MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR GRADE, AGGREGATE BASE & 3 LINES OF 169" SPAN R.C.P.-A. CULV.

LOCATED ON C.R. 133 AT UNNAMED STREAM, 1 MILE NORTH OF ROCHESTER **(GEOGRAPHIC DESCRIPTION)**

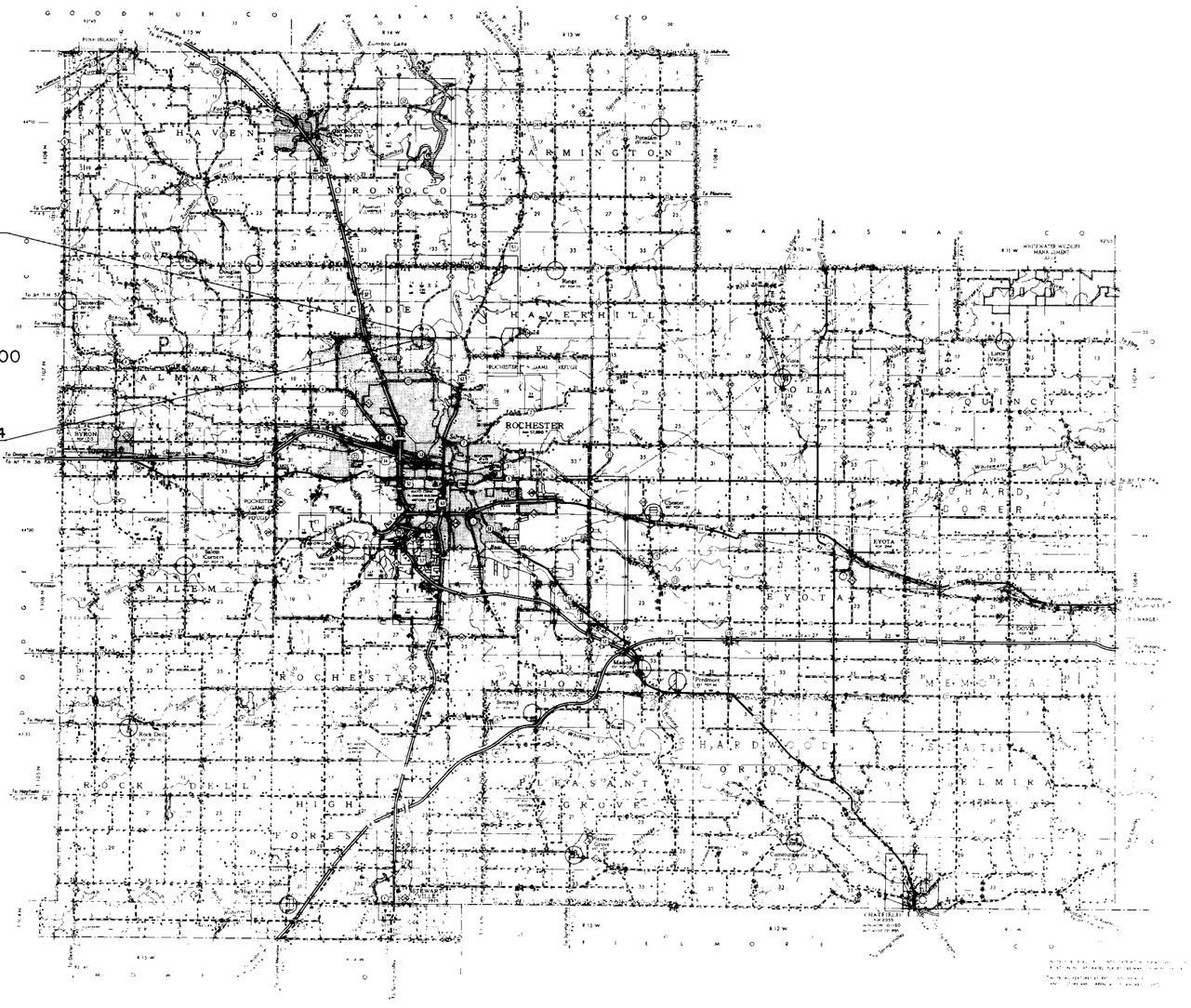
FROM 1786.34'E OF SW COR SEC 11 T107 N R14 W **TO** 802.34'E & 574.67'N OF SW COR SEC 11 T107 R14 W. **(LEGAL DESCRIPTION)**

STATE PROJ. NO. 55-598-14

GROSS LENGTH	1441.33	FEET	0.273 MILES
BRIDGES-LENGTH		FEET	MILES
EXCEPTIONS-LENGTH		FEET	MILES
NET LENGTH	1441.33	FEET	0.273 MILES

STATE PROJ. NO.

GROSS LENGTH		FEET	MILES
BRIDGES-LENGTH		FEET	MILES
EXCEPTIONS-LENGTH		FEET	MILES
NET LENGTH		FEET	MILES



PLANS SYMBOLS

STATE LINE
COUNTY LINE
T...NSHIP OR RANGE LINE
...TION 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 (NAME)
DRY RUN
DRAINAGE DITCH (SIZE)
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
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
SLOPE EASEMENT

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

SCALES

PLAN	100 FEET
PROFILE	100 FEET HORIZ. & 10' VERT.
INDEX MAP	10,560 FEET
CROSS SECTIONS	10 FEET

ALBINSKY MPLS 50459

MINN. PROJ. NO. BROS 9055(9)
MINN PROJ NO CRP 0090(041)

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN

INDEX

SHEET NO. 1 TITLE SHEET
SHEET NO. 2 TYPICAL SECTIONS AND ESTIMATE QUANTITIES
SHEET NO. 3 PLAN AND PROFILE
SHEET NO. 4-7 CROSS SECTIONS
SHEET NO. 8 BRIDGE SHEET

DESIGN DESIGNATION

R — EN18(20)

ADT (Current Year)	= 449 ('90)	Design Speed	55 MPH
ADT (Future Year)	= 808(2010)	Based on STOPPING	Sight Distance
DHV (Design Hr. Vol.)	=	Height of eye	3.5' Height of object 0.5
D (Directional Distr.)	= %	Design Speed not achieved at:	
T (Heavy Commercial)	= %	STA. 196+00 TO STA. 199+00	MPH 40
SOIL FACTOR	130	STA. 194+00 TO STA. 195+00	MPH 40
GEOMATH 7-9 "90C DESIGN"		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 ... REG. NO. ... ENGR. ...

COUNTY ...

Recommended for Approval ... 19 ...
DISTRICT STATE AID ENGINEER

Recommended for Approval Julie Skallman 1/26 19 90
STATE AID PLANS AND SPECS ENGINEER

Approved 1/26 19 90 Wm. M. Gay
STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR ... DATE ...

~~STATE AID PROJ. NO.~~

STATE PROJ. NO. 55-598-14 C.R. 133 OLMSTED COUNTY **SHEET NO.** 1 **OF** 8 **SHEETS**

ESTIMATED QUANTITIES

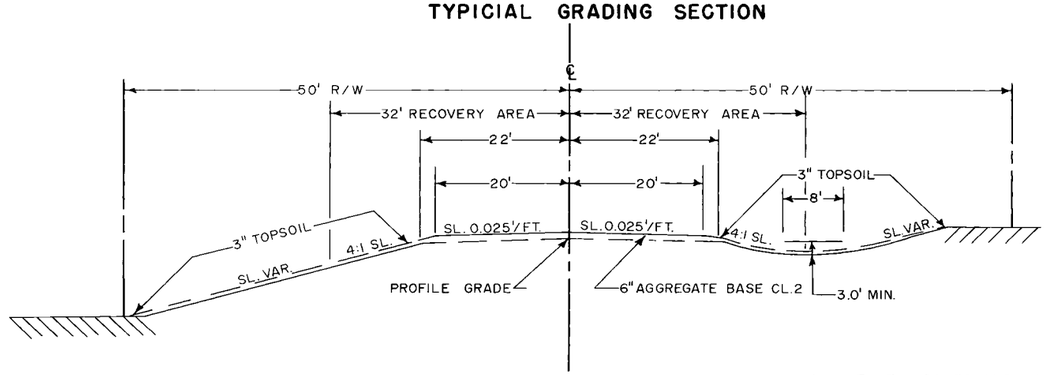
	SPECIFICATION NO.	ITEM	UNIT	NON PARTICIPATING RURAL	PARTICIPATING RURAL	TOTAL ESTIMATED QUANTITIES
	2101.501	CLEARING	ACRE	1.0		1.0
	2101.502	CLEARING	TREE	23		23
	2101.506	GRUBBING	ACRE	1.0		1.0
	2101.507	GRUBBING	TREE	25		25
	2104.501	REMOVE PIPE CULVERTS	LIN. FT.	128		128
	2105.511	COMMON CHANNEL EXCAVATION	CU. YD.	740		740
①	2105.515	UNCLASSIFIED EXCAVATION	CU. YD.	2143 (P)		2143 (P)
	2105.523	COMMON BORROW (LV)	CU. YD.	25267		25267
②	2211.501	AGGREGATE BASE CLASS 2	TON	2747		2747
③	2442.501	REMOVE OLD BRIDGE	LUMP SUM	1		1
	2451.507	GRANULAR BEDDING (CV)	CU. YD.		147 (P)	147 (P)
	2501.511	18" C.S. PIPE CULVERT	LIN. FT.	56		56
	2501.511	24" R.C. PIPE CULVERT	LIN. FT.	130		130
	2501.511	36" R.C. PIPE CULVERT	LIN. FT.	82		82
	2501.515	18" G.S. PIPE APRON	EACH	4		4
	2501.515	24" R.C. PIPE APRON	EACH	4		4
	2501.515	36" R.C. PIPE APRON	EACH	2		2
	2501.521	169" SPAN R.C. PIPE-ARCH CULV. CLASS II A	LIN. FT.		189	189
	2501.525	169" SPAN R.C. PIPE-ARCH APRON	EACH		6	6
④	2511.501	RANDOM RIPRAP CLASS III	CU. YD.		303	303
	2575.501	SEEDING	ACRE	2(P)		2(P)
	2575.502	SEED MIXTURE 1100	POUND	160		160
	2575.502	SEED MIXTURE 500	POUND	100		100
⑤	2575.505	SODDING TYPE EROSION	SQ. YD.	967		967
⑥	2575.511	MULCH MATERIAL TYPE 1	TON	4		4
	2575.519	DISC ANCHORING	ACRE	2(P)		2(P)
⑦	2575.532	COMMERCIAL FERTILIZER ANALYSIS 12-12-12	POUND	400		400
⑧	2573.501	BALE CHECK	EACH	40		40

STANDARD PLATES

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

PLATE NO	DESCRIPTION
0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 K	REINFORCED CONCRETE PIPE
3007 B	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3014 J	REINFORCED CONCRETE PIPE ARCH DETAIL
3040 F	CORRUGATED METAL PIPE CULVERT
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3114 G	SECTIONAL CONCRETE APRON FOR REINF. CONC. PIPE-ARCH
3123 I	METAL APRON FOR C.S. PIPE
3124 B	METAL APRON CONNECTION
3145 E	CONCRETE PIPE TIES (EYE BOLT TIE)
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
8000 I	STANDARD BARRICADES
8003 B	BREAKAWAY SIGN SUPPORT (PLASTIC)
9000 B	APPROACHES AND ENTRANCES

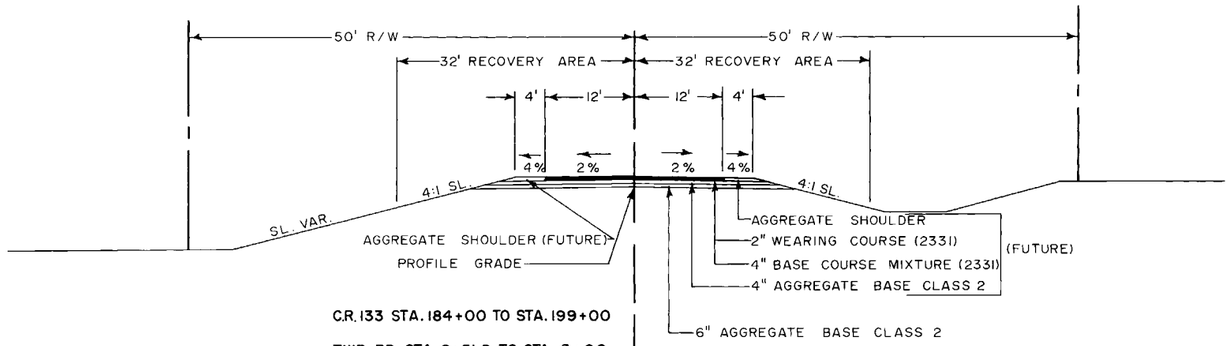
TYPICIAL GRADING SECTION



C.R. 133 STA. 184 + 00 TO STA. 199 + 00
TWP. RD. STA. 0 + 51.2 TO STA. 3 + 00

ALL UTILITIY POLES AND UNYIELDING OBJECTS WILL BE RELOCATED OUTSIDE THE 32' RECOVERY AREA

TYPICIAL SURFACING SECTION



C.R. 133 STA. 184+00 TO STA. 199+00

TWP. RD. STA. 0+51.2 TO STA. 3+00

① UNCLASSIFIED EXCAVATION INCLUDES SUBGRADE EXCAVATION AND APPROXIMATELY 630 CU. YDS. OF TOPSOIL IN AREAS AS SHOWN IN THE CROSS-SECTIONS. TOPSOIL SHALL BE SALVAGED AND PLACED ON THE FINISHED SLOPES AND DITCH BOTTOMS. SALVAGING AND PLACING TOPSOIL WILL BE CONSIDERED TO BE INCIDENTAL TO UNCLASSIFIED EXCAVATION AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

② INCLUDES 2291 TONS FOR MAINLINE C.R. 133, 366 TONS TWP. ROAD APPROACH AND 90 TONS FOR FIVE APPROACHES.

③ BRIDGE NO. L6291.

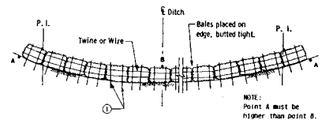
④ GRANULAR FILTER MATERIAL OR GEOTEXTILE FILTER MATERIAL WILL BE CONSIDERED TO BE INCIDENTAL TO RIPRAP CONSTRUCTION AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

⑤ SOD TO BE PLACED ON SLOPES AND DITCH BOTTOMS RIGHT FROM STA. 187+00 STA. 190+00.

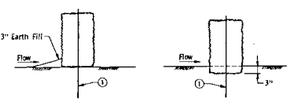
⑥ APPLICATION RATE TWO TONS PER ACRE.

⑦ APPLICATION RATE 200 POUNDS PER ACRE.

⑧ HAY OR STRAW BALES TO BE USED FOR EROSION CONTROL AS DIRECTED BY THE ENGINEER.



BALE DITCH CHECK

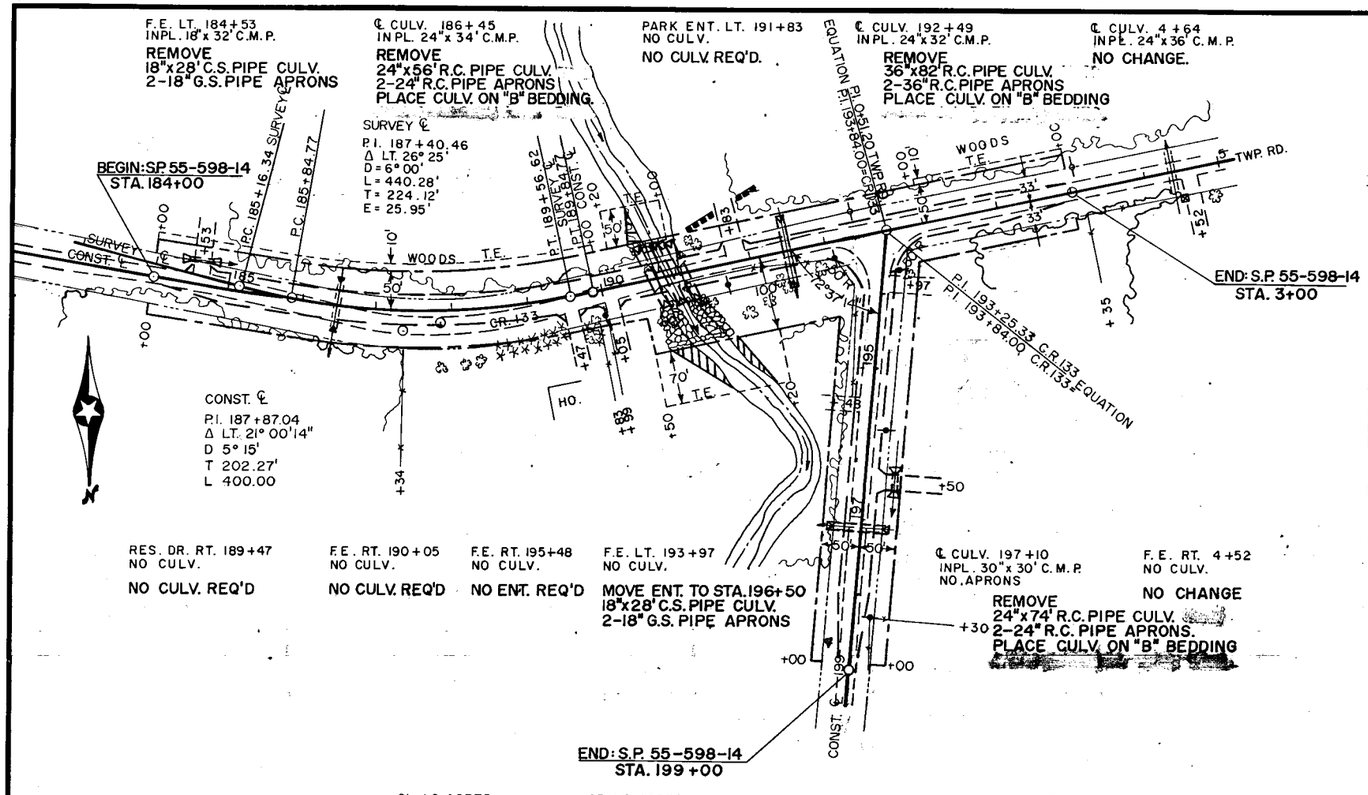


BALE CHECK DETAILS

NOTE:
① Two 2" x 2" Wood Stakes or Reinforcing Bars in each bale and embedded in the ground 10" minimum.

~~S A P~~

State Proj. No. 55-598-14



BRIDGE NO. L-6291 STA. 190+69
IN PL. 29' STEEL BEAM SPAN
174 SQ. FOOT OPENING
REMOVE BR. NO. L-6291

CONST. ℄ CULV. STA. 190+68.5 SKEW 15°
169" SPAN x 63' R.C. PIPE-ARCH CULV. CL. II A
2-169" SPAN R.C. PIPE-ARCH APRONS 14' IN LENGTH.

CONST. ℄ CULV. STA. 190+90 SKEW 15°
169" SPAN x 63' R.C. PIPE-ARCH CULV. CL. II A
2-169" SPAN R.C. PIPE-ARCH APRONS 14' IN LENGTH.

CONST. ℄ CULV. STA. 191+11.5 SKEW 15°
169" SPAN x 63' R.C. PIPE-ARCH CULV. CL. II A
2-169" SPAN R.C. PIPE-ARCH APRONS 14' IN LENGTH.

PLACE CULVERTS ON 147 CU. YDS. (CV) GRANULAR BEDDING.
1.0' DEEP x 63' LONG x 63' WIDE.
PLACE 57 CU. YDS. RANDOM RIPRAP CL. III 18" DEPTH AT INLET APRONS.

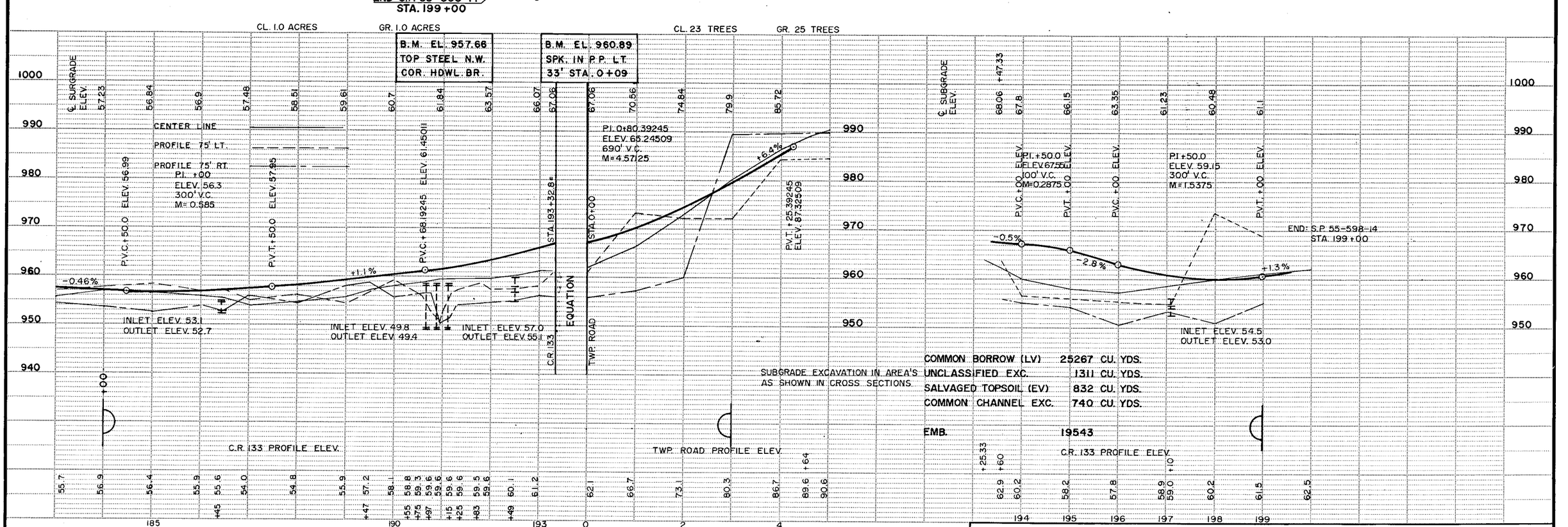
PLACE 246 CU. YDS. RANDOM RIPRAP CL. III 18" DEPTH AT OUTLET APRONS.

SEE PLAN SHEET NO. 8 FOR RANDOM RIPRAP LAYOUT.

▨ CHANNEL EXCAVATION

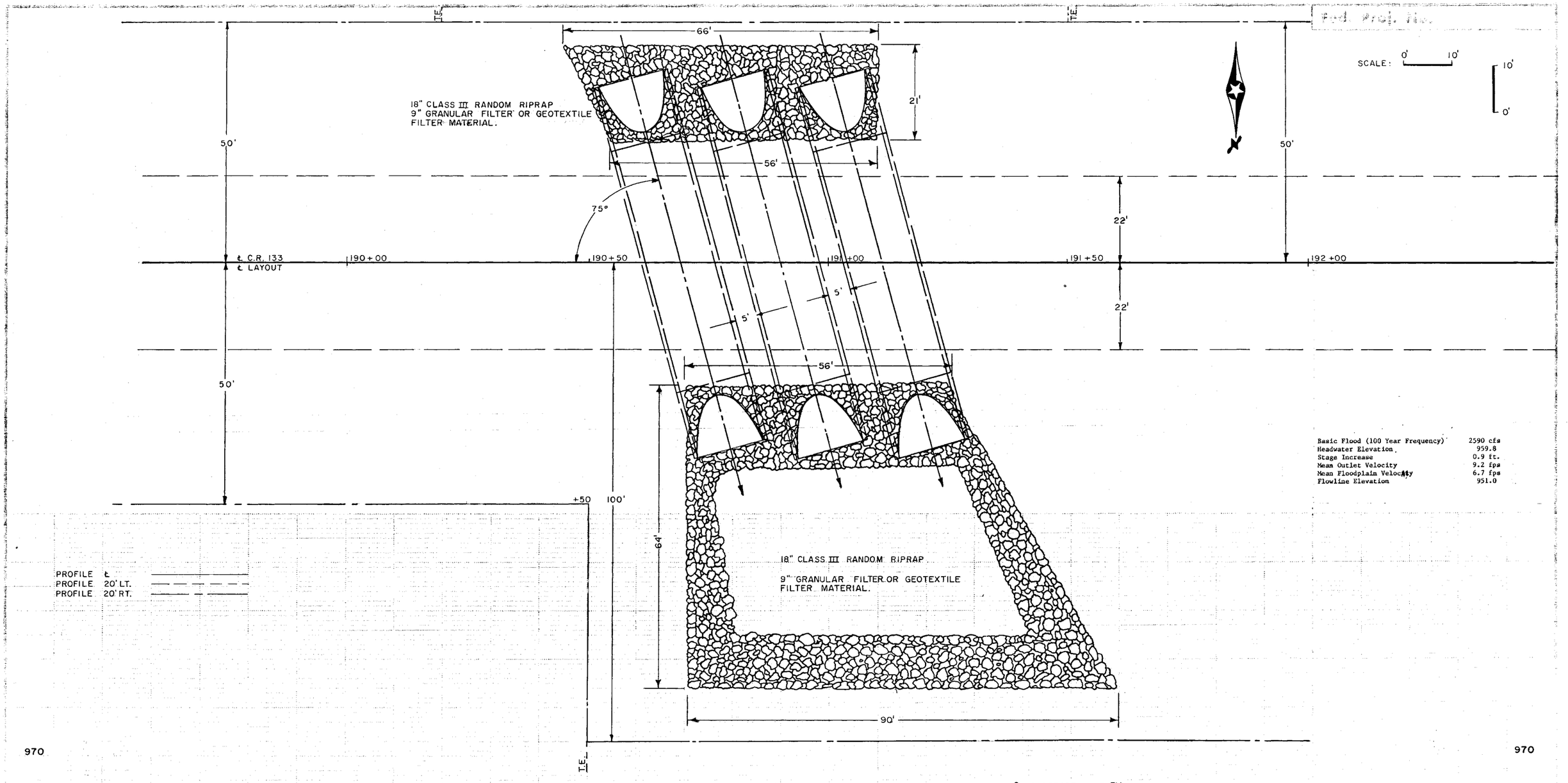
VERTICAL CONTROL

ELEVATIONS SHOWN IN THIS PLAN ARE BASED ON MEAN SEA LEVEL DATUM, 1929 ADJUSTMENT AND TIED TO M.H.D. B.M. 5508 EE. ELEVATION 1080.32



COMMON BORROW (LV)	25267 CU. YDS.
UNCLASSIFIED EXC.	1311 CU. YDS.
SALVAGED TOPSOIL (EV)	832 CU. YDS.
COMMON CHANNEL EXC.	740 CU. YDS.
EMB.	19543

Fed. Proj. No.



Basic Flood (100 Year Frequency)	2590 cfs
Headwater Elevation	959.8
Stage Increase	0.9 ft.
Mean Outlet Velocity	9.2 fps
Mean Floodplain Velocity	6.7 fps
Flowline Elevation	951.0

C.R. 133 OLMSTED COUNTY

Fed. Proj. No. 55-598-14 SHEET NO. 8 OF 8 SHEETS L-6291