MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR BRIDGE REPLACEMENT BR. NO. L6191

LOCATED ON CR. 136 **BETWEEN** TH. 52 AND CR. 137 2.0 MILES NORTH CHATFIELD. **(GEOGRAPHIC DESCRIPTION)**

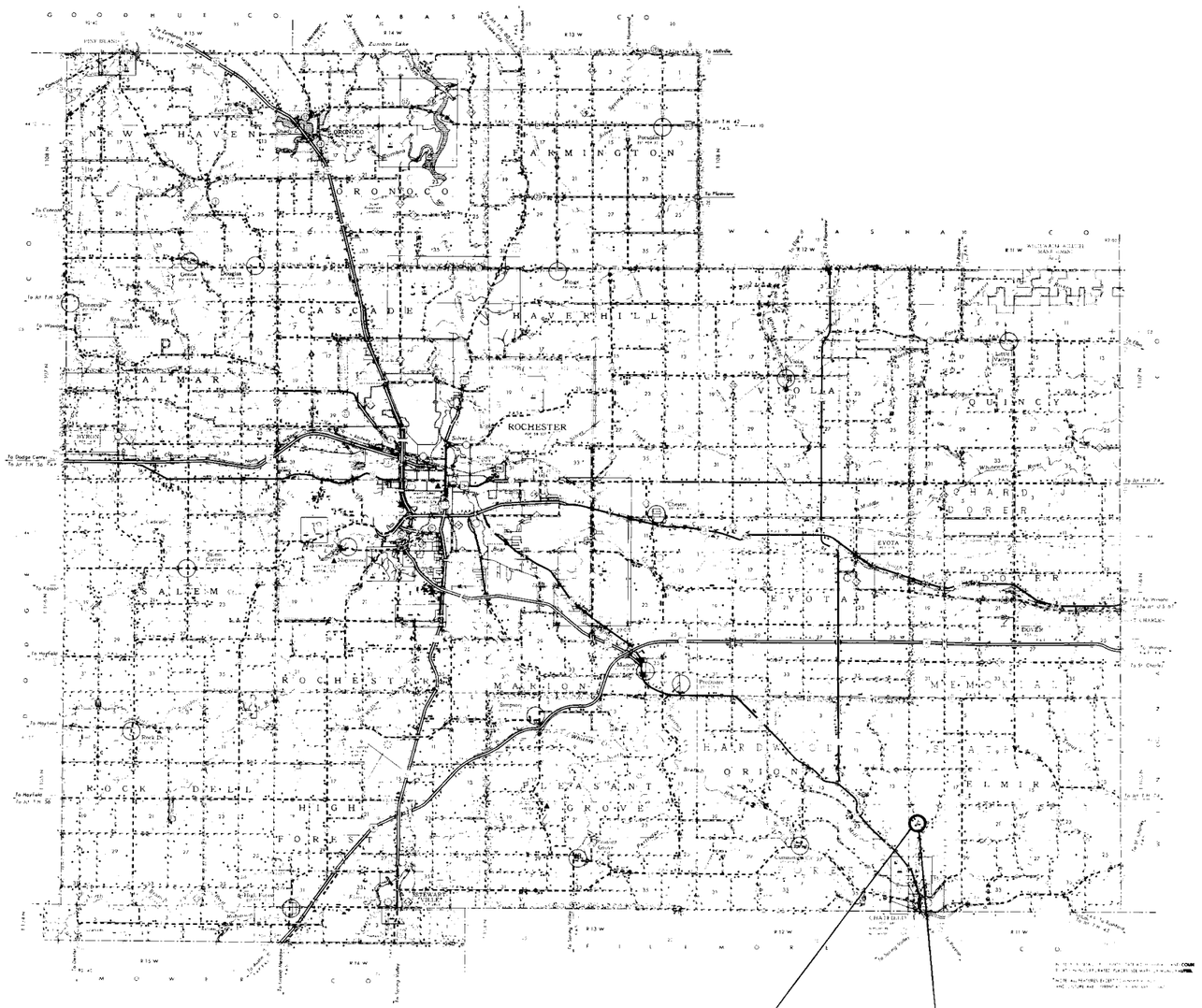
FROM APPROX. 1361' E. OF W. 1/4 COR. SEC. 19 T. 105 N. R. 11 W. **TO** APPROX. 1211' E. OF W. 1/4 COR. SEC. 19 T. 105 N. R. 11 W. **(LEGAL DESCRIPTION)**

STATE PROJ. NO. .....

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

~~**STATE PROJ. NO.**~~ SAP 55-598-26

GROSS LENGTH	150.00	FEET	0.028 MILES
BRIDGES-LENGTH		FEET	MILES
EXCEPTIONS-LENGTH		FEET	MILES
NET LENGTH	150.00	FEET	0.028 MILES



BEGIN: SAP 55-598-26
STA. 100+50

END: SAP 55-598-26
STA. 102+00

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 5/77 ALBINSON, MPLS 55405

MINN. PROJ. NO. .....

SPECIFICATIONS REFERENCE

The 1978 Edition of the Minnesota Department of Transportation "Standard Specifications For Highway Construction" Shall Govern.

INDEX

SHEET NO. 1 TITLE SHEET AND LAYOUT MAP.
" NO. 2 ESTIMATE OF QUATITIES & TYPICAL SECTIONS.
" NO. 3 CROSS SECTIONS.
" NO. 4 & 5 BRIDGE SHEETS.

DESIGN DESIGNATION

R .....
EN18(20)
ADT (Current Year) 81 = 53
ADT (Future Year) 01 = 85
DHV (Design Hr. Vol.) =
D (Directional Distr.) = %
T (Heavy Commercial) = %
SOIL FACTOR 130
Design Speed 30 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 6-28-81 REG. NO. 10219 ENGR. J K Dolan

COUNTY Olmsted

Recommended for Approval [signature] 6-30 1981
DISTRICT STATE AID ENGINEER

Recommended for Approval Delbert D. Ofteda 8-5 1981
STATE AID PLANS AND SPECS ENGINEER

Approved 8-6 1981 [signature]
STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR DATE

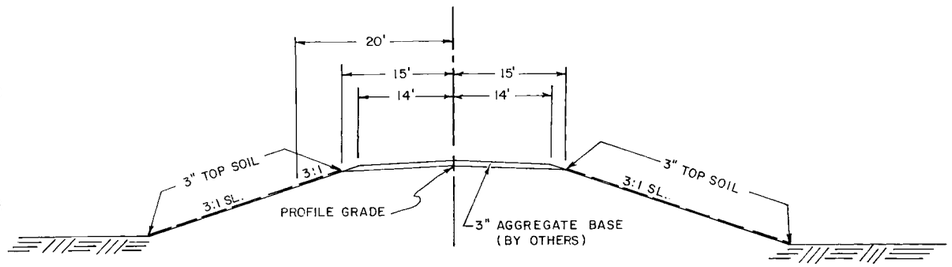
STATE AID PROJ. NO. 55-598-26
STATE PROJ. NO. ..... **SHEET NO.** 1 **OF** 5 **SHEETS**

ESTIMATED QUANTITIES

SPECIFICATION NO.	ITEM	UNIT	NON PARTICIPATING	PARTICIPATING	TOTAL ESTIMATED QUANTITIES	
2021.501	MOBILIZATION	LUMP SUM		1	1	
2105.501	COMMON EXCAVATION	CU. YD.	9		9	(P)
2105.511	COMMON CHANNEL EXCAVATION	CU. YD.		235	235	
2105.523	COMMON BORROW (LV)	CU. YD.	333		333	
2442.501	REMOVE OLD BRIDGE	LUMP SUM	1		1	
2451.507	GRANULAR BEDDING (CV)	CU.YD.		111	111	(P)
2501.521	169" SPAN RCP-ARCH CULVERT CLASS II A	LIN. FT.		45	45	
2501.525	169" SPAN RC PIPE-ARCH APRONS 14' LONG	EACH		2	2	
2511.501	RANDOM RIP RAP CLASS "B"	CU. YD.		120	120	
2511.504	FILTER BLANKET TYPE I	CU. YD.		60	60	

(P) PLAN QUANTITY.

TYPICAL SECTION



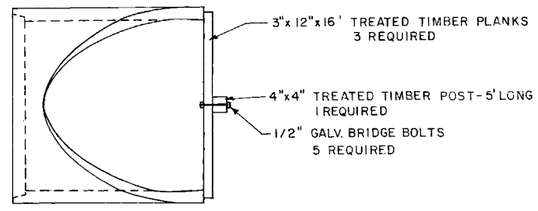
STA. 100+50 TO STA. 102+00

SEEDING AND SODDING TO BE DONE BY OTHERS.

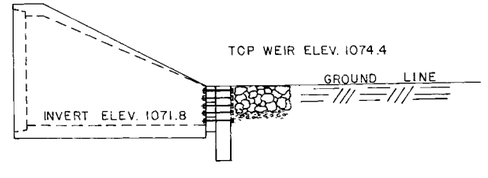
INCIDENTAL ITEM

TIMBER WEIR CONSTRUCTION AT INLET OF 169" SPAN R.C.PIPE-ARCH APRON
(NOT DRAWN TO SCALE)

TOP VIEW



SIDE VIEW

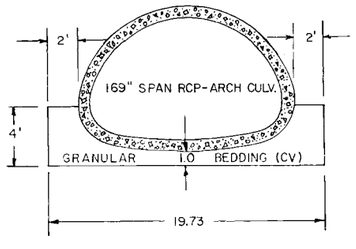


STANDARD PLATES

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

PLATE NO		DESCRIPTION
0003	A	SPECIFICATION REFERENCE TO STANDARD PLATES.
3007	A	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES.
3014	H	REINFORCED CONCRETE PIPE ARCH DETAIL.
3114	G	SECTIONAL CONC. APRON FOR REINFORCED CONC. PIPE-ARCH.
3133	A	RIP RAP AT RCP OUTLETS.
3145	A	CONCRETE PIPE JOINT TIES.
8000	H	STANDARD BARRICADES.
9000	B	APPROACHES AND ENTRANCES.

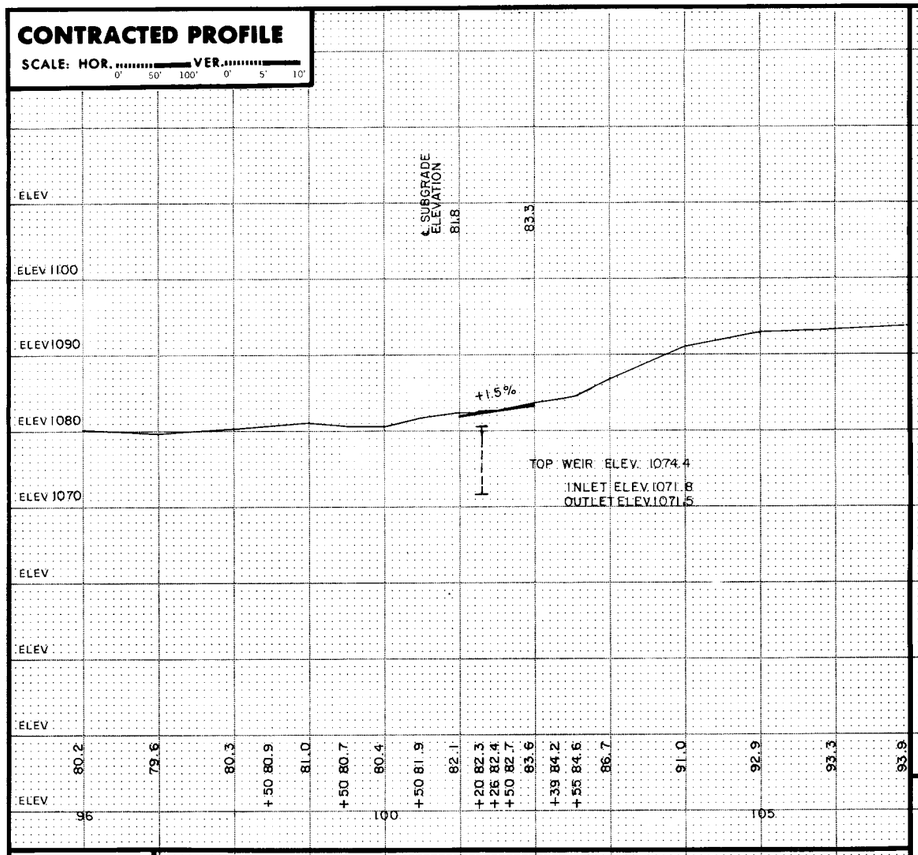
BEDDING DETAIL



S. A. P. 55-598-26
State Proj. No.

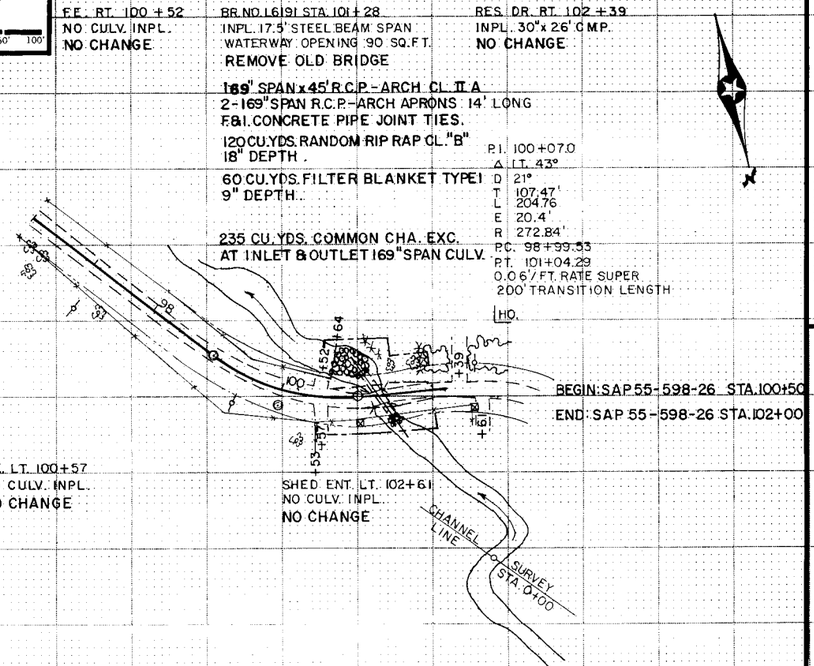
CONTRACTED PROFILE

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



PLAT

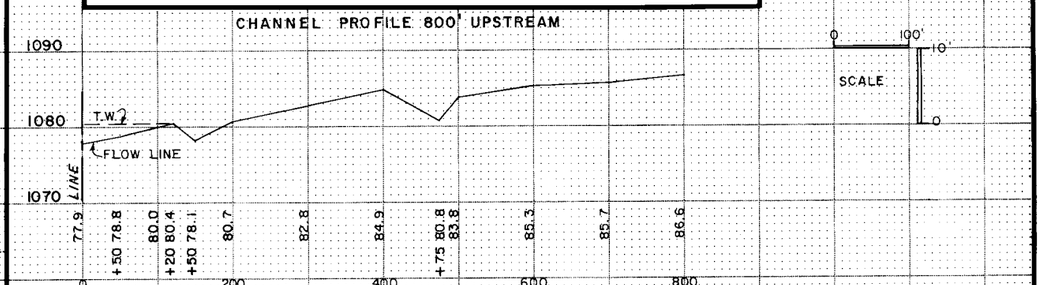
SCALE: 0' 50' 100'



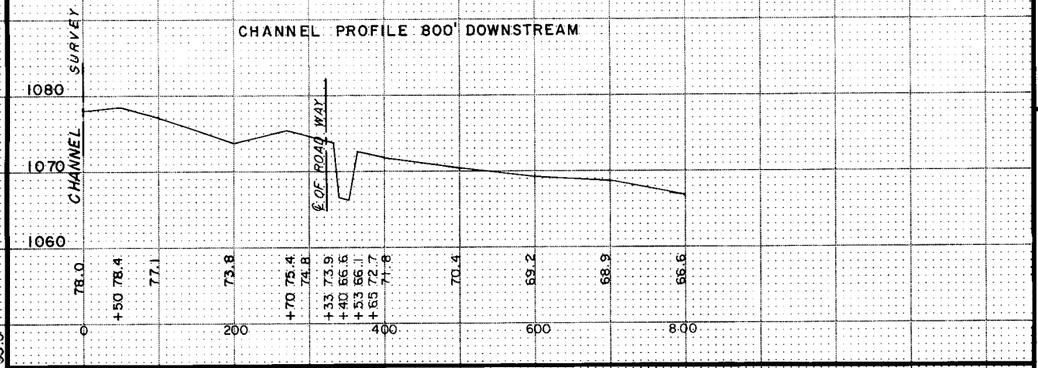
TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN

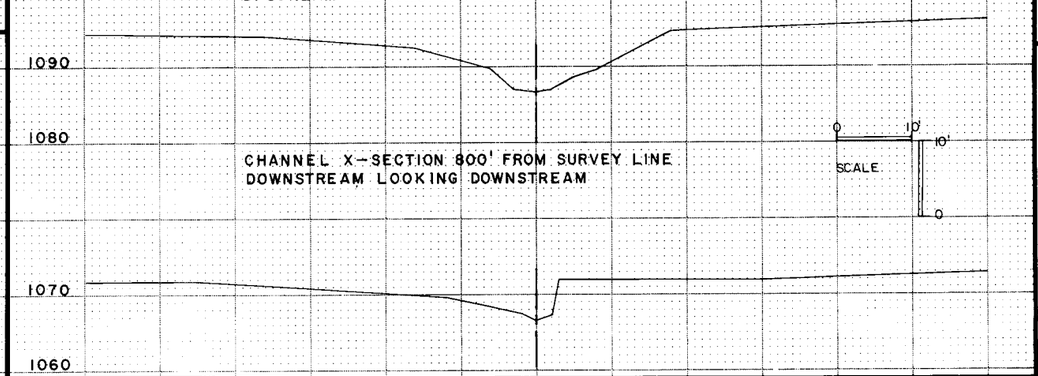
CHANNEL PROFILE 800' UPSTREAM



CHANNEL PROFILE 800' DOWNSTREAM

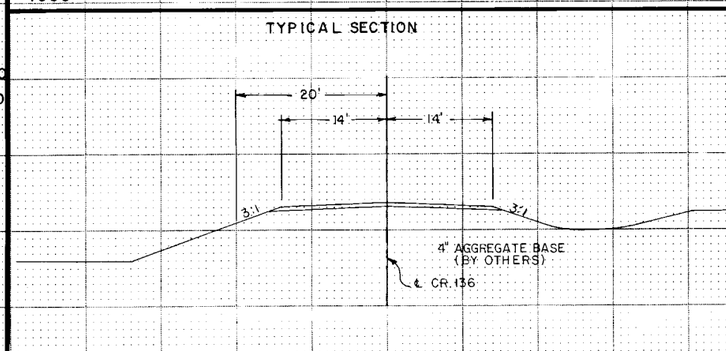


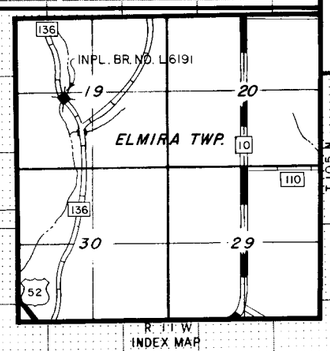
CHANNEL X-SECTION 800' FROM SURVEY LINE
UPSTREAM LOOKING UPSTREAM



CHANNEL X-SECTION 800' FROM SURVEY LINE
DOWNSTREAM LOOKING DOWNSTREAM

TYPICAL SECTION





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 8-11-81

Stream or ditch designation ....UNKNOWN....

Drainage area ....850.... ACRES

Max. flood on record UNKNOWN Design flood (...50... yr. freq.) .900...C.F.S.

Max. observed highwater elevation .....Design highwater elevation. 1080.9

Design mean velocity through structure ..... 16 F.P.S. 3.8 Ft. Stage increase.

Low superstructure at or above elevation .....

Flowline elevation ....1071.8.... Skew angle....30°....

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. 1080 C.F.S. at stage 1082.0 and mean velocity of 17.5 F.P.S. with 4.3 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: SURVEY CONDUCTED BY OLMSTED COUNTY

Bench mark elevation 1083.81 (M.S.L. 1929 Adj.)

Location: SPK. IN P. POLE 42' LT. STA. 102+56

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT ....1.9.... ON ....CR. 136.... (T.H., C.S.A.H., C.R. etc.)

PROPOSED BRIDGE LOCATED ....2.0.... MILES NORTH OF CHATFIELD

SEC. ....19.... TWP. ....105 N.... R ....11 W....

TOWNSHIP ....ELMIRA.... COUNTY ....OLMSTED....

BRIDGE NO. ....L6191....

Area No. Job No. CR. 136 ~~State Proj. No.~~ SAP 55-598-26 OLMSTED COUNTY **Sheet No. 4 of 5 Sheets**

Fed. Proj. No.

0 SCALE 10'

18" CLASS "B" RANDOM RIP RAP
9" TYPE I FILTER BLANKET

33'

100

℄ CR. 136

P.I. 101+04.29

50'

33'

15'

60°

30

101

102

15'

33'

33'

50'

PLAN

CONST. TIMBER WEIR AT INLET APRON.

18" CLASS "B" RANDOM RIP RAP
9" TYPE I FILTER BLANKET.

ELEVATION

PROFILE CENTER
20' LT.
20' RT.

℄ SUBGRADE ELEV. 81.8

℄ SUBGRADE ELEV. 83.3

+1.5%

1090
1080
1070
1060

TOP WEIR ELEV. 1074.4
INLET ELEV. 1071.8
OUTLET ELEV. 1071.5

80.4

+50 81.9

82.1

+20 82.3

+26 82.4

+50 82.7

83.6

+39 84.2

+55 84.6

100

101

102

BORINGS SHOWN [illegible] TAKEN WITH
STD 140 LB HAMMER
30 INCH DROP
2 INCH O.D. SAMPLER

OLMSTED COUNTY CR. 136

BRIDGE SURVEY PLAN AND PROFILE

SAP 55-598-26

DES: DR: APPROVED:

CHK: CHK.

Sheet No. 5 of 5 Sheets

Bridge No.

L6191