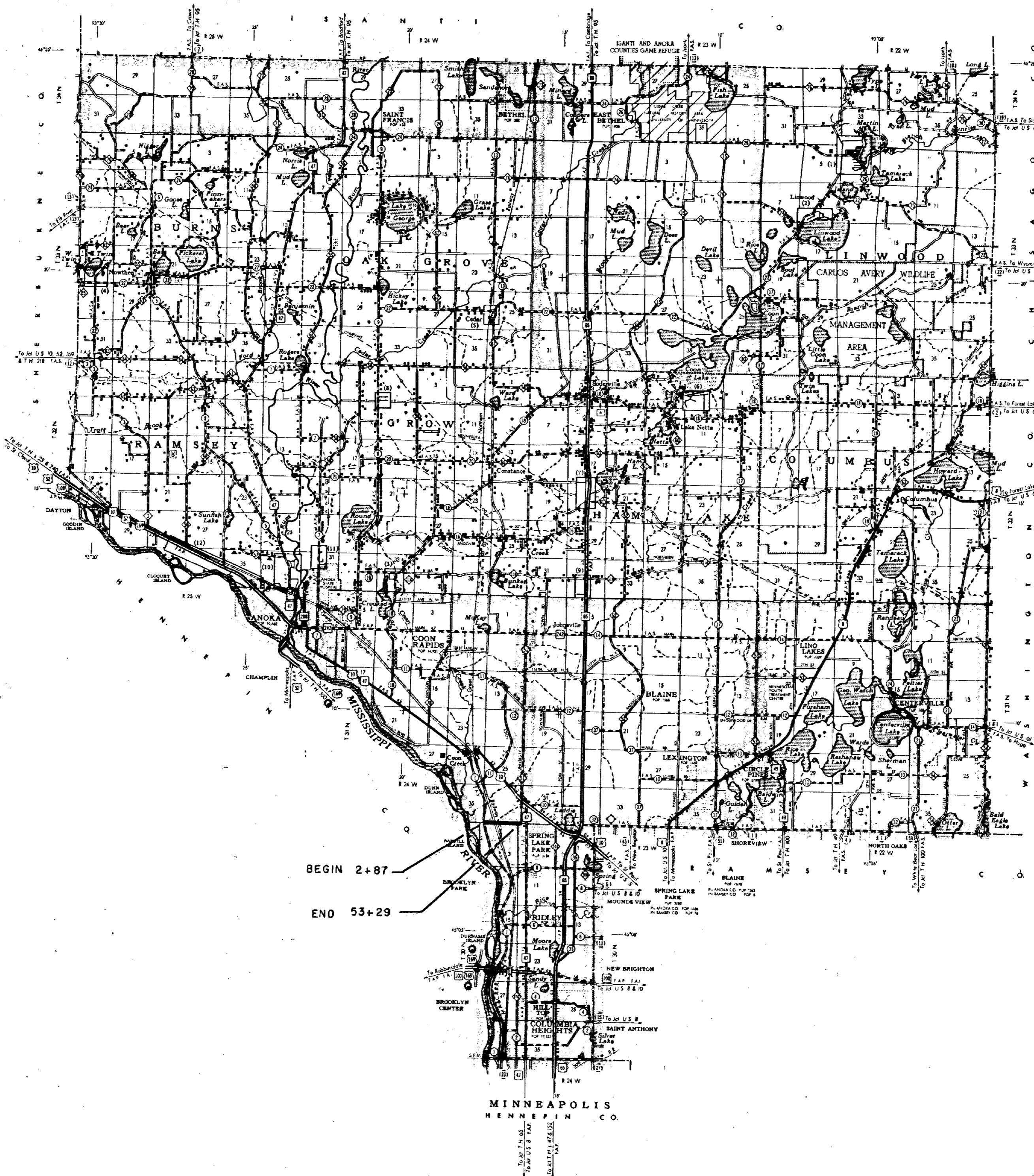
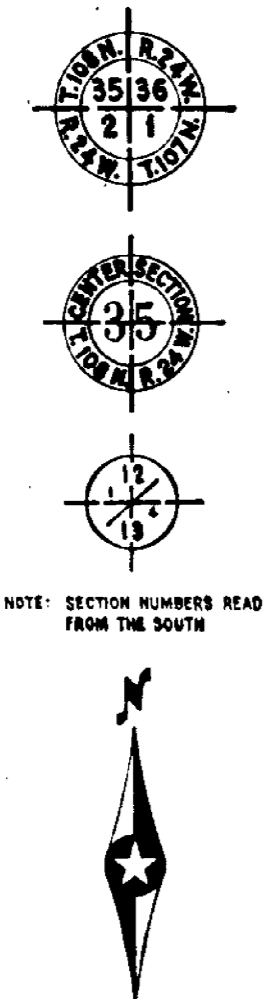


CONVENTIONAL SIGNS

STATE LINE	TIMBER
COUNTY LINE	BRUSH
TOWNSHIP OR RANGE LINE	ORCHARD
SECTION LINE	ROCK LEDGE
QUARTER LINE	SAND
SIXTEENTH LINE	EDGE OF CUT
RIGHT-OF-WAY LINE	TOE OF EMBANKMENT
PRESENT ROAD 7/8 LINE	CATCH BASIN
LIMITED ACCESS	MANHOLE
PROPERTY LINE (CITY OR TOWN)	DOOR INLET
INDICATED PLATTER PROPERTY	FIRE HYDRANT
CORPORATE OR CITY LIMITS	ARC LAMP
TRUNK HIGHWAY CENTER LINE	OTHER LAMP (DUAL LAMP)
RETAINING WALL	RAILROAD CROSSING SIGN
STEAM RAILROAD	RAILROAD CROSSING BEAM
ELECTRIC RAILROAD	ELECTRIC WIRING SIGN
RAILROAD RIGHT-OF-WAY LINE	CROSSING GATE
CREEK	CATTLE GUARD
RAPIDS OR WATERFALL	OVERHEAD (Highway Over)
DEY RUN	UNDERPASS (Highway Under)
DRAINAGE DITCH	ABUTMENT, WALL & PIER
HIGH TENSION LINE	BRIDGE
POWER POLE LINE	DIVERT
TELEPHONE OR TELEGRAPH LINE	ROOFING (One Sided Frame)
TELEPHONE CONDUIT	C-CONCRETE S-STONE T-TILE B-BRICK ST-STUCCO
BAND MAIL	HEDGE
WIRE FENCE	IRON PIPE
RAILROAD SNOW FENCE	STONE MONUMENT
BOARD OR HIGHWAY SNOW FENCE	WOOD STAKE OR NUB
STONE WALL OR FENCE	MEANDER CORNER
BARB WIRE	
WATER PIPE	
SEWER PIPE	
DRAIN TILE	
GRAVEL PIT	
LAND PIT	
CLAY PIT	
ROCK QUARRY	
SPRINGS	
MARSH	



STATE OF MINNESOTA  
DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR "TOWN LINE ROAD"  
**County State Aid Highway No. 132**

BETWEEN C.S.A.H. NO. 1 AND T.H. 47  
From SW CORNER SEC. 36 T. 31N. R. 24W To SE CORNER SEC. 36 T. 31N. R. 24W

GROSS LENGTH 5067 FEET 0.96 MILES  
BRIDGES LENGTH FEET MILES  
EXCEPTIONS LENGTH 32 FEET 0.01 MILES  
NET LENGTH 5035 FEET 0.95 MILES

Plan 1 inch = 200 Feet  
PROFILE: Horz. 1 inch = 200 Feet, Vert. 1 inch = 20 Feet  
SCALES: Horz. 1 inch = 100 Feet, Vert. 1 inch = 10 Feet  
WORKING PLANS: Cross-Section 1 inch = 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.	Plan & Profile
No. 4 To 8	Cross Sections
8A	TYPICAL BORROW

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.

*Carl J. Lindheim*  
COUNTY ENGINEER DATE Jan 19, 1965

ANOKA COUNTY REG. NO. 2551

RECOMMENDED FOR APPROVAL \_\_\_\_\_ 19\_\_\_\_  
DISTRICT ENGINEER

RECOMMENDED FOR APPROVAL \_\_\_\_\_ 19\_\_\_\_

APPROVED \_\_\_\_\_ 19\_\_\_\_ STATE AID ENGINEER

DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS

DISTRICT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

S.A.P. \_\_\_\_\_  
State Project No. \_\_\_\_\_

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

**ESTIMATED QUANTITIES**

SPECIFICATION NO.	ITEM	UNIT	MUNICIPAL	RURAL	TOTAL ESTIMATED QUANTITIES
2101.501	CLEARING	ACRE			6.75
2101.506	GRUBBING	ACRE			6.75
2104.510	REMOVE FENCE	L.F.			2975
① 2105.501	CLASS "A" EXCAVATION	C.Y.			36,267
2105.506	BORROW EXCAVATION (CLASS "A")	C.Y.			17,166
② 2106.501	SPECIAL SWAMP EXC.	C.Y.			7,124
③ 2123.503	MOTOR GRADER	HR.			10
2123.506	2 1/2 C.Y. DRAGLINE	HR.			60
2123.509	DOZER (D-8 OR EQUIVALENT)	HR.			10
2130.501	WATER	M-CAL.			40
2251.527	GRAVEL WEARING COURSE INPLACE	C.Y. (V.M.)			1200
2501.511-15	FURNISH & INSTALL 15" C.M.P. CULVERT	L.F.			100
2501.511-48	FURNISH & INSTALL 48" C.M.P. CULVERT	L.F.			112
2501.511-72	FURNISH & INSTALL 72" C.M.P. CULVERT	L.F.			64
2501.521-18	FURNISH & INSTALL 18" RCP CULV. CL. II	L.F.			52
2515.531-48	F&I. C.M. APRON FOR 48" C.M.P.	APRON			2
2515.531-72	F&I. C.M. APRON FOR 72" C.M.P.	APRON			2
2515.541-18	F&I. CONC. APRON FOR 18" SCP CULV.	APRON			2
2557.501	RESET FENCE	L.F.			2000
④ 2574.501	ROADSIDE SEEDING	ACRE			14
2575.501	SURFACE MULCHING TYPE 1 (7)	TON			21
2575.506	SURFACE MULCHING TYPE 6 (7)	GAL.			2,800
2576.501	SODDING	S.Y.			110
2501.521-36	F&I. 36" RCP CULV. CL. II	L.F.			64
2515.541-36	F&I. CONC. APRON FOR 36" SCP CULV.	APRON			2

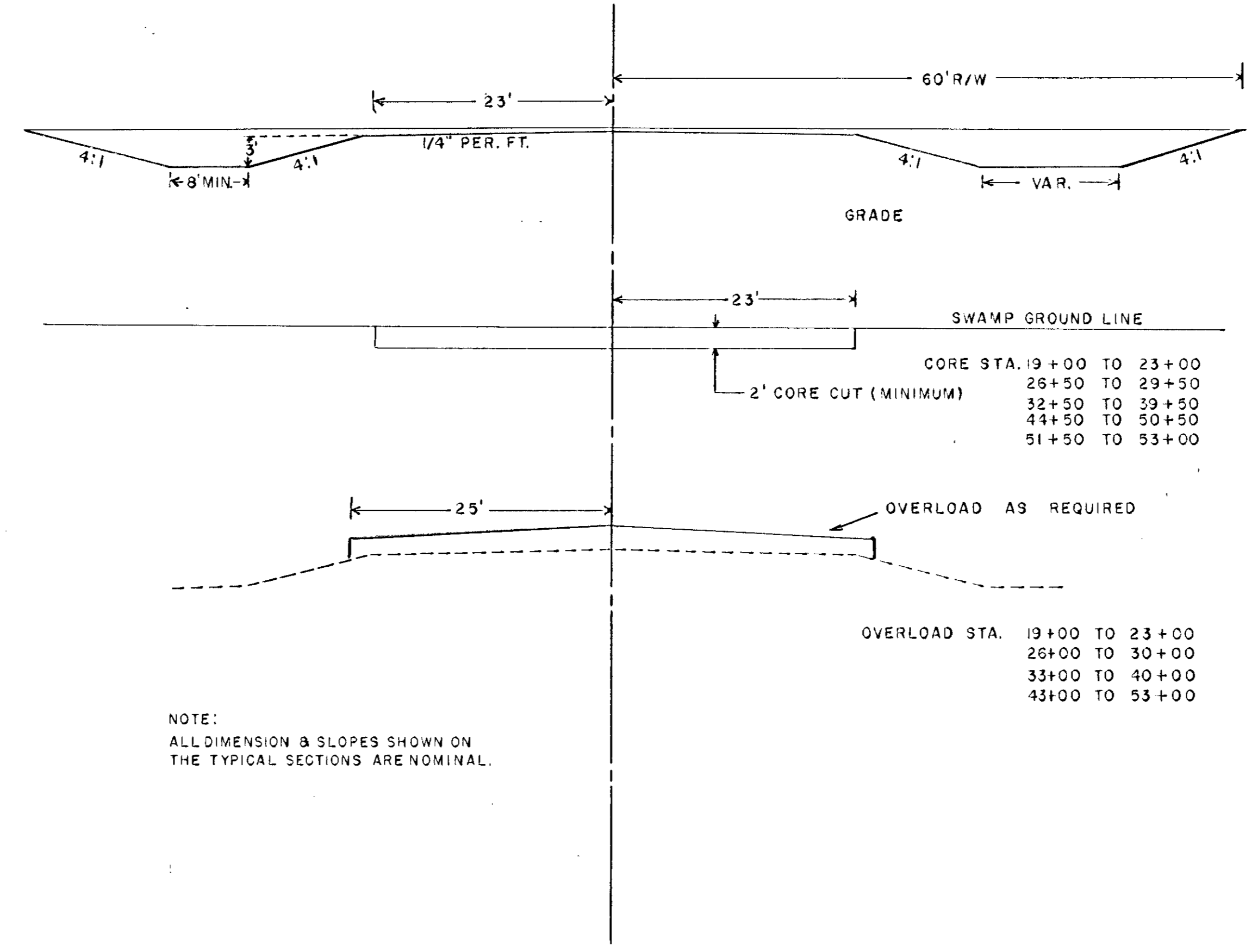
- ① CLASS A MATERIAL USED TO OVERLOAD AREAS DESIGNATED BY THE ENGINEER SHALL BE USED TO CONSTRUCT OTHER PLAN EMBANKMENT AND WILL BE PAID AT THE CLASS 'A' PRICE.
- ② TO BE DISPOSED ON INSLOPES & SPECIFIED BORROW AREAS AS DIRECTED BY THE ENGINEER.
- ③ 2123.503 MACHINE HRS. TO BE USED FOR:  
MOTOR GRADER-MAINTENANCE  
DRAGLINE & DOZER-CULVERT EXCAVATION & INSTALLATION.
- ④ COUNTY WILL FURNISH SEED ON PROJECT, SEE SPECIAL PROVISIONS.

**STANDARD DETAIL PLATES**

THE FOLLOWING STANDARD DETAIL PLATES, APPROVED BY THE BUREAU OF PUBLIC ROADS, SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
3014B	REINFORCED CONCRETE PIPE ARCH
3110B-3112B	CONCRETE APRON FOR REINFORCED CONCRETE PIPE ARCH
3123C	METAL APRON FOR C.M. PIPE CULVERT
8000A-8001	STANDARD SIGNS & BARRICADES
9000	APPROACHES & ENTRANCES
9102A	SODDING AT PIPE CULVERT ENDS

**TYPICAL GRADING SECTIONS**

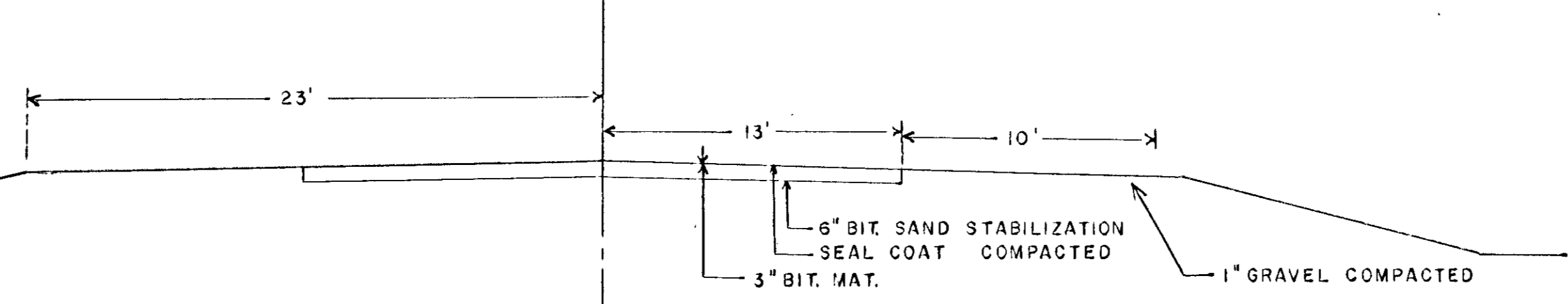


NOTE:  
ALL DIMENSION & SLOPES SHOWN ON THE TYPICAL SECTIONS ARE NOMINAL.

**SPECIAL DETAILS**

NOTE: AREAS INDICATED ON CROSS SECTIONS WILL BE CONSTRUCTED AS FOLLOWS: THE INSLOPES WILL BE 2:1 SLOPES OF SAND, A 4:1 SLOPE WILL BE OBTAINED USING EXCESS PEAT. SOME EXCAVATION MATERIAL IS TO BE HAULLED ACROSS R.R. TRACKS IN BOTH DIRECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL R.R. PERMITS AND FLAGGING. EMBANKMENT FOR SOME ENTRANCES MAY BE REQUIRED USING CLASS "A"

**FUTURE TYPICAL BASE & SURFACE SECTIONS**



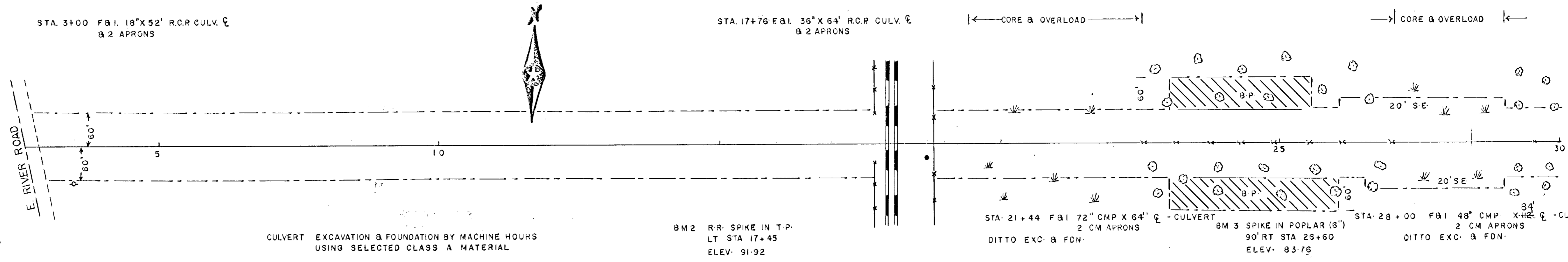
Minn. Project No. \_\_\_\_\_ S.A.P. \_\_\_\_\_  
State Project No. \_\_\_\_\_

STA. 3+00 F&I 18" X 52' R.C.P. CULV. &  
2 APRONS

STA. 17+76 F&I 36" X 64' R.C.P. CULV. &  
2 APRONS

← CORE & OVERLOAD →

→ CORE & OVERLOAD ←



BM 1 TOP & SE COR TOP STEP  
2 S STORY STUCCO LT 1+00  
ELEV. 100.00

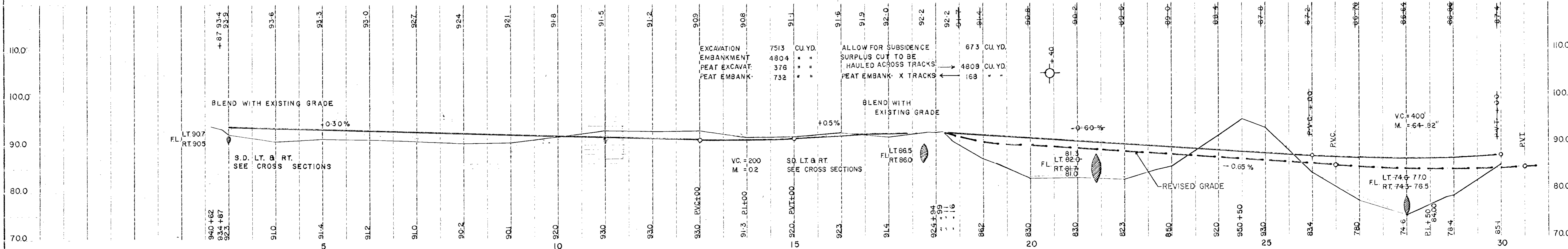
CULVERT EXCAVATION & FOUNDATION BY MACHINE HOURS  
USING SELECTED CLASS A MATERIAL

BM 2 R.R. SPIKE IN T.P.  
LT STA 17+45  
ELEV. 91.92

STA. 21+44 F&I 72" CMP X 64' - CULVERT  
2 CM APRONS  
DITTO EXC. & FDN.

BM 3 SPIKE IN POPLAR (6")  
90' RT STA 26+60  
ELEV. 83.76

STA. 28+00 F&I 48" CMP X 48" - CULVERT  
2 CM APRONS  
DITTO EXC. & FDN.



BLEND WITH EXISTING GRADE  
+0.30%

BLEND WITH EXISTING GRADE  
+0.5%

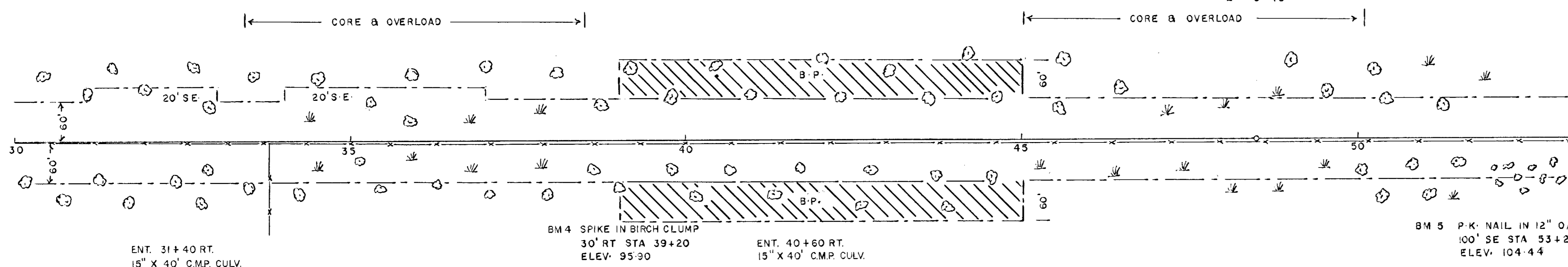
REVISED GRADE  
-0.65%

EXCAVATION 7513 CU. YD.  
EMBANKMENT 4804 " "  
PEAT EXCAV. 376 " "  
PEAT EMBANK. 732 " "

ALLOW FOR SUBSIDENCE 673 CU. YD.  
SURPLUS CUT TO BE HAULED ACROSS TRACKS 4808 CU. YD.  
PEAT EMBANK. X TRACKS 168 " "

← CORE & OVERLOAD →

← CORE & OVERLOAD →



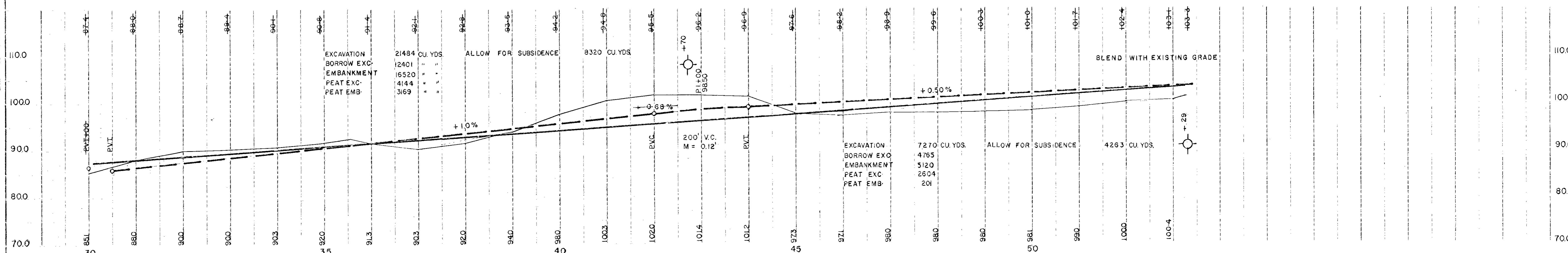
ENT. 31+40 RT.  
15" X 40' C.M.P. CULV.

BM 4 SPIKE IN BIRCH CLUMP  
30' RT STA 39+20  
ELEV. 95.90

ENT. 40+60 RT.  
15" X 40' C.M.P. CULV.

BM 5 P.K. NAIL IN 12" OAK  
100' SE STA 53+29  
ELEV. 104.44

BENCH MARK EQUATION  
ELEVATION 108.39 = 886.07  
STATE OF MINN. B.M. 100' WEST  
STA 496 ON UNIVERSITY AVE.



EXCAVATION 21484 CU. YDS.  
BORROW EXC. 12401 " "  
EMBANKMENT 16520 " "  
PEAT EXC. 4144 " "  
PEAT EMB. 3169 " "

ALLOW FOR SUBSIDENCE 8320 CU. YDS.

EXCAVATION 7270 CU. YDS.  
BORROW EXC. 4765 " "  
EMBANKMENT 5120 " "  
PEAT EXC. 2604 " "  
PEAT EMB. 201 " "

ALLOW FOR SUBSIDENCE 4263 CU. YDS.

BLEND WITH EXISTING GRADE  
+0.50%