



**HARBOR LINE**

STATION	BEARING	DIST.	LATITUDE	DEPARTURE
N-1	N 52° 16' 13" E	221.26	N 709.18235	E 2235.012.96
N-2	N 60° 51' 25" E	318.29	N 709.31775	E 2235.187.96
N-3	N 68° 56' 40" E	136.09	N 709.47275	E 2235.465.96
N-4	N 71° 31' 09" E	395.60	N 709.63355	E 2235.690.26
N-5	S 25° 35' 28" E	96.82	N 709.57525	E 2235.965.46
N-6	S 51° 13' 06" W	455.01	N 709.29025	E 2235.002.96
N-7	S 66° 54' 15" W	154.29	N 709.20600	E 2235.519.00
N-8	S 80° 53' 57" W	123.14	N 709.18235	E 2235.408.16
N-9	S 80° 53' 57" W	346.46	N 709.03755	E 2235.065.06
N-10	N 32° 03' 14" W	100.05	N 709.18235	E 2235.012.96

**REFERENCE MONUMENTS**

MON.	BEARING	DIST.	LATITUDE	DEPARTURE
MON. 33A	N 709 155 00 E	2235.103.00		
MON. 33B	N 709 246 65 E	2235.081.66		
MON. 33C	N 709 323 46 E	2235.403.90		
MON. 33D	N 709 452 91 E	2235.705.34		
MON. 33E	N 709 592 08 E	2235.936.51		

**REFERENCE TIES**

STATION	BEARING	DIST.
MON. 44	N 73° 27' 02" W	96.02
N-1	N 73° 27' 02" W	96.02
MON. 6	S 88° 29' 07" W	216.02
N-2	S 88° 29' 07" W	216.02
MON. 6	N 22° 34' 22" E	161.68
N-3	N 22° 34' 22" E	161.68
MON. 7A	N 56° 49' 23" W	137.49
N-4	N 56° 49' 23" W	137.49
MON. 8R	N 25° 15' 07" E	67.95
N-5	N 25° 15' 07" E	67.95
MON. 8R	S 75° 47' 14" E	68.55
N-6	S 75° 47' 14" E	68.55
MON. 7A	S 19° 20' 12" W	172.39
N-7	S 19° 20' 12" W	172.39
MON. 6	S 44° 25' 07" E	164.45
N-8	S 44° 25' 07" E	164.45
MON. 6	S 1° 25' 34" E	171.16
N-9	S 1° 25' 34" E	171.16
MON. 4A	S 34° 07' 47" W	69.40
N-10	S 34° 07' 47" W	69.40

**REFERENCE MONUMENTS**

STATION	BEARING	DIST.	LATITUDE	DEPARTURE
MON. 8390	S 87° 19' 56" W	587.44		
MON. 8392	N 1° 43' 00" W	99.60		
MON. 8398	N 56° 11' 38" E	747.90		
MON. 8396	N 57° 28' 08" E	577.81		
MON. 8396	N 57° 05' 57" E	335.30		
MON. 8396	N 46° 43' 21" E	120.20		
MON. 19A	N 63° 45' 38" E	129.70		
MON. 19B	N 79° 50' 30" W	68.80		
MON. 19C	N 15° 20' 01" W	59.15		
MON. 19D	N 45° 55' 20" W	40.42		
MON. 19E	N 47° 24' 20" W	9.10		
MON. 2E	N 62° 25' 30" W	300.74		
R-23A				

**REFERENCE MONUMENTS**

STATION	BEARING	DIST.	LATITUDE	DEPARTURE
R-18A	N 709 974.13 E	2237.079.69		
R-18B	N 709 272.17 E	2236.143.43		
R-18C	N 708 755.85 E	2235.223.01		
R-18D	N 708 522.60 E	2234.798.49		
R-18E	N 708 513.39 E	2234.514.41		
R-18F	N 708 430.00 E	2233.349.74		
R-18G	N 708 049.94 E	2233.949.77		
R-18H	N 707 218.80 E	2233.176.78		
R-18I	N 705 450.81 E	2232.394.14		

**HARBOR LINE**

STATION	BEARING	DIST.	LATITUDE	DEPARTURE
L-32A	S 61° 31' 25" W	534.48	N 710.179.83	E 2236.136.82
L-33A	S 68° 41' 54" W	638.63	N 709.985.00	E 2235.667.00
L-34A	S 68° 41' 54" W	638.63	N 709.693.00	E 2235.072.00
L-35A	S 68° 41' 54" W	638.63	N 709.461.00	E 2234.477.00
L-36A	S 45° 39' 41" W	784.00	N 708.731.07	E 2233.670.27
L-37	S 41° 36' 20" W	1502.17	N 707.607.85	E 2232.672.83
L-38	S 36° 42' 24" W	1641.23	N 706.292.07	E 2231.691.84

**REFERENCE MONUMENTS**

MON.	BEARING	DIST.	LATITUDE	DEPARTURE
MON. H-27	S 15° 58' 34" W	123.21		
MON. L-33A	S 18° 34' 45" E	80.44		
MON. L-34A	S 6° 06' 16" E	77.86		
MON. L-35A	N 62° 05' 55" E	88.79		
MON. L-36A	S 60° 01' 50" W	218.62		
MON. L-37	S 50° 35' 00" E	115.50		
MON. L-38	S 50° 03' 00" E	110.00		
MON. L-39	S 87° 30' 43" E	161.25		

**REFERENCE MONUMENTS**

STATION	BEARING	DIST.	LATITUDE	DEPARTURE
MON. 8402	N 706 625.31 E	2231.808.23		
MON. 8401	N 706 299.07 E	2231.530.74		

IT IS RECOMMENDED THAT THE HARBOR LINES AS SHOWN AND DESCRIBED ON THIS MAP BE ESTABLISHED BY THE SECRETARY OF THE ARMY BY HIS APPROVAL HEREOF SUBSCRIBED AND DATED AT WASHINGTON, D. C. MARCH 1899. THIS MAP TO SUPERSEDE ALL HARBOR LINE MAPS FOR THESE SHORES PREVIOUSLY APPROVED BY THE SECRETARY OF THE ARMY.

DEPARTMENT OF THE ARMY  
OFFICE OF THE CHIEF OF ENGINEERS  
WASHINGTON, D. C. 5 FEBRUARY 1959

APPROVED:  
FOR CONSTRUCTION  
WASHINGTON, D. C. FEB 19 1959

835- INDICATES MILES UPSTREAM FROM THE MOUTH OF THE OHIO RIVER

COORDINATES AS SHOWN ARE PLANE COORDINATES BASED ON THE LAMBERT PROJECTION FOR THE STATE OF MINNESOTA SOUTHERN ZONE.

APPROVED:  
FOR CONSTRUCTION  
WASHINGTON, D. C. FEB 19 1959

DEPARTMENT OF THE ARMY  
OFFICE OF THE CHIEF OF ENGINEERS  
WASHINGTON, D. C. 5 FEBRUARY 1959

APPROVED:  
FOR CONSTRUCTION  
WASHINGTON, D. C. FEB 19 1959

**REFERENCE TIES**

STATION	BEARING	DIST.
MON. 44	N 73° 27' 02" W	96.02
N-1	N 73° 27' 02" W	96.02
MON. 6	S 88° 29' 07" W	216.02
N-2	S 88° 29' 07" W	216.02
MON. 6	N 22° 34' 22" E	161.68
N-3	N 22° 34' 22" E	161.68
MON. 7A	N 56° 49' 23" W	137.49
N-4	N 56° 49' 23" W	137.49
MON. 8R	N 25° 15' 07" E	67.95
N-5	N 25° 15' 07" E	67.95
MON. 8R	S 75° 47' 14" E	68.55
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MON. 6	S 44° 25' 07" E	164.45
N-8	S 44° 25' 07" E	164.45
MON. 6	S 1° 25' 34" E	171.16
N-9	S 1° 25' 34" E	171.16
MON. 4A	S 34° 07' 47" W	69.40
N-10	S 34° 07' 47" W	69.40

**REFERENCE TIES**

STATION	BEARING	DIST.
MON. 8390	S 87° 19' 56" W	587.44
MON. 8392	N 1° 43' 00" W	99.60
MON. 8398	N 56° 11' 38" E	747.90
MON. 8396	N 57° 28' 08" E	577.81
MON. 8396	N 57° 05' 57" E	335.30
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MON. 2E	N 62° 25' 30" W	300.74
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**HARBOR LINE**

STATION	BEARING	DIST.	LATITUDE	DEPARTURE
R-18A	S 61° 31' 25" W	534.48	N 709.976.23	E 2236.596.74
R-18B	S 68° 41' 54" W	638.63	N 709.371.73	E 2236.140.45
R-18C	S 68° 41' 54" W	638.63	N 709.151.95	E 2235.844.46
R-18D	S 68° 41' 54" W	638.63	N 709.046.55	E 2235.710.16
R-18E	S 45° 39' 41" W	784.00	N 708.917.96	E 2235.504.53
R-18F	S 41° 36' 20" W	1502.17	N 708.605.00	E 2234.686.00
R-18G	S 36° 42' 24" W	1641.23	N 708.571.40	E 2234.446.89
R-18H	S 36° 42' 24" W	1641.23	N 708.526.09	E 2234.446.89
R-18I	S 36° 42' 24" W	1641.23	N 708.477.00	E 2234.334.00
R-18J	S 36° 42' 24" W	1641.23	N 708.428.06	E 2234.320.73
R-18K	S 36° 42' 24" W	1641.23	N 708.383.34	E 2234.317.08
R-23A	S 32° 02' 20" W	1991.96	N 705.604.20	E 2232.155.79

**REFERENCE MONUMENTS**

STATION	BEARING	DIST.	LATITUDE	DEPARTURE
MON. 8402	N 706 625.31 E	2231.808.23		
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**REFERENCE TIES**

STATION	BEARING	DIST.
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U. S. ARMY

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