INDEX OF NAVIGATION AIDS			
NO.	DATE	STATE PLANE COORDINATES	GEOGRAPHIC POSITION
GC-1	4/02/14	N 2702540.96 E 1068462.15	41° - 39′ - 13.9″N 69° - 59′ - 28.6″W
GC-5	4/02/14	N 2703046.47 E 1069855.09	41° - 39′ - 18.7″N 69° - 59′ - 10.2″W
RN-6	4/02/14	N 2702750.05 E 1069560.61	41° - 39′ - 15.8″N 69° - 59′ - 14.1″W
GC-7	4/02/14	N 2703560.97 E 1070400.51	41° - 39′ - 23.7″N 69° - 59′ - 02.9″W
Fl R-8	4/02/14	N 2703609.83 E 1070686.23	41° - 39′ - 24.1″N 69° - 58′ - 59.1″W
RN-10	4/02/14	N 2705128.33 E 1072293.98	41° - 39′ - 38.8″N 69° - 58′ - 37.6″W
GC-11	4/02/14	N 2705570.61 E 1072620.94	41° - 39′ - 43.1″N 69° - 58′ - 33.1″W
RN-12	4/02/14	N 2706469.94 E 1073756.76	41° - 39′ - 51.8″N 69° - 58′ - 18.0″W
GC-13	4/02/14	N 2706656.62 E 1073720.63	41° - 39′ - 53.6″N 69° - 58′ - 18.4″W

PLAN
SCALE: 1"= 100'

GENERAL NOTES:

1. Soundings are in feet and tenths. The reference plane is Mean Lower Low Water (MLLW) and is based on the 1983-2001 Tidal Epoch. Soundings noted with a (+) are above the reference plane of MLLW.
2. Topography shown is from previous surveys and/or NOAA Chart No. 13229. All topography, including shoreline, bridges, piers, etc., is located approximate unless otherwise noted and should be used as a general reference only.
3. Bench Mark Data: Tides were recorded using RTK GPS. The MLLW to NAVD88 correction for this project is 2.68 feet. This correction is published by NOAA for Bench Marks at Chatham, Stage Harbor, Massachusetts (Station ID 8447505, 04/29/2003).
NAVD88 is above MLLW, therefore the correction should be added to NAVD88 to convert to MLLW.
No tide gauges were used on this project.
Average range of tide is 4.0'.
4. Coordinates shown are based on the Lambert Grid System for the Commonwealth of Massachusetts (Mainland Zone 2001) NAD 1983 and are referenced to US Survey Feet.
5. Survey was performed utilizing an Odom MK 2 echosounder operating at 200 kHz. Horizontal positioning and real-time tides were recorded utilizing a Leica 1200 GPS System.
MTS Orleans was used as the RTK Base Station for this project.
6. The sounding information shown on these maps represents the SHOALEST soundings of those obtained from hydrographic surveys conducted during April 2014.
7. The sounding information depicted on these maps should NOT be used to determine volumes. Volumes are determined from more sounding information than shown. Additional sounding information is available upon request.
8. The information depicted on these maps represents the results of surveys made on the dates indicated, and can only be considered as indicating the general conditions existing at that time.
9. Field Book: R&H 4437
10-Foot depth contour shown thus: ——————
2014 dredge limits shown thus: — — — — —
Surveyed by Paul K. O'Brien and crew
Refer to Survey No. 14-1311

SAFETY PAYS

GRAPHIC SCALE:
1" = 100' 100 0 100 200

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MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR

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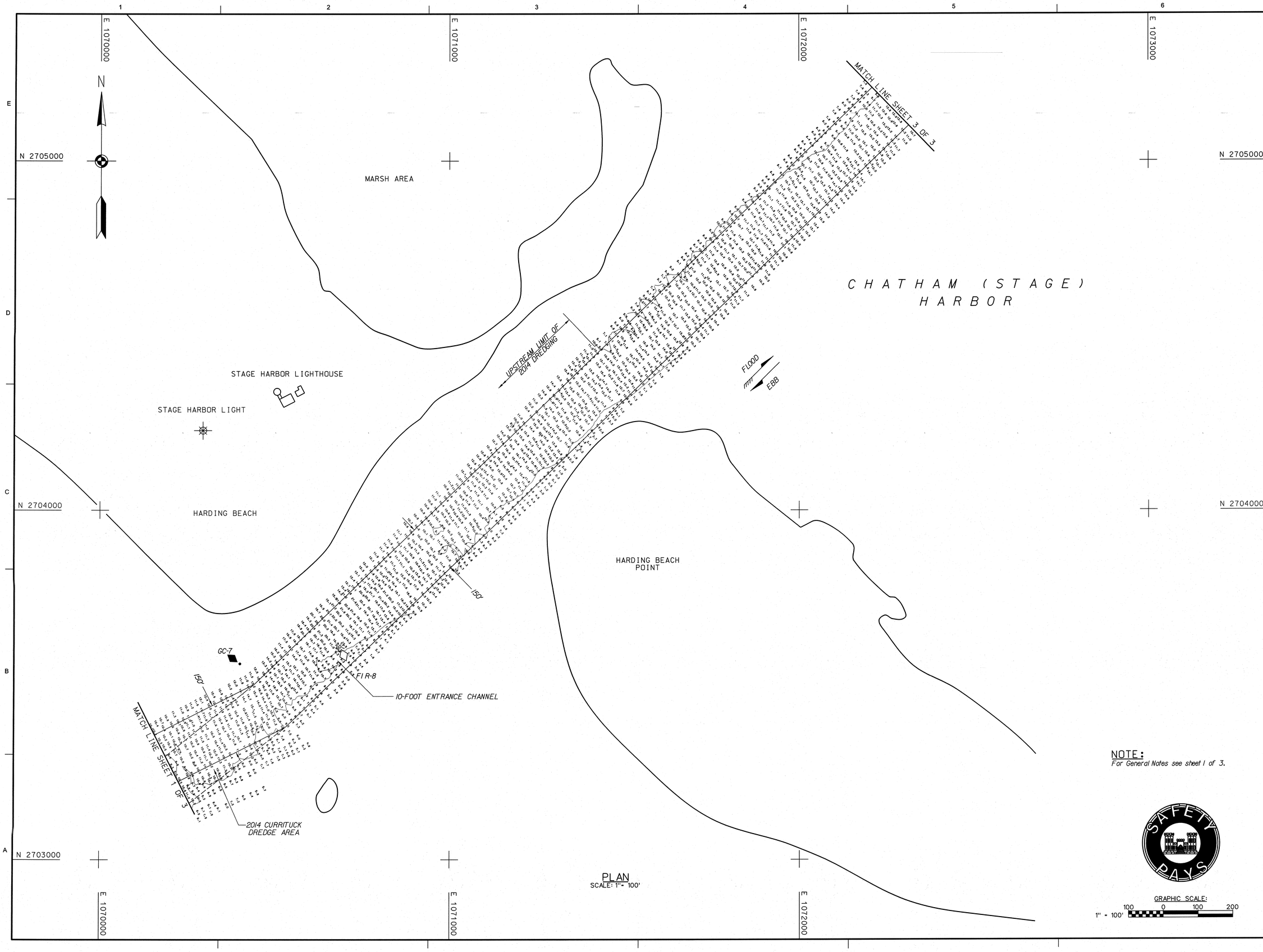
NEW ENGLAND DISTRICT
CONCORD, MASSACHUSETTS
www.nae.usace.army.mil

REVIEWED BY: Jeffrey Preston, Asst. Chief, Survey Section
DATE: 5/6/2014
SUBMITTED BY: Chief, Survey Section
DWN BY: AEB
CKD BY: JWP
DESIGN FILE: CHAHSP3.dgn
PLOT SCALE: 1" = 100'
PLOT DATE: 05/06/2014
DRAWING CODE: CHA-138
SIZE: ANSI F
FILE NAME: CHA138_V-101.dgn

CHATHAM (STAGE) HARBOR
CHATHAM, MASSACHUSETTS
AFTER-DREDGE / CONDITION SURVEY

10-FOOT ENTRANCE CHANNEL

SHEET IDENTIFICATION
V-101
SHEET 1 OF 3



PLAN
SCALE: 1" = 100'

NOTE:
For General Notes see sheet 1 of 3.

GRAPHIC SCALE:
1" = 100'
100 0 100 200

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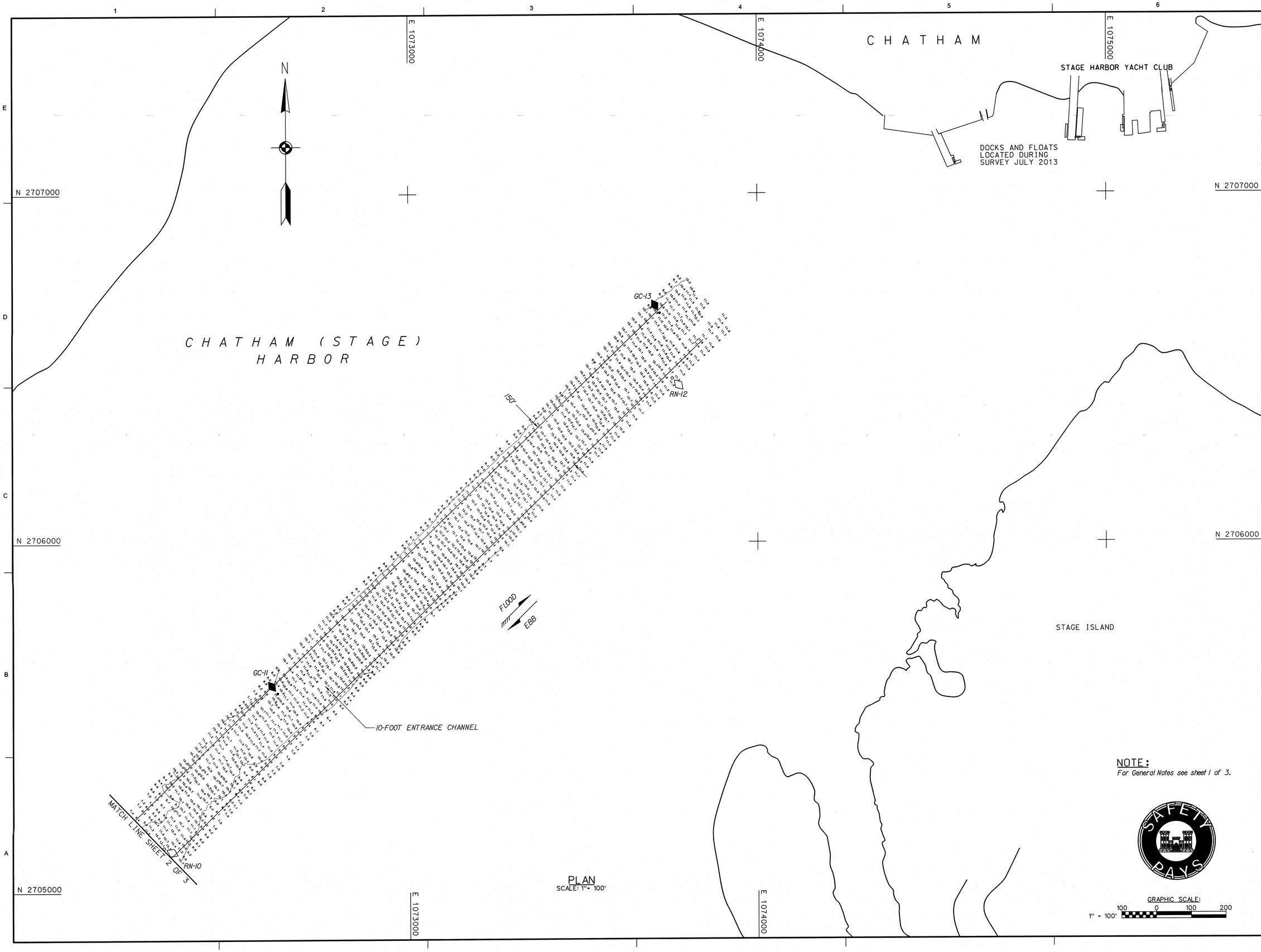
REVIEWED BY: Anthony Pardon
Chief, Survey Section
SUBMITTED BY: Michael T. Mann
Chief, Survey Section
PLOT SCALE: 1" = 100'
PLOT DATE: 05/06/2014
SIZE: ANSI F
FILE NAME: CHA138_V-102.dgn
DATE: 5/6/2014
DWN BY: AEB
CKD BY: JWP
DESIGN FILE: CHA-SP3.dgn
DRAWING CODE: CHA-138

CHATHAM (STAGE) HARBOR
CHATHAM, MASSACHUSETTS
AFTER-DREDGE / CONDITION SURVEY

10-FOOT ENTRANCE CHANNEL

SHEET IDENTIFICATION
V-102
SHEET 2 OF 3



PLAN
SCALE: 1" = 100'

NOTE:
For General Notes see sheet 1 of 3.

GRAPHIC SCALE:
1" = 100'
100 0 100 200

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REVIEWED BY: Kathleen Pawlson
Asst. Chief, Survey Section
SUBMITTED BY: Chief, Survey Section
PLOT SCALE: 1" = 100'
PLOT DATE: 05/06/2014
SIZE: ANSI F
FILE NAME: CHA138_V-103.dgn
DATE: 5/6/2014
DWN BY: AEB
CKD BY:
DESIGN FILE: CHANSP3.dgn
DRAWING CODE: CHA-138

CHATHAM (STAGE) HARBOR
CHATHAM, MASSACHUSETTS
AFTER-DREDGE / CONDITION SURVEY

10-FOOT ENTRANCE CHANNEL

SHEET IDENTIFICATION
V-103
SHEET 3 OF 3