MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR BRIDGE NO. L-6174 REPLACEMENT

LOCATED ON C.R. 129 **BETWEEN** C.S.A.H. 7 **AND** T.H. 52 **(GEOGRAPHIC DESCRIPTION)**

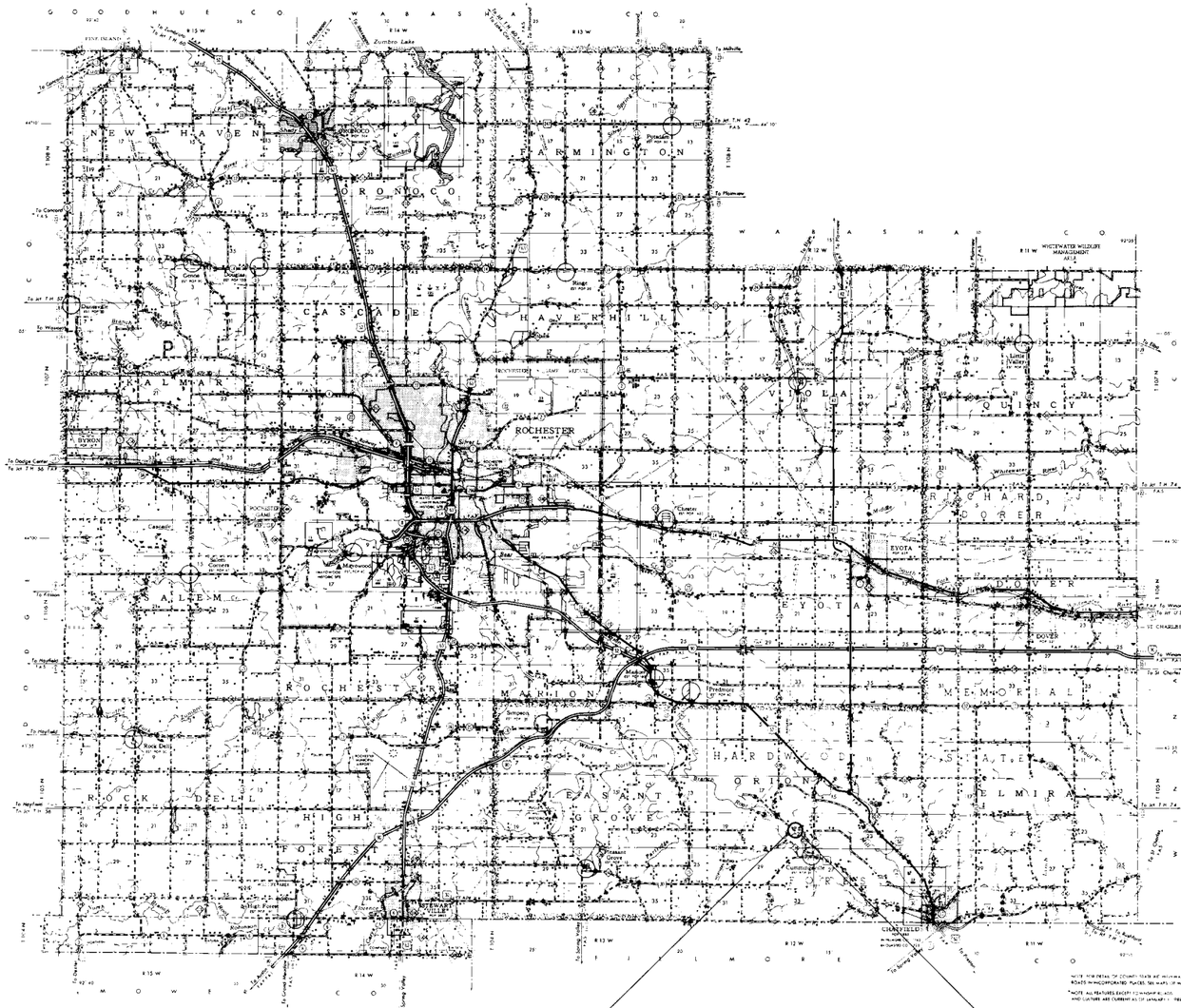
FROM A POINT 335' NORTHERLY & 32.82' WESTERLY OF THE CENT. SECTION 21 T105N R12W **TO** A POINT 335' NORTHERLY & 67.18' EASTERLY OF THE CENT. SECTION 21 T105N R12W **(LEGAL DESCRIPTION)**

STATE PROJ. NO. .....

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

~~**STATE PROJ. NO.**~~ S.A.P. 55-598-29

GROSS LENGTH	100.0	FEET 0.189	MILES
BRIDGES-LENGTH	0	FEET 0	MILES
EXCEPTIONS-LENGTH	0	FEET 0	MILES
NET LENGTH	100.0	FEET 0.189	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'
PROFILE ..... 100' HORIZ. & 10' VERT.
INDEX MAP ..... 10,560'
GENERAL LAYOUT ..... 10'

MINN. PROJ. NO. .....

SPECIFICATIONS REFERENCE

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

INDEX

SHEET NO. 1 TITLE SHEET

SHEET NO. 2 TYPICAL SECTIONS & ESTIMATED QUANTITIES

SHEET NO. 3&4 BRIDGE SHEETS

DESIGN DESIGNATION

R .....
ADT (Current Year) = 70
ADT (Future Year) = 78
DHV (Design Hr. Vol.) = ...
D (Directional Distr.) = ... %
T (Heavy Commercial) = ... %
SOIL FACTOR 130

ΣN18(20) .....
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 5-15-84 REG. NO. 10213 ENGR. J.K. Dolan

COUNTY Olmsted

Recommended for Approval 5-17 19 84
DISTRICT STATE AID ENGINEER

Recommended for Approval Delbert D. Utecht 5-24 19 84
STATE AID PLANS AND SPECS ENGINEER

Approved ..... 19 .....
STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR DATE

STATE AID PROJ. NO. 55-598-29
~~**STATE PROJ. NO.**~~

SHEET NO. 1 **OF** 4 **SHEETS**

STATE AID TITLE SHEET

ESTIMATED QUANTITIES

SPECIFICATION NO.	ITEM	UNIT	NON PARTICIPATING	PARTICIPATING	TOTAL ESTIMATED QUANTITIES	
2021.501	MOBILIZATION	LUMP SUM		1	1	
2105.523	COMMON BORROW (L.V.)	CU. YD.	130		130	
2442.501	REMOVE OLD BRIDGE	LUMP SUM	1		1	
2451.507	GRANULAR BEDDING (C.V.)	CU. YD.		50	50	(P)
2501.521	102" SPAN RCP-ARCH CULV. CL II A	LIN. FT.		40	40	
2501.525	102" SPAN RCP-ARCH APRONS	EACH		2	2	
2511.501	RANDOM RIPRAP CL. III	CU. YD.		70	70	
2511.511	GRANULAR FILTER	CU. YD.		26	26	

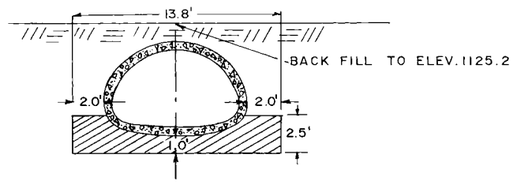
(P) PLAN QUANTITY

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.
3007	A	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3014	J	REINFORCED CONCRETE PIPE ARCH DETAIL.
3110	F	CONCRETE APRON FOR REINFORCED CONC. PIPE-ARCH.
3133	A	RIPRAP AT RCP OUTLETS
3145	C	CONCRETE PIPE TIES
8000	H	STANDARD BARRICADES

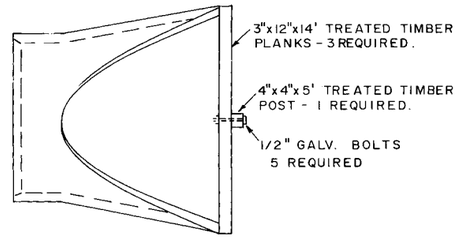
GRANULAR BEDDING DETAIL



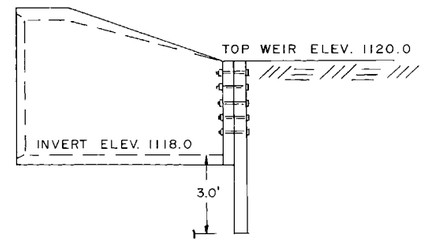
NOTE: GRANULAR BEDDING TO BE PLACED UNDER BARREL ONLY.

TIMBER WEIR CONSTRUCTION AT INLET OF 102" SPAN R.C.P. - ARCH APRON ON ℄ CULVERT. (NOT TO SCALE)

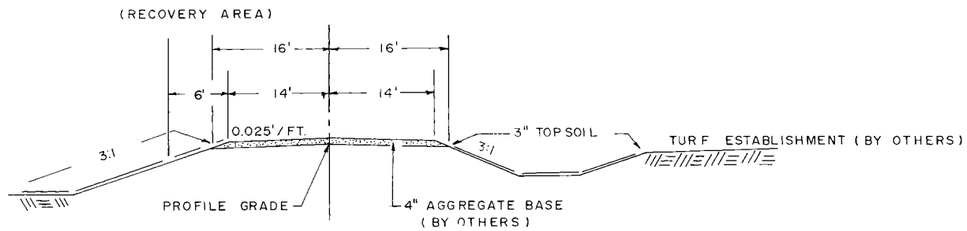
TOP VIEW



SIDE VIEW



TYPICAL SECTION



NOTE: TIMBER WEIR CONSTRUCTION WILL BE CONSIDERED INCIDENTAL AND WILL BE INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR "BOX CULVERT".

NOTE: REINFORCED CONCRETE PIPE-ARCH CULV. EXCAVATION WILL BE CONSIDERED INCIDENTAL, AND WILL BE INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR RCP-ARCH CULVERT.

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

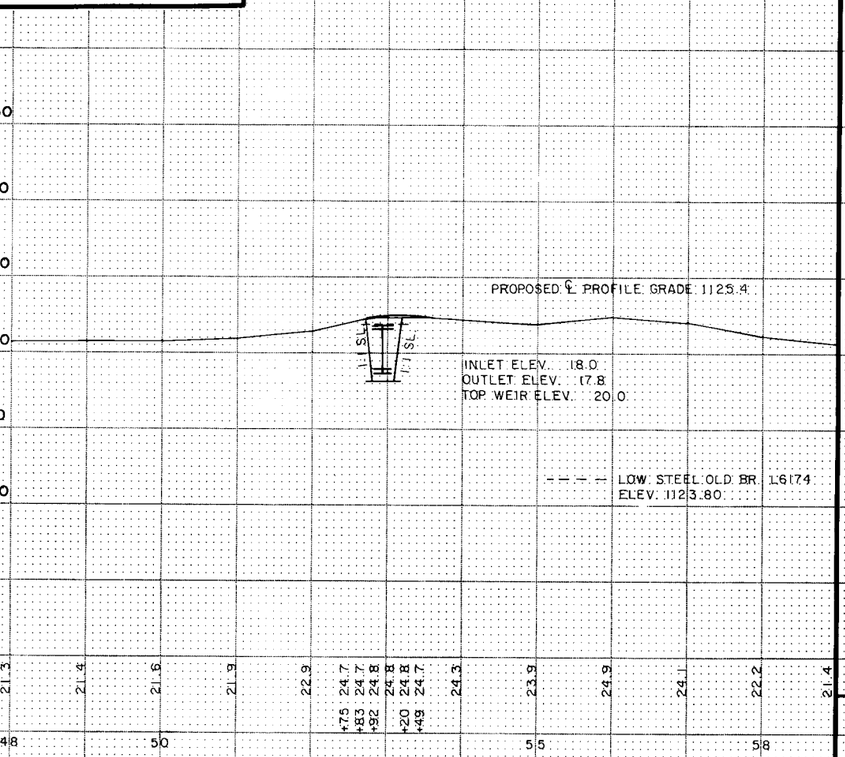
S.A.P. 55-598-29

~~State Proj. No.~~

ALBINSON, INC. MINNEAPOLIS 55405

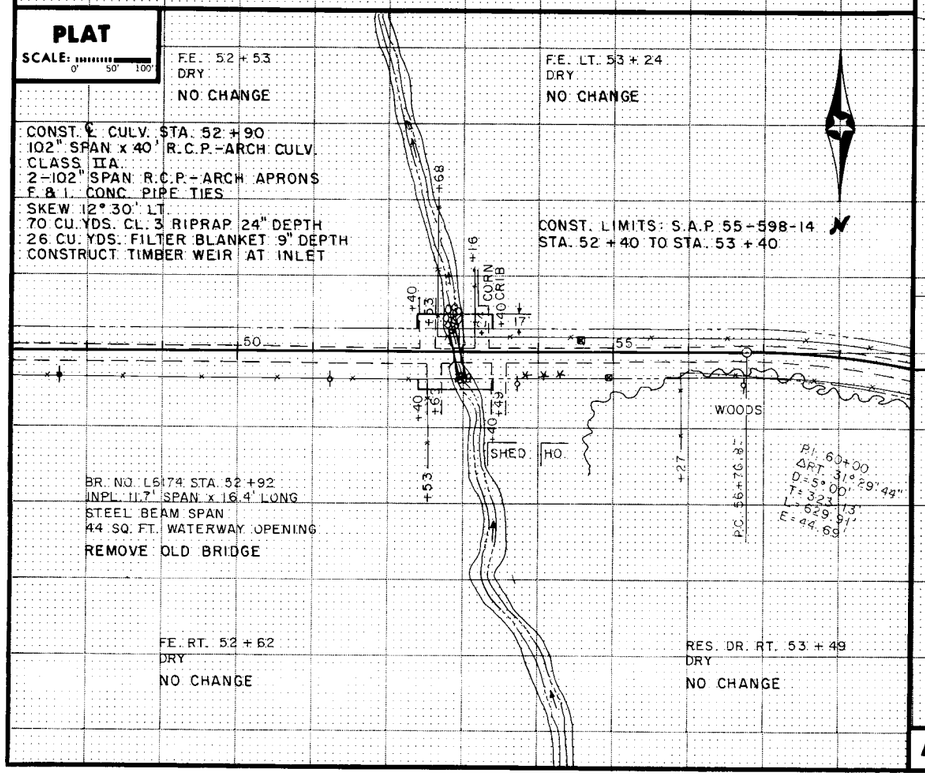
CONTRACTED PROFILE

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



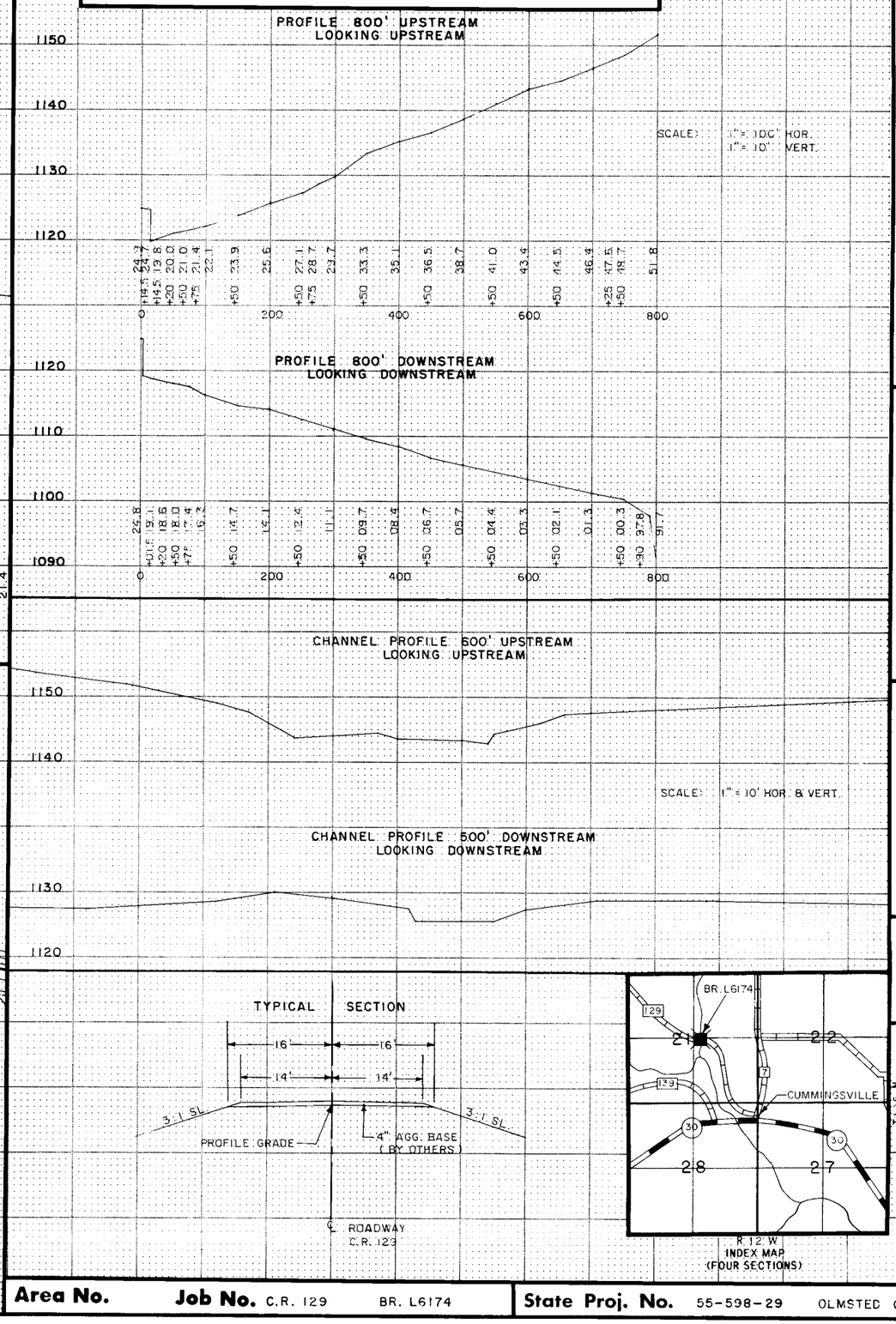
PLAT

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 UNNAMED

Drainage area 240 ACRES

Max. flood on record. .....Design flood (. . . 50 . . . yr. freq.) . 240 . . . . C.F.S.

Max. observed highwater elevation UNKNOWN Design highwater elevation 1124.0

Design mean velocity through structure 12 F.P.S 1.7 STAGE INCREASE

Low superstructure at or above elevation .....

Flowline elevation 1118.0 Skew angle 12° 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 355 C.F.S. at stage 1125.2 and mean velocity of 12.5 F.P.S. with 2.7 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 1006.87 (M.S.L. 1929 Adj.)

Location: STD. DISK S.E. COR. BR. 9009 AT CUMMINGSVILLE

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT 0.94 ON C.R. 129 (T.H., C.S.A.H., C.R. etc.)

PROPOSED BRIDGE LOCATED 1.0 MILES N.W. OF JCT. C.S.A.H. 7

SEC. 21 TWP 105 N R 12 W

TOWNSHIP ORION COUNTY OLMSTED

BRIDGE NO. L6174

Area No. **Job No.** C.R. 129 BR. L6174

State Proj. No. 55-598-29 OLMSTED COUNTY **Sheet No.** 3 of 4 Sheets

Fed. Proj. No.

SCALE: 0 10'

RANDOM RIPRAP CL.3 24" DEPTH
GRANULAR FILTER 9" DEPTH

RANDOM RIPRAP CL.3 18" DEPTH
GRANULAR FILTER 9" DEPTH

35'

5'

77° 30'

+40

50'

33'

51+00 ℄ OF LAYOUT
℄ C.R. 129

52+00

53+00

54+00

BEGIN S.A.P. 55-598-29

END S.A.P. 55-598-29

PLAN

℄ PROFILE
PROFILE 20' LT.
PROFILE 20' RT.

ELEVATION

SCALE: 0 10' 10' 0

BEGIN S.A.P. 55-598-29
STA. 52 + 40

END S.A.P. 55-598-29
STA. 53 + 40

1150
1140
1130
1120
1110
1100
1090

LT SL

RT SL

2.5'

GRANULAR BEDDING

INLET ELEV. 18.0
OUTLET ELEV. 17.8
TOP WEIR ELEV. 20.0

21.9 22.9 24.7 24.7 24.8 24.8 24.8 24.7 24.3

+75 +83 +92 +20 +49

51 52 53 54

BRIDGE SURVEY PLAN AND PROFILE

OLMSTED COUNTY C.R. 129 BR. L6174

S.A.P. 55-598-29

SHEET NO. 4 OF 4 SHEETS

L6174