

Line Number	State Line Station	Adjusted Course	Adjusted Distance	State Line Record
L-1	Sta. 67 to 68	N9°28'13"W	754.69'	Adj. 755.02' Rec.
L-2	Sta. 68 to 69	N39°17'33"W	446.31'	Adj. 446.58' Rec.
L-3	Sta. 69 to 70	N60°26'43"W	582.39'	Adj. 582.57' Rec.
L-4	Sta. 70 to 71	S88°00'08"W	1671.63'	Adj. 1671.64' Rec.
L-5	Sta. 71 to C/L	N46°37'50"W	74.75'	Adj. 75.00' Rec.
L-6	C/L to Sta. 72	N46°37'44"W	553.48'	Adj. 553.38' Rec.
L-7	Sta. 72 to 73	N38°30'58"W	373.64'	Adj. 373.53' Rec.
L-8	Sta. 73 to 74	N25°58'00"W	293.57'	Adj. 293.45' Rec.
L-9	Sta. 74 to 75	N0°40'17"W	599.12'	Adj. 599.00' Rec.
L-10	Sta. 75 to 76	N8°21'31"E	980.51'	Adj. 980.40' Rec.
L-11	Sta. 76 to 77	N12°08'46"W	312.63'	Adj. 312.51' Rec.
L-12	Sta. 77 to 78	N25°25'29"W	298.23'	Adj. 298.11' Rec.
L-13	Sta. 78 to 79	N44°33'46"W	547.51'	Adj. 547.41' Rec.
L-14	Sta. 79 to 80	N71°00'15"W	348.64'	Adj. 348.58' Rec.
L-15	Sta. 80 to 81	S83°34'34"W	206.41'	Adj. 206.40' Rec.
L-16	Sta. 81 to 82	S56°33'57"W	305.24'	Adj. 305.29' Rec.
L-17	Sta. 82 to 83	S29°21'17"W	246.27'	Adj. 246.36' Rec.
L-18	Sta. 83 to 84	S5°31'07"E	350.36'	Adj. 350.48' Rec.
L-19	Sta. 84 to 85A	N84°27'02"E	209.40'	Adj. 209.40' Rec.
L-20	Sta. 84 to 84B	S84°27'03"W	178.73'	Adj. 178.64' Rec.
L-21	Sta. 84 to S.L.	N84°27'02"E	158.06'	Adj. 158.00' Rec.

Station Angle Point	Latitude	Longitude	Elevation
COB Monument 23	46°39'14.88137"	92°16'40.56384"	636.5'
Bronze Top Cap	46°39'14.88385"	92°16'50.76246"	+717'
COB Monument 24	46°39'14.88385"	92°16'50.76246"	
Broken Top-No Cap	46°39'13.19465"	92°17'01.83160"	628.9'
State Line Monument	46°39'31.34348"	92°17'02.04756"	628.7'
Bridge Centerline	46°39'31.34348"	92°17'02.04756"	628.7'
Station 71+74.75	46°39'31.34348"	92°17'02.04756"	628.7'
State Line Monument	46°39'31.47127"	92°17'02.26408"	628.9'
Station 71+95.65	46°39'59.13721"	92°17'34.37190"	614.3'
State Line Monument 84B	46°39'59.13721"	92°17'34.37190"	614.3'
Monument 85A	46°39'59.50003"	92°17'28.83211"	637.1'

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Certificate of Survey
 Retracement Survey of the 1921 State Line Survey for Minnesota and Wisconsin lying between State Line Corps of Engineer Monuments 23 & 24 and State Line Monuments 84B & 85A.
 Establishing location of the State Line crossing the State Trunk Highway 23 Bridge over the St. Louis River in the Village of Fond du lac.
 Sections 6, 7, and 8, T. 48 N. R. 15 W. 4th P.M.

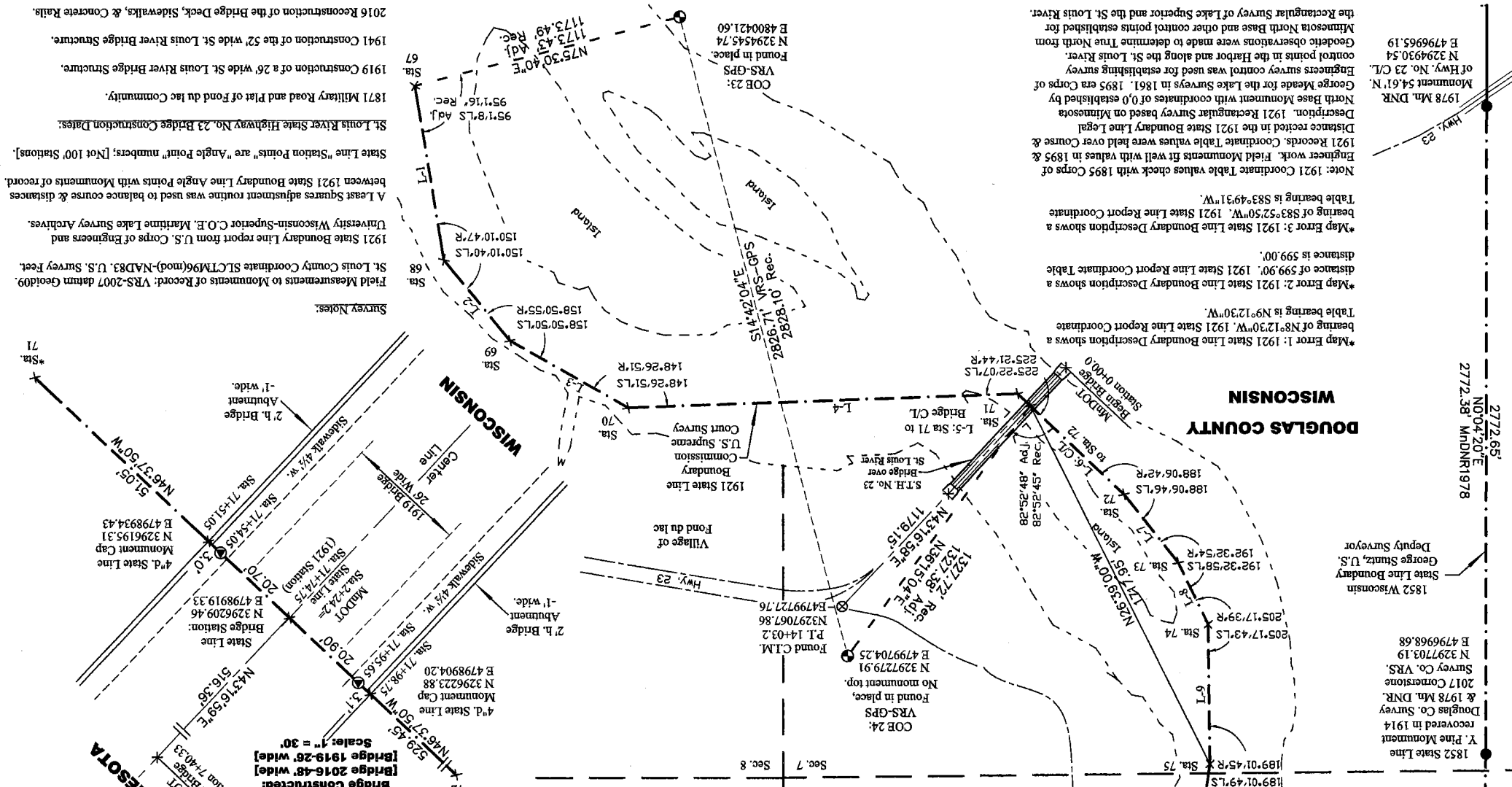
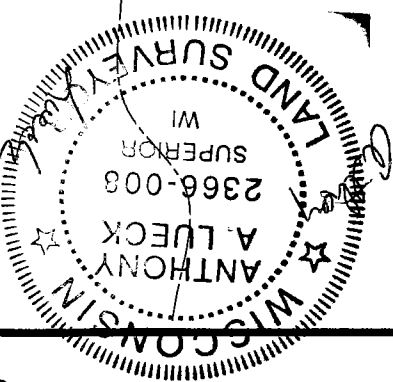
LEGEND

- Found COE Monument or State Line Monument of Record Survey;
- Found COE Monument of Record Survey; Monument of Record typical;
- ⊗ Found MnDOT Cast Iron Monument; 2016 State Trunk Highway 23 Survey;
- Found Iron Monument of Record; 1978 Minnesota DNR Survey;
- Set 4" d. Bronze Cap in Bridge on Minnesota-Wisconsin State Line.
- × Computed State Line Angle Point.

SCALE IN FEET
 0 600 1200



St. Louis County Coordinate
 SLCTM96(mod)-NAD83
 VRS GPS-Geoid9
 U.S. Feet



Survey Notes:
 Field Measurements to Monuments of Record: VRS-2007 datum Geoid99. St. Louis County Coordinate SLCTM96(mod)-NAD83. U.S. Survey Feet.
 1921 State Boundary Line report from U.S. Corps of Engineers and University Wisconsin-Superior C.O.E. Maritime Lake Survey Archives.
 A Least Squares adjustment routine was used to balance course & distances between 1921 State Boundary Line Angle Points with Monuments of Record.
 State Line "Station Points" are "Angle Point" numbers; [Not 100' Stations].
 St. Louis River State Highway No. 23 Bridge Construction Dates:
 1871 Military Road and Plat of Fond du lac Community.
 1919 Construction of a 26' wide St. Louis River Bridge Structure.
 1941 Construction of the 52' wide St. Louis River Bridge Structure.
 2016 Reconstruction of the Bridge Deck, Sidewalks, & Concrete Rails.

Note: 1921 Coordinate Table values check with 1895 Corps of Engineer work. Field Monuments fit well with values in 1895 & 1921 Records. Coordinate Table values were held over Course & Description. 1921 Rectangular Survey based on Minnesota North Base Monument with coordinates of 0, established by George Meade for the Lake Survey in 1861. 1895 era Corps of Engineers survey control was used for establishing survey control points in the Harbor and along the St. Louis River. Geodetic observations were made to determine True North from Minnesota North Base and other control points established for the Rectangular Survey of Lake Superior and the St. Louis River.
 *Map Error 1: 1921 State Line Boundary Description shows a bearing of N8°12'30"W. 1921 State Line Report Coordinate Table bearing is N9°12'30"W.
 *Map Error 2: 1921 State Line Boundary Description shows a distance of 599.90'. 1921 State Line Report Coordinate Table distance is 599.00'.
 *Map Error 3: 1921 State Line Boundary Description shows a bearing of S83°52'50"W. 1921 State Line Report Coordinate Table bearing is S83°49'31"W.

HERBERT CERYNY THAT THIS PLAN, SPECIFICATION, DIMENSIONS, AND CONDITIONS BEING HEREBY APPROVED BY ME AS LAND SURVEYOR LICENSED UNDER THE LAWS OF THE STATE OF MINNESOTA.
 NAME: Anthony Lueck
 SIGNATURE: *Anthony Lueck*
 DATE: 12/18/2019 Print(4/14/2020) Lic. No. 24587

State Trunk Highway No. 23 Bridge over St. Louis River
 Minnesota - Wisconsin State Line Monument Locations:
 Retracement Survey of 1921 U.S. Supreme Court Judicial Line
 Minnesota Department of Transportation
 1123 Mesaba Avenue
 Duluth, Minnesota 55811

