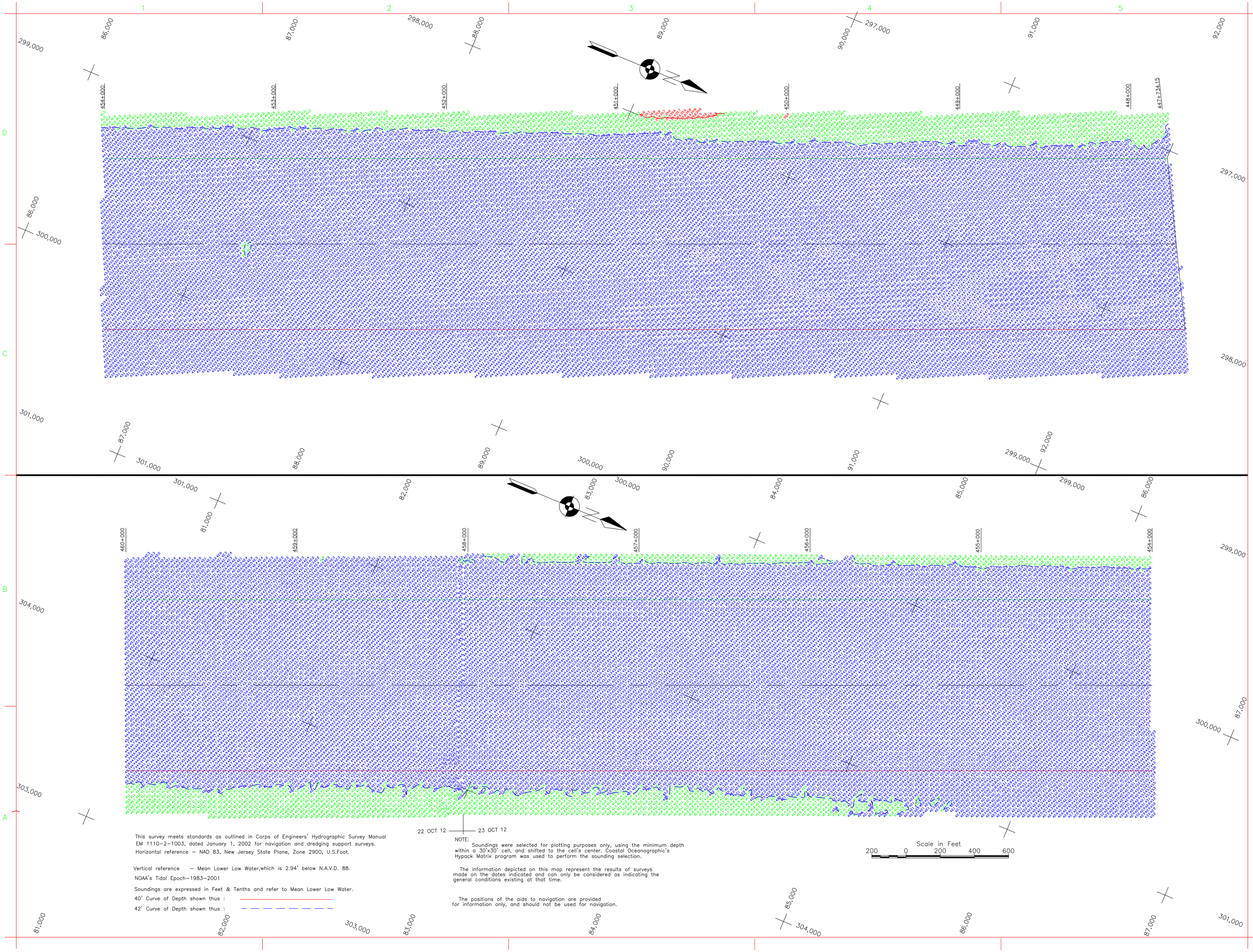


This survey meets standards as outlined in Corps of Engineers' Hydrographic Survey Manual EM 1110-2-1003, dated January 1, 2002 for navigation and dredging support surveys.
Horizontal reference – NAD 83, New Jersey State Plane, Zone 2900, U.S.Foot.

Vertical reference – Mean Lower Low Water,which is 2.94' below N.A.V.D. 88.

NOAA's Tidal Epoch-1983-2001

Soundings are expressed in Feet & Tenths and refer to Mean Lower Low Water.

40' Curve of Depth shown thus :

42' Curve of Depth shown thus :

NOTE:
Soundings were selected for plotting purposes only, using the minimum depth within a 30'x30' cell, and shifted to the cell's center. Coastal Oceanographic's Hypack Matrix program was used to perform the sounding selection.

The information depicted on this map represent the results of surveys made on the dates indicated and can only be considered as indicating the general conditions existing at that time.

The positions of the aids to navigation are provided for information only, and should not be used for navigation.

US Army Corps of Engineers
Philadelphia District

Mark	Description	Date	Appr.

U.S. ARMY ENGINEER DISTRICT, PHILADELPHIA
CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

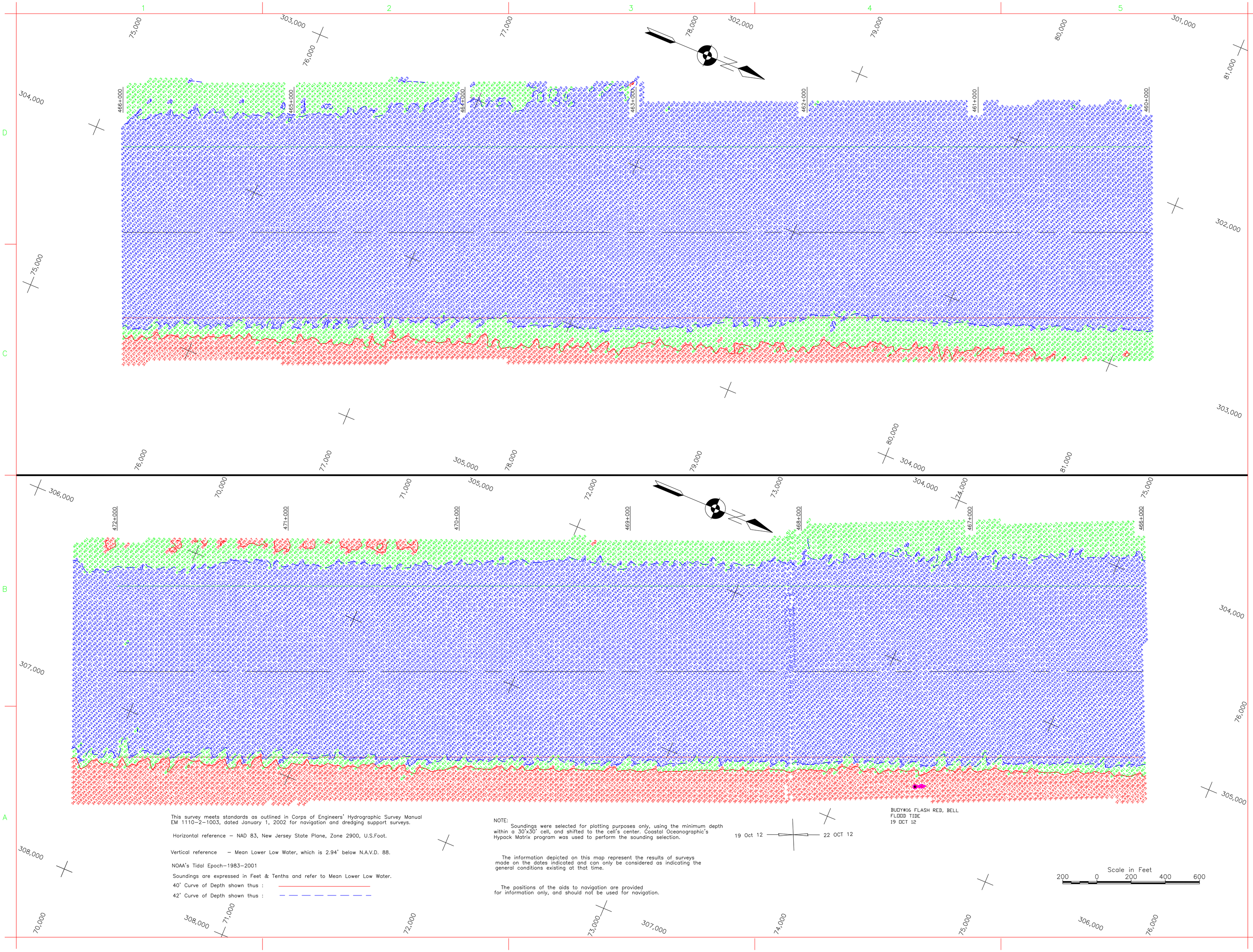
TRACED BY J.A.Grach	PLOTTED BY J.A.Caraballo	DRAWING NO. 63589	
SURVEYED BY C.Eischman	DATE SURVEYED As Shown	APPROVED Chief, Surv. Branch	

Designed by: | Date: | Rev.
Dwn by: | Ckd by: | IFB DACW61-
Reviewed by: | Drawing code:
Submitted by: | File name:
Plot date: 11/02/2012
Plot scale: 1in to 200 ft

DELAWARE RIVER
PHILADELPHIA TO THE SEA
EXAMINATION
BRANDYWINE RANGE
STA.447+734.15 TO STA.460+000

Sheet reference number:

Sheet 1 of 6



This survey meets standards as outlined in Corps of Engineers' Hydrographic Survey Manual EM 1110-2-1003, dated January 1, 2002 for navigation and dredging support surveys.

Horizontal reference – NAD 83, New Jersey State Plane, Zone 2900, U.S.Foot.

Vertical reference – Mean Lower Low Water, which is 2.94' below N.A.V.D. 88.

NOAA's Tidal Epoch-1983-2001

Soundings are expressed in Feet & Tenths and refer to Mean Lower Low Water.

40' Curve of Depth shown thus :

42' Curve of Depth shown thus :

NOTE:

Soundings were selected for plotting purposes only, using the minimum depth within a 30'x30' cell, and shifted to the cell's center. Coastal Oceanographic's Hypack Matrix program was used to perform the sounding selection.

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US Army Corps of Engineers
Philadelphia District

Mark	Description	Date	Appr.

U.S. ARMY ENGINEER DISTRICT, PHILADELPHIA
CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

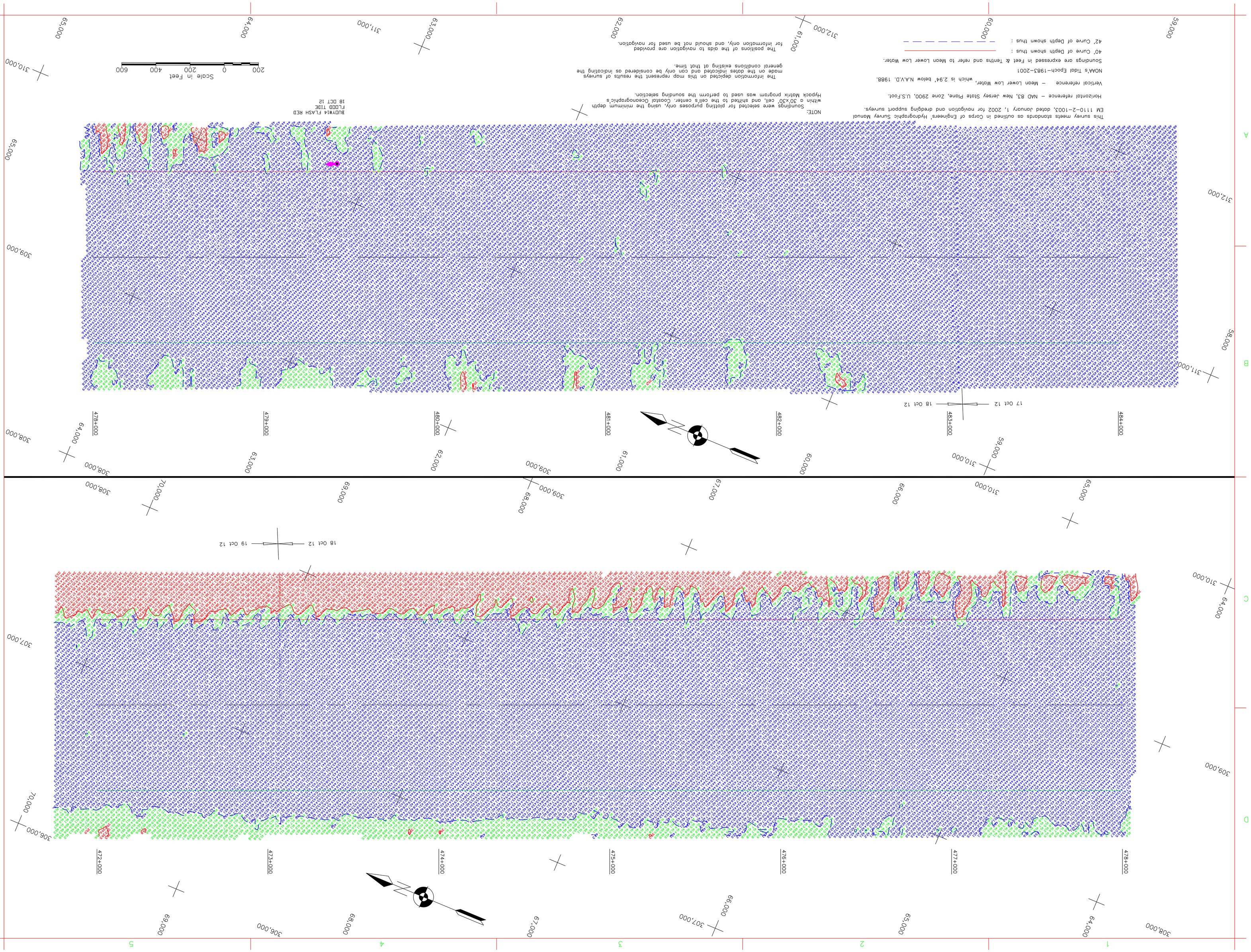
TRACED BY J.A.Grach
PLOTTED BY J.A.Caraballo
SURVEYED BY C.Etschman
DATE SURVEYED as shown
DRAWING NO. 63583
APPROVED Chief, Surv. Branch

Designed by:
Dwn by:
Ckd by:
Reviewed by:
Submitted by: Chief, Arch. Branch
Date:
Rev.
IFB DACW61-
Drawing code:
File name:
Plot date: 11/01/2012
Plot scale: 1in to 200 ft

DELAWARE RIVER
PHILADELPHIA TO THE SEA
EXAMINATION
BRANDYWINE RANGE
STA.460+000 TO 472+000

Sheet reference number:

Sheet 2 of 6



This survey meets standards as outlined in Corps of Engineers' Hydrographic Survey Manual EM 1110-2-1003, dated January 1, 2002 for navigation and dredging support surveys.

Horizontal reference – NAD 83, New Jersey State Plane, Zone 2900, U.S.Foot.

Vertical reference – Mean Lower Low Water, which is 2.94' below N.A.V.D. 1988.

NOAA's Tidal Epoch-1983-2001

Soundings are expressed in Feet & Tenths and refer to Mean Lower Low Water.

40' Curve of Depth shown thus :

42' Curve of Depth shown thus :

NOTE:
Soundings were selected for plotting purposes only, using the minimum depth within a 30'x30' cell, and shifted to the cell's center. Coastal Oceanographic's Hypack Matrix program was used to perform the sounding selection.

The information depicted on this map represent the results of surveys made on the dates indicated and can only be considered as indicating the general conditions existing at that time.

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DELAWARE RIVER
PHILADELPHIA TO THE SEA
EXAMINATION
BRANDYWINE RANGE
STA.472+000 TO STA.484+000

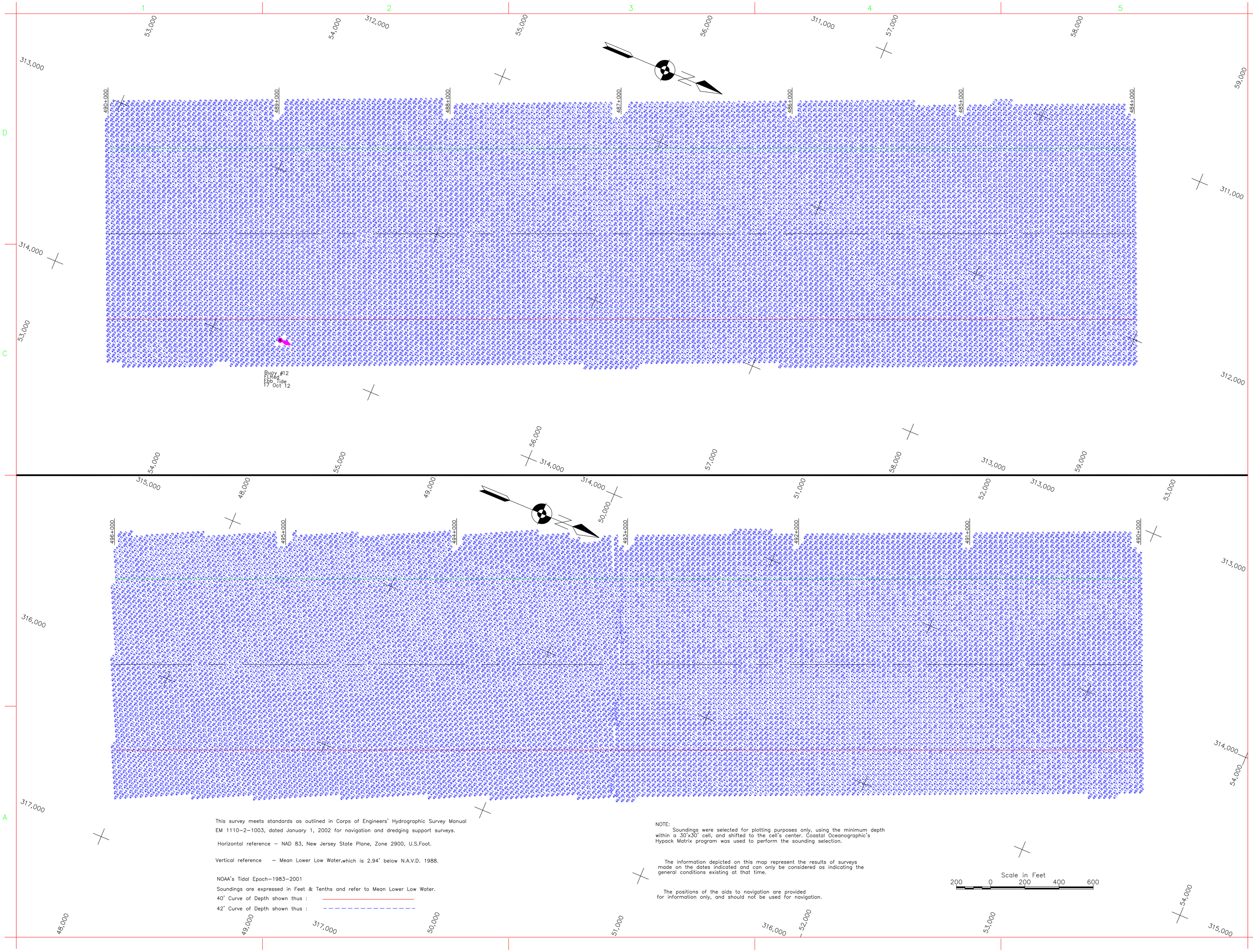
U.S. ARMY ENGINEER DISTRICT, PHILADELPHIA
CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

TRACED BY: J.A.Groch	PLOTTED BY: M.Gaughan	DRAWING NO.: 63580	
SURVEYED BY: C.Etschman	DATE SURVEYED: as shown	APPROVED:	

Designed by: | Date: | Rev.
Dwn by: | Ckd by: | IFB DACW61-
Reviewed by: | Drawing code:
Submitted by: | File name:
Chief, Arch. Branch | Plot date: 10/24/2012
Plot scale: 1in to 200 ft

US Army Corps of Engineers
Philadelphia District

Sheet reference number:
Sheet 3 of 6



This survey meets standards as outlined in Corps of Engineers' Hydrographic Survey Manual EM 1110-2-1003, dated January 1, 2002 for navigation and dredging support surveys.

Horizontal reference – NAD 83, New Jersey State Plane, Zone 2900, U.S.Foot.

Vertical reference – Mean Lower Low Water,which is 2.94' below N.A.V.D. 1988.

NOAA's Tidal Epoch-1983-2001

Soundings are expressed in Feet & Tenths and refer to Mean Lower Low Water.

40' Curve of Depth shown thus :

42' Curve of Depth shown thus :

NOTE:
Soundings were selected for plotting purposes only, using the minimum depth within a 30'x30' cell, and shifted to the cell's center. Coastal Oceanographic's Hypack Matrix program was used to perform the sounding selection.

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Scale in Feet
200 0 200 400 600

US Army Corps of Engineers
Philadelphia District

Mark	Description	Date	Appr.

U.S. ARMY ENGINEER DISTRICT, PHILADELPHIA
CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

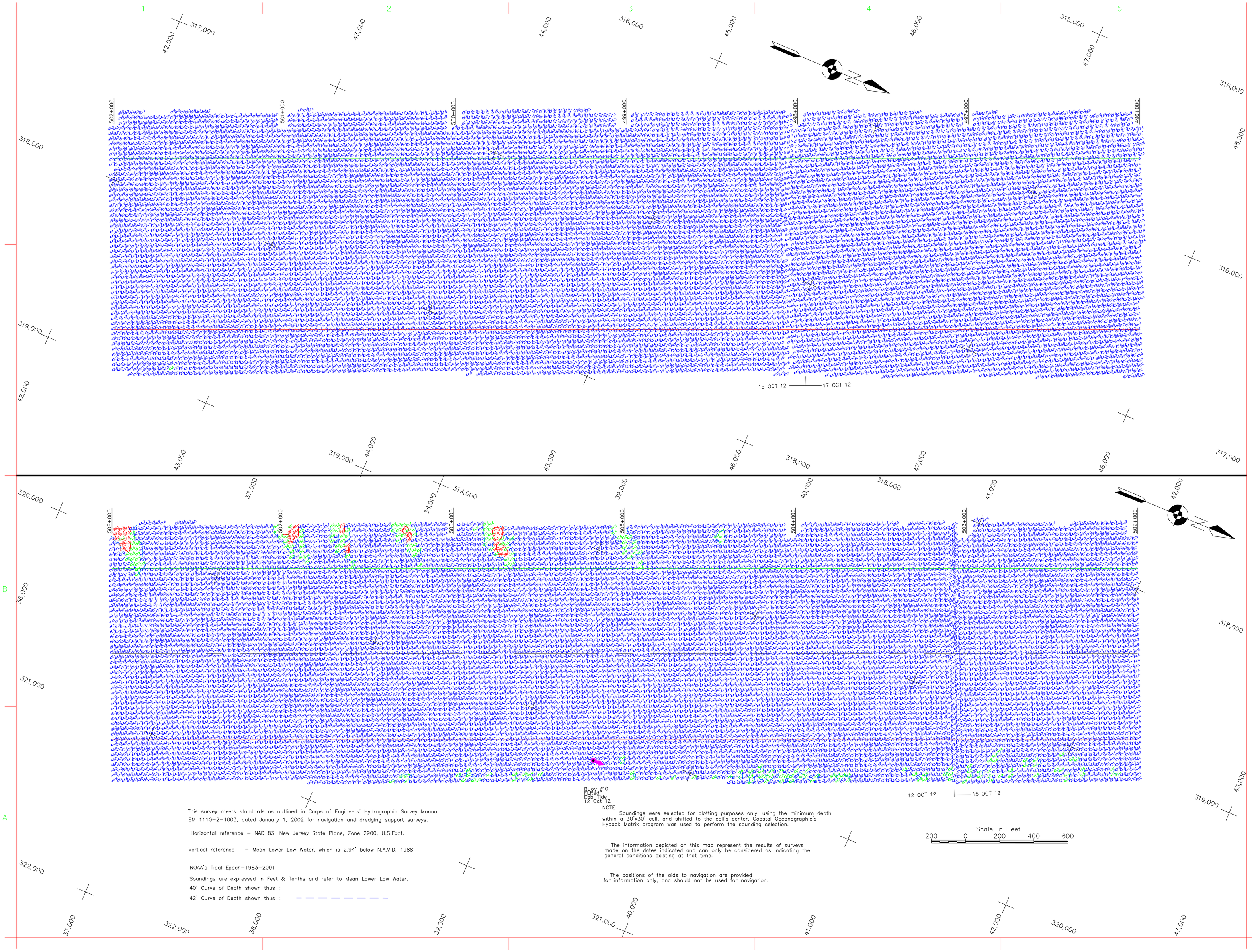
TRACED BY J.A.Grach | PLOTTED BY J.A.Craballo | DRAWING NO. 63579
SURVEYED BY C.Eischman | DATE SURVEYED 17 Oct 12 | APPROVED
CHIEF, SURV. BRANCH

Designed by: | Date: | Rev.
Dwn by: | Ckd by: | IFB DACW61-
Reviewed by: | Drawing code:
Submitted by: | File name:
Chief, Arch. Branch | Plot date: 10/22/2012
Plot scale: 1in to 200 ft

DELAWARE RIVER
PHILADELPHIA TO THE SEA
EXAMINATION
BRANDYWINE RANGE
STA.484+000 TO 496+000

Sheet reference number:

Sheet 4 of 6



This survey meets standards as outlined in Corps of Engineers' Hydrographic Survey Manual EM 1110-2-1003, dated January 1, 2002 for navigation and dredging support surveys.

Horizontal reference – NAD 83, New Jersey State Plane, Zone 2900, U.S.Foot.

Vertical reference – Mean Lower Low Water, which is 2.94' below N.A.V.D. 1988.

NOAA's Tidal Epoch–1983–2001

Soundings are expressed in Feet & Tenths and refer to Mean Lower Low Water.

40' Curve of Depth shown thus :

42' Curve of Depth shown thus :

NOTE:

Soundings were selected for plotting purposes only, using the minimum depth within a 30'x30' cell, and shifted to the cell's center. Coastal Oceanographic's Hypack Matrix program was used to perform the sounding selection.

The information depicted on this map represent the results of surveys made on the dates indicated and can only be considered as indicating the general conditions existing at that time.

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US Army Corps of Engineers
Philadelphia District

Mark	Description	Date	Appr.

U.S. ARMY ENGINEER DISTRICT, PHILADELPHIA
CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

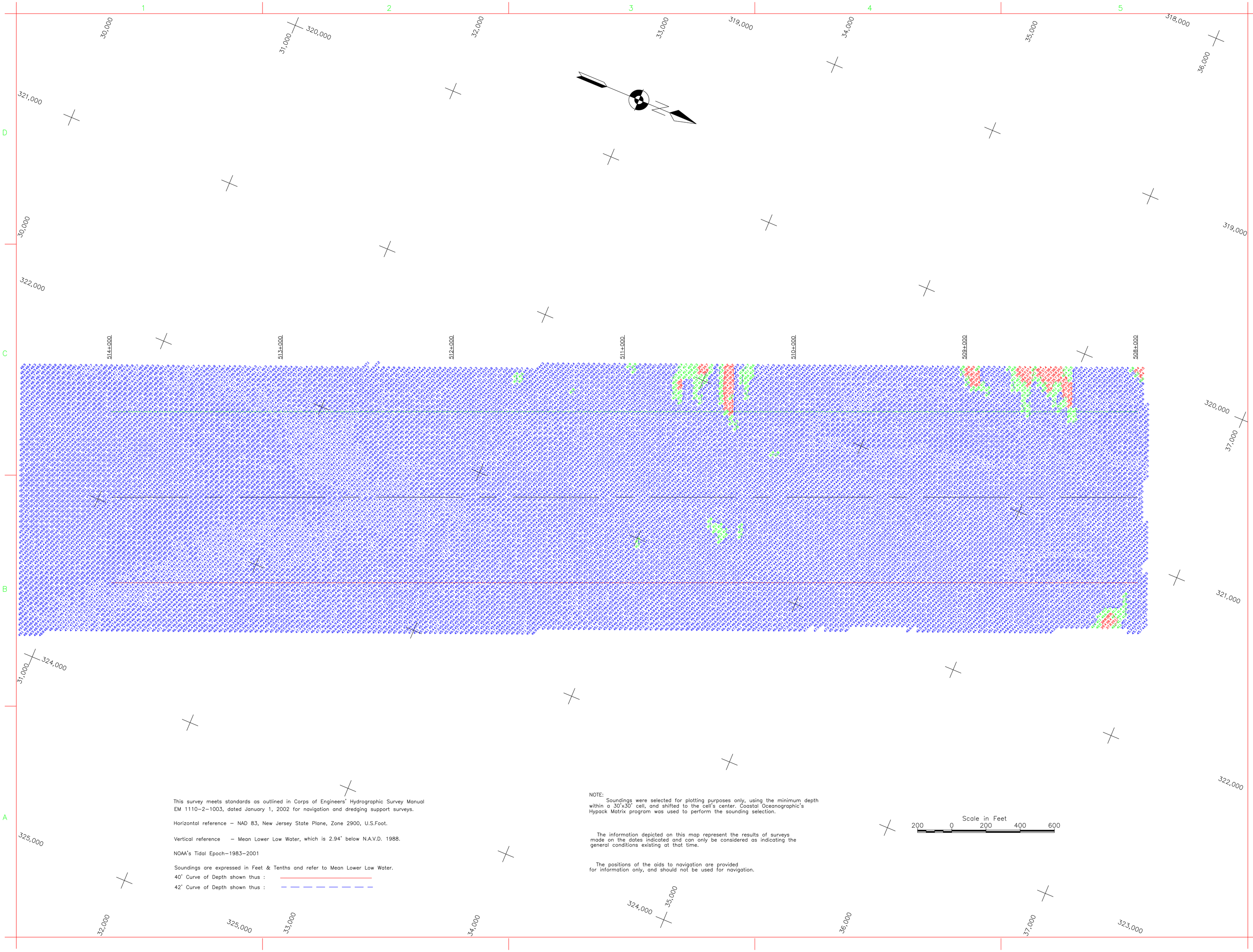
TRACED BY	PLOTTED BY	DRAWING NO.
J.A.Groch	J.A.Caraballo	63578
SURVEYED BY	DATE SURVEYED	APPROVED
C.Etschman	As Shown	

Designed by: | Date: | Rev.
Dwn by: | Ckd by: | IFB DACW61–
Reviewed by: | Drawing code:
Submitted by: | File name: | Plot date: 10/20/2012 | Plot scale: 1in to 200 ft
Chief, Arch. Branch

DELAWARE RIVER
PHILADELPHIA TO THE SEA
EXAMINATION
BRANDYWINE RANGE
STA.496+000 TO 508+000

Sheet reference number:

Sheet 5 of 6



This survey meets standards as outlined in Corps of Engineers' Hydrographic Survey Manual EM 1110-2-1003, dated January 1, 2002 for navigation and dredging support surveys.

Horizontal reference – NAD 83, New Jersey State Plane, Zone 2900, U.S.Foot.

Vertical reference – Mean Lower Low Water, which is 2.94' below N.A.V.D. 1988.

NOAA's Tidal Epoch–1983–2001

Soundings are expressed in Feet & Tenths and refer to Mean Lower Low Water.

40' Curve of Depth shown thus :

42' Curve of Depth shown thus :

NOTE:

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US Army Corps of Engineers
Philadelphia District

Mark	Description	Date	Appr.

U.S. ARMY ENGINEER DISTRICT, PHILADELPHIA
CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

TRACED BY J.A.Groch	PLOTTED BY M.Gaughan	DRAWING NO. 63166	
SURVEYED BY C.Etschman	DATE SURVEYED 05 Jan 12	APPROVED	

Designed by: | Date: | Rev.
Dwn by: | Ckd by: | IFB DACW61-
Reviewed by: | Drawing code:
Submitted by: | File name: Plot date: 01/17/2012 Plot scale: 1in to 200 ft
Chief, Arch. Branch

DELAWARE RIVER
PHILADELPHIA TO THE SEA
EXAMINATION

BRANDYWINE RANGE
STA.508+000 TO STA.514+000

Sheet reference number:

Sheet 6 of 6