

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR STORM SEWER, GRADING, BIT. BASE &
BITUMINOUS SURFACE
County State Aid Highway No. 12

BETWEEN CO. RD. 51 (UNIVERSITY EXT.) & STATE T.H. NO. 65

From N.W. COR. SEC. 19, T-31, R-23 To N. 1/4 COR. SEC. 20, T-31, R-23

GROSS LENGTH	8,000.0 FEET	1.515 MILES
BRIDGES LENGTH	0.0 FEET	0.0 MILES
EXCEPTIONS LENGTH	0.0 FEET	0.0 MILES
NET LENGTH	8,000.0 FEET	1.515 MILES

Plan 1 inch = 200 Feet
PROFILE Horiz. 1 inch = 200 Feet Vert. 1 inch = 20 Feet
WORKING PLANS Horiz. 1 inch = 100 Feet Vert. 1 inch = 10 Feet
Cross Section 1 inch = 10 FEET
LAYOUT Scale 1 inch = Feet

MINN. PROJ. _____

INDEX OF SHEETS

Sheet No 1	Title Sheet & Layout Map
No 2	Est. Quantities & Typical Sec.
No 3 To 4	Plan & Profile
No 5 To 12	Cross Sections

DESIGN SPEED 50 MPH
(LOCALLY RESTRICTED TO 30 MPH)

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH, IN THE CONSTRUCTION OF THIS PROJECT.

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.

Edwin J. Sundlin DATE 4-7-64
ANOKA COUNTY REG. NO. 2551
RECOMMENDED FOR APPROVAL *Edgar C. Penner* DISTRICT ENGINEER 4-7-64
RECOMMENDED FOR APPROVAL *J. A. Hoffman* 4-22-64
APPROVED 4-22-64 *Edgar C. Penner* STATE AID ENGINEER

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

DISTRICT ENGINEER _____ DATE _____

S.A.P. 02-612-01
State Project No. _____

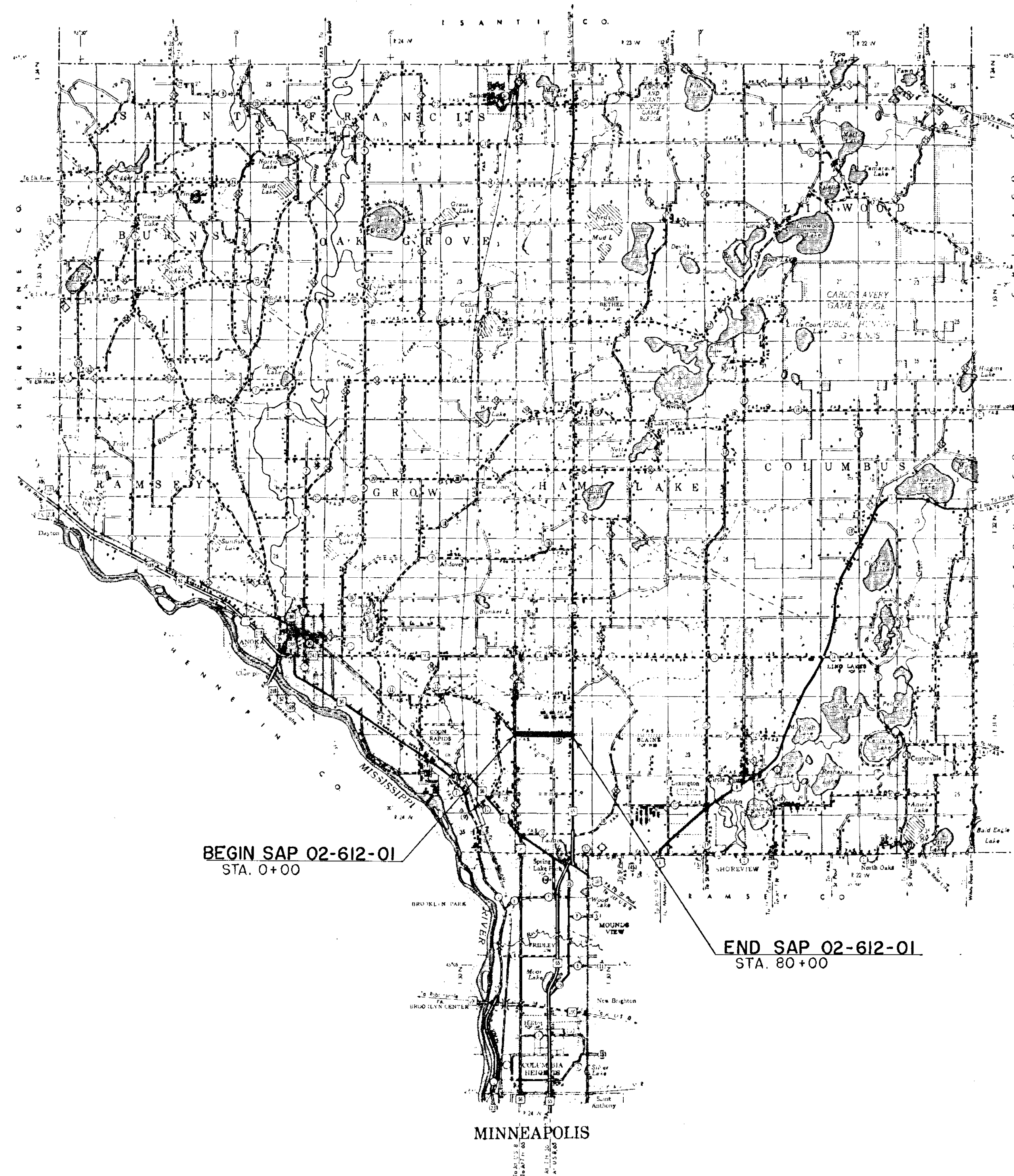
Minn. Project No. _____

ANOKA County, Minnesota. County Proj. No. _____ Plan No. _____ Sheet 1 of 12 Sheets

CONVENTIONAL SIGNS

STATE LINE	ROAD
COUNTY LINE	BRUSH
TOWNSHIP OR RANGE LINE	ORCHARD
QUARTER LINE	ROCK EDGE
SECTION LINE	SAND
SUBSECTION LINE	EDGE OF CUT
RIGHT OF WAY LINE	TOE OF EMBANKMENT
PRESENT ROAD PAV. LINE	CATCH BASIN
LIMITED ACCESS	MANHOLE
PROPERTY LINE (EVAL. & UNV. MARKED PLANTED PROPERTY)	SOUP PLOT
COORDINATE OR CITY LIMITS	FIRE HYDRANT
"PLANK HIGHWAY" CENTER LINE	RAILROAD CROSSING BELLS
RETAINING WALL	ELECTRIC SIGNaling SIGNAL
STEAM RAILROAD	CROSSING SATE
ELECTRIC RAILROAD	"SET" SLAB
RAILROAD RIGHT OF WAY LINE	OVERHEAD POWER LINE
CREEK	RAILROAD SNOW FENCE
DRAINAGE OR WATERWAY	BOARD OR HOEKWAY SNOW FENCE
DRY RUN	STONE WALL OR FENCE
DRAINAGE DITCH	DRIVE MAIN
ROAD THROUGH LINE	WATER PIPE
PEAK OF HILL	SEWER PIPE
TELEPHONE OR TELEGRAPH LINE	DRAIN TILE
TELEPHONE CONDUIT	GRAVEL PIT
QUAD PILE	SAND PIT
WIRE FENCE	CLAY PIT
RAILROAD SNOW FENCE	ROCK QUARRY
BOARD OR HOEKWAY SNOW FENCE	SPIRITS
STONE WALL OR FENCE	WASH
DRIVE MAIN	
WATER PIPE	
SEWER PIPE	
DRAIN TILE	
GRAVEL PIT	
SAND PIT	
CLAY PIT	
ROCK QUARRY	
SPIRITS	
WASH	

NOTE: SECTION NUMBERS READ FROM THE SOUTH



BEGIN SAP 02-612-01
STA. 0+00

END SAP 02-612-01
STA. 80+00

MINNEAPOLIS

SPECIFICATIONS

THE "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION," DATED JAN. 1, 1964, SHALL GOVERN.

MICRO-FILMED

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES
2101.502	CLEARING	TREE	29
2101.507	GRUBBING	TREE	19
2104.501	REMOVE PORTABLE CULVERTS	LIN. FT.	38
2104.510	REMOVE FENCE	LIN. FT.	512
557.621	RESET FENCE	LIN. FT.	512
2104.511	REMOVE MANHOLES & CATCH BASINS	STRUCT.	1
2104.515	REMOVE PIPE SEWERS	LIN. FT.	177
2105.501	CLASS "A" EXCAVATION	CU. YD.	6838
2105.506	BORROW EXCAVATION (CLASS A)	CU. YD.	3600
2105.510	TOP SOIL COVER	CU. YD.(VM)	1013
2105.514	SALVAGE BITUMINOUS MIXTURE ON ROAD	CU. YD.(VM)	3900
2106.501	SPECIAL SWAMP EXCAVATION	CU. YD.	3600
2110.509	EMBANKMENT MATERIAL IN PLACE	CU. YD.	800
2130.501	WATER	M-GAL.	43
2207.503	BIT. MATERIAL FOR MIXTURE AC-1 (200-300 PEN.)	GAL.	68,710
2207.503	BIT. MATERIAL FOR FOG (MC O, 1, 2)	GAL.	3435
2207.512	BIT. STABILIZED SUBGRADE (4" THICK)	SQ. YD.	34,355
2331.502	BIT. MATERIAL FOR TACK (MC 2, 3)	GAL.	1674
2331.504	BIT. MATERIAL FOR MIX	TON	141
2331.508	WEARING COURSE MIXTURE	TON	2561
2451.511	SAND GRAVEL SUBFOUNDATION	CU. YD.	70
2451.501	STRUCTURE EXCAVATION CL. U	CU. YD.	82
2501.511-18	F&I 18" CMP CULV.	LIN. FT.	200
2501.511-36	F&I 36" CMP CULV.	LIN. FT.	62
2501.512-58	F&I 58" SPAN CMP-A CULV.	LIN. FT.	16
2503.512-15	F&I 15" RCP SEWER CL. 4	LIN. FT.	47
2503.512-24	F&I 24" RCP SEWER CL. 3	LIN. FT.	10
2503.512-30	F&I 30" RCP SEWER CL. 2	LIN. FT.	760
2506.507	CONSTRUCT CATCH BASIN DESIGN C OR G	LIN. FT.	3.3
2506.507	CONSTRUCT CATCH BASIN DESIGN A OR F	LIN. FT.	26.6
2506.509	CONSTRUCT CATCH BASIN	STRUCT.	2
2506.516	F&I CASTING ASSEMBLIES (4101 A 700-8) (4140C-721)	ASSEM.	2
2506.516	F&I CASTING ASSEMBLIES (NEENAH 3246-C)	ASSEM.	1
2506.522	ADJUST FRAME & RING CASTINGS	ASSEM.	9
504.685	ADJUST WATER GATE HOUSING	ASSEM.	9
2574.501	ROAD SIDE SEEDING	ACRE	4.8
2576.501	SODDING	SQ. YD.	4788
2515.531-18	F&I MET. APRONS FOR 18" CMP CULV.	APRON	2
2515.531-36	F&I MET. APRONS FOR 36" CMP CULV.	APRON	2

COUNTY SHALL FURNISH SEED

FORM 21166-10-58

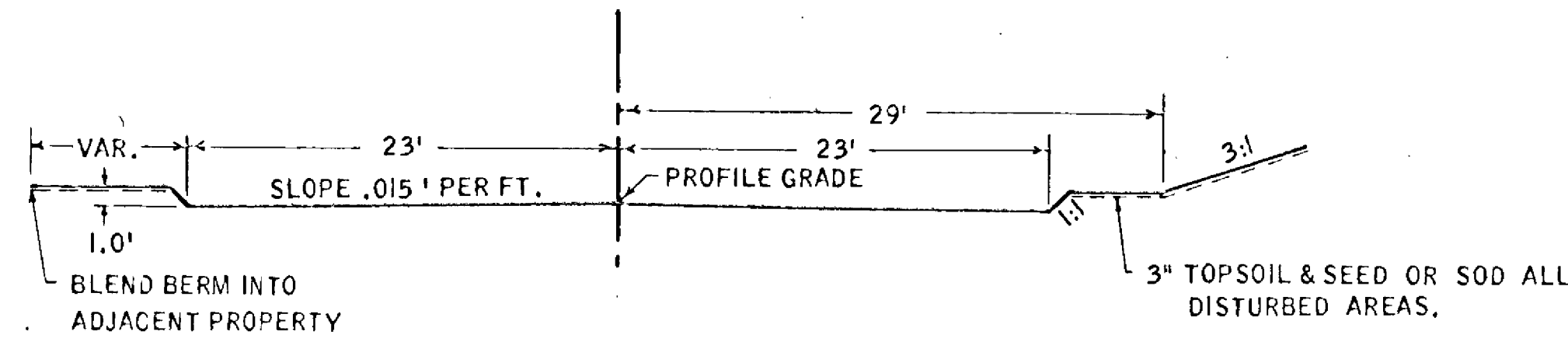
The following Standard Detail plates, approved by the Bureau of Public Roads, shall apply on this project

PLATE NO.	DESCRIPTION
3040	CORRUGATED METAL PIPE - ARCH CULVERT
4000 E	MANHOLE OR CATCH BASIN (DESIGN A)
4002 C	MANHOLE OR CATCH BASIN (DESIGN C)
4005 E	MANHOLE OR CATCH BASIN (DESIGN E)
4006 D	MANHOLE OR CATCH BASIN (DESIGN G)
4101 A	RING CASTING FOR MANHOLE OR CATCH BASIN
4110 C	COVER CASTING FOR MANHOLE
4140 C	GRATE CASTING FOR CATCH BASIN
8000A, 8001 & 8009	STANDARD BARRICADES
8003-8008A	SIGNS, FENCE & PLACEMENT

TYPICAL GRADING SECTION

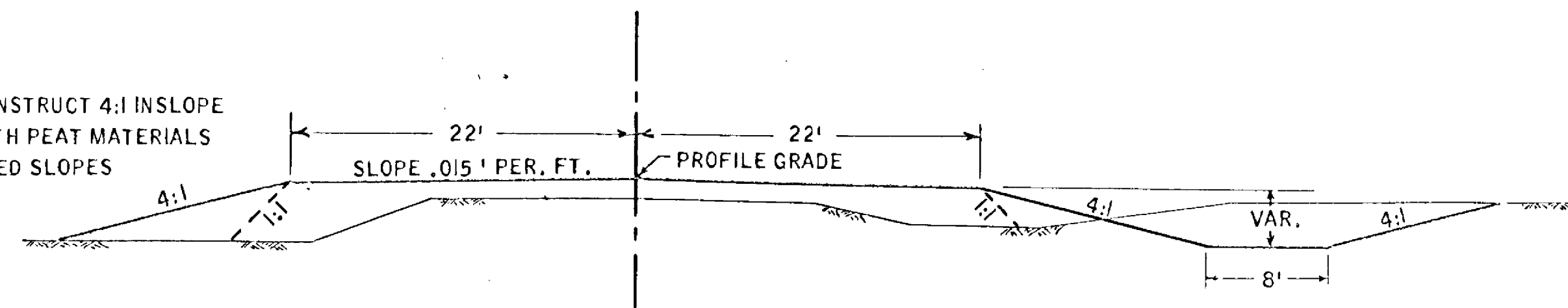
STA. 0 + 00 TO 40 + 25

RT. STA. 66 + 00 TO 69 + 00



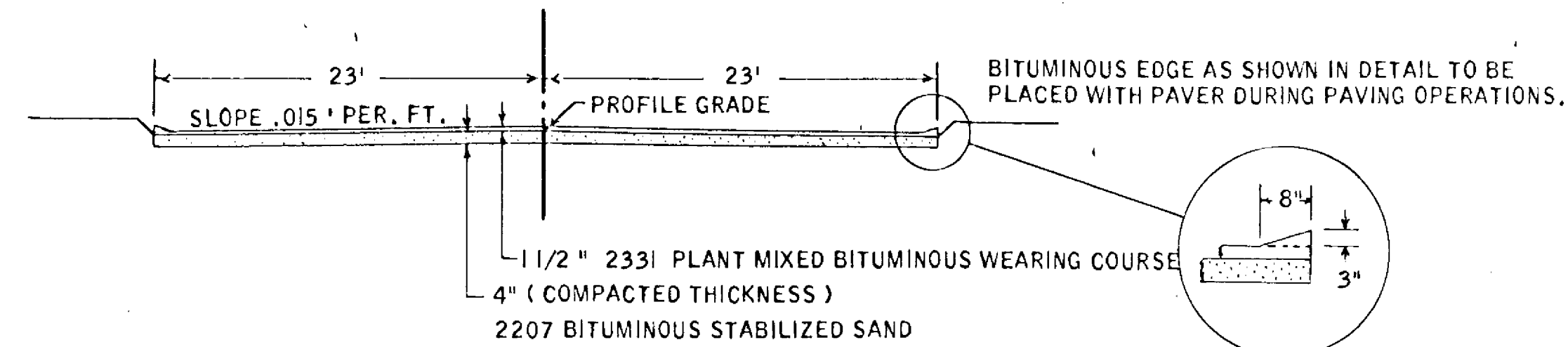
STATION 40 + 25 TO 80 + 00

CONSTRUCT 4:1 SLOPE WITH PEAT MATERIALS SEED SLOPES

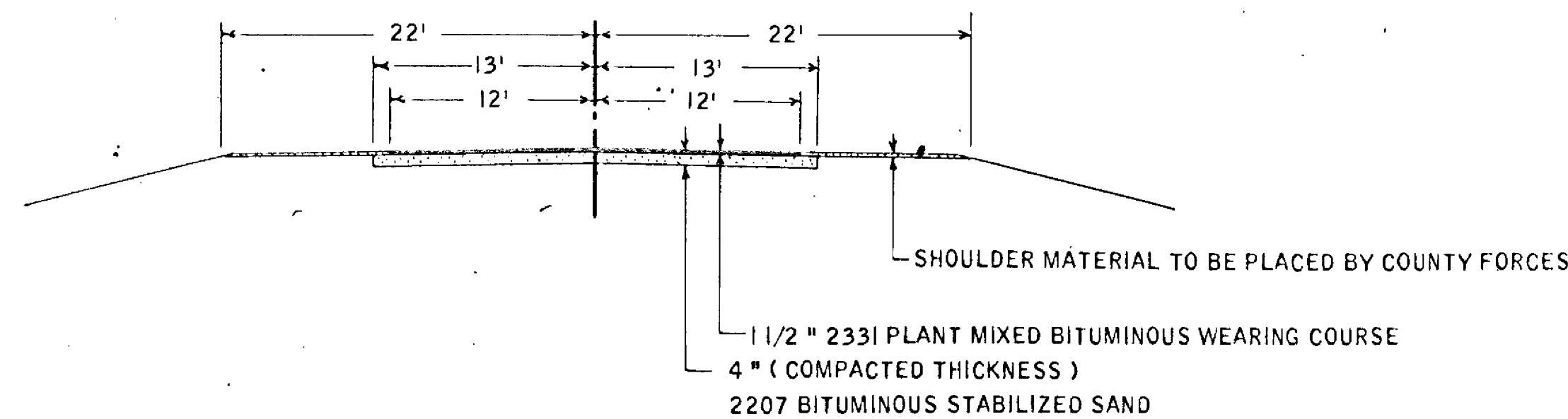


TYPICAL BITUMINOUS SECTION

STA. 0 + 00 TO 40 + 25



STATION 40 + 25 TO 80 + 00



NOTE ALL SLOPES & DIMENSIONS SHOWN ON TYPICAL SECTIONS ARE NOMINAL

SPECIAL DETAILS

PLACE TOPSOIL ON SLOPES BEFORE SODDING & ON SOME SEEDING AREAS AT THE DIRECTION OF THE ENGINEER.

SOD TO BE PLACED AT THE DIRECTION OF THE ENGINEER.

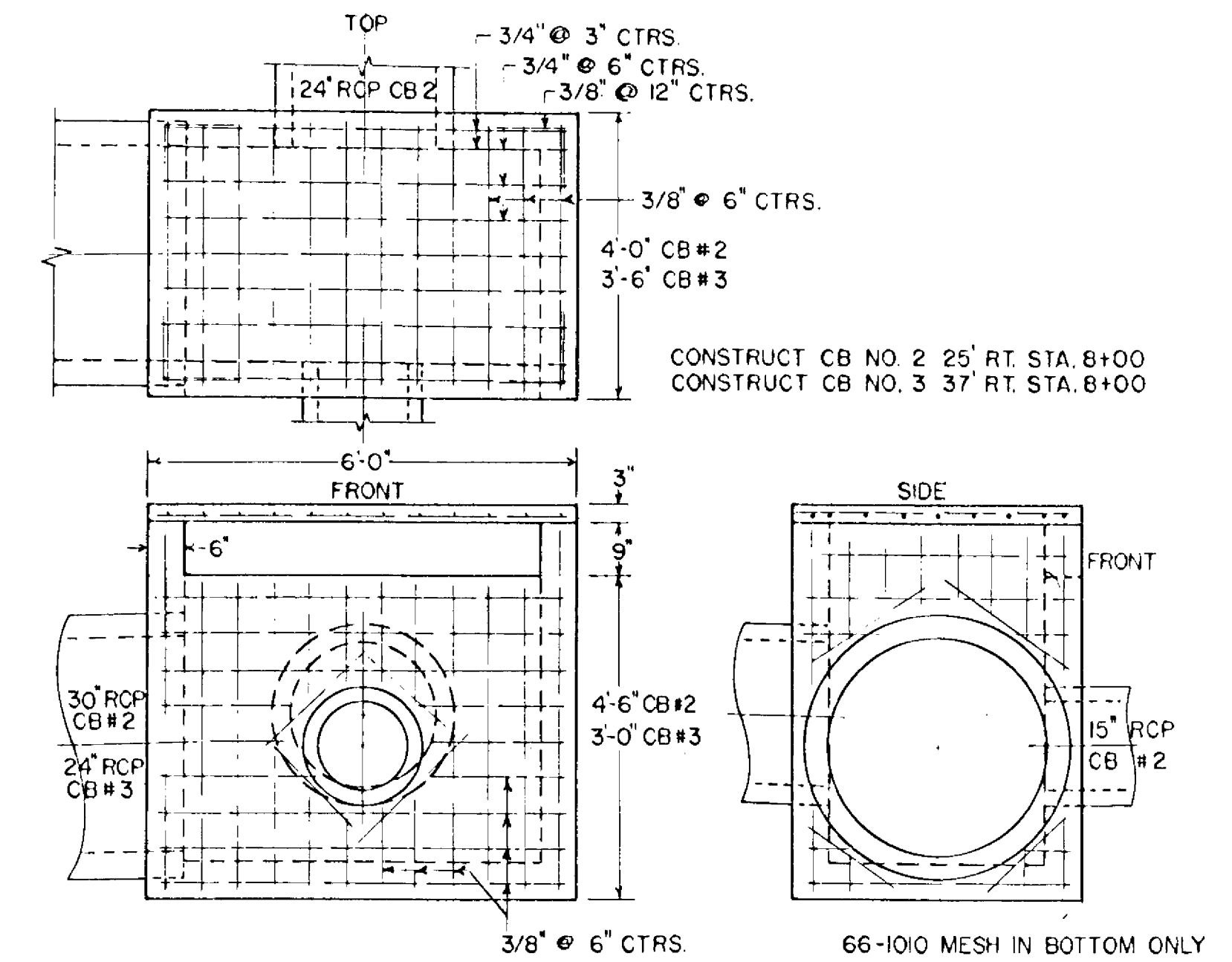
THE CONNECTING OF INPLACE STORM SEWER WITH NEW CATCH BASIN STA. 13+93 & THE CONNECTING TO INPLACE CATCH BASIN STA. 15+60 WILL BE CONSIDERED INCIDENTAL TO F&I STORM SEWER.

CONTRACTOR WILL BE REQUIRED TO WORK AROUND INPLACE UTILITY POLES.

CATCH BASINS REQUIRING NEENAH TYPE CASTINGS WILL REQUIRE SOME CARE IN CONSTRUCTION TO ACCOMMODATE THIS HIGHER COMPACT CASTING

REINFORCED CONCRETE CATCH BASIN

SCALE 1" = 2'



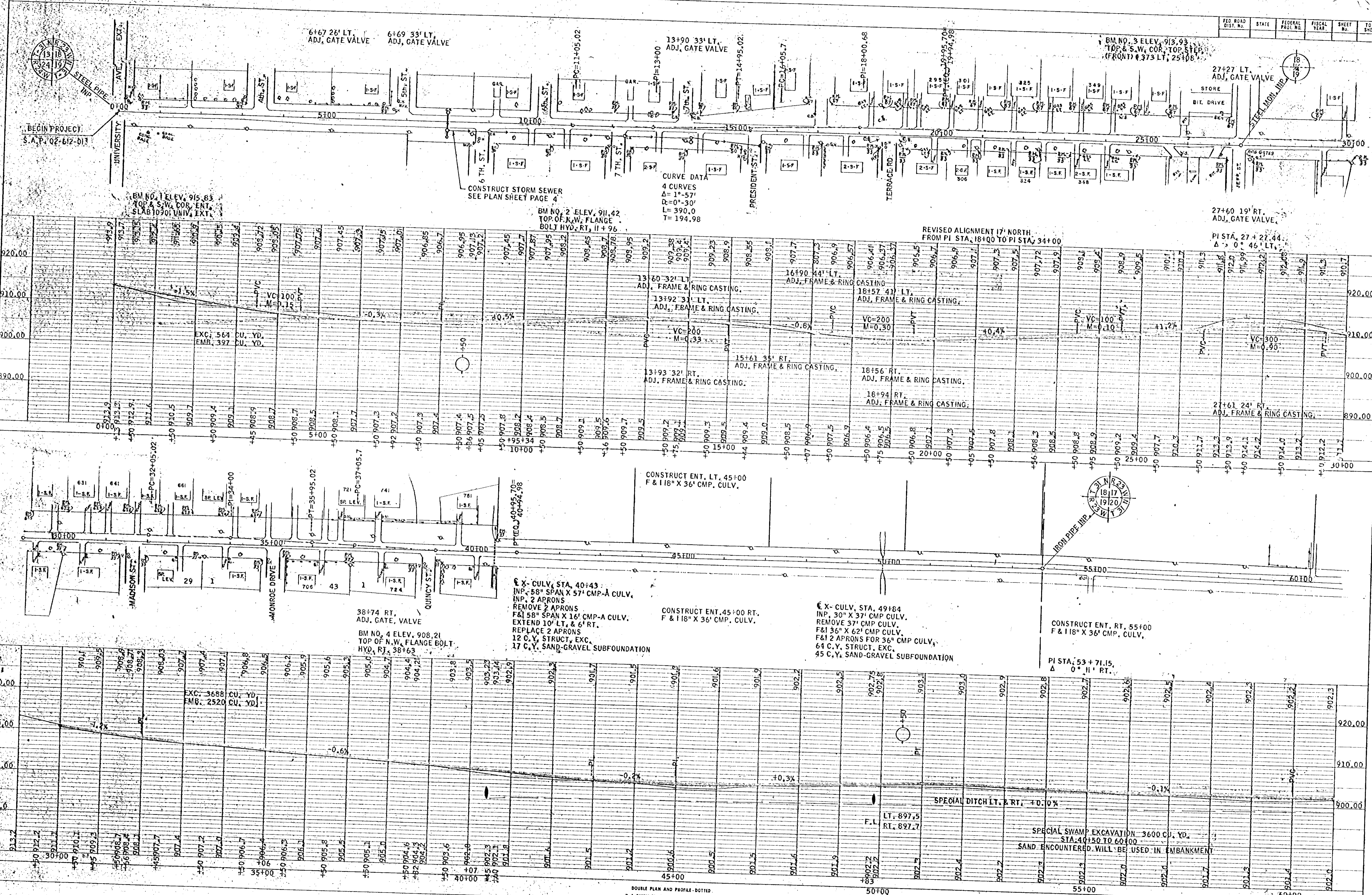
BASIS OF PLANNED QUANTITIES

2207 BITUMINOUS BASE:
BITUMINOUS MATERIAL FOR MIX 0.5 GAL. PER S.Y. PER INCH OF DEPTH.
BITUMINOUS MATERIAL FOR FOG 0.10 GAL. PER S.Y.

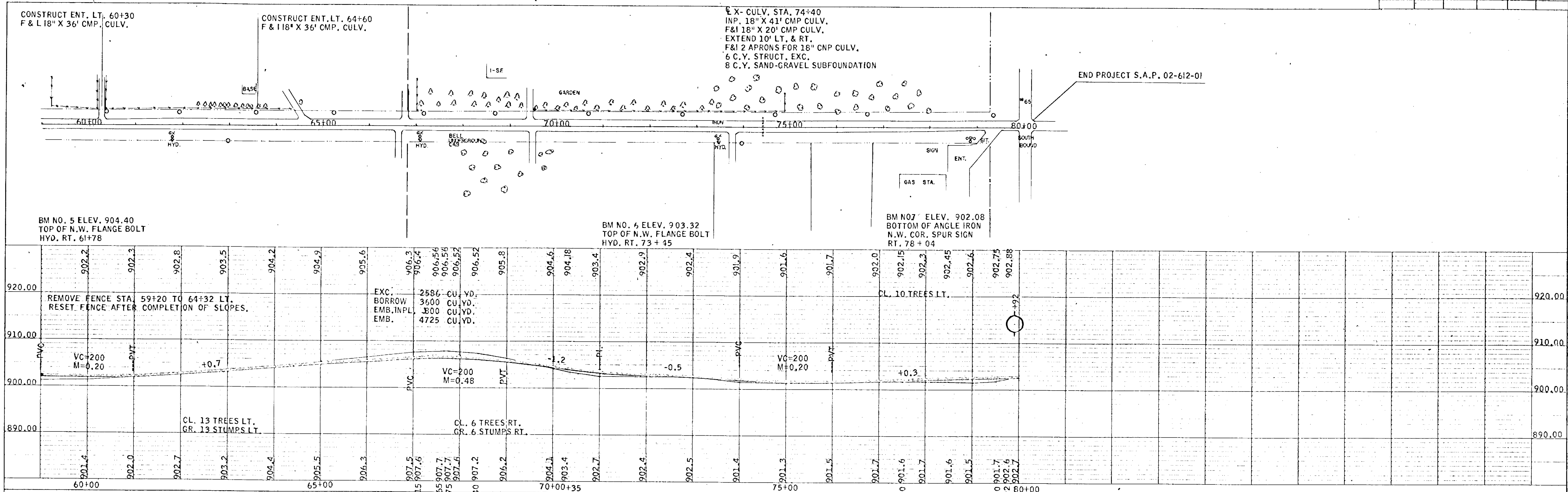
2331 PLANT MIXED BITUMINOUS WEARING COURSE.
BITUMINOUS MATERIAL FOR TACK 0.05 GAL. PER S.Y.
BITUMINOUS MATERIAL FOR MIX 5.5 % OF MIXTURE BY WEIGHT.
BITUMINOUS MIXTURE- 150 POUNDS PER SQ. YD.

PLAN	DATE
DESIGNED	
CHECKED	
APPROVED	
BY	

PROFILE	DATE
DESIGNED	
CHECKED	
APPROVED	
BY	

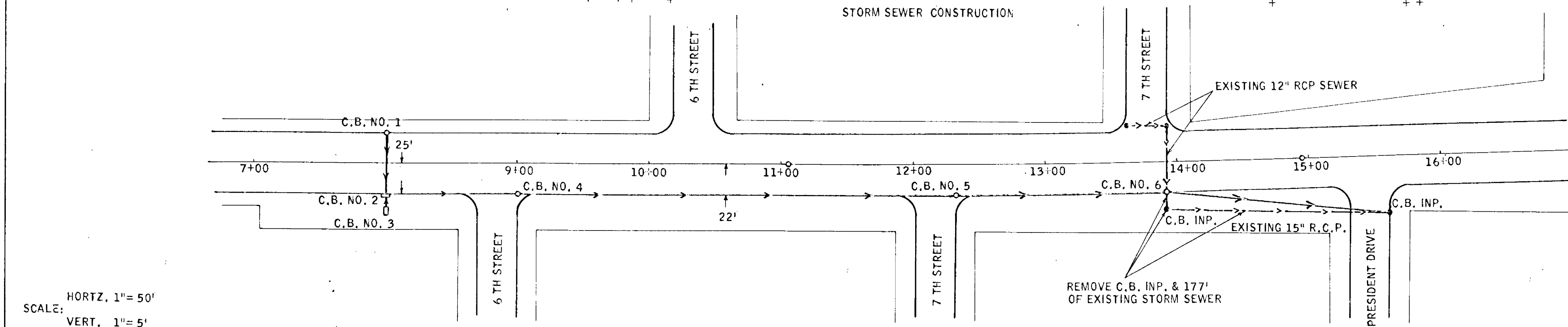


DOUBLE PLAN AND PROFILE - DOTTED
 H. A. ROGERS CO. - MINNEAPOLIS, ST. PAUL - DULUTH



PLAN	SURVEYED	DATE

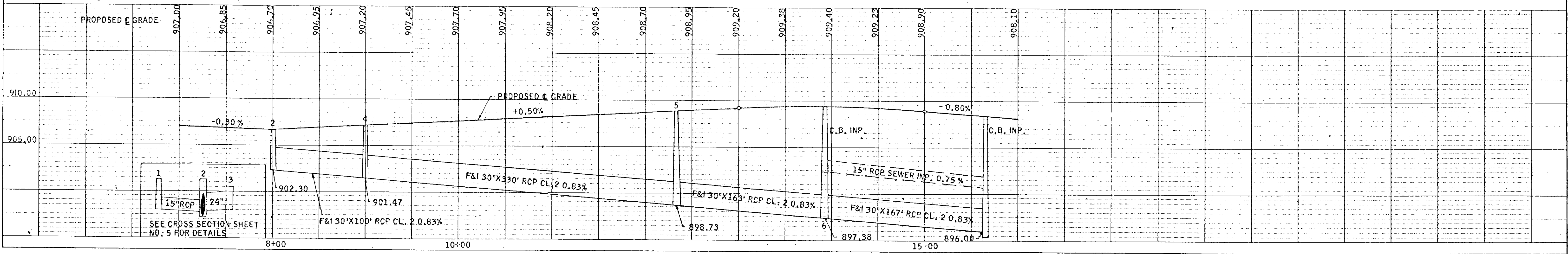
PROFILE	SURVEYED	DATE



NO.	STATION	LOCATION	TYPE	DESIGN	LIN FT.	TOP CASTING	OUTLET	F&I CASTING ASSEMBLY	DRAINS TO	F. & I. R.C.P.
1	8+00	22' LT.	CB	COR G	3.3	906.30	903.00	A	CB, NO. 2	15"x47"CL, 4
2	8+00	25' RT.	CB	INLET ELEV.		906.30	902.30	NONE	CB, NO. 4	30"x100"CL, 2
3	8+00	37' RT.	CB	INLET ELEV.		906.60	903.00	NONE	CB, NO. 2	24"x10"CL, 3
4	9+00	22' RT.	CB	AOR F	5.3	906.80	901.47	B	CB, NO. 5	30"x330"CL, 2
5	12+30	22' RT.	CB	AOR F	9.7	908.45	898.73	B	CB, NO. 6	30"x163"CL, 2
6	13+93	22' RT.	CB	AOR F	11.6	909.00	897.38	NONE	CB, INP.	130"x167"CL, 2

* SPECIAL DESIGN, SEE SHEET TWO.

	GRATE	FRAME	HEIGHT
A	NEENAH NO. 3246-C		
B	720	700-8	0.67'



DOUBLE PLAN AND PROFILE - DOTTED
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