

MINN. PROJ. NO.
 MINN. PROJ. NO.

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE, BITUMINOUS SURFACING, UTILITES AND SIGNAL SYSTEM REVISION

LOCATED ON C.R. 52 BETWEEN 1/2 MILE S. OF C.S.A.H. 14 AND C.S.A.H. 14 (Geographic Description)
 FROM A POINT 1022.87' E. OF THE NW. CORNER OF SECTION 12, T31N, R22W TO A POINT 167.74' W. OF THE NW. CORNER OF SECTION 8, T31N, R22W (Legal Description)

COUNTY PROJECT NO. 87-05-52 STATE AID PROJ. NO.

GROSS LENGTH..... 2,254.98 FEET..... 0.427 MILES	GROSS LENGTH..... FEET..... MILES
BRIDGES-LENGTH..... 0.00 FEET..... 0.000 MILES	BRIDGES-LENGTH..... FEET..... MILES
EXCEPTIONS-LENGTH..... 0.00 FEET..... 0.000 MILES	EXCEPTIONS-LENGTH..... FEET..... MILES
NET LENGTH..... 2,254.98 FEET..... 0.427 MILES	NET LENGTH..... FEET..... MILES

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY SUPPLEMENTAL SPECIFICATIONS, DATED MAY 2, 1994 SHALL GOVERN.

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THIS PLAN CONTAINS 37 SHEETS

DESIGN DESIGNATION

EN18₂₀ 843,694
 R VALUE 65
 ADT (1994)= 4,257
 Proj. ADT (2014)= 7,237
 Proj. HCADT (2014)= 543
 Soil Factor NA
 10 TON DESIGN
 Shoulder Width 8 FT.

Functional Classification LOW DENSITY ARTERIAL
 No. of Traffic Lanes 2 No. of Parking Lanes 0
 Design Speed 45 MPH
 Based on Stopping Sight Distance
 Height of eye 3.5 Height of object 0.5
 Design Speed not achieved at NA
 STA. TO STA. MPH
 STA. TO STA. MPH
 STA. TO STA. MPH

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 9/23/94 REG. NO. 20235 ENGR. *Richard M. Jensen* DESIGN ENGINEER
 DESIGN SQUAD G. ANDERSON

Recommended for Approval *Michael R. Kelly* 9/23, 1994
 Recommended for Approval *Richard M. Jensen* 9/23, 1994
 Recommended for Approval *Richard M. Jensen* 9/23, 1994
 Approved 9/23, 1994
 Approved 9/23, 1994

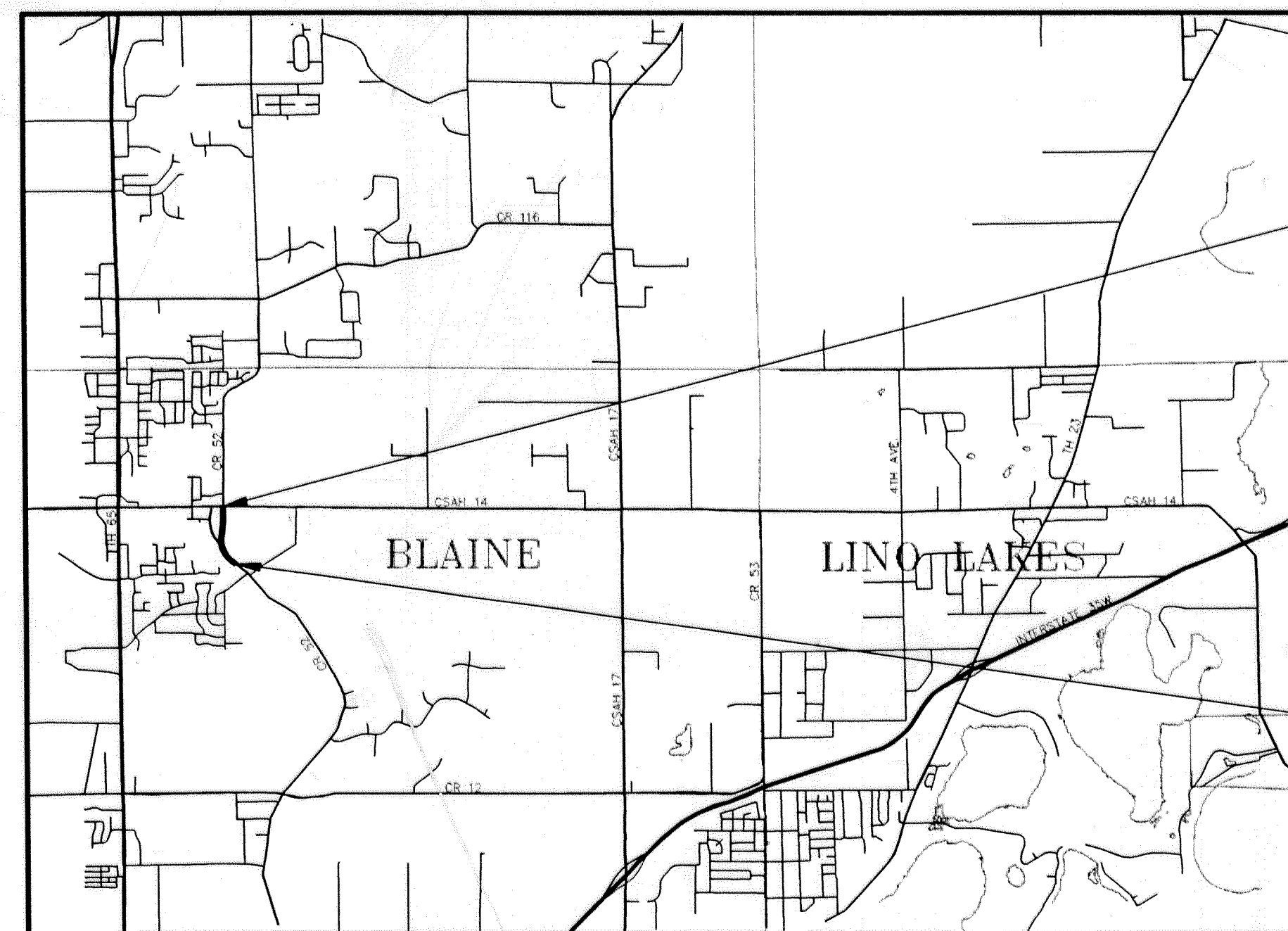
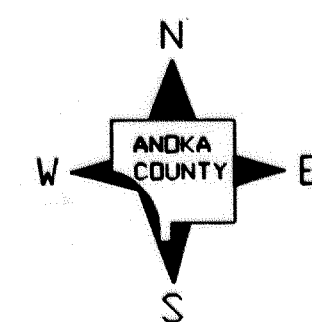
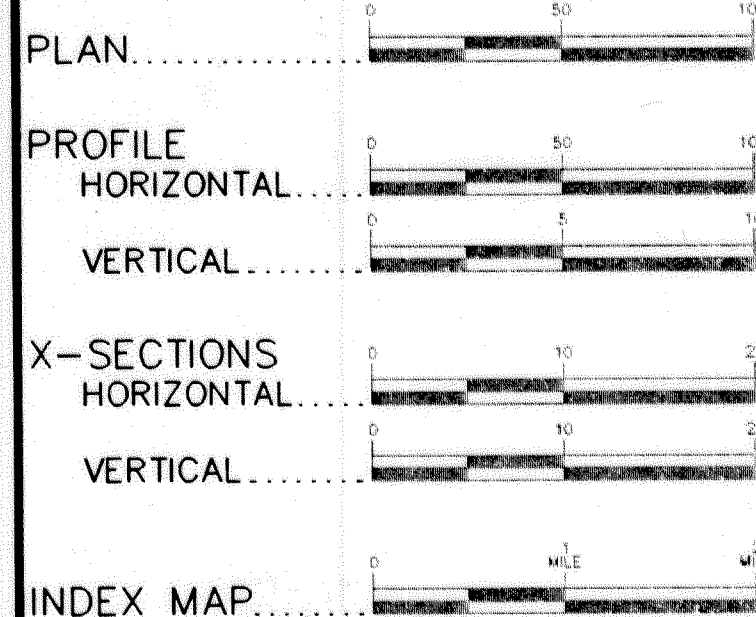
PLAN SYMBOLS

- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- SLOPE EASEMENT
- PRESENT RIGHT OF WAY
- PROPERTY LINE
- CORPORATE OR CITY LIMITS
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY
- RIVER OR CREEK
- DRAINAGE DITCH
- CULVERT
- DROP INLET
- GAIRD RAIL
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- WOOD FENCE
- STONE WALL OR FENCE
- HEDGE
- LOWLAND
- TIMBER ORCHARD
- BRUSH NURSERY
- CATTLE GAIRD
- OVERPASS (Highway Over)
- UNDERPASS (Highway Under)
- BRIDGE
- BUILDING (One Story Frame)
- F-FRAME C-CONCRETE
- S-STONE T-TILE
- B-BRICK ST-STUCCO
- RAILROAD CROSSING BELL
- RAILROAD CROSSING GATE
- MANHOLE
- CATCH BASIN
- FIRE HYDRANT
- CAST IRON MONUMENT
- IRON PIN
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

UTILITY SYMBOLS

- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE & POWER ON POWER POLES
- ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL (Cable Terminal)
- GAS MAIN
- WATERMAIN
- 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

SCALES



COUNTY PROJECT NO. 87-05-52
 STATE PROJ. NO. SHEET NO. 1 OF 37 SHEETS

STATEMENT OF ESTIMATED QUANTITIES

CHART NO.	NOTE	ITEM NO.	ITEM	UNIT	TOTAL		ANDOKA COUNTY C.P. 87-05-52		CITY OF BLAINE CITY PROJ. 94-05	
					ESTIMATED	FINAL	ESTIMATED	FINAL	ESTIMATED	FINAL
		2021.501	MOBILIZATION	LUMP SUM	1		1			
		2031.501	FIELD OFFICE TYPE D	EACH	1		1			
A		2101.501	CLEARING	ACRE	2.85		2.85			
A		2101.502	CLEARING	TREE	44		44			
A		2101.506	GRUBBING	ACRE	2.85		2.85			
A		2101.507	GRUBBING	TREE	47		47			
J	(1)	2104.501	REMOVE CULVERT PIPE	LIN FT	134		134			
B	(1)	2104.501	REMOVE RETAINING WALL	LIN FT	80		80			
C, D	(2)	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	6565		5136		1429	
E		2104.513	SAWING BITUMINOUS PAVEMENT	LIN FT	390		390			
J		2105.501	COMMON EXCAVATION	CU YD	9933 (P)		9933			
J		2105.505	MUCK EXCAVATION	CU YD	6015		6015			
J		2105.522	SELECT GRANULAR BORROW (LV)	CU YD	14588		14588			
	(3)	2130.501	WATER	M-GAL	20		20			
G		2211.503	AGGREGATE BASE (CV) CL-5A	CU YD	1910 (P)		1754		156	
G		2340.508	TYPE 41 WEARING COURSE MIXTURE	TON	1262		1130		132	
G	(6)	2340.510	TYPE 31 BINDER COURSE MIXTURE	TON	1085		1085			
G	(6)	2340.514	TYPE 31 BASE COURSE MIXTURE	TON	1396		1396			
C	(4)	0340.601	2" THICK WEARING COURSE PLACED	SQ YD	485		227		258	
G		2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	1128		1128			
	(8)	0412.602	RELOCATE MAILBOX	EACH	12		12			
J		2451.509	AGGREGATE BEDDING (LV)	CU YD	74		74			
J		2501.511	15" CS PIPE CULVERT	LIN FT	128		128			
J		2501.511	18" CS PIPE CULVERT	LIN FT	70		70			
J		2501.511	24" RC PIPE CULVERT	LIN FT	76		76			
J		2501.515	15" CS PIPE APRON	EACH	2		2			
J		2501.515	24" RC PIPE APRON	EACH	2		2			
J		2501.521	22" SPAN RC PIPE-ARCH CULVERT	LIN FT	60		60			
J		2501.525	22" SPAN RC PIPE-ARCH APRON	EACH	2		2			
J	(5)	2501.567	15" CS SAFETY APRON & GRATE, DES. 3128	EACH	4		4			
J	(5)	2501.567	18" CS SAFETY APRON & GRATE, DES. 3128	EACH	2		2			
		0503.602	CONNECT TO EXISTING MANHOLE	EACH	1				1	
		0503.602	8-INCH CLEANOUT	EACH	1				1	
		0503.602	8-INCH x 4-INCH PVC WYE	EACH	38				38	
		0503.602	4-INCH DIAMETER MANHOLE, 10 FEET DEEP	EACH	12				12	
		0503.603	8-INCH PVC, 0 TO 10 FEET DEEP	LIN FT	600				600	
		0503.603	8-INCH PVC, 10 TO 12 FEET DEEP	LIN FT	275				275	
		0503.603	8-INCH PVC, 12 TO 14 FEET DEEP	LIN FT	1332				1332	
		0503.603	8-INCH PVC, 14 TO 16 FEET DEEP	LIN FT	290				290	
		0503.603	8-INCH PVC, 16 TO 18 FEET DEEP	LIN FT	292				292	
		0503.603	8-INCH PVC, 18 TO 20 FEET DEEP	LIN FT	200				200	
		0503.603	8-INCH PVC, 20 TO 22 FEET DEEP	LIN FT	125				125	
		0503.603	EXTRA DEPTH MANHOLE, 4-INCH DIAMETER	LIN FT	52				52	
		0503.603	4-INCH PVC SERVICE PIPE	LIN FT	1550				1550	
		0503.603	BORE 4-INCH PVC	LIN FT	280				280	
		0504.602	CONNECT TO EXISTING SYSTEM	EACH	1				1	
		0504.602	REMOVE AND SALVAGE FITTING	EACH	1				1	
		0504.602	RECONNECT EXISTING SERVICE	EACH	1				1	
		0504.602	HYDRANT WITH GATE VALVE	EACH	6				6	
		0504.602	12-INCH GATE VALVE	EACH	1				1	
		0504.602	1-INCH SERVICE CONNECTION	EACH	43				43	
		0504.603	6-INCH DIP WATERMAIN, CLASS 52	LIN FT	400				400	
		0504.603	6-INCH DIP HYDRANT BRANCH, CLASS 52	LIN FT	45				45	
		0504.603	12-INCH DIP WATERMAIN, CLASS 50	LIN FT	2800				2800	
		0504.603	8-INCH DIP WATERMAIN, CLASS 52	LIN FT	80				80	
		0504.603	1-INCH COPPER SERVICE PIPE	LIN FT	1800				1800	
		0504.603	BORE 1-INCH COPPER	LIN FT	320				320	
		0504.620	WATERMAIN FITTINGS, CLASS 50	POUND	1224				1224	
		2535.501	BITUMINOUS CURB	LIN FT	584		584			
		0563.601	TRAFFIC CONTROL, STAGE 1	LUMP SUM	1		1			
		0563.601	TRAFFIC CONTROL, STAGE 2	LUMP SUM	1		1			
		0563.601	TRAFFIC CONTROL, STAGE 3	LUMP SUM	1		1			
		0565.604	REVISE SIGNAL SYSTEM	SYSTEM	1		0.5		0.5	
	(7)	2573.501	BALE CHECK	EACH	160		160			
I	(7)	2573.503	SILT FENCE, PREASSEMBLED	LIN FT	1650		1650			
F		2575.501	SEEDING	ACRE	4.0 (P)		3.75 (P)		0.25 (P)	
F		2575.502	SEED MIXTURE 700	POUND	140		131		9	
F, J		2575.505	SODDING TYPE LAWN	SQ YD	10219		4720		5499	
F		2575.511	MULCH MATERIAL, TYPE 1	TON	8.0		7.5		0.5	
F		2575.519	DISK ANCHORING	ACRE	4.0 (P)		3.75 (P)		0.25 (P)	
F		2575.531	COMM FERT ANALYSIS 10-10-10	TON	1.0		0.9		0.1	
		2580.501	TEMPORARY LANE MARKING	RD STA	46		46			

CHART	SHEET NO.	DESCRIPTION
A	3	CLEARING AND GRUBBING
B	3	RETAINING WALL REMOVAL
C	3	DRIVEWAY REMOVAL AND CONSTRUCTION
D	3	BITUMINOUS PAVEMENT REMOVAL
E	3	SAWING BITUMINOUS PAVEMENT
F	3	TURF ESTABLISHMENT
G	4	BASE AND BITUMINOUS QUANTITIES
H	4	BITUMINOUS CURB
I	4	SILT FENCE
J	4	CULVERT TABULATION
K	5	EARTHWORK SUMMARY
	37	TRAFFIC CONTROL DEVICES

PLATE NO.	DESCRIPTION
0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 L	REINFORCED CONCRETE PIPE
3006 F	GASKET JOINT FOR R.C. PIPE
3007 B	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURE
3014 J	REINFORCED CONCRETE PIPE ARCH
3040 F	CORRUGATED METAL PIPE CULVERT
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3123 J	METAL APRON FOR CS PIPE
3128 F	SAFETY APRON
3145 E	CONCRETE PIPE TIES
3148 A	SAFETY SLOPE METAL END SECTIONS FOR PIPES
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
8000 I	STANDARD BARRICADES
9102 D	TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)

BASIS OF PLANNED QUANTITIES

- 2340 TYPE 41 PLANT MIXED WEARING COURSE MIXTURE: 110 LBS./SQ.YD. PER 1" THICKNESS BITUMINOUS MIXTURE DESIGNATION: 41WEA50055Y
- 2340 TYPE 31 PLANT MIXED BINDER COURSE MIXTURE: 110 LBS./SQ.YD. PER 1" THICKNESS BITUMINOUS MIXTURE DESIGNATION: 31B1B50000Y
- 2340 TYPE 31 PLANT MIXED BASE COURSE MIXTURE: 110 LBS./SQ.YD. PER 1" THICKNESS BITUMINOUS MIXTURE DESIGNATION: 31BBB50000Y
- 2357 BITUMINOUS MATERIAL FOR TACK 0.05 GALLONS PER SQ.YD. PER LIFT APPLIED
- 2575 MULCH MATERIAL TYPE 1: 2 TONS/ACRE
- 2575 COMMERCIAL FERTILIZER, ANALYSIS 10-10-10: 500 LBS./ACRE ON ALL SEED AREAS
- 2575 ROADSIDE SEEDING BASED ON HORIZONTAL MEASUREMENT +10% SEED MIXTURE NO. 700, 35 LBS. PER ACRE

NOTES

- (1) INCLUDES ALL SIZES AND TYPES.
- (2) INCLUDES ALL BITUMINOUS PAVEMENTS REGARDLESS OF DEPTH AND WIDTH.
- (3) FOR DUST CONTROL AS DIRECTED BY ENGINEER.
- (4) FOR DRIVEWAY PAVEMENTS.
- (5) DESIGN 3148 ACCEPTABLE ALTERNATE.
- (6) INCLUDES QUANTITY FOR ADDING 1/4" TO THE DESIGN THICKNESS.
- (7) FOR TEMPORARY EROSION CONTROL AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.
- (8) FOR C.R. 52 ONLY, NOT OLD C.R. 52.

STATEMENT OF ESTIMATED QUANTITIES

REVISIONS BY DATE

FILE NAME: 870532/TAB-CH.DWG MN(09-19-94)

BASE AND BITUMINOUS QUANTITIES CHART (G)

LOCATION	DESCRIPTION	BIT. SURF.	WEAR COURSE		BINDER COURSE		BASE COURSE		TACK COAT		AGG. BASE CLASS 5		
		SQ. YD.	DEPTH	TONS	DEPTH	TONS	DEPTH	TONS	LIFTS	GALLON	SQ. YD.	DEPTH	CU. YD.
476+99 - 477+89	MAINLINE & TAPER LT. & RT.	349	1.5"	28.8	1.5"	28.8	2"	38.4	2	34.9	349	5"	48.5
477+89 - 499+55	MAINLINE	4829	1.5"	398.4	1.5"	398.4	2"	531.2	2	482.9	4829	5"	670.7
477+89 - 499+55	MAINLINE	4829	1.5"	398.4	1.5"	398.4	2"	531.2	2	482.9	4829	5"	670.7
482+57 - 489+93	BY PASS	266	1.5"	21.9	1.5"	21.9	2"	29.3	2	26.6	266	5"	36.9
495+65 - 499+55	RIGHT TURN LANE	238	1.5"	19.6	1.5"	19.6	2"	26.2	2	23.8	238	5"	33.1
494+86 - 499+54	RT ACCEL. LANE	564	1.5"	46.6	1.5"	46.6	2"	62.1	2	56.4	564	5"	78.4
487+00 - 492+40	RIGHT TURN LANE & INT.	212	1.5"	17.5	1.5"	16.6	2"	22.1	2	20.1	212	5"	29.4
600+25 - 602+52	OLD 52 CONNECTION	809	2"	89.0							809	4"	89.9
602+52 - 606+00	OLD 52 @	1199	2"	131.9							1199	4"	133.2
611+96 - 612+77	CUL DE SAC	516	2"	56.8							516	4"	57.3
465+90 - 612+95	DRIVEWAY CONSTRUCTION										① 445	5"	61.8
TOTALS				1262		930		1241		1128			1910

- ① REFER TO DRIVEWAY CONSTRUCTION CHART (B)
- ② CITY OF BLAINE COST PARTICIPATION.

BITUMINOUS CURB (H)

STATION - STATION	LOCATION	LIN. FT.
483+47 - 486+00	C/L RT.	232
495+65 - 499+16	C/L RT.	352
TOTAL		584

SILT FENCE (I)

STATION - STATION	LOCATION	LIN. FT.
488+20 - 494+80	C/L RT.	705
490+00 - 499+00	C/L LT.	945
TOTAL		1650

CULVERT TABULATION (J)

STATION	LOC.	INPLACE	REMARKS	REMOVE CULV. PIPE		TURF ESTABLISHMENT AT PIPE CULVERT ENDS			FURNISH & INSTALL CULVERT						AGGREGATE BEDDING CU. YD.			
				LIN. FT.	APR.	INLET SQ. YD.	OUTLET SQ. YD.	TYPE	15" CSP		18" CSP		22" RCP-A			24" RCP		
									LIN. FT.	APR.	LIN. FT.	APR.	LIN. FT.	APR.		LIN. FT.	APR.	
478+97	LT	-							32	2	④							
483+84	LT	-							55	2	④							
487+41	LT	-				11	11	SOD				72	2	④				
491+00	℄	-				13	15	SOD							76	2	41	
494+35	℄	-				13	15	SOD						60	2		33	
601+50	LT	-							44	2								
612+49	LT	15" x 30' C.M.P.	NO CULV. REQUIRED	30														
612+92	LT	15" x 30' C.M.P.	NO CULV. REQUIRED	30														
613+79	℄	36" x 74' C.M.P.	NO CULV. REQUIRED	74														
TOTALS				134		37	41		131	6		72	2	60	2	76	2	74

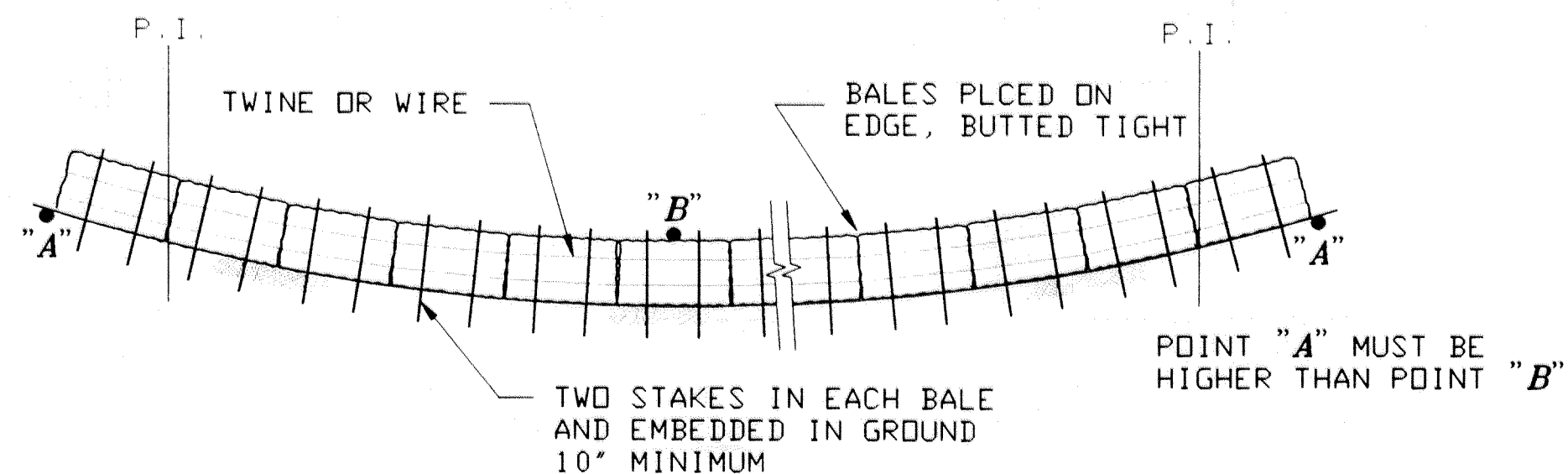
- NOTES:
- ① REMOVAL LENGTH INCLUDES APRONS.
 - ② SEE SHEET 7 FOR C/L CULVERT INSTALLATION DETAIL. FOR USE AS DIRECTED BY THE ENGINEER.
 - ③ APPROACH AND ENTRANCE CULVERT FLOWLINES TO BE SET TO DITCH GRADES AS SHOWN ON X-SECTION AND PROFILE SHEETS, UNLESS OTHERWISE NOTED ON PLAN SHEETS.
 - ④ SAFETY APRON AND GRATE REQUIRED.

TABULATION CHARTS
BASE AND BITUMINOUS QUANTITIES, BITUMINOUS CURB,
SILT FENCE, CULVERT TABULATION

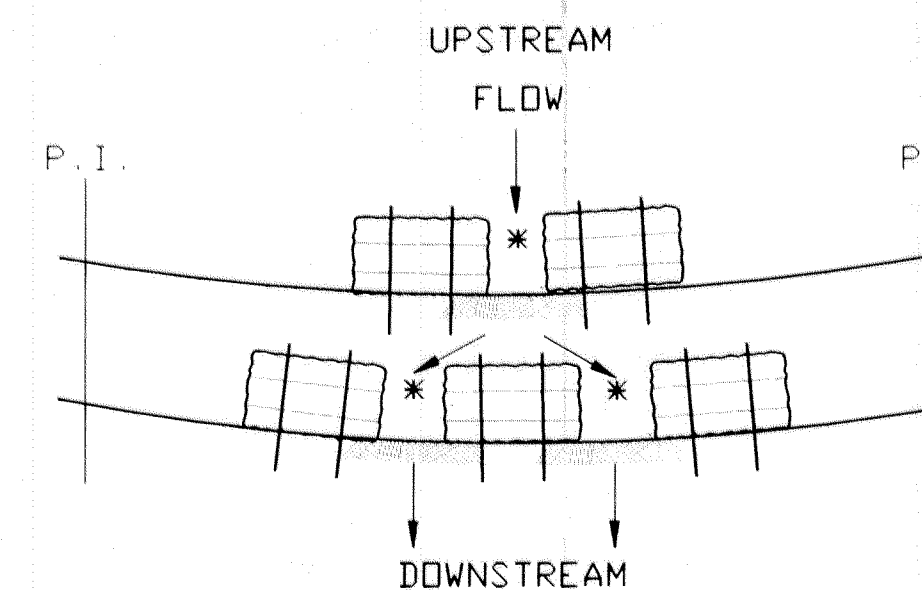
REVISIONS	DATE	BY

FILE NAME: 870552/TAB-CHDWC MK(09-19-94)

BALE HAY OR STRAW DITCH CHECK



ALTERNATE BALE CHECK

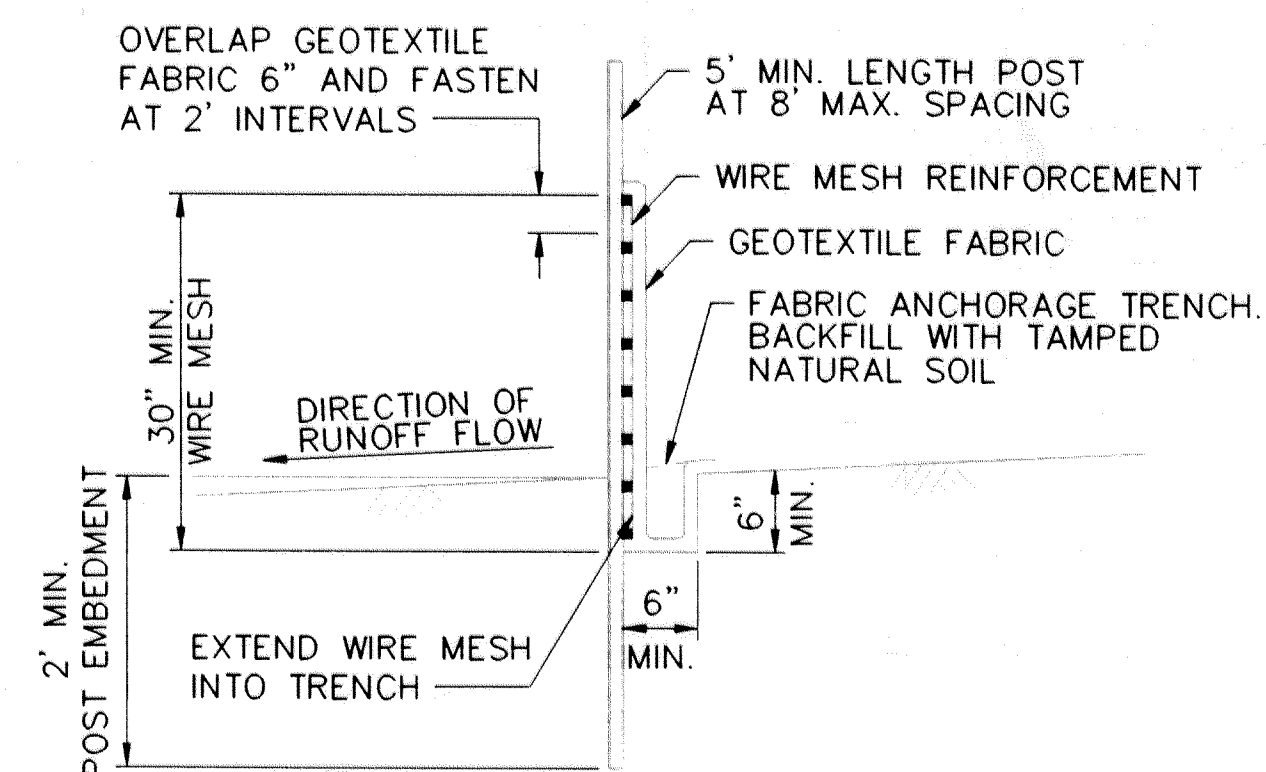


NOTES: PLACEMENT OF BALES WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

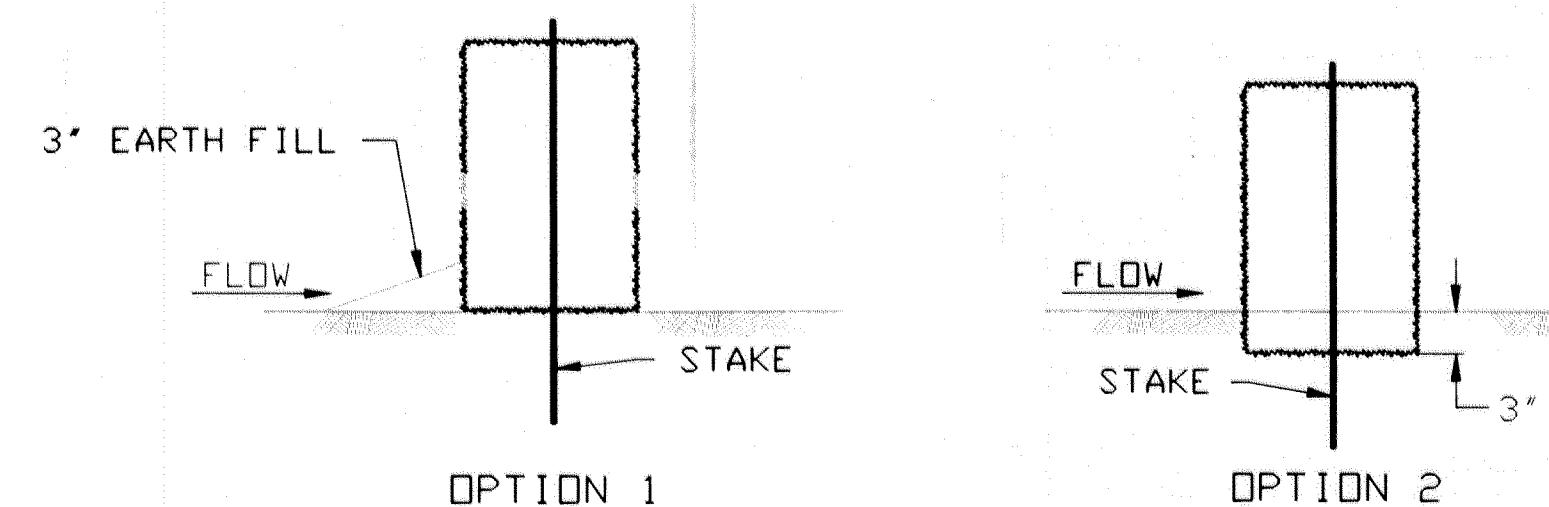
WHEN USING THE ALTERNATE BALE CHECK, THE TWIN BALES WILL BE ON THE UPSTREAM SIDE.

* THE DISTANCE BETWEEN BALES SHALL BE 1 FT. (TYP.)

SILT FENCE DETAIL



DITCH CHECK SECTIONS



FILE NAME: 870552/TAB-CH.DWG MN(09-19-94)

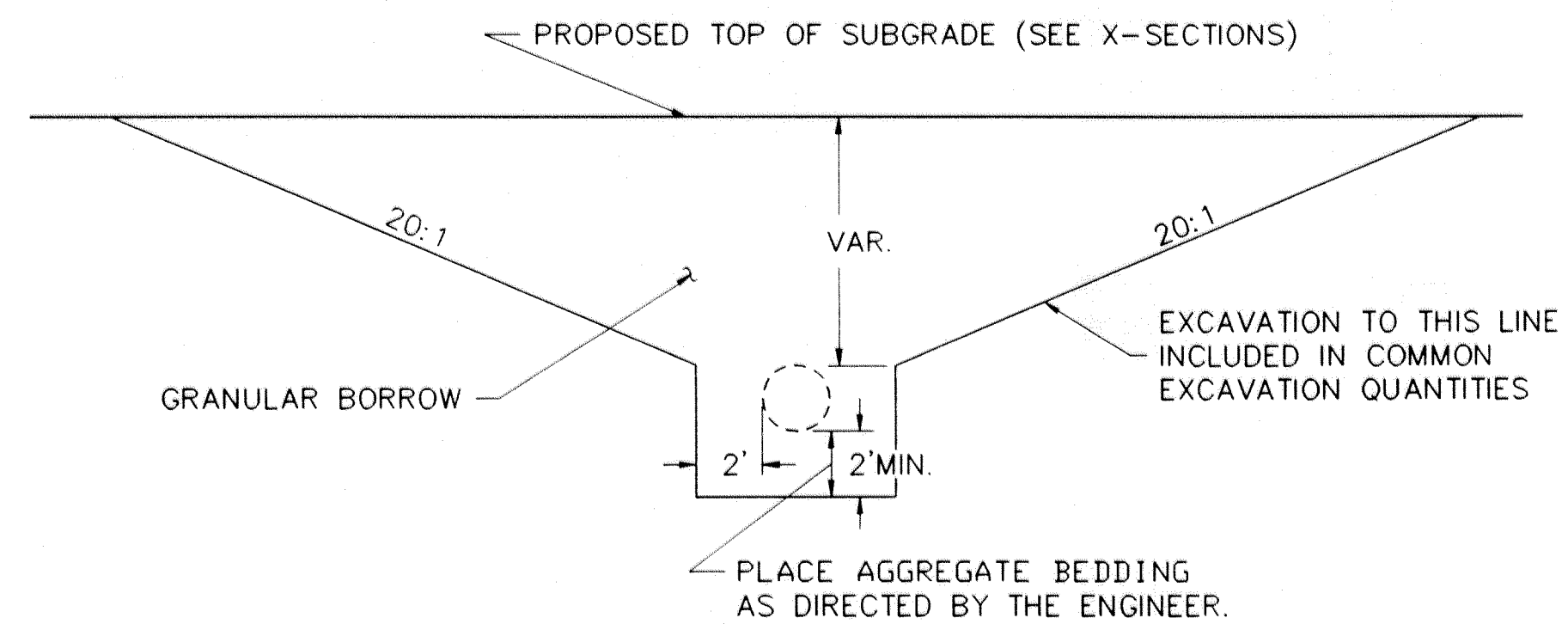
DATE	REVISIONS BY	DATE	BY

CERTIFIED BY Douglas W. Teraviva P.E. REG NO. 20235 9/23 19 94

S.P. _____ S.A.P. _____ C.P. 87-05-52 Sheet No. 6 of 37 Sheets

TEMPORARY EROSION CONTROL

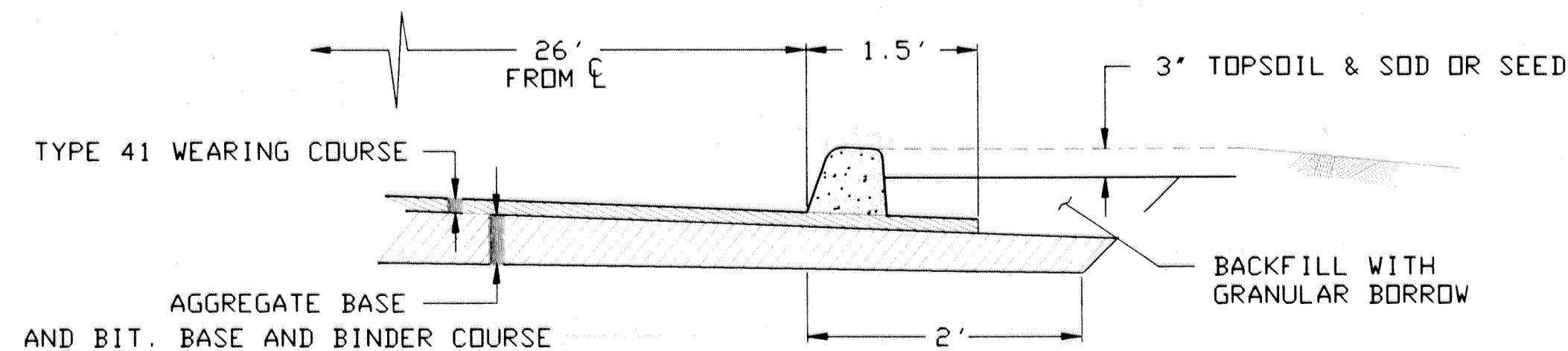
CENTERLINE CULVERT INSTALLATION



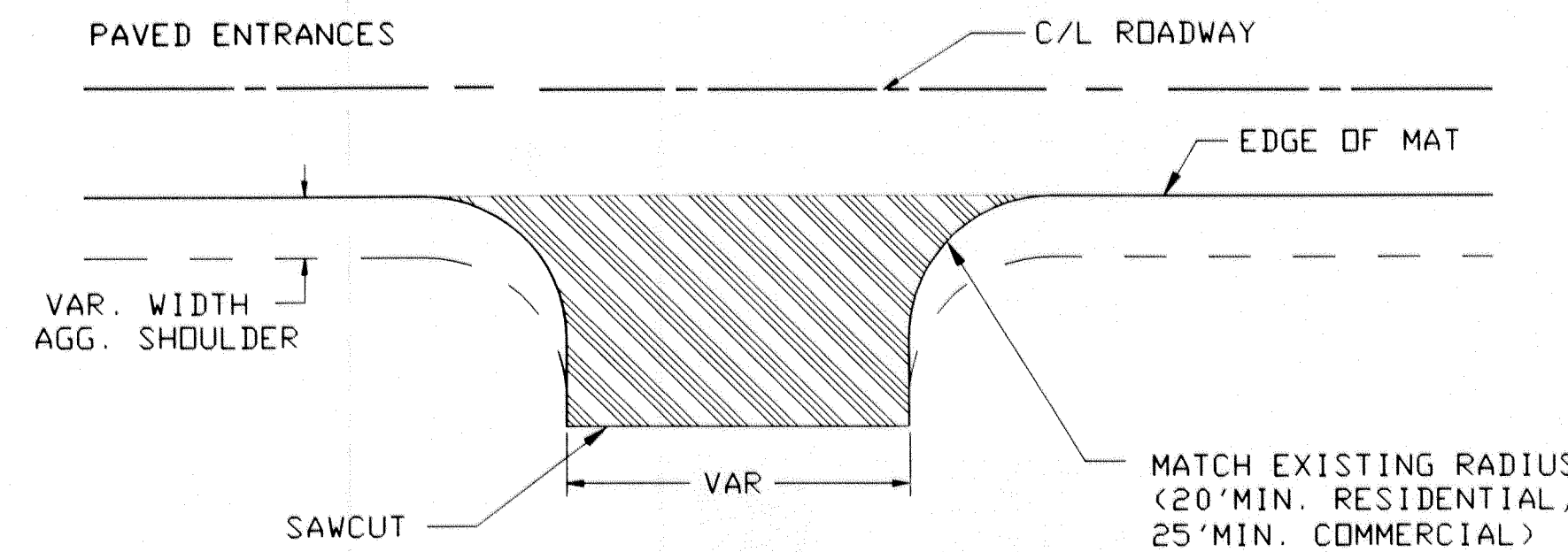
- NOTES:
- * FILL AND COMPACT GRANULAR TO 2" ABOVE FLOWLINE BEFORE PLACING CULVERT.
 - * AT CENTERLINE CULVERT LOCATIONS CULVERT EXCAVATION TO EXTEND 3' BEYOND END OF APRON.
 - * SEE CROSS SECTION AND PROFILE SHEETS FOR DEPTH AND LIMITS OF CULVERT EXCAVATION.

BITUMINOUS CURB DETAIL

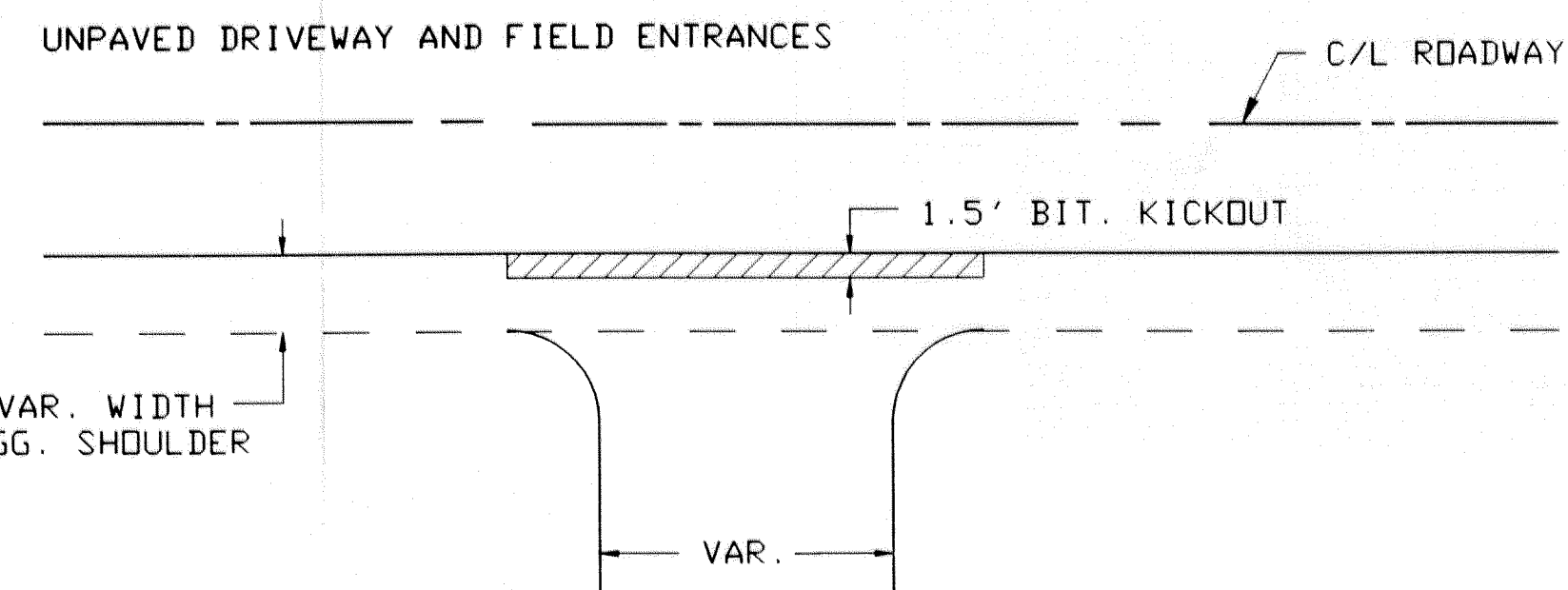
STANDARD PLATE NO. 7065
(USE IN BERM LOCATIONS)



TYPICAL DRIVEWAY AND FIELD ENTRANCES



NOTE: PAID FOR AS ITEM NO. 0340.601
(2" THICK BIT. WEAR COURSE)



NOTE: KICKOUTS PAID FOR AS ITEM NO. 2340.508
(TYPE 41 WEAR COURSE MIXTURE)

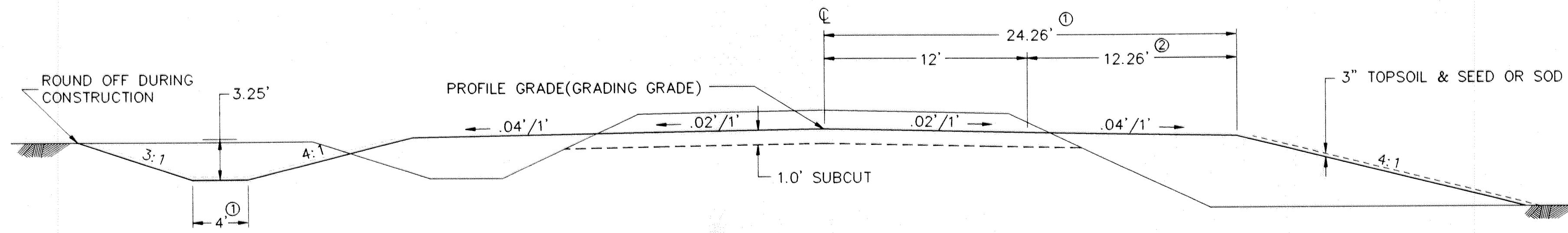
STANDARD DETAILS

TYPICAL DRIVEWAY AND FIELD ENTRANCES
CENTERLINE CULVERT INSTALLATION
BITUMINOUS CURB DETAIL

REVISIONS	DATE	BY

NORMAL GRADING

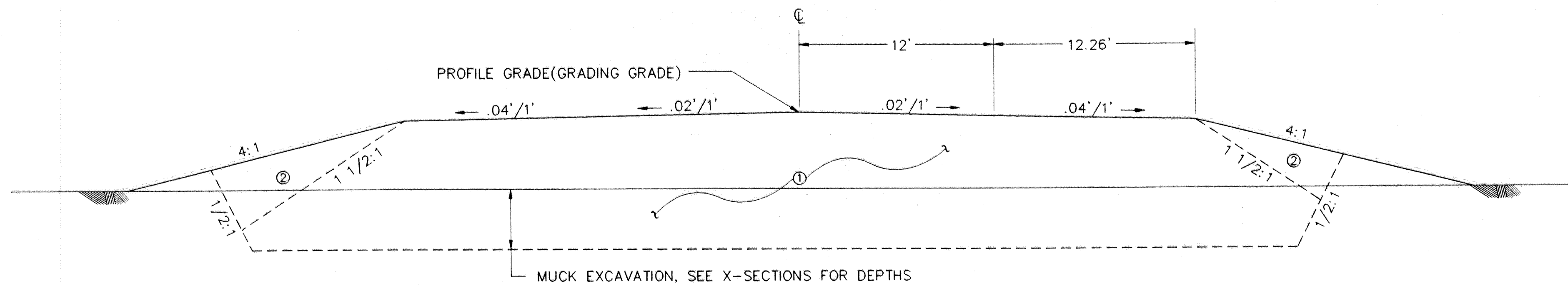
STATION 476+99 TO STATION 499+55



- ① FOR SPECIAL DITCHES SEE PROFILE SHEETS & X-SECTIONS.
- ② 16.09' IN RT.TN.LN., 28.09 FROM C.

MUCK EXCAVATION

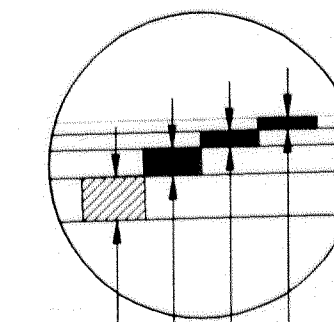
STATION 488+75 TO STATION 499+50



- ① FILL WITH GRANULAR MATERIAL
- ② FILL WITH MUCK EXCAVATION MATERIAL

DESIGN F-1

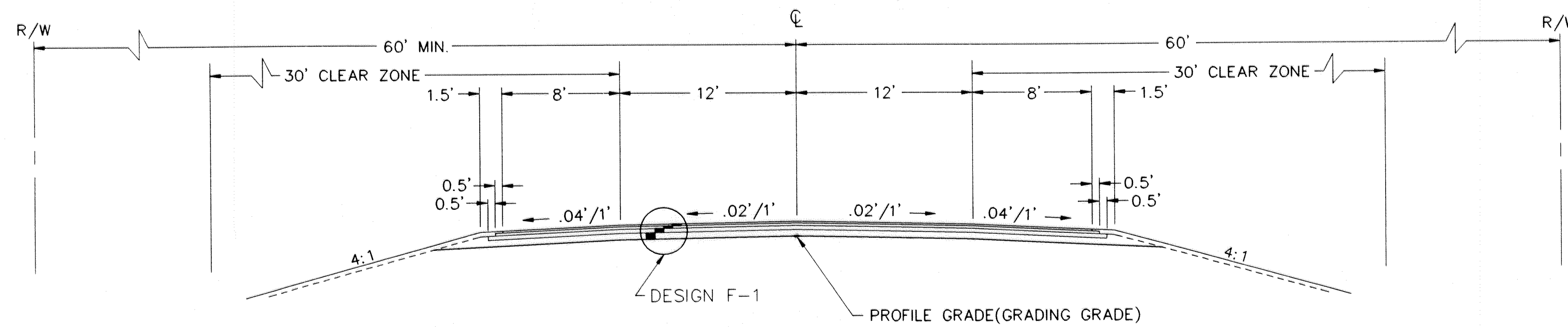
STATION 476+99 TO STATION 499+55



- 1 1/2" TYPE 41 WEARING COURSE-SPEC. 2340
BITUMINOUS MIXTURE DESIGNATION: 41WEA50055Y
- 1 1/2" TYPE 31 BINDER COURSE-SPEC. 2340
BITUMINOUS MIXTURE DESIGNATION: 31BIB50000Y
- 2" TYPE 31 BASE COURSE-SPEC. 2340
BITUMINOUS MIXTURE DESIGNATION: 31BBB50000Y
- 5" AGGREGATE BASE CL-5-SPEC. 2211
- TACK COAT-SPEC. 2357, TO BE APPLIED BETWEEN ALL BITUMINOUS LIFTS.

RURAL TYPICAL SECTION

STATION 476+99 TO STATION 499+55



TYPICAL SECTIONS

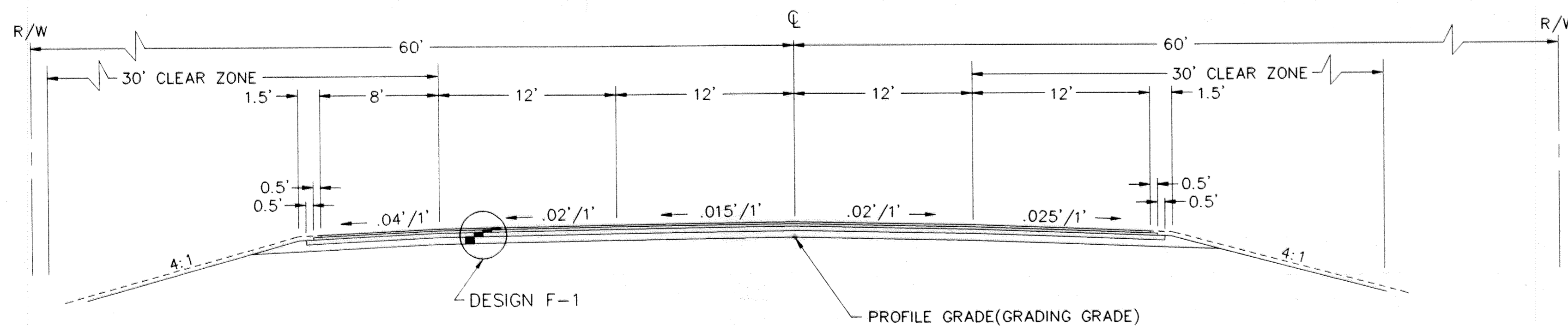
REVISIONS	DATE	BY

FILE NAME: 870552/TAB-CH.DWG MN(09-19-94)

LEFT TURN/RIGHT TURN LANES

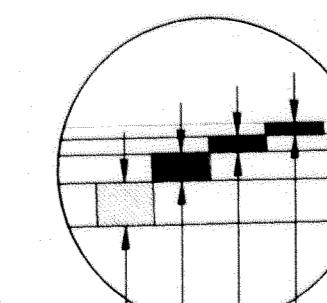
LEFT TURN LANES
STA. 496+66 TO STA. 499+55, LNB

RIGHT TURN/BYPASS LANES
STA. 485+50 TO STA. 488+07, LNB
STA. 487+86 TO STA. 490+50, LSB



DESIGN F-1

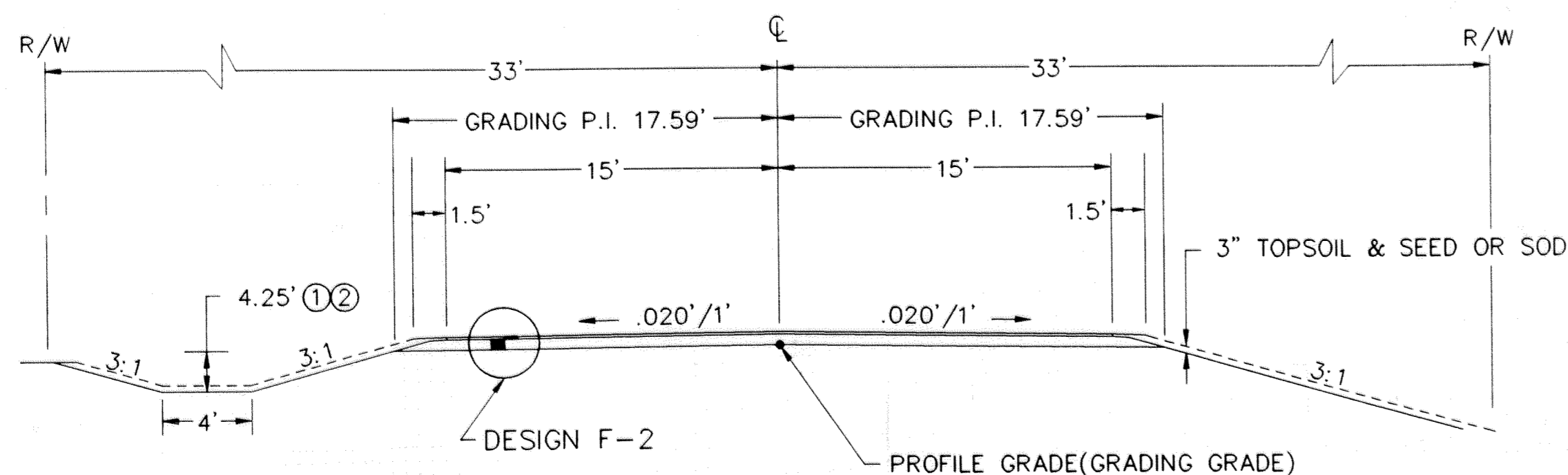
STATION 476+99 TO STATION 499+55



- 1 1/2" TYPE 41 WEARING COURSE-SPEC. 2340
BITUMINOUS MIXTURE DESIGNATION: 41WEA50055Y
- 1 1/2" TYPE 31 BINDER COURSE-SPEC. 2340
BITUMINOUS MIXTURE DESIGNATION: 31BIB50000Y
- 2" TYPE 31 BASE COURSE-SPEC. 2340
BITUMINOUS MIXTURE DESIGNATION: 31BBB50000Y
- 5" AGGREGATE BASE CL-5-SPEC. 2211
- TACK COAT-SPEC. 2357, TO BE APPLIED BETWEEN ALL BITUMINOUS LIFTS.

L1 ALIGNMENT TYPICAL SECTION

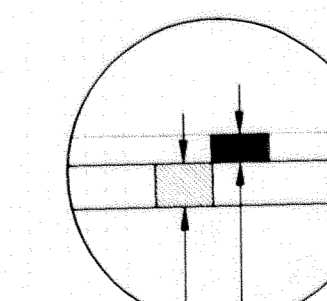
STATION 600+00 TO STATION 606+00



- ① MEASURED FROM FINISH PROFILE ELEV.
- ② SEE PLAN & PROFILE SHEETS FOR SPECIAL DITCHES

DESIGN F-2

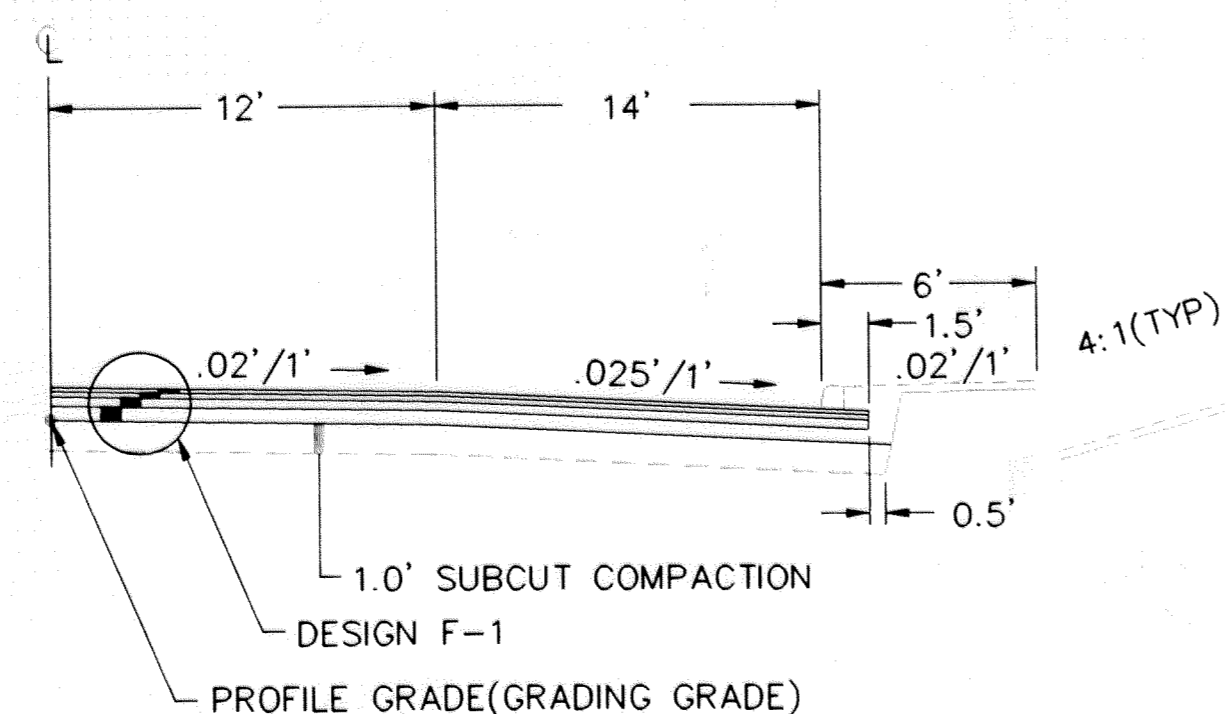
STATION 600+00 TO STATION 606+00



- 2" TYPE 41 WEARING COURSE-SPEC. 2340
BITUMINOUS MIXTURE DESIGNATION: 41WEA50055Y
- 4" AGGREGATE BASE CL-5-SPEC. 2211

TYPICAL BERM SECTION

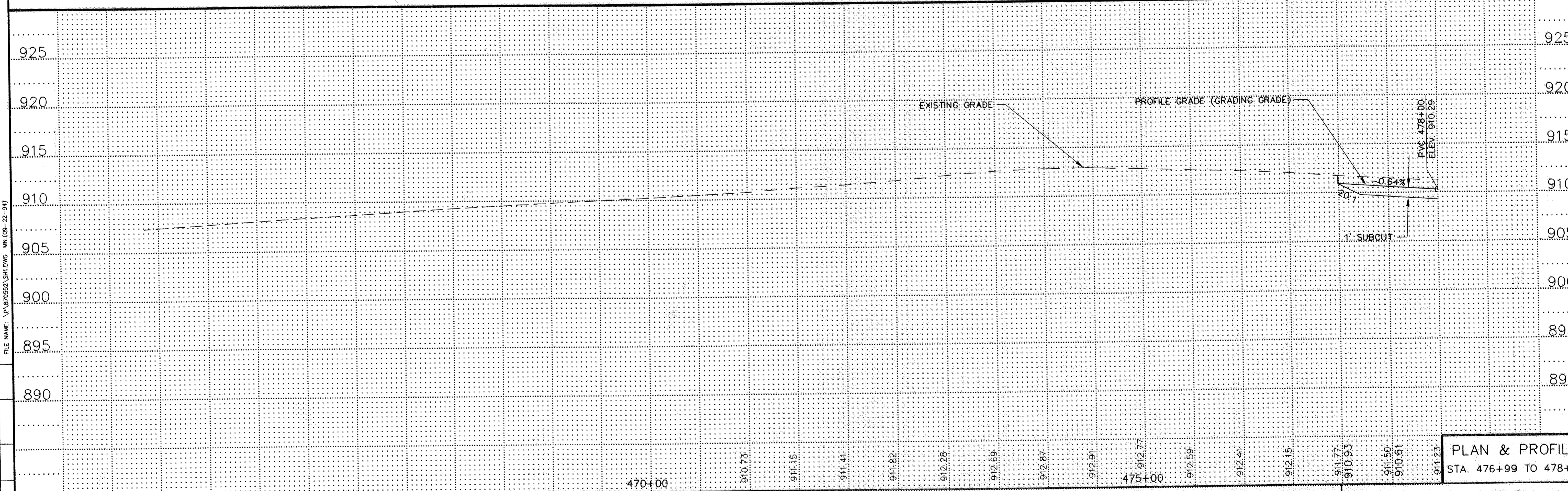
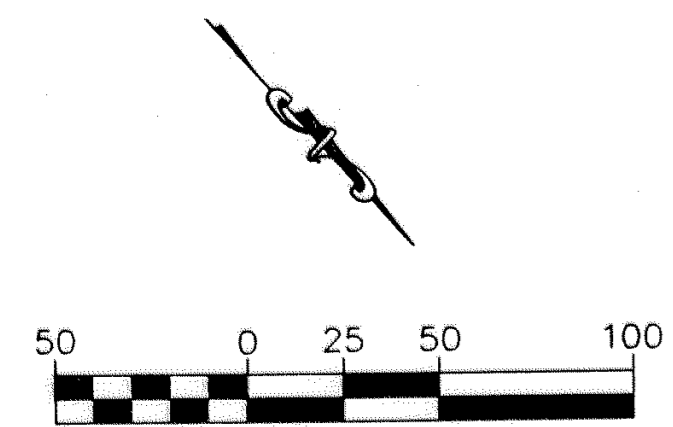
STATION 483+50 TO STATION 486+25, RT
STATION 495+65 TO STATION 499+16, RT



TYPICAL SECTIONS

REVISIONS	BY	DATE

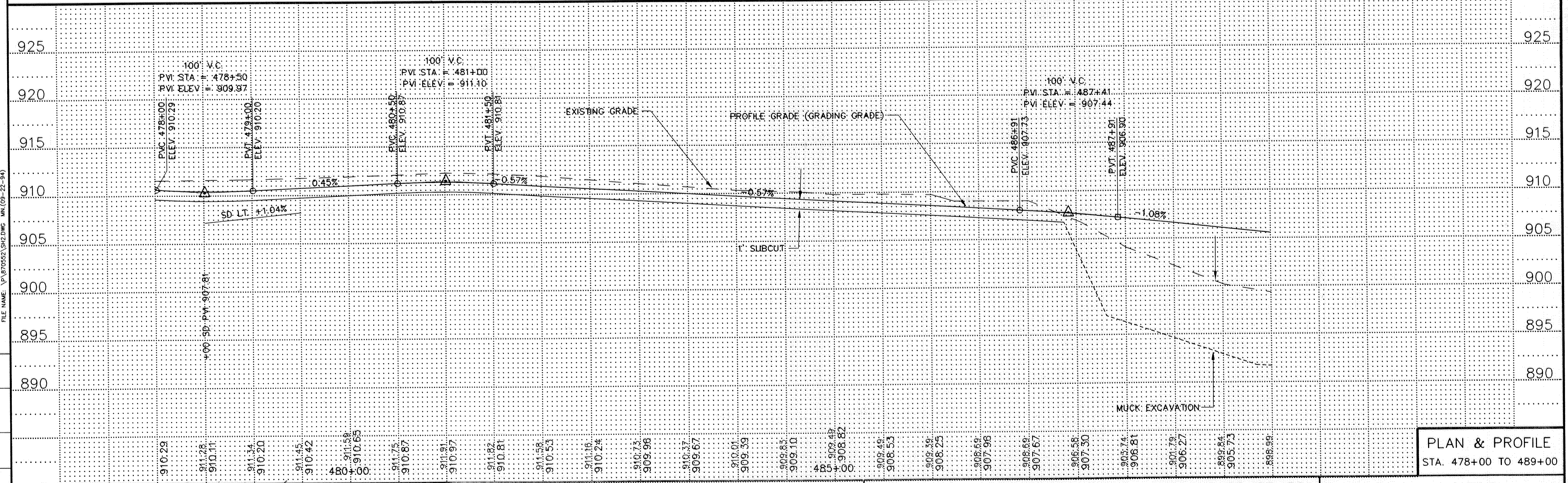
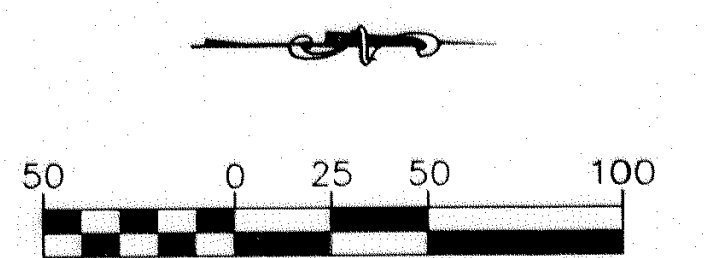
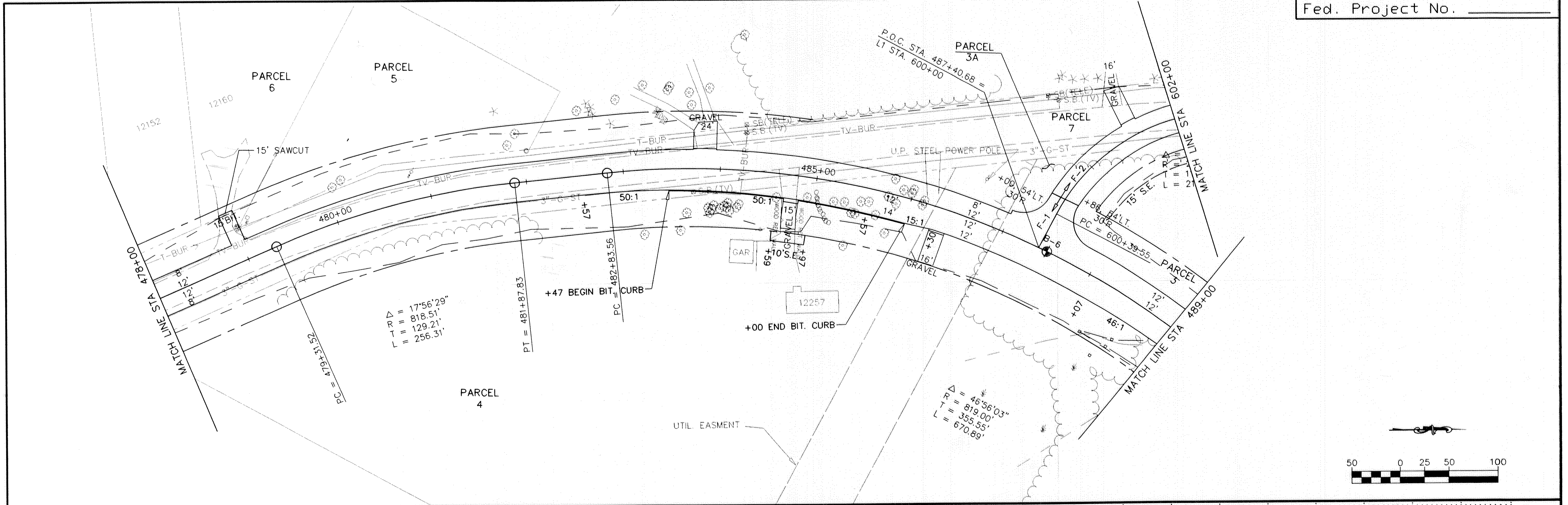
FILE NAME: 870552/TAB-CH.DWG MN (09-19-94)



REVISIONS	DATE	BY

FILE NAME: V:\970552\SH1.DWG MI (09-22-94)

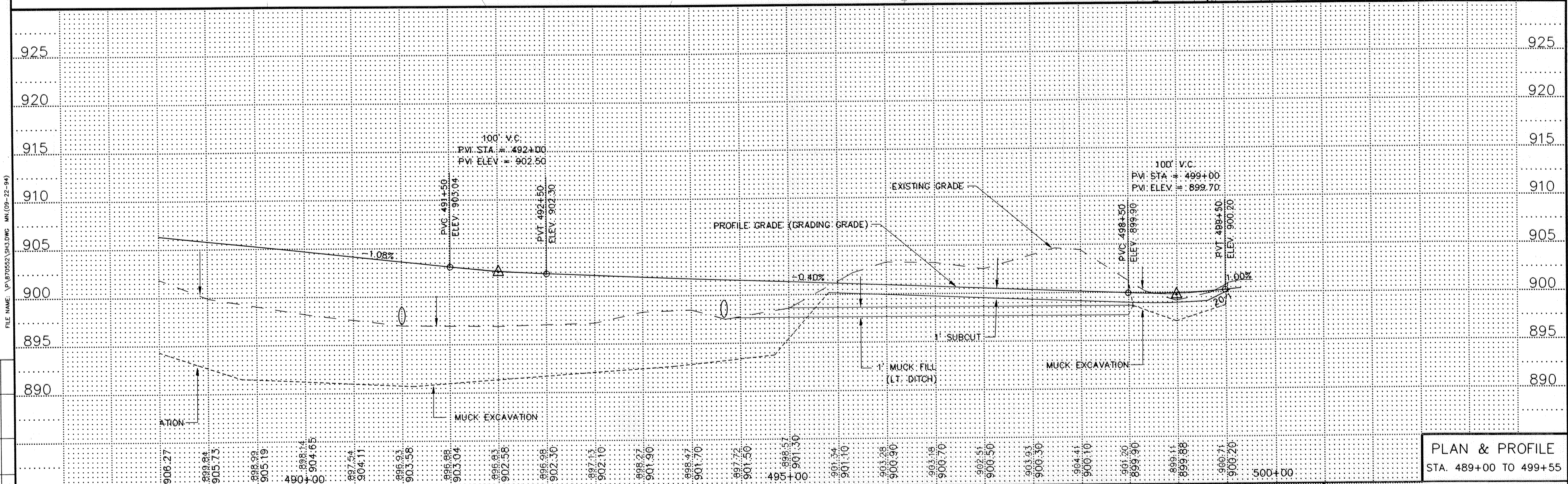
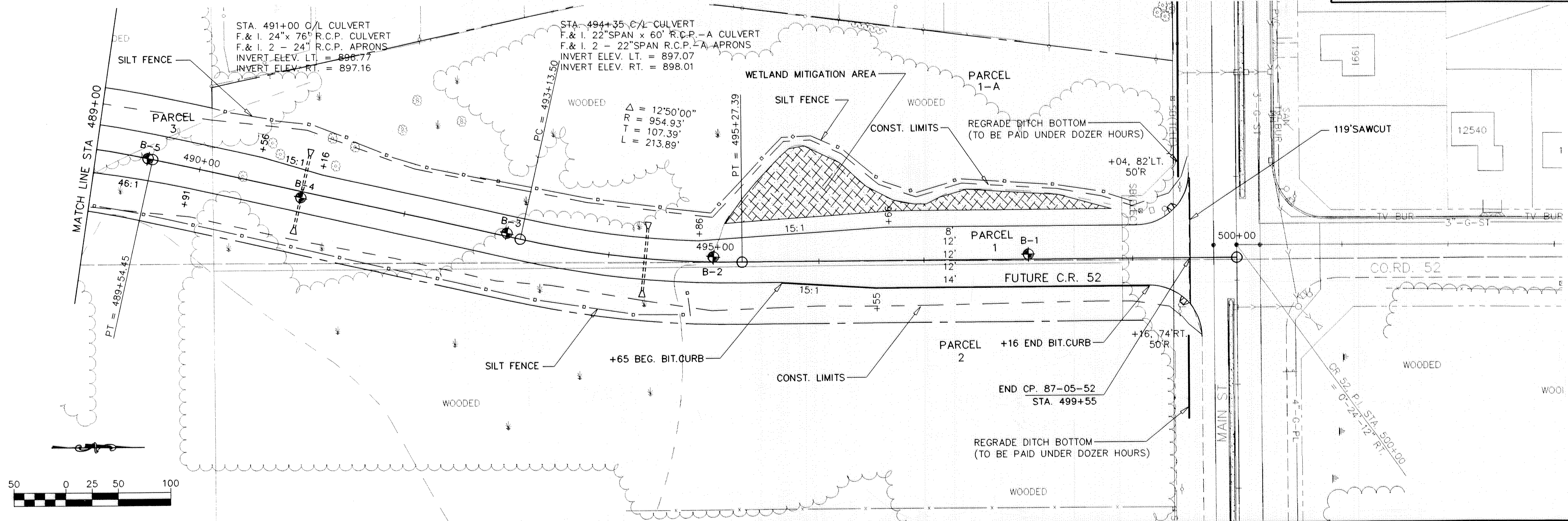
PLAN & PROFILE
STA. 476+99 TO 478+00



PLAN & PROFILE
STA. 478+00 TO 489+00

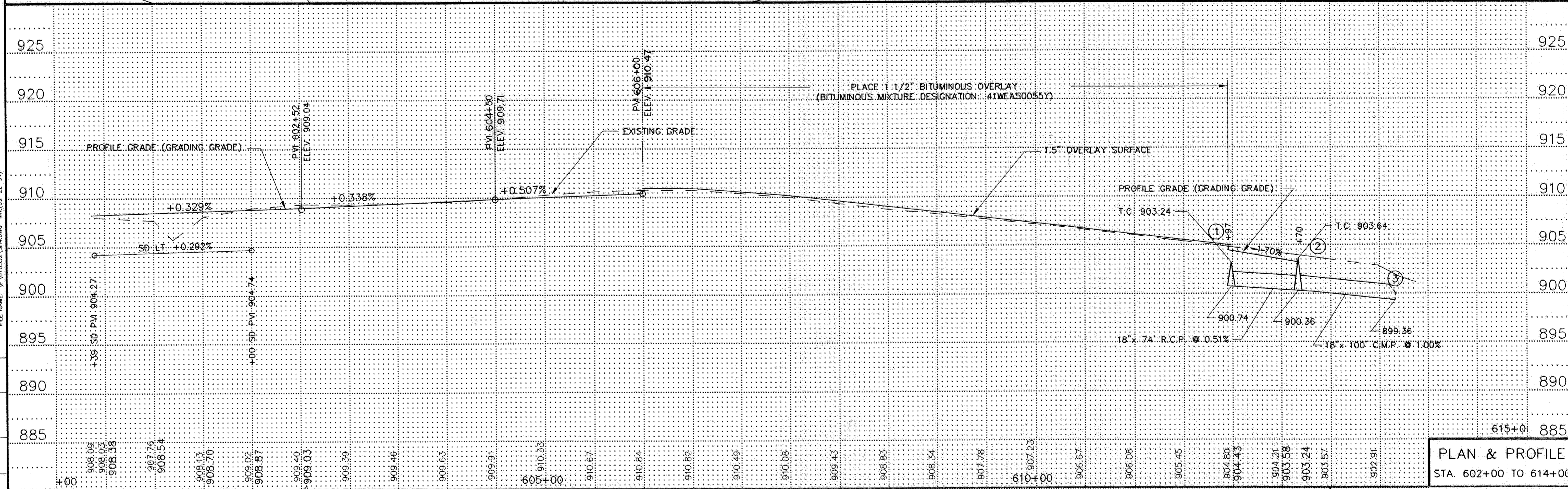
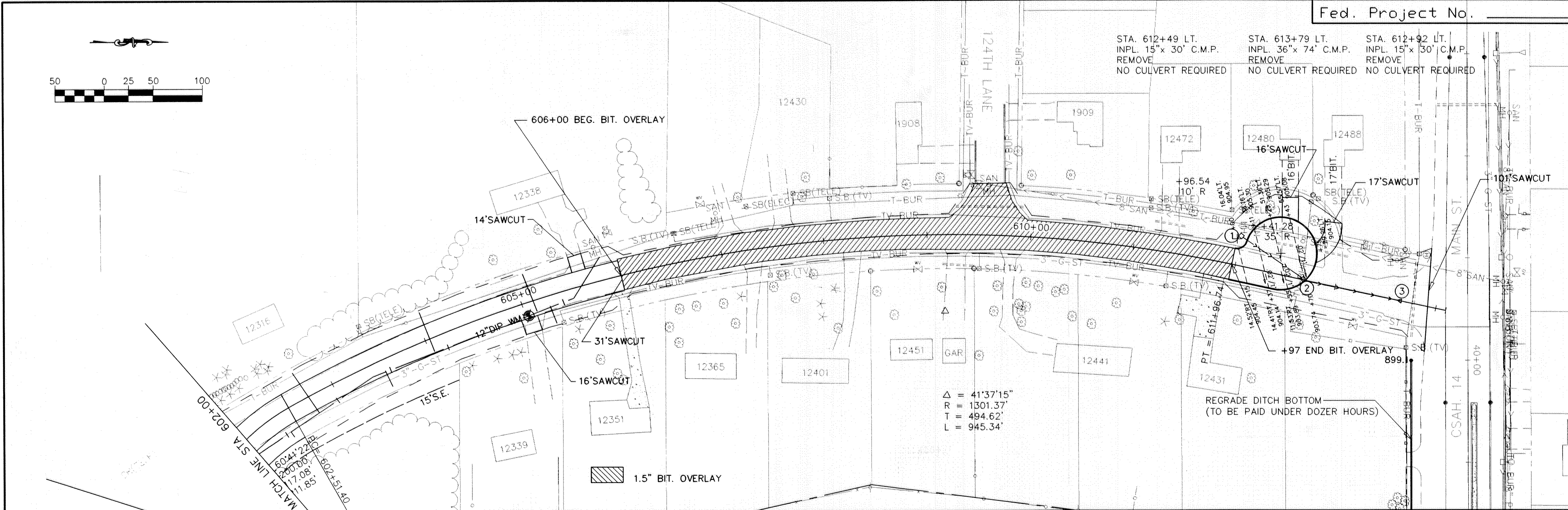
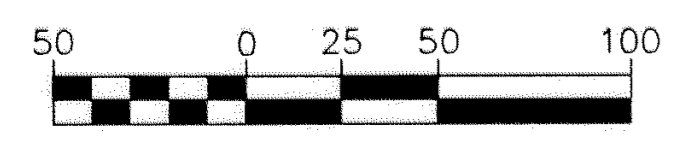
FILE NAME: V:\P70552\SH2.DWG MN (09-22-94)

DATE	BY
DATE	BY



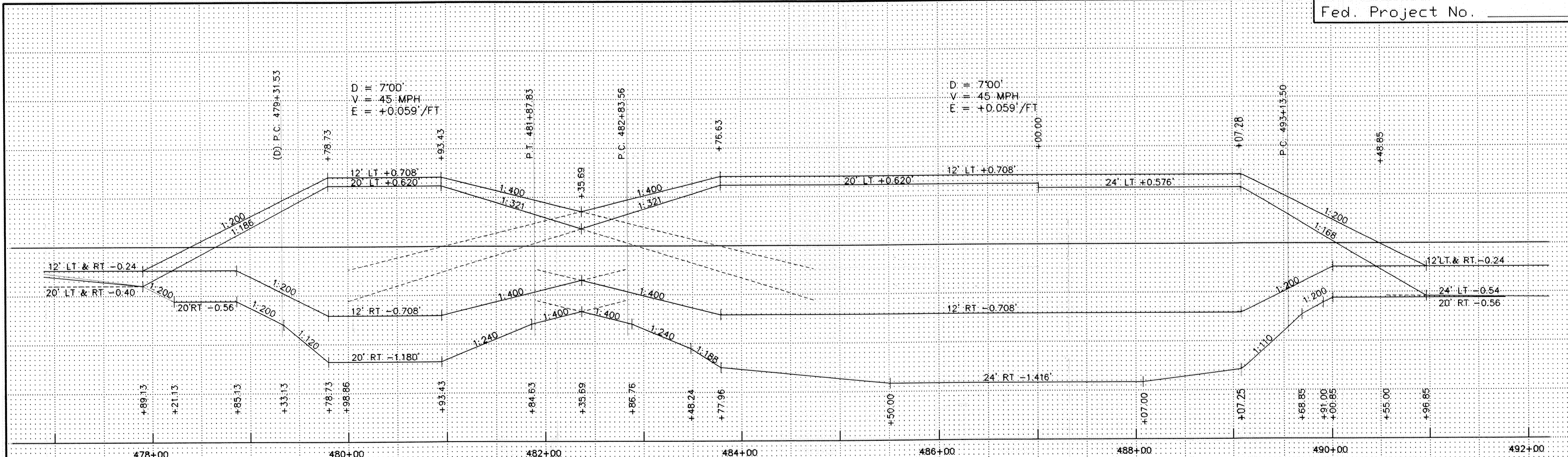
PLAN & PROFILE
STA. 489+00 TO 499+55

STA. 612+49 LT. INPL. 15'x 30' C.M.P. REMOVE NO CULVERT REQUIRED
 STA. 613+79 LT. INPL. 36'x 74' C.M.P. REMOVE NO CULVERT REQUIRED
 STA. 612+92 LT. INPL. 15'x 30' C.M.P. REMOVE NO CULVERT REQUIRED

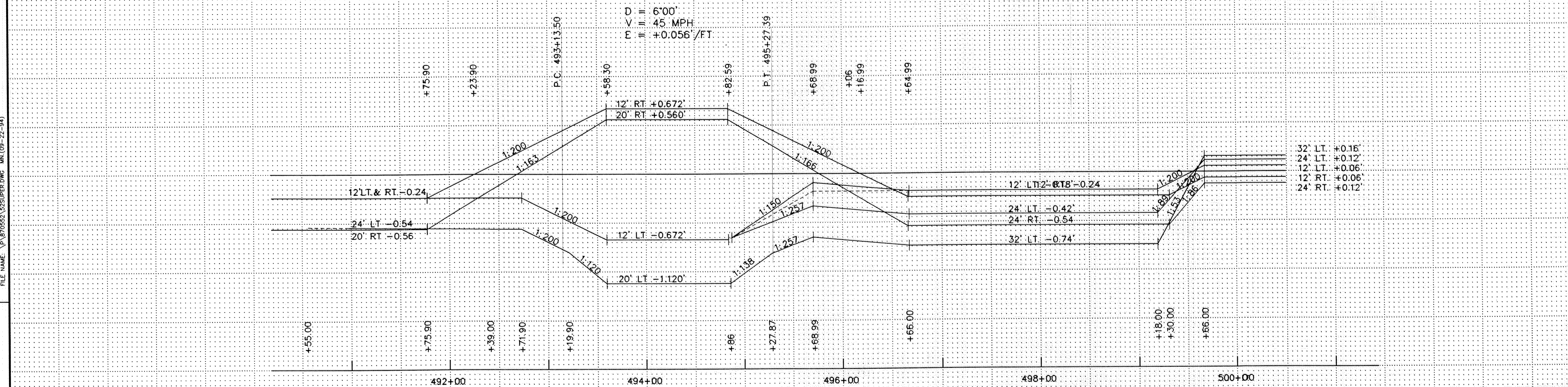


REVISIONS	DATE	BY

PLAN & PROFILE
 STA. 602+00 TO 614+00



478+00 480+00 482+00 484+00 486+00 488+00 490+00 492+00



492+00 494+00 496+00 498+00 500+00

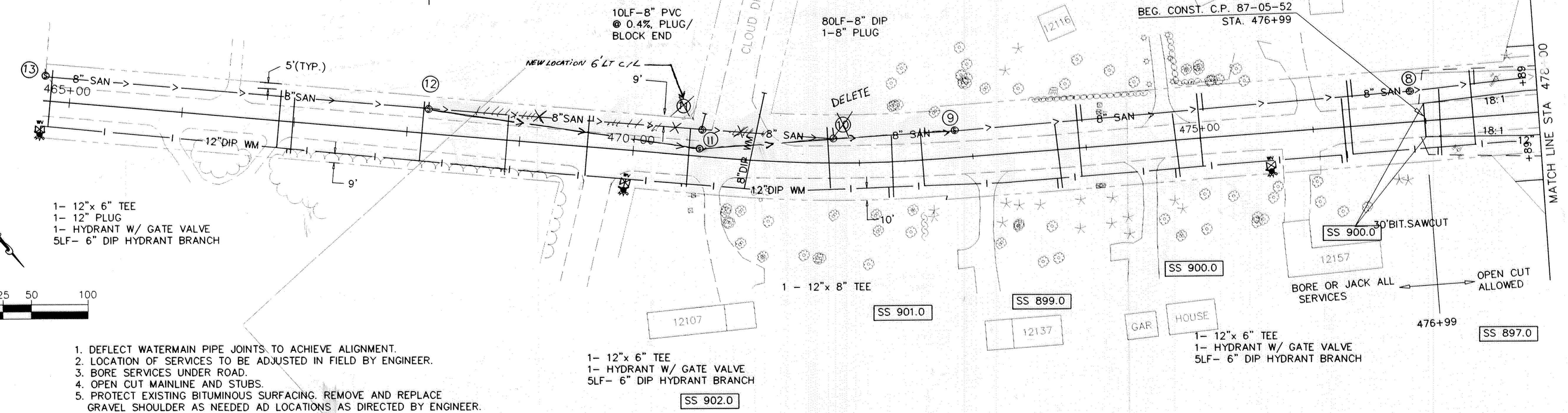
32' LT +0.16'
24' LT +0.12'
12' LT +0.06'
12' RT +0.06'
24' RT +0.12'

SUPERELEVATION CHART

REVISIONS	DATE	DESCRIPTION

FILE NAME: V:\870552\82SUPER.DWG MN (09-22-94)

MH.	LOCATION
8	476+87
9	472+87
10	471+80
11	470+60
12	468+18
13	467+67

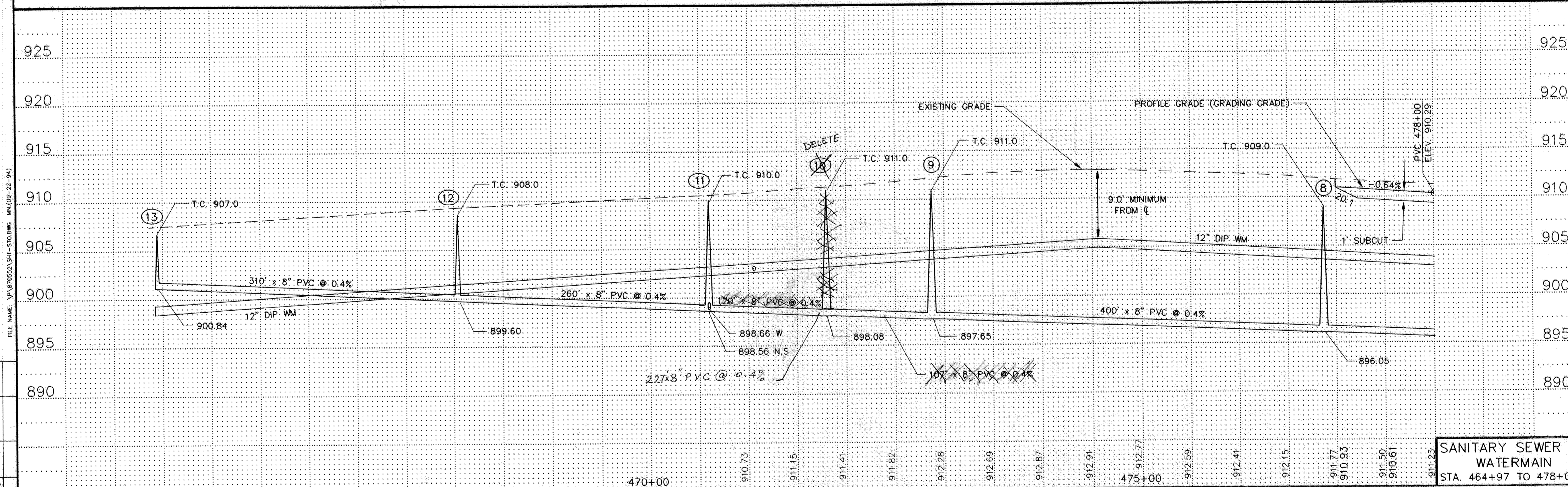


- 1- 12"x 6" TEE
- 1- 12" PLUG
- 1- HYDRANT W/ GATE VALVE
- 5LF- 6" DIP HYDRANT BRANCH

- 1- 12"x 6" TEE
- 1- HYDRANT W/ GATE VALVE
- 5LF- 6" DIP HYDRANT BRANCH

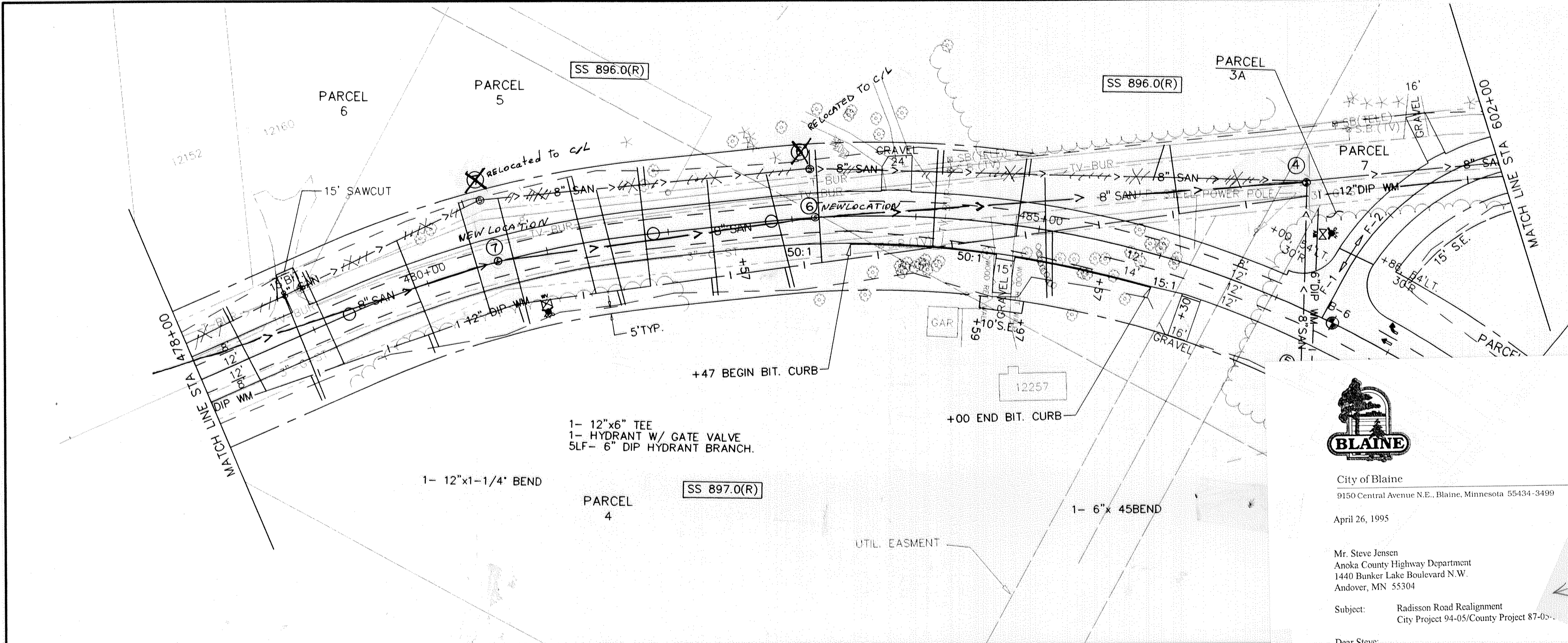
- 1- 12"x 6" TEE
- 1- HYDRANT W/ GATE VALVE
- 5LF- 6" DIP HYDRANT BRANCH

1. DEFLECT WATERMAIN PIPE JOINTS TO ACHIEVE ALIGNMENT.
2. LOCATION OF SERVICES TO BE ADJUSTED IN FIELD BY ENGINEER.
3. BORE SERVICES UNDER ROAD.
4. OPEN CUT MAINLINE AND STUBS.
5. PROTECT EXISTING BITUMINOUS SURFACING. REMOVE AND REPLACE GRAVEL SHOULDER AS NEEDED AT LOCATIONS AS DIRECTED BY ENGINEER.



REVISIONS	DATE	BY
3-6-96	MAR 10	

SANITARY SEWER & WATERMAIN
STA. 464+97 TO 478+00



MH.	LOCATION	CENTERLINE CENTERLINE
4	600+77, 68' LT.	
5	687+45, 45' RT.	
6	483+19, 40' LT. C	
7	480+60, 67' LT. C	

- 1- 12"x 6" TEE
- 1- 6"x 11-1/4" BEND
- 1- 6" TEE
- 1- HYDRANT W/ GATE VALVE
- 5LF- 6" DIP HYDRANT BRANCH

1. DEFLECT WATERMAIN PIPE JOINTS TO ACHIEVE ALIGNMENT.
2. LOCATION OF SERVICES TO BE ADJUSTED IN FIELD BY ENGINEER.



City of Blaine
9150 Central Avenue N.E., Blaine, Minnesota 55434-3499
April 26, 1995

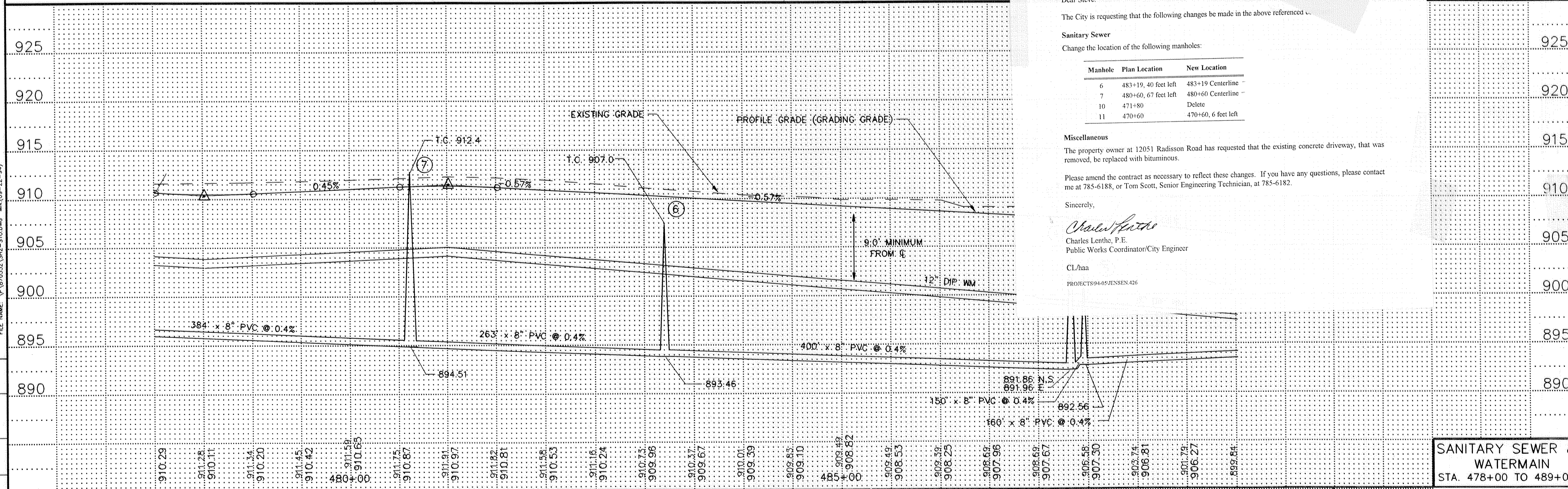
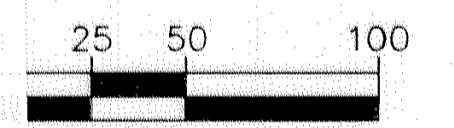
Mr. Steve Jensen
Anoka County Highway Department
1440 Bunker Lake Boulevard N.W.
Andover, MN 55304
Subject: Radisson Road Realignment
City Project 94-05/County Project 87-05-

RECEIVED
APR 28 1995

ANOKA COUNTY
HIGHWAY DEPT
3844

*Mario,
revise plan view
drawing depicting
these changes
Thanks
Steve*

AT END OF HORIZONTAL RUN SERVICE TO THAT PARCEL. PER AT MAIN PER DETAIL SSS-3. INDICATED, INSTALL SERVICE AT PER DETAIL SSS-4.



Dear Steve:
The City is requesting that the following changes be made in the above referenced drawing.

Sanitary Sewer
Change the location of the following manholes:

Manhole	Plan Location	New Location
6	483+19, 40 feet left	483+19 Centerline
7	480+60, 67 feet left	480+60 Centerline
10	471+80	Delete
11	470+60	470+60, 6 feet left

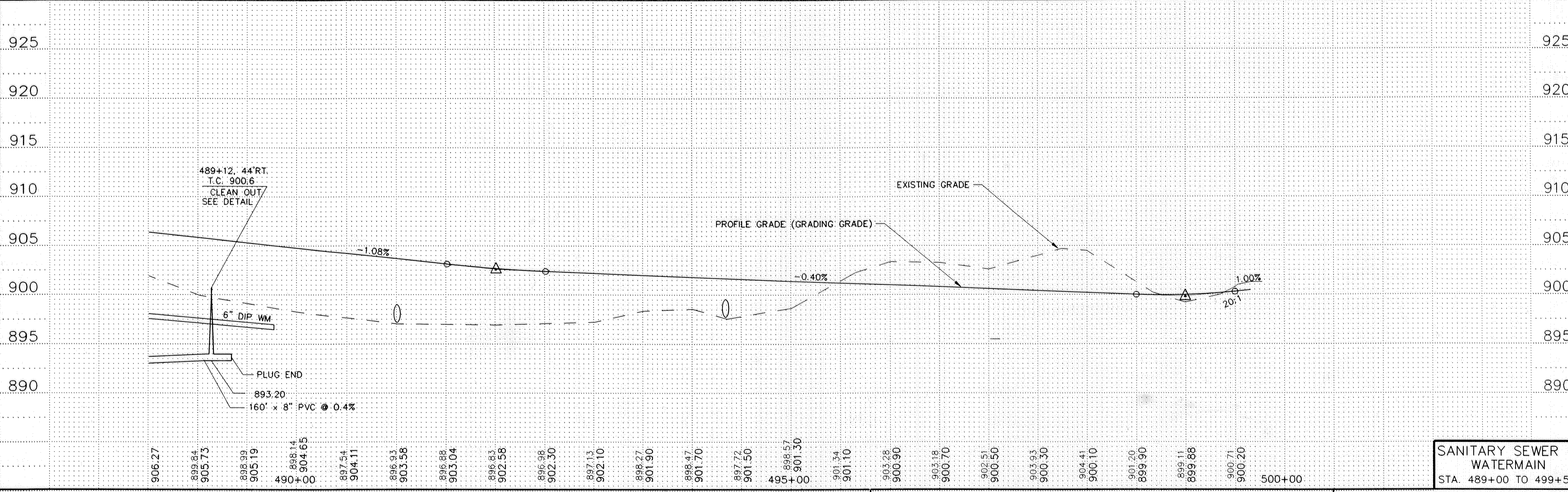
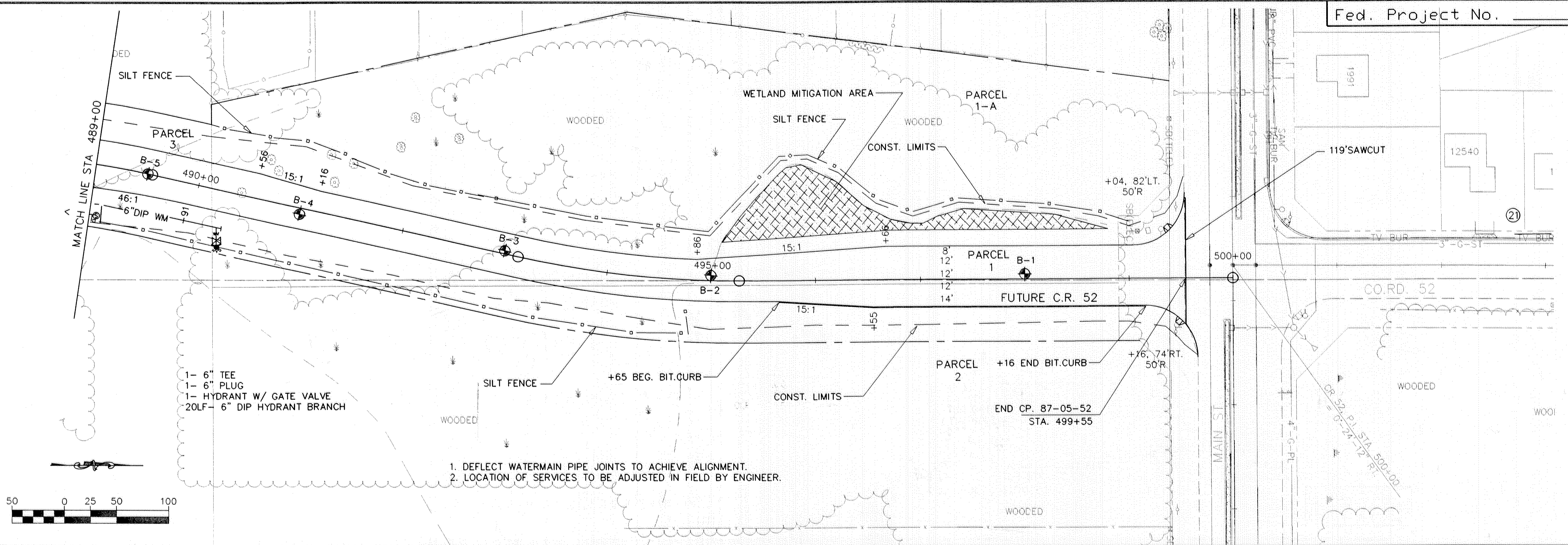
Miscellaneous
The property owner at 12051 Radisson Road has requested that the existing concrete driveway, that was removed, be replaced with bituminous.

Please amend the contract as necessary to reflect these changes. If you have any questions, please contact me at 785-6188, or Tom Scott, Senior Engineering Technician, at 785-6182.

Sincerely,
Charles Lenths
Charles Lenths, P.E.
Public Works Coordinator/City Engineer
CL/haa
PROJECTS94-05/JENSEN.426

REVISIONS	DATE	BY
3-6-96	MAR/96	

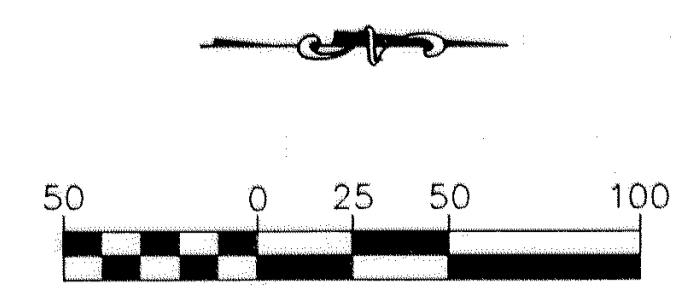
SANITARY SEWER & WATERMAIN
STA. 478+00 TO 489+00



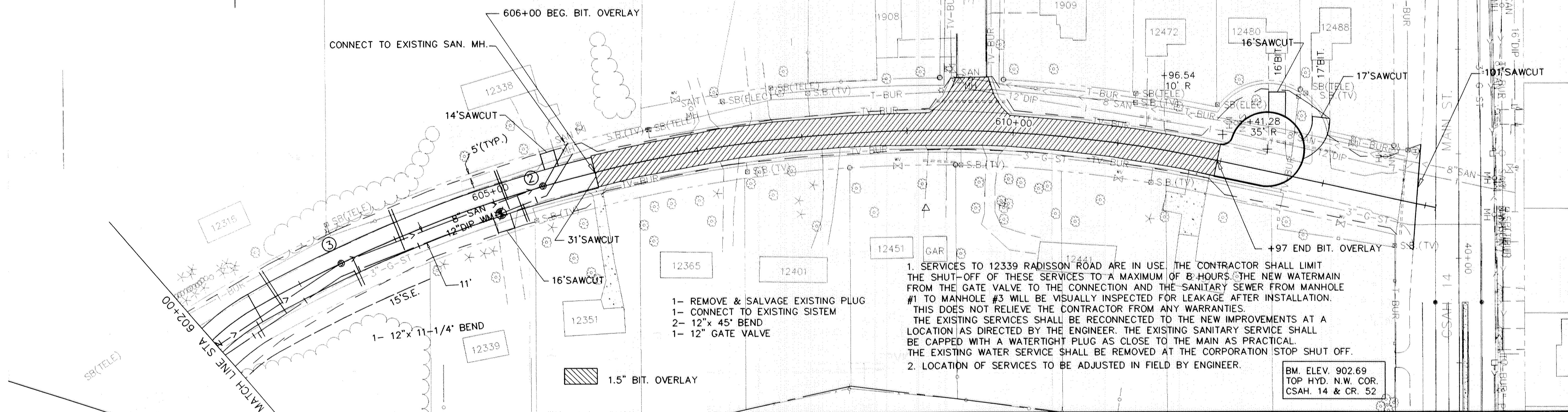
FILE NAME: P:\070552\SH3-S10.DWG MN (09-22-94)

DATE	BY	DATE	BY

SANITARY SEWER & WATERMAIN
 STA. 489+00 TO 499+55



MH.	LOCATION
1	605+80, 34' LT.
2	605+45, CL
3	603+45, CL
4	600+77, 68' LT.

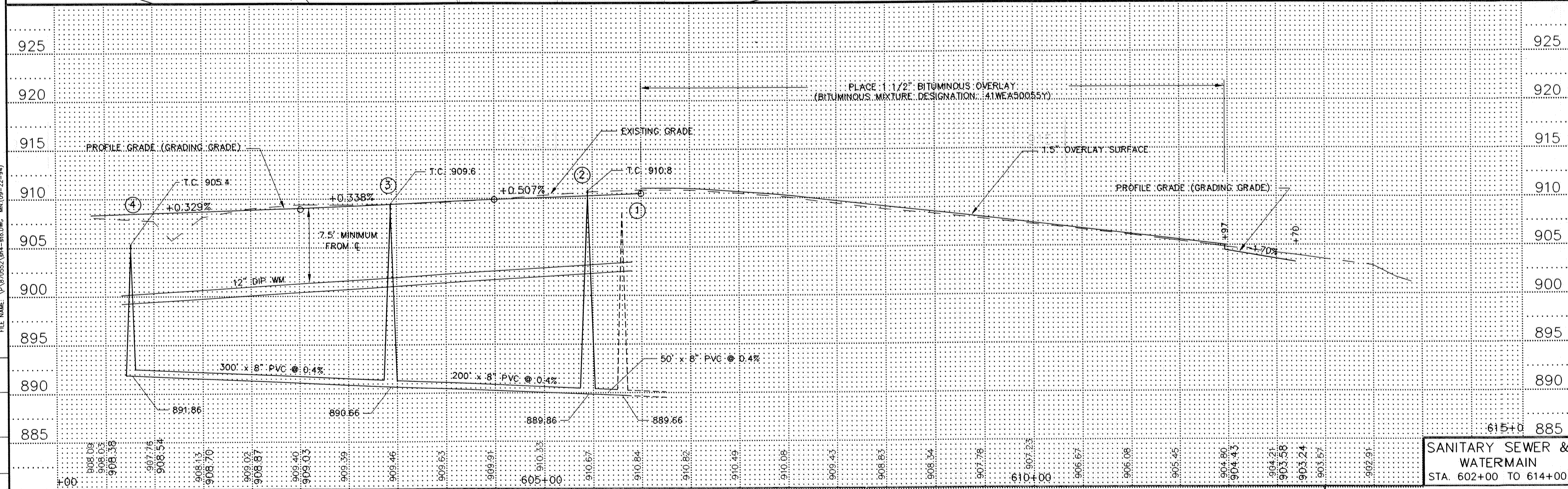


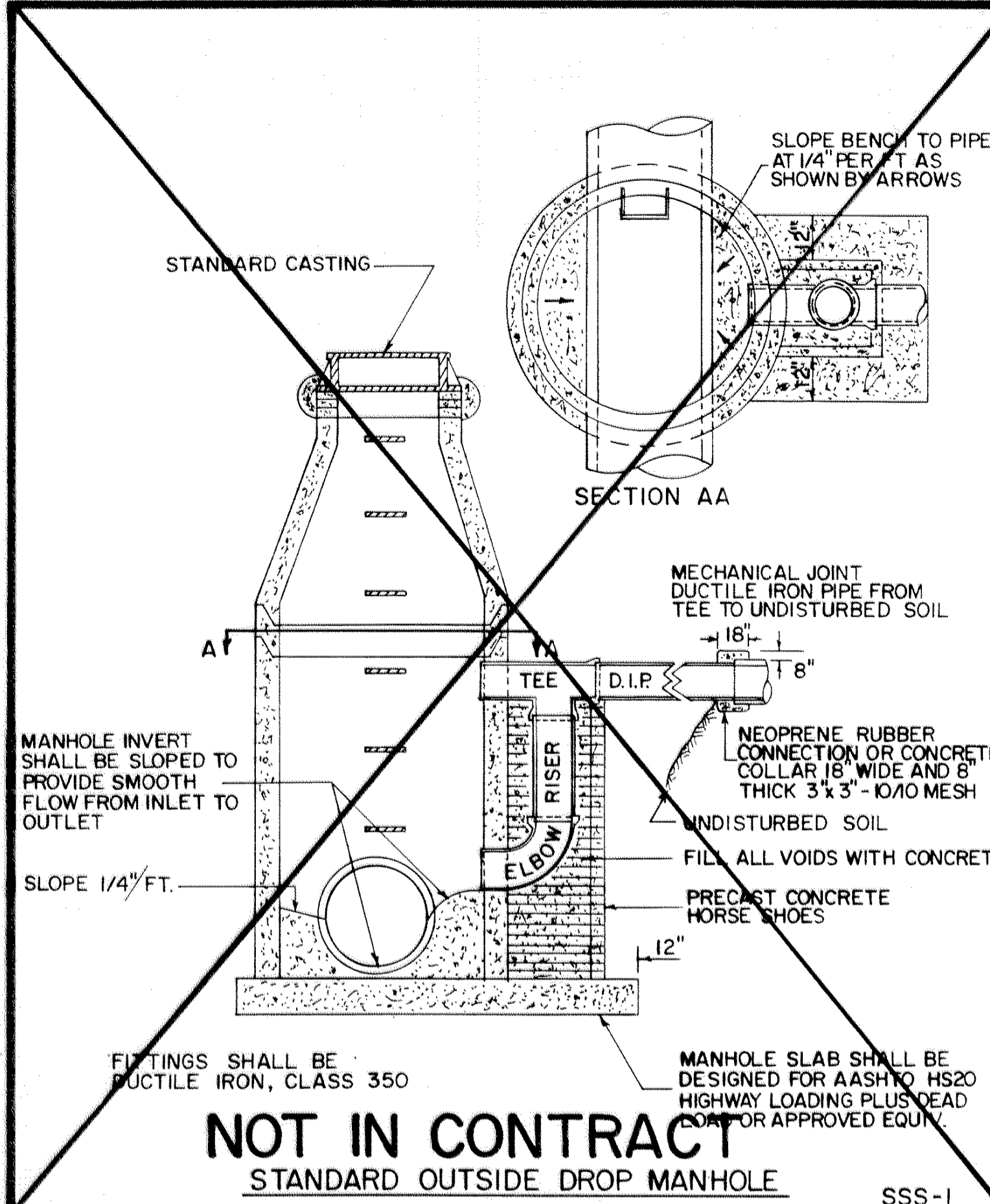
- 1- REMOVE & SALVAGE EXISTING PLUG
- 1- CONNECT TO EXISTING SYSTEM
- 2- 12" x 45' BEND
- 1- 12" GATE VALVE

1. SERVICES TO 12339 RADISSON ROAD ARE IN USE. THE CONTRACTOR SHALL LIMIT THE SHUT-OFF OF THESE SERVICES TO A MAXIMUM OF 8 HOURS. THE NEW WATERMAIN FROM THE GATE VALVE TO THE CONNECTION AND THE SANITARY SEWER FROM MANHOLE #1 TO MANHOLE #3 WILL BE VISUALLY INSPECTED FOR LEAKAGE AFTER INSTALLATION. THIS DOES NOT RELIEVE THE CONTRACTOR FROM ANY WARRANTIES. THE EXISTING SERVICES SHALL BE RECONNECTED TO THE NEW IMPROVEMENTS AT A LOCATION AS DIRECTED BY THE ENGINEER. THE EXISTING SANITARY SERVICE SHALL BE CAPPED WITH A WATERTIGHT PLUG AS CLOSE TO THE MAIN AS PRACTICAL. THE EXISTING WATER SERVICE SHALL BE REMOVED AT THE CORPORATION STOP SHUT OFF.

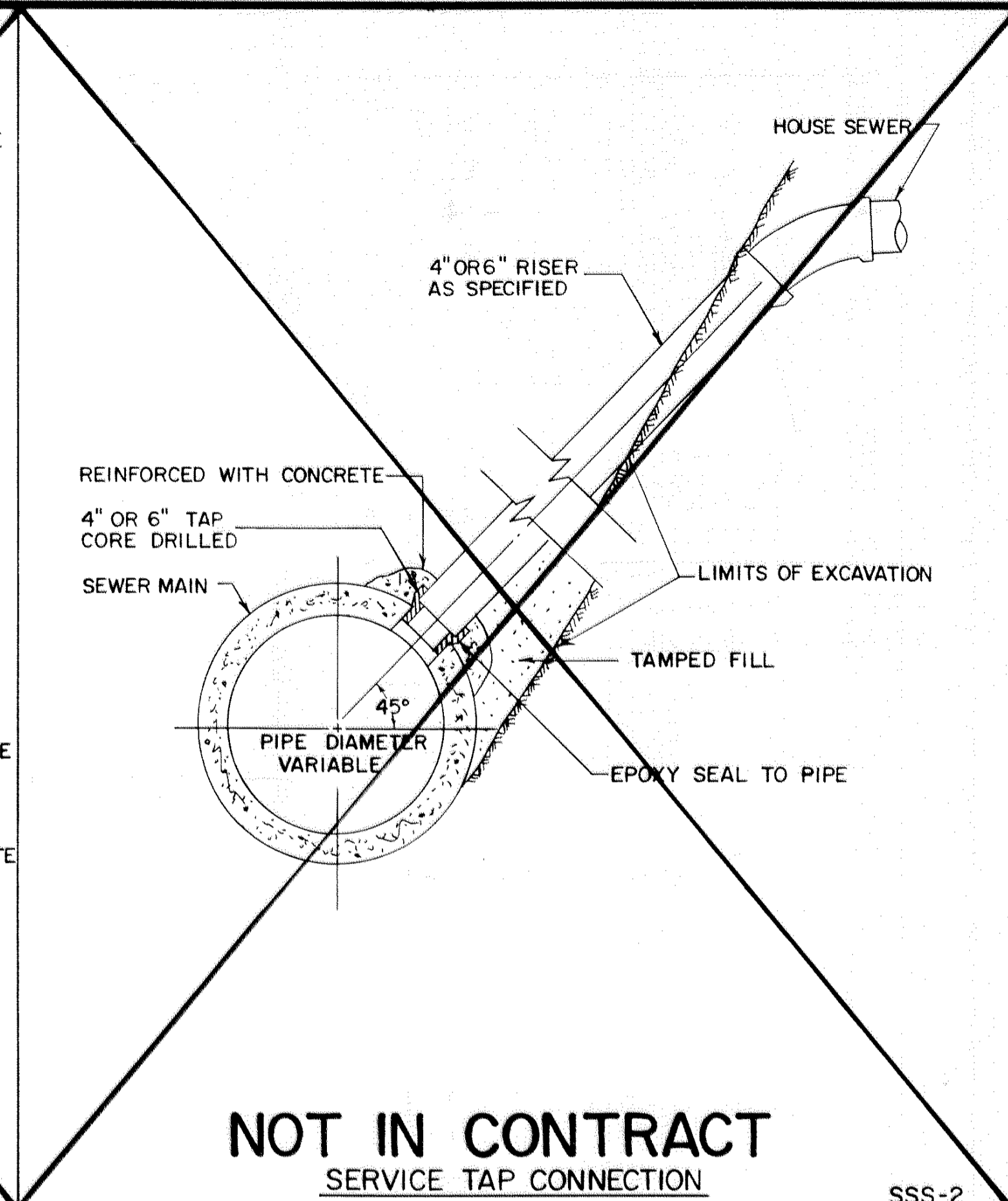
2. LOCATION OF SERVICES TO BE ADJUSTED IN FIELD BY ENGINEER.

BM. ELEV. 902.69
TOP HYD. N.W. COR.
CSAH. 14 & CR. 52

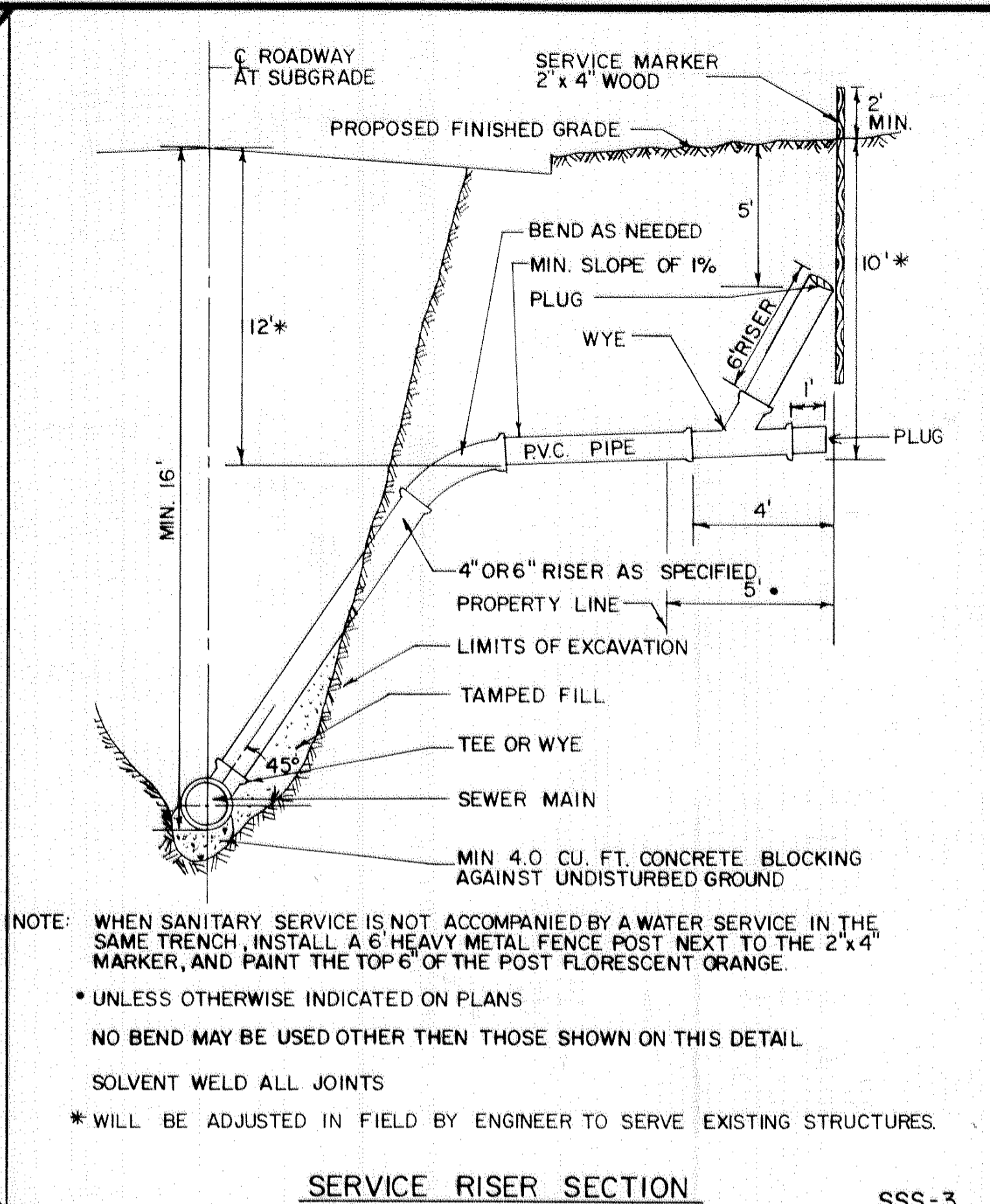




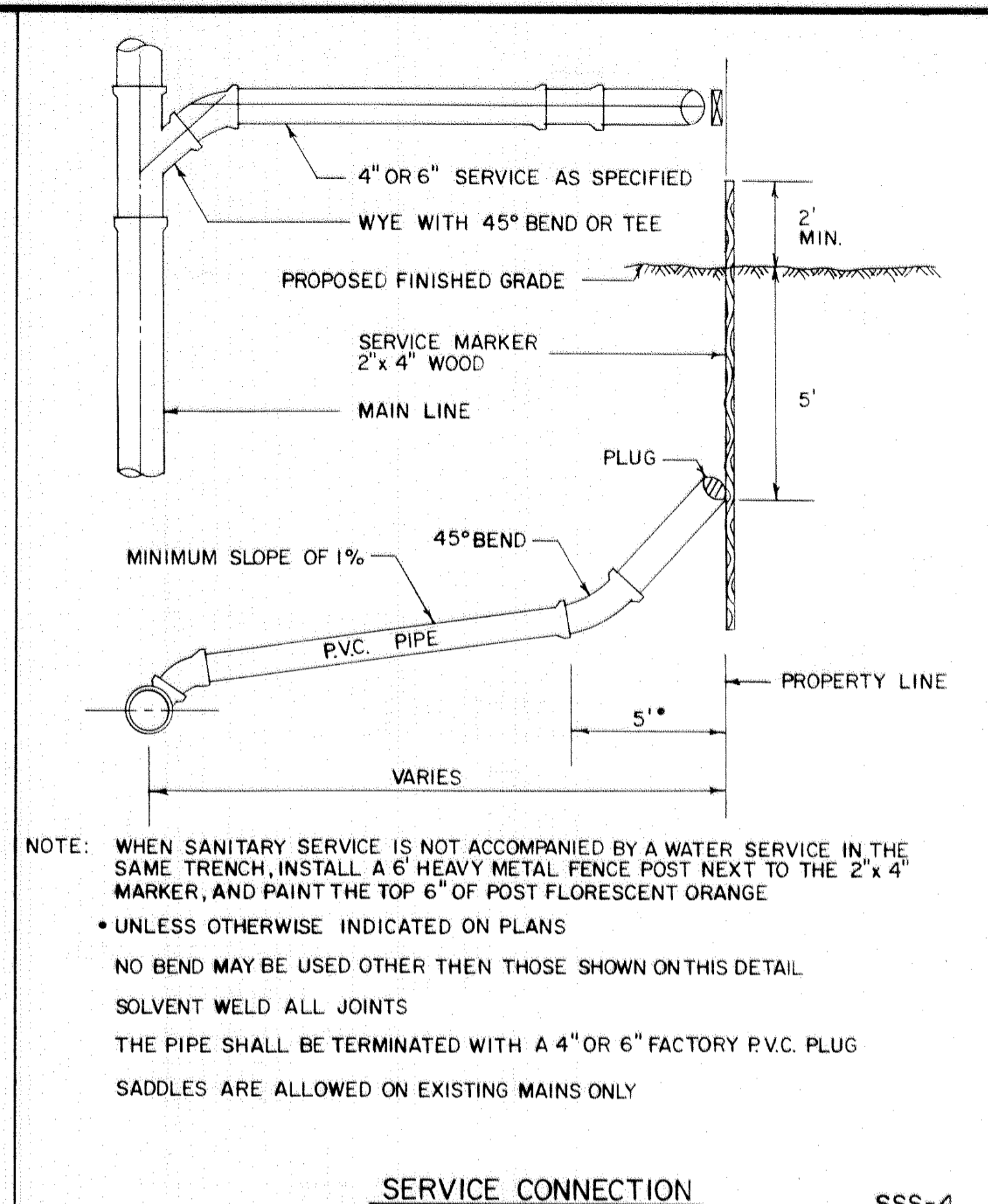
NOT IN CONTRACT
STANDARD OUTSIDE DROP MANHOLE
SSS-1



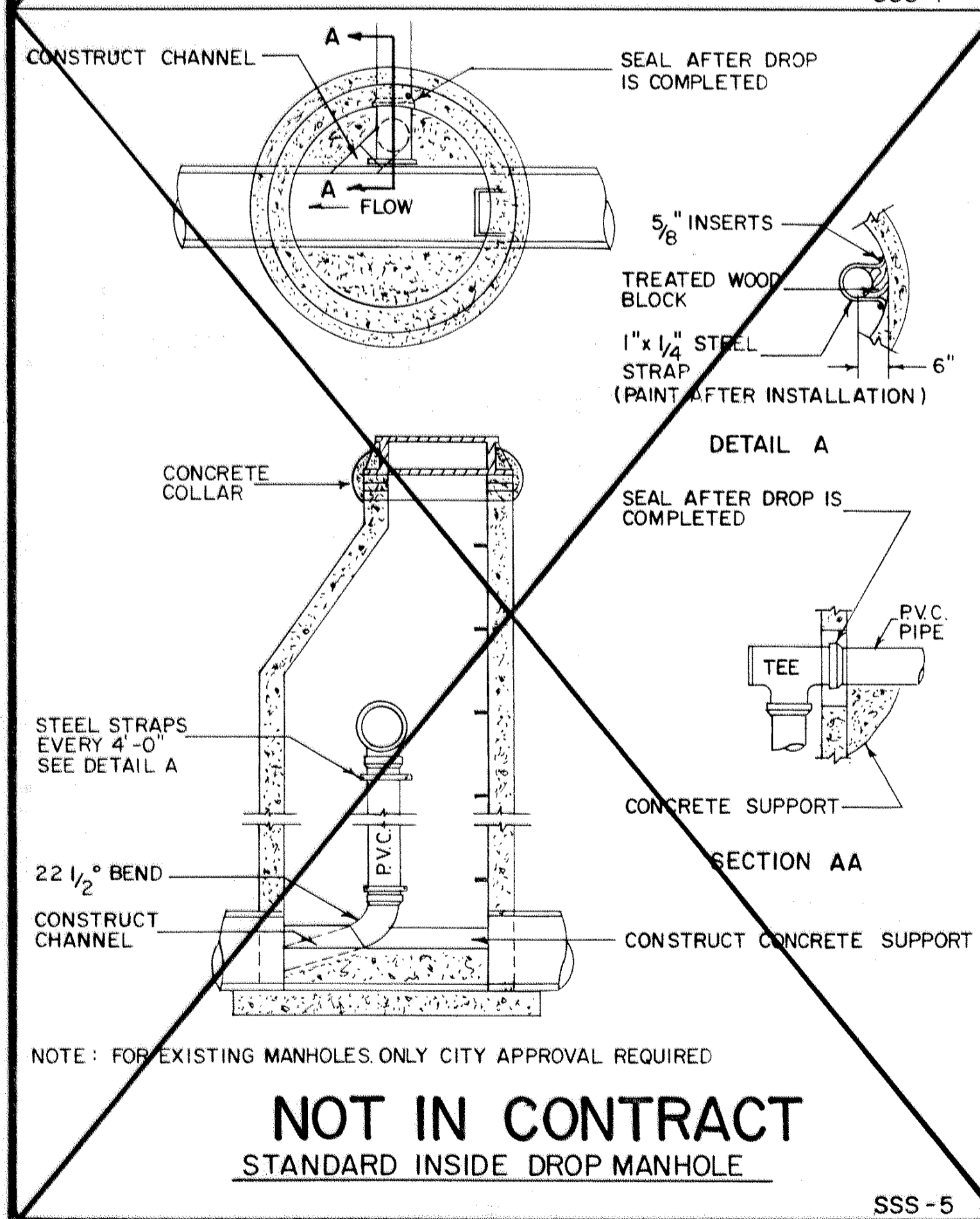
NOT IN CONTRACT
SERVICE TAP CONNECTION
SSS-2



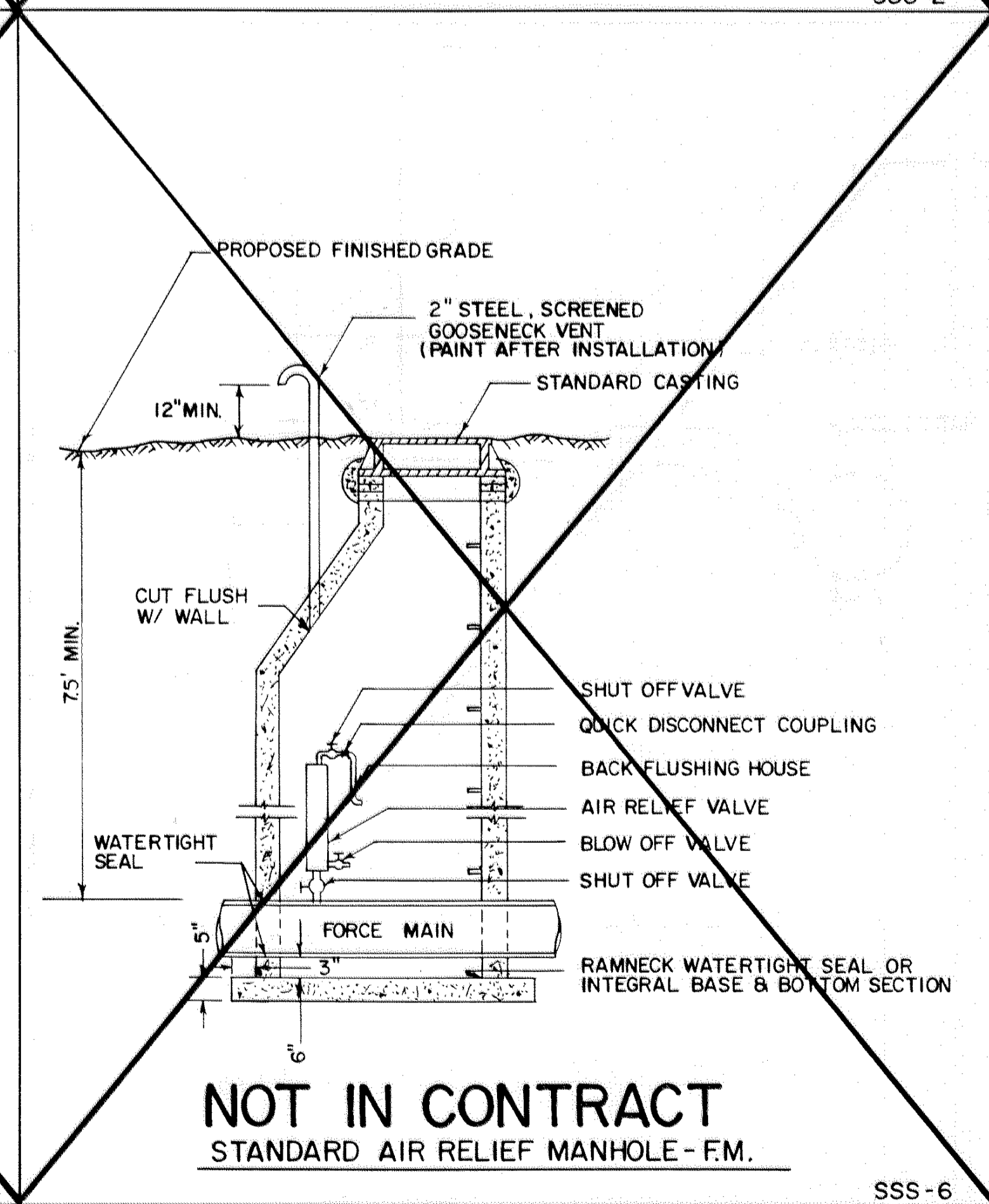
SERVICE RISER SECTION
SSS-3



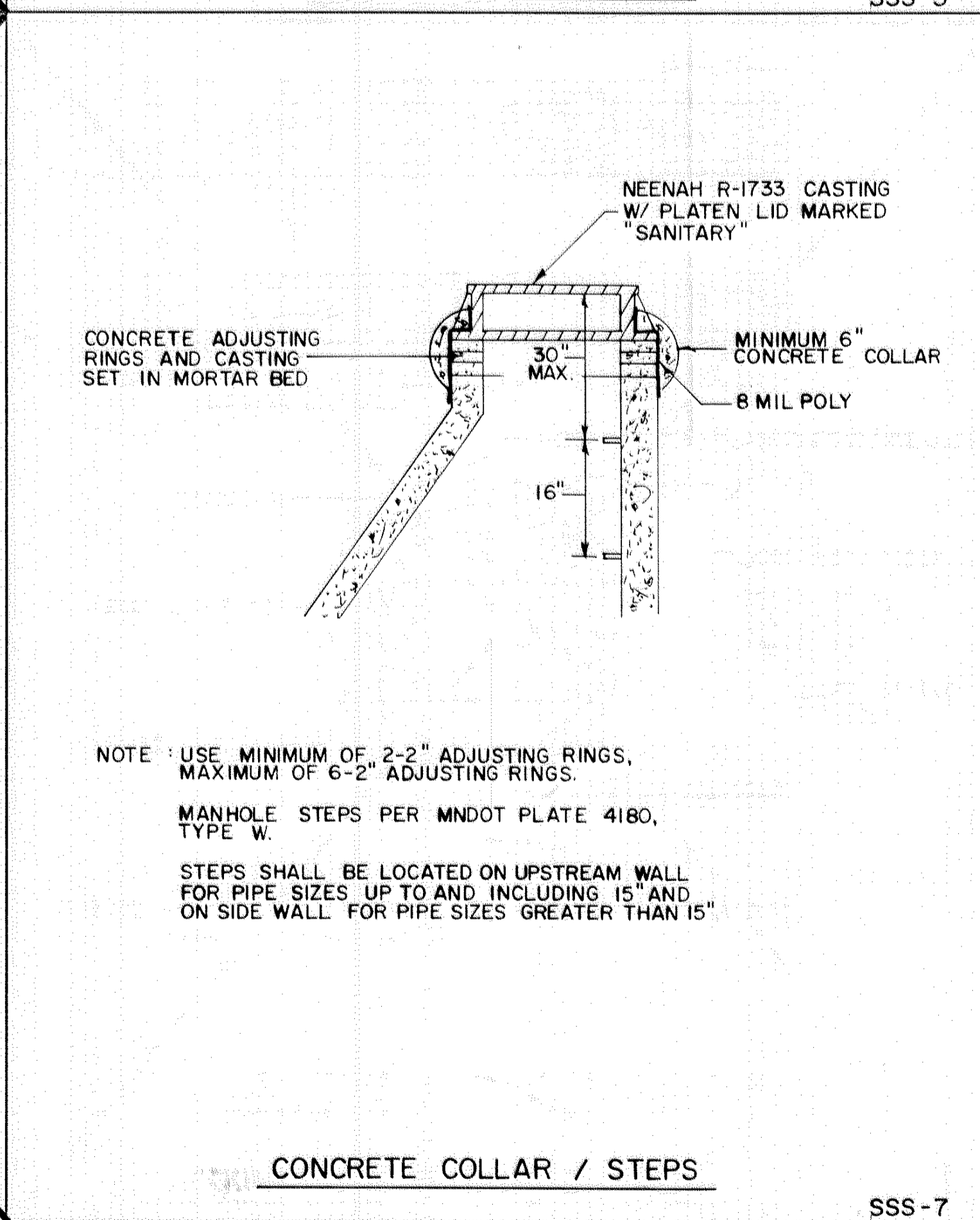
SERVICE CONNECTION
SSS-4



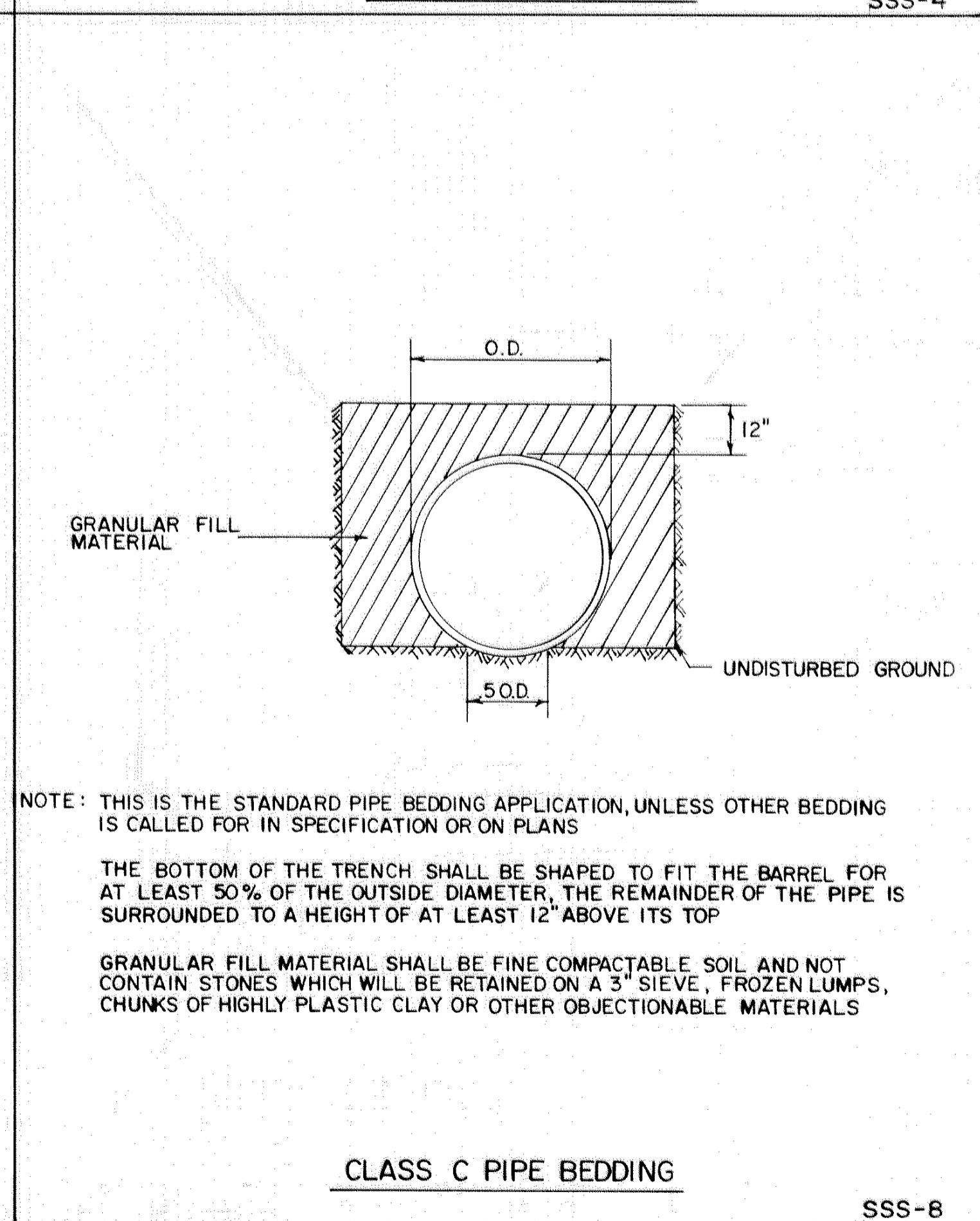
NOT IN CONTRACT
STANDARD INSIDE DROP MANHOLE
SSS-5



NOT IN CONTRACT
STANDARD AIR RELIEF MANHOLE - F.M.
SSS-6



CONCRETE COLLAR / STEPS
SSS-7



CLASS C PIPE BEDDING
SSS-8

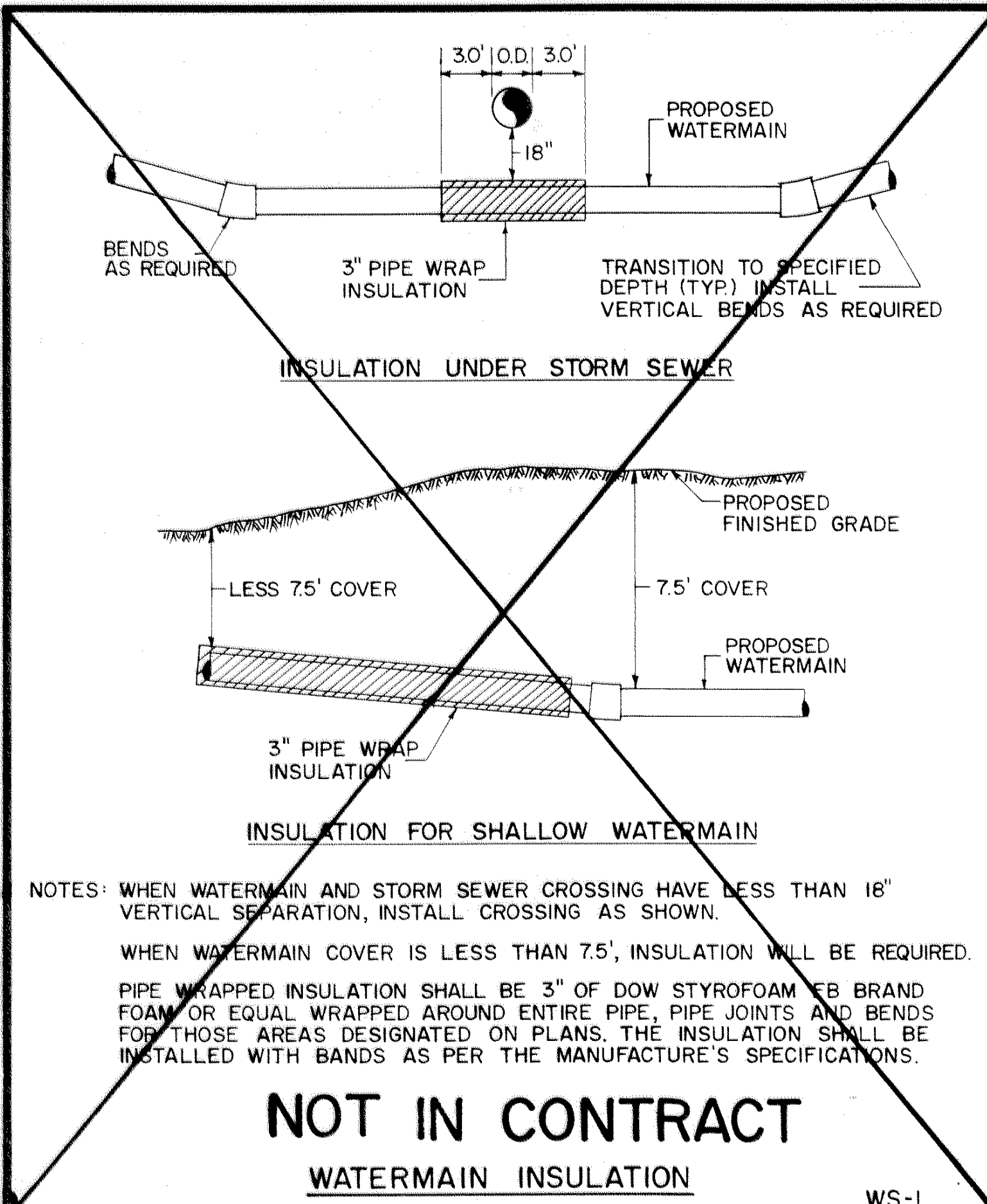


ENGINEERING DEPARTMENT
9150 Central Ave., N.E. Blaine, Minnesota 55434
Phone (612) 784-6700

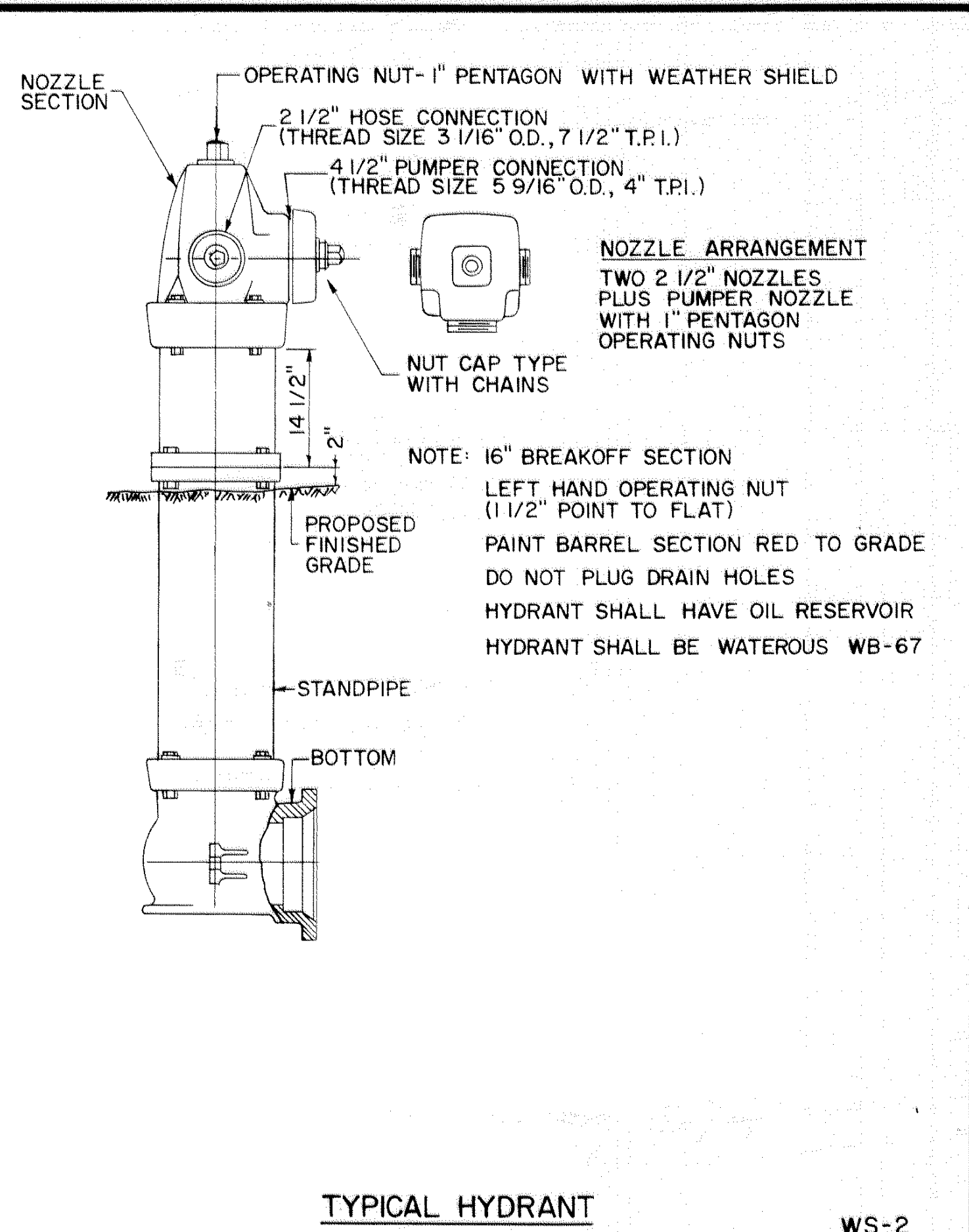
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly registered professional engineer under the laws of the State of Minnesota.
Charles L. ...
Date: 9/23/94 Reg. No. 21464

DATE	REVISION	PROJECT NO. CP. 87-05-52
		DESIGN BY
		DRAWN BY
		CHECKED BY
		APPROVED BY
		AS BUILT BY
		DATE

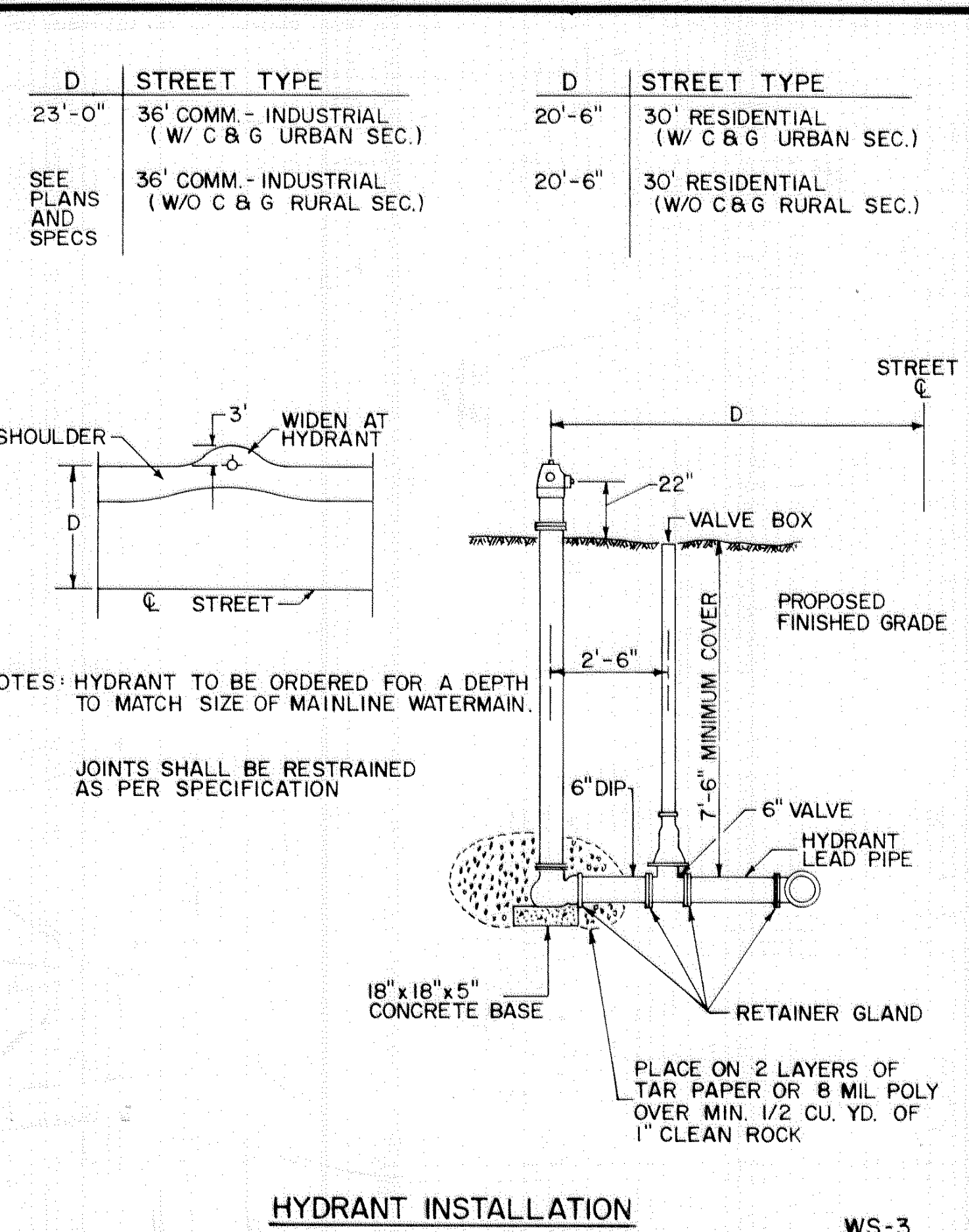
SANITARY SEWER CONSTRUCTION
DETAILS



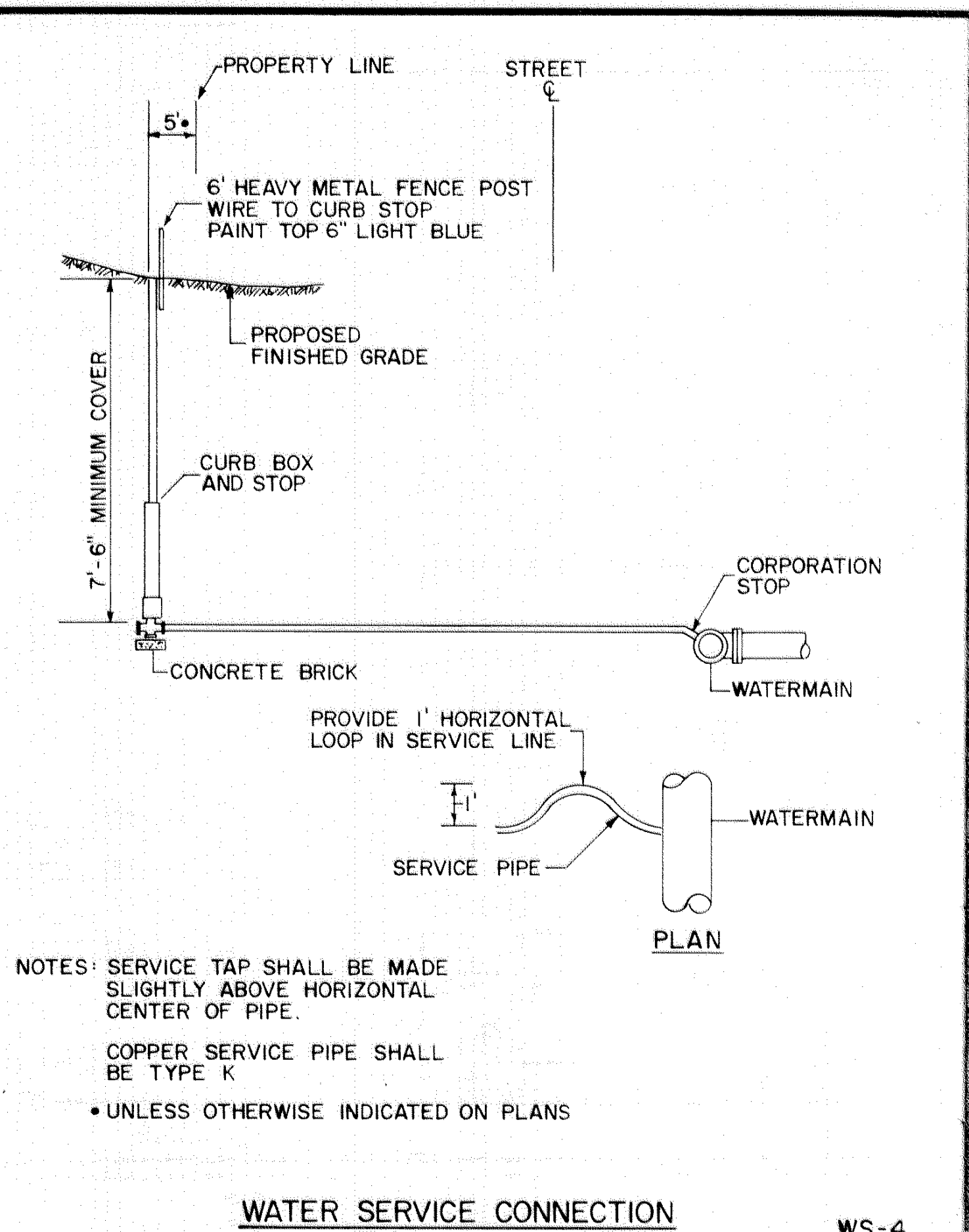
NOT IN CONTRACT
WATERMAIN INSULATION WS-1



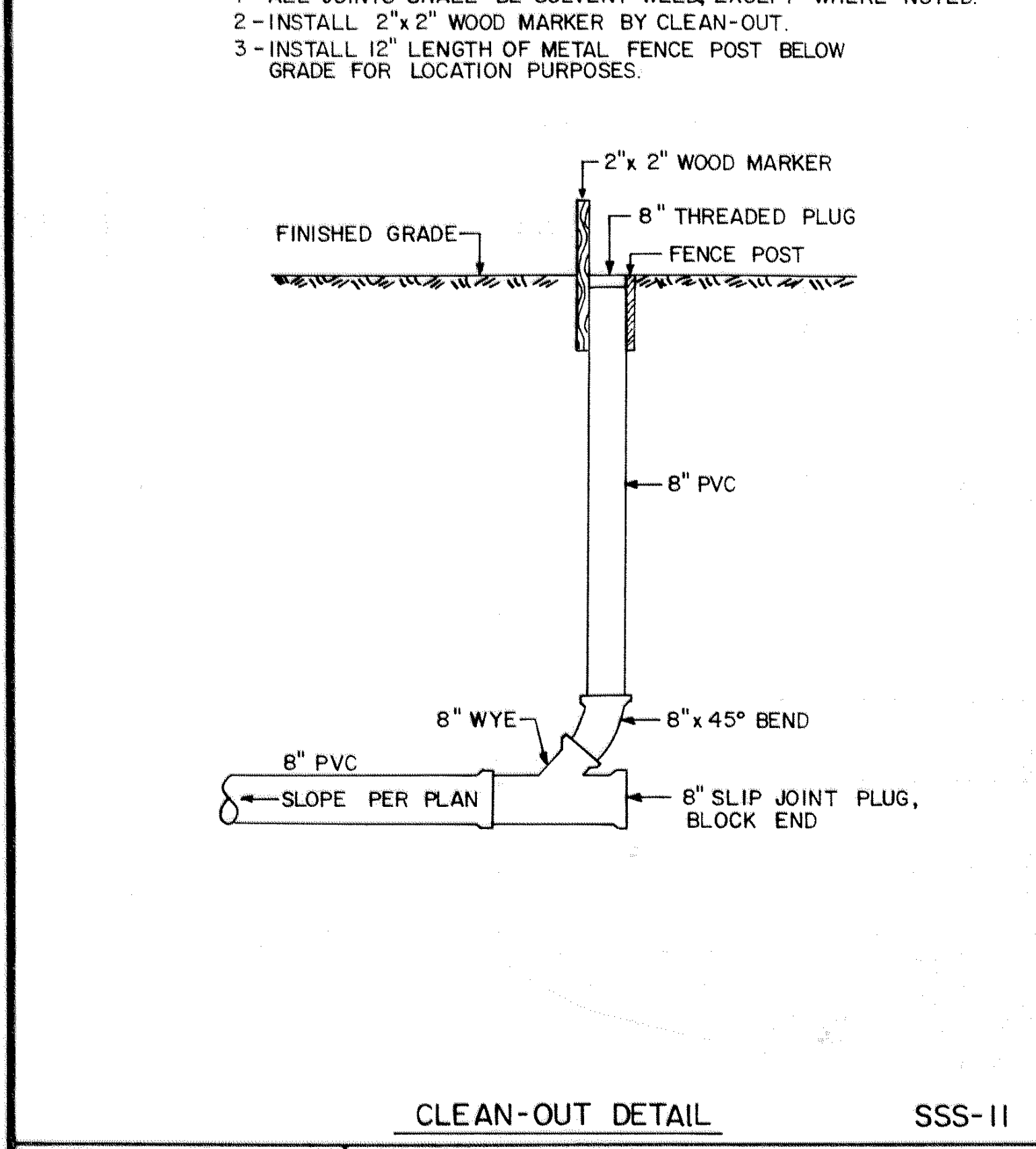
TYPICAL HYDRANT WS-2



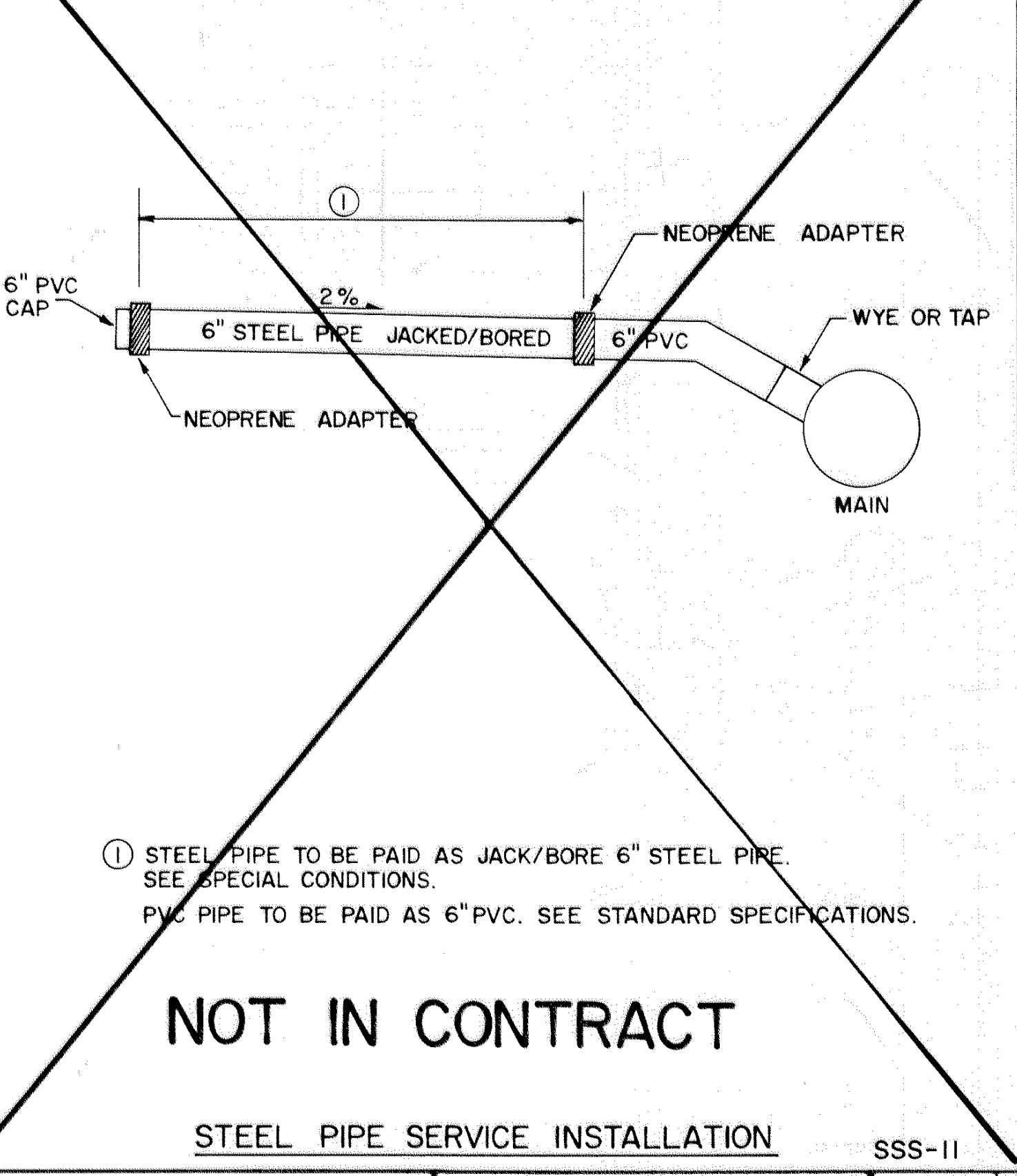
HYDRANT INSTALLATION WS-3



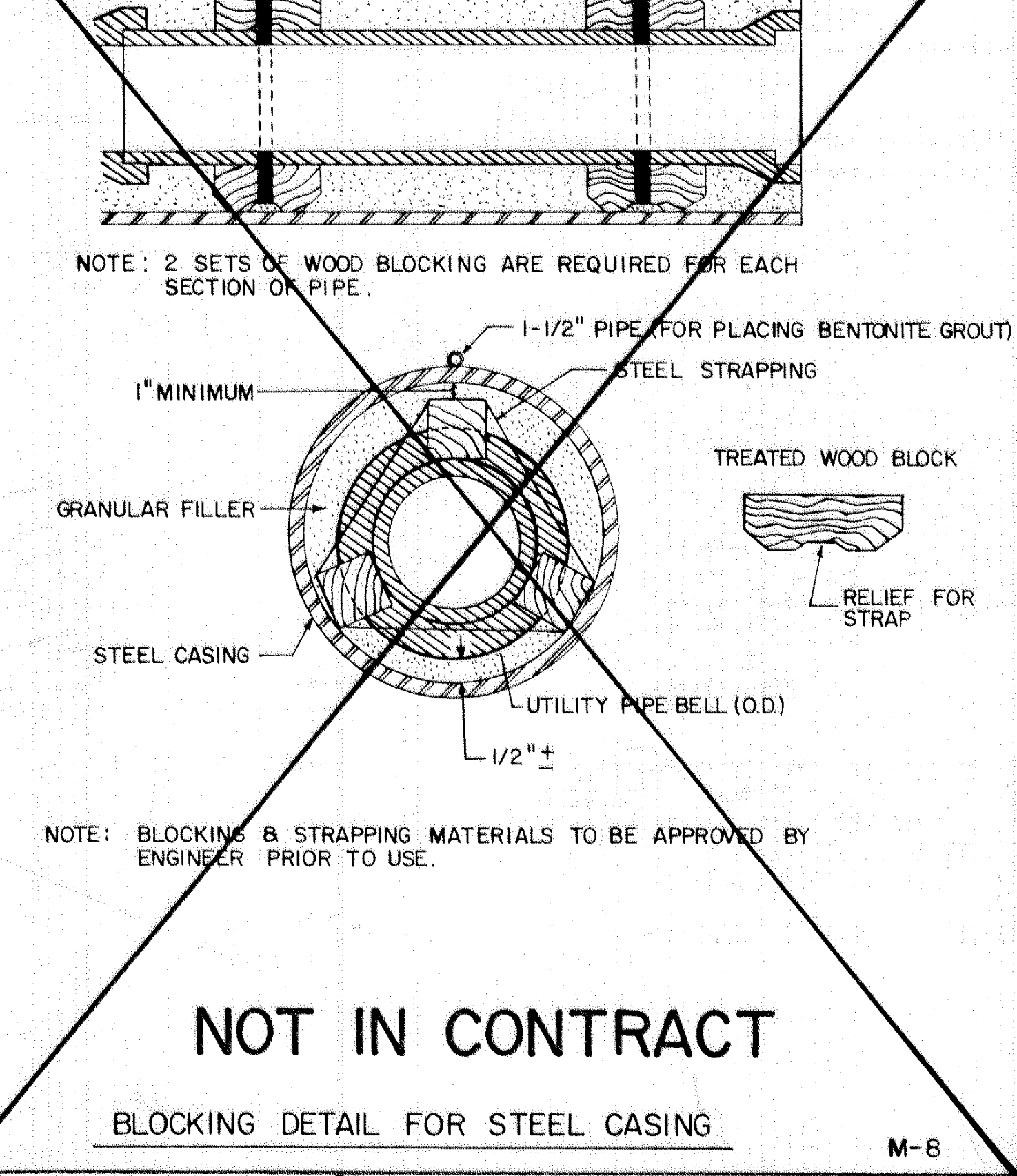
WATER SERVICE CONNECTION WS-4



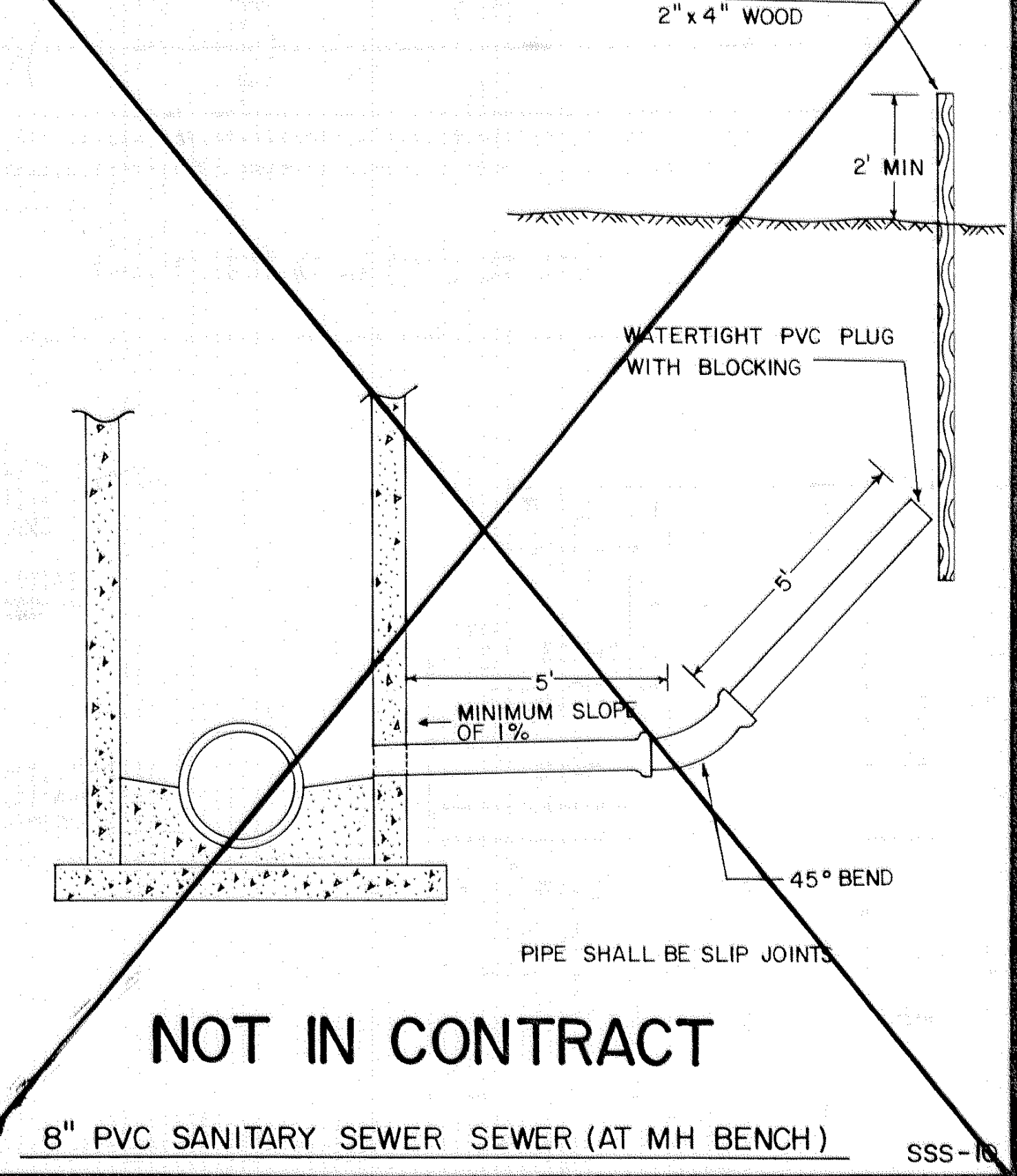
CLEAN-OUT DETAIL SSS-II



NOT IN CONTRACT
STEEL PIPE SERVICE INSTALLATION SSS-II



NOT IN CONTRACT
BLOCKING DETAIL FOR STEEL CASING M-8



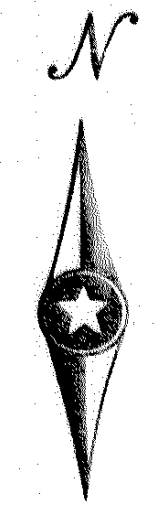
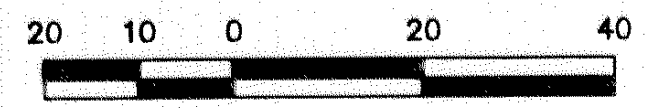
NOT IN CONTRACT
8" PVC SANITARY SEWER SEWER (AT MH BENCH) SSS-10

BASE OVERLAY (PRG. NO.)

NOTES:

- 1) LOCATION OF HANDHOLES AND LOOP DETECTORS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 3) EACH PEDESTRIAN INDICATION SHALL BE 12"x12".
- 4) NEW LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 1" N.M.C. SEE SPECIAL PROVISIONS AND DETAILS.
- 5) NEW HANDHOLES SHALL BE CONCRETE HANDHOLES WITH TYPE "C" COVERS PER Mn/DOT STANDARD PLATE NO. 8117F.
- 6) SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- 7) ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AS SHOWN, EXCEPT AS OTHERWISE NOTED.
- 8) NEW SIGNAL INDICATION LENSES (CIRCULAR AND ARROW) SHALL BE GLASS LENSES.
- 9) ALL TRAFFIC SIGNAL CABLES ARE INPLACE AND SHALL BE REUSED INPLACE (AND UNCOILED FROM AN INPLACE HANDHOLE AND INSTALLED WHERE APPLICABLE) AS SHOWN. SEE SPECIAL PROVISIONS.
- 10) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.

Fed. Project No. _____



SIGNAL FACES				
SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12"			STATUS
	R	Y	G	
1-1, 1-2, 7-1	←	←	←	3
2-1, 2-2, 2-3	•	•	•	1
3-1, 3-2	←	←	←	3
4-1, 4-2	•	•	•	1
5-1, 5-2	←	←	←	1
6-1, 6-2, 6-3	•	•	•	1
7-2	←	←	←	2
8-1, 8-2	•	•	•	3

- STATUS:
- 1) INPLACE—MAINTAIN INPLACE, OR REVISE BRACKETING AS NECESSARY.
 - 2) INPLACE—FURNISH AND INSTALL RLTA—YLTA—GLTA LENSES.
 - 3) FURNISHED BY COUNTY FOR CONTRACTOR TO INSTALL.

- INPLACE
- SERVICE CABINET
CABINET FOUNDATION
EXTEND TO WOOD POLE (S.O.P.)
2"R.S.C. RISER AND WEATHERHEAD
3-1/c#6
EXTEND INTO H.H.19:
METERED SIGNAL SERVICE
1 1/4"R.S.C.
3-1/c#6
EXTEND INTO H.H.9:
UNMETERED STREET LIGHT SERVICE
1 1/4"R.S.C.
4-1/c#10
BETWEEN H.H.1 AND H.H.9:
2"R.S.C.
2-1/c#10
- INPLACE
- CONTROLLER AND CABINET
CABINET FOUNDATION
EXTEND INTO H.H.19:
METERED SIGNAL SERVICE
1 1/4"R.S.C.
3-1/c#6
EXTEND INTO H.H.1:
4"R.S.C.
5-12/c#12
3-3/c#12
5-2/c#14
EXTEND INTO H.H.9:
4"R.S.C.
5-12/c#12
3-3/c#12
7-2/c#14
3"R.S.C. STUB OUT
(THREADED AND CAPPED FOR FUTURE USE)

- INPLACE
- TYPE P100-A-40-D40-9 (DAVT AT 350')
P100 POLE FOUNDATION
ONE WAY SIGNAL—OVERHEAD (4-2)
TYPE 10B—POLE MOUNTED 180' (4-1, P4-2)
MID MAST ARM MOUNT AT 12'
2—PEDESTRIAN PUSH BUTTONS
TYPE "D" SIGN PANEL (66"x18")—OVERHEAD
LUMINAIRE—200 WATT H.P.S. WITH PEC
AND CHECK SWITCH
EXTEND INTO H.H.1:
3"R.S.C.
2-12/c#12
2-3/c#12
2-1/c#10

- INPLACE
- TYPE A100-A-45
A100 POLE FOUNDATION
2—ONE WAY SIGNALS—OVERHEAD (6-2, 6-3)
TYPE 30A—POLE MOUNTED 90' (P4-1)
TYPE 10B—POLE MOUNTED 180' (6-1, P6-2)
MID MAST ARM MOUNTS AT 12' AND 24'
2—PEDESTRIAN PUSH BUTTONS
TYPE "D" SIGN PANEL (90"x18")—OVERHEAD
R6-1R SIGN PANEL—POLE MOUNTED 180'
EXTEND INTO H.H.6:
3"R.S.C.
3-12/c#12
1-3/c#12

- INPLACE (REVISE)
- REVISE TYPE 30A TO TYPE 10B [INSTALL COUNTY FURNISHED ONE WAY SIGNAL (3-2) AND TYPE 10B BRACKETING]—POLE MOUNTED 90'

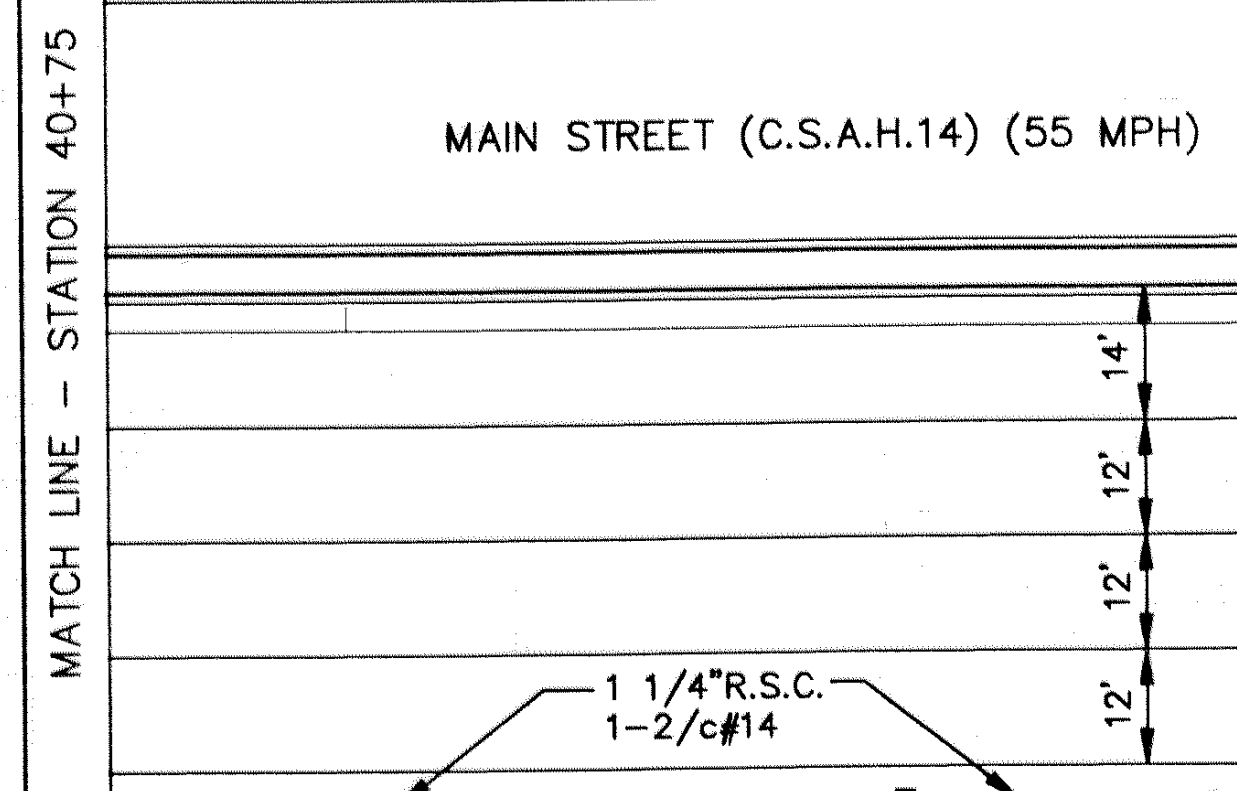
- INSTALL (FURNISHED BY COUNTY)
- ONE WAY SIGNAL—OVERHEAD (1-1)

- INPLACE (REVISE)
- TYPE P100-A-D40-9 (DAVT AT 350')
P100 POLE FOUNDATION
TYPE 10B—POLE MOUNTED 90' (5-2, P6-1)
TYPE 30A—POLE MOUNTED 180' (P8-2)
2—PEDESTRIAN PUSH BUTTONS
LUMINAIRE—200 WATT H.P.S. WITH PEC
AND CHECK SWITCH
2-R6-1 SIGN PANELS—POLE MOUNTED 0' AND 180'
EXTEND INTO H.H.15:
3"R.S.C.
2-12/c#12
2-3/c#12
2-1/c#10
- INPLACE (REVISE)
- REVISE TYPE 30A TO TYPE 10B [INSTALL COUNTY FURNISHED ONE WAY SIGNAL (8-1) AND TYPE 10B BRACKETING]—POLE MOUNTED 180'

- INSTALL (FURNISHED BY COUNTY)
- 2—ONE WAY SIGNALS—OVERHEAD (3-1, 8-2)
TYPE "D" SIGN PANEL (66"x18")—OVERHEAD (D-1)

- F & I
- 40' MAST ARM
MID MAST ARM MOUNT AT 12'
BRACKETING TO MOUNT TYPE "D" SIGN PANEL

- INSTALL (FURNISHED BY COUNTY)
- ONE WAY SIGNAL—OVERHEAD (7-1)
TYPE 10B—POLE MOUNTED 90' (1-2, P2-1)



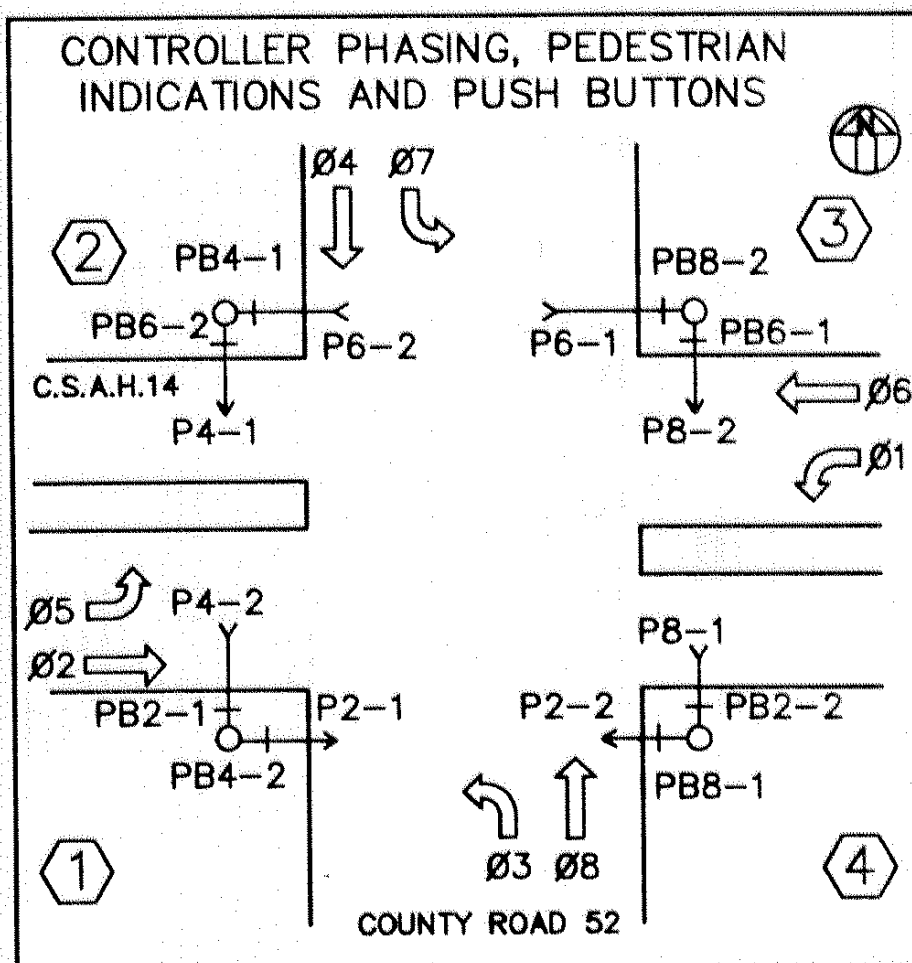
LOOP DETECTORS				
NUMBER	SIZE (FT.)	LOCATION	FUNCTION	ACTION
D1-1	MULTIPLE	5'	1	2
D2-1	6x6	405'	1	1
D3-1	MULTIPLE	5'	1	4,5
D4-1	6x6	300'	3,8	1
D4-2	2-6x6	5'	7	1
D4-3	2-6x6	5'	1	1
D5-1	MULTIPLE	5'	1	1
D6-1	2-6x6	405'	1	1
D7-1	MULTIPLE	5'	1	2
D8-1	6x6	300'	3,8	3
D8-2	2-6x6	5'	7	4
D8-3	2-6x6	5'	1	4

- FUNCTIONS:
- 1) CALL AND EXTEND
 - 2) CALL ONLY
 - 3) EXTEND ONLY
 - 4) CALL ONLY DENSITY
 - 5) DELAYED CALL ONLY
 - 6) DELAYED CALL ONLY DENSITY
 - 7) DELAYED CALL—IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)
 - 9) ADVISORY DETECTOR
 - 10) SAMPLING DETECTOR
 - 11) SPECIAL DETECTOR
- ACTION:
- 1) INPLACE—PROTECT AND USE INPLACE.
 - 2) INPLACE—COMPLETE CONNECTION AND MAKE OPERATIONAL.
 - 3) PVC LOOP TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
 - 4) 2-6'x6' PVC LOOPS FURNISHED BY COUNTY FOR CONTRACTOR TO INSTALL.
 - 5) CONTRACTOR SHALL FURNISH AND INSTALL AN ADDITIONAL 2-6'x6' LOOP DETECTORS (SO THAT 4-6'x6' LOOPS ARE INSTALLED AS SHOWN).

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

CONTROLLER AND CABINET—SEE (A)

SERVICE CABINET SEE (B)



NO.	BY	DATE	REVISIONS

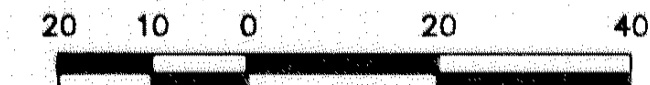
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.

John M. Gray
Date: 6/24/94 Reg. No. 22457

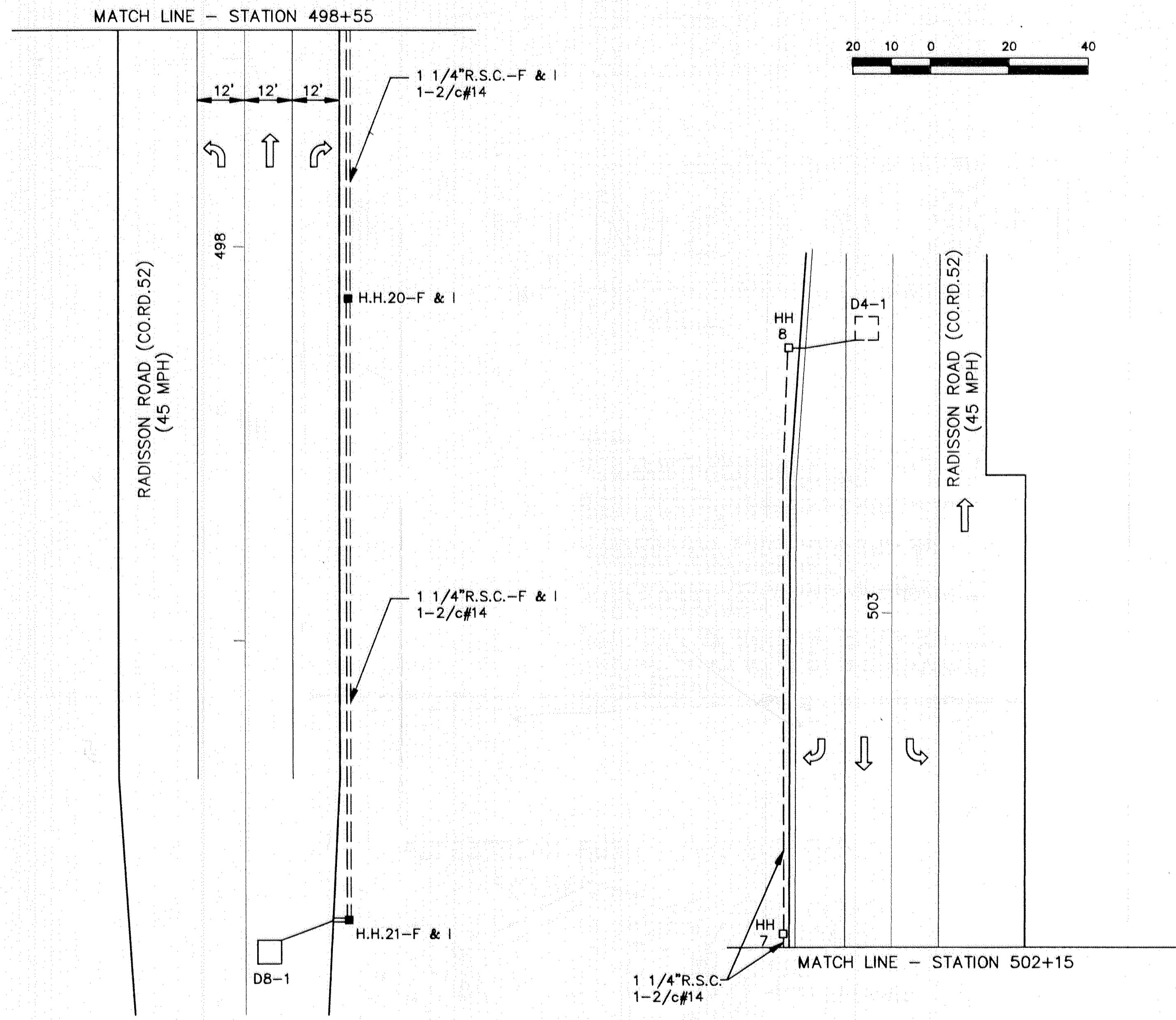
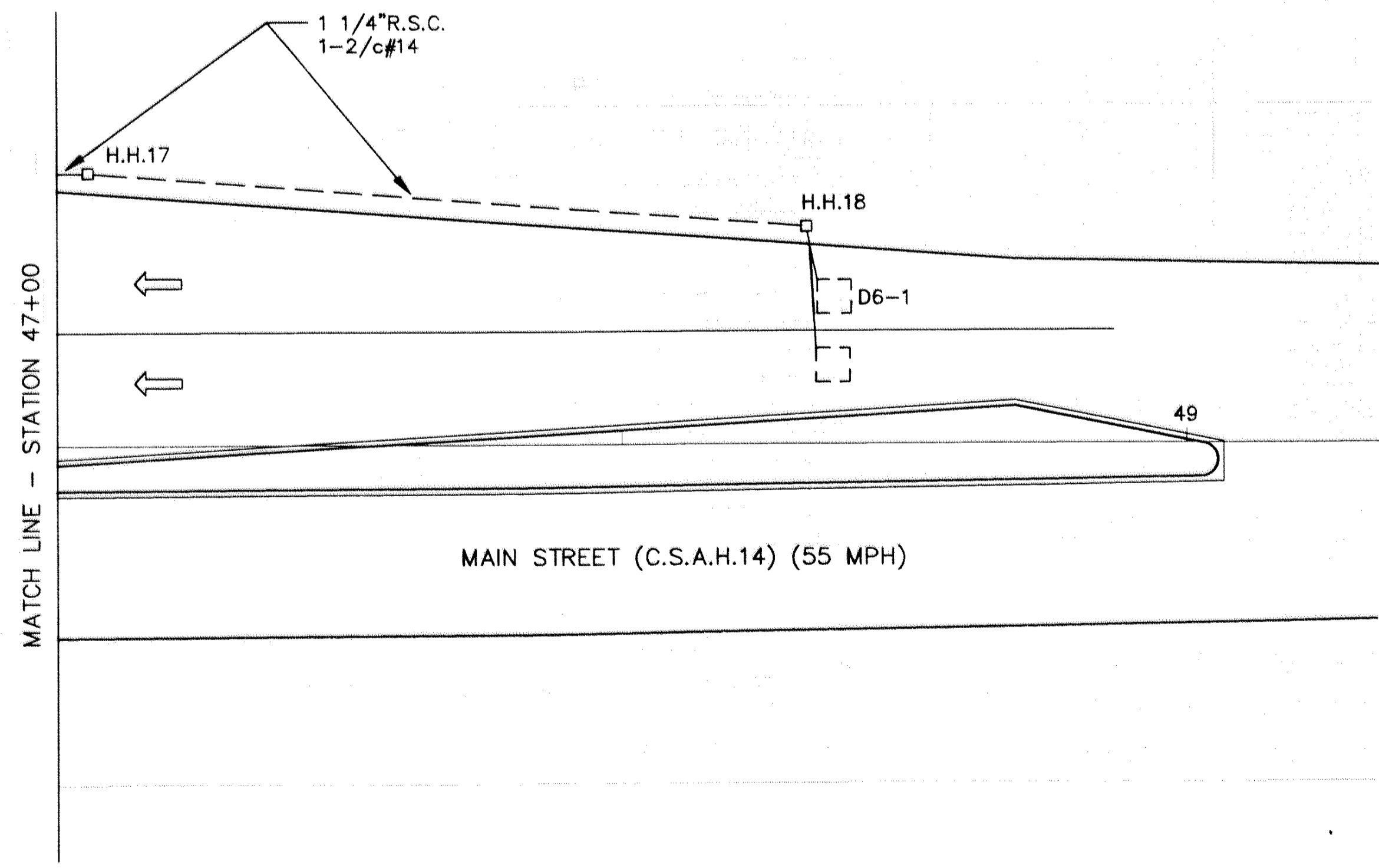
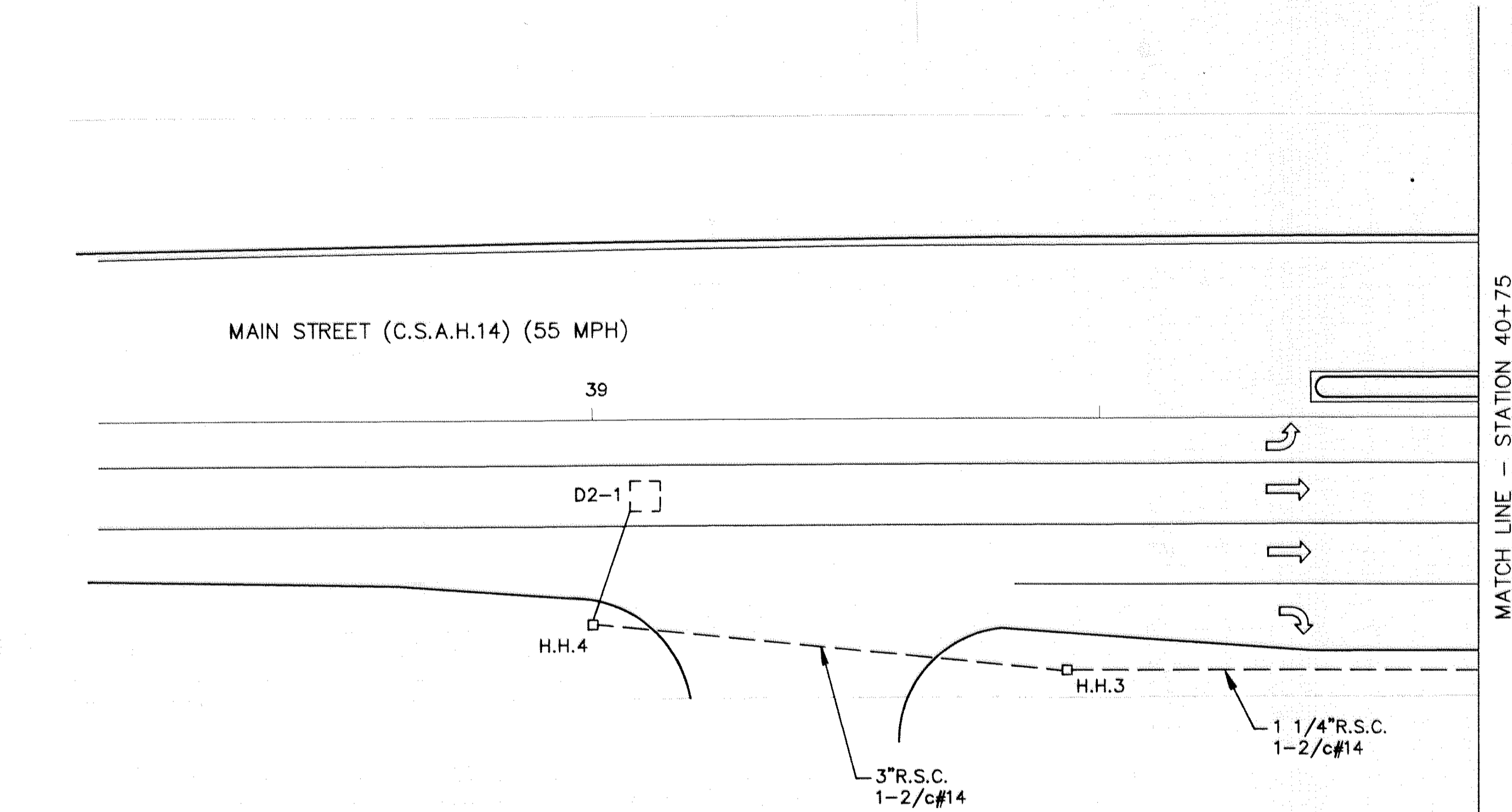


ANOKA COUNTY, MINNESOTA
CITY OF BLAINE

TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
MAIN STREET (CSAH 14) AT RADISSON ROAD (CO.RD.52)



BASE OVERLAY DRG. NO.	



D:\GRAVIER\ANOKA\041 05-28-94 11:47 am

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 Date: 6/24/94 *John M. Gray* Reg. No. 22457



ANOKA COUNTY, MINNESOTA
 CITY OF BLAINE

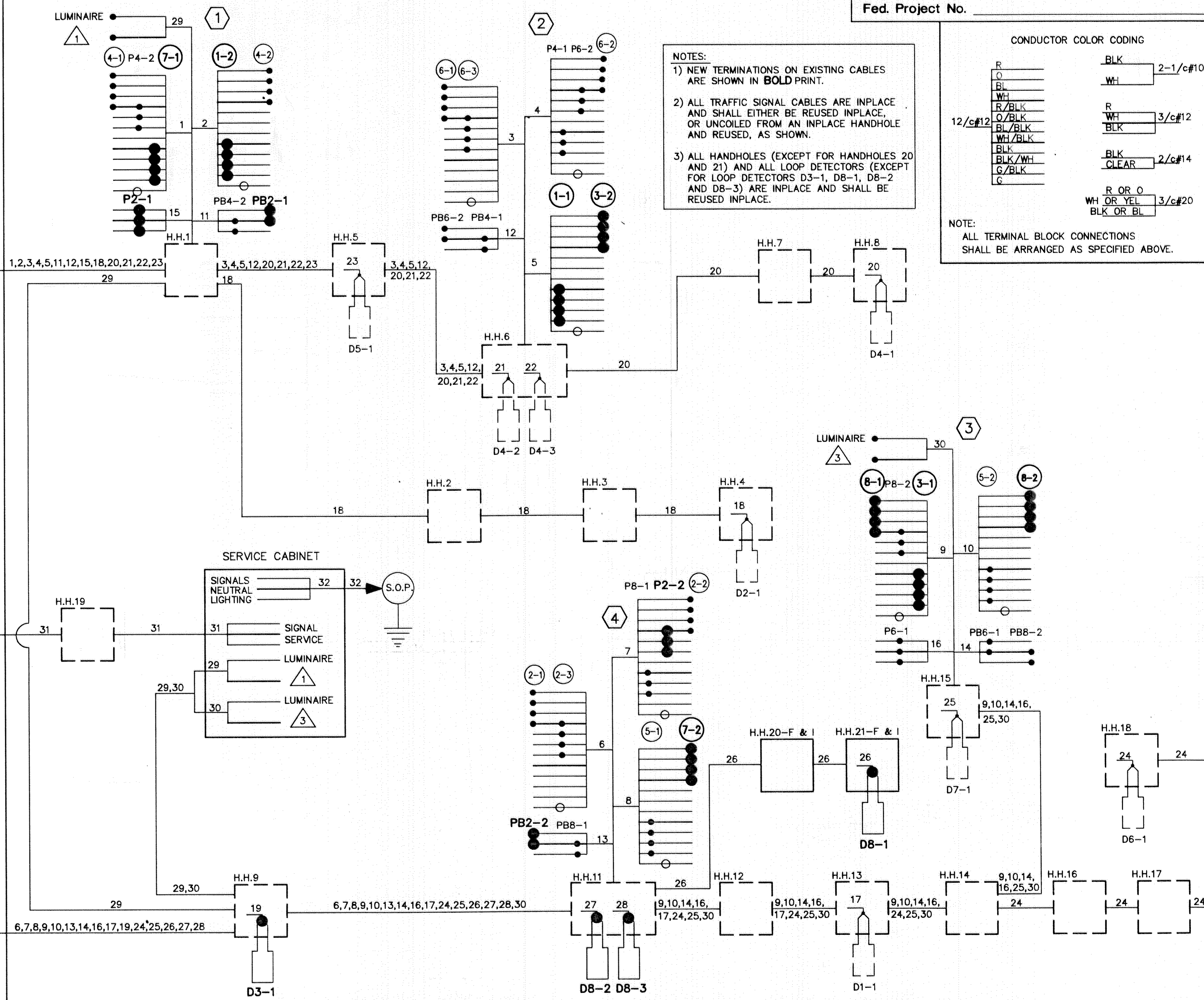
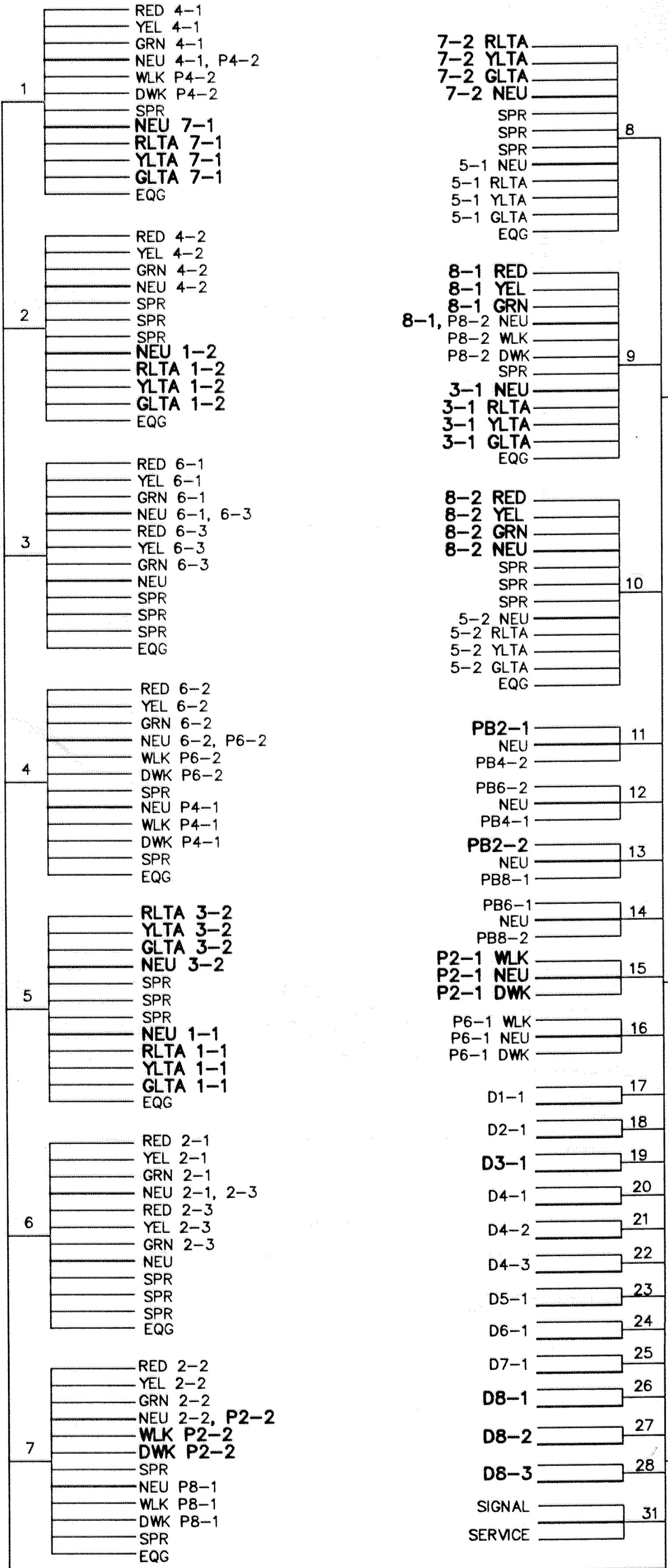
TRAFFIC SIGNAL SYSTEM
 INTERSECTION LAYOUT
 MAIN STREET (CSAH 14) AT RADISSON ROAD (CO.RD.52)

FILE NO.
 ANOKC9404
 DATE
 6/24/94

BASE OVERLAY DRC. NO.

Fed. Project No. _____

CONTROLLER AND CABINET



NOTES:
 1) NEW TERMINATIONS ON EXISTING CABLES ARE SHOWN IN **BOLD** PRINT.
 2) ALL TRAFFIC SIGNAL CABLES ARE IN PLACE AND SHALL EITHER BE REUSED IN PLACE, OR UNCOILED FROM AN IN PLACE HANDHOLE AND REUSED, AS SHOWN.
 3) ALL HANDHOLES (EXCEPT FOR HANDHOLES 20 AND 21) AND ALL LOOP DETECTORS (EXCEPT FOR LOOP DETECTORS D3-1, D8-1, D8-2 AND D8-3) ARE IN PLACE AND SHALL BE REUSED IN PLACE.

CONDUCTOR COLOR CODING

R	BLK	2-1/c#10
O	WH	
BL		
WH		
R/BLK	R	3/c#12
O/BLK	WH	
BL/BLK	BLK	
WH/BLK		
BLK	BLK	2/c#14
BLK/WH	CLEAR	
G/BLK		
G		
	R OR O	3/c#20
	WH OR YEL	
	BLK OR BL	

NOTE:
 ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

06-28-94 11:53 am D:\GRACE\ANOKA\DWG

NO.	BY	DATE	REVISIONS

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John M. ...
 Date: 6/24/94 Reg. No. 22457



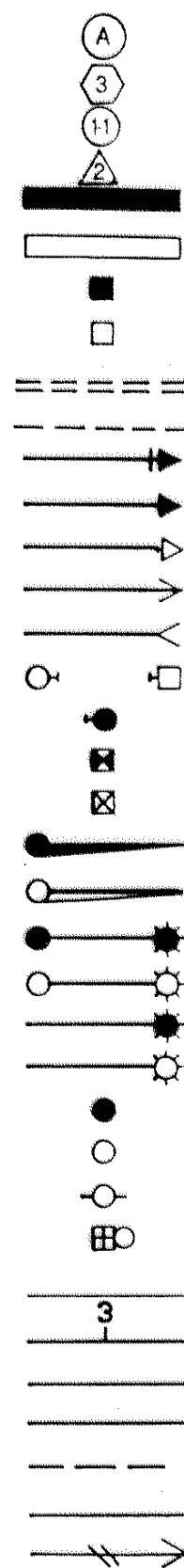
ANOKA COUNTY, MINNESOTA
 CITY OF BLAINE

TRAFFIC SIGNAL SYSTEM
 FIELD WIRING DIAGRAM
 MAIN STREET (CSAH 14) AT RADISSON ROAD (CO.RD.52)

FILE NO. ANOKC9404
 DATE 6/24/94

LEGEND OF SYMBOLS

- CONTROLLER AND SERVICE EQPT NDS. _____
- SIGNAL BASE NO. _____
- SIGNAL FACE NO. _____
- LUMINAIRE NO. _____
- CONTROLLER AND CABINET _____
- CONTROLLER AND CABINET IN PLACE _____
- HANDHOLE _____
- HANDHOLE IN PLACE _____
- RIGID STEEL CONDUIT (R.S.C.) _____
- RIGID STEEL CONDUIT (R.S.C.) IN PLACE _____
- SIGNAL FACE WITH BACKGROUND SHIELD _____
- SIGNAL FACE W/D BACKGROUND SHIELD _____
- SIGNAL FACE IN PLACE _____
- PEDESTRIAN INDICATORS _____
- PEDESTRIAN INDICATORS IN PLACE _____
- PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE _____
- PEDESTRIAN PUSH BUTTON STATION _____
- TRAFFIC SIGNAL PEDESTAL _____
- TRAFFIC SIGNAL PEDESTAL IN PLACE _____
- TRAFFIC SIGNAL POLE AND MAST ARM _____
- TRAFFIC SIGNAL POLE AND MAST ARM IN PLACE _____
- STREET LIGHT POLE AND LUMINAIRE _____
- STREET LIGHT POLE AND LUMINAIRE IN PLACE _____
- MAST ARM AND LUMINAIRE _____
- MAST ARM AND LUMINAIRE IN PLACE _____
- WOOD POLE _____
- WOOD POLE IN PLACE _____
- SOURCE OF POWER _____
- RAILROAD SIGNAL IN PLACE _____
- RIGHT OF WAY LINE _____
- CENTERLINE _____
- EDGE OF ROADWAY _____
- SHOULDERLINE _____
- CURB LINE _____
- STOP BAR _____
- EMERGENCY VEHICLE PREEMPTION DETECTOR _____



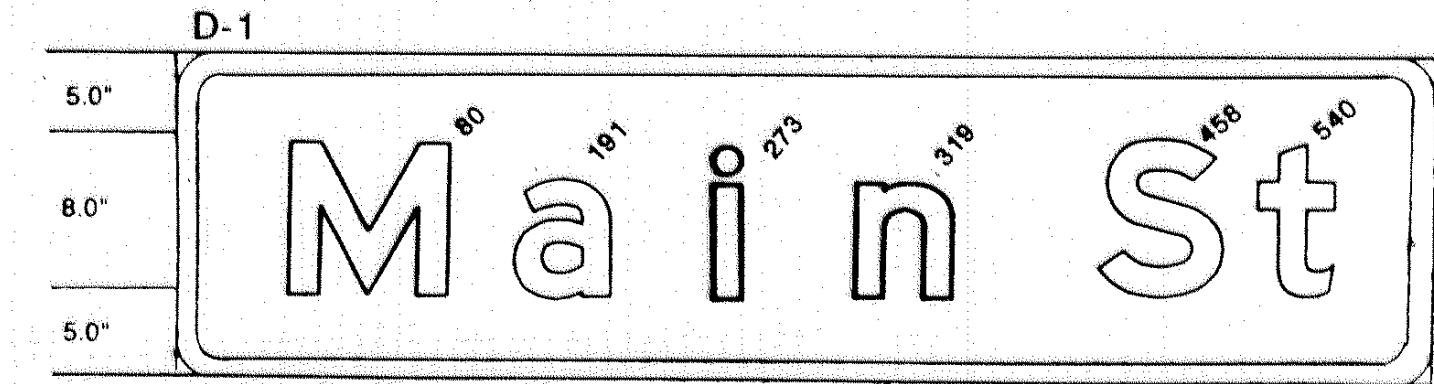
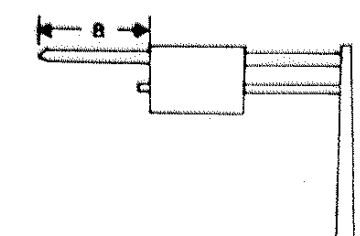
ABBREVIATIONS
EQUIPMENT AND INDICATIONS

- RED - RED
- YEL - YELLOW
- GRN - GREEN
- WLK - WALK
- NEU - NEUTRAL
- DWK - DON'T WALK
- LUM - LUMINAIRE
- DNL - DOWNLIGHT
- H.H. - HANDHOLE
- EGG - EQUIPMENT GROUND
- R.S.C. - RIGID STEEL CONDUIT
- GLTA - GREEN LEFT TURN ARROW
- YRTA - YELLOW RIGHT TURN ARROW
- D2-1(eg) - DETECTOR-PHASE '2'
- GR.R - GROUND ROD
- SER. - SERVICE
- P2 - 2 PEDESTRIAN INDICATIONS-PHASE '2'
- 2-1(eg) - SIGNAL HEADS-PHASE '2'
- SPR. - SPARE CONNECTORS
- N.M.C. - NON METALLIC CONDUIT
- E.V.P. - EMERGENCY VEHICLE PRE-EMPTION
- J.B. - JUNCTION BOX
- W.P. - WOOD POLE
- P.E.C. - PHOTOELECTRIC CELL
- GTHA - GREEN THROUGH ARROW
- PB2-2(eg) - PEDESTRIAN PUSH BUTTONS-PHASE '2'
- TDW - TELEPHONE DROP WIRE
- S.O.P. - SOURCE OF POWER
- H.P.S. - HIGH PRESSURE SODIUM
- F & I - FURNISH AND INSTALL
- R & S - REMOVE AND SALVAGE
- Br.Gr. - BARE GROUND
- EGG CONNECTION
- SPLICE

SIGN DETAILS

INSTALL TYPE "D" SIGNS (FURNISHED BY COUNTY)

SIGN PANEL	SIZE	NO. REQ.	NO. POSTS PER SIGN	POST SPACING	SQ.FT. PER SIGN	POLE NO.	a
D-1	66"x18"	1	2	42"	8.25	3	16'



66" x 18", 3"R, 1.0"B.
LINE 1 49.2: 8'-6" E MOD.

NOTES:

- 1) COLOR: WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
- 2) CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- 3) FOR STRUCTURAL DETAILS, TYPE D SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 105B.
- 4) FOR TYPE D STRINGER AND PANEL-JOINT DETAIL, SEE STANDARD MANUAL.
- 5) BRACKETING FOR COUNTY FURNISHED TYPE 'D' SIGN PANEL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR AND SHALL BE INCIDENTAL TO ITEM NO. 0565.604 FOR THIS SIGNAL SYSTEM.

STANDARD PLATES

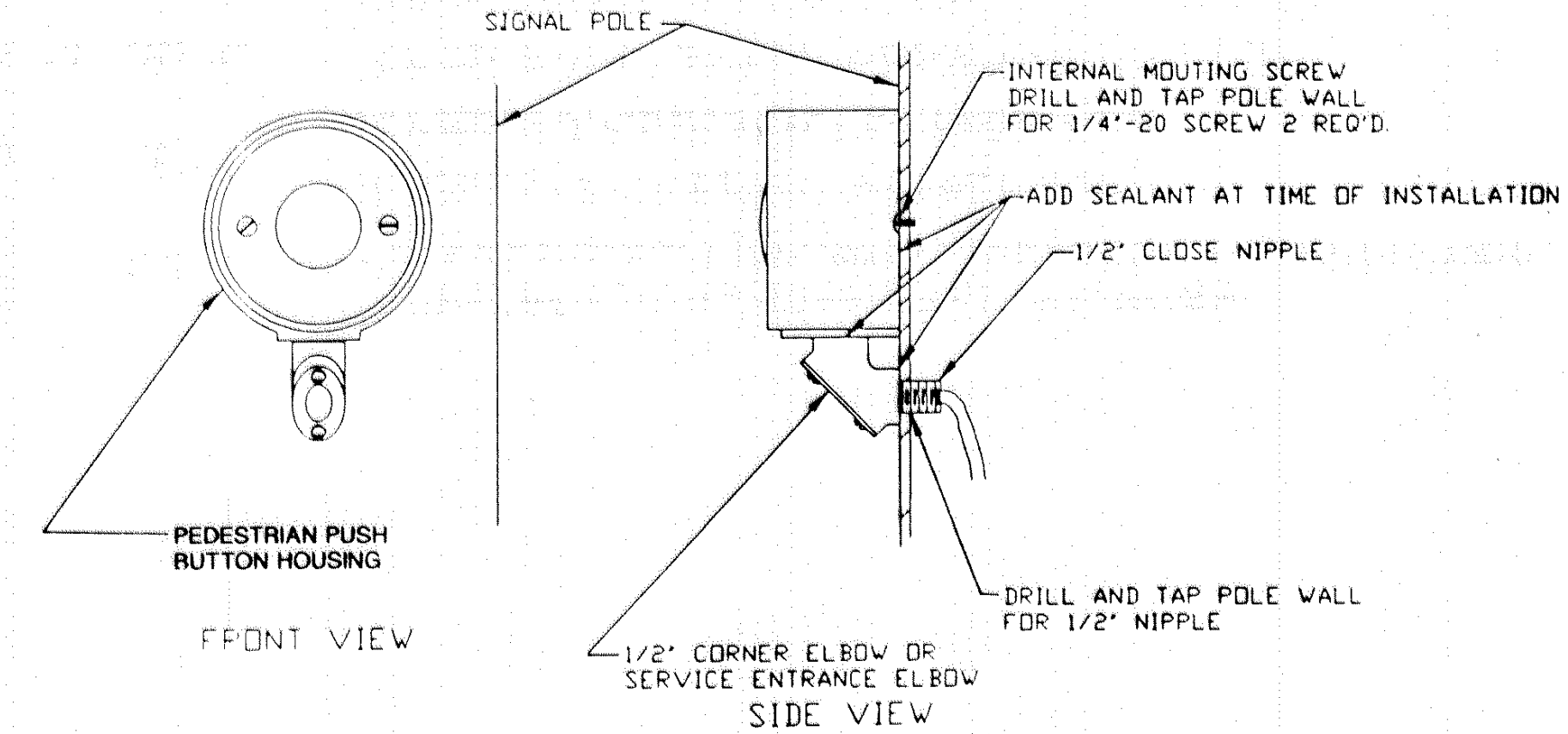
PLATE NO.	DESCRIPTION
* 8110 C	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
8111 B	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
8112 C	PEDESTAL FOUNDATION
8113 C	MAGNETIC VEHICLE DETECTOR INSTALLATION
8115 C	PEDESTRIAN PUSH BUTTON INSTALLATION
* 8117 F	PRECAST CONCRETE HAND HOLE
8118 C	SERVICE EQUIPMENT AND POLE
8119 C	GROUND MOUNTED CABINET FOUNDATION
8120 J	PA85 AND PA90 POLE FOUNDATION
8121 C	TRANSFORMER BASE AND POLE BASE PLATE
8122 C	PEDESTAL AND PEDESTAL BASE
* 8123 C	POLE AND MAST ARM
* 8124 D	MAST ARM SIGNAL HEAD MOUNTS
8126 E	PA100 POLE FOUNDATION
8130 D	SAW CUT LOOP DETECTORS
* 0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3124 B	METAL APRON CONNECTION
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
7035 J	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
7036 D	PEDESTRIAN CURB RAMP
7100 F	CONCRETE CURB AND GUTTERS

* THESE STANDARD PLATES, AS APPROVED BY THE FHWA, SHALL APPLY TO THIS PROJECT.

CONDUCTOR COLOR CODE

- R - RED
- O - ORANGE
- BL - BLUE
- WH - WHITE
- R/BLK - RED WITH BLACK TRACER
- O/BLK - ORANGE WITH BLACK TRACER
- BL/BLK - BLUE WITH BLACK TRACER
- WH/BLK - WHITE WITH BLACK TRACER
- BLK - BLACK
- BLK/WH - BLACK WITH WHITE TRACER
- G/BLK - GREEN WITH BLACK TRACER
- G - GREEN

PEDESTRIAN PUSH BUTTON DETAIL



NO.	BY	DATE	REVISIONS

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Date: 6/24/94 Reg. No. 22457



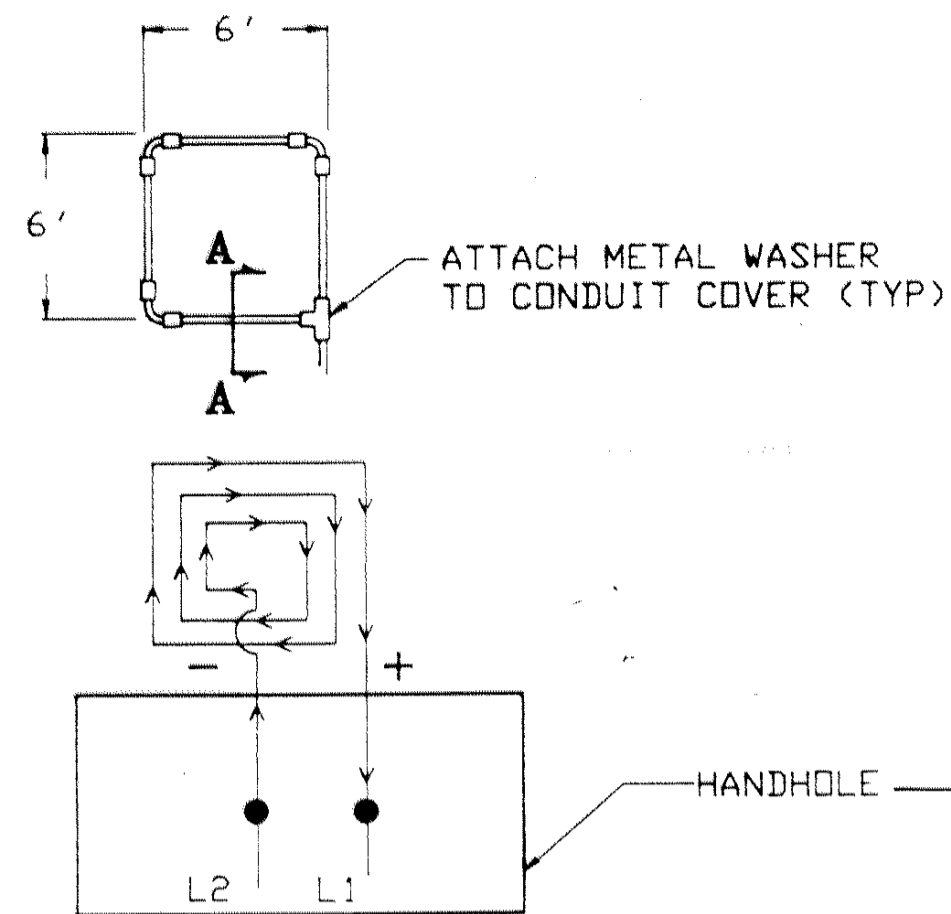
ANOKA COUNTY, MINNESOTA
CITY OF BLAINE

TRAFFIC SIGNAL SYSTEM
DETAILS

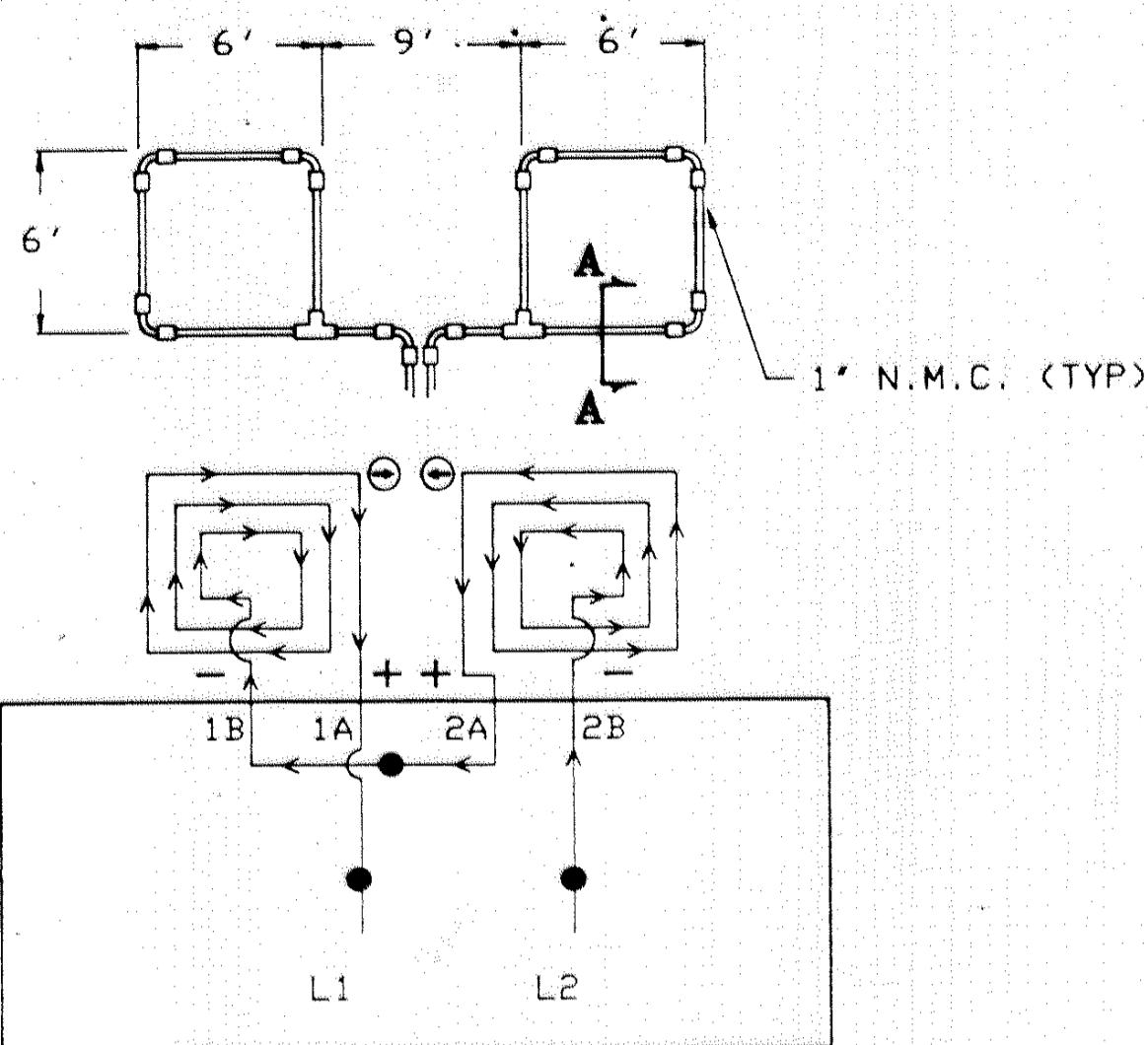
MAIN STREET (CSAH 14) AT RADISSON ROAD (CO.RD.52)

FILE NO. ANOKC9404
DATE 6/24/94

LOOP DETECTOR DETAIL 'A'
 PLAN VIEW (NOT TO SCALE)
 (LOOP PHASING FOR SINGLE CONNECTION)

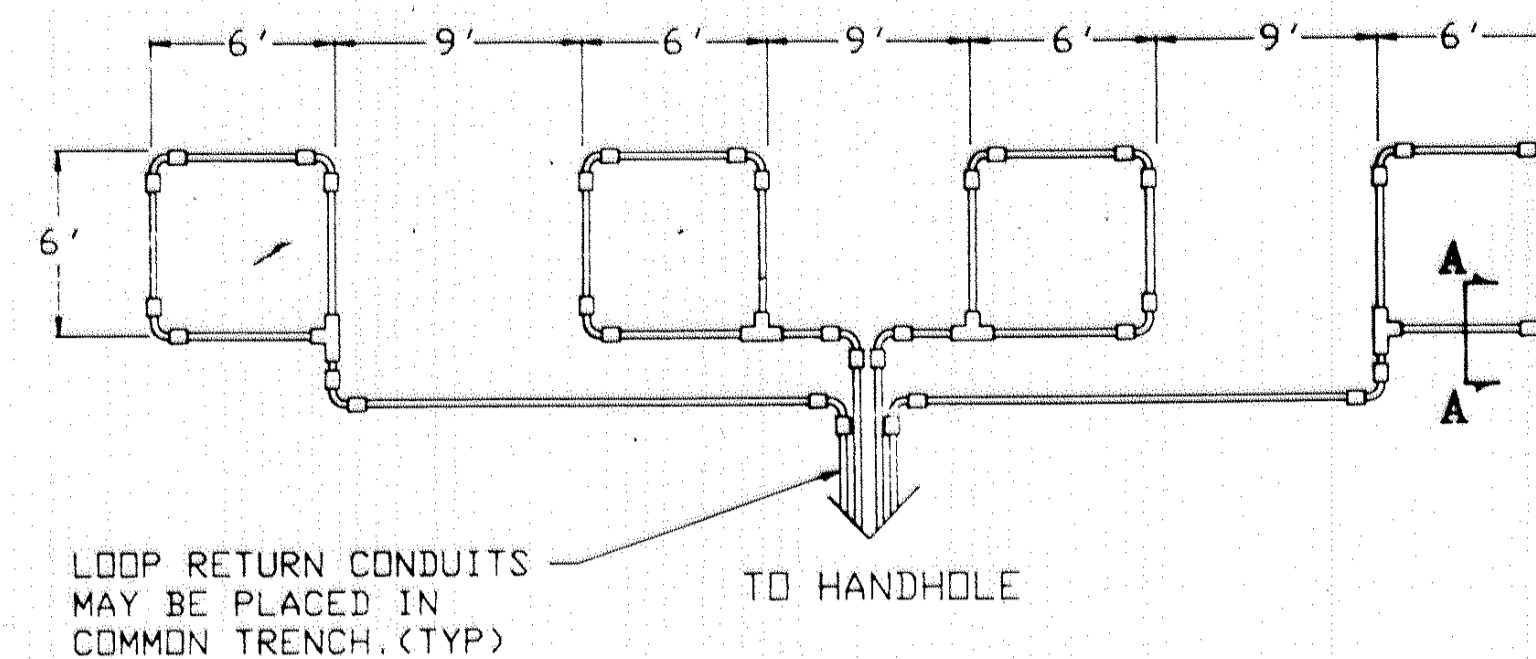


LOOP DETECTOR DETAIL 'B'
 PLAN VIEW (NOT TO SCALE)
 (LOOP PHASING FOR SERIES CONNECTION)

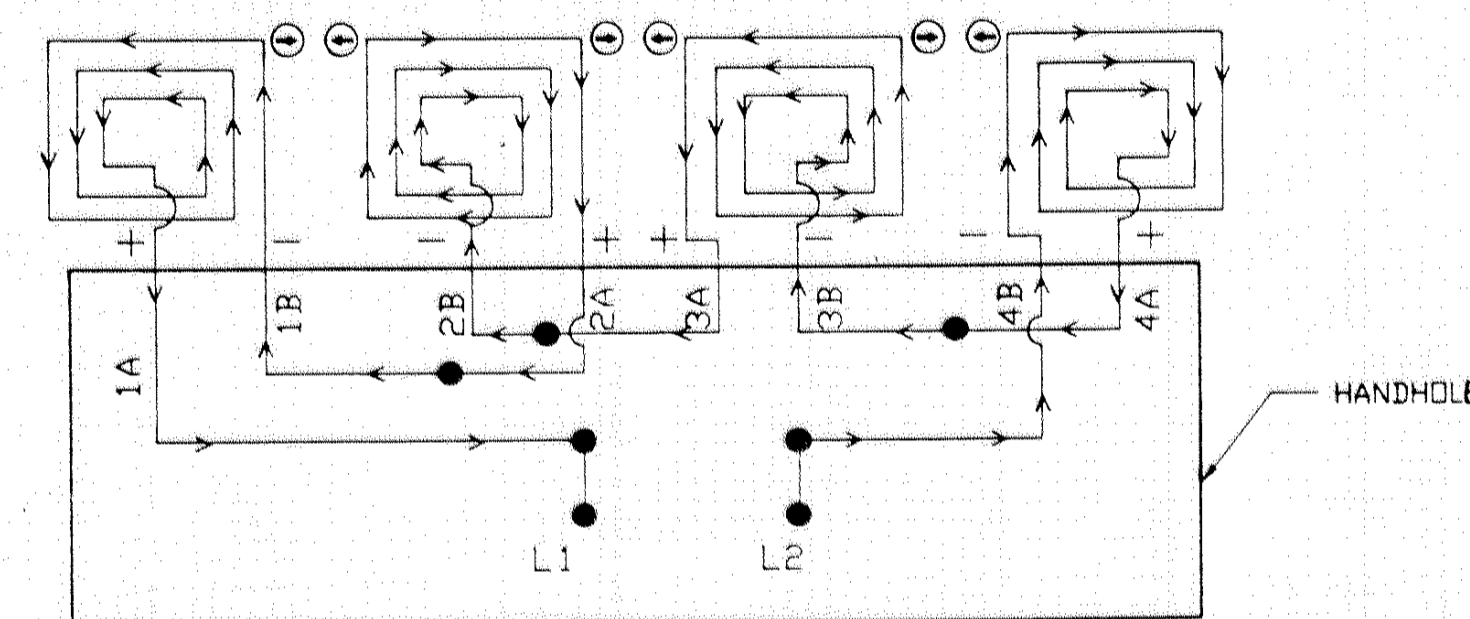


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:
 L1 TO 1A, 1B TO 2A, AND 2B TO L2.

LOOP DETECTOR DETAIL 'C'
 PLAN VIEW (NOT TO SCALE)
 (LOOP PHASING FOR SERIES CONNECTION)

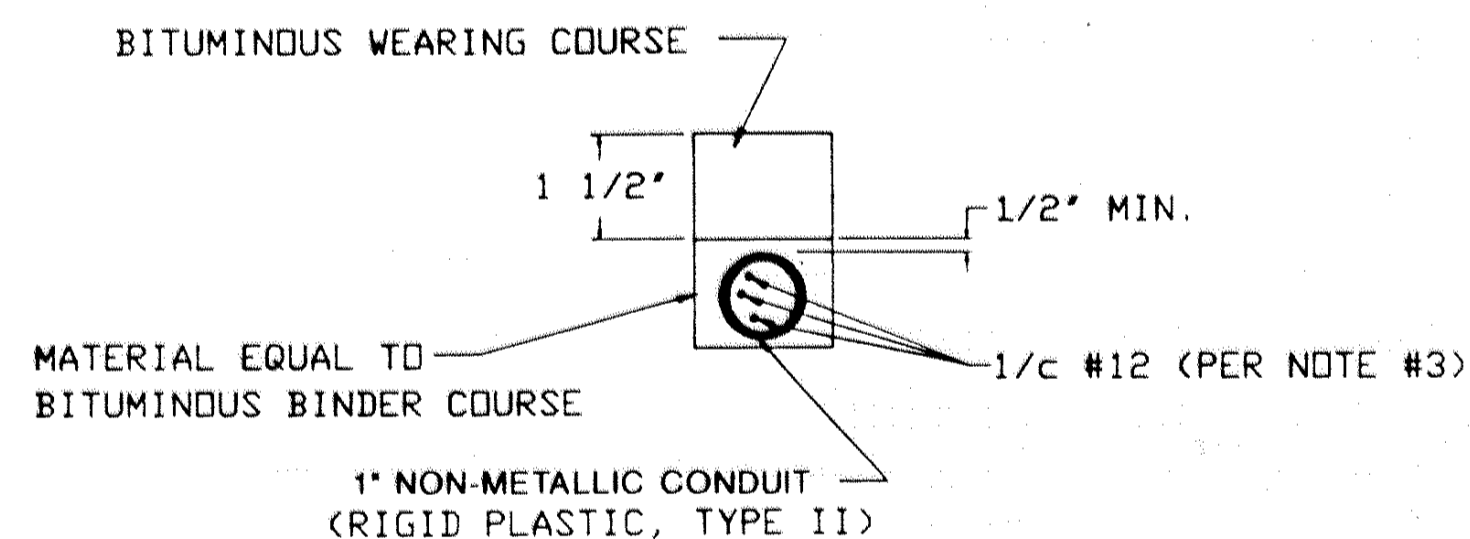


LOOP RETURN CONDUITS MAY BE PLACED IN COMMON TRENCH. (TYP)

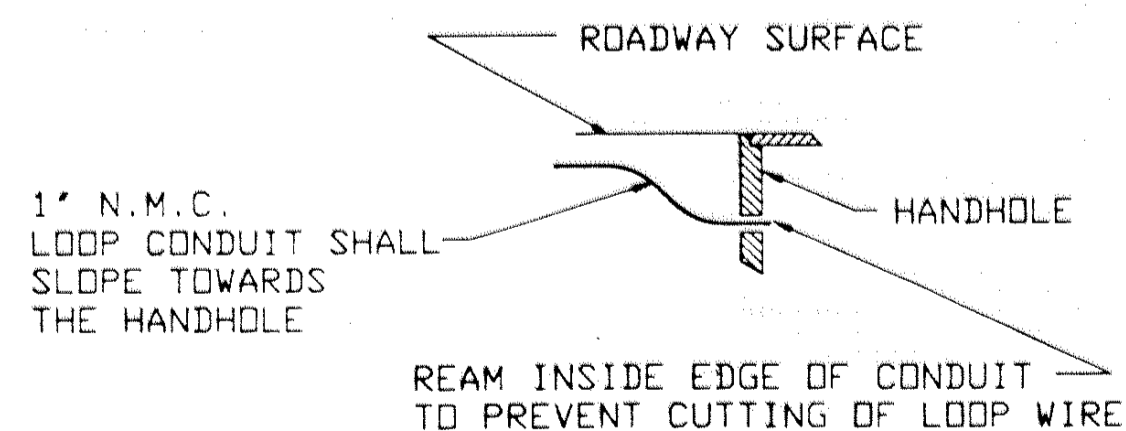


SP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:
 L1 TO 1A, 1B TO 2A, 2B TO 3A, 3B TO 4A AND 4B TO L2.
 SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE. ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE (1A, 1B, ETC.)

CROSS SECTION A-A



DRAINAGE DETAIL



NOTES:

- 1) ALL CORNERS SHALL BE 90° CONDUIT BENDS
- 2) CONNECT WIRES IN HANDHOLES USING **SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.**
- 3) LOOP DETECTOR WIRES SHALL BE # 12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
- 4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
- 5) N.M.C. DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
- 6) LOOPS 6'x6' THRU 6'x10' SHALL HAVE (4) TURNS.
- 7) LOOPS 6'x10' THRU 6'x14' SHALL HAVE (3) TURNS.
- 8) LOOPS 6'x15' AND LARGER SHALL HAVE (2) TURNS.
- 9) A 1/2" CLOSED CELL FOAM BACKER ROD SHALL BE FURNISHED AND INSTALLED WITH THE LAST TURN OF WIRE IN THE 1" N.M.C. ASSEMBLY.

LOOP DETECTOR WIRING

NO.	BY	DATE	REVISIONS

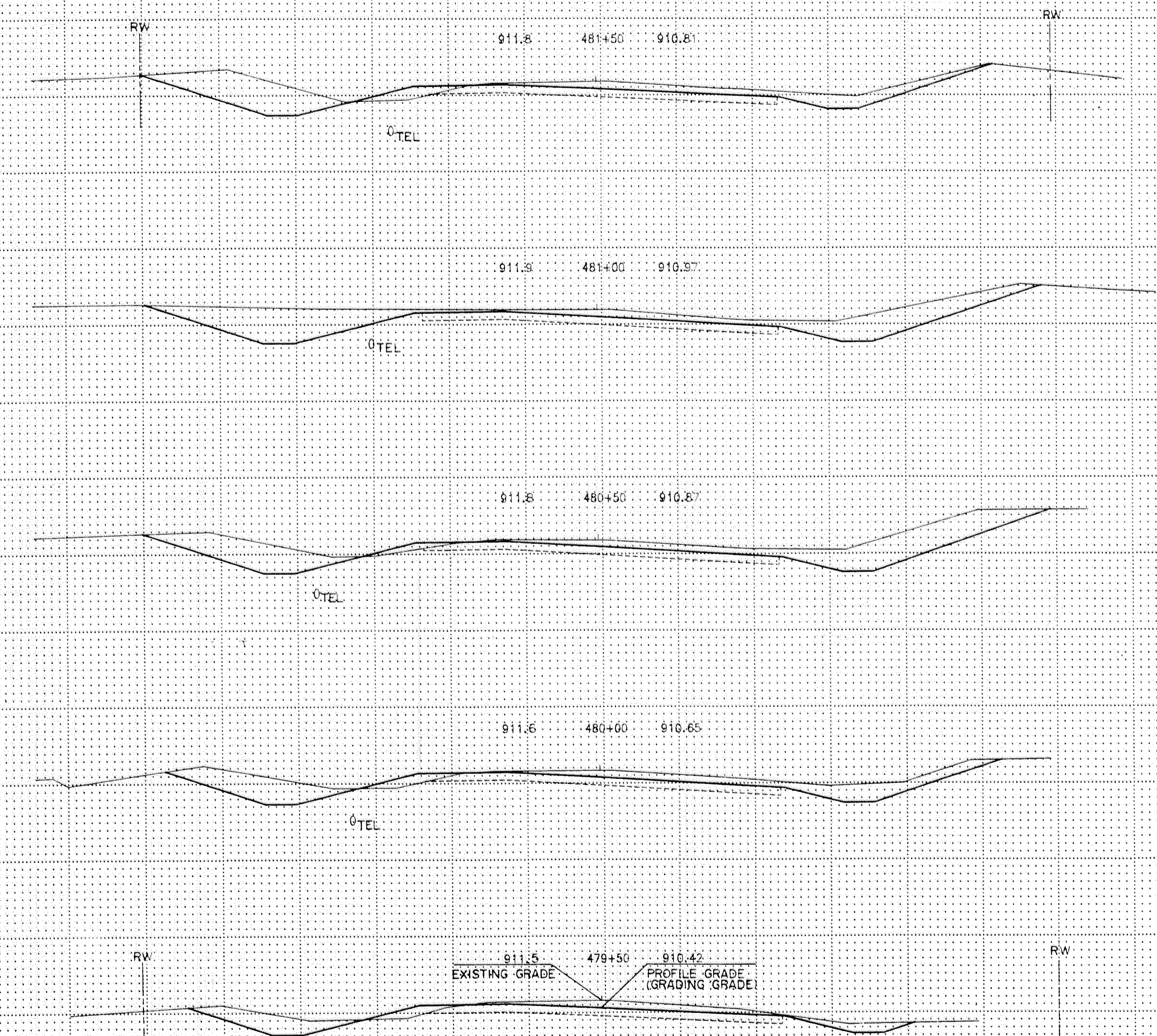
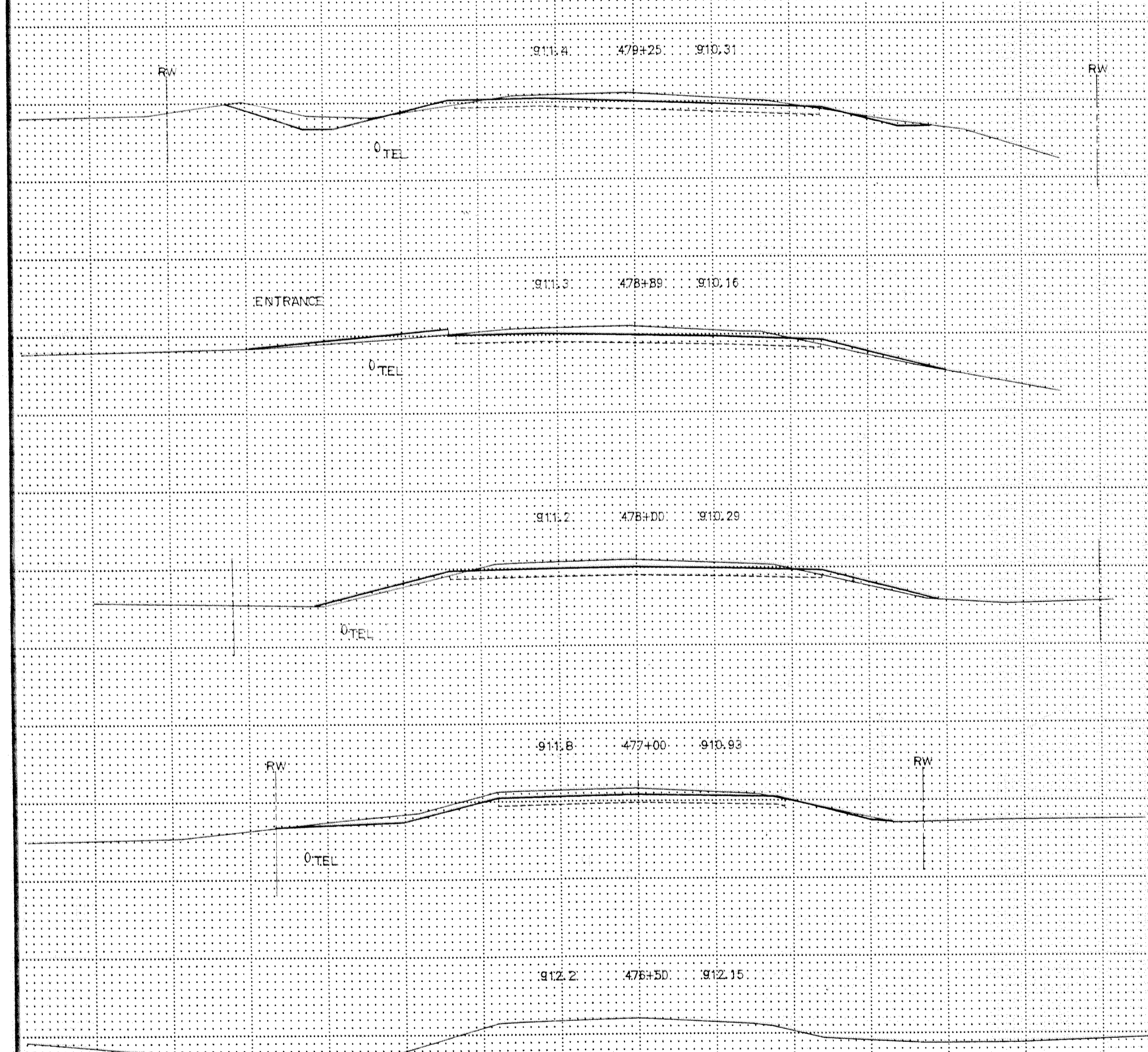
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John M. [Signature]
 Date: 6/24/94 Reg. No. 22457

ESEH
 ENGINEERS ARCHITECTS PLANNERS

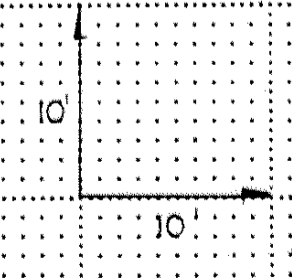
ANOKA COUNTY, MINNESOTA
 CITY OF BLAINE

TRAFFIC SIGNAL SYSTEM
 LOOP DETECTOR DETAILS
 MAIN STREET (CSAH 14) AT RADISSON ROAD (CO.RD.52)

FILE NO. ANOKC9404
 DATE 6/24/94

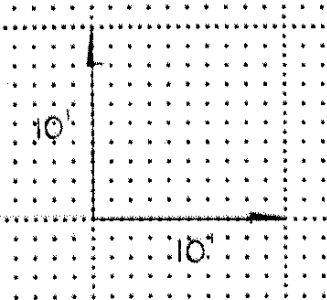
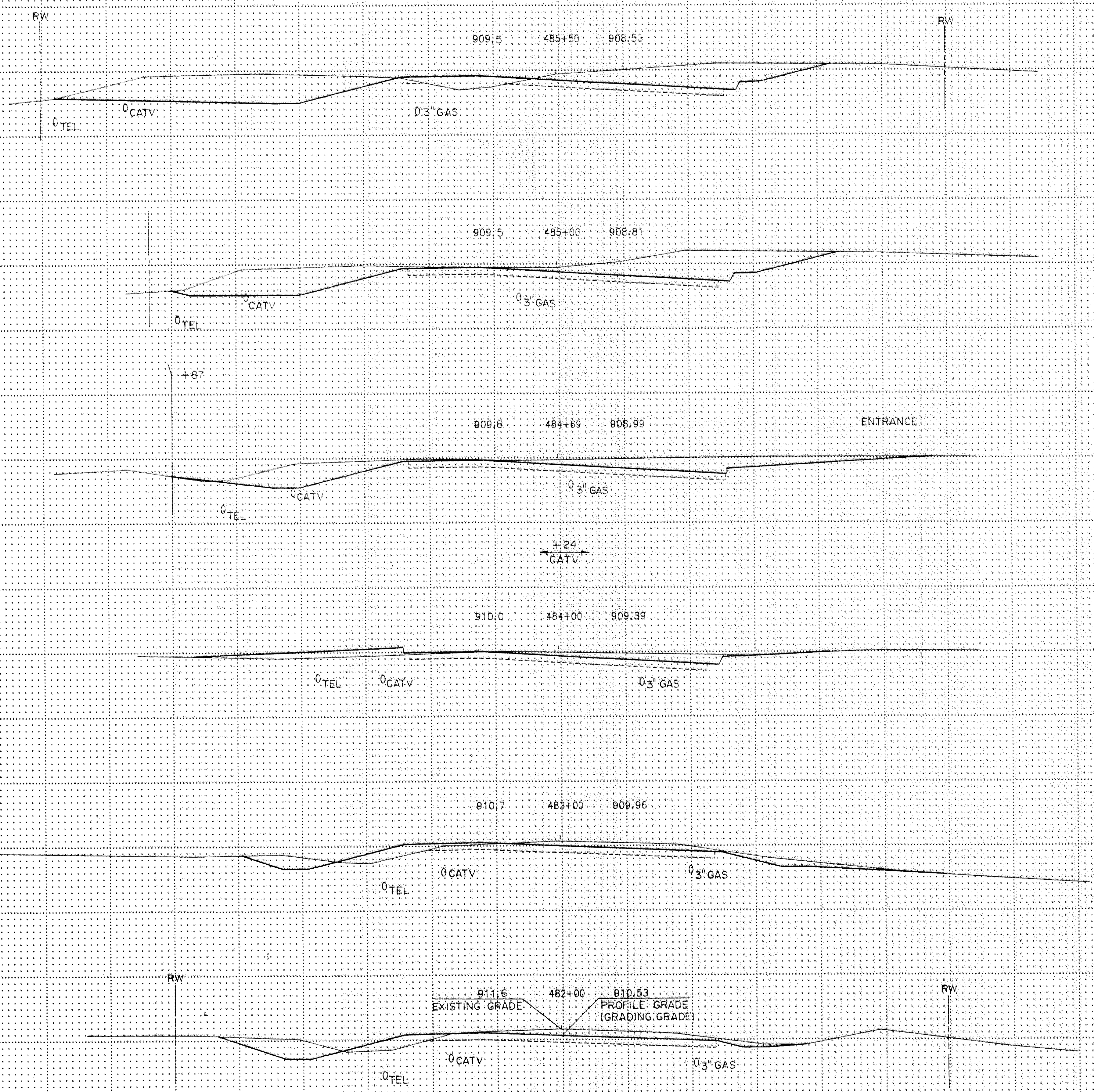


NOTE: UTILITY ELEVATIONS ASSUMED, NOT ACTUAL



CROSS-SECTIONS
STA. 476+50 TO STA. 481+50

Copy Equipment Form # 111 803725



NOTE: UTILITY ELEVATIONS ASSUMED, NOT ACTUAL.

CROSS-SECTIONS
STA 482+00 TO STA. 485+50

899.6 489+00 905.73

STA. 486+75 BEGIN MUCK EXC.

909.7 488+00 906.8

906.5 487+53 907.27

908.7 487+00 907.67

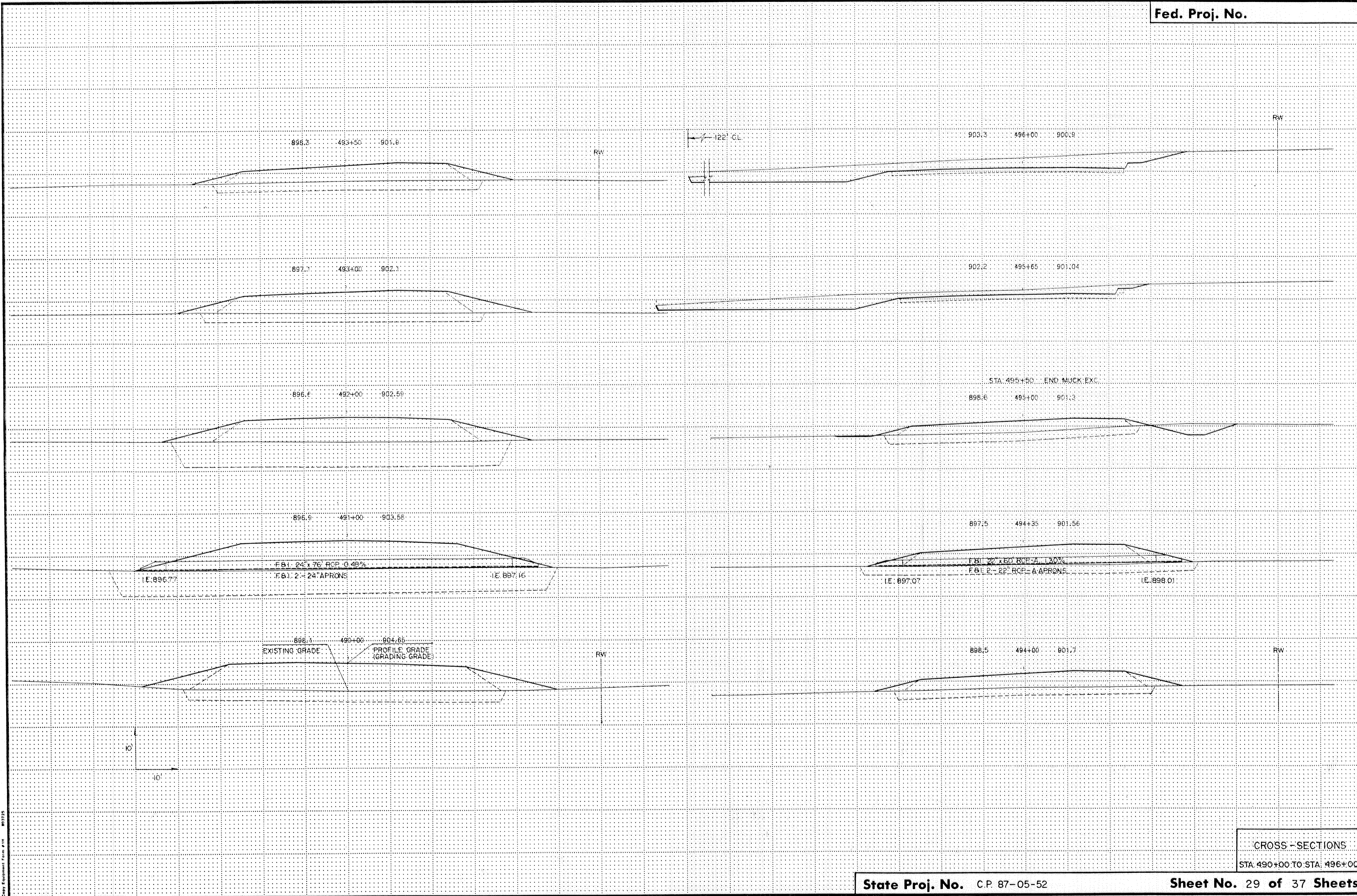
908.7 486+23 908.11

909.4 486+00 908.24
EXISTING GRADE PROFILE GRADE

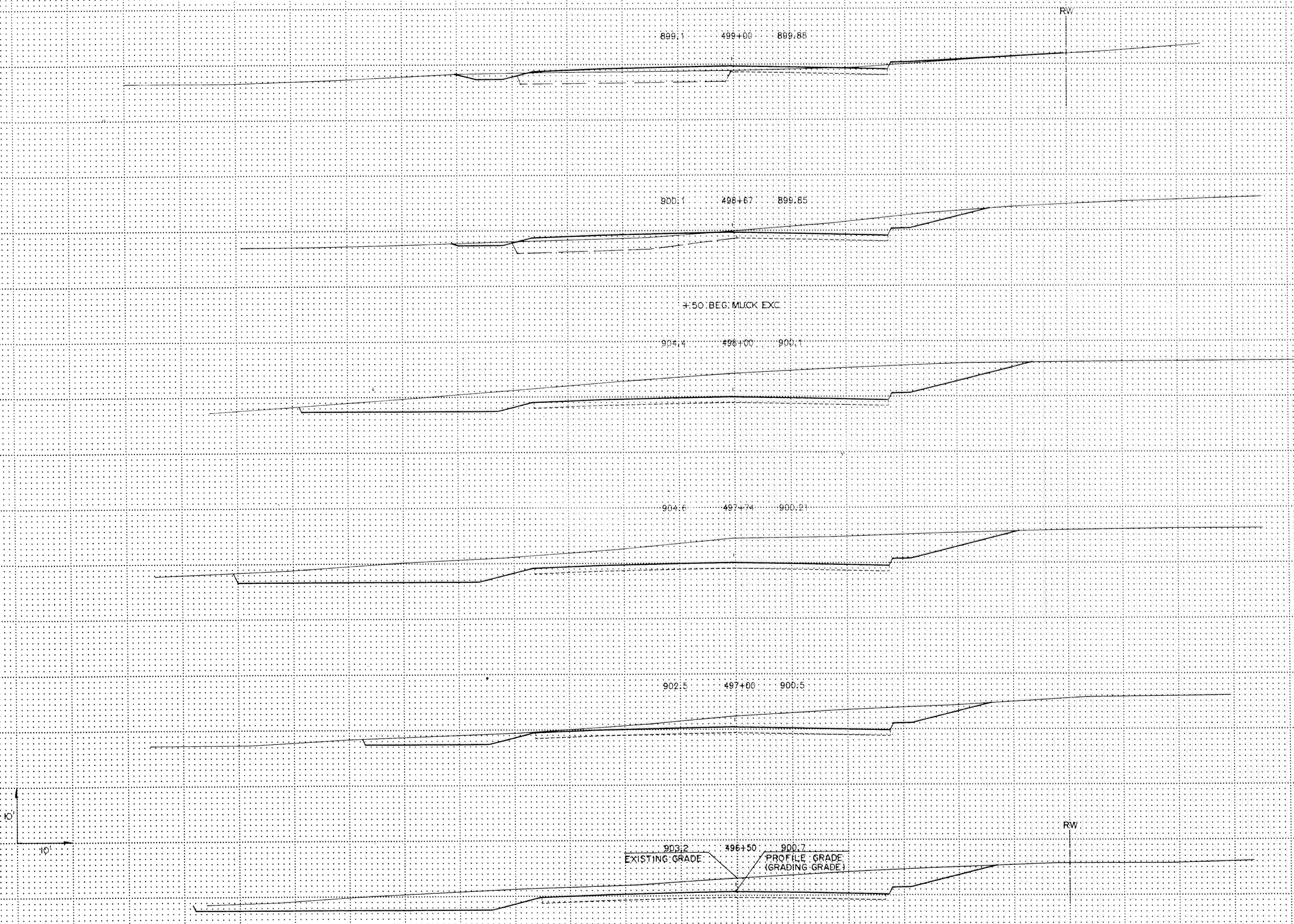
NOTE: UTILITY ELEVATIONS
ASSUMED, NOT ACTUAL

CROSS-SECTIONS

STA. 486+00 TO STA. 489+00



Copy Equipment Form #11



4:50:00 BEG. MUCK EXC.

903.2 496+50 900.7
 EXISTING GRADE PROFILE GRADE
 (GRADING GRADE)

CROSS-SECTIONS
 STA. 496+50 TO STA. 499+00

Copy Equipment Form #14

901.2' 499+78 903.19

901.2' 499+66 900.36

900.9' 499+53 900.23

900.5' 499+47 900.17
EXISTING GRADE PROFILE GRADE
(GRADING GRADE)

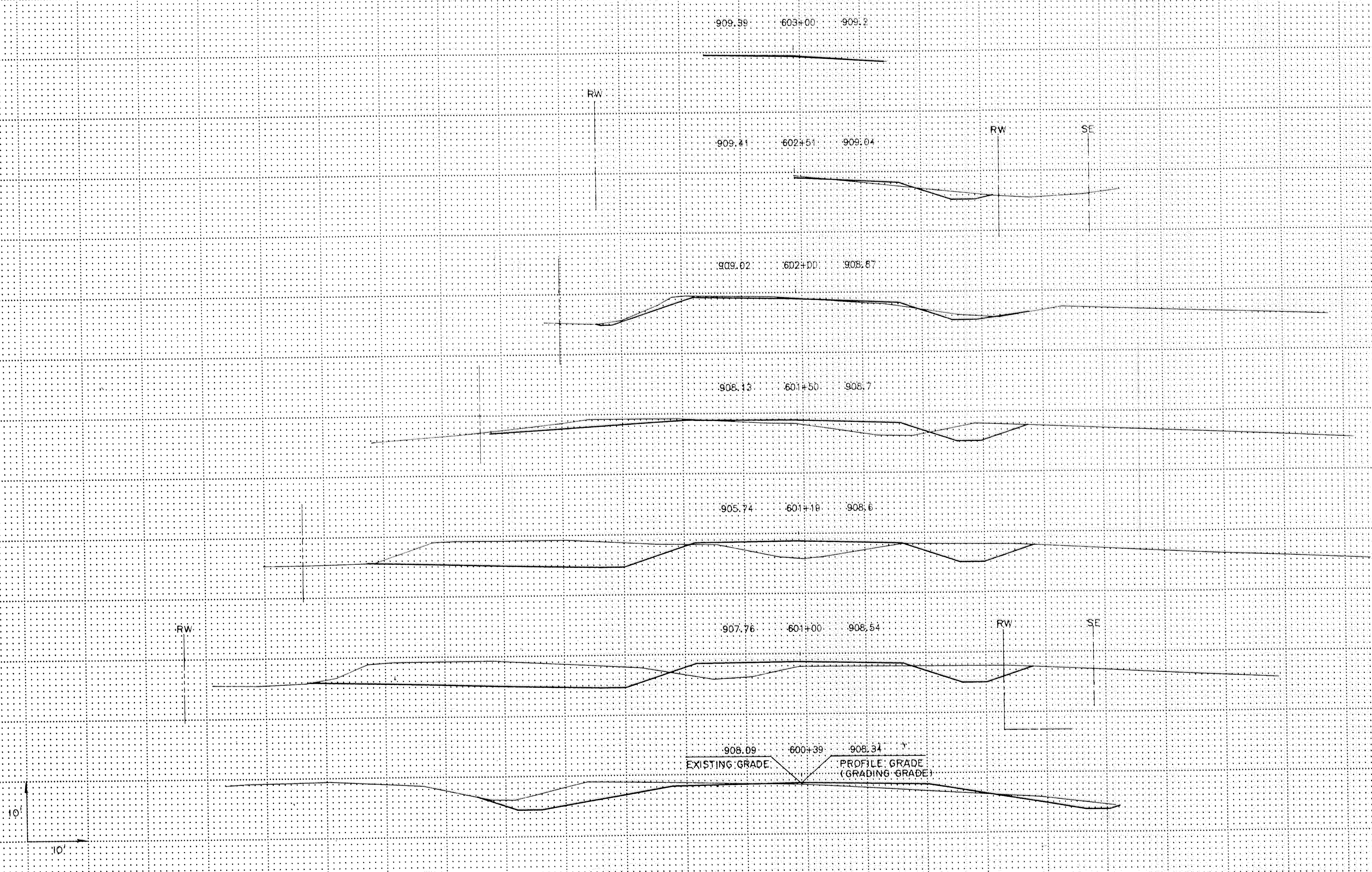
+50' END MUCK EXC.

899.9' 499+35 900.07

RW

10'
10'

CROSS-SECTIONS
STA. 499+35 TO STA. 499+78

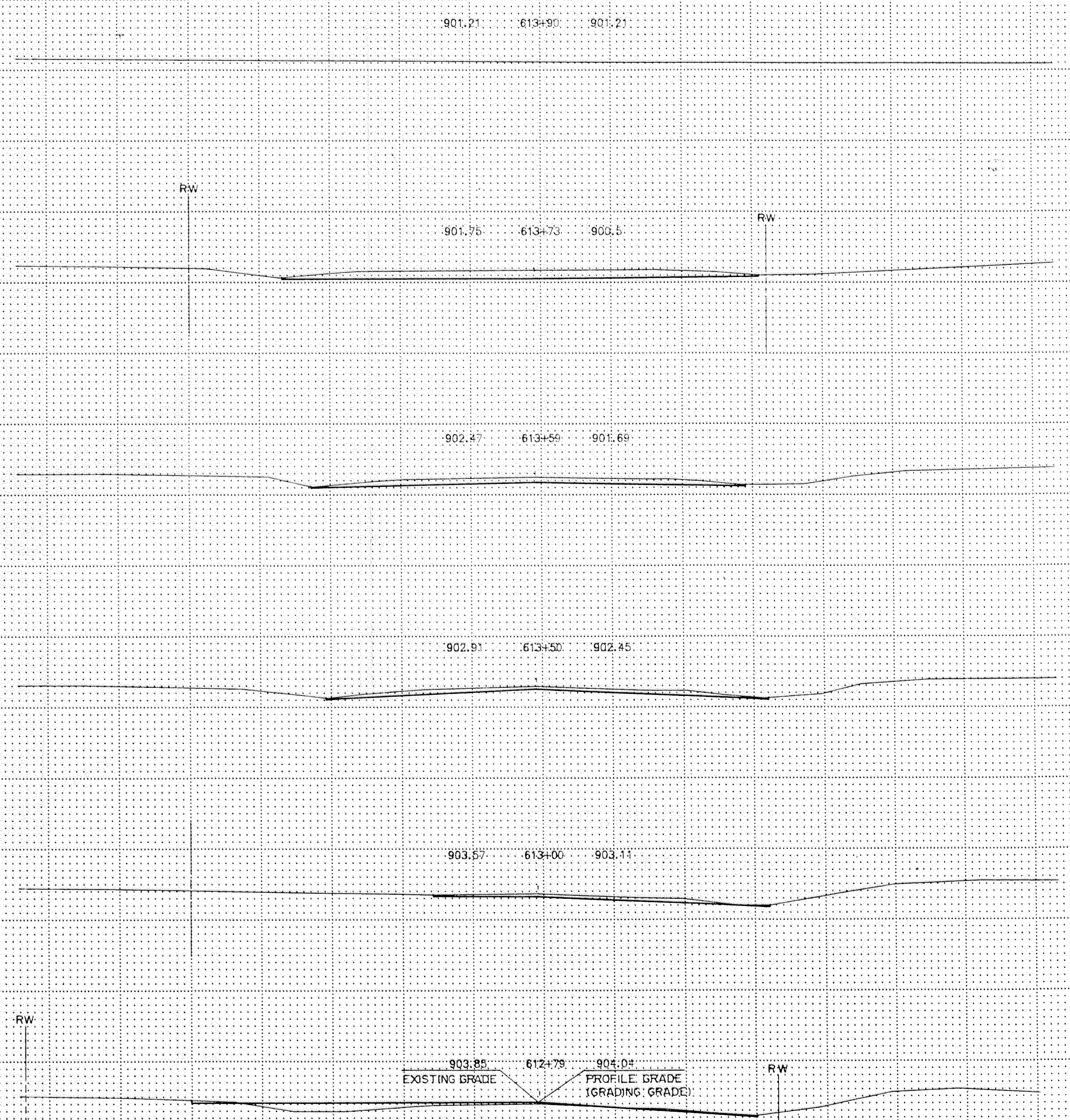
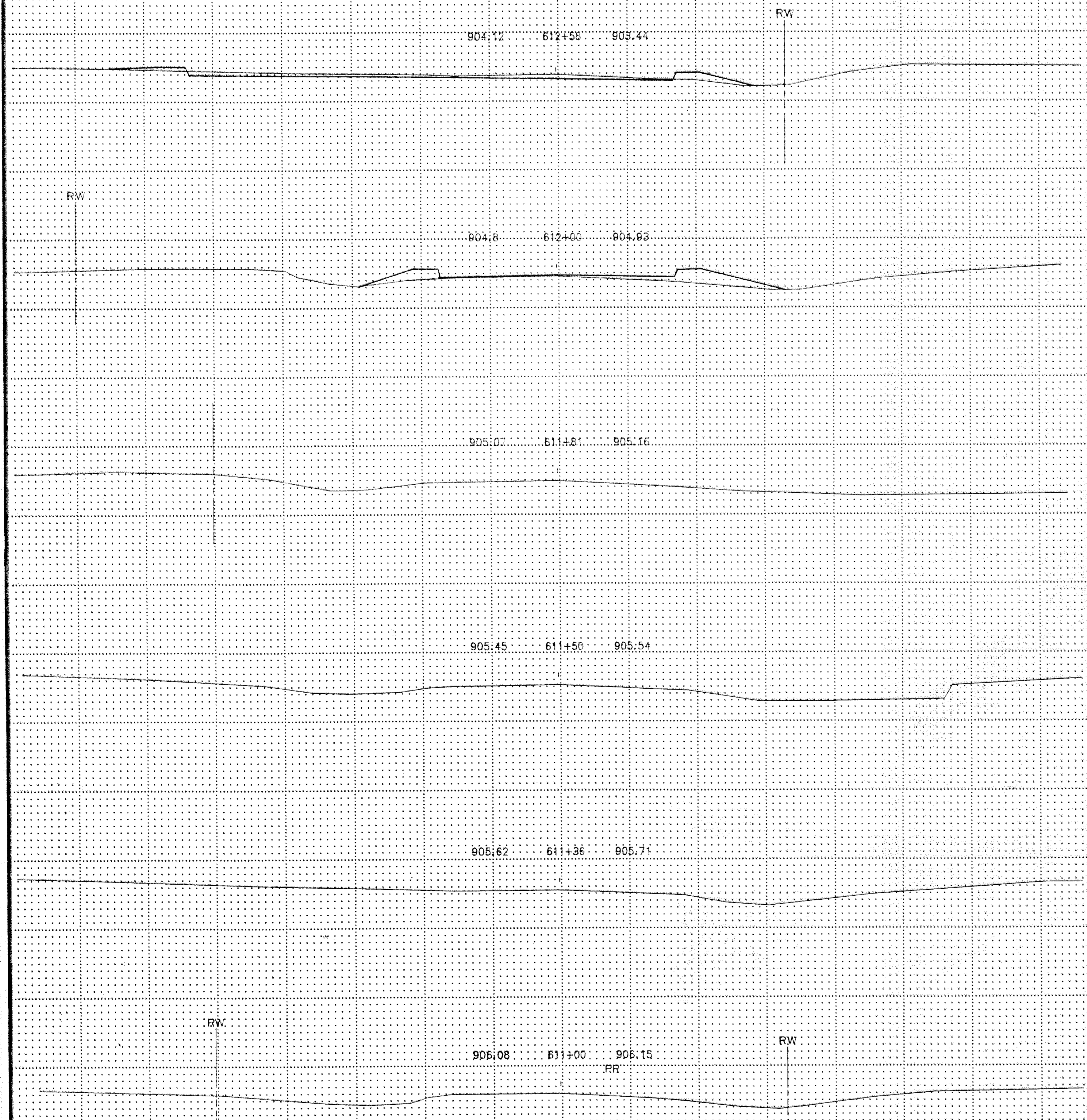


10'
10'

EXISTING GRADE
PROFILE GRADE (GRADING GRADE)

CROSS-SECTIONS
STA. 600+39 TO STA. 603+00

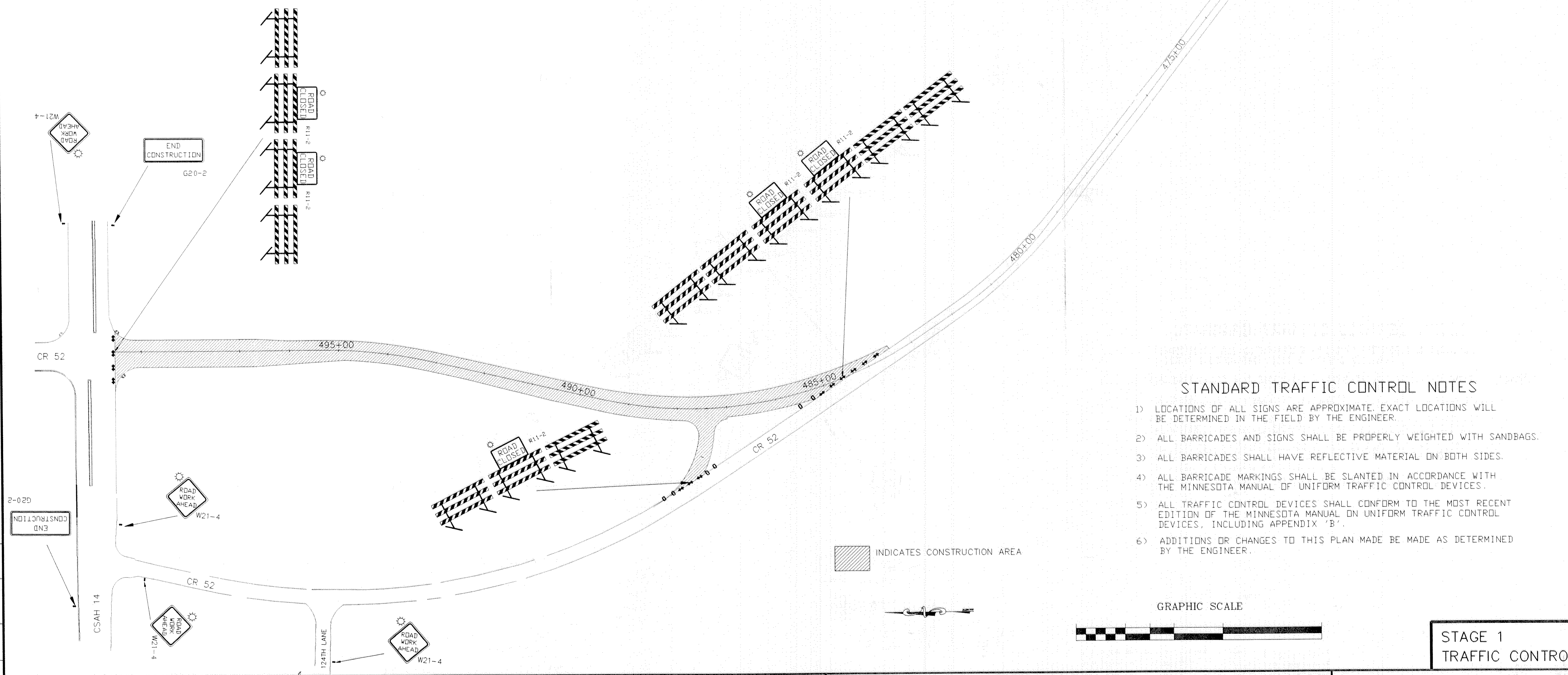
Copy Equipment Form #14 001725



EXISTING GRADE
 PROFILE GRADE
 (GRADING GRADE)

CROSS-SECTIONS
 STA. 611+00 TO STA. 613+90

C&G Equipment Form #11 803725

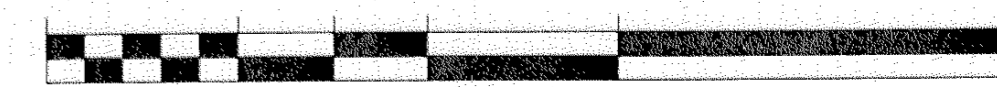


STANDARD TRAFFIC CONTROL NOTES

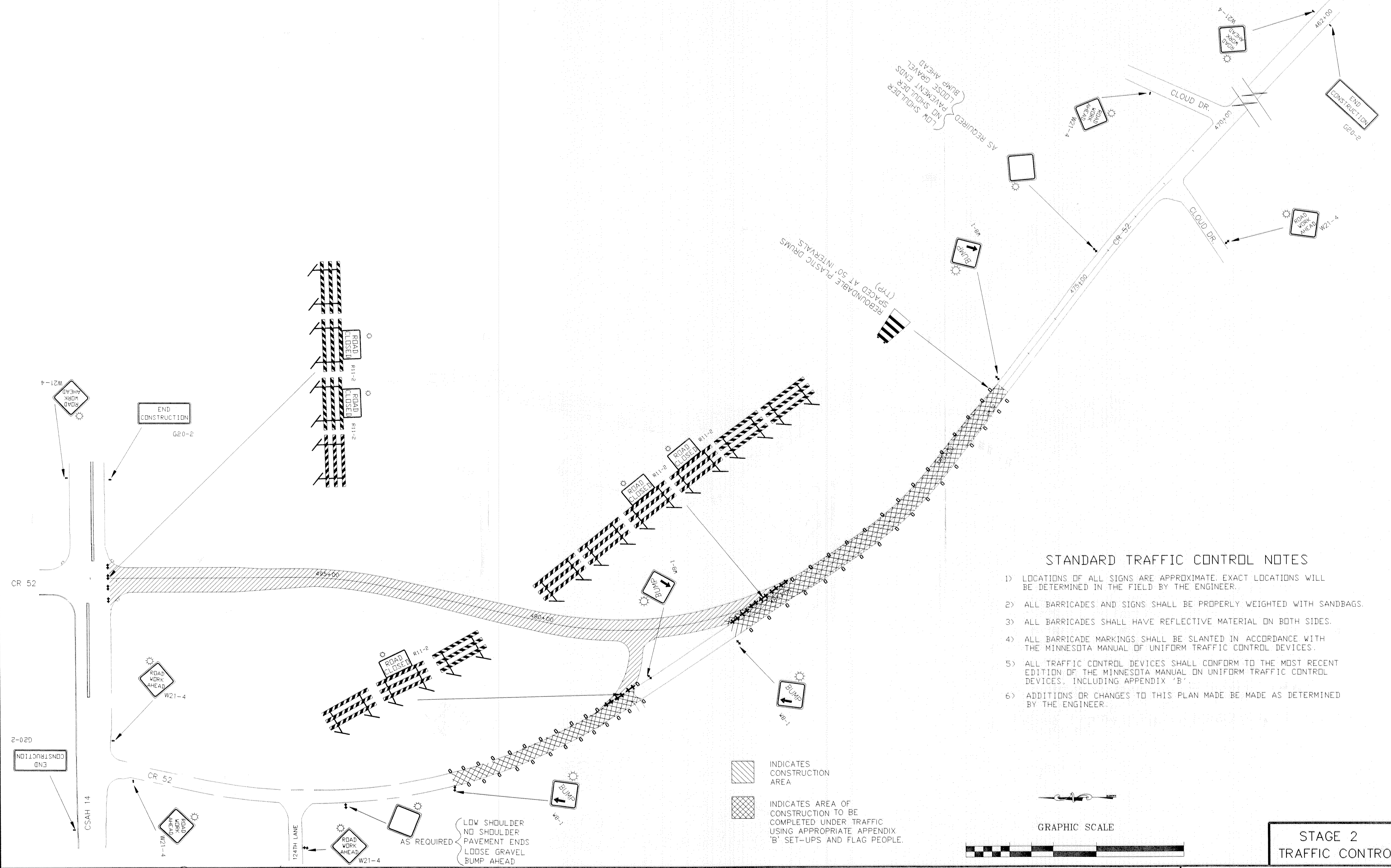
- 1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) ALL BARRICADES AND SIGNS SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
- 3) ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
- 4) ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- 5) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX 'B'.
- 6) ADDITIONS OR CHANGES TO THIS PLAN MADE BE MADE AS DETERMINED BY THE ENGINEER.

INDICATES CONSTRUCTION AREA

GRAPHIC SCALE



REVISIONS	DATE	BY

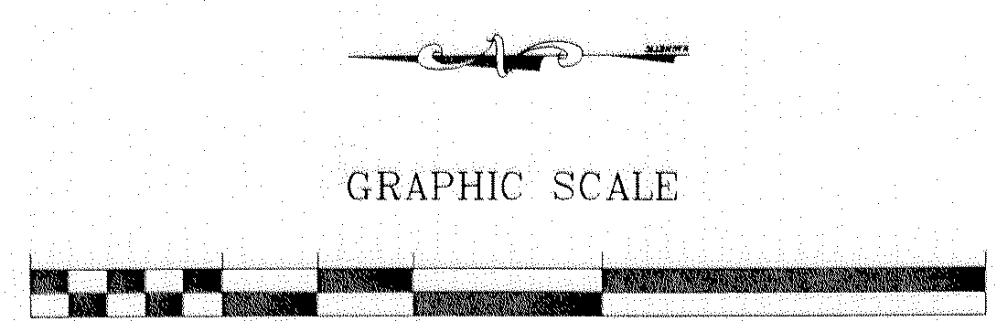


STANDARD TRAFFIC CONTROL NOTES

- 1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) ALL BARRICADES AND SIGNS SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
- 3) ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
- 4) ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- 5) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX 'B'.
- 6) ADDITIONS OR CHANGES TO THIS PLAN MADE BE MADE AS DETERMINED BY THE ENGINEER.

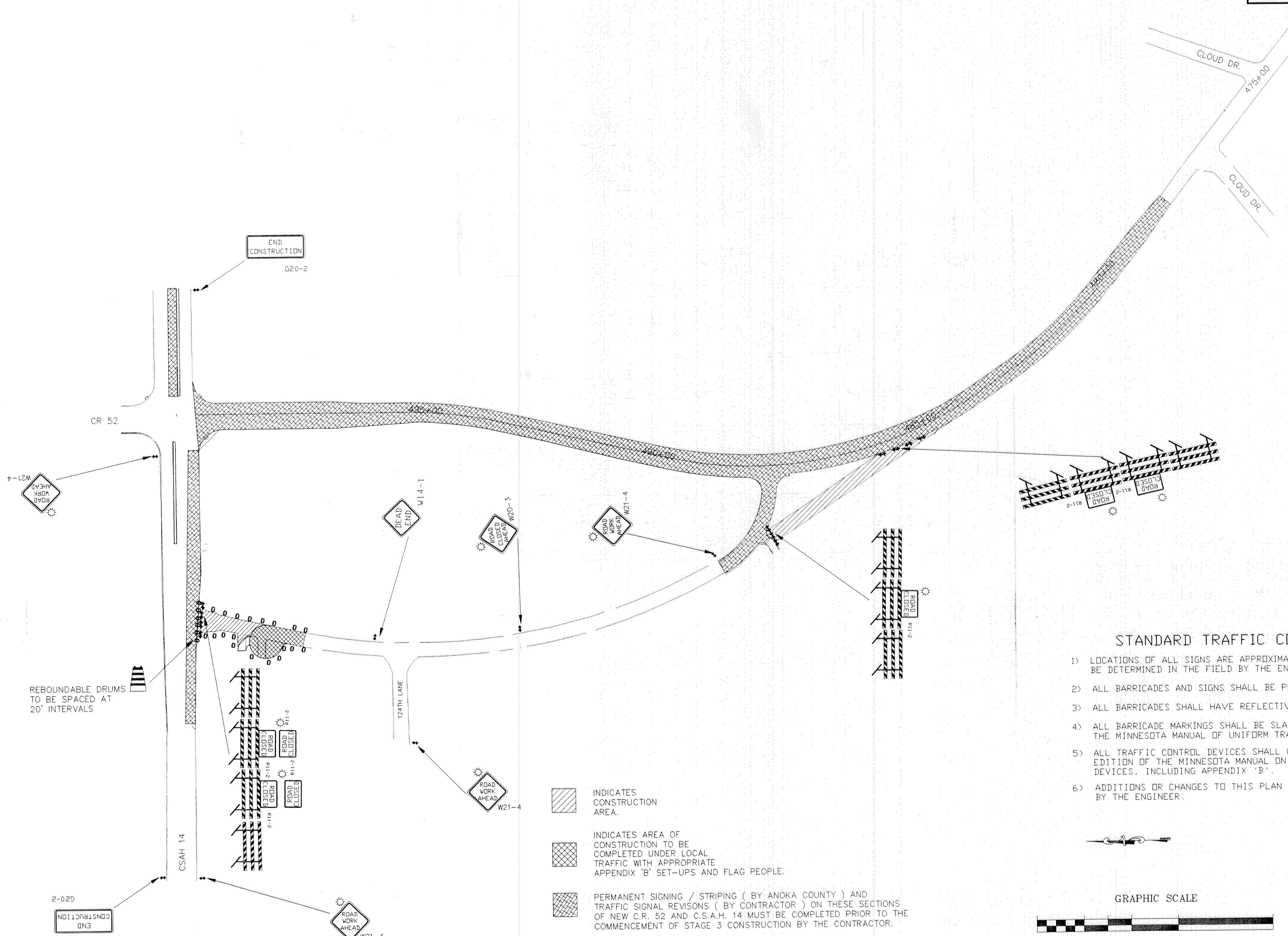
INDICATES CONSTRUCTION AREA

INDICATES AREA OF CONSTRUCTION TO BE COMPLETED UNDER TRAFFIC USING APPROPRIATE APPENDIX 'B' SET-UPS AND FLAG PEOPLE.

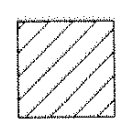
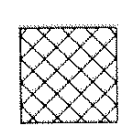
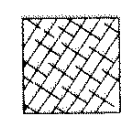


**STAGE 2
TRAFFIC CONTROL**

REVISIONS	DATE	BY



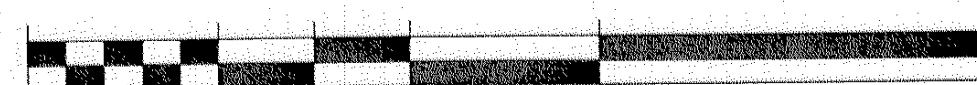
REBOUNDABLE DRUMS TO BE SPACED AT 20' INTERVALS

-  INDICATES CONSTRUCTION AREA.
-  INDICATES AREA OF CONSTRUCTION TO BE COMPLETED UNDER LOCAL TRAFFIC WITH APPROPRIATE APPENDIX 'B' SET-UPS AND FLAG PEOPLE.
-  PERMANENT SIGNING / STRIPING (BY ANOKA COUNTY) AND TRAFFIC SIGNAL REVISIONS (BY CONTRACTOR) ON THESE SECTIONS OF NEW C.R. 52 AND C.S.A.H. 14 MUST BE COMPLETED PRIOR TO THE COMMENCEMENT OF STAGE 3 CONSTRUCTION BY THE CONTRACTOR.

STANDARD TRAFFIC CONTROL NOTES

- 1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) ALL BARRICADES AND SIGNS SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
- 3) ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
- 4) ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- 5) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX 'B'.
- 6) ADDITIONS OR CHANGES TO THIS PLAN MADE BE MADE AS DETERMINED BY THE ENGINEER.

GRAPHIC SCALE



REVISIONS	DATE	BY

STAGE 3 TRAFFIC CONTROL

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STAGE 1	QTY. STAGE 2	QTY. STAGE 3	M.U.T.C.D. CODE	SIZE	INSERT	QTY. STAGE 1	QTY. STAGE 2	QTY. STAGE 3
FLASHER TYPE 'A'						FLASHER TYPE 'A'					
R11-2	48"x30"		• 5	• 5	• 7	W8-1A	48"x48"			AS REQUIRED	AS REQUIRED
TYPE III	8 FT.		• 5	• 5	• 5	W8-1B	48"x48"			• 4	
TYPE III	8 FT.		• 8	• 8	• 6	FLASHER TYPE 'A'					
W20-3	48"x48"				• 1	W8-1B	48"x48"			AS REQUIRED	AS REQUIRED
W21-4	48"x48"		• 7	• 7	• 4	FLASHER TYPE 'A'					
W21-X1	48"x48"		• 1	AS REQUIRED	AS REQUIRED	W8-1B	48"x48"			AS REQUIRED	AS REQUIRED
G20-2	60"x24"		• 3	• 3	• 2	FLASHER TYPE 'A'					
						W8-1B	48"x48"			AS REQUIRED	AS REQUIRED
						FLASHER TYPE 'A'					
						W8-1B	48"x48"				• 1
						REBOUNDABLE DRUM			• 8	• 53	• 25

STANDARD TRAFFIC CONTROL NOTES

- 1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) ALL BARRICADES AND SIGNS SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
- 3) ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
- 4) ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- 5) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX 'B'.
- 6) ADDITIONS OR CHANGES TO THIS PLAN MADE BE MADE AS DETERMINED BY THE ENGINEER.

REVISIONS	BY	DATE

QUANTITY SHEET
TRAFFIC CONTROL