Chart 14967 (Inset Grand Marais Harbor) NM 32/10

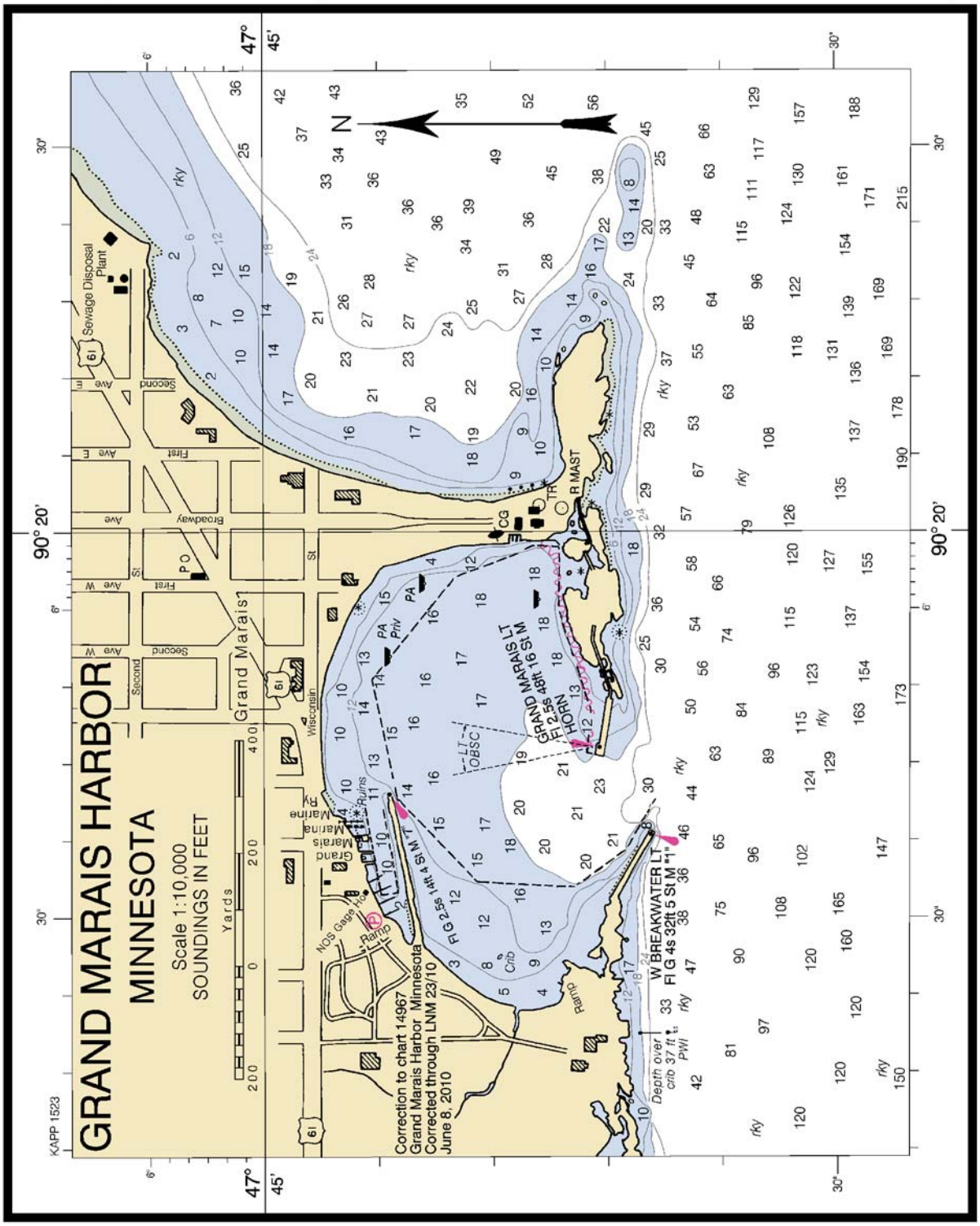

Chart 11477 **NM N32/10**

PORT CANAVERAL CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF APR 2005 AND SURVEYS TO MAR 2010

CONTROLLING DEPTHS FROM SEAWARD IN METERS AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (METERS)	LENGTH (NAUT. MILES)	DEPTH MLLW (METERS)
OUTER REACH	12.6	12.4	12.4	12.3	3-10	121.9	4.7	13.4
MIDDLE REACH	12.2	12.3	12.1	12.1	3-10	121.9	0.9	13.4
INNER REACH	11.9	12.8	12.5	11.7	3-10	121.9	0.7	12.2

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 11478 **NM 32/10**

PORT CANAVERAL CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF APR 2005 AND SURVEYS TO MAR 2010

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
OUTER REACH	41.4	40.7	40.8	40.6	3-10	400	4.7	44
MIDDLE REACH	40.0	40.5	39.9	39.7	3-10	400	0.9	44
INNER REACH	39.3	42.0	41.2	38.4	3-10	400	0.7	40
WEST ACCESS CHANNEL (EAST PORTION)	38.0	40.1	40.4	37.2	11-09	400	0.3	39
WEST ACCESS CHANNEL (WEST PORTION)	35.4	35.5	35.4	35.0	11-09	400	0.3	31

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 11481 **NM 32/10**

PORT CANAVERAL CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF APR 2005 AND SURVEYS TO MAR 2010

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
OUTER REACH	41.4	40.7	40.8	40.6	3-10	400	4.7	44
MIDDLE REACH	40.0	40.5	39.9	39.7	3-10	400	0.9	44
INNER REACH	39.3	42.0	41.2	38.4	3-10	400	0.7	40
WEST ACCESS CHANNEL (EAST PORTION)	38.0	40.1	40.4	37.2	11-09	400	0.3	39
WEST ACCESS CHANNEL (WEST PORTION)	35.4	35.5	35.4	35.0	11-09	400	0.3	31

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 11493 **NM N32/10**

ST. MARYS ENTRANCE AND CUMBERLAND SOUND CHANNEL DEPTHS
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF APR 2006
AND SURVEYS TO APR 2010

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
ENTRANCE CHANNEL	45.2	45.1	47.9	43.1	2-10	500	8.3	46
RANGE A	41.6	47.3	45.4	41.5	4-10	482	1.34	42
RANGE A1, A2	46.0	43.6	42.1	39.8	4-10	591-834	0.66	42
RANGE B	46.8	47.5	47.4	41.9	4-10	582-655	0.55	42
RANGE C	32.6	43.0	46.1	42.5	4-10	498	1.19	42
RANGE D	33.8	42.3	42.7	37.6	4-10	489-498	1.35	42
RANGE E	43.2	43.2	43.0	38.8	4-10	512	0.87	42
RANGE F (WARRIOR REACH)	38.3	44.5	44.4	40.0	4-10	564-836	0.25	42
RANGE G (SOUTH TURNING BASIN)	23.3	39.4	44.1	43.3	4-10	661-1181	0.49	42
RANGE H (TENNESSEE REACH)	19.8	42.3	42.6	41.3	4-10	482-1197	0.83	42
RANGE I (NORTH TURNING BASIN)	43.2	45.6	43.7	40.4	4-10	493-1425	0.46	42

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 11494 **NM N32/10**

ST. MARYS ENTRANCE AND CUMBERLAND SOUND CHANNEL DEPTHS
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF APR 2006
AND SURVEYS TO APR 2010

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
ENTRANCE CHANNEL	45.2	45.1	47.9	43.1	2-10	500	8.3	46
QUARANTINE REACH **	---	---	---	---	10/2003	400-1100	1.67	35
RANGE A	41.6	47.3	45.4	41.5	4-10	482	1.34	42
RANGE A1, A2	46.0	43.6	42.1	39.8	4-10	591-834	0.66	42
RANGE B	46.8	47.5	47.4	41.9	4-10	582-655	0.55	42
RANGE C	32.6	43.0	46.1	42.5	4-10	498	1.19	42
RANGE D	33.8	42.3	42.7	37.6	4-10	489-498	1.35	42
RANGE E	43.2	43.2	43.0	38.8	4-10	512	0.87	42

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 11503 **NM 32/10**

ST. MARYS ENTRANCE AND CUMBERLAND SOUND CHANNEL DEPTHS
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF APR 2006
AND SURVEYS TO APR 2010

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
ENTRANCE CHANNEL	45.2	45.1	47.9	43.1	2-10	500	8.3	46
RANGE A	41.6	47.3	45.4	41.5	4-10	482	1.34	42
RANGE A1, A2	46.0	43.6	42.1	39.8	4-10	591-834	0.66	42
RANGE B	46.8	47.5	47.4	41.9	4-10	582-655	0.55	42
RANGE C	32.6	43.0	46.1	42.5	4-10	498	1.19	42
RANGE D	33.8	42.3	42.7	37.6	4-10	489-498	1.35	42
RANGE E	43.2	43.2	43.0	38.8	4-10	512	0.87	42
RANGE F (WARRIOR REACH)	38.3	44.5	44.4	40.0	4-10	564-836	0.25	42
RANGE G (SOUTH TURNING BASIN)	23.3	39.4	44.1	43.3	4-10	661-1181	0.49	42
RANGE H (TENNESSEE REACH)	19.8	42.3	42.6	41.3	4-10	482-1197	0.83	42
RANGE I (NORTH TURNING BASIN)	43.2	45.6	43.7	40.4	4-10	493-1425	0.46	42

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 11537 NM 32/10

CAPE FEAR RIVER CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF APR 2010 AND SURVEYS TO APR 2010

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (STAT. MILES)	DEPTH MLLW (FEET)
BALDHEAD SHOAL								
REACH 3	43.2	44.1	43.8	40.9	4-10	500-900	5.7	44
REACH 2	42.7	43.7	42.9	30.9	4-10	900	0.8	44
REACH 1	44.3	45.3	40.8	15.8	4-10	700	0.9	44
SMITH ISLAND	19.8	42.4	46.0	45.5	4-10	500-650	0.9	44
BALDHEAD-CASWELL	41.3	45.7	45.5	48.8	1-10	500	0.4	44
SOUTHPORT	44.7	46.3	44.0	39.4	1-10	500	1.0	44
BATTERY ISLAND	44.4	45.5	45.4	45.8	3-10	500	0.5	44
LOWER SWASH	42.5	43.5	43.6	41.9	2-10	400	1.8	42
SNOWS MARSH	40.5	41.0	41.4	39.6	9-09	400	2.9	42
HORSESHOE SHOAL	37.8	40.3	40.0	39.3	9-09	400	1.2	42
REAVES POINT	41.1	41.9	43.3	40.2	2-10	400	1.2	42
LOWER MIDNIGHT	38.5	42.8	43.4	38.9	2-10	600	1.6	42
UPPER MIDNIGHT	36.8	42.9	41.9	38.9	10-09	600	2.6	42
LOWER LILLIPUT	32.1	41.7	42.5	32.1	4-10	600	2.1	42
UPPER LILLIPUT	39.5	41.0	42.0	40.9	4-10	400	1.9	42
KEG ISLAND	38.0	43.8	43.5	32.6	10-09	400	1.5	42
LOWER BIG ISLAND	38.2	43.7	43.7	35.1	10-09	400	0.8	42
UPPER BIG ISLAND	39.3	43.3	38.9	29.8	3-10	510-700	0.5	42
LOWER BRUNSWICK	40.8	43.4	42.9	38.8	3-10	400	1.6	42
UPPER BRUNSWICK	41.7	44.8	45.3	42.3	3-10	400	0.8	42
FOURTH EAST JETTY	40.5	44.2	43.6	41.3	3-10	500	1.7	42
BETWEEN CHANNEL	42.1	44.5	42.9	44.5	3-10	550	0.5	42
LOWER ANCHORAGE BASIN	40.0	41.9	41.5	40.4	2-10	550-1200	0.75	42
UPPER ANCHORAGE BASIN	33.8	35.7	35.4	31.3	2-10	450-940	0.75	38
HWY 74-76 TO BATTLESHIP (E)	27.0	35.0	36.0	34.0	12-09	400	0.6	32
BATTLESHIP TO HWY 133 INCLUDING TURNING BASIN (E)	13.0	27.0	29.0	19.0	3,5,12-09	190-850	0.9	32
HWY 133 TO HILTON BRIDGE (E)	31.7	32.7	30.8	32.6	12-09	200-400	0.5	32
THENCE TO END OF PROJECT AT 34°16'36"N, 77°57'01"W (E)	17.9A	20.9B	19.2C	13.0D	12-09	200	1.2	25
TURNING BASIN (E)	21.8	16.6	12.5	11.0	12-09	500	0.1	25

A. EXCEPT FOR SHOALING TO 9.5 FEET FOR THE LAST 250 FEET OF THE PROJECT.
B. EXCEPT FOR SHOALING TO 9.0 FEET FOR THE LAST 250 FEET OF THE PROJECT.
C. EXCEPT FOR SHOALING TO 9.9 FEET FOR THE LAST 400 FEET OF THE PROJECT.
D. EXCEPT FOR SHOALING TO 9.0 FEET FOR THE LAST 400 FEET OF THE PROJECT.
E. CHANNELS ARE NOT REPORTED IN THE CORPS OF ENGINEERS CHANNEL CONDITION REPORT.
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 11545 NM 32/10

MOREHEAD CITY HARBOR CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF APR 2010 AND SURVEYS TO APR 2010

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (STAT. MILES)	DEPTH MLLW (FEET)
RANGE A	13.6	40.2	9.6	13.1	4-10	450-650	6.6	47
CUTOFF	43.5	35.0	6.3	3.6	4-10	600	0.7	45
RANGE B	31.3	38.7	48.3	46.9	2-10	400	1.3	45
RANGE C	46.1	44.5	43.7	43.1	3-10	1888	0.6	45
EAST LEG	41.2	43.6	43.5	38.6	3-10	455-880	0.3	45
WEST LEG	32.0	35.9	43.0	40.0	3-10	775	0.5	35
NORTHWEST LEG	29.8	34.5	36.0	29.8	3-10	120-1200	0.5	35

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 11547 NM 32/10

MOREHEAD CITY HARBOR CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF APR 2010 AND SURVEYS TO APR 2010

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (STAT. MILES)	DEPTH MLLW (FEET)
RANGE A	13.6	40.2	9.6	13.1	4-10	450-650	6.6	47
CUTOFF	43.5	35.0	6.3	3.6	4-10	600	0.7	45
RANGE B	31.3	38.7	48.3	46.9	2-10	400	1.3	45
RANGE C	46.1	44.5	43.7	43.1	3-10	1888	0.6	45
EAST LEG	41.2	43.6	43.5	38.6	3-10	455-880	0.3	45
WEST LEG	32.0	35.9	43.0	40.0	3-10	775	0.5	35
NORTHWEST LEG	29.8	34.5	36.0	29.8	3-10	120-1200	0.5	35

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 12273 NM 32/10

BALTIMORE HARBOR CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO JAN 2010

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW) *						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (MILES)	DEPTH MLLW (FEET)
CRAIGHILL ENTRANCE	47.0	51.0	51.0	49.0	3-09	700	3.79	50
CRAIGHILL CHANNEL	49.0	51.0	51.0	47.0	4-09	700	3.24	50
CRAIGHILL ANGLE	47.0	50.0	50.0	48.0	5,7-09	700-1870	1.88	50
CRAIGHILL CHANNEL UPPER RANGE	51.0	50.0	51.0	51.0	5-09	700	1.19	50
CUTOFF ANGLE	50.0	51.0	49.0	49.0	3-09	700-1740	1.14	50
BREWERTON CHANNEL	51.0	51.0	51.0	50.0	4-09	700	3.50	50
EASTERN EXTENSION	35.0	35.0	35.0	35.0	1-10	600	6.33	35
SWAN POINT CHANNEL	35.0	35.0	35.0	35.0	6-09	600	3.13	35
TOLCHESTER CHANNEL	31.0	35.0	36.0	35.0	6-09	450-600	10.87 **	35

* ALL DEPTHS REPORTED TO NEAREST FOOT.
** THE LAST 1.88 NM OVERLAPS WITH THE CHESAPEAKE AND DELAWARE CANAL CHANNEL.
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 12278 NM 32/10

BALTIMORE HARBOR CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO JAN 2010

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW) *						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (MILES)	DEPTH MLLW (FEET)
CRAIGHILL ENTRANCE	47.0	51.0	51.0	49.0	3-09	700	3.79	50
CRAIGHILL CHANNEL	49.0	51.0	51.0	47.0	4-09	700	3.24	50
CRAIGHILL ANGLE	47.0	50.0	50.0	48.0	5,7-09	700-1870	1.88	50
CRAIGHILL CHANNEL UPPER RANGE	51.0	50.0	51.0	51.0	5-09	700	1.19	50
CUTOFF ANGLE	50.0	51.0	49.0	49.0	3-09	700-1740	1.14	50
BREWERTON CHANNEL	51.0	51.0	51.0	50.0	4-09	700	3.50	50
BREWERTON ANGLE	49.0	50.0	50.0	49.0	1-09	700-1460	1.10	50
FORT MCHENRY CHANNEL	50.0	51.0	51.0	50.0	1-10	700	4.22	50
CURTIS BAY CHANNEL	49.0	49.0	50.0	50.0	11-09	400-1275	2.25	50
BREWERTON CHANNEL EASTERN EXTENSION	35.0	35.0	35.0	35.0	1-10	600	6.33	35
SWAN POINT CHANNEL	35.0	35.0	35.0	35.0	6-09	600	3.13	35
TOLCHESTER CHANNEL	31.0	35.0	36.0	35.0	6-09	450-600	10.87 **	35

* ALL DEPTHS REPORTED TO NEAREST FOOT.
** THE LAST 1.88 NM OVERLAPS WITH THE CHESAPEAKE AND DELAWARE CANAL CHANNEL.
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 14832 NM 32/10

BUFFALO HARBOR CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF SEP 2008 AND SURVEYS TO OCT 2008

NAME OF CHANNEL	CONTROLLING DEPTHS FROM SEAWARD IN FEET AT GREAT LAKES LOW WATER DATUM (LWD)					PROJECT DIMENSIONS		
	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH LWD (FEET)
BUFFALO HARBOR:								
SOUTH ENTRANCE INNER CHANNEL	26.9	25.7	25.3	16.9	9-08	400-1200	.37	29
OUTER HARBOR SOUTHERN CHANNEL	14.1	23.1	20.7	22.3	8;9-08	1130-1425	.76	28
OUTER HARBOR TURNING BASIN	19.6	18.9	19.9	21.3	9-08	900	.80	23
OUTER HARBOR MIDDLE CHANNEL	21.3	23.1	23.6	21.8	10-08	500-1600	2.12	27
OUTER HARBOR NORTHERN CHANNEL	C19.5	20.3	23.6	21.1	9-08	1175-1350	.91	23
BUFFALO RIVER ENTRANCE CHANNEL	A12.9	15.7	18.4	B18.5	5-08	220-1625	.98	23
BLACK ROCK CANAL:								
ENTRANCE CHANNEL	19.5	19.6	18.4	9.5	5, 6, 7, 8-08	450-1000	.80	21
BLACK ROCK CANAL TO LOCK	5.7	19.8	20.3	5.0	5, 6, 7, 8-08	200-350	3.05	21
THENCE TO BUOY 12	10.9	18.7	19.6	10.9	5, 6, 7, 8-08	200-400	1.70	21

A. SHOALING TO 8.1 FEET IN OUTSIDE 30 FEET OF QUARTER WITHIN 200 FEET OF END OF REACH.
B. SHOALING TO 11.2 FEET OUTSIDE 50 FEET OF QUARTER.
C. SHOALING TO 16.4 FEET AT 42°52'39.3"N-78°53'53.5"W.
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 14833 NM 32/10

BUFFALO HARBOR CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF SEP 2008 AND SURVEYS TO OCT 2008

NAME OF CHANNEL	CONTROLLING DEPTHS FROM SEAWARD IN FEET AT GREAT LAKES LOW WATER DATUM (LWD)					PROJECT DIMENSIONS		
	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH LWD (FEET)
BUFFALO HARBOR:								
SOUTH ENTRANCE INNER CHANNEL	26.9	25.7	25.3	16.9	9-08	400-1200	.37	29
OUTER HARBOR SOUTHERN CHANNEL	14.1	23.1	20.7	22.3	8;9-08	1130-1425	.76	28
OUTER HARBOR TURNING BASIN	19.6	18.9	19.9	21.3	9-08	900	.80	23
OUTER HARBOR MIDDLE CHANNEL	21.3	23.1	23.6	21.8	10-08	500-1600	2.12	27
OUTER HARBOR NORTHERN CHANNEL	H19.5	20.3	21.2	21.1	9-08	1175-1350	.91	23
BUFFALO RIVER:								
ENTRANCE CHANNEL	A12.9	15.7	18.4	B18.5	5-08	220-1625	.98	23
BUFFALO RIVER	C8.8	D10.4	E9.3	F5.6	5-08	100-700	5.27	23
BUFFALO SHIP CANAL	18.3	19.1	19.1	16.8	5-08	125	1.02	23
BLACK ROCK CANAL:								
ENTRANCE CHANNEL	19.5	19.6	18.4	9.5	5,6,7,8-08	450-1000	.80	21
BLACK ROCK CANAL TO LOCK	5.7	19.8	20.3	5.0	5,6,7,8-08	200-350	3.05	21

A. SHOALING TO 8.1 FEET IN OUTSIDE 30 FEET OF QUARTER WITHIN 200 FEET OF END OF REACH.
B. SHOALING TO 11.2 FEET OUTSIDE 30 FEET OF QUARTER.
C. SHOALING TO 5.5 FEET AT 42°51'45.8"N-78°52'06.1"W.
SHOALING TO 6.1 FEET AT 42°51'28.0"N-78°50'47.8"W.
D. SHOALING TO 9.5 FEET LAST 300 FEET OF REACH.
E. SHOALING TO 2.7 FEET AT 42°51'36.0"N-78°50'42.2"W
F. SHOALING TO 0.2 FEET FROM 42°51'36.3"N-78°50'42.1"W TO 42°51'39.4"N-78°50'42.4"w.
SHOALING TO 3.5 FEET AT 42°51'45.9"N-78°51'10.3"W
H. SHOALING TO 16.4 FEET AT 42°52'39.3"N-78°53'53.5"W
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 14867 (Inset Saginaw River) NM 32/10

SAGINAW RIVER CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO APR 2010

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT GREAT LAKES LOW WATER DATUM (LWD)					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (STAT. MILES)	DEPTH LWD (FEET)
ENTRANCE CHANNEL	16.6	20.8	18.9	10-03;9-04;11-06;5-08	350	13.70	27
THENCE TO BUOY 28	23.2	24.5	22.9	4-10	200	0.47	26
THENCE TO ESSEXVILLE TURNING BASIN	23.9	23.0	18.9	4-10	200	2.27	25
ESSEXVILLE TURNING BASIN	18.3	21.1	13.8	8-09	630	0.37	25-20
THENCE TO RR BRIDGE AT MILE 4.94	20.8	24.0	22.8	8-09	200	2.05	25
THENCE TO AIRPORT TURNING BASIN	18.4	21.3	17.8	6-04; 7-07; 6-08; 4-09	200	3.90	22
THENCE TO BUOY 64	17.0	20.7	16.3	7-04; 6-06; 7-07;8-09	200	3.20	22
THENCE TO N 43°28'52.4" W 83°54'48.0"	18.6	19.8	14.1	6-07	200	2.75	22
THENCE TO 6TH ST TURNING BASIN	14.1	19.0	15.9	6-07; 5,6,7-09	200	3.10	22
6TH ST TURNING BASIN	12.0	11.8	11.9	5-09	650	0.20	22
THENCE TO C&O RR BRIDGE	15.0	13.9	10.7	9-04; 5-05; 5-09	200	0.17	22
THENCE TO CARROL ST.	15.4	15.6	13.0	10-77	200	0.30	16

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 14975 NM 32/10

DULUTH HARBOR

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO SEP 2009

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT GREAT LAKES LOW WATER DATUM (LWD)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH LWD (FEET)
DULUTH ENTRY	A	A	A	A				
1	25.7	30.3	31.5	29.8	7-2009	245-1000	.13	32
2	27.5	33.4	33.8	30.0	7-2009	245	.08	31
3	30.3	32.5	31.8	30.4	7-2009	245	.07	30
4	31.8	31.5	31.5	31.0	7-2009	245	.07	29
5	29.1	32.5	32.6	24.7	7-2009	245-480	.07	28
DULUTH HARBOR BASIN								
NORTHERN SECTION	24.3	27.8	27.5	B26.3	7-2009	1100-2700	.64	28
SOUTHERN SECTION	24.4	25.6	26.0	22.1	7-2009	1200-2700	.91	27
EAST GATE BASIN (NORTH)	25.8	26.6	25.8	23.3	7, 9-2009	1500-3300	.33	27
WEST GATE BASIN	24.7	28.2	27.2	23.6	9-2009	400-850	.66	27
HOWARDS BAY	20.1	23.1	23.1	21.7	9-2009	100-750	.99	27
NORTH CHANNEL								
EASTERN SECTION	18.4	19.8	21.6	C14.7	6-2004; 9-2009	400	1.66	27
WESTERN SECTION	15.4	21.0	20.6	19.8	6-2004; 7-2009	400	.59	21
21ST AVE WEST CHANNEL	7.8	14.4	20.1	19.4	6-1998	200	.33	20
SOUTH CHANNEL								
EASTERN SECTION	20.4	22.5	23.8	25.0	9-2009	400-800	.74	27
WESTERN SECTION	21.8	22.5	22.9	22.2	7-2009	400	.83	23
CROSS CHANNEL	22.2	27.7	29.9	18.7	9-2009	1300	.33	27
UPPER CHANNEL	17.6	23.9	21.5	18.5	7-2009	500	1.00	23
MINNESOTA CHANNEL								
EASTERN SECTION	16.1	21.5	22.7	D19.1	7, 8-2009	600	.95	23
WESTERN SECTION	E13.4	14.6	10.6	F10.3	8-2009	200	2.39	20

A. CHANNEL DIVIDED INTO QUARTERS WHEN ENTERING FROM LAKE.
B. SHOALING TO 21.4 FT FROM 46°46'48.1"N - 92°05'43.9"W TO 46°46'50.7"N - 92°05'45.7"W
C. SHOALING TO UNKNOWN DEPTH BEHIND THE 12 FT CURVE FROM 46°45'02.5"N - 92°06'08.8"W TO 46°45'07.2"N - 92°06'18.6"W
D. SHOALING TO 9.6 FT IN THE OUTSIDE HALF OF THE QUARTER FOR THE NORTHERN 600 FT OF THE REACH.
E. SHOALING TO 5.3 FT IN THE OUTSIDE HALF OF THE QUARTER
F. SHOALING TO 5.7 FT IN THE OUTSIDE HALF OF THE QUARTER.

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION.

Chart 14975 NM 32/10

SUPERIOR HARBOR

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO JUL 2009

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT GREAT LAKES LOW WATER DATUM (LWD)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH LWD (FEET)
SUPERIOR ENTRY	A	A	A	A				
1	28.1 B	31.6	30.8	28.1 C	6-08	600-1100	.18	31
2	27.6	30.3	31.4	29.5	6-08	415-1100	.15	30
3	29.8	30.6	31.1	26.4	6-08	415	.08	29
4	26.3	30.3	29.5	25.0	6-08	415-430	.08	28
5	23.9	29.0	29.5	23.7	6-08	430-840	.08	27
SUPERIOR HARBOR BASIN	24.7	24.3	23.1	20.4 D	6-08; 7-09	600-2000	1.21	27
ALLOUEZ BAY CHANNEL	20.7	23.4	22.4	22.6	6-09	400-900	.44	27
SUPERIOR FRONT CHANNEL	25.3	27.1	26.4	24.9	7-09	600	2.32	27
EAST GATE BASIN (SOUTH)	26.4	26.9	26.4	25.8	7-09	600-3200	.57	27

A. CHANNEL DIVIDED INTO QUARTERS WHEN ENTERING FROM LAKE.
B. SHOALING TO 23.6 FEET AT 46°42'33.1"N 092°00'26.5"W
C. SHOALING TO 10.6 FEET WITHIN 30 FEET OF CHANNEL LIMIT.
D. SHOALING TO 19.8 FEET AT 46°42'24.1"N 092°01'10.9"W AND 17.5 FEET AT 46°42'59.0"N 092°02'20.6"W
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 18453 NM 32/10

HYLEBOS WATERWAY

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO JUN 2009
AND NOS SURVEY FROM APR 2009

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
COMMENCEMENT BAY							
TO E. 11TH ST. BRIDGE	20.0	29.0	28.0	4,5,6-09	200	1.0	30
THENCE TO BEND	20.0	29.0	25.0	4,5-09	200	0.5	30
THENCE TO LOWER TURNING BASIN	17.0	28.0	28.0	4,5-09	300-200	0.35	30
LOWER TURNING BASIN	27.9	28.8	35.0	6-04; 4,5-09	200-510	0.24	30
THENCE TO UPPER TURNING BASIN	28.0	31.0	33.0	4,5-09	200	0.35	30
UPPER TURNING BASIN	23.5	23.0	23.0	4-99; 4,5-09	200-760	0.28	30

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 18453 NM 32/10

BLAIR WATERWAY

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO JUN 2009
AND NOS SURVEY FROM APR 2009

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
COMMENCEMENT BAY TO POINT AT:							
47°16'22.89"N/122°24'18.87W	49.0 A	50.0	50.0	4,6-09	343 - 520	0.7	51
THENCE TO: 47°16'14.99"N/122°24'06.20"W	47.0 B	50.0	49.0	4,6-09	320 - 343	0.2	51
THENCE TO: 47°15'56.57"N/122°23'36.36"W	47.0 C	49.0	49.0	4,6-09	330 - 520	0.5	51
THENCE TO TURNING BASIN	47.0 D	49.0	50.0	4,6-09	330	0.8	51
TURNING BASIN	48.0	47.0	48.0	4,6-09	330 - 1800	0.4	51

A. EXCEPT FOR SHOALING TO 29 FEET IN THE OUTER 50 FT OF QUARTER AND A 48 FT OBSTRUCTION AT 47°16'38.7"N -122°24'38.6"W
B. EXCEPT FOR SHOALING TO 23 FEET IN THE OUTER 50 FT OF QUARTER
C. EXCEPT FOR SHOALING TO 24 FEET IN THE OUTER 50 FT OF QUARTER
D. EXCEPT FOR SHOALING TO 38 FEET IN THE OUTER 50 FT OF QUARTER
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION