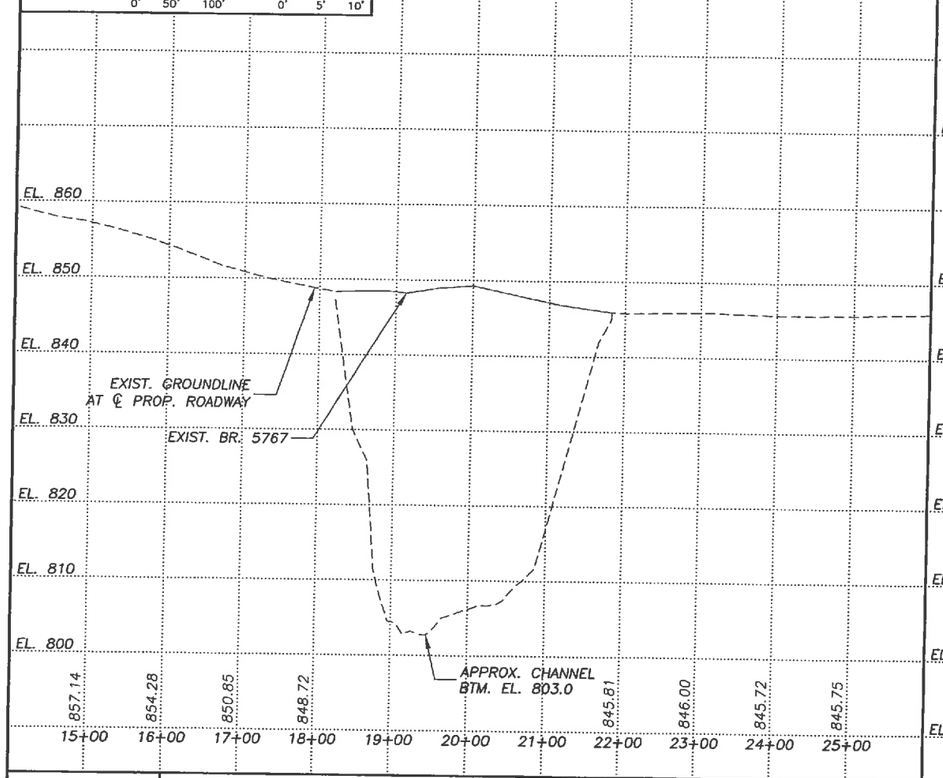
CONTRACTED PROFILE

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



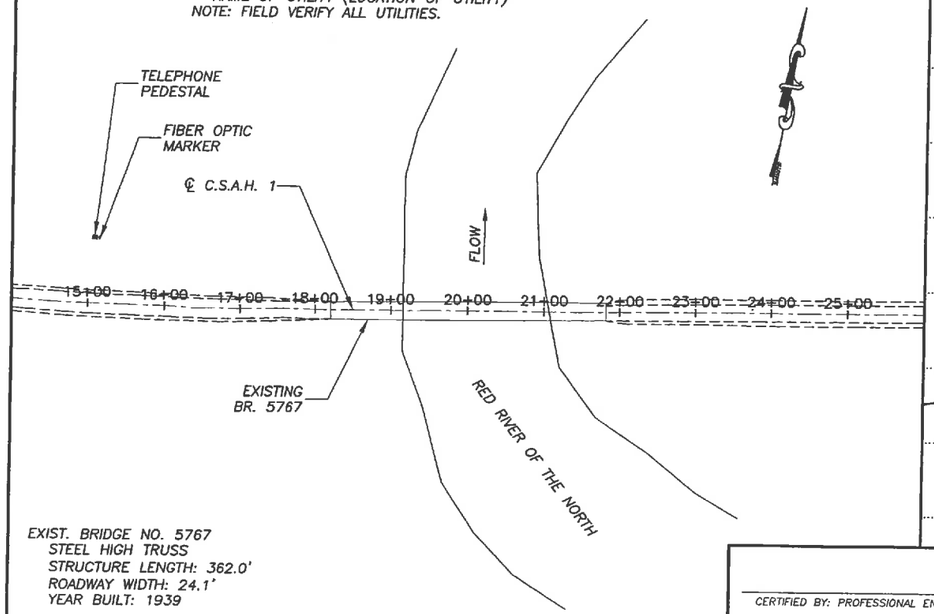
PLAT

SCALE: 0' 50' 100'

UTILITY INFORMATION

WARNING: DIAL GOPHER STATE ONE CALL AT 1-800-252-1166 A MINIMUM OF 48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS TO OBTAIN COMPLETE UTILITY PROPERTY OWNERSHIP AND LOCATION INFORMATION.

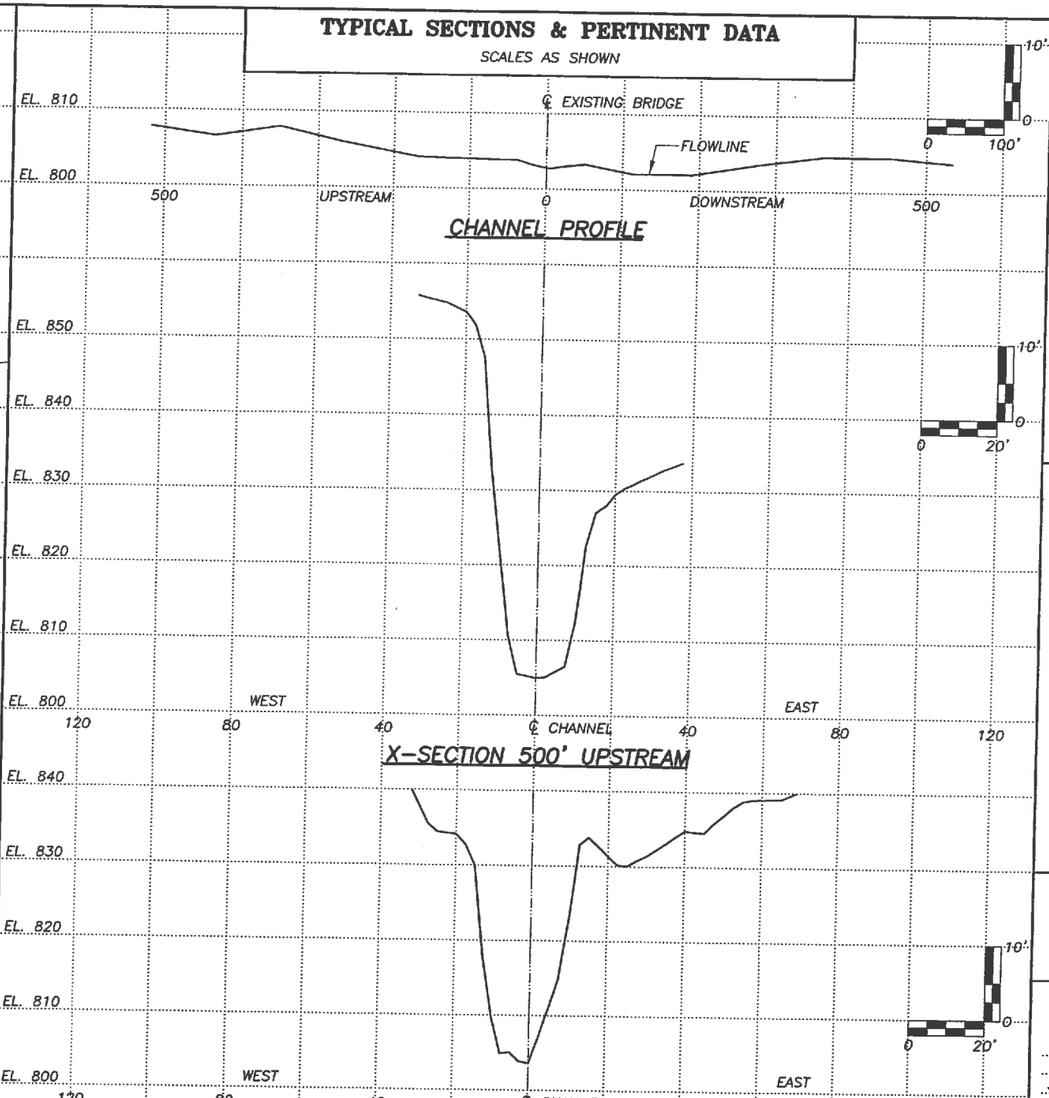
UTILITY INFO AVAILABLE FOR PLAN PREPARATION:
NAME OF UTILITY (LOCATION OF UTILITY)
NOTE: FIELD VERIFY ALL UTILITIES.



EXIST. BRIDGE NO. 5767
STEEL HIGH TRUSS
STRUCTURE LENGTH: 362.0'
ROADWAY WIDTH: 24.1'
YEAR BUILT: 1939

TYPICAL SECTIONS & PERTINENT DATA

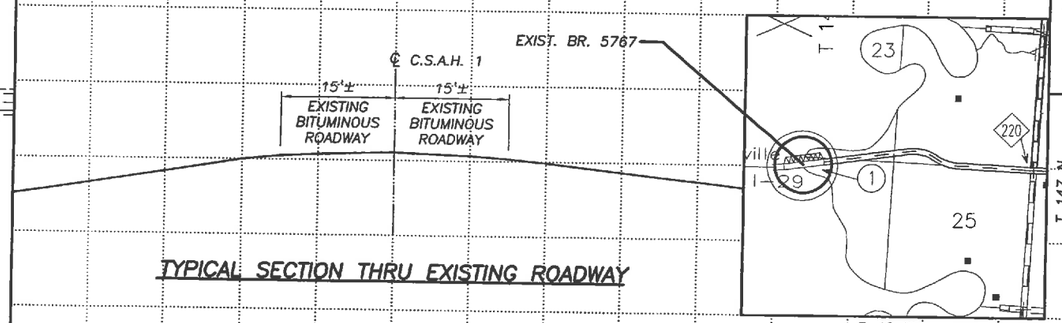
SCALES AS SHOWN



CHANNEL PROFILE

X-SECTION 500' UPSTREAM

X-SECTION 200' DOWNSTREAM



TYPICAL SECTION THRU EXISTING ROADWAY

Fed. Proj. No.

LOCATION ENGINEER'S OBSERVATION AT BRIDGE SITE

DATE .....

1. Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, rec. boats.
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 ..... Feet
   Obtained From .....
4. Other Data: Approx. velocity of water at time of survey .....

HYDRAULIC ENGINEER'S RECOMMENDATION

DATE 1-11-2017

Stream or Ditch Designation	RED RIVER OF THE NORTH	
Drainage Area	23,100	SQ. MI.
Max. Flood on Record	UNKNOWN	C.F.S.
Max. Observed Highwater Elev.	UNKNOWN	Feet
Design Flood (7 yr. freq.)	27,000	C.F.S.
Total Stage Increase	< 0.1	Feet
Headwater Elevation	846.7	Feet
Waterway area req'd below elev. 846.7 (at right angles to channel)	= 13,385	SQ. FT.
Low Member At or Above Elevation	844.3	Feet
Design Mean Velocity Through Structure	2.0	F.P.S.
Basic Flood (100 yr. freq.)	75,130	C.F.S.
Total Stage Increase	< 0.1	Feet
Headwater Elevation	862.2	Feet
Mean Velocity Through Structure	1.3	F.P.S.
Flowline Elevation 803.0	Skew Angle 0°	
Estimated Preliminary Total Scour At Pier Elevation (7 yr. freq.)	797.0	Feet

SCOUR CONFIRMATION RECOMMENDATION

DATE 1-12-2017

Total Scour At Pier Elevation 797.0 Feet (7 yr. freq.)
Scour Code 1

ENGINEER'S RECOMMENDATION

DATE 1-11-2017

32' ROADWAY ~ 0° SKEW

Bridge Survey Sheets made from: SURVEY NOTES FROM POLK COUNTY (4-13-2016)

Benchmark Elevation ..... (N.A.V.D./M.S.L. 1929 Adj./Assumed)
Location: .....

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

ON C.S.A.H. 1
PROPOSED BRIDGE LOCATED 2.5 MILES WEST OF JCT. T.H. 75 OVER RED RIVER OF THE NORTH
SEC. 26 TWP. 147 N R. 49 W
TOWNSHIP HUBBARD COUNTY POLK
EXIST. BRIDGE NO. 5767

CERTIFIED BY: PROFESSIONAL ENGINEER/
LIC. NO. _____

DES.: DPK
CHK.: TJW
DRN.: NBB
CHK.: DPK

ERICKSON ENGINEERING
WWW.ERICKSONENGINEERING.COM
952-929-6791

BRIDGE SURVEY

APPROVED:

SHEET NO. 1 OF 1 SHEETS

EXISTING BR. 5767