MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED VIOLA TWP

CONSTRUCTION PLAN FOR BRIDGE NO. L6311 REPLACEMENT

LOCATED ON VIOLA TWP RD 301 **BETWEEN** C.S.A.H. 2 AND N. COUNTY LINE 8 MILES N. OF EYOTA **(GEOGRAPHIC DESCRIPTION)**

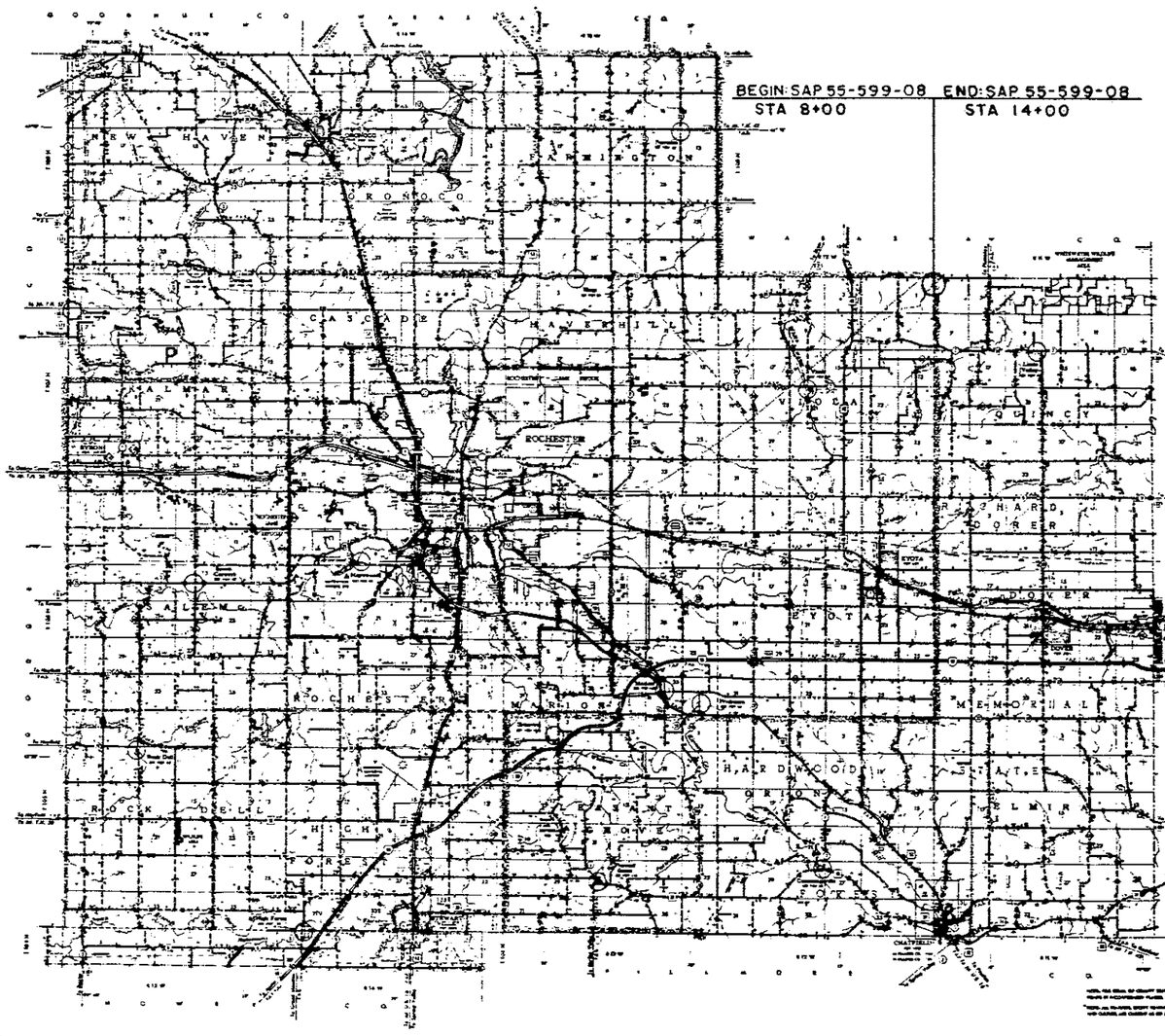
FROM L036.0' SO. NE. CORNER SEC. 1 T107N R12W **TO** 436.0' SO. N.E. CORNER SEC. 1 T107N R12W **(LEGAL DESCRIPTION)**

STATE PROJ. NO. _____

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

STATE PROJ. NO. SAP 55-599-08

GROSS LENGTH	600.00	FEET 0.114	MILES
BRIDGES-LENGTH	0.00	FEET 0.0	MILES
EXCEPTIONS-LENGTH	0.00	FEET 0.0	MILES
NET LENGTH	600.00	FEET 0.114	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 OR POWER POLES
OR 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' HORIZ. & VERT.
PROFILE	100' HORIZ. & 10' VERT
INDEX MAP	10,560'
CROSS SECTIONS	10' HORIZ. & VERT.

MINN. PROJ. NO. _____

SPECIFICATIONS REFERENCE

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN, INCLUDING THE MAY 2, 1994 SUPPLEMENTAL SPECIFICATION TO THE 1988 SPECIFICATION FOR CONSTRUCTION.

INDEX

SHEET NO.	
1	TITLE SHEET
2	ESTIMATE OF QUANTITIES AND TYPICAL SECTIONS
3-4	CROSS-SECTIONS
5-6	BRIDGE SHEETS

APPROVED:

9/25/94 DATE — Warren [illegible] TOWNSHIP CHAIRPERSON

DESIGN DESIGNATION

R _____ ESN18(20) _____

ADT (Current Year)	=	<50	
ADT (Future Year)	=	<50	
DHV (Design Hr. Vol.)	=	____	
D (Directional Distr.)	=	____	%
T (Heavy Commercial)	=	____	%

Design Speed 40 MPH
Based on Stopping Sight Distance
Height of eye 3.5' Height of object 0.5'
Design Speed not achieved at: _____

SOIL FACTOR		
Shoulder Width 1'	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 8-29-94 REG. NO. 19917 ENGR. Kaye M Brenick

APPROVED 8-29-94 DATE Richard A Hueben COUNTY ENGINEER

COUNTY Olmsted

Recommended for Approval [signature] 9-1 1994 DISTRICT STATE AID ENGINEER

Recommended for Approval _____ 19____ STATE AID PLANS AND SPECS ENGINEER

Approved 9/9 1994 [signature] STATE AID ENGINEER

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

STATE AID PROJ. NO. 55-599-08 VIOLA TWP OLMSTED COUNTY

WATER AID TITLE SHEET 8/27 ALBINSON MPLS 55405

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	NON PARTICIPATING	PARTICIPATING	TOTAL ESTIMATED QUANTITIES
	2021.501	MOBILIZATION	LUMP SUM	1		1
	2105.523	COMMON BORROW (LV)	CU. YD.		425	425
	2451.507	GRANULAR BEDDING (CV)	CU. YD.		212	212(P)
	2442.501	REMOVE OLD BRIDGE	LUMP SUM	1		1
②	2501.521	115" SPAN R.C. PIPE-ARCH CULV. CLASS II A	LIN. FT.		120	120
②	2501.525	115" SPAN R.C. PIPE-ARCH APRONS	EACH		6	6
①	2511.501	RANDOM RIP RAP CLASS III	CU. YD.		199	199
	0563.601	TRAFFIC CONTROL	LUMP SUM	1		1

(P) PLAN QUANTITY

(LV) LOOSE VOLUME

(CV) COMPACTED VOLUME

STANDARD PLATES

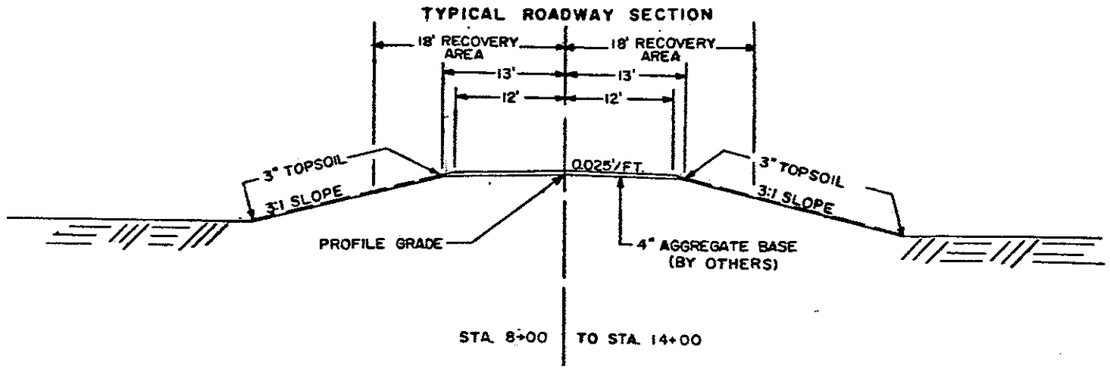
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

PLATE NO	DESCRIPTION
0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES.
3007 B	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURE.
3014 H	REINFORCED CONCRETE PIPE-ARCH DETAIL.
3114 G	SECTIONAL CONC. APRON FOR REINFORCED CONC. PIPE-ARCH.
3133 B	RIP RAP AT RCP OUTLETS.
3145 E	CONCRETE PIPE JOINT TIES. (EYE BOLT TIES)
8000 I	STANDARD BARRICADES.

① 9 INCHES OF GRANULAR FILTER OR GEOTEXTILE FILTER UNDER RIPRAP WILL BE CONSIDERED TO BE INCIDENTAL AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

② CONCRETE PIPE CULVERT EXCAVATION WILL BE CONSIDERED INCIDENTAL AND WILL BE INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR ITEM NO. 2501.521 AND ITEM NO. 2501.525.

TYPICAL ROADWAY SECTION



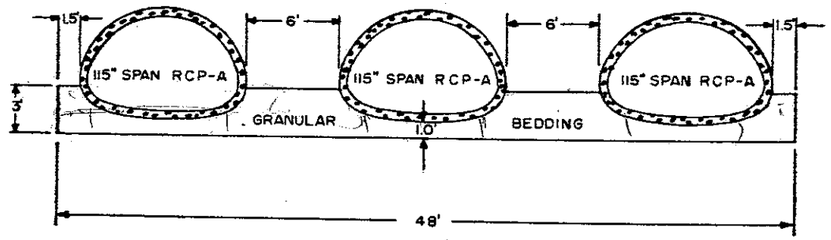
STA. 8+00 TO STA. 14+00

NOTES: 1. TURF ESTABLISHMENT (BY OTHERS)

2. ALL UTILITY POLES AND UNYIELDING OBJECTS WILL BE RELOCATED OUTSIDE THE 18' RECOVERY AREA (BY OTHERS)

3. ALL DIMENSIONS AND SLOPES SHOWN ON TYPICAL SECTIONS ARE APPROXIMATE

CULVERT BEDDING DETAIL



CERTIFIED BY Kaye M Bierniek PROFESSIONAL ENGINEER REG. NO. 19917 8-29 1994

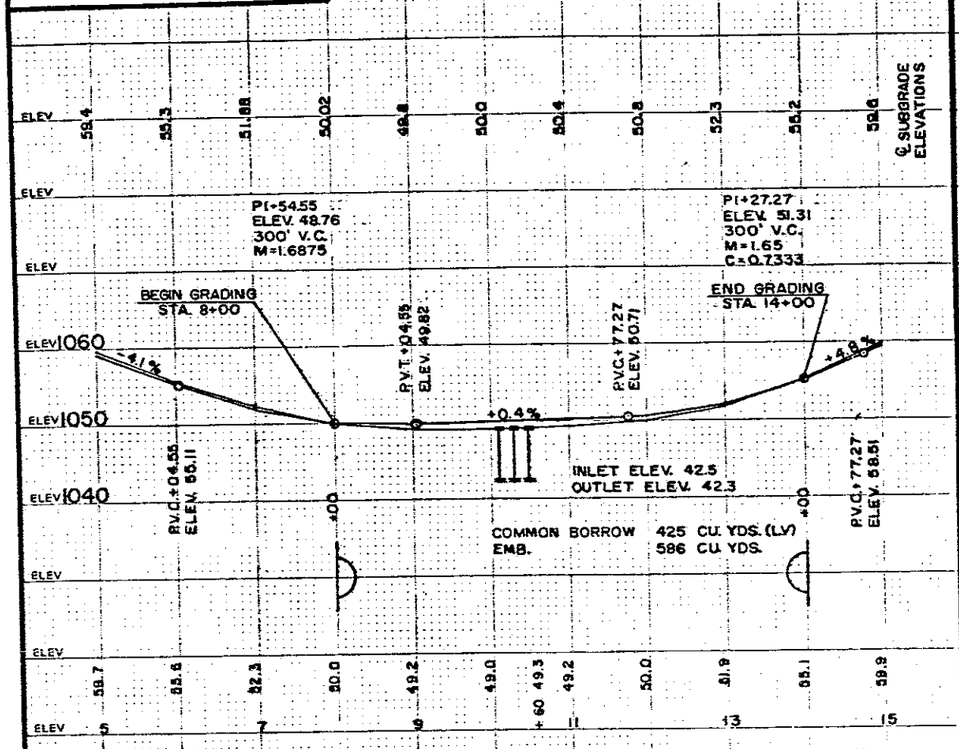
S.A.P. 55-599-08 VIOLA TWP OLMSTED COUNTY

~~State Proj. No.~~

Fed. Proj. No.

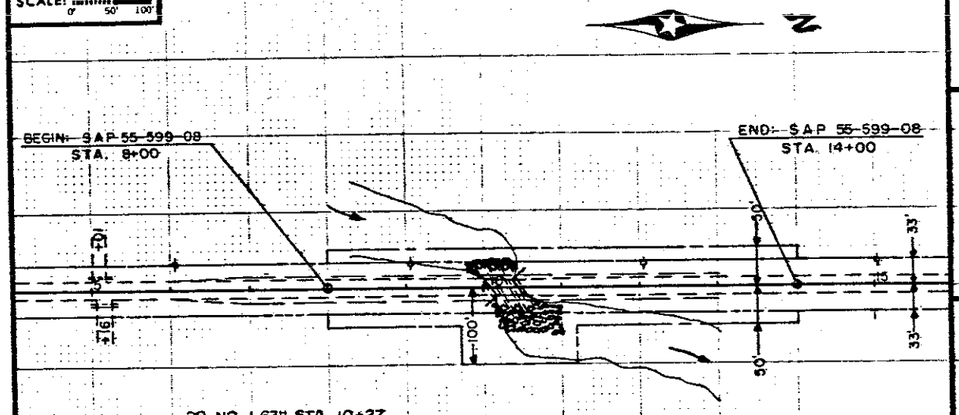
CONTRACTED PROFILE

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



PLAT

SCALE: 0' 50' 100'



BR. NO. L6311 STA. 10+27
INPLACE 30' BEAM SPAN
REMOVE OLD BRIDGE

STA. 10+10.37 CONST. ℄ CULV. SKEW 30°
115" SPAN x 40' R.C.P.-A CULV. CL. II A
2-115" SPAN R.C. PIPE-ARCH APRONS
F&I APPROVED JOINT TIES

STA. 10+30 CONST. ℄ CULV. SKEW 30°
115" SPAN x 40' R.C.P.-A CULV. CL. II A
2-115" SPAN R.C. PIPE-ARCH APRONS
F&I APPROVED JOINT TIES

STA. 10+49.63 CONST. ℄ CULV. SKEW 30°
115" SPAN x 40' R.C.P.-A CULV. CL. II A
2-115" SPAN R.C. PIPE-ARCH APRONS
F&I APPROVED JOINT TIES

PLACE RANDOM RIPRAP CL. III 18" DEPTH

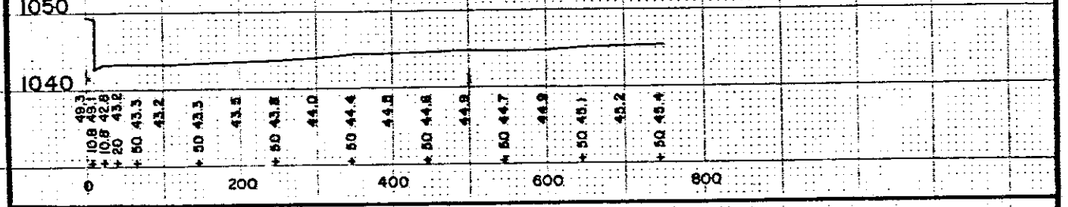
PLACE RIPRAP ON 9" GRANULAR FILTER
OR GEOTEXTILE FILTER MATERIAL

TYPICAL SECTIONS & PERTINENT DATA

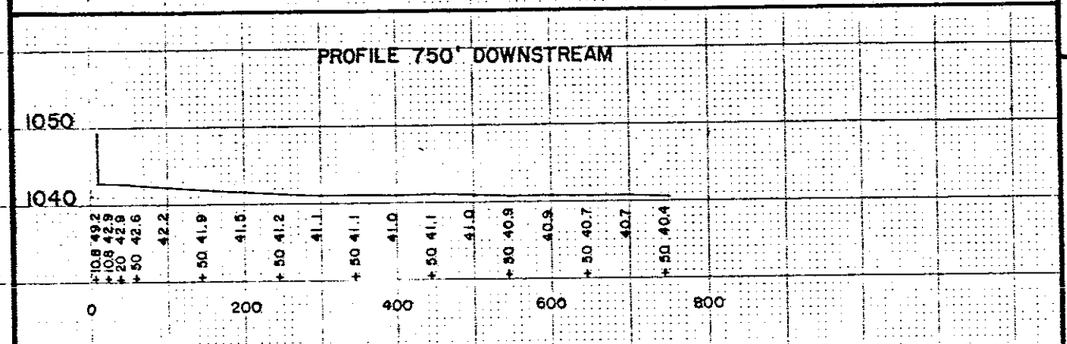
SCALES AS SHOWN

Scale: 0' 100' 0' 10'

PROFILE 750' UPSTREAM



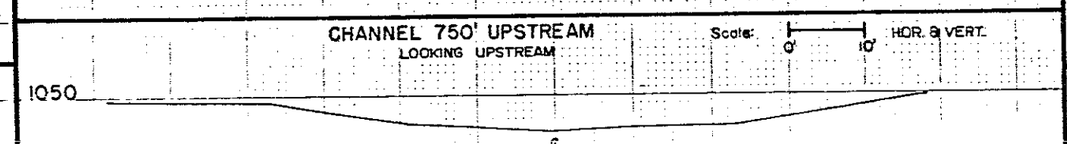
PROFILE 750' DOWNSTREAM



CHANNEL 750' UPSTREAM

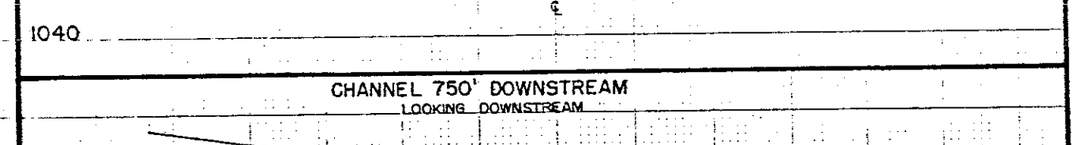
LOOKING UPSTREAM

Scale: 0' 10' HOR. & VERT.

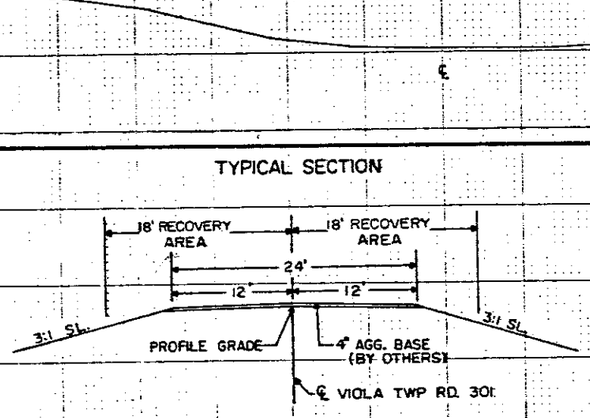


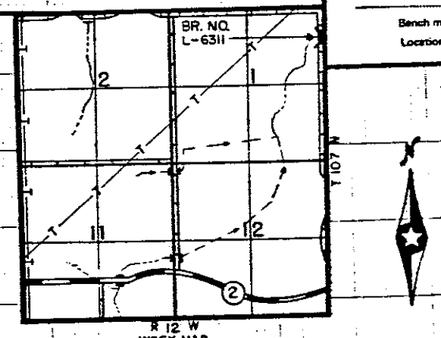
CHANNEL 750' DOWNSTREAM

LOOKING DOWNSTREAM



TYPICAL SECTION





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 3-21-79

Stream or ditch designation DRY RUN

Drainage area 3.85 SQ. MILES

Max. flood on record..... Design flood (50 yr. freq.) 1052 C.F.S.

Max. observed highwater elevation ..... Design highwater elevation 1048.8

Design mean velocity through structure 12 F.P.S. 2.2' STAGE INCREASE

Low superstructure at or above elevation 1048.8

Flowline elevation 1042.5 Skew angle 30°

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

Is the interest of flood plain zoning the regional flood (100 yr. freq.) is 1260 C.F.S. at stage 1049.7 and mean velocity of 13 F.P.S. with 2.9 Ft. scalehead.

The above recommendation will provide a structure of adequate [illegible] to pass the regional flood within criteria established by the

FOUNDATION ENGINEERS RECOMMENDATIONS

DATE .....

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

Bench mark elevation 1048.90 (M.S.L. 1929 Adj.)

Location: SPK IN P. POLE 32' LEFT STA. 12+06

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT 1.8 ON VIOLA TWP RD. 301 (T.H., C.S.A.H., C.R. etc.)

PROPOSED BRIDGE LOCATED .8 MILES NORTH OF EYOTA

SEC. 1 TWP 107 N R 12 W

TOWNSHIP VIOLA COUNTY OLMSTED

BRIDGE NO. L6311

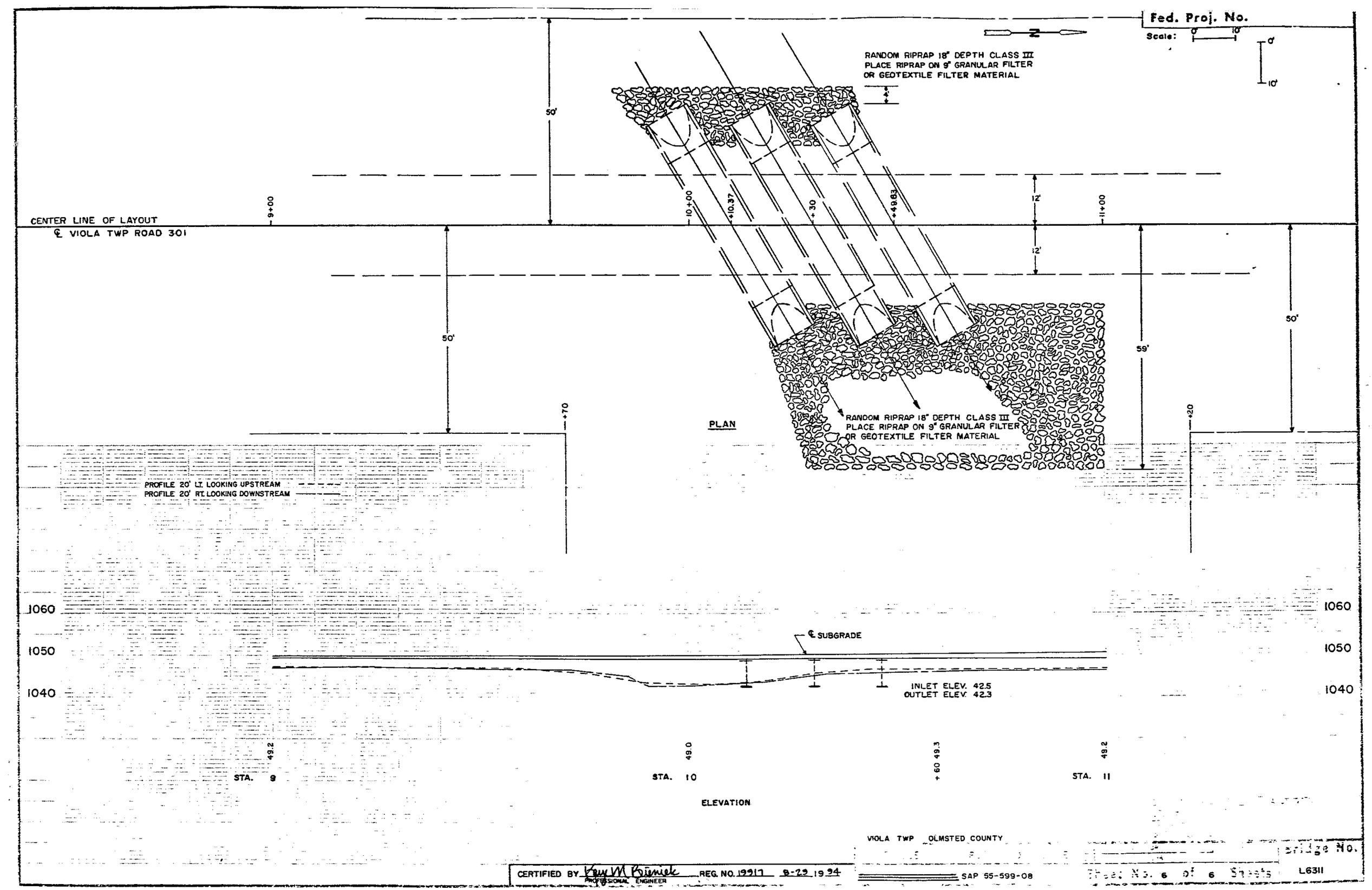
CERTIFIED BY Lowell M Kimball PROFESSIONAL ENGINEER REG. NO. 19917 8-23 1974

~~State Proj. No.~~ SAP 55-599-08 VIOLA TWP OLMSTED CO. Sheet No. 5 of 6 Sheets

ILLUSTRATE POST BRIDGE SURVEY 10C-2-1/74

Fed. Proj. No.

Scale: 0' 10'



VIOLA TWP OLMSTED COUNTY

CERTIFIED BY Kenneth Bierniek REG. NO. 19917 8-29 1994
PROFESSIONAL ENGINEER

SAP 55-599-08

Sheet No. 6 of 6 Sheets

Bridge No. L6311