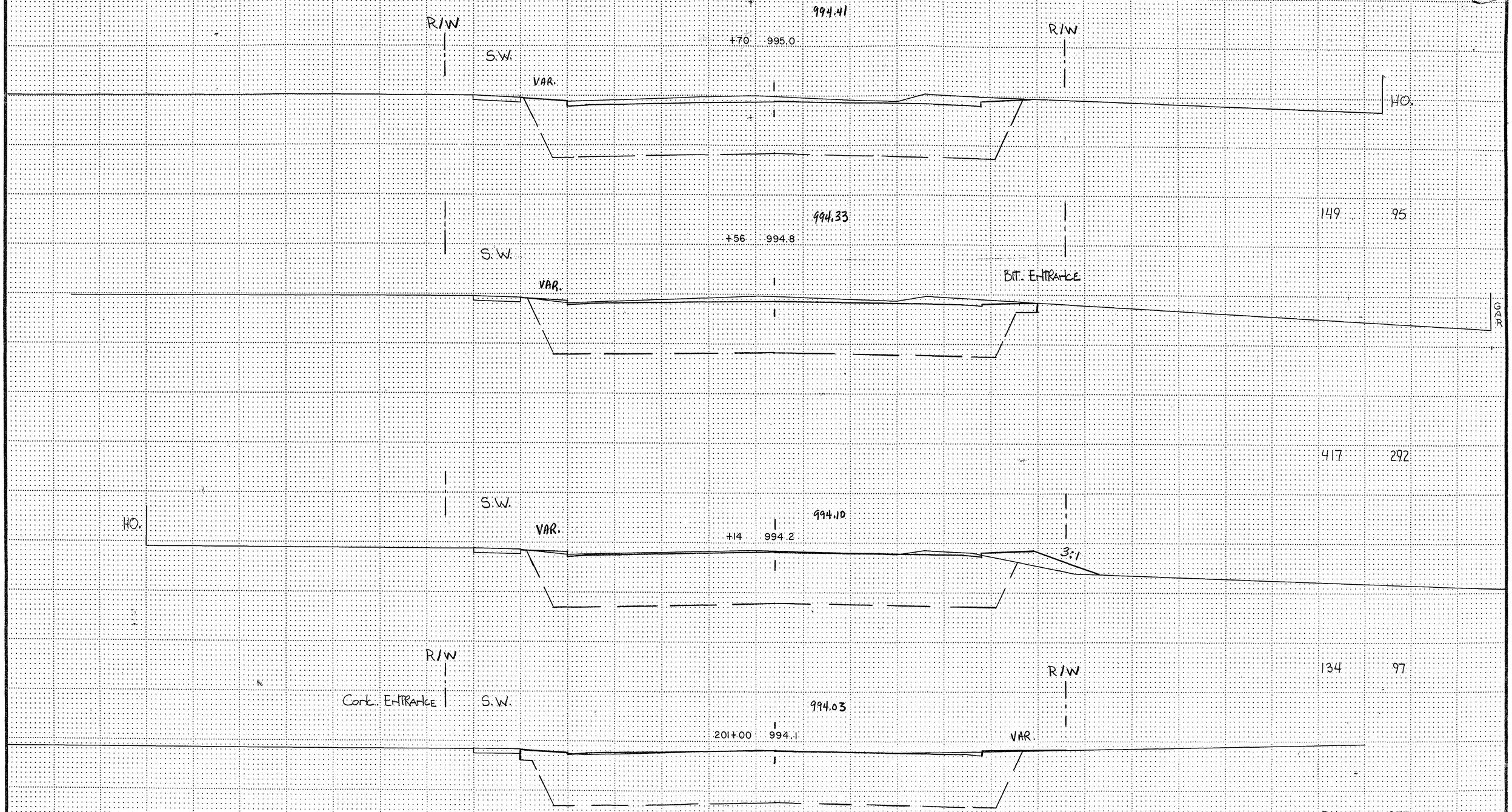
26-128

STATION–ELEVATION

℄

Fed. Proj. No.

	EXCAVATION SUB TOTALS CU. YDS.	EMBANKMENT SUB TOTALS CU. YDS.
	149	95
	417	292
	134	97
	516	357



REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date 3-07-85 Reg. No. 13501

S.A.P. No. 62-623-23

Sheet No. 46 of 62 Sheets

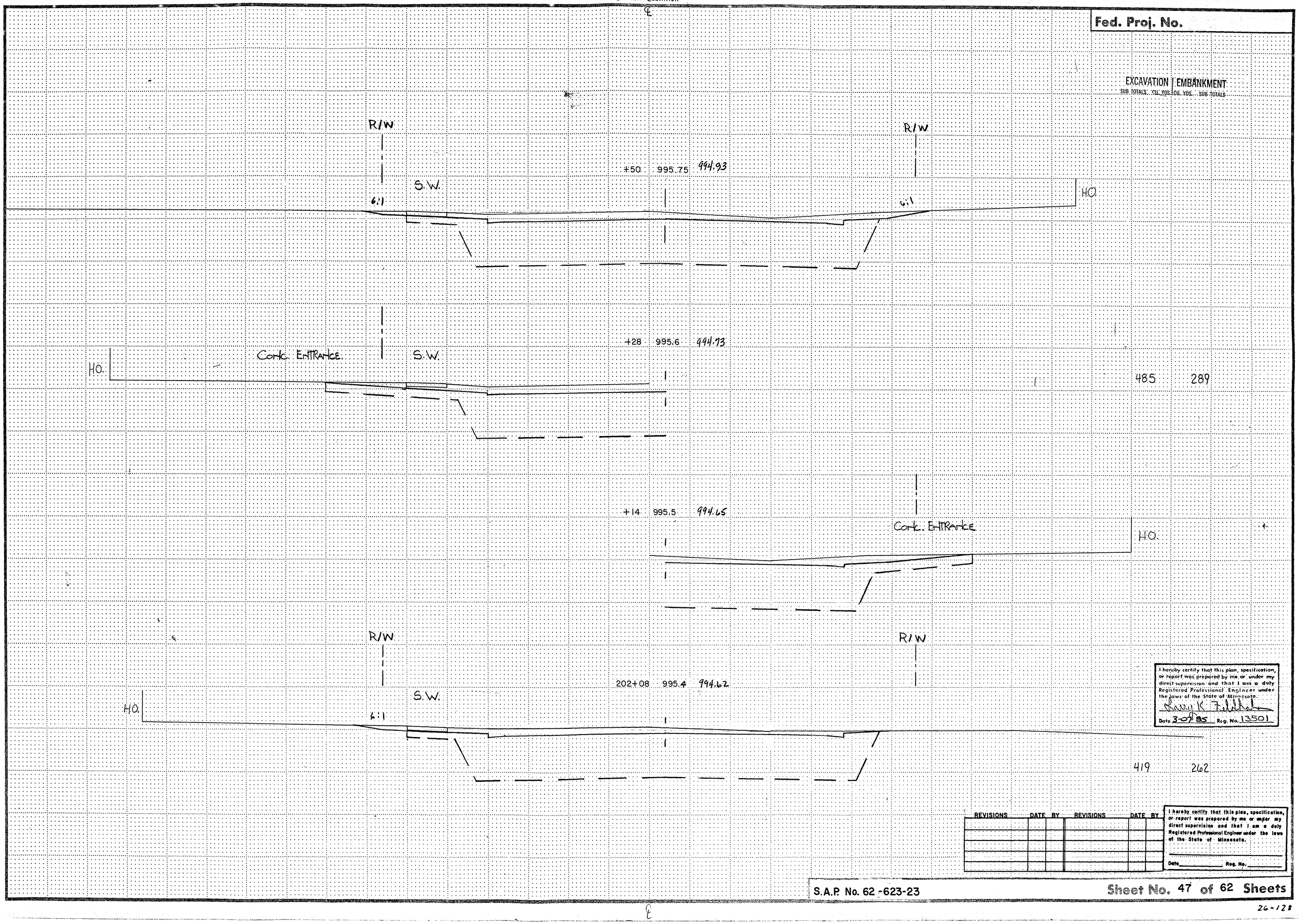
℄

26-128

STATION—ELEVATION

Fed. Proj. No.

EXCAVATION | EMBANKMENT
SUB TOTALS CU. YDS. | CU. YDS. SUB TOTALS



I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 3-07-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date _____ Reg. No. _____

S.A.P. No. 62-623-23

Sheet No. 47 of 62 Sheets

26-128

STATION–ELEVATION

℄

Fed. Proj. No.

EXCAVATION SUB TOTALS CU. YDS.	EMBANKMENT CU. YDS. SUB TOTALS
163	73
236	117
658	373
559	344

996.96

+83 997.0

EAST GUTTERLINE HENRY RT & LT.

MATCH EXISTING

20:1

20:1

MATCH EXISTING

996.6 @ 100'

996.8 @ 105'

996.86

+70 997.0

℄ HENRY

996.9 @ 100'

20:1

20:1

996.4 @ 100'

BEGIN 20:1 SUBCUT TAPER STA. 203+60

996.68

+53 996.9

WEST GUTTERLINE HENRY RT. & LT.

996.5 @ 90'

20:1

20:1

995.84 @ 100'

995.78

203+00 996.3

H.O.

S.W. VAR.

H.O.

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Fullerton

Date 3-07-85 Reg. No. 13501

S.A.P. No. 62-623-23

Sheet No. 48 of 62 Sheets

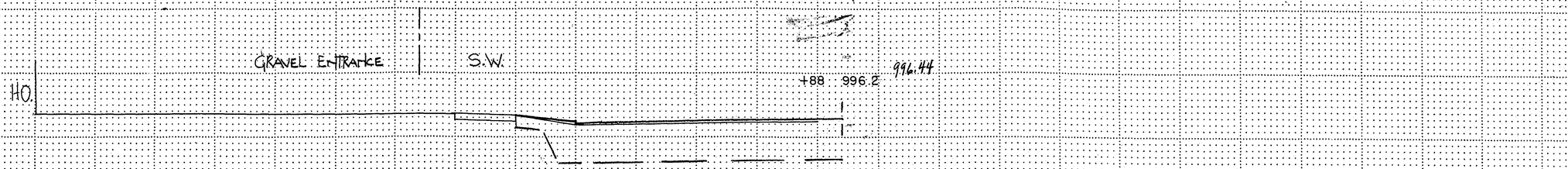
℄

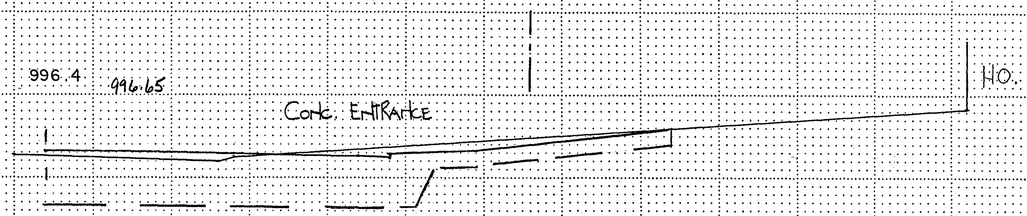
26-128

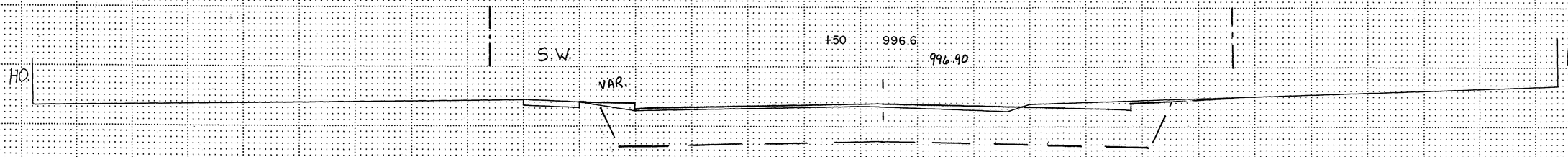
STATION–ELEVATION

Fed. Proj. No.

EXCAVATION | EMBANKMENT
SUB TOTALS CU. YDS. | CU. YDS. SUB TOTALS

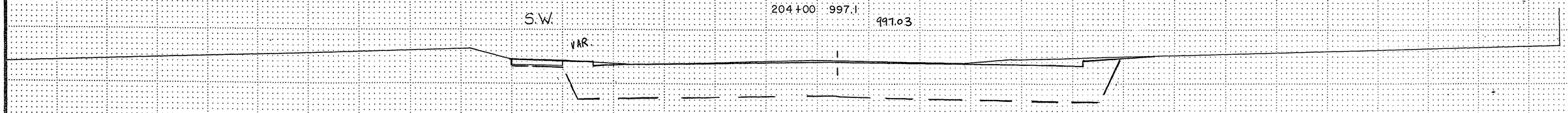






314 147

END 20:1 SUBCUT TAPER STA. 204+00



162 68

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Larry K. Fiebiger
Date 3-07-85 Reg. No. 13501

S.A.P. No. 62-623-23

Sheet No. 49 of 62 Sheets

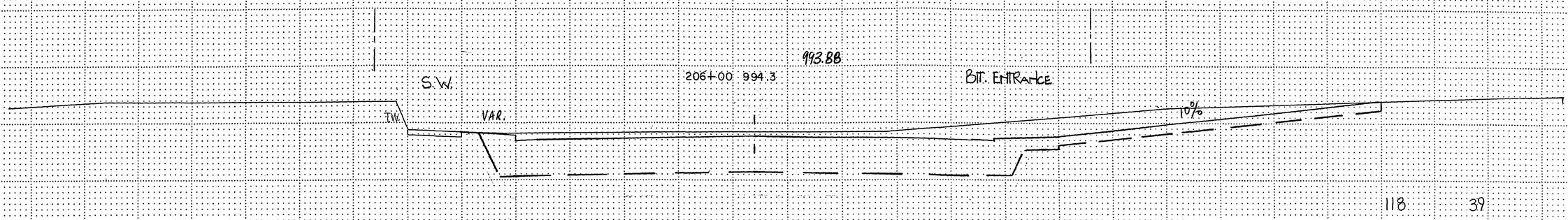
26-128

STATION–ELEVATION

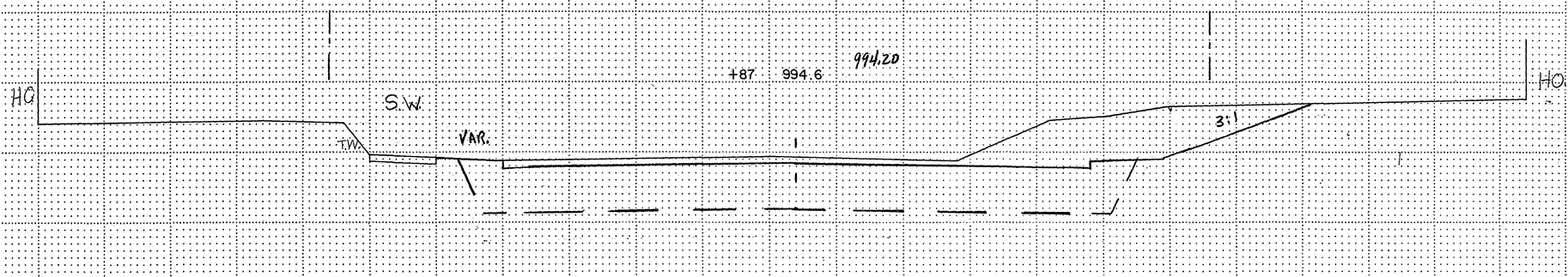
℄

Fed. Proj. No.

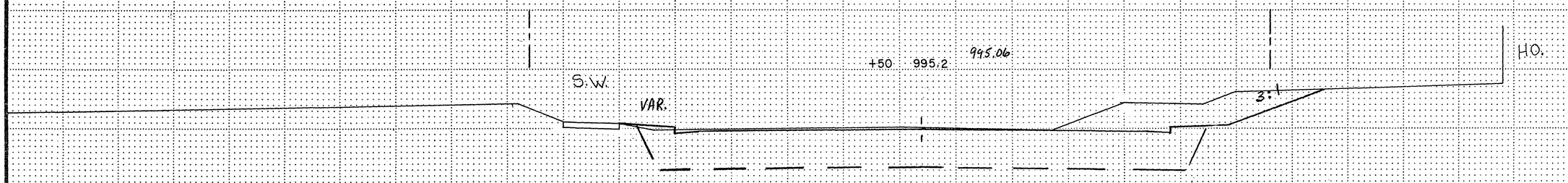
	EXCAVATION SUB TOTALS CU. YDS.	EMBANKMENT CU. YDS. SUB TOTALS



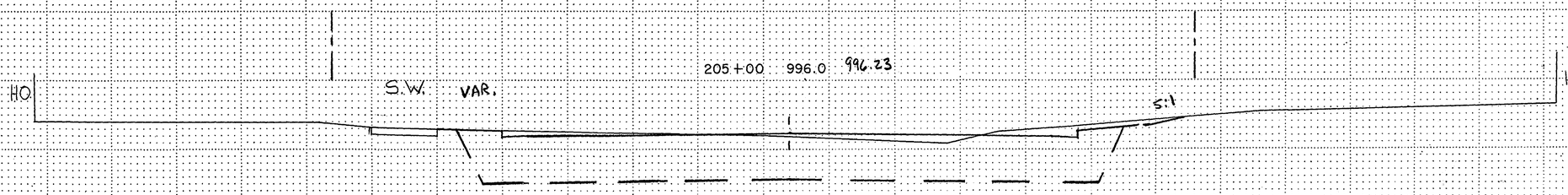
118 39



303 113



338 152



290 153

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Fiddick

Date 3-07-85 Reg. No. 13501

S.A.P. No. 62-623-23

Sheet No. 50 of 62 Sheets

℄

26-128

STATION–ELEVATION

Fed. Proj. No.

	EXCAVATION SUB TOTALS CU. YDS.	EMBANKMENT CU. YDS.	EMBANKMENT SUB TOTALS
992.46 +59 992.9 BIT. ENTRANCE HO.			
BEGIN 20:1 SUBCUT TAPER STA. 206+50			
R/W 992.77 +46 993.2 S.W. VAR. 3:1	121	51	
	263	95	
993.52 +15 994.01 S.W. VAR. 3:1	76	27	
R/W 993.74 206+06 994.2 HO. BIT. ENTRANCE S.W. 3:1	52	18	

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Fiddler

Date 3-07-85 Reg. No. 13501

S.A.P. No. 62-623-23

Sheet No. 51 of 62 Sheets

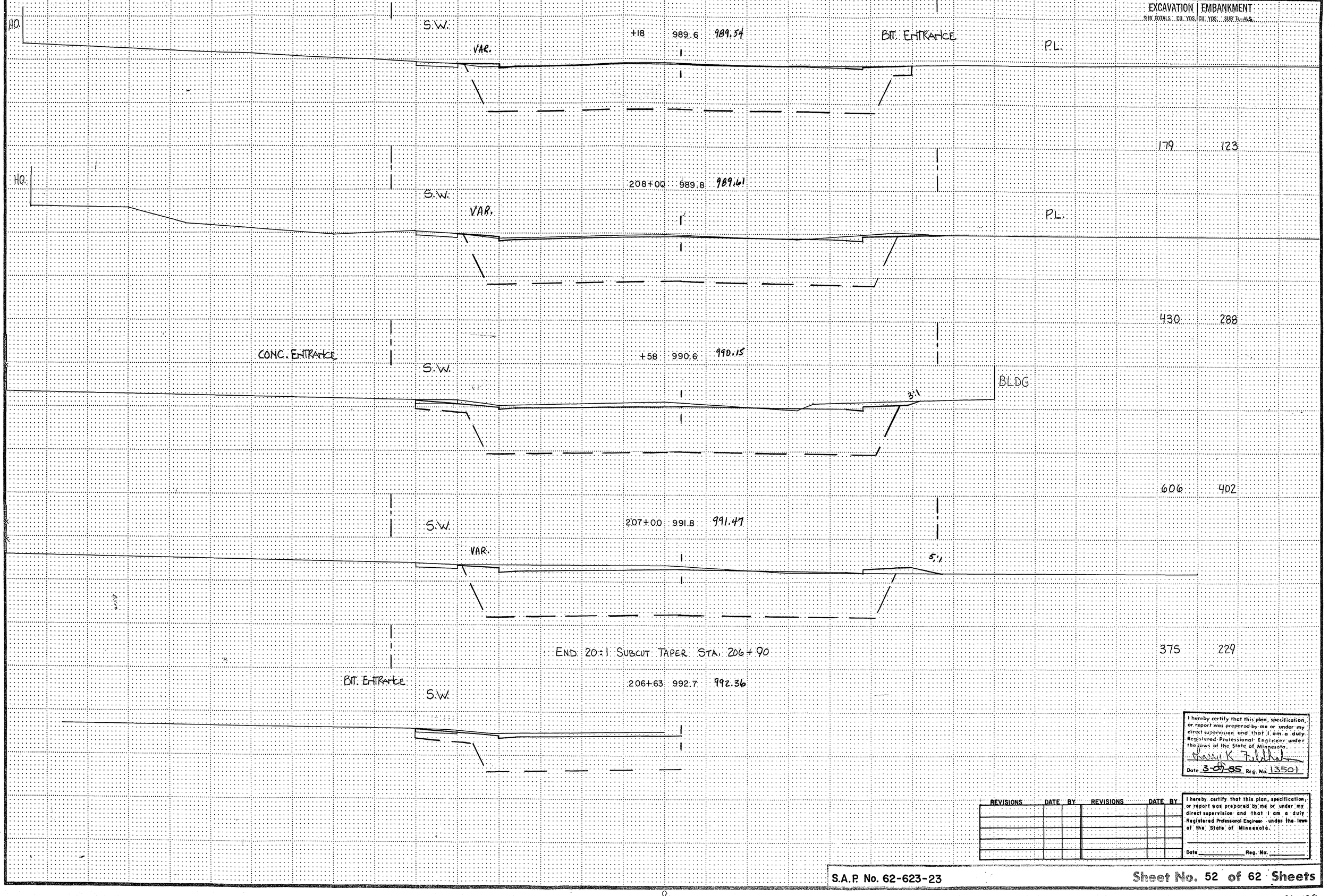
26-128

STATION–ELEVATION

Fed. Proj. No.

EXCAVATION | EMBANKMENT

SUB TOTALS CU. YDS. | CU. YDS. SUB TOTALS



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

Date 3-07-85 Reg. No. 13501

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date _____ Reg. No. _____

S.A.P. No. 62-623-23

Sheet No. 52 of 62 Sheets

26-128

STATION–ELEVATION

℄

Fed. Proj. No.

EXCAVATION | EMBANKMENT

	SUB TOTALS CU. YDS.	CU. YDS.	SUB TOTALS

WEST CUTTERLINE T.H. 120 LT. +63 991.7

+60± ABRUPT

991.7 @ 100'

EXCAVATION = 44,792 CU. YD

EMBANKMENT x 1.3 = 35,659 CU. YD

EXCESS EXCAVATION = 9,133 CU. YD

MATCH EXISTING 991.6

+60 991.6 WEST CUTTERLINE T.H. 120 RT.

SUBTOTAL	44,792	27,430

991.2 @ 100'

233 70

+23 990.1 990.86

BIT. ENTRANCE

10%

CONSTRUCT SIDEWALK

3:1

BLDG.

BLDG.

170 108

209+00 989.8 990.40

BLDG.

CONSTRUCT SIDEWALK

3:1

3:1

440 293

208+54 989.3 989.67

BIT. ENTRANCE

S.W.

3:1

BIT. P.L.

352 246

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Fiebiger

Date 3-07-85 Reg. No. 13501

S.A.P. No. 62-623-23

Sheet No. 53 of 62 Sheets

℄

26-139

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

BEGIN CONSTRUCTION
STA. 158+18

CONSTRUCTION LIMITS

HO. 2225 | HO. 2233 | HO. 2239 | HO. 2245 | HO. 2255 | HO. 2267 | HO. 2277 | HO. 2285 | HO. 2295 | HO. 2299 | HO. 2305

HO. 2232 | HO. 2631 | HO. 2268 | HO. 2276 | HO. 2284 | HO. 2290 | HO. 2294 | HO. 2300 | HO. 2304 | HO. 2310

+22 BEGIN TAPER
+42 END TAPER
30:1 TAPER
6" TEE, 6" DIP LEAD
6" G.V. & BOX, HYDRANT
CUT IN & CONNECT TO INPLACE WATERMAIN
INPLACE CONCRETE CURB & GUTTER & SIDEWK (REMOVE & REPLACE)
10' INSULATE WATERMAIN
SECTION LINE & SURVEY ℄
CONST. ℄
SECTION LINE
McKNIGHT RD.
CO. RD. C SECTION LINE P.O.T. STA. 157+62.19 =
McKNIGHT RD. SECTION LINE P.O.T. STA.
WALL
BIT.
T-BUR
P-BUR
G
SA
C.B.2 | C.B.1 | C.B.5 | C.B.6 | C.B.14 | C.B.17 | C.B.101 | C.B.102
WMH.4 | WMH.7 | WMH.8 | WMH.13 | M.H.8A | M.H.9 | M.H.10 | M.H.11 | M.H.12
154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163

SEVENTEENTH AVENUE

975 | 970 | 965 | 960 | 955

E.L. 964.5
STA. 158+18
M.H. 10
2.25'
20:1
5.15'
949.45
EXISTING 48" R.C.P.
-0.60 %
PROPOSED GRADE
EXISTING GRADE
V.C.=50'
M= 0.07750
5.15'
951.07
957.52
48 L.F. 15" RCP @ 1.0%
958.00
+0.64%
EL. 962.90
EL. 962.91
958.00
958.50
50 L.F. 15" RCP @ 1.0%
EXISTING 48" R.C.P.
P.C. 161+50
P.I. 161+75
EL. 962.75
P.T. 162+00
17TH AVENUE

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
David L. Kotlinek
Date JAN. 18, 1985 Reg. No. 11541

S.A.P. NO. 62-623-23 S.A.D. 8401 Sheet No. 54 of 62 Sheets

26-128

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

DELAWARE AVE.

CONSTRUCTION LIMITS

N

0 10 20 30 40 50

HO. 2313 | CHURCH | HO. 2349 | HO. 2351 | HO. 2353 | HO. 2355 | HO. 2357 | HO. 2359 | GAR. | HO. 2647

MATCH TO EXISTING

SHRUBS

SIGN

M.H.

GRAVEL

BIT.

25' R

M.H.19

C.B. 23

C.B. 105

T-BUR

C.B.26

M.H.22

WSO

SECTION LINE & SURVEY ℄

CONST. ℄

M.H. 32

163 164 165 166 167 168 169 170 171 172

M.H.21

C.B. 25

C.B.24

C.B.20

C.B. 106

SAVE

REMOVE BIT. SURFACE

C.B. 27

M.H.28

M.H.30 C.B.108

C.B.29

SAVE IF POSSIBLE

C.B.107

C.B.31

RELOCATE HYDRANT 5' EASTERLY

S.D. 31A

P-BUR

PLANTER

C.B.103

C.B. 104

MATCH TO EXISTING

66'

THIRD ST.

SECOND ST.

HO. 2310 | HO. 2633 | HO. 2632 | HO. 2330 | HO. 2336 | HO. 2340 | HO. 2346 | HO. 2352 | HO. 2358 | HO. 2362 | HO. 2368 | HO. 2633

CONSTRUCTION LIMITS

CONSTRUCTION LIMITS

C.B. 103 C.B. 104 C.B. 25 C.B. 106 C.B. 105

40 L.F. 15" RCP @ 1.0%

40 L.F. 15" RCP @ 1.0%

50 L.F. 15" RCP @ 1.0%

959.87

959.60

959.20

26 L.F. 15" RCP @ 1.0%

952.33

EL. 963.87 P.I. 163+75 EL. 964.03 EL. 963.91 EL. 963.53 EL. 963.55 EL. 965.20 EL. 965.56

C.B. 108 M.H. 30

960.50 960.80

30 L.F. 15" RCP @ 1.0%

956.20

30" RCP

975 970 965 960

V.C. = 50'
M = 0.06875

V.C. = 50'
M = 0.015625

+0.64 % −0.50 % +0.60 % +0.85 %

M.H. 21 C.B. 25 C.B. 27 M.H.28 C.B.107 M.H. 30

EXISTING GRADE

PROPOSED GRADE

5.15'

3.5' SUBCUT FOR UNIFORMITY AND COMPACTION

EXISTING 48" R.C.P.

EXISTING 48" R.C.P.

EXISTING 48" R.C.P.

EXISTING 27" R.C.P.

V.C. = 50'
M = 0.0800

952.27 952.33 953.75 954.74 956.20 962.00 961.80

20 L.F. 15" RCP @ 1.0%

13 L.F. 30" RCP

P.C. 63+50 P.T. 64+00 P.C. 64+75 P.I. 165+00 EL. 963.40 P.T. 165+25 P.C. 68+00 P.I. 68+25 EL. 965.35 P.T. 68+50

163 164 165 166 167 168 168 169 170 171

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

David L. Kohlmeyer

Date JAN. 18, 1985 Reg. No. 11541

17 TH AVENUE

S.A.P. NO. 62-623-23 S.A.D. 8401 Sheet No. 55 of 62 Sheets

26-128

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

BIT. CURB
MATCH TO EXISTING BIT. CURB
CONSTRUCTION LIMITS
2ND ST. N.W.
60'
HO. 2646
GAR.
HO. 2647
1ST ST. N.W.
BIT. PARKING LOT
GRAVEL
SIGN
N
10 30 50
0 20 40
M.H. 36
M.H. 33
C.B. 110
T.M.H. 37
M.H. 38
M.H. 41
C.B. 111
C.B. 42
C.B. 115
C.B. 36
25'R
T-BUR
T4
SECTION LINE & SURVEY ℄
CONST. ℄
172 173 174 175 176 177 178 179 180 181
43'
33'
22'
C.B. 34
C.B. 109
P-BUR
6' C-L
BIT. PATH
C.B. 39
B6 CURB
BIT. CURB
15'R
SAVE
M.H. 44
M.H. 44A
C.B. 43
C.B. 45
C.B. 46
C.B. 114
C.B. 112
C.B. 113
FIRST ST.
66'
NORTH ST. PAUL SUB-STATION
NORTH ST. PAUL CONTROL STATION (ELECT)
GRAVEL
HO. 2460
C.B. 116
BIT. PARKING LOT
MATCH TO EXISTING BIT. CURB

M.H. 33
C.B. 110
65 L.F. 15" RCP @ 1.0%
963.60
964.25
958.26
C.B. 34
C.B. 109
4 L.F. 15" RCP @ 1.0%
963.50
963.46
956.98
27" RCP
957.91
956.98
C.B. 39
C.B. 111
77 L.F. 15" RCP @ 1.0%
965.73
966.50
958.19
28 L.F. 15" RCP @ 1.0%
M.H. 44
C.B. 112
C.B. 113
969.22
969.50
969.68
970.00
32 L.F. 15" RCP @ 1.0%
C.B. 116
C.B. 115
981.30
981.80
50 L.F. 12" RCP @ 1.0%
990 985 980 975 970 965 960
EL. 977.09
VC = 300'
M = 1.1 4375
EL. 978.21
+0.85 %
+3.90 %
EXISTING GRADE
PROPOSED GRADE
5.15'
3.5' SUBCUT FOR UNIFORMITY AND COMPACTION
EXISTING 24" RCP
EXISTING 18" RCP
P.C. 175+00
P.I. 176+50
EL. 972.36
P.T. 178+00
70:1
969.93
970.52
971.64
971.25
973.00
966.50
981.30
260 L.F. 12" RCP @ 3.19 %
1.5' SUBCUT FOR UNIFORMITY AND COMPACTION
172 173 174 175 176 177 178 179 180 181

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
David L. Kotilnek
Date JAN. 18, 1985 Reg. No. 11541

17TH AVENUE

S.A.P. NO. 62-623-23 S.A.D. 8401 Sheet No. 56 of 62 Sheets

26-128

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

CONSTRUCTION LIMITS

NOTE:
CONSTRUCT GUTTER DELINEATOR THROUGH HELEN ST. NORTH SIDE ONLY.

HO. 2485 · HO. 2493 · HO. 2503 · HO. 2515 · HO. 2525 · HO. 2535 · HO. 2541 · HO. 2543 · HO. 2553

BIT. · B6 CURB · SA ST. · 8" WATERMAIN · MATCH TO EXISTING 66' · INPLACE HYDRANT (REMOVE & SALVAGE) CONNECT TO INPLACE WATERMAIN 6" BEND, 6" D.I.P. LEAD 6" G.V. & BOX, HYDRANT

STEPS · FLAGSTONE · FLAGSTONE WALL · STEPS · TIMBER WALL · BIT.

25' R · T-BUR · G · T4 · M.H. 47 · M.H. 48 · M.H. 49 WSO · M.H. 52 · M.H. 53 · M.H. 50 · M.H. 54 · M.H. 118 · M.H. 56 A · C.B. 56 · C.B. 119

INPLACE G.V. & MANHOLE (REMOVE & SALVAGE)

INPLACE 4" WATERMAIN (ABANDON)

6" G.V. & MANHOLE

CUT IN & CONNECT TO INPLACE WATERMAIN 8" X 6" TEE

6" D.I.P. WATERMAIN ⚠

SURFACE DISTURBANCE · CONST. DISTURBANCE

SECTION LINE & SURVEY ℄ · CONST. ℄ · CO. RD. C SECTION LINE P.O.T. STA. 183+73.60 = HELEN ST. ℄ P.O.T. STA.

181 · 182 · 183 · 184 · 185 · 186 · 187 · 188 · 189 · 190

33' · 22' · 2' · 10' · 13'

INPLACE TEL. DUCT

PLANTER · CONSTRUCT WALL · GRADE TO DRAIN · GRAVEL · METAL RAILING · BLOCK WALL · WALL

GAR. · APT. BLDG. · BLDG. 2512 · HO. 2504 · HO. 2520 · HO. 2524 · HO. 2540 · HO. 2548 · HO. 2631

SEE SHEET NO. 58

REMOVE INPLACE SANITARY SEWER MANHOLE RECONSTUCT 10' (SEE DETAIL SHEET NO. 62)

REMOVE INPLACE SANITARY SEWER MANHOLE & DROP SECTION RECONSTRUCT 10' & OUTSIDE DROP SECTION 2.5' (SEE DETAIL SHEET NO. 62)

⚠ MINIMUM OF 7' COVER FROM FINISHED GRADE TO TOP OF WATERMAIN.

NOTE: CONTRACTOR SHALL RECONSTRUCT, WHEN DIRECTED BY THE ENGINEER, V.C.P. & BITUMINOUS FIBER SANITARY SEWER SERVICES IN 17 TH AVENUE BETWEEN HELEN & DIVISION. SEE DETAIL SHEET NO. 62

SEVENTEENTH AVENUE

EL. 997.72 · P.I. 184+25 EL. 1002.59 · EL. 1006.22 · EL. 999.74 · V.C.=50' M=0.084375 · EL. 999.13 · EL. 997.82

C.B. 117 · C.B. 119 · M.H. 118 · M.H. 56 A

32 L.F. 12" RCP @ 1.0% · 18 L.F. 12" RCP @ 1.0%

992.0 · 991.68 · 991.82 · 992.0 · 991.60 · 991.60

1000 · 995 · 990 · 985 · 980

+3.90% · -1.90% · -0.55% · +0.50%

3.15' · 20:1 · 1.5' SUBCUT FOR UNIFORMITY & COMPACTION

5.15' · 3.5' SUBCUT FOR UNIFORMITY AND COMPACTION

3.15' · 20:1 · 1.5' SUBCUT FOR UNIFORMITY AND COMPACTION · EXISTING 12" RCP

36 L.F. 12" RCP

V.C.=250' M=1.8125

P.C. 182+00 · P.T. 185+50 · P.C. 185+75 · P.I. 186+00 EL. 999.27 · P.T. 186+25 · P.I. 189+00 · P.C. 189+50

181 · 182 · 183 · 184 · 185 · 186 · 187 · 188 · 189 · 190

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

David L. Kotlinek

Date JAN. 18, 1985 Reg. No. 11541

17 TH AVE. WATERMAIN
S.A.D. 8401

S.A.P. NO. 62-623-23 S.A.D. 8401

Sheet No. 57 of 62 Sheets

26-128

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

MATCH TO EXISTING

CONSTRUCT ENT.

B618 ENTRANCE

CONSTRUCTION LIMITS

HO. 2571

HO. 2575

HO. 2579

HO. 2581

HO. 2591

HO. 2603

HO. 2607

HO. 2617

HO. 2629

HO. 2633

HO. 2606

HO. 2632

HO. 2632

INPLACE HYDRANT (REMOVE & SALVAGE)

6" TEE, 6" D.I.P. LEAD
6" G.V. & BOX, HYDRANT

C.B. 120

C.B. 121

C.B. 58

C.B. 62

C.B. 57

M.H. 59

6" G.V. & MANHOLE

INPLACE 4" WATERMAIN (ABANDON)

SECTION LINE & SURVEY ℄

6" D.I.P. WATERMAIN ⚠1

M.H. 61

M.H. 60

M.H. 63

M.H. 66

M.H. 125

C.B. 64

C.B. 122

C.B. 124

C.B. 65

C.B. 123

CONST. ℄

SIGN

GYM SET

BIT. PARKING LOT

INPLACE SANITARY SEWER MANHOLE
REMOVE & RECONSTRUCT MANHOLE 11.5'
SEE DETAIL SHEET NO. 62

INPLACE SANITARY SEWER MANHOLE
REMOVE & RECONSTRUCT MANHOLE 5.5'
SEE DETAIL SHEET NO. 62

CHURCH

MARGARET ST.

CHARLES ST.

WALL

BLDG. 2618

TAPER TO MATCH EXISTING

C.B. 127

M.H. 128

C.B. 131

INPLACE 18" WATERMAIN

6" TEE, 6" D.I.P. LEAD
6" G.V. & BOX, HYDRANT

INPLACE HYDRANT W/ 6" G.V. (REMOVE & SALVAGE)

INPLACE G.V. & MANHOLE (REMOVE & SALVAGE)

C.B. 68

M.H. 69

6" G.V. & MANHOLE

INPLACE CROSS (DISCONNECT & PLUG ALL 4")

INPLACE G.V. & MANHOLE (REMOVE & SALVAGE)

C.B. 132

6" G.V. & MANHOLE
8" X 6" CROSS
CUT IN & CONNECT TO INPLACE WATERMAIN

8" G.V. & MANHOLE
CUT IN & CONNECT TO INPLACE WATERMAIN

M.H. 70

M.H. 73

M.H. 130

M.H. 129

C.B. 133

INPLACE SANITARY SEWER MANHOLE & DROP SECTION
REMOVE & RECONSTRUCT MANHOLE 7.5' & DROP SECTION 2'
SEE DETAIL SHEET NO. 62

⚠1 MINIMUM 7' OF COVER FROM FINISHED GRADE TO TOP OF WATERMAIN.

SEE SHEET NO. 57

SEE SHEET NO. 59

SEVENTEENTH AVENUE

50 L.F. 15" RCP @ 1.0%

68 L.F. 15" RCP @ 1.0%

991.50 991.00 991.02 990.68 991.70

VC = 200'
M = 1.3550'

+0.50%

-4.92%

+0.53%

+1.46%

+0.86%

+0.55%

PROPOSED GRADE

EXISTING GRADE

1.5' SUBCUT FOR UNIFORMITY AND COMPACTION

3.5' SUBCUT FOR UNIFORMITY AND COMPACTION

20:1

2" RCP

991.00 990.68

12" RCP

984.06

(BUILD OVER EXISTING)

EXISTING 12" RCP @ 0.4%

41 L.F. 15" RCP @ 1.0%

9 L.F. 15" RCP @ 1.0%

984.50 984.41

VC = 250'
M = 1.703125'

15" RCP @ 1.0%

9 L.F. 15" RCP @ 1.0%

14 L.F. 12" RCP @ 1.0%

991.3 991.5± 991.3

27 L.F. 12" RCP @ 1.0%

987.64 987.50 987.50 987.77

986.4±

50 L.F. 12" RCP @ 1.0%

986.30 986.80

65 L.F. 15" RCP @ 1.0%

130 L.F. 15" RCP @ 1.0%

985.6 986.25 986.3

V.C. = 50'
M = 0.058125'

18" RCP @ 0.4%

V.C. = 50'
M = 0.375

32 L.F. 21" RCP @ 0.61%

985.60

10 L.F. 15" RCP FLAT
(BUILD OVER EXISTING)

PLUG BOTH ENDS

EL. 998.45 EL. 993.20

EL. 990.99

EL. 992.66

P.I. 190+50 EL. 998.37

P.I. 194+75 EL. 988.08

P.I. 197+00 EL. 991.36

P.T. 191+50
P.C. 191+55

P.I. 192+80 EL. 987.05

P.T. 194+05

P.C. 194+50

P.T. 195+00

P.C. 196+75

P.I. 198+50

EL. 987.71

EL. 987.95

EL. 988.45

1000 995 990 985 980

190 191 192 193 194 195 196 197 198 199

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

David L. Kotelnick

Date JAN. 18, 1985 Reg. No. 11541

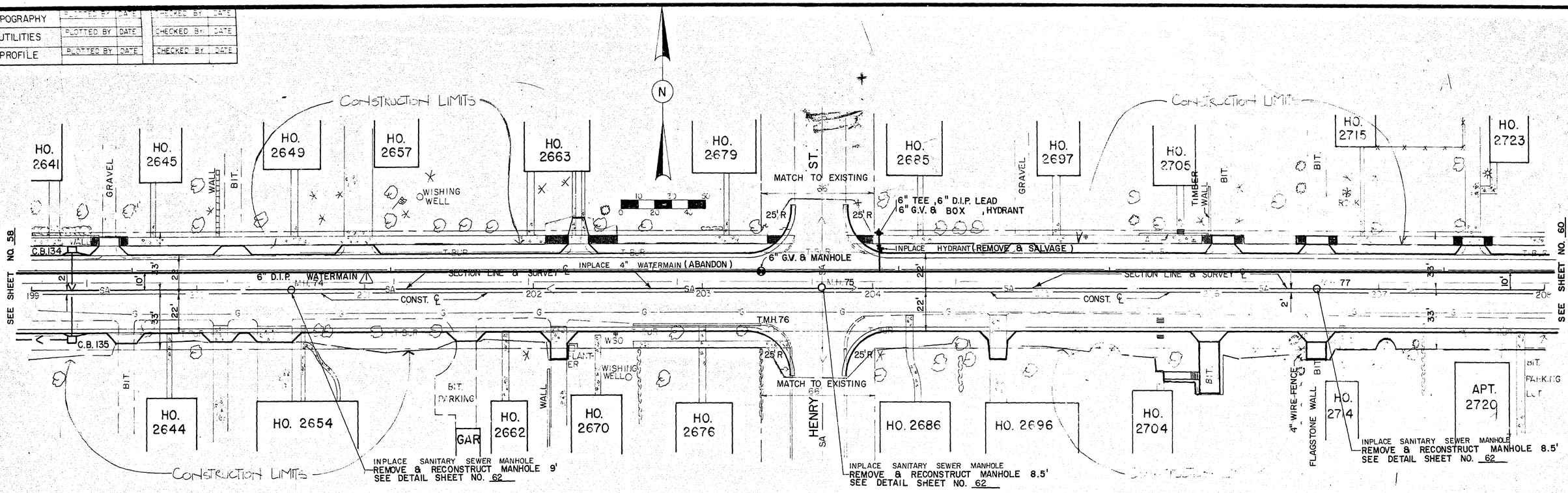
17TH AVE. WATERMAIN
S.A.D. 8401

S.A.P. NO. 62-623-23 S.A.D. 8401

Sheet No. 58 of 62 Sheets

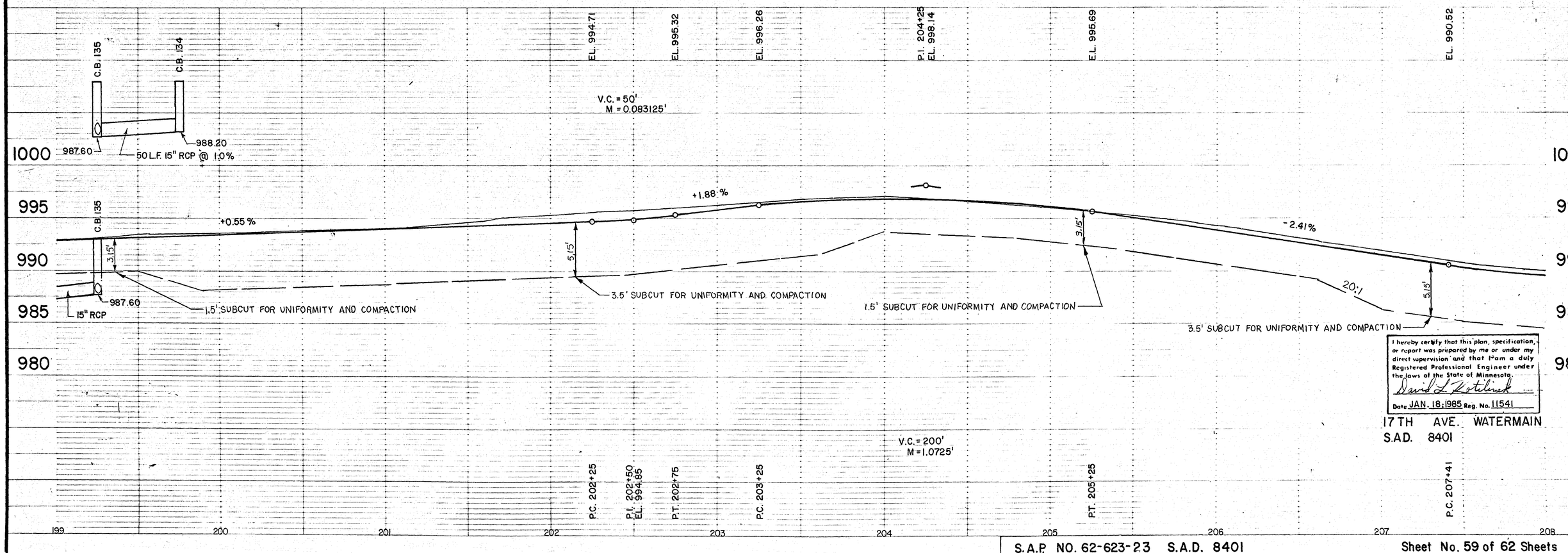
26-128

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



SEVENTEENTH AVENUE

⚠ MINIMUM 7' OF COVER FROM FINISHED GRADE TO TOP OF WATERMAIN



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

David L. Kotelnick

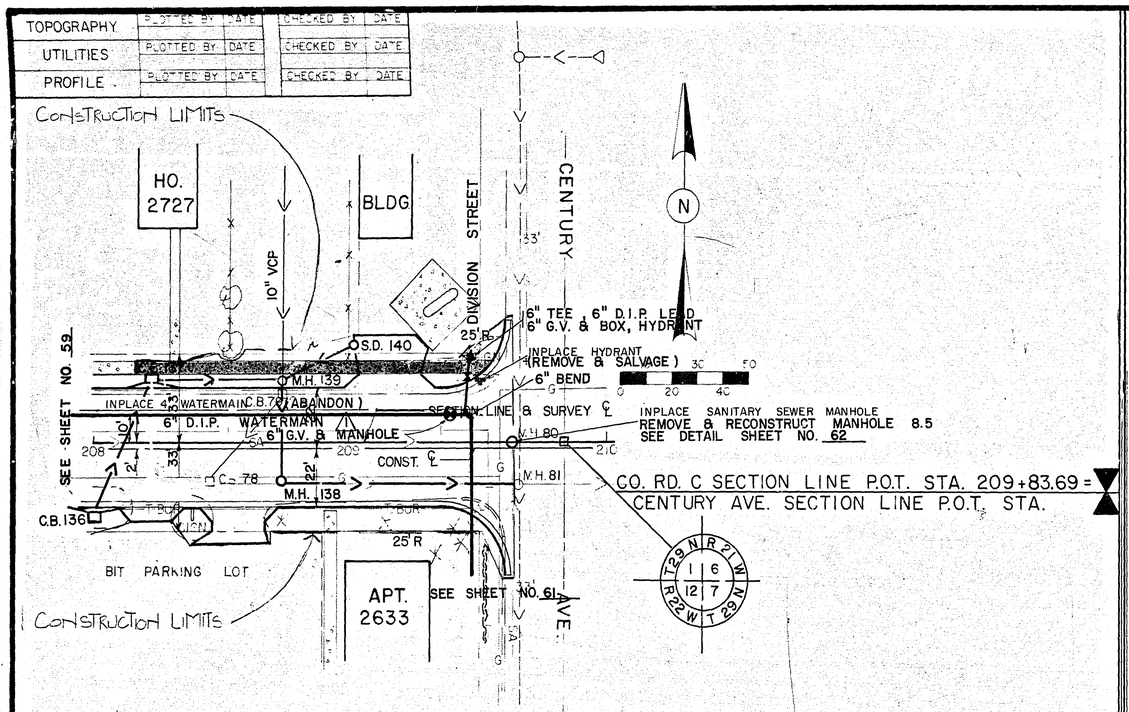
Date JAN. 18, 1985 Reg. No. 11541

17TH AVE. WATERMAIN
S.A.D. 8401

S.A.P. NO. 62-623-23 S.A.D. 8401

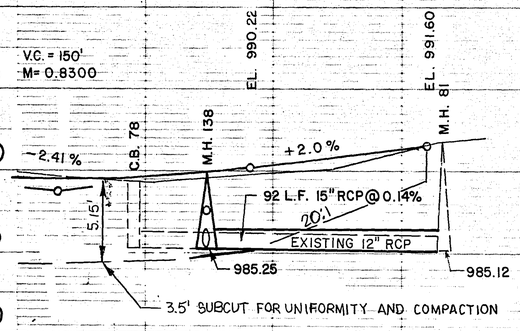
24-128

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



SEVENTEENTH AVENUE

⚠ MINIMUM 7' OF COVER FROM FINISHED GRADE TO TOP OF WATERMAIN.



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

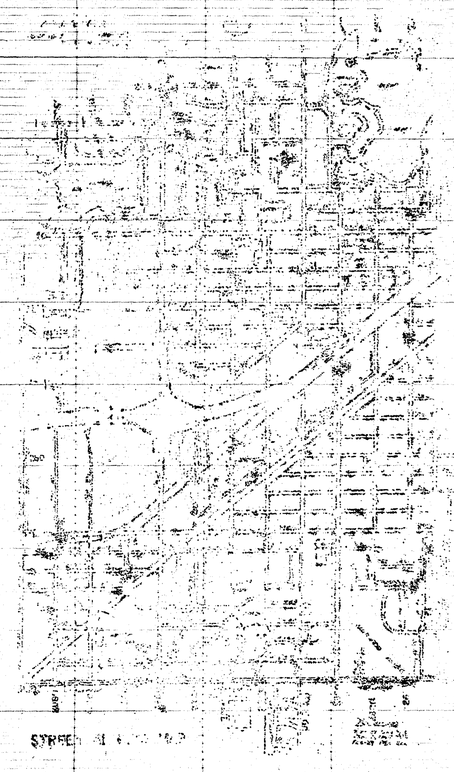
David L Katzlinek

Date JAN. 18, 1985 Reg. No. 11541

P.I. 208+16 EL. 988.72 — P.T. 208+91 — MATCH EXISTING 209+60

208 — 209 — 210

17TH AVE WATERMAIN
S.A.D. 8401

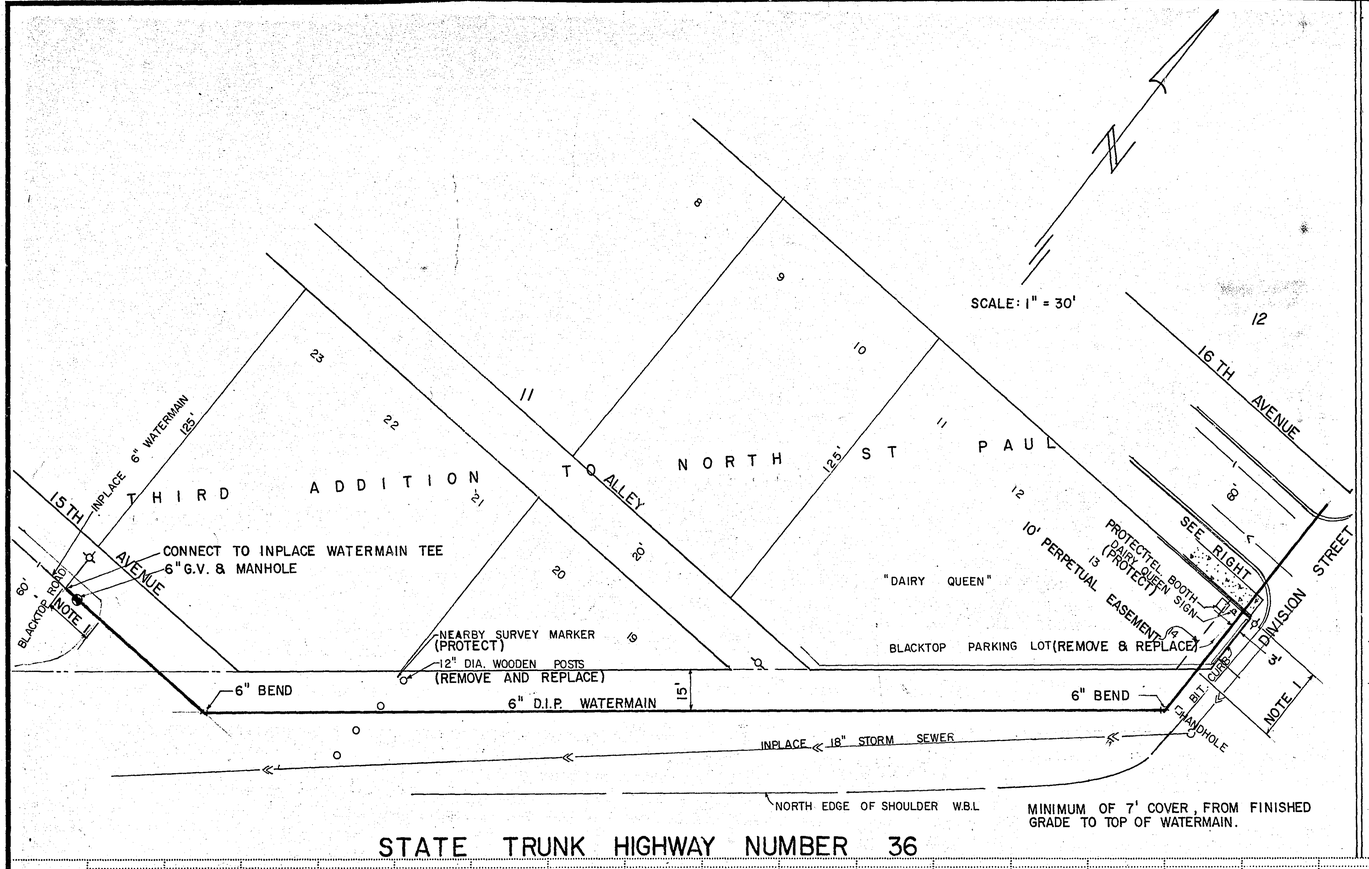


S.A.P. NO. 62-623-23 S.A.D. 8401

Sheet No. 60 of 62 Sheets

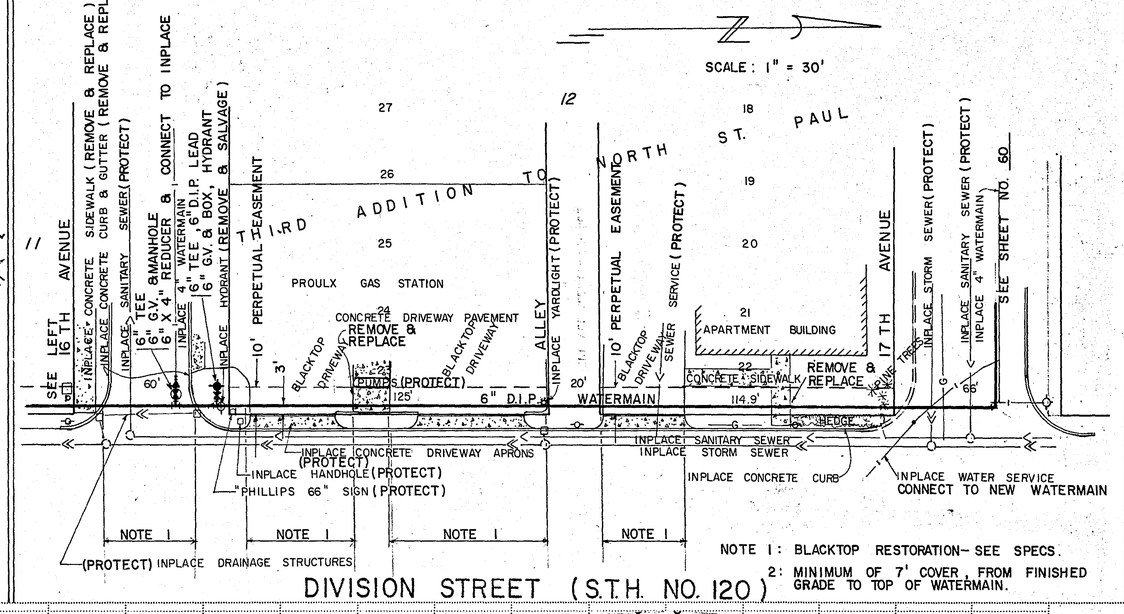
26-128

Fed. Proj. No.



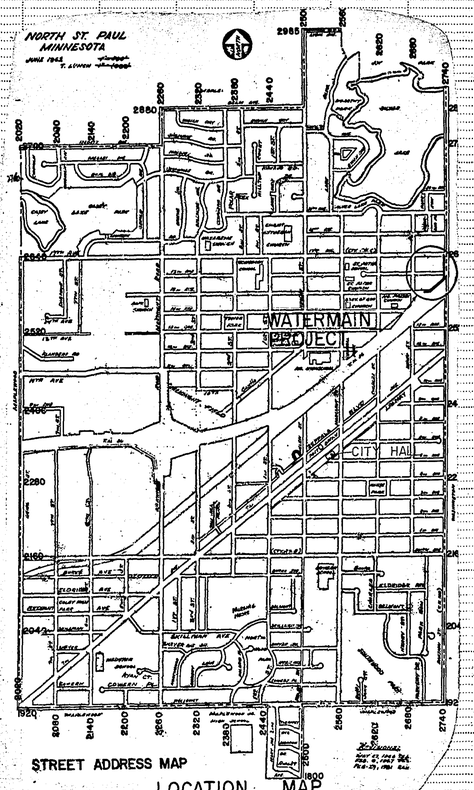
MINIMUM OF 7' COVER, FROM FINISHED GRADE TO TOP OF WATERMAIN.

STATE TRUNK HIGHWAY NUMBER 36



NOTE 1: BLACKTOP RESTORATION- SEE SPECS.
2: MINIMUM OF 7' COVER, FROM FINISHED GRADE TO TOP OF WATERMAIN.

DIVISION STREET (S.T.H. NO. 120)



STREET ADDRESS MAP

LOCATION MAP

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

David L. Kotlarik

Date JAN. 18, 1985 Reg. No. 11541

NORTH ST. PAUL, MINNESOTA

WATERMAIN

DIVISION STREET (S.T.H. NO. 120)

S.T.H. NO. 36

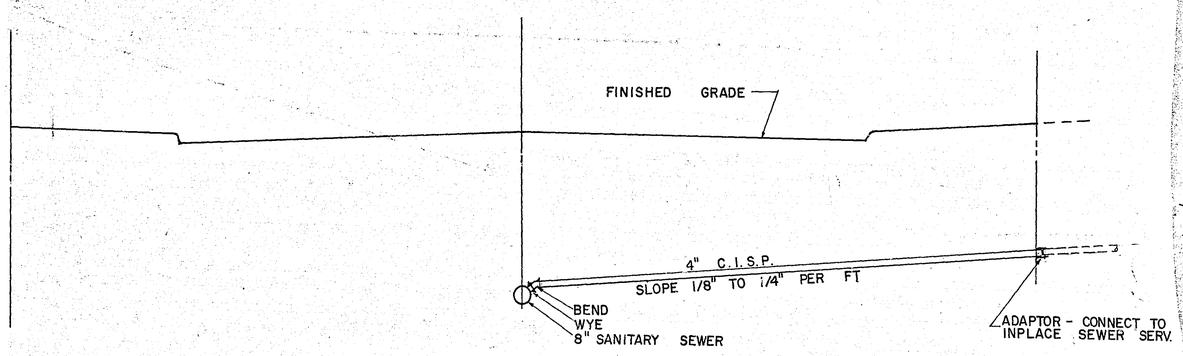
S.A.D. 8401 ENGINEERING DEPARTMENT 10-15-84

S.A.P. NO. 62-623-23 S.A.D. 8401

Sheet No. 61 of 62 Sheets

26-128

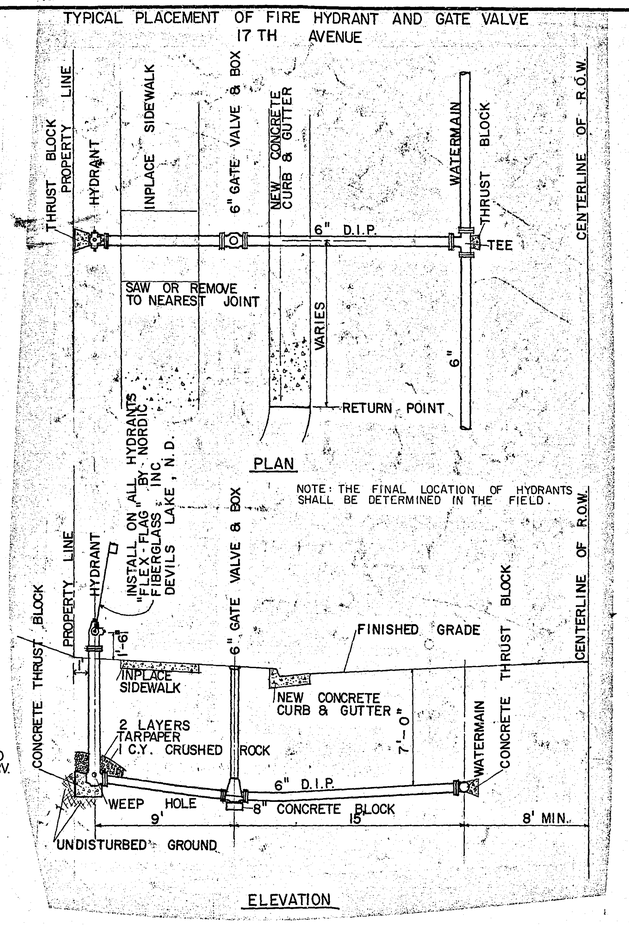
NORTH ST. PAUL, MINNESOTA



TYPICAL SEWER SERVICE CONNECTION

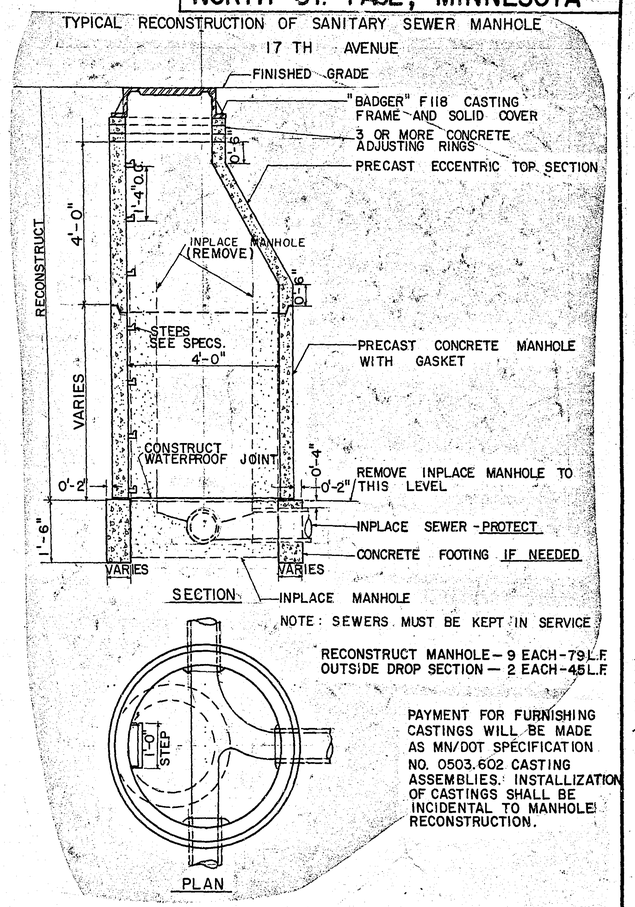
NOTE : THE INPLACE SEWER SERVICE SHALL BE REPLACED ONLY WHEN DIRECTED BY THE ENGINEER.

TYPICAL PLACEMENT OF FIRE HYDRANT AND GATE VALVE
17 TH AVENUE



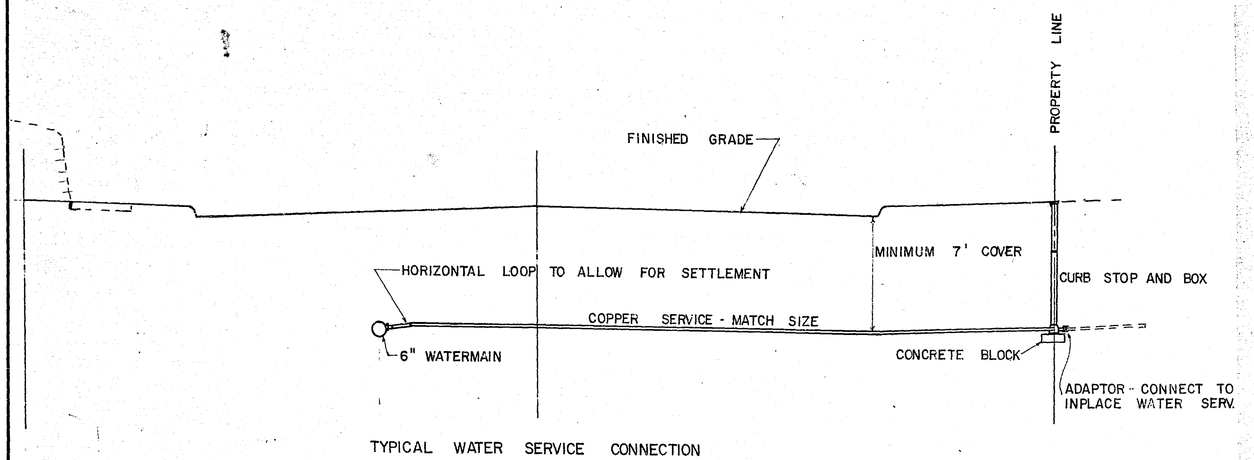
TYPICAL GATE VALVE MANHOLE

TYPICAL RECONSTRUCTION OF SANITARY SEWER MANHOLE
17 TH AVENUE



RECONSTRUCT MANHOLE - 9 EACH - 7.9 L.F.
OUTSIDE DROP SECTION - 2 EACH - 4.5 L.F.

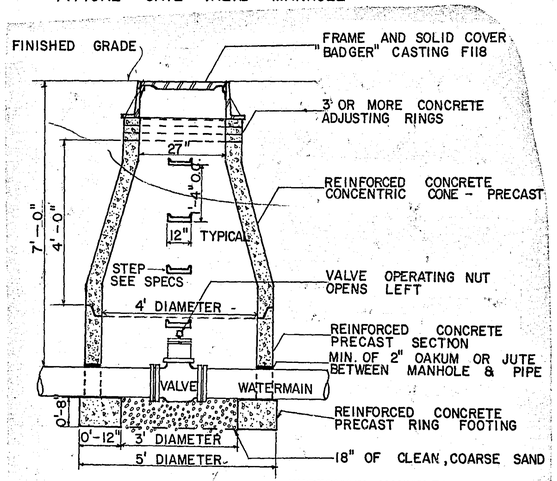
PAYMENT FOR FURNISHING CASTINGS WILL BE MADE AS MN/DOT SPECIFICATION NO. 0503.602 CASTING ASSEMBLIES. INSTALLIZATION OF CASTINGS SHALL BE INCIDENTAL TO MANHOLE RECONSTRUCTION.



TYPICAL WATER SERVICE CONNECTION

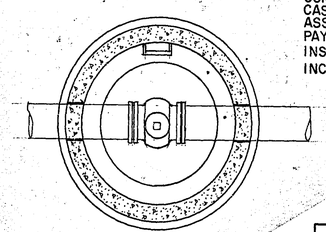
NOTE: THE INPLACE WATER SERVICE SHALL BE REPLACED TO THE PROPERTY LINE ONLY WHEN DIRECTED BY THE ENGINEER.

TYPICAL GATE VALVE MANHOLE



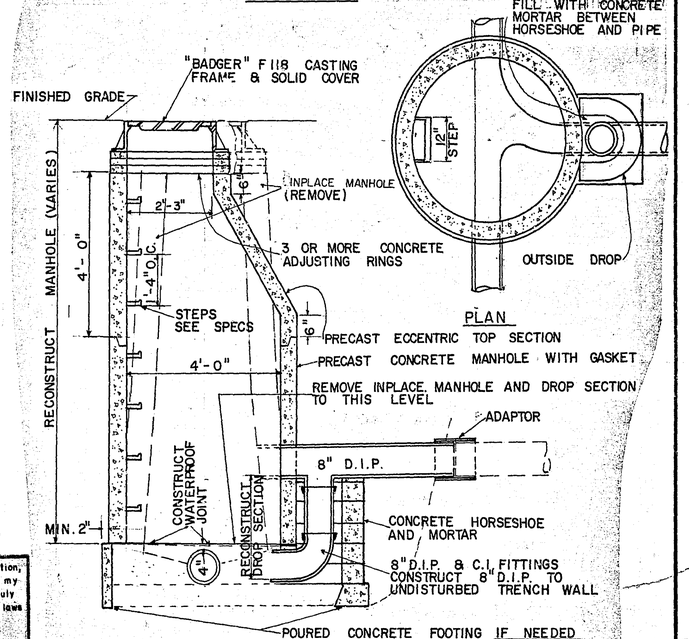
WATERMAIN MANHOLES - 9 EACH

CONTRACTOR SHALL FURNISH 6 NEW CASTING ASSEMBLIES AND USE 3 ASSEMBLIES SALVAGED ON THE JOB. PAYMENT FOR FURNISHING AND INSTALLING CASTINGS SHALL BE INCLUDED WITH STRUCTURE.



I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
David L. Ristuben
Date JAN. 18, 1985 Reg. No. 11541

TYPICAL RECONSTRUCTION OF SANITARY SEWER MANHOLE WITH OUTSIDE DROP SECTION
17TH AVENUE



S.A.D. 8401 - 17TH AVE (CO. RD "C")

S.A.P. NO. 62-623-23 S.A.D. 8401 **DETAILS** SHEET NO. 62 OF 62 SHEETS

26-128

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
BLOPE 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

NOTE SECTION NUMBERS READ FROM THE SOUTH

CENTER OF SECTION 35 T.30 N. R.24 W.

T.30 N. R.24 W. 35/36 2/1 T.29 N. R.24 W.

PIT DATA

PIT NO. _____ Located in _____
Dead Haul _____

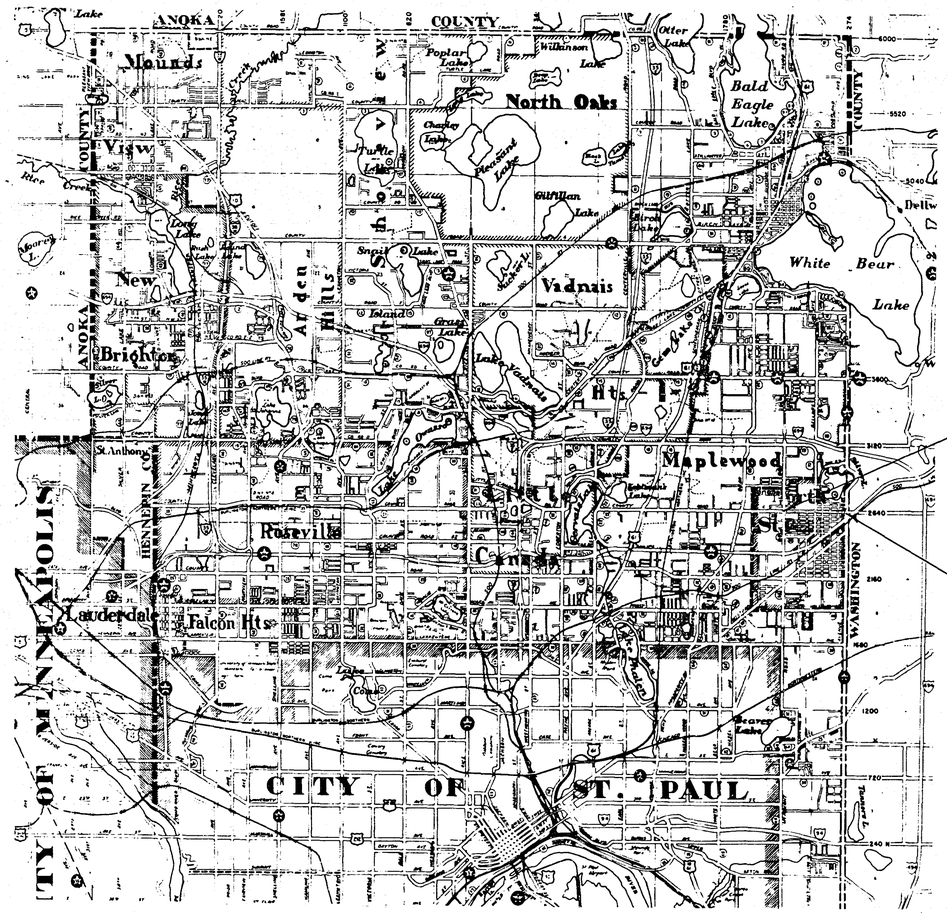
PIT NO. _____ Located in _____
Dead Haul _____

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

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

	FEET		MILES
GROSS LENGTH	5,142.0	=	0.9738
BRIDGE LENGTH	0.0	=	0.0
EXCEPTION	0.0	=	0.0
NET LENGTH	5,142.0	=	0.9738

PLAN 10 30 50
PROFILE HORIZ: 10 20 30 40 50 / 20 40
PROFILE VERT. 5 10
CROSS SECTIONS 5 10
LAYOUT MAP 5,280'



BEGIN PROJECT
STA. 158+18

END PROJECT
STA. 209+60

RAMSEY COUNTY
DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLAN: FOR GRADING, AGGREGATE BASE, BITUMINOUS BASE AND SURFACING, STORM SEWER, WATERMAIN, AND CONCRETE CURB AND GUTTER.

COUNTY ROAD "C"

BETWEEN: McKNIGHT ROAD AND CENTURY AVE.

FROM: A POINT 55.81 FEET EAST OF THE NORTHWEST CORNER OF SECTION 12, TOWNSHIP 29 N, RANGE 22 W.

TO: A POINT 23.69 FEET WEST OF THE NORTHEAST CORNER OF SECTION 12, TOWNSHIP 29 N, RANGE 22 W.

CITY OF NORTH ST. PAUL

S.A.D. PROJECT 8401

WATERMAIN ON 17TH AVE., DIVISION STREET (S.T.H. NO. 120) & S.T.H. NO. 36

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED QUANTITIES
3	TYPICAL SECTIONS
4	DETAILS — ENTRANCES AND CATCH BASINS
5	REMOVALS CHART
6	CLEAR AND GRUB CHART
7-8	EXISTING DRAINAGE CHART
9	PROPOSED DRAINAGE CHART
10-16	PLAN AND PROFILE SHEETS
17-53	CROSS SECTIONS
54-62	NORTH ST. PAUL WATERMAIN PROJECT S.A.D. 8401 THIS PLAN CONTAINS 62 SHEETS

DESIGN DESIGNATION

S.A.P. NO. 62-623-23

	McKNIGHT RD. to HELEN ST.	HELEN ST. to T.H. 120
ADT (CURRENT YEAR) 1983	4,100	4,100
ADT (FUTURE YEAR) 2002	6,560	6,560
Σ, N·20 YEAR	1,244,964	1,244,964
DESIGN LOAD	10 TON	10 TON
STABILOMETER "R" VALUE	30	30
DESIGN SPEED	30 MPH	30 MPH

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 1/16/85 REG. NO 13501 ENGR. Larry Tubbs

RECOMMENDED FOR APPROVAL _____ TRAFFIC ENGR. DATE 1-17-85
RECOMMENDED FOR APPROVAL _____ ENV. ENGR. DATE 1/3/85
RECOMMENDED FOR APPROVAL _____ MAINT. ENGR DATE 1/9/85
RECOMMENDED FOR APPROVAL _____ CONST. ENGR DATE 1/4/85
RECOMMENDED FOR APPROVAL _____ DESIGN ENGR. DATE 1/16/85
RECOMMENDED FOR APPROVAL _____ R.O.W. ENGR. DATE 1/8/85
APPROVED _____ COORDINATING ENGR. DATE 1-15-85

RECOMMENDED FOR APPROVAL _____ COUNTY ENGINEER DATE 1-29-85
APPROVED _____ CHAIRMAN OF THE RAMSEY COUNTY BOARD DATE 4-1-85
APPROVED David L Kotilnek CITY ENGINEER, CITY OF NORTH SAINT PAUL DATE 1-17-85
APPROVED _____ DATE _____

MINNESOTA DEPARTMENT OF TRANSPORTATION
RECOMMENDED FOR APPROVAL _____ DATE 2-26-85
RECOMMENDED FOR APPROVAL _____ DISTRICT STATE AID ENGINEER DATE 2/4/85
APPROVAL _____ DATE 2/27/85

PLAN REVISIONS		
DATE	SHEET NO.	BY

MICROFILMED RAMSEY CO. ENGR.

S.A.P. No. 62-623-23, S.A.D. 8401 — **Sheet No. 1 of 62 Sheets**

76-128

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	ESTIMATED QUANTITIES	FINAL ESTIMATED QUANTITIES	S.A.P. NO. 62-623-23 N. ST. PAUL RAMSEY CO.	S.A.P. NO. 62-623-23 RAMSEY COUNTY	(1) NON-PART. NORTH ST. PAUL
2021.501	MOBILIZATION	L.S.	1		0.5	0.5	
2101.502	CLEARING	TREE	40		40		
2101.507	GRUBBING	TREE	39		39		
2104.503	REMOVE CONCRETE WALK	S.F.	9,582		9,582		
2104.501	REMOVE CONCRETE CURB	L.F.	35		35		
2104.501	REMOVE BITUMINOUS CURB	L.F.	433		433		
2104.501	REMOVE CURB & GUTTER	L.F.	616		586		30
2104.501	REMOVE SEWER PIPE	L.F.	796		580	216	
2104.505	REMOVE CONCRETE PAVEMENT	S.Y.	358		333		25
2104.509	REMOVE CATCH BASINS OR MANHOLES	EACH	23		23		
2104.521	SALVAGE WOOD RAIL FENCE	L.F.	88		88		
2104.521	SALVAGE CHAIN LINK FENCE	L.F.	75		75		
2104.521	SALVAGE METAL RAILING	L.F.	20		20		
2104.523	SALVAGE PLANTER	EACH	1		1		
2104.523	SALVAGE SIGN	EACH	2		2		
0104.603	SALVAGE FLAGSTONE WALL	S.F.	56		56		
2105.501	COMMON EXCAVATION	C.Y.	44792 (P)		22396 (P)	22396 (P)	
2105.525	TOPSOIL BORROW (LV)	C.Y.	821		691		130
2130.501	WATER	(M)GAL.	200		100	100	
2211.501	AGGREGATE BASE, CL. 6 (OR CL. 5, 100% CRUSHED)	TON	10,311		5,347 (2)	4,964	
2211.501	AGGREGATE BASE, CLASS 4	TON	13,568		6,535 (3)	7,033	
0301.604	SAWCUT CONCRETE PAVEMENT	L.F.	225		225		
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	326		133	190 (4)	3
2331.508	WEARING COURSE MIXTURE	TON	75		52		23
2331.510	BINDER COURSE MIXTURE	TON	2,343		959	1,361 (4)	23
2331.514	BASE COURSE MIXTURE	TON	4,536		1,814	2,722 (4)	
0331.603	SAWCUT BITUMINOUS PAVEMENT SURFACE	L.F.	1,097		1,097		
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL.	2,625		1,050	1,575 (4)	
2361.504	ASPHALT CEMENT	TON	74		30	44 (4)	
2361.508	WEARING COURSE MIXTURE	TON	1,134		454	680 (4)	
2411.507	CONCRETE STEPS	EACH	2		2		
0411.603	INSTALL FLAGSTONE WALL	S.F.	20		20		
0412.602	INSTALL SIGN	EACH	2		2		
0412.602	INSTALL PLANTER	EACH	1		1		
0412.603	INSTALL METAL RAILING	L.F.	13		13		
2451.513	FINE FILTER AGGREGATE (LV)	C.Y.	43		33	10	
2502.541	6" PERFORATED P.V.C. PIPE DRAIN	L.F.	511		391	120	
2503.541	12" R.C. PIPE SEWER, DESIGN 3006, CLASS V	L.F.	260			260	
2503.541	15" R.C. PIPE SEWER, DESIGN 3006, CLASS V	L.F.	1,551			1,551	
2503.541	18" R.C. PIPE SEWER, DESIGN 3006, CLASS V	L.F.	339			339	
2503.541	21" R.C. PIPE SEWER, DESIGN 3006, CLASS V	L.F.	32			32	
2506.508	CONSTRUCT MANHOLES, DESIGN A OR F	EACH	7			7	
2506.509	CONSTRUCT CATCH BASINS, DESIGN LP4	EACH	23			23	
2506.509	CONSTRUCT CATCH BASINS, DESIGN LP8	EACH	1			1	
2506.509	CONSTRUCT CATCH BASINS, DESIGN S.P.-2	EACH	8			8	
2506.509	CONSTRUCT SURFACE DRAINS, DESIGN C	EACH	1			1	
2506.511	RECONSTRUCT MANHOLES	L.F.	22.0		22.0		
2506.516	CASTING ASSEMBLIES	EACH	7			7	
2506.521	INSTALL CASTINGS	EACH	12		12		
2506.522	ADJUST FRAME AND RING CASTINGS	EACH	9		7	2	
2506.512	RECONSTRUCT CATCH BASINS	L.F.	33.3		33.3		
2521.501	4" CONCRETE WALK	S.F.	8,393		7,976		417
0521.604	SAWING CONCRETE WALK	L.F.	302		302		
2531.501	CONCRETE CURB AND GUTTER, DESIGN B624	L.F.	10396		10,366		30
2531.507	6" CONCRETE DRIVEWAY PAVEMENT	S.Y.	1,168		1,168		
0557.603	INSTALL WOOD RAIL FENCE	L.F.	88		88		
0557.603	INSTALL CHAIN LINK FENCE	L.F.	65		65		
2575.505	SODDING	S.Y.	9,832		8,282 (5)		1,550
2575.531	COMMERCIAL FERTILIZER, ANALYSIS 12-12-12	TON	0.3		0.3		
0575.603	SILT CURTAIN TYPE A	L.F.	660			660	

(P) DENOTES PLAN QUANTITY

(1) NORTH SAINT PAUL WATERMAIN PROJECT NO. S.A.D. 8401.
(2) $\frac{223}{463}$ OF ROADWAY QUANTITIES PLUS DRIVEWAY AND WALK QUANTITIES.
(3) $\frac{223}{463}$ OF ROADWAY QUANTITIES.
(4) $\frac{24}{40}$ OF ROADWAY QUANTITIES.
(5) SOD SHALL CONTAIN A MINERAL SOIL PER SPEC. 3878.

STANDARD DETAIL PLATES

0004A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000I	REINFORCED CONCRETE PIPE
3006D	GASKET JOINT FOR REINFORCED CONCRETE PIPE
3145C	CONCRETE PIPE TIES
4000I	MANHOLE OR CATCH BASIN
4002E	MANHOLE OR CATCH BASIN
4005K	MANHOLE OR CATCH BASIN
4009G	MANHOLE OR CATCH BASIN (FOR RECONSTRUCT MANHOLES)
4010F	CONCRETE SHORT CONE AND ADJUSTING RING
4011D	PRECAST CONCRETE BASE
4021C	PRECAST CURB OPENING CATCH BASIN
4101C	RING CASTING FOR MANHOLE OR CATCH BASIN
4108E	MANHOLE ADJUSTING RINGS
4110D	COVER CASTING FOR MANHOLE
4180G	MANHOLE OR CATCH BASIN STEP
7036C	PEDESTRIAN CURB RAMP
7100F	CONCRETE CURB AND GUTTERS
8000H	STANDARD BARRICADES
8003B	BREAKAWAY SIGN SUPPORT (PLASTIC)
9322I	CHAIN LINK FENCE (FOR INSTALL FENCE)

NORTH ST. PAUL S.A.D. 8401

STATEMENT OF ESTIMATED QUANTITIES (CONT.)

S.A.P. NO. 62-623-23 — NON-PARTICIPATING

ITEM NO.	ITEM	UNIT	ESTIMATED QUANTITIES	FINAL ESTIMATED QUANTITIES	N. ST. PAUL RAMSEY CO.	RAMSEY COUNTY	NORTH ST. PAUL
2104.509	REMOVE MANHOLE	EACH	12			12	
2211.501	AGGREGATE BASE - CLASS 5, 100% CRUSHED	TON	104				104
2451.507	GRANULAR BEDDING (L.V.)	C.Y.	200				200
0503.602	CASTING ASSEMBLIES	EACH	9				9
0503.603	RECONSTRUCT OUTSIDE DROP SECTION	L.F.	4.5		4.5		
0503.603	RECONSTRUCT MANHOLE	L.F.	79			79	
2531.507	8" CONCRETE DRIVEWAY PAVEMENT	S.Y.	10				10
2535.501	BITUMINOUS CURB	L.F.	20				20
0504.602	ADJUST VALVE BOX	EACH	5		5		
0504.602	RELOCATE HYDRANT	EACH	1		1		
0504.603	6" WATERMAIN - DUCTILE IRON, CLASS 52	L.F.	3,575				3,575
0504.602	HYDRANTS	EACH	7		5		2
0504.602	6" GATE VALVE & MANHOLE	EACH	7				7
0504.602	8" GATE VALVE & MANHOLE	EACH	1				1
0504.602	6" GATE VALVE & BOX	EACH	7		5		2
0504.620	C.I. FITTINGS	LB.	1,565				1,565
0504.602	REMOVE & SALVAGE HYDRANTS	EACH	6		5		1
0504.602	RECONNECT WATER SERVICE	EACH	28				28
0504.605	3" POLYSTYRENE INSULATION	S.Y.	3		3		
0504.602	3/4" CORPORATION STOP (REPLACEMENT SERVICE)	EACH	25				25
0504.602	3/4" CURB STOP & BOX (REPLACEMENT SERVICE)	EACH	25				25
0504.603	3/4" COPPER SERVICE (REPLACEMENT SERVICE)	L.F.	825				825
0504.602	CONNECT TO INPLACE WATERMAIN	EACH	2				2
0504.602	CUT IN & CONNECT TO INPLACE WATERMAIN	EACH	4				4
0503.603	4" C.I.S.P. REPLACEMENT SERVICE	L.F.	825				825
0503.602	EXCAVATE TO LOCATE SEWER SERVICE	EACH	50				50

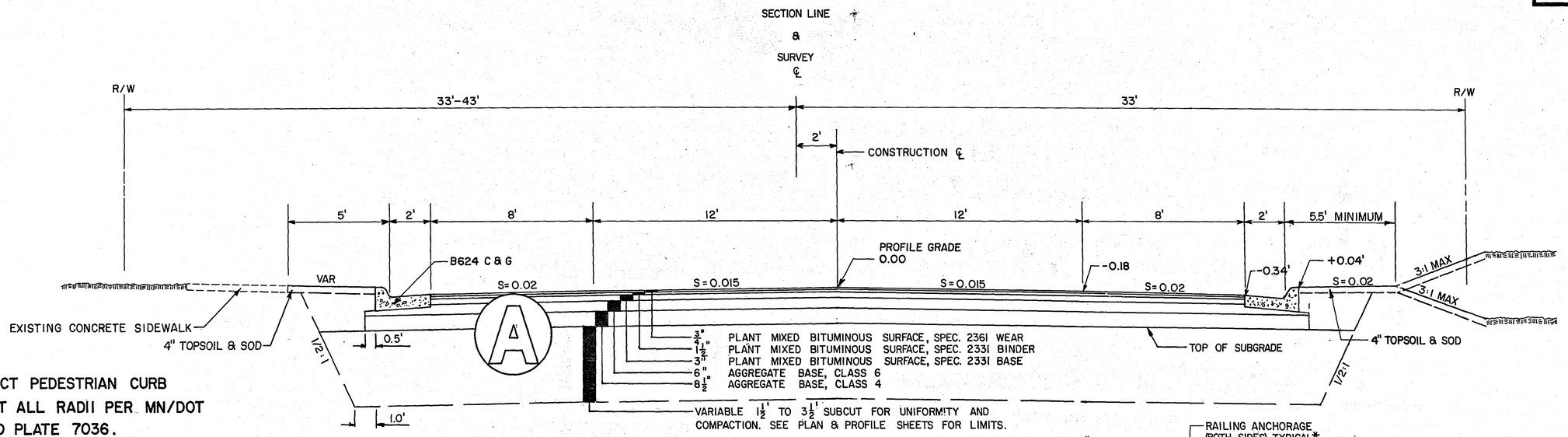
REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Larry K. Feldhaus
Date 3-07-85 Reg. No. 13501

ESTIMATED QUANTITIES

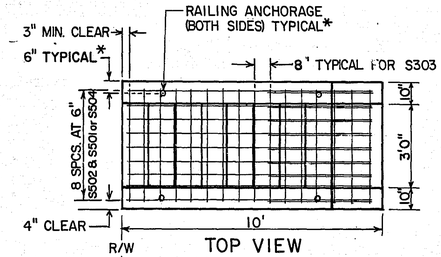
S.A.P. NO. 62-623-23 — Sheet No. 2 of 62 Sheets

26-128



CONSTRUCT PEDESTRIAN CURB RAMPS AT ALL RADII PER MN/DOT STANDARD PLATE 7036.

TYPICAL SECTION — COUNTY ROAD "C"



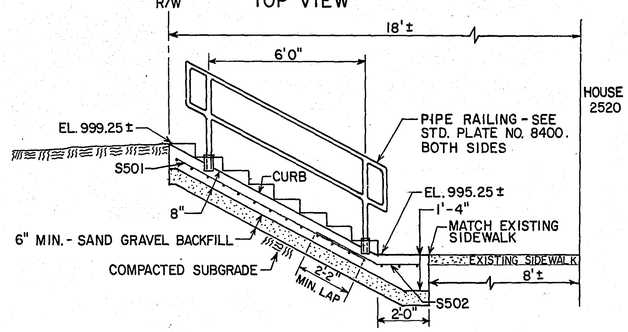
TOP VIEW

REINFORCING BAR CHARTS

MARK	NO.	LENGTH	LOCATION
S501	9	8'	STEPS LONGTDL.
S502	9	4'2"	STEPS LONGTDL. (BENT)
S303	16	4'	STEPS TRANSVERSE

MARK	NO.	LENGTH	LOCATION
S504	9	4'	STEPS LONGTDL.
S502	9	4'2"	STEPS LONGTDL. (BENT)
S303	10	4'	STEPS TRANSVERSE

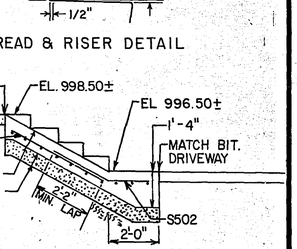
*PROVIDE RAILING AT STATION 186+48 RT. ONLY
USE S504 BAR AT STATION 205+68 RT. IN PLACE OF S501 BAR.



STATION 186+48 RT.

CONCRETE STAIRS DETAIL

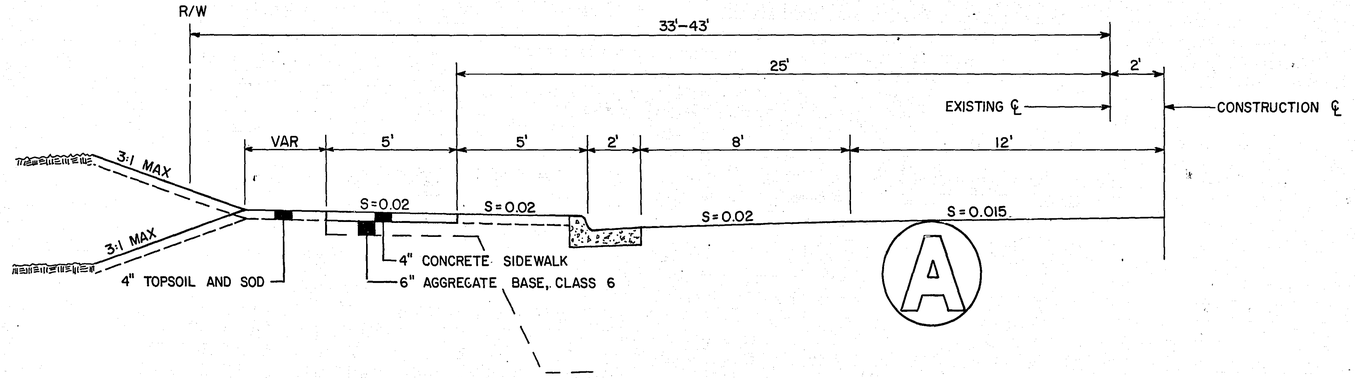
SCALE: 1" = 3'



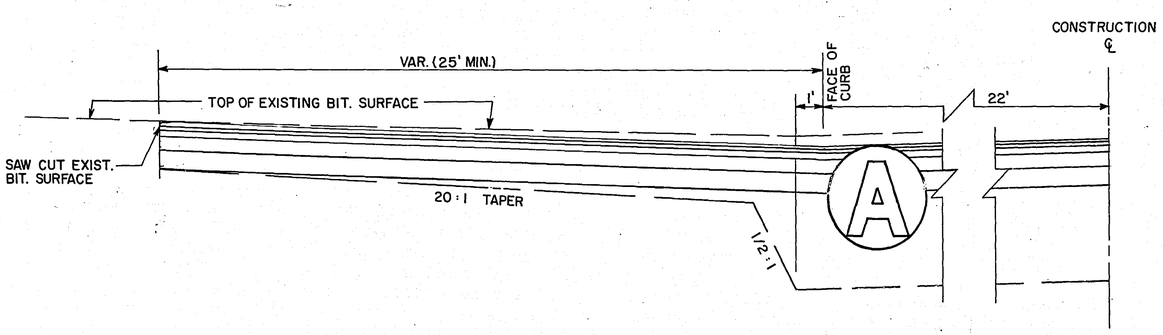
TREAD & RISER DETAIL

STATION 205+68 RT.

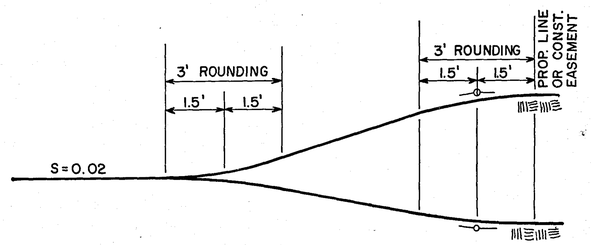
CONSTRUCT STEPS ON A 2:1 SLOPE.
CONCRETE MIX SHALL BE 3A32.
FINISH STAIR TREADS WITH BROOMED FINISH.



SIDEWALK REPLACEMENT



TYPICAL SIDE STREET APPROACH



SLOPE ROUNDING DETAIL

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 3-08-95 Reg. No. 13501

MICROFILMED
RAMSEY CO. ENGR.

TYPICAL SECTIONS

S.A.P. NO. 62-623-23

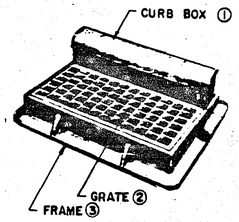
Sheet No. 3 of 62 Sheets

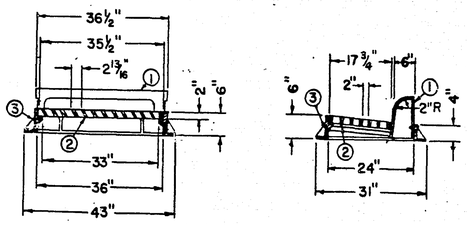
26-128

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.

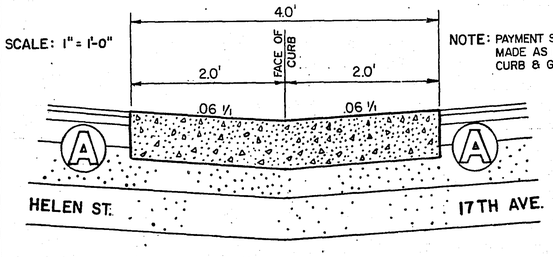




TYPE "V" DETAIL

CONCRETE GUTTER DELINEATOR THROUGH HELEN ST. (NORTH SIDE ONLY)
STA. 183+38± TO STA. 184+10± (LT. 22' TO FACE OF CURB)

SCALE: 1" = 1'-0"

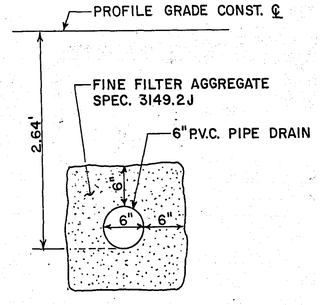


NOTE: PAYMENT SHALL BE MADE AS B624 CONC. CURB & GUTTER

SECTION A-A

SUBSURFACE DRAINS

LOCATION	STRUCTURES	LENGTH
161+75±	C.B. 101 & C.B. 102	50 L.F.
164+95±	C.B. 105 & C.B. 106	50 L.F.
189+10±	C.B. 117 & M.H. 118	30 L.F.
	C.B. 119 & M.H. 118	20 L.F.
193+20±	C.B. 122 & C.B. 65	40 L.F.
	C.B. 123 & C.B. 65	9 L.F.
	C.B. 122 & C.B. 124	41 L.F.
	C.B. 123 & C.B. 126	60 L.F.
	C.B. 124 & M.H. 125	46 L.F.
	C.B. 126 & M.H. 125	9 L.F.
208+23±	C.B. 136 & C.B. 137	50 L.F.
	C.B. 137 & M.H. 139	52 L.F.
	M.H. 138 & M.H. 139	38 L.F.
	M.H. 138 STUB SOUTH	16 L.F.
TOTAL		511 L.F

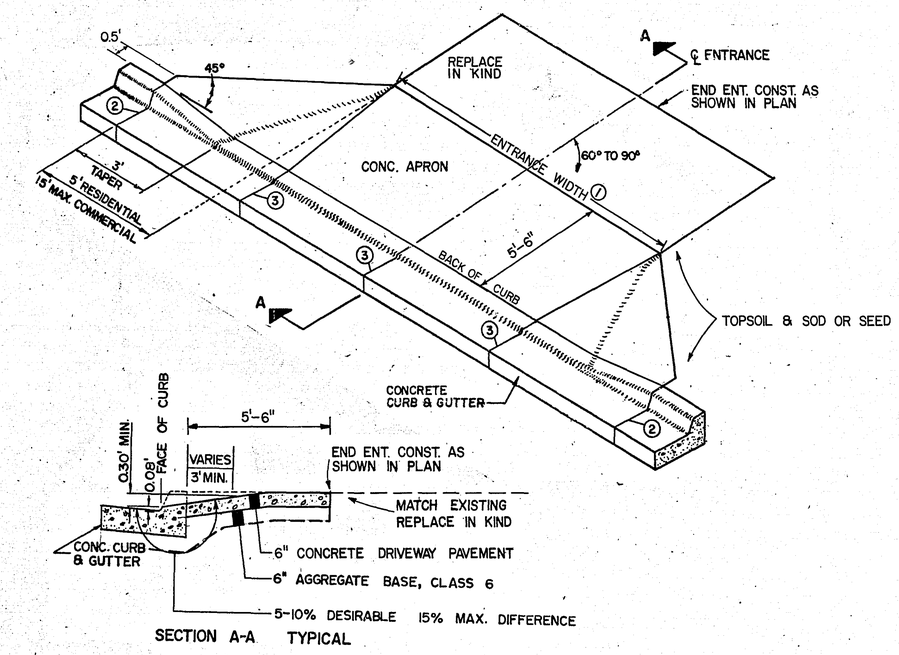


SUBSURFACE DRAIN DETAIL

① PERFORATED DRAINS SHALL BE (ABS), (PVC), (PS), OR EQUIVALENT.

② THE PERFORATED PIPE SHALL BE IMBEDDED IN A MINIMUM OF 6" OF FINE FILTER AGGREGATE SPEC. 3149.2J

SOUTH SIDE WITHOUT SIDEWALK



SECTION A-A TYPICAL

NORTH SIDE WITH SIDEWALK

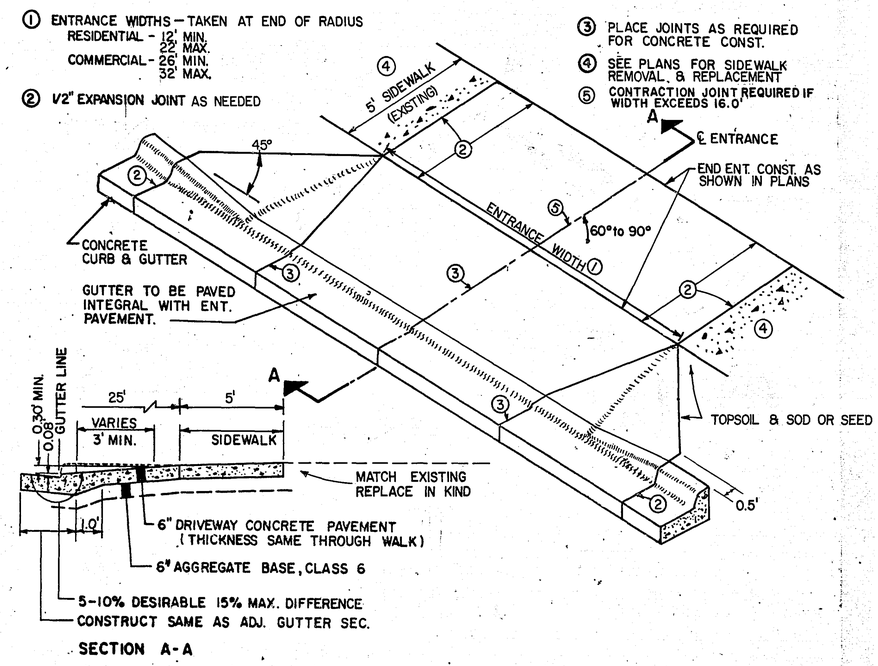
① ENTRANCE WIDTHS — TAKEN AT END OF RADIUS
RESIDENTIAL - 12' MIN. 22' MAX.
COMMERCIAL - 26' MIN. 32' MAX.

② 1/2" EXPANSION JOINT AS NEEDED

③ PLACE JOINTS AS REQUIRED FOR CONCRETE CONST.

④ SEE PLANS FOR SIDEWALK REMOVAL & REPLACEMENT

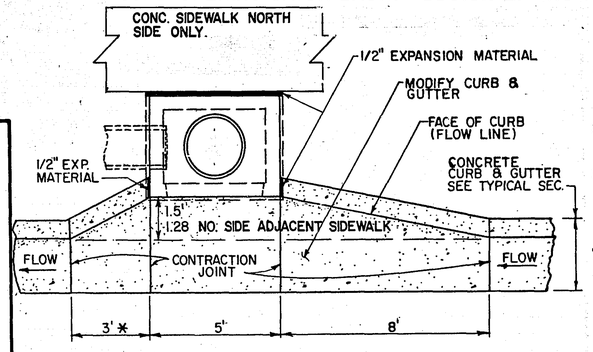
⑤ CONTRACTION JOINT REQUIRED IF WIDTH EXCEEDS 16.0'



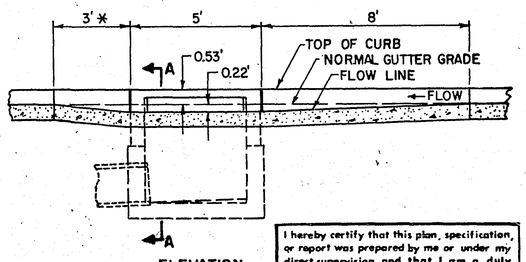
SECTION A-A

ENTRANCE DETAILS

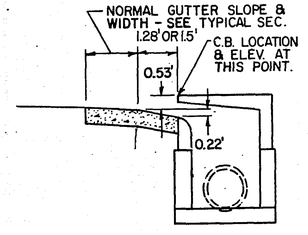
CURB OPENING CATCH BASIN — DESIGN LP INSTALLATION DETAIL



PLAN VIEW



ELEVATION (AT FLOW LINE)



SECTION A-A

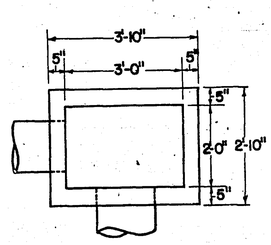
NOTES:

1. * DIMENSION SHALL BE 8' WHEN STRUCTURE INSTALLED AT LOW POINT IN GRADE
2. CATCH BASIN - DESIGN LP - SEE MN/DOT STD. PL. NO. 4021C.
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.

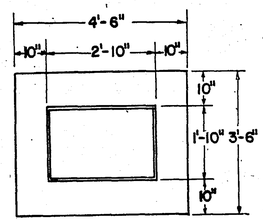
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date _____ Reg. No. _____

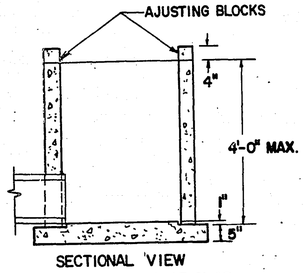
CATCH BASIN DESIGN NO. SPECIAL 2



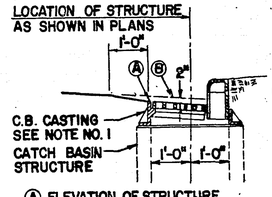
CATCH BASIN PLAN



BASE SLAB PLAN



SECTIONAL VIEW CATCH BASIN & BASE SLAB



Ⓐ ELEVATION OF STRUCTURE COMPUTED AT THIS LOCATION
Ⓑ NORMAL GUTTER GRADE

INSTALLATION DETAIL

NOTES

1. CASTING ASSEMBLY — SEE DETAIL THIS SHEET.
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. 7111 & DETAIL THIS SHEET.
5. REINFORCING: SINGLE LINE STEEL WIRE FABRIC.
   WALL = W3.5 x W3.0 HAVING AN AREA OF NOT LESS THAN .21 SQ. IN. PER FOOT OF HEIGHT.
   BASE = W4.0 W4.0 HAVING AN AREA OF NOT LESS THAN .16 SQ. IN. PER FOOT OF HEIGHT.
6. ALTERNATE CONSTRUCTION — THE CATCH BASIN MAY BE CONSTRUCTED OF BLOCK OR BRICK CONFORMING TO THE REQUIREMENTS OF MN./DOT SPEC. 2506 AND AS DIRECTED BY THE ENGINEER.

MICROFILMED RAMSEY CO. ENGR.

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Zoll

Date 3-06-85 Reg. No. 13501

ENTRANCE & CATCH BASIN DETAILS

S.A.P. No. 62-623-23

Sheet No. 4 of 62 Sheets

26-128

REMOVALS

STATION	LOCATION SURVEY ℄	CONCRETE SIDEWALK SF	CONCRETE PAVEMENT SY	R.C. PIPE LF	M.H. & C.B. EACH	CONCRETE C & G LF	BIT. CURB LF	CONCRETE CURB LF		
159+27	23' LT		4							
+67	23' RT		10							
160+60	25' LT	110								
161+25				45	1					
+37	25' LT	50	7							
162+10	25' LT	50	7							
163+40	5' LT	110								
+53	22' LT			28	1					
+68	28' LT					17				
164+00	35' RT			13	1		85			
+04	28' LT					17				
+20	22' LT			46	1					
+30	35' RT			28	1					
168+17	22' LT			44	1					
+60			10							
169+20			3							
170+52				8	1	28				
+85				30	1					
172+05	25' LT	50					70			
+55	25' LT	50								
+63	22' LT			45	1					
175+26	27' RT					20				
+28	25' LT	50					53			
+48	22' RT						35			
+75	25' LT	50								
176+84	22' LT			50	1					
177+00	28' RT			18	1	12	10			
+38	25' LT	1550								
+40	40' RT			35	1	12	25			
+55	22' RT			24	1					
179+70	28' RT	18								
+95	19' RT		13							
183+40	25' LT	50								
+45	22' RT	100						35		
+56	33' LT						24			
184+05	25' LT	780								
+48	22' RT	36								
185+25	21' RT	30								
+65	20' RT		18							
186+48	22' RT	63 (INCLUDES STEPS)								
187+35	15' RT		27							
+65	25' LT	115								
188+92	25' LT	530								
189+30	24' LT			33	1					
+43	19' RT			10	1					
+78	30' LT	40								

REMOVALS

STATION	LOCATION SURVEY ℄	CONCRETE SIDEWALK SF	CONCRETE PAVEMENT SY	R.C. PIPE LF	M.H. & C.B. EACH	CONCRETE C&G LF	BIT CURB LF	CONCRETE CURB LF		
190+00	19' RT					41				
+00	22' LT	128		12	1	76				
+23	22' LT			48	2					
+23	35' RT		98							
+62	37' LT	2945		48	1	66				
+62	20' RT	144				31				
195+68	23' RT		28			160				
196+00	28' RT	200								
+29	23' RT		25							
+65	28' RT	200								
+91	25' LT	25								
+91	27' RT	116								
+97	34' LT	8								
+99	18' LT			37	1					
197+36	16' LT			34	1					
+60	25' LT	50								
198+60	31' RT	18								
+96	29' RT	36								
199+28	25' LT	20								
+83	25' RT	15								
200+14	20' RT		9							
+47	20' RT		21							
+64	20' RT	23								
201+82	24' RT	20								
202+07	25' LT	215								
+11	21' RT		19							
+37	25' RT	21								
+60	30' RT	404				90	21			
203+48	20' LT	55					12			
+84	31' LT	70					21			
+84	49' RT					16	21			
204+20	15' RT	76								
+69	15' RT		28							
205+68	16' RT	122 (INCLUDES STEPS)								
+98	25' LT	110								
206+55	25' LT	110								
+76	20' RT	39								
207+48	25' LT	50	6							
+83	24' RT	50								
208+17	25' LT	440								
+45	14' RT			160	2					
+90	25' RT	40								
209+41	23' LT						21			
+41	21' RT						35			
TOTALS		9582	333	796	23	586	433	35		

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Date 3-04-85 Reg. No. 13501

RECOMMENDED
RAMSEY CO. ENGR.

REMOVAL CHART

S.A.P. NO. 62-623-23

Sheet No. 5 of 62 Sheets

26-128

SALVAGE AND INSTALL CHART

STATION	LOCATION	QUAN.	ITEM
NOTE: ALL ITEMS SHALL BE INSTALLED ON PRIVATE PROPERTY.			
169 + 73	RT. 35'	50 L.F.	6' CHAIN LINK FENCE
184 + 40	RT. 34'	1 EACH	PLANTER
185 + 50	RT. 20'	20 L.F.	SPLIT RAIL FENCE
187 + 25	RT. 25'	10 L.F.	METAL RAILING
191 + 98	LT. 32'	10 L.F.	WROUGHT IRON RAILING
192 + 97	LT. 31'	24 L.F.	SPLIT RAIL FENCE
194 + 79	LT. 34'	5 L.F.	CHAIN LINK FENCE
194 + 84	LT. 32'	44 L.F.	WOOD RAIL FENCE
195 + 30	LT. 32'	5 L.F.	CHAIN LINK FENCE
206 + 53	RT. 26'	15 L.F.	4' WIRE FENCE (INSTALL 5 L.F.)
206 + 55	RT. 25'	45 SF.	FLAGSTONE WALL (INSTALL 20 SF.)
208 + 38	RT. 24'	1 EACH	SIGN
209 + 50	RT. 35'	1 EACH	SIGN

ITEM	TOTAL QUANTITY
CHAIN LINK FENCE	75 L.F.
PLANTER	1 EACH
WOOD RAIL FENCE	88 L.F.
METAL RAILING	20 L.F.
FLAGSTONE WALL	45 SF.
SIGN	2 EACH

HYDRANT CHART - S.A.D. 8401

STATION	LOCATION		
McKNIGHT ROAD TO HELEN ST.			
160 + 81	LT. 38		
163 + 60	LT. 37		
167 + 89	LT. 31		
170 + 90	RT. 36		
175 + 90	LT. 37		
179 + 81	LT. 23		

ALL UTILITY WORK SHALL BE DONE AS DIRECTED BY CITY OF NORTH ST. PAUL. SEE S.A.D. 8401 PLAN SHEETS AND SPECIAL PROVISIONS FOR UNDERGROUND UTILITY CONSTRUCTION.

CLEAR AND GRUB CHART

STATION	LOCATION LT.	LOCATION RT.	DESCRIPTION	CLEAR	GRUB
ALL LOCATIONS ARE FROM SURVEY ℄					
McKNIGHT ROAD TO MARGARET ST					
165 + 85		31'	STUMP	0	1
166 + 10		32'	STUMP	0	1
166 + 17		32'	STUMP	0	1
166 + 18		39'	STUMP	0	1
170 + 12		31'	10" MAPLE	1	1
173 + 47		30'	34" MAPLE	1	1
178 + 74		29'	10" ELM	1	1
185 + 78		23'	30" ASH	1	1
186 + 87		24'	36" MAPLE	1	1
188 + 00		23'	32" MAPLE	1	1
188 + 36		25'	QUINT. 14" MAPLE	4	1
189 + 00		22'	34" MAPLE	1	1
189 + 35		23'	40" MAPLE	1	1
189 + 70		24'	20" ELM	1	1
189 + 84		22'	10" PINE	1	1
MARGARET ST. TO T.H. 120					
192 + 21	34'		TWIN 33" MAPLE	2	1
192 + 36		24'	28" MAPLE	1	1
192 + 54		24'	29" MAPLE	1	1
192 + 68	35'		5" MAPLE	1	1
192 + 88		24'	35" MAPLE	1	1
194 + 42		23'	TWIN 26" MAPLE	2	1
195 + 45		23'	66" MAPLE	1	1
200 + 71		23'	30" MAPLE	1	1
200 + 78		23'	12" MAPLE	1	1
201 + 06		23'	TWIN 30" MAPLE	2	1
201 + 41		23'	30" MAPLE	1	1
202 + 84		24'	6" MAPLE	1	1
203 + 22		23'	6" ASH	1	1
206 + 71		25'	6" APPLE	1	1
206 + 85		25'	6" APPLE	1	1
207 + 51		24'	10" PINE	1	1
208 + 00		27'	12" PINE	1	1
208 + 73		28'	12" PINE	1	1
208 + 85		35'	STUMP	0	1
209 + 14		28'	4" PINE	1	1
209 + 40		32'	6" PINE	1	1
209 + 47		31'	5" PINE	1	1
ADDITIONAL					
186 + 33		33'	5" BIRCH	1	1
186 + 35		35'	5" BIRCH	1	1
TOTALS				40	39

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Feldhaus

Date 3-06-85 Reg. No. 13501

MICROFILMED

MISCELLANEOUS CHARTS

S.A.P. NO. 62-623-23 ; S.A.D. 8401

Sheet No. 6 of 62 Sheets

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"			CORRUGATED STEEL PIPE 12"	15"	18"			APRON	CLASS	DRAINS TO: STRUCTURE NO.	DRAINS TO: INVERT EL.	REMARKS	
		EXISTING																												
154+11	RT. 22	1	ST	SD		7"																								
154+17	LT. 21	2	ST	MH				963.15																						
154+92	RT. 22	3	SAN	MH		9"		963.85																						
155+02	LT. 29	4	WATER	MH		9"		964.16																						
157+18	RT. 24	5	ST	CB		11"		963.92																						
157+19	LT. 27	6	ST	CB		LP4		964.32																						
157+31	LT. 27	7	WATER	MH		7"		964.17																						
157+61	RT. 21	8	SAN	MH				964.94																						
157+62	LT. 19	8A	SAN	MH		11"		965.22																						
157+68	RT. 58	10	ST	MH		9"		964.75																						
157+74	RT.39	11	WATER	MH		9"		964.78																						
157+74	LT. 40	12	WATER	MH		9"		965.20																						
157+82	LT.14	13	TEL.	MH		11"		965.09																						
157+89	LT.64	14	ST	CB		LP4		965.45																						
157+93	LT. 19	15	WATER	MH		9"		964.78																						
157+42	RT.18	9	ST	MH																										
161+24	LT22	16	ST	CB		9"	963.06	962.66	—	958.16																				REMOVE
161+26	RT22	17	ST	CB		6"	963.04	962.57	962.68	951.07		5.5'	1																	CONVERT TO MANHOLE (1)
163+53	LT22	18	ST	CB		9"	963.89	962.90	—	957.90																				REMOVE
163+81	LT23	19	SAN	MH		12"	963.96	963.46	963.5±	954.66	1																			ADJUST
164+00	RT34	20	ST	CB		9"	963.91	963.15	—	959.45																				REMOVE
164+06	RT22	21	ST	MH		9"	963.88	963.27	963.52	952.27	1																			ADJUST
164+14	LT14	22	WATER	MH		9"	963.84	963.52	963.58	956.22	1																			ADJUST
164+19	LT22	23	ST	CB		9"	963.81	962.87	—	957.47																				REMOVE
164+29	RT35	24	ST	CB		9"	963.77	963.14	—	957.94																				REMOVE
164+54	RT22	25	ST	CB		6"	963.64	962.82	963.28	952.33		4.9'	1																	CONVERT TO MANHOLE (1)
171+40	RT.90	31A	ST	SD					—																					
168+16	LT. 22	26	ST	CB		9"	965.30	964.50	—	959.20																				REMOVE
168+16	RT. 21	27	ST	CB		6"	965.30	964.35	964.94	953.75		6.1'	1																	CONVERT TO MANHOLE (1)
170+45	RT. 21	28	ST	MH		9"	967.22	967.04	966.88	954.74	1																			ADJUST
170+54	RT. 38	29	ST	CB		9"	967.29	966.96	—	961.96																				REMOVE
170+56	RT. 31	30	ST	MH			967.31	966.9±	966.9±			5.8'±	1																	UNABLE TO OPEN
170+83	RT. 36	31	ST	CB		9"	967.54	967.24	—	961.94																				REMOVE
171+01	LT. 14	32	WATER	MH		9"	967.69	967.3±	967.41	960.3±	1																			ADJUST
172+18	LT. 28	33	ST	MH		9"	968.69	967.50	968.0±	958.29		5.0'	1																	
172+19	RT. 21	34	ST	CB		6"	968.90	967.48	968.54	956.68		7.0'	1																	CONVERT TO MANHOLE (1)
172+41	LT. 48	35	WATER	MH			969.09	967.53	—																					OK - LEAVE AS IS
172+62	LT. 22	36	ST	CB			969.27	968.25	—	963.25																				REMOVE
173+23	LT. 23	37	TEL	MH		12"	969.79	969.66	969.83	955.66																				ADJUST BY OTHERS
175+23	LT. 16	38	TEL	MH		12"	971.31	971.09	970.99	962.69																				ADJUST BY OTHERS
175+48	RT. 22	39	ST	CB		6"	971.62	970.89	971.26	959.39		5.3'	1																	CONVERT TO MANHOLE (1)
175+68	LT. 49	40	WATER	MH		9"	971.90	970.53	—																					OK - LEAVE AS IS
176+13	LT. 09	41	WATER	MH		9"	972.90	972.76	972.71	963.86	1																			ADJUST
176+84	LT. 21	42	ST	CB		6"	974.38	973.55	—	969.45																				REMOVE
177+03	RT. 38	43	ST	CB		6"	974.91	974.80	—	970.10																				REMOVE
177+07	RT. 23	44	ST	MH		9"	975.03	975.38	974.67	966.38		5.0'	1																	
177+38	RT. 38	45	ST	CB		6"	975.99	975.04	—	972.14																				REMOVE
177+55	RT. 21	46	ST	CB		6"	976.56	976.22	—	970.52																				REMOVE
182+84	LT. 22	47	TEL	MH		12"	997.10	997.51	997.14	986.71																				ADJUST BY OTHERS
182+97	LT. 22	48	TEL	MH		12"	997.60	997.90	997.64	987.10																				ADJUST BY OTHERS
177+34	RT.35	44A	ST	MH		9"	975.86	975.18	975.5±	970.02	1																			ADJUST (Remove 8-26 MF BJ

NOTES

(1) EXISTING STRUCTURES SHALL BE RECONSTRUCTED & CONVERTED TO MANHOLES. NEW CASTINGS SHALL BE: RING CASTING MN./DOT. NO. 700-7 & COVER CASTING MN./DOT. NO. 712. PAYMENT SHALL BE MADE AS ITEM NOS. 2506.516, 2506.521 AND 2506.511.

NOTE: SEE PLAN SHEETS FOR ASBUILTS.

MICROFILMED
RAMSEY CO. ENGR.

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Harry K. Feldhahn
Date 3-06-85 Reg. No. 13501

EXISTING DRAINAGE CHART

CASTINGS — A= RING CASTING M.H.D. NO. 700-7, COVER CASTING NO.712 (INCLUDE WITH STRUCTURE, NOT SEPARATE PAY ITEM).
B= NEENAH INLET FRAME, GRATE, & CURB BOX NO. R-3067 OR EQUAL (INCLUDE WITH STRUCTURE, NOT SEPARATE PAY ITEM).

MANHOLES & CATCH BASINS — SP -2, DETAIL ON SHEET NO.4
A.O.R.F, M.H.D. STD. PLATE NO.4000 OR 4005

S.A.P NO. 62-623-23 ; S.A.D. 8401

Sheet No. 7 of 62 Sheets

26-128

DRAINAGE CHART

STATION	LOCATION SURVEY ℄	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"			CORRUGATED STEEL PIPE 12"	15"	18"			APRON	CLASS	DRAINS TO: STRUCTURE NO.	INVERT EL.	REMARKS
		EXISTING																											
183+44	LT. 09	49	WATER	MH			999.41	999.47	999.23	991.37	1																		ADJUST
183+69	RT. 01	50	SAN	MH		9"	1000.06	1000.23	1000.04	985.13																			REMOVE & RECONSTRUCT (2)
183+93	LT. 26	51	TEL	MH		12"	1000.54	1001.14	—	990.14																			WARP TO MATCH CASTING
183+99	LT. 21	52	TEL	MH			1000.64	1001.02	—	990.14																			WARP TO MATCH CASTING
184+15	LT. 08	53	WATER	MH		9"	1000.87	1000.86		993.56																			REMOVE (2)
186+43	LT. ℄	54	SAN	MH		9"	999.03	999.17	998.98	987.17																			REMOVE & RECONSTRUCT (2) 2.5' DROP SECTION
189+29	LT. 23	55	ST	CB		11"	997.76	996.49	—	992.0																			REMOVE
189+44	RT. 19	56	ST	CB		11"	997.84	994.97	—	991.47																			REMOVE
190+08	LT. 21	57	ST	CB		6"	997.70	996.86	—	993.16																			REMOVE
190+22	LT. 35	58	ST	CB		6"	997.53	997.11	—	995.11																			REMOVE
190+23	LT. 21	59	ST	MH		9"	997.51	996.74	—	993.44																			REMOVE
190+39	RT. 09	60	ST	MH			997.24	996.69	997.11	990.68		6.2'	1																
190+43	LT. 01	61	SAN	MH		9"	997.16	996.70	997.10	985.70																			REMOVE & RECONSTRUCT (2)
190+63	LT. 37	62	ST	CB		6"	996.70	996.45	—	993.65																			REMOVE
191+05	RT. 22	63	TEL	MH		11"	993.45	993.48	993.03																				ADJUST BY OTHERS
189+04	LT. 19±	52A	TEL	MH		12"	997.67	997.19	997.28	988.39																			ADJUST BY OTHERS
189+45	RT. 09±	56A	ST	MH			997.85		997.71				1																UNABLE TO OPEN
192+93	LT. 13	64	ST	CB		9"	988.49	987.56	988.23	984.06		1'	1																CONVERT TO MANHOLE (1)
193+19	RT. 18	65	ST	CB		11"	988.06	987.48	987.78	983.70		3.5'	1																CONVERT TO MANHOLE (1)(3)
193+21	RT. 01	66	SAN	MH			988.04	987.76	988.04																				REMOVE & RECONSTRUCT (2)
196+93	LT. 12	67	WATER	MH		9"	991.23	991.20		984.10																			REMOVE (2)
197+00	LT. 19	68	ST	CB		9"	991.32	991.00	—	986.70																			REMOVE.
197+12	RT. 02	69	SAN	MH		9"	991.45	991.24	991.43	981.34																			REMOVE & RECONSTRUCT (2) 2.0' DROP SECTION
197+19	RT. 17	70	ST	MH		9"	991.52	990.98	991.27	980.94	1																		
197+36	LT. 17	71	ST	CB		9"	991.66	990.67	—	986.17																			REMOVE
197+60	LT. 11	72	WATER	MH		9"	991.96	991.44		983.44																			REMOVE (2)
197+74	RT. 25	73	TEL	MH		13"	992.38	991.32	992.42	982.12																			ADJUST BY OTHERS
200+56	RT. 00	74	SAN	MH			993.78	993.81	993.73																				REMOVE & RECONSTRUCT (2)
203+70	LT. 03	75	SAN	MH		9"	996.89	996.93	996.80	988.53																			REMOVE & RECONSTRUCT (2)
203+40	RT 22	76	TEL	MH		13"	996.52	996.73	996.16	987.53																			ADJUST BY OTHERS
206+63	LT 01	77	SAN	MH		9"	993.19	992.76	993.13	984.56																			REMOVE & RECONSTRUCT (2)
208+45	R" 14	78	ST	CB		9"	989.60	990.33	—	986.93																			PEMOVE
208+73	LT. 18	79	ST	CB		9"	989.90	988.43	—	985.53																			REMOVE
209+63	RT. 00	80	SAN	MH		11"	991.66	991.71	—																				REMOVE & RECONSTRUCT (2)
209+65	RT. 15	81	ST	MH		9"	991.70	991.72	—																				OK—LEAVE
				TOTALS							9	55.3	12																

NOTES

(1) EXISTING STRUCTURES SHALL BE RECONSTRUCTED & CONVERTED TO MANHOLES. NEW CASTINGS SHALL BE: RING CASTING MN./DOT. NO. 700-7 & COVER CASTING MN./DOT. NO. 712. PAYMENT SHALL BE MADE AS ITEM NOS. 2506.511, 2506.516 AND 2506.521.

(2) WORK TO BE DONE UNDER S.A.D. 8401. SEE S.A.D. 8401 PLAN SHEETS FOR EACH STRUCTURE. (SHEET 54 TO SHEET 60).

(3) EXISTING 12" RCP BETWEEN MH 65 & 70 TO REMAIN IN PLACE.

NOTE: SEE PLAN SHEETS FOR ASBUILTS.

MICROFILMED
RAMSEY CO. ENGR.

REVISIONS	DATE	BY	REVISIONS	DATE	BY

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

Larry K. Fiddler

Date 3-06-85 Reg. No. 13501

CASTINGS — A= RING CASTING M.H.D. NO. 700-7, COVER CASTING NO.712 (INCLUDE WITH STRUCTURE, NOT SEPARATE PAY ITEM).
B= NEENAH INLET FRAME, GRATE, & CURB BOX NO. R-3067 OR EQUAL (INCLUDE WITH STRUCTURE, NOT SEPARATE PAY ITEM).

MANHOLES & CATCH BASINS — SP-2, DETAIL ON SHEET NO.4
A. ORF, M.H.D. STD. PLATE NO.4000 OR 4005

EXISTING DRAINAGE CHART

S.A.P NO. 62-623-23; S.A.D. 8401

Sheet No. 8 of 62 Sheets

26-128

DRAINAGE CHART

PROPOSED

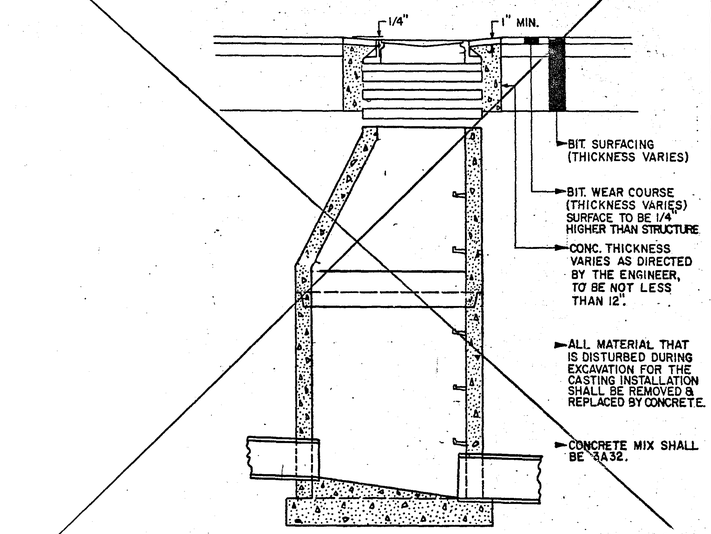
STATION	LOCATION CONST. ℄	NO.	TYPE	DESIGN	CONST. HEIGHT LIN. FT.	CASTING ASSEMBLY	ELEVATION: PROFILE	ELEVATION: ORIGNAL GRATE OR RING	ELEVATION: NEW GRATE OR RING	ELEVATION: C.B. or M.H. INVERT	ADJUST CASTING ASSEMBLY	RECONSTRUCT CATCH BASIN OR MANHOLE LIN. FT.	INSTALL CASTING ASSEMBLY	FURNISH AND INSTALL PIPE SEWER: REINFORCED CONCRETE PIPE 12"	15"	18"	21"	24"	CORRUGATED STEEL PIPE 12"	15"	18"	APRON	CLASS	DRAINS TO: STRUCTURE NO.	INVERT EL.	REMARKS
161+75	LT. 23.3	101	CB	LP4	3.9	C	962.83		962.90	958.50					50									102	958.00	SUBSURFACE DRAIN
161+75	RT. 23.5	102	CB	LP4	4.4	C	962.83		962.90	958.00					48									17	957.52	SUBSURFACE DRAIN
164+01	RT. 49.5	103	CB	SP-2	3.4	B	963.90		963.1±	959.88					28									104	959.60	
164+30	RT. 49.5	104	CB	SP-2	3.7	B	963.76		963.1±	959.60					40									25	959.20	
164+94	LT. 23.3	105	CB	LP4	4.5	C	963.47		963.54	958.90					50									106	958.40	SUBSURFACE DRAIN
164+94	RT. 23.5	106	CB	LP4	5.0	C	963.47		963.54	958.40					40									25	958.0	SUBSURFACE DRAIN
170+55	RT. 49	107	CB	SP-2	5.3	B	968.15		967.1±	962.00					20									30	961.80	
170+85	RT. 34	108	CB	SP-2	6.5	B	968.41		967.1±	960.80					30									30	960.50	
172+20	RT. 23.5	109	CB	LP4	4.8	C	968.71		968.78	963.50					4									34	963.46	
172+82	LT. 23.3	110	CB	LP4	4.6	C	969.24		969.31	964.25					65									33	963.60	
176+12	LT. 23.3	111	CB	LP4	5.8	C	972.68		972.75	966.50					77									39	965.73	
177+04	RT. 49	112	CB	SP-2	5.4	B	974.94		974.7±	969.50					28									44	969.22	
177+39	RT. 49	113	CB	SP-2	5.2	B	976.01		975.0±	970.00					32									112	969.68	
177+76	RT. 23.5	114	CB	LP4	5.6	C	977.31		977.38	971.25					66									44	969.93	
180+35	LT. 23.3	115	CB	LP4	5.2	C	987.38		987.45	981.80					50									116	981.30	
180+35	RT. 23.5	116	CB	LP4	5.7	C	987.38		987.45	981.30				260										114	973.00	
189+11	LT. 23.3	117	CB	LP4	5.3	C	997.68		997.75	992.00					32									118	991.68	SUBSURFACE DRAIN
189+11	RT. 6	118	MH	A or F	6.1	A	997.68		997.57	991.60					36									56A	991.0±	SUBSURFACE DRAIN
189+11	RT. 23.5	119	CB	LP4	5.3	C	997.68		997.75	992.00					18									118	991.82	SUBSURFACE DRAIN
190+20	LT. 39	120	CB	LP8	5.6	C	997.56		997.63	991.50					50									60	991.00	
190+68	LT. 54	121	CB	LP4	4.4	C	996.57		996.64	991.70					68									60	991.02	
193+20	LT. 23.3	122	CB	LP4	3.3	C	988.05		988.12	984.30					41									65	983.89	SUBSURFACE DRAIN
193+20	RT. 23.5	123	CB	LP4	3.4	C	988.05		988.12	984.20					9									65	984.11	SUBSURFACE DRAIN
193+60	LT. 23.3	124	CB	LP4	3.1	C	987.69		987.76	984.20					46									125	983.74	SUBSURFACE DRAIN
193+81	RT. 15	125	MH	A or F	4.2	A	987.65		987.43	983.45±					—								BUILD OVER	EXISTING		SUBSURFACE DRAIN
193+81	RT. 23.5	126	CB	LP4	3.7	C	987.65		987.76	983.65					9									125	983.56	SUBSURFACE DRAIN
193+81	RT. 23.5	126	CB		3.7	C	987.65		987.76	983.65						339								129	982.29	SUBSURFACE DRAIN
197+05	LT. 50	127	CB	SP-2	4.0	B	991.37		991.4±	987.64					14									128	987.50	
197+20	LT. 50	128	MH	A or F	5.5	A	991.53		991.8±	986.4±					—									—	—	BUILD OVER EXISTING
197+20	RT. 25	129	MH	A or F	9.9	A	991.53		990.8±	980.94±					—									—	—	BUILD OVER EXISTING
197+30	RT. 25	130	MH	A or F	5.3	A	991.62		990.8±	985.60					10									129	985.60	
197+30	RT. 25	130	MH	STUB PIPE FOR FUTURE CONSTRUCTION													32							—	—	PLUG AS DIRECTED
197+47	LT. 50	131	CB	SP-2	3.6	B	991.76		991.2±	987.77					27									128	987.50	
197+95	LT. 23.3	132	CB	LP4	5.0	C	992.18		992.25	986.80					50									133	986.30	
197+95	RT. 23.5	133	CB	LP4	5.5	C	992.18		992.25	986.25					65									130	985.60	
199+25	LT. 23.3	134	CB	LP4	4.5	C	993.06		993.13	988.10					50									135	987.60	
199+25	RT. 23.5	135	CB	LP4	5.0	C	993.06		993.13	987.60					130									133	986.30	
208+13	RT. 23.5	136	CB	LP4	3.5	C	989.54		989.61	985.61					52									137	985.48	SUBSURFACE DRAIN
208+23	LT. 23.3	137	CB	LP4	3.6	C	989.53		989.60	985.48					52									139	985.35	SUBSURFACE DRAIN
208+74	RT. 13	138	MH	A or F	4.0	A	989.91		989.71	985.25					92									81	985.12	SUBSURFACE DRAIN
208+74	LT. 25	139	MH	A or F	4.2	A	989.91		990.0±	985.35					38									138	985.25	SUBSURFACE DRAIN
209+02	LT. 38	140	SD	A or F	3.3	D	990.44		989.2±	985.44					34									139	985.35	
														260	1551	339	32									

LP4 - 23
LP8 - 1
SP-2 - 8
MH A OR F - 7

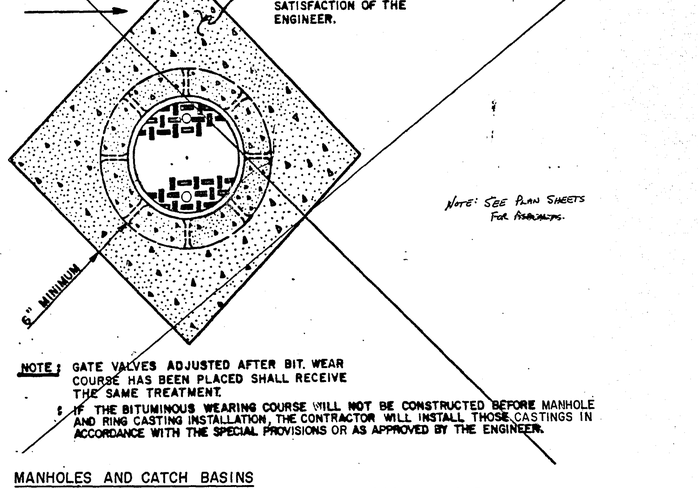
S.D. DESIGN C - 1

NOT IN PROJECT

MANHOLE FRAME AND RING CASTING INSTALLATION



MANHOLE COVER TOP VIEW



NOTE: SEE PLAN SHEETS FOR ASPHALTS.

NOTE: GATE VALVES ADJUSTED AFTER BIT. WEAR COURSE HAS BEEN PLACED SHALL RECEIVE THE SAME TREATMENT.

‡ IF THE BITUMINOUS WEARING COURSE WILL NOT BE CONSTRUCTED BEFORE MANHOLE AND RING CASTING INSTALLATION, THE CONTRACTOR WILL INSTALL THOSE CASTINGS IN ACCORDANCE WITH THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

MANHOLES AND CATCH BASINS

DESIGN A OR F — SEE MN/DOT STD. PL. NO. 4000 OR 4005
DESIGN SP-2 — SEE DETAIL SHEET NO. 4
DESIGN LP4-HT—SEE MN/DOT STD. PL. NO. 4021 AND DETAIL SHEET NO. 4

CASTING ASSEMBLIES

A= {DESIGN A OR B, J, 4019 (MANHOLE) / RING CASTING—MN/DOT NO. 700-7 / COVER CASTING—MN/DOT NO. 712}

B= {DESIGN—SP-2 / FRAME, GRATE, AND CURB BOX (SEE DETAIL SHEET NO. 4)}

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

D= {DESIGN A OR F, SURFACE DRAIN / RING CASTING—MN/DOT NO. 700-7 / GRATE CASTING—MN/DOT NO. 720}

MICROFILMED RAMSEY CO. ENGR.

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

Larry Feldhake

Date 3 06 85 Reg. No. 13901

REVISIONS	DATE	BY	REVISIONS	DATE	BY

PROPOSED DRAINAGE CHART

S.A.P NO. 62-623-23

Sheet No. 9 of 62 Sheets

26-128

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

BEGIN CONSTRUCTION
STA. 158+18

+22 BEGIN TAPER

+42 END TAPER

CONSTRUCTION LIMITS

HO. 2225 | HO. 2233 | HO. 2239 | HO. 2245 | HO. 2255 | HO. 2267 | HO. 2277 | HO. 2285 | HO. 2295 | HO. 2299 | HO. 2305

HO. 2232 | HO. 2631 | HO. 2268 | HO. 2276 | HO. 2284 | HO. 2290 | HO. 2294 | HO. 2300 | HO. 2304 | HO. 2310

CO. RD. C SECTION LINE P.O.T. STA. 157+62.19 =
McKNIGHT RD. SECTION LINE P.O.T.

SECTION LINE

McKNIGHT RD.

WALL

C.B.14 | C.B.61 | C.B.2 | C.B.5 | C.B.101 | C.B.102 | C.B.17 | S.D.1

W.S.O. M.H.12 | W.S.O. M.H.11 | G.S.O. | M.H.7 | M.H.8A | M.H.13 | M.H.15 | M.H.9 | M.H.8 | M.H.10 | W.M.H.

30:1 TAPER

SAWCUT AS DIRECTED

TAPER TO MATCH EXISTING CURB AND GUTTER

SECTION LINE & SURVEY ℄

CONST. ℄

SUBSURFACE DRAIN

154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163

T-BUR | P-BUR | SA | SE | BIT. | G | T4 | 2' | 22' | 33' | 43'

REMOVE AND REPLACE 4" CONCRETE SIDEWALK

T 30 N R 22 W | 2 | 1 | 11 | 12 | T 29 N R 22 W

0 10 20 30 40 50

---

975 | 970 | 965 | 960 | 955

M.H.10 | STA. 158+18 | 2.25' | 20:1 | 5.15' | EL. 964.5 | 949.45

-0.60 % | +0.64%

PROPOSED GRADE | EXISTING GRADE

V.C.=60'
M=0.07750

C.B.17 | C.B.102 | C.B.101

EL. 962.90 | EL. 962.91 | 962.87

958.74 | 958.50 | 958.12 | 958.00

50 L.F. 15" RCP @ 1.0%
50 L.F. 6" PVC PIPE

3.5' SUBCUT FOR UNIFORMITY AND COMPACTION.

957.52 | 957.27

48 L.F. 15" RCP @ 1.0%

EXISTING 48" R.C.P | EXISTING 48" R.C.P

951.07

P.C. 161+60 | P.I. 162+75 | P.T. 162+00

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 3-06-85 Reg. No. 13501

STUDY PLAN
CONFIDENTIAL TO
CONST. RECORDS
DONE BY: Bolen
DATE: 1-20-87

S.A.P. NO. 62-623-23

Sheet No. 10 of 62 Sheets

56-128

	PLOTTED BY	DATE	CHECKED BY	DATE
TOPOGRAPHY				
UTILITIES				
PROFILE				

DELAWARE AVE.

CONSTRUCTION LIMITS

N

10 30 50
0 20 40

HO. 2313 | CHURCH | HO. 2349 | HO. 2351 | HO. 2353 | HO. 2355 | HO. 2357 | HO. 2359 | GAR. | HO. 2647

CONSTRUCT NEW 4" CONC. SIDEWALK – 40 S.F.

MATCH TO EXISTING

SHRUBS

CONSTRUCT NEW 4" CONC. SIDEWALK – 40 S.F.

SIGN

M.H.

GRAVEL

BIT.

25' R

M.H.19

C.B. 23

C.B. 18

C.B. 105

T-BUR

C.B.26

WSO

M.H.22

M.H. 32

SECTION LINE & SURVEY ℄

CONST. ℄

163 164 165 166 167 168 169 170 171 172

SUBSURFACE DRAIN

M.H.21

C.B. 25

C.B.24

C.B.20

C.B.106

SAVE

REMOVE B.T. SURFACE

C.B. 27

SALVAGE

SAVE IF POSSIBLE

6' CHAIN LINK FENCE

M.H.28

M.H.30

C.B.108

C.B.29

C.B.107

C.B.31

P-BUR

SE

PLANTER

C.B.103

C.B.104

MATCH TO EXISTING

66'

HO. 2310 | HO. 2633 | THIRD | HO. 2632 | HO. 2330 | HO. 2336 | HO. 2340 | HO. 2346 | HO. 2352 | HO. 2358 | HO. 2362 | HO. 2368 | HO. 2633 | SECOND ST.

CONSTRUCTION LIMITS

S.D. 31A

REMOVE AND REPLACE 4" CONCRETE SIDEWALK

C.B. 103 | C.B. 104 | C.B. 25 | C.B. 106 | C.B. 105

40 L.F. 15" RCP @ 1.0%

963.72 | 963.20 | 959.92 | 959.88 | 959.60 | 959.85 | 959.20

40 L.F. 15" RCP @ 1.0%

957.76 | 958.0 | 958.40 | 958.58

59.18 | 958.90

50 L.F. 15" RCP @ 1.0%

50 L.F. 6" PVC PIPE

952.33

EL. 963.87 | P.I. 163+75 EL. 964.03 | EL. 963.91 | EL. 963.53 | EL. 963.55

C.B. 107 | M.H. 30 | C.B. 108

28 L.F. 15" RCP AT 1.0%

967.41 | 967.18 | 967.42 | 964.20 | 962.00 | 961.78 | 961.80 | 963.10 | 960.80

30 L.F. 15" RCP @ 1.0%

960.50 | 956.20

30" RCP

EL. 965.20 | EL. 965.56

975 970 965 960

V.C. = 50'
M = 0.06875

V.C. = 50'
M = 0.015625

+0.64 % | −0.50 % | +0.60 % | +0.85 %

EXISTING GRADE

PROPOSED GRADE

5.15'

5.5'

3.5' SUBCUT FOR UNIFORMITY AND COMPACTION

EXISTING 48" R.C.P.

EXISTING 27" R.C.P.

952.27 | 952.33 | 953.75 | 956.20 | 954.74

13 L.F. 30" RCP

V.C. = 50'
M = 0.0800

P.C. 163+50 | P.T. 164+00 | P.C. 164+75 | P.I. 165+00 EL. 963.40 | P.T. 165+25 | P.C. 168+00 | P.I. 168+75 EL. 966.35 | P.T. 169+00

163 164 165 166 167 168 169 170 171 172

RECORD PLANS
CONFORMING TO
FINAL RECORDS
DATE 1-20-87

REVISIONS	DATE BY	REVISIONS	DATE BY

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

Date 3-06-85 Reg. No. 13501

S.A.P. NO. 62-623-23

Sheet No. 11 of 62 Sheets

MICROFILMED

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

BIT. CURB
MATCH TO EXISTING BIT. CURB
2ND ST. N.W.
60'
CONSTRUCTION LIMITS
HO. 2646
GAR.
GAR.
HO. 2647
BIT. CURB
MATCH TO EXISTING BIT. CURB
1ST ST. N.W.
60'
BIT. CURB
HO. 2646
GAR.
BIT. PARKING LOT
BIT. PARKING LOT
CONSTRUCTION LIMITS
GRAVEL
SIGN
N
10 30 50
0 20 40
M.H. 35
M.H. 33
25'R
25'R
C.B. 110
T.MH. 37
T-BUR
C.B. 36
M.H. 38
T-BUR
C.B. 111
M.H. 41
C.B. 42
T-BUR
T-BUR
C.B. 115
SECTION LINE & SURVEY ℄
CONST ℄
172 173 174 175 176 177 178 179 180 181
C.B. 34
C.B. 109
P-BUR
P-BUR
P-BUR
C.B. 39
P-BUR
P-BUR
M.H. 44
C.B. 46
P-BUR
M.H. 44A
C.B. 114
25'R
C.B. 43
C.B. 45
C.B. 112
C.B. 113
FIRST ST
NORTH ST. PAUL SUB-STATION
NORTH ST. PAUL CONTROL STATION (ELECT)
GRAVEL
GAR.
HO. 2460
C.B. 116
RELOCATE ENT.
BIT. PARKING LOT
6' C-L
BIT. PATH
MATCH TO EXISTING CONC. CURB AS DIRECTED.
B6 CURB
15'R
MATCH TO EXISTING BIT. CURB AS DIRECTED.
BIT. CURB
BIT. PARKING LOT
66'
MATCH TO EXISTING BIT. CURB
CONSTRUCTION LIMITS
REMOVE AND REPLACE 4" CONCRETE SIDEWALK

M.H. 33 — C.B. 110 — C.B. 111 — M.H. 44 — C.B. 112 — C.B. 113 — C.B. 116 — C.B. 115

55 L.F. 15" RCP @ 1.0%
963.80
963.03
954.25
958.26
4 L.F. 15" RCP @ 1.0%
968.55
968.45
964.07
963.50
963.45
963.43
956.98
956.98
27" RCP
957.91
+0.85 %
EXISTING GRADE
PROPOSED GRADE
3.5' SUBCUT FOR UNIFORMITY AND COMPACTION.
EXISTING 24" RCP
77 L.F. 15" RCP @ 1.0%
966.73
65.74
966.35
966.50
958.19
958.19
EL. 977.09
C.B. 39
971.28
C.B. 111
973.14
P.I. 76+50
EL. 972.36
P.C. 75+00
28 L.F. 15" RCP @ 1.0%
29
969.22
969.50
969.74
966.38
969.68
970.00
32 L.F. 15" RCP @ 1.0%
34
EL. 978.21
P.T. 78+00
VC=300'
M=11.4375
M.H. 44
974.91
C.B. 45
C.B. 46
C.B. 114
977.39
973.00
971.64
971.25
971.44
970.52
66 L.F. 15" RCP @ 2.0%
966.50
90°
969.12
969.93
EXISTING 18" RCP
987.40
987.41
981.10
981.30
981.70
981.30
50 L.F. 15" RCP @ 1.0%
+3.90 %
3.5'
260 L.F. 12" RCP @ 3.19%
981.10
981.30
1.5' SUBCUT FOR UNIFORMITY AND COMPACTION

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 3-06-85 Reg. No. 13501

DONE BY: Rolf
DATE: 1-20-87

S.A.P. NO. 62-623-23

RAMSEY CO. ENGR.

Sheet No. 12 of 62 Sheets

	PLOTTED BY	DATE	CHECKED BY	DATE
TOPOGRAPHY				
UTILITIES				
PROFILE				

CONSTRUCTION LIMITS

NOTE:
CONSTRUCT GUTTER DELINEATOR THROUGH HELEN ST. NORTH SIDE ONLY.

SEE SHEET 4 FOR TYPE "V" DETAIL ON CONCRETE DELINEATOR.

NOTE: SPECIAL GUTTER GRADE LEFT
STA. 184+07 TO STA. 184+68 = + 0.5 %
STA. 184+68 TO STA. 185+50 = - 1.41 %

HO. 2485 · HO. 2493 · HO. 2503 · HO. 2515 · HO. 2525 · HO. 2535 · HO. 2541 · HO. 2543 · HO. 2553

B6 CURB · SA ST. · MATCH TO EXISTING · CONSTRUCT NEW 4" CONC. SIDEWALK - 36 S.F.

FLAGSTONE WALL · STEPS · TIMBER WALL · BIT. · T-BUR · G · GSO · RR

M.H. 47 · M.H. 48 · M.H. 49 WSO · M.H. 50 · M.H. 51 · M.H. 52 · M.H. 53 · M.H. 54 · M.H. 52A

SECTION LINE & SURVEY ℄ · CONST. ℄ · 181 · 182 · 183 · 184 · 185 · 186 · 187 · 188 · 189 · 190

INPLACE TELEPHONE DUCT · SUCTION PROT. · SALVAGE · TEL. BURIED · SUBSURFACE DRAIN

M.H. 118 · M.H. 56A · C.B. 117 · C.B. 55 · SET · C.B. 56 · C.B. 119 · WSO

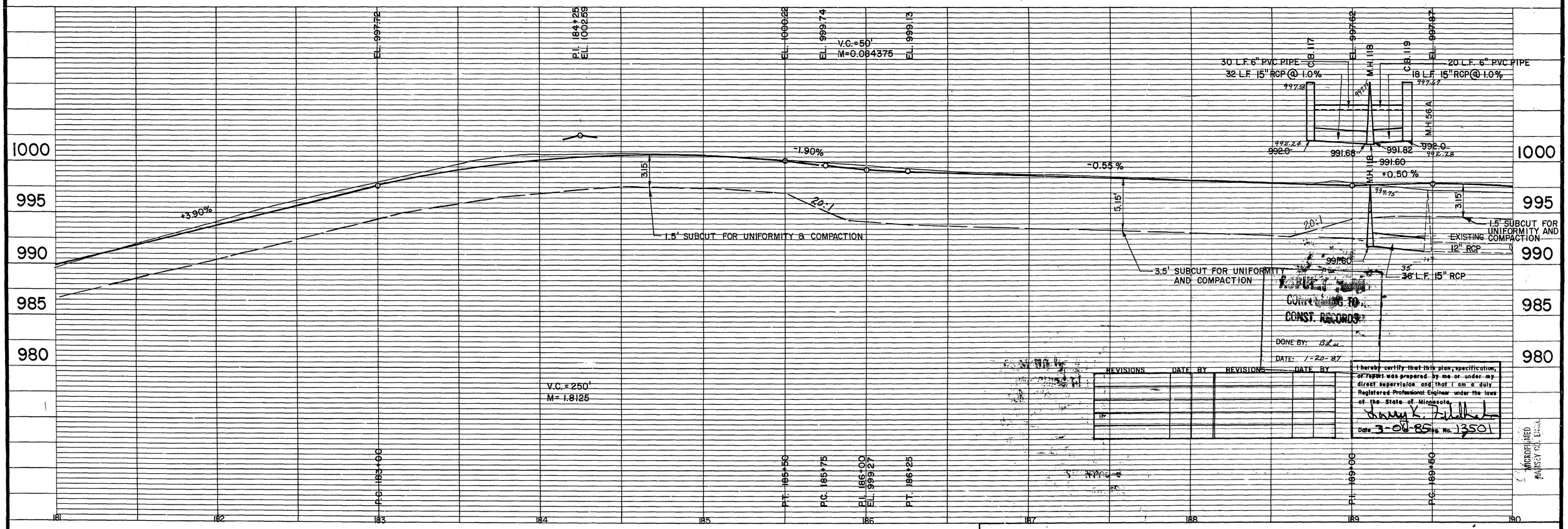
CO. RD. C SECTION LINE P.O.T. STA. 183+73.60 =
HELEN ST. ℄ P.O.T. STA. SE

RELOCATE ENT. · GAR. · APT. BLDG. · HELEN · 66' · 40' · 25' R · 33' · 22' · PLANTER · GRADE TO DRAIN · BLDG. 2512 · CONSTRUCT STEPS AND SIDEWALK · GRAVEL · METAL RAILING · BLOCK WALL · WALL

HO. 2504 · HO. 2520 · HO. 2524 · HO. 2540 · HO. 2548 · HO. 2631

CONSTRUCTION LIMITS
(VARIABLE SLOPES - TO BE DETERMINED IN THE FIELD BY THE ENGINEER)

▭ REMOVE AND REPLACE 4" CONCRETE SIDEWALK



FILE COPY
CONFORMING TO CONST. RECORDS
DONE BY: BJL
DATE: 1-20-87

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Harry K. Tillotson
Date 3-06-85 Reg. No. 13501

MICROFILMED MARCH 90, 1988

S.A.P. NO. 62-623-23

Sheet No. 13 of 62 Sheets

26-135

	PLOTTED BY	DATE	CHECKED BY	DATE
TOPOGRAPHY				
UTILITIES				
PROFILE				

1. GUTTER GRADES
A.= 998.33±
B.= 996.50
C.= 997.35
D.= 997.43

2. GUTTER GRADES
A.= 998.02±
B.= 996.70
C.= 997.16
D.= 995.43
E.= 994.89

3. GUTTER GRADES
A.= 996.49±
B.= 996.59
C.= 997.35
D.= 997.43

4. GUTTER GRADES
A.= 996.35
B.= 996.23
C.= 995.43
E.= 994.89

MATCH TO EXISTING

CONSTRUCT NEW ENTRANCE

CONSTRUCTION LIMITS

HO. 2571 HO. 2575 HO. 2579 HO. 2581 HO. 2591 HO. 2603 HO. 2607 HO. 2617 HO. 2629 HO. 2633 HO. 2606 HO. 2632 HO. 2632

SALVAGE RAILING

SALVAGE SIGN

SALVAGE WOOD RAIL

SALVAGE CHAIN LINK

SALVAGE WOOD RAIL

CONSTRUCT NEW 4" CONC. SIDEWALK-25 SF.

CONSTRUCT NEW 4" CONC. SIDEWALK-15 SF.

TAPER TO MATCH EXISTING

C.B. 120 C.B. 121 C.B. 62 C.B. 58 C.B. 57 C.B. 64 C.B. 122 C.B. 124 C.B. 65 C.B. 123 C.B. 126 C.B. 127 C.B. 131 C.B. 68 C.B. 71 C.B. 132 C.B. 133

M.H. 59 M.H. 61 M.H. 60 M.H. 63 M.H. 66 M.H. 125 M.H. 67 M.H. 69 M.H. 72 M.H. 70 M.H. 130 M.H. 73 M.H. 129 M.H. 128 M.H. 133A

SECTION LINE & SURVEY ℄

CONST. ℄

SUBSURFACE DRAIN

T-BUR

BIT. PARKING LOT

CHURCH

GYM SET

MARGARET ST.

CHARLES ST.

WALL

MATCH TO EXISTING SIGN

BLDG. 2618

REMOVE AND REPLACE 4" CONCRETE SIDEWALK

TAPER TO MATCH EXISTING

50 L.F. 15" RCP @ 1.0%

68 L.F. 15" RCP @ 1.0%

41 L.F. 6" PVC PIPE

41 L.F. 15" RCP @ 1.0%

9 L.F. 6" PVC PIPE

9 L.F. 15" RCP @ 1.0%

60 L.F. 6" PVC PIPE

40 L.F. 6" PVC PIPE

46 L.F. 6" PVC PIPE

46 L.F. 15" RCP @ 1.0%

9 L.F. 6" PVC PIPE

9 L.F. 15" RCP @ 1.0%

14 L.F. 15" RCP @ 1.0%

27 L.F. 15" RCP @ 1.0%

50 L.F. 15" RCP @ 1.0%

30 L.F. 15" RCP @ 1.0%

339 L.F. 18" R.C.P. @ 0.4%

32 L.F. 21" RCP @ 0.61%

10 L.F. 15" RCP FLAT (BUILD OVER EXISTING)

(BUILD OVER EXISTING)

PROPOSED GRADE

EXISTING GRADE

1.5' SUBCUT FOR UNIFORMITY AND COMPACTION

3.5' SUBCUT FOR UNIFORMITY AND COMPACTION

EXISTING 12" R.C.P. @ 0.4%

12" RCP

EX. 12" RCP

+0.50%

-4.92%

+0.53%

+1.46%

+0.86%

+0.55%

VC = 200'
M = 1.3550'

VC = 250'
M = 1.703125'

V.C. = 50'
M = 0.058125'

V.C. = 50'
M = 0.375

P.I. 192+60
EL. 987.05
P.T. 191+55
P.C. 191+50

P.I. 194+75
EL. 986.08
P.T. 194+05
P.C. 194+50

P.I. 197+00
EL. 991.36
P.T. 196+75
P.C. 196+00

P.I. 199+50

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 3-06-85 REG. NO. 13501

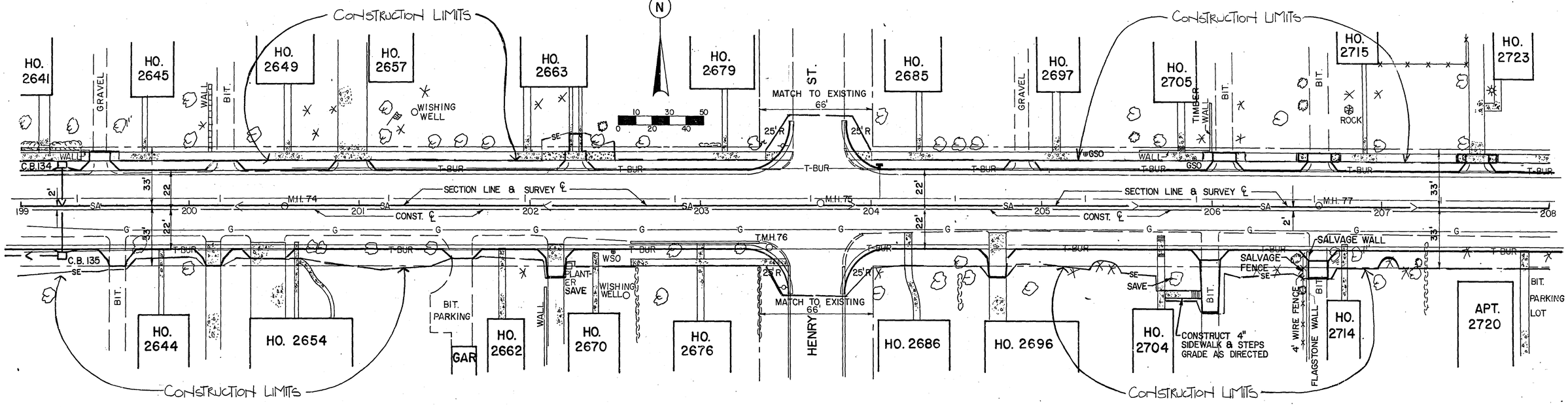
AS-BUILT PLAN
CONFORMING TO CONST. RECORDS
BY
DONE BY B.A.
DATE 1-20-87

REVISIONS	DATE BY	REVISIONS	DATE BY

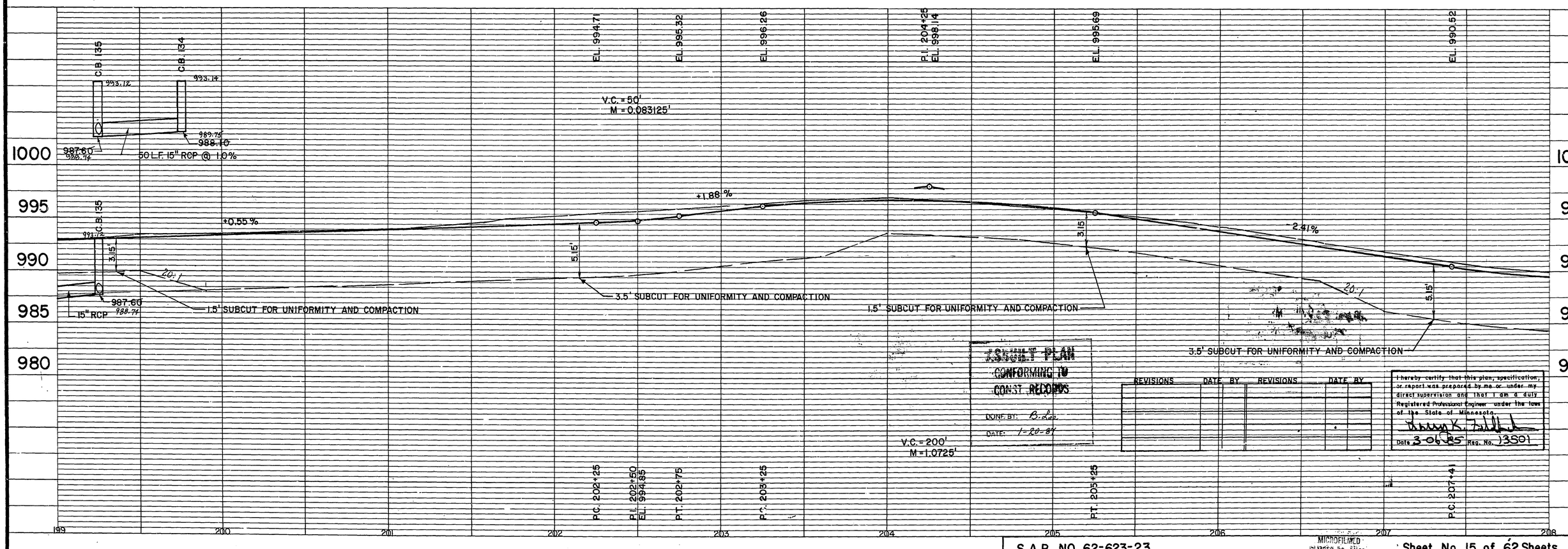
S.A.P. NO. 62-623-23

Sheet No. 14 of 62 Sheets

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



REMOVE AND REPLACE 4" CONCRETE SIDEWALK



ISSUED FOR FINAL CONFORMING TO CONST. RECORDS
DONE BY: B. Lee
DATE: 1-20-84

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date 3-06-85 Reg. No. 13501

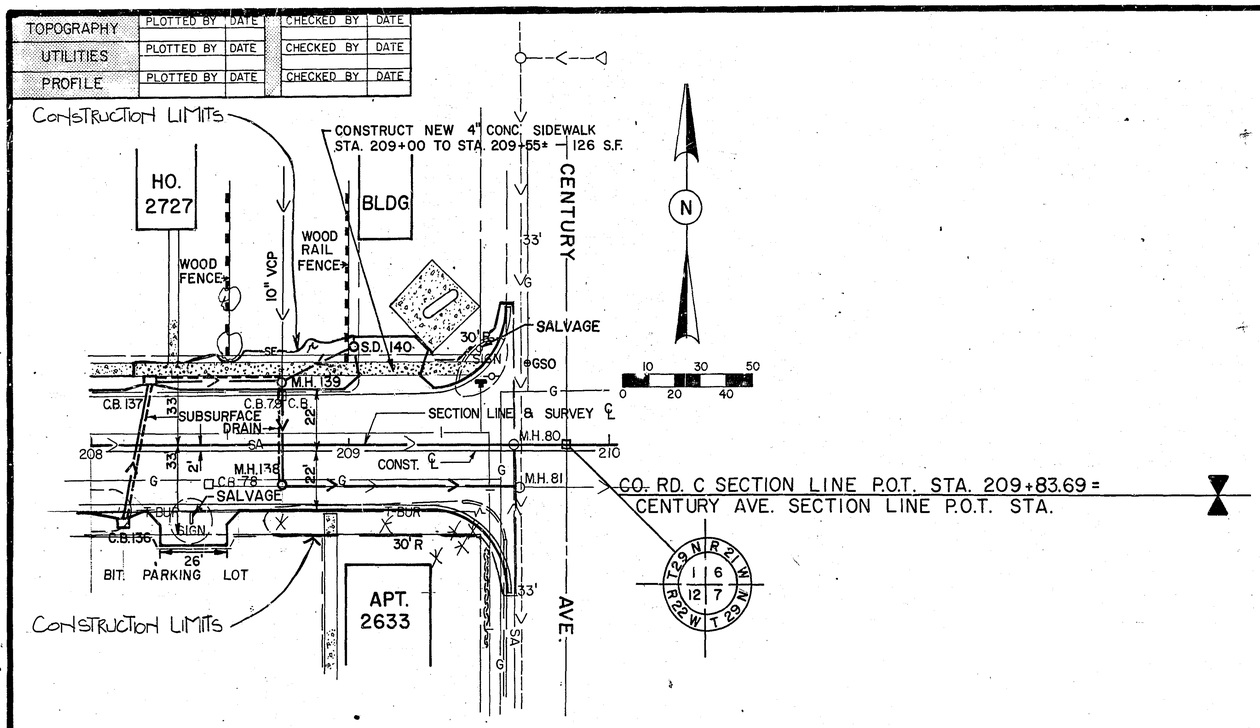
S.A.P. NO. 62-623-23

MICROFILMED RAMSEY CO. ENGR.

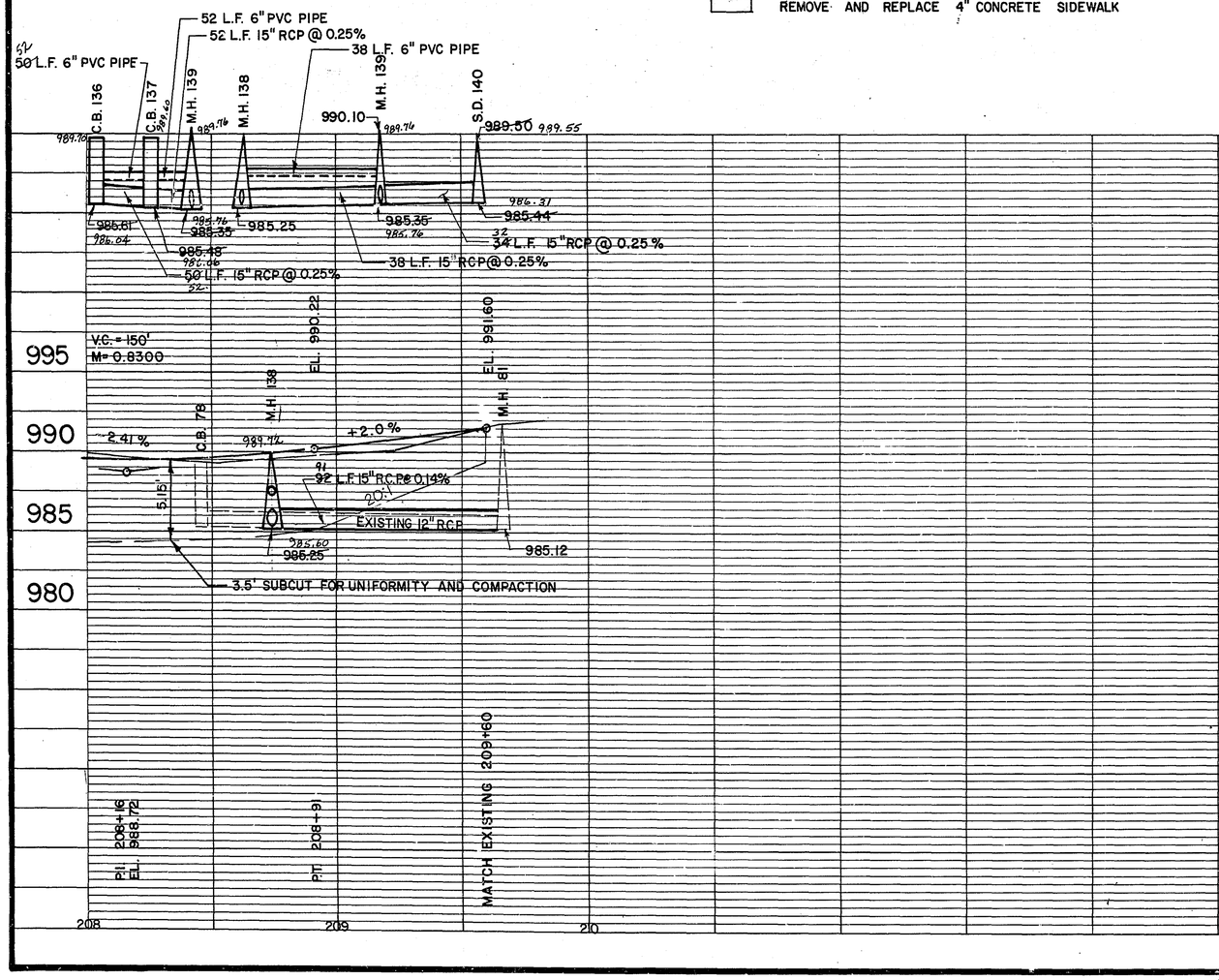
Sheet No. 15 of 62 Sheets

76-12

	PLOTTED BY	DATE	CHECKED BY	DATE
TOPOGRAPHY				
UTILITIES				
PROFILE				



▭ REMOVE AND REPLACE 4" CONCRETE SIDEWALK



ASBUILT PLAN
CONFORMING TO CONST. REC.
DONE BY: BJH
DATE: 1-20-87

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Jimmy K. Tullock
Date 3-06-85 Reg. No. 13551

S.A.P. NO. 62-623-23

MICROFILMED RAMSEY CO. ENGR.

Sheet No. 16 of 62 Sheets

26-128