MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE & REPLACE BR. NO. L 6190

LOCATED ON CR. 136 **BETWEEN** CR. 137 **AND** C.R. 129, 4.0 Mi. No. of Chatfield **(GEOGRAPHIC DESCRIPTION)**

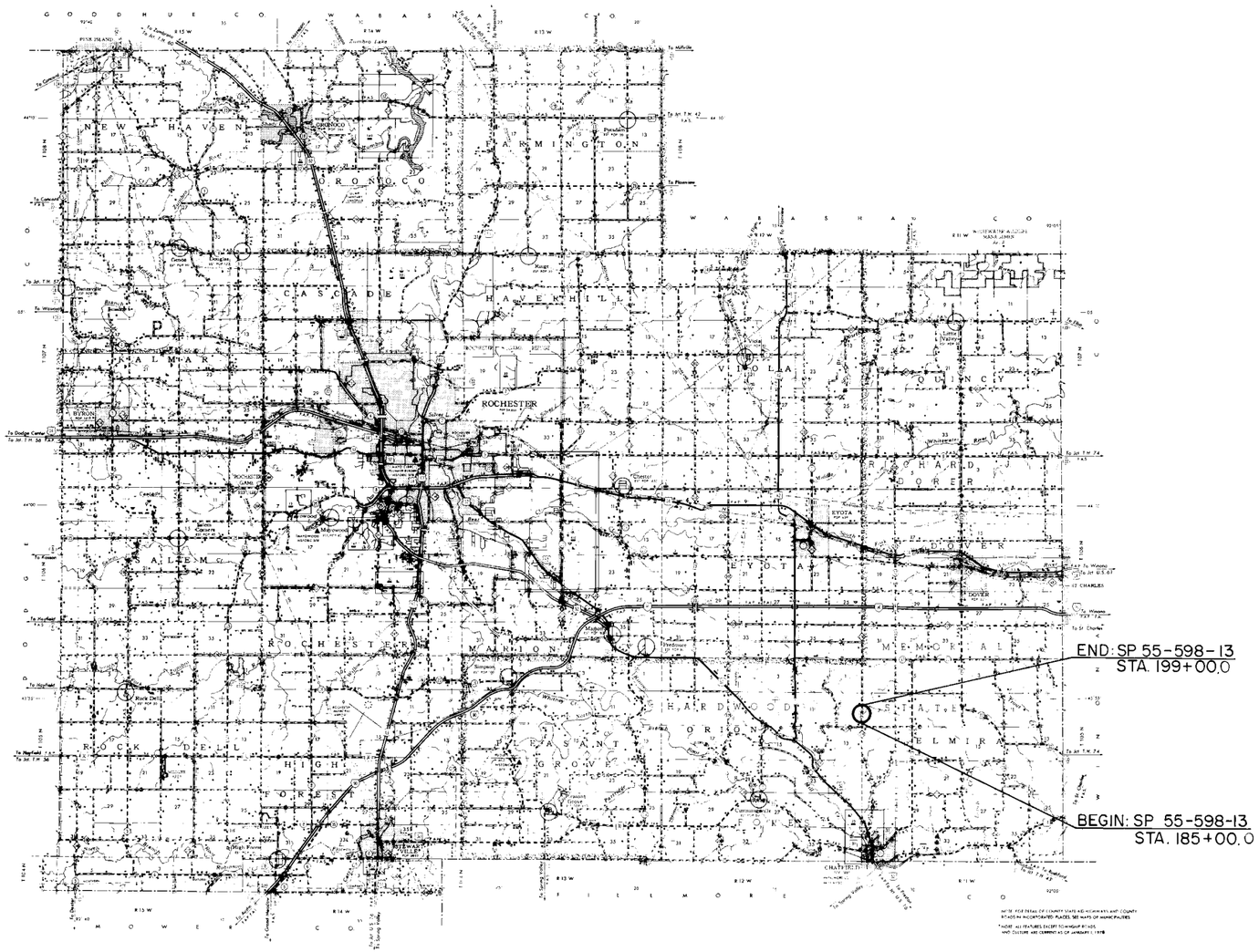
FROM 1161.95' NO. S.E. COR. SEC. 12 T105N R12W **TO** 2561.95' NO. S.E. COR. SEC. 12 T.105 N. R.12W. **(LEGAL DESCRIPTION)**

STATE PROJ. NO. .....

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

STATE PROJ. NO. SP 55-598-13

GROSS LENGTH	1400.00 FEET	0.265 MILES
BRIDGES-LENGTH	— FEET	— MILES
EXCEPTIONS-LENGTH	— FEET	— MILES
NET LENGTH	1400.00 FEET	0.265 MILES



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
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 HORZ. & 10 FEET VERT.
INDEX MAP		10,560 FEET
CROSS SECTIONS		10 FEET

STATE AID TITLE SHEET 6/77 ALDINSON MPLS 50405

MINN. PROJ. NO. BROS 9055(8)

GOVERNING **SPECIFICATIONS**

The 1983 Edition of the Minnesota Department of Transportation "Standard Specifications For Construction" Shall Govern.

INDEX

SHEET NO. 1 TITLE SHEET & LAYOUT MAP
2 ESTIMATE OF QUANTITIES & TYPICAL SECTIONS
3 PLAN & PROFILE
4 TO 7 CROSS SECTIONS

DESIGN DESIGNATION

R .....
EN18 (20)
ADT (Current Year) = 38 (1985)
ADT (Future Year) = 61 (2005)
DHV (Design Hr. Vol.) = ...
D (Directional Distr.) = ... %
T (Heavy Commercial) = ... %
SOIL FACTOR .....

Design Speed 45 MPH
Based on STOPPING Sight Distance
Height of eye 3.75' Height of object 0.5'
Design Speed not achieved at:

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 3/31/80 REG. NO. 10219 ENGR. .....

COUNTY Olmsted

Recommended for Approval 3-31 1980
DISTRICT STATE AID ENGINEER

Recommended for Approval 7-9 1985
STATE AID PLANS AND SPECS ENGINEER

Approved 7/10 1985 .....
STATE AID ENGINEER

KR

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

STATE AID PROJ. NO. .....
STATE PROJ. NO. 55-598-13 CR 136 **SHEET NO.** 1 **OF** 7 **SHEETS**

ESTIMATED QUANTITIES

SPECIFICATION NO.	ITEM	UNIT	NON PARTICIPATING RURAL	PARTICIPATING RURAL	TOTAL ESTIMATED QUANTITIES
2021.501	MOBILIZATION	LUMP SUM		1	1
2101.501	CLEARING	ACRE	1.5		1.5
2101.502	CLEARING	TREE	5		5
2101.506	GRUBBING	ACRE	1.5		1.5
2101.507	GRUBBING	TREE	5		5
2104.501	REMOVE PIPE CULVERTS	LIN. FT.	38		38
2105.501	COMMON EXCAVATION	CU. YD.	7810(P)		7810 (P)
2105.503	ROCK EXCAVATION	CU. YD.	5061		5061
2105.507	SUBGRADE EXCAVATION	CU. YD.	417		417
2105.511	COMMON CHANNEL EXCAVATION	CU. YD.	459		459
2211.502	AGGREGATE BASE, CLASS 2	CU. YD.	1088		1088
2442.501	REMOVE OLD BRIDGE	LUMP SUM	1		1
2451.507	GRANULAR BEDDING (CV)	CU. YD.		377(P)	377(P)
2501.521	88" SPAN R.C.P.-ARCH CULVERT CLASS II A	LIN. FT.	48		48
2501.521	138" SPAN R.C.P.-ARCH CULVERT CLASS III A	LIN. FT.		180	180
2501.525	88" SPAN R.C.P.-ARCH APRONS	EACH	2		2
2501.525	138" SPAN R.C.P.-ARCH APRONS	EACH		4	4
2511.501	RANDOM RIP RAP, CLASS III	CU.YD.		118	118
2511.511	GRANULAR FILTER	CU. YD.		59	59
2575.501	ROADSIDE SEEDING	ACRE	2.5 (P)		2.5(P)
2575.502	SEED MIXTURE 5	POUND	125		125
2575.511	MULCH MATERIAL, TYPE 1	TON	5		5
2575.519	DISC ANCHORING	ACRE	2.5 (P)		2.5 (P)
2575.531	COMMERCIAL FERTILIZER ANALYSIS 12-12-12	TON	0.25		0.25

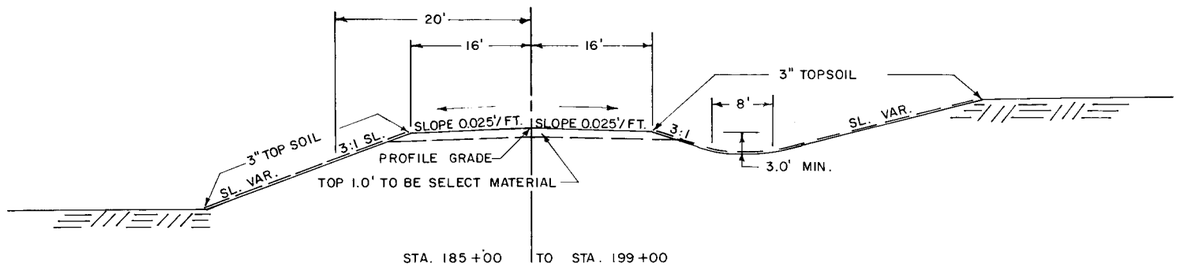
(P) PLAN QUANTITY.

STANDARD PLATES

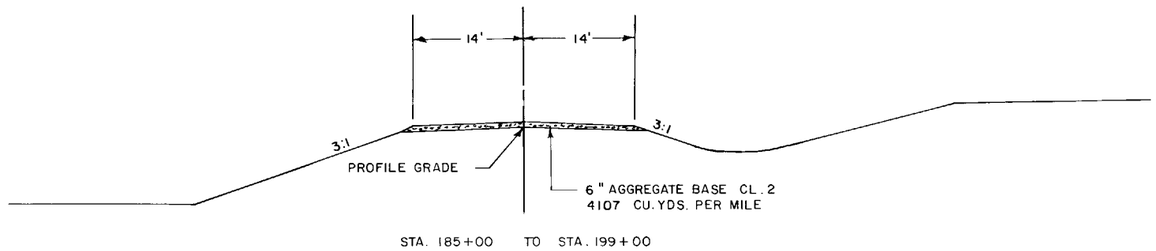
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

PLATE NO	DESCRIPTION
0004 A	SPECIFICATION REFERENCE TO STANDARD PLATES.
3014 J	REINFORCED CONCRETE PIPE ARCH DETAIL
3110 F	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3114 G	SECTIONAL CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3133 A	RIP RAP AT RCP OUTLETS
3145 C	CONCRETE PIPE TIES. (EYE BOLTS)
8000 I	STANDARD BARRICADES
9000 B	APPROACHES AND ENTRANCES.
3007 A	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES.
8003 B	BREAKAWAY SIGN SUPPORT (PLASTIC)

TYPICAL GRADING SECTION



TYPICAL SURFACING SECTION



NOTE: MATERIAL FROM THE UPPER 1.0' OF THE NATURAL TOP SOIL SHALL NOT BE USED IN THE UPPER 1.0' OF THE ROADBED. PART OF THIS MATERIAL SHALL BE UNIFORMLY SPREAD ON SLOPES AND DITCH BOTTOMS TO A DEPTH OF 3". NO PAYMENT IN ADDITION TO THE CONTRACT PRICE FOR COMMON EXCAVATION WILL BE MADE FOR SPREADING THE TOPSOIL AS ABOVE PROVIDED, NOR WILL ANY UNDERCUTTING MADE IN EXCAVATION PRIOR TO PLACING THE TOPSOIL BE MEASURED FOR PAYMENT.

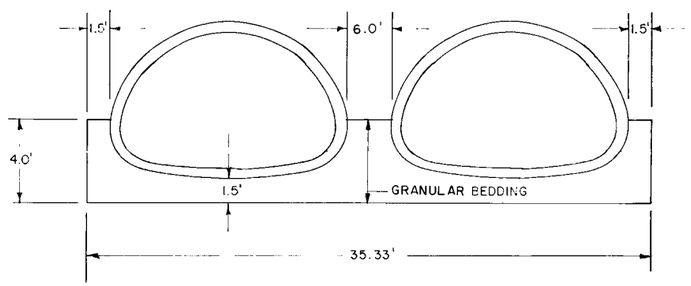
NOTE: REINFORCED CONCRETE PIPE CULVERT EXCAVATION WILL BE CONSIDERED INCIDENTAL, AND WILL BE INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR ITEM NO. 2501.521.

NOTE: SUBGRADE TREATMENT:
EXCAVATE 1.0' BELOW PROFILE GRADE FOR COMPACTION, AS SHOWN ON THE PLAN AND PROFILE SHEETS. EXCAVATION HAS BEEN COMPUTED AND IS LISTED AS SUBGRADE EXCAVATION. BACKFILL WITH SELECT MATERIAL FROM R.O.W. TAPERS SHALL BE 50:1 IN ALL CASES.

NOTE: PLACE SECTIONAL CONCRETE PIPE ON CLASS "B" BEDDING AS DIRECTED BY THE ENGINEER. ALL BEDDING TO BE CONSIDERED AS INCIDENTAL AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

NOTE: ALL DIMENSIONS AND SLOPES SHOWN ON TYPICAL SECTIONS ARE APPROXIMATE.

DETAIL OF BEDDING MATERIAL ℄ CULVERTS STA. 192+63 AND STA. 192+82.17 (NO SCALE.)



ALBINSON INC MINNEAPOLIS STAIR

Fed. Proj. No.

℄ CULV. 173 + 21
3' x 3' x 52' STONE CULV.
NO APRONS
NO CHANGE

℄ CULV. 173 + 81
24" x 42' C.M.P.
NO APRONS
NO CHANGE

F. ENT. 175 + 33
NO CULV.
NO CHANGE

℄ CULV. 178 + 80
18" x 40' C.M.P.
NO APRONS
NO CHANGE

℄ CULV. 188 + 36
36" x 38' C.M.P. REMOVE
NO APRONS

CONST. ℄ CULV. STA. 188 + 36
88" SPAN x 48' R.C.P. - ARCH CULV. CL. II A
2-88" SPAN R.C.P. - ARCH APRONS.
PLACE CULV. ON "B" BEDDING
F. & I. APPROVED JOINT TIES.
SKEW CULV. 30°

BEGIN : SP. 55-598-13
STA. 185+00

END : SP. 55-598-13
STA. 199+00

CONSTRUCTION CENTERLINE 14' W. OF SURVEY CENTERLINE 173+38.05

CONSTRUCTION CENTERLINE

SURVEY CENTER LINE

(SURVEY CENTERLINE) 173+38.05 C.I.M. IN PLACE

CR 136

TWP RD +40

CR 137 +40 +63

+33

+81

WOODS

CHANNEL EXCAVATION

T.E.

T.E.

CHANNEL EXCAVATION

P.O.T. 186+60.05

P.I. 200+00 300°18' LT.

HYDRAULIC DATA BR. NO. L6190

STREAM	UNNAMED STREAM
DRAINAGE AREA	2.5 SQ. MI.
FLOOD OF RECORD	UNKNOWN
MAXIMUM OBSERVED HIGHWATER	1156.03
DESIGN FLOOD (50 YEAR FREQUENCY)	980 cfs
HEADWATER ELEV.	1156.2
STAGE INCREASE	0.9 FT.
MEAN OUTLET VELOCITY	9.0 fps
MEAN FLOODPLAIN VELOCITY	7.5 fps
BASIC FLOOD (100 YEAR FREQ.)	1180 cfs
HEADWATER ELEV.	1157.1
STAGE INCREASE	1.5 FT.
MEAN OUTLET VELOCITY	9.3 fps
MEAN FLOODPLAIN VELOCITY	7.8 fps
APPROX. INLET INVERT ELEV.	1149.0
APPROX. SKEW ANGLE	NONE

BR. NO. L-6190 STA. 192+72
INPL .40.5' LOW TRUSS x 18.5' ROADWAY
LIMESTONE & MASONRY ABUTMENTS.

REMOVE OLD BRIDGE

CONST. ℄ CULV. STA. 192+63
138" SPAN x 90' R.C.P. - ARCH CULV. CLASS III A
2-138" SPAN R.C.P. - ARCH APRONS.
F. & I. APPROVED JOINT TIES.

CONST. ℄ CULV. STA. 192+82.17
138" SPAN x 90' R.C.P. - ARCH CULV. CLASS III A
2-138" SPAN R.C.P. - ARCH APRONS.
F. & I. APPROVED JOINT TIES.

118 CU. YDS. CLASS III RIP RAP 18" DEPTH
59 CU. YDS. FILTER BLANKET TYPE I 9" DEPTH.

CL. 1.5 ACRES GR. 1.5 ACRES CL. 5 TREES GR. 5 TREES

BM. EL. 1274.56
SPK. IN T.P. 21' RT.
STA. 173 + 18

BM. EL. 1185.68
SPK. IN T.P. 16' RT.
STA. 186 + 98

BM. EL. 1162.23
TOP PAINTED BOLT
S.E. COR. BR.

BM. EL. 1236.55
SPK. IN T.P. 20' RT.
STA. 200 + 51

75' LEFT
75' RIGHT

℄ SUBGRADE ELEVATIONS

P.V.C. + 01.85185
ELEV. 96.13519

BEGIN GRADING STA. 185+00

INLET ELEV. 68.1
OUTLET ELEV. 66.5

P.I. + 51.85185
ELEV. 38.28517
1300' V.C.
M = 30.7125

765 CU. YDS. TOPSOIL
7045 CU. YDS. COMMON EXC.

COMMON EXC. 7810
ROCK EXC. 5061 CU. YDS.
SUBGRADE EXC. 417 CU. YDS.
COMMON CHANNEL EXC. 459 CU. YDS.
EMBANKMENT 10,517 CU. YDS.

INLET ELEV. 49.0
OUTLET ELEV. 48.5

PVT + 01.85385
ELEV. 03.28518

+10.0%

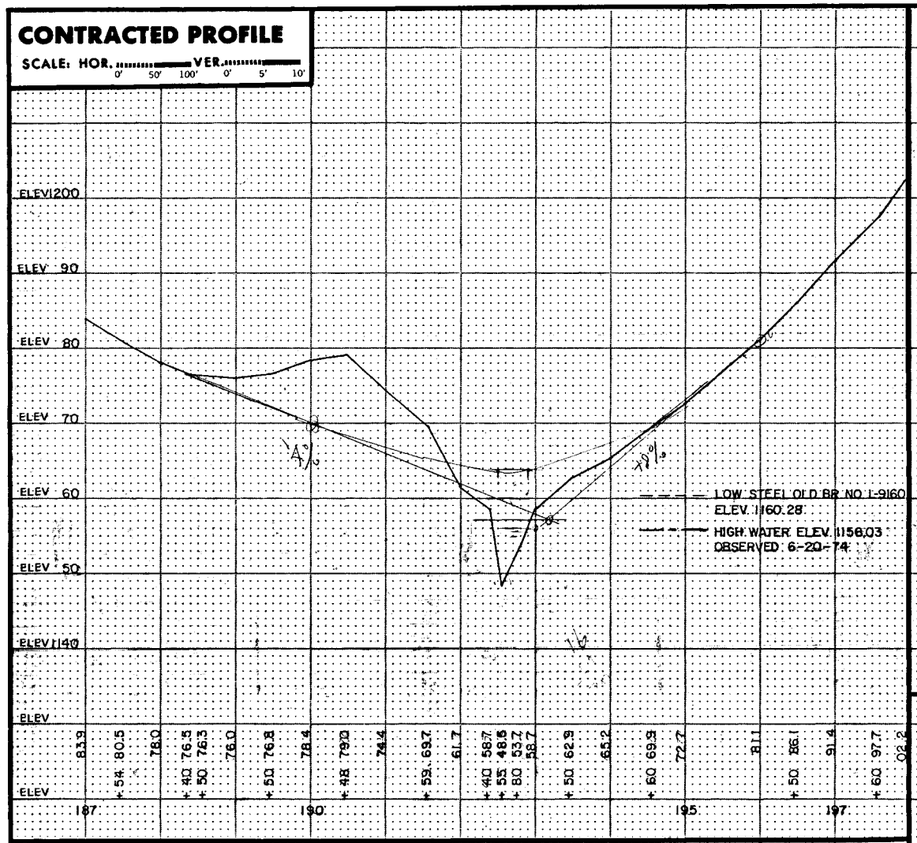
END GRADING STA. 199+00

VERTICAL CONTROL
ELEVATIONS SHOWN IN THIS PLAN ARE BASED ON MEAN SEA LEVEL DATUM, 1929 ADJUSTMENT, AND TIED TO M.H.D. B.M. TT 3 WM ELEVATION 1071.767

State Proj. No. 55-598-13 CR136 COUNTY, MISS. Sheet No. 3 of 7 Sheets

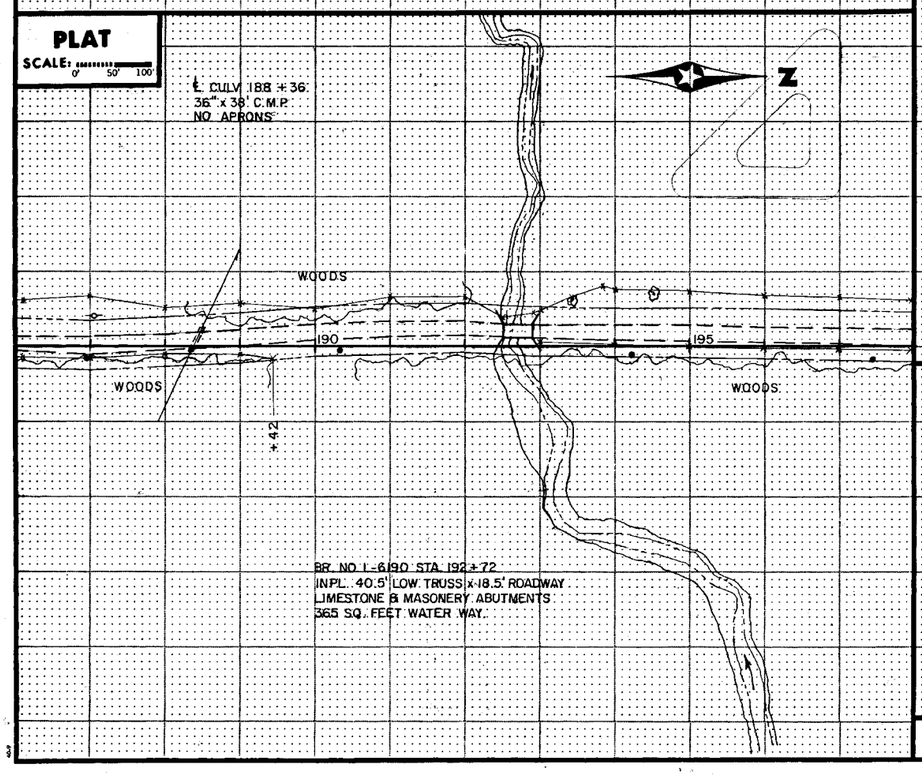
CONTRACTED PROFILE

SCALE: HOR. 0' 50' 100' VER. 0' 5' 10'



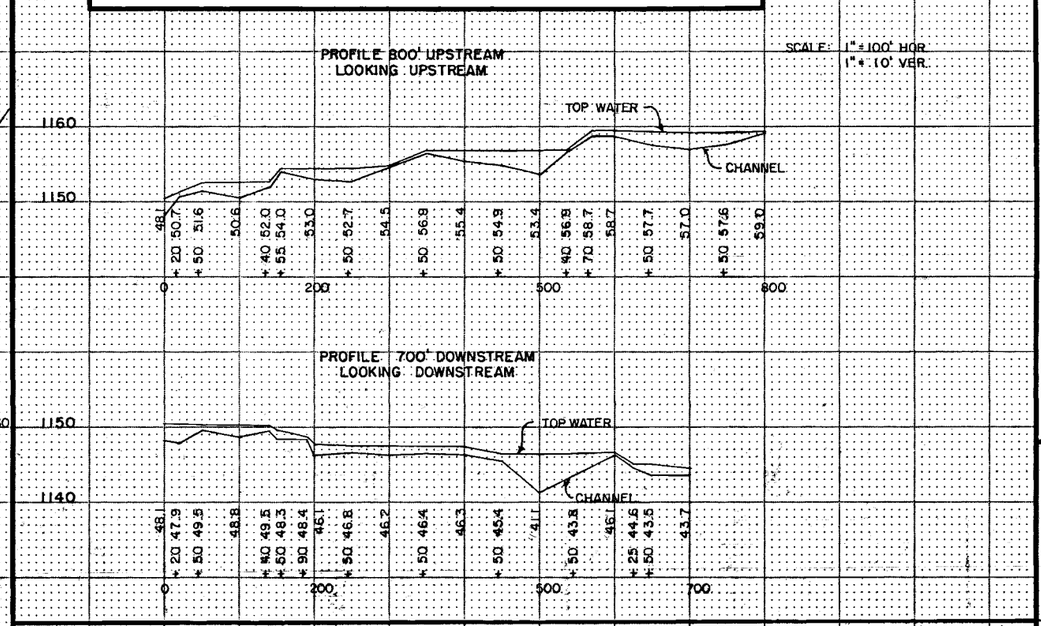
PLAT

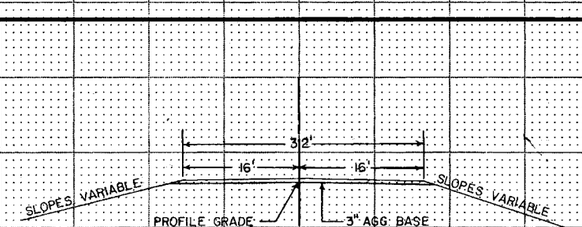
SCALE: 0' 50' 100'

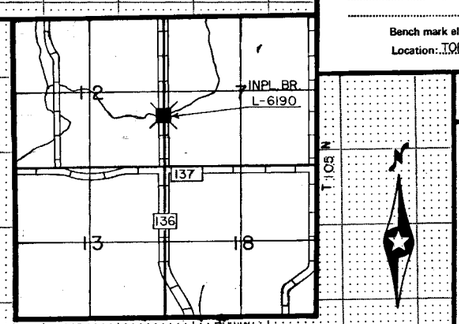


TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN







Fed. Proj. No.

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

1. Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.

2. Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway) :Given location, type, length, height above high water, cross-sectional area etc.

3. Apparent highwater elevation..... Obtained from.....

4. Other data: Approx. velocity of water at time of survey.....

HYDRAULIC ENGINEERS RECOMMENDATION

DATE .....

Stream or ditch designation .....

Drainage area .....

Max. flood on record.....Design flood (..... yr. freq.) .....C.F.S.

Max. observed highwater elevation .....Design highwater elevation.....

Design mean velocity through structure .....F.P.S.....

Low superstructure at or above elevation .....

Flowline elevation .....Skew angle.....

Waterway area req'd. below elevation ..... = ...Sq. Ft. at Rt. angles to channel

In the interest of flood plain zoning the regional flood (100 yr. freq.) is.....C.F.S. at stage.....and mean velocity of.....F.P.S. with.....Ft. swellhead. The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

FOUNDATION ENGINEERS RECOMMENDATION

DATE .....

Bridge survey sheets made from: BRIDGE SURVEY CONDUCTED BY OLMSTED COUNTY

Bench mark elevation 1162.21 (M.S.L. 1929 Adj.)

Location: TOP PAINTED BOLT S.E. COR. BR. L-6190

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT 3.6 ON C.R. 136 (T.H., C.S.A.H., C.R. etc.)

PROPOSED BRIDGE LOCATED 4 MILES NORTH OF CHATFIELD

SEC. 12 TWP 105 N R 12 W

TOWNSHIP ORION COUNTY OLMSTED

BRIDGE NO. L-6190

Area No. **Job No.** CR 136 OLMSTED COUNTY **State Proj. No.** **Sheet No. of Sheets**

TELEDYNE POST BRIDGE SURVEY 18C-2 9/76