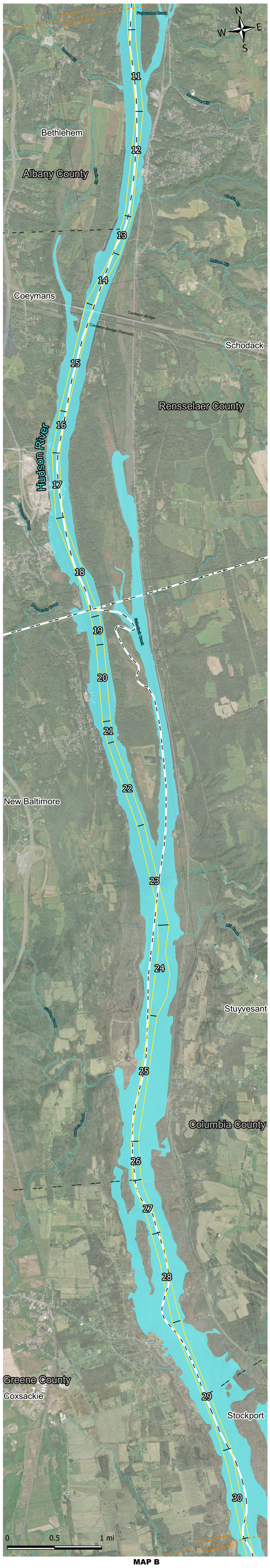
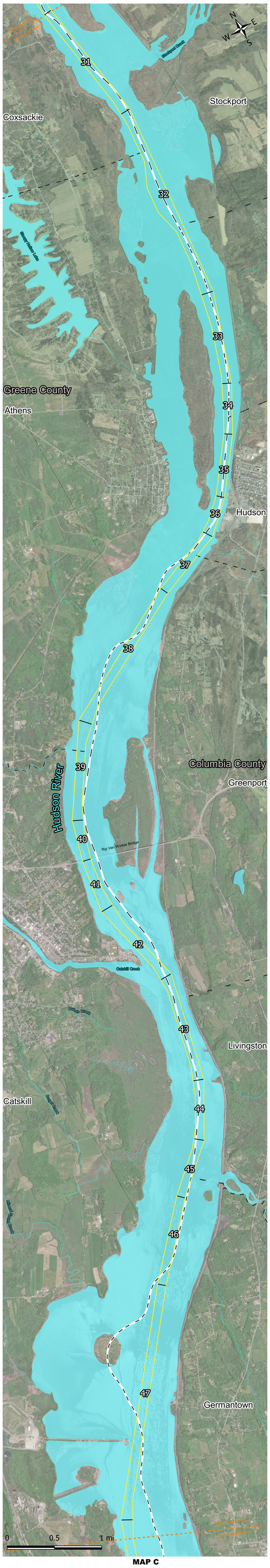


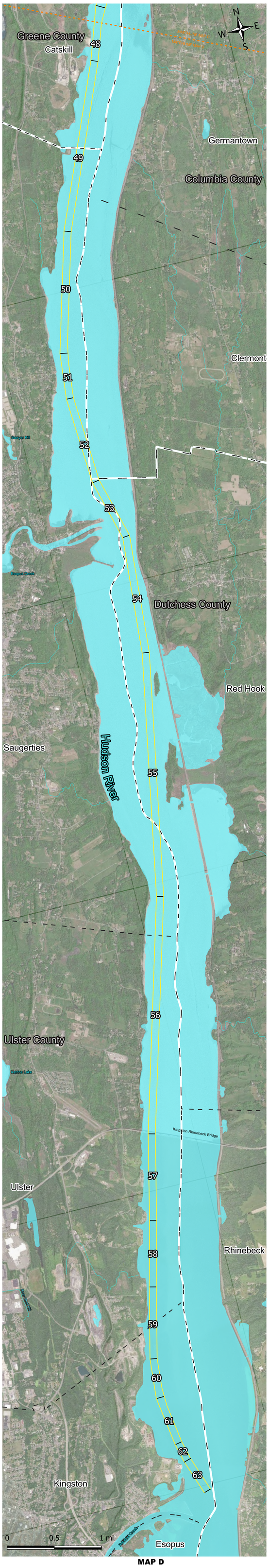
MAP A



MAP B



MAP C



MAP D

Not to be used for navigation

Hudson River Kingston to Waterford, NY Survey Reach Key Map Disclaimer – While the United States Army Corps of Engineers (here in after referred to as USACE) has made every reasonable effort to ensure the accuracy of the maps and associated data, it should be explicitly noted that USACE makes no warranty, representation, or guarantee, either expressed or implied, as to the content, sequence, accuracy, timeliness, or completeness of any of the data provided herein. USACE, its officers, agents, employees, or servants shall assume no liability of any nature for any errors, omissions, or inaccuracies in the information provided regardless of the cause. USACE, its officers, agents, employees, or servants shall assume no liability for any decisions made or actions taken or not taken by the user of the maps and associated data in reliance upon any information or data furnished here. By using these maps and associated data the user does so entirely at their own risk and explicitly acknowledges that she/he is aware of and agrees to be bound by this disclaimer and agrees not to present any claim or demand of any nature against USACE, its officers, agents, employees, or servants in any forum whatsoever for any damages of any nature whatsoever that may result from or be caused in any way by the use of the maps and associated data.

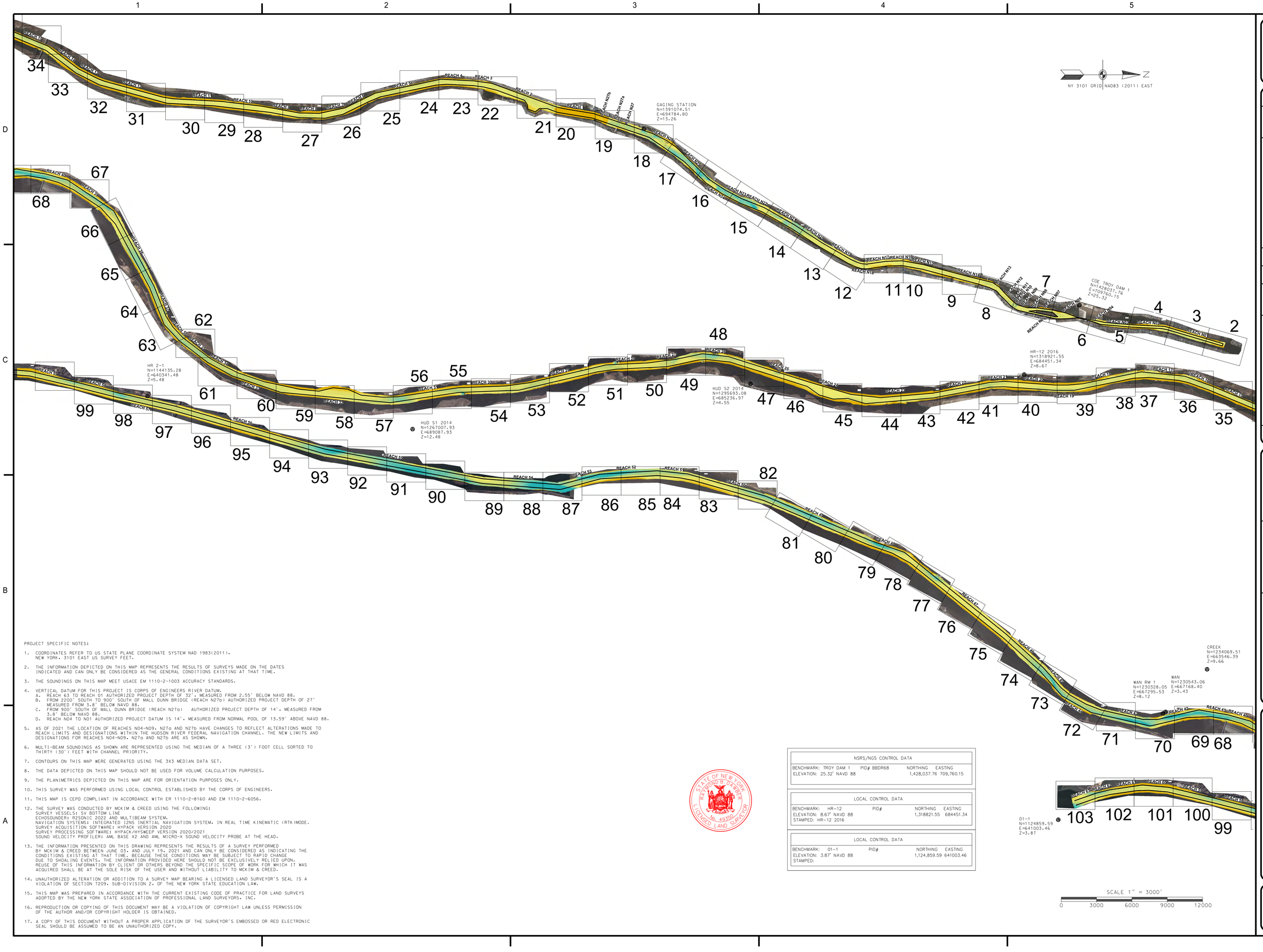
Coordinate system used is NAD1983 State Plane New York East. Basemap courtesy of Bing.

Hudson River
Kingston to Waterford, NY
Survey Reach Key Map

Legend

- Federal Navigation Channel
- Reach Boundary
- Hydrographic Features
- Cities & Towns
- Counties
- Hydrographic Features

US Army Corps of Engineers®
New York District



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
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10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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STATE OF NEW YORK
RICHARD B. BARBER
LICENSED LAND SURVEYOR
NO. 49391

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

US Army Corps of Engineers®
New York District

	DATE	APPR.
DESCRIPTION		
MARK		

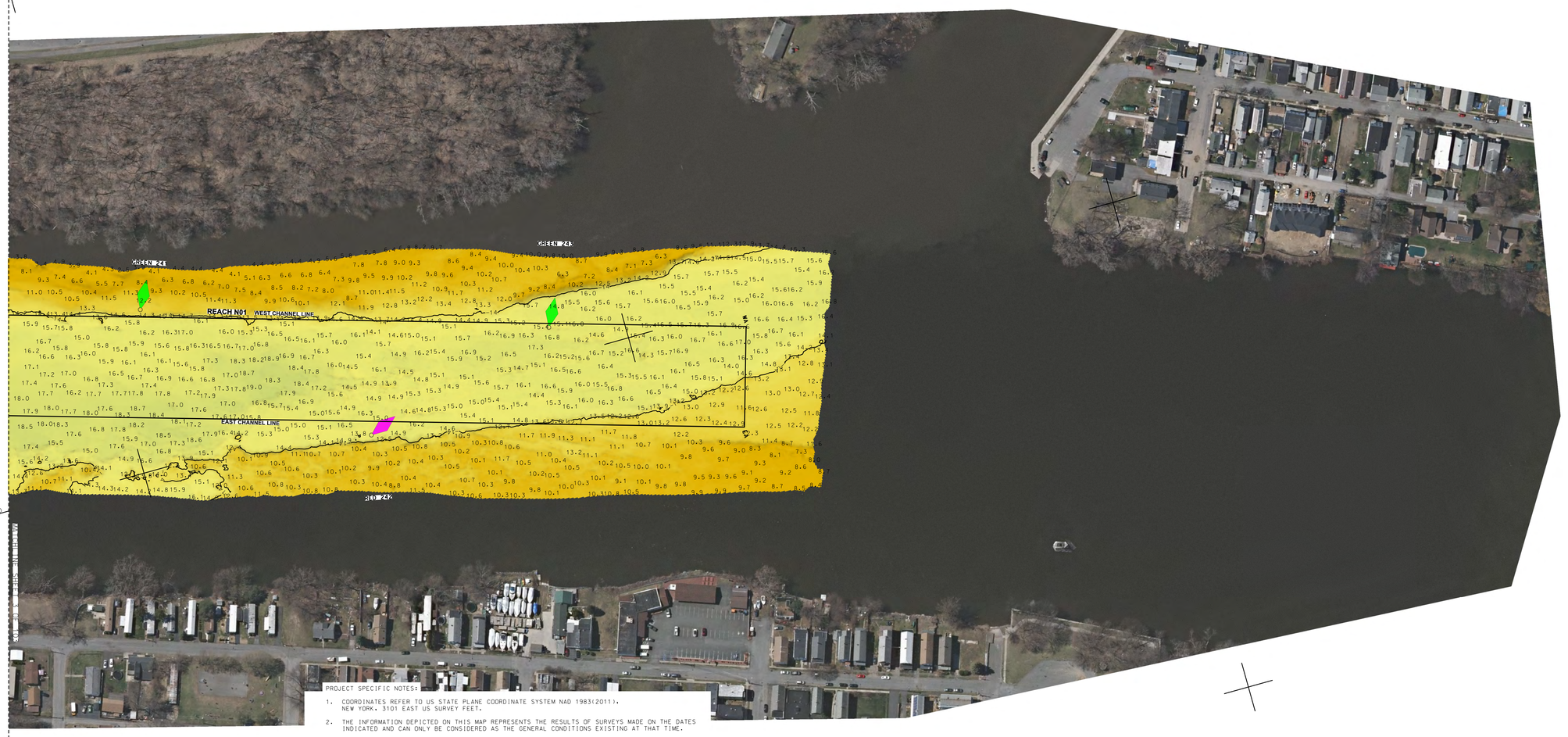
DESIGNED BY: 000
DRN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
ISSUE DATE: NOVEMBER 2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058800063_HUDSON_2021.DGN

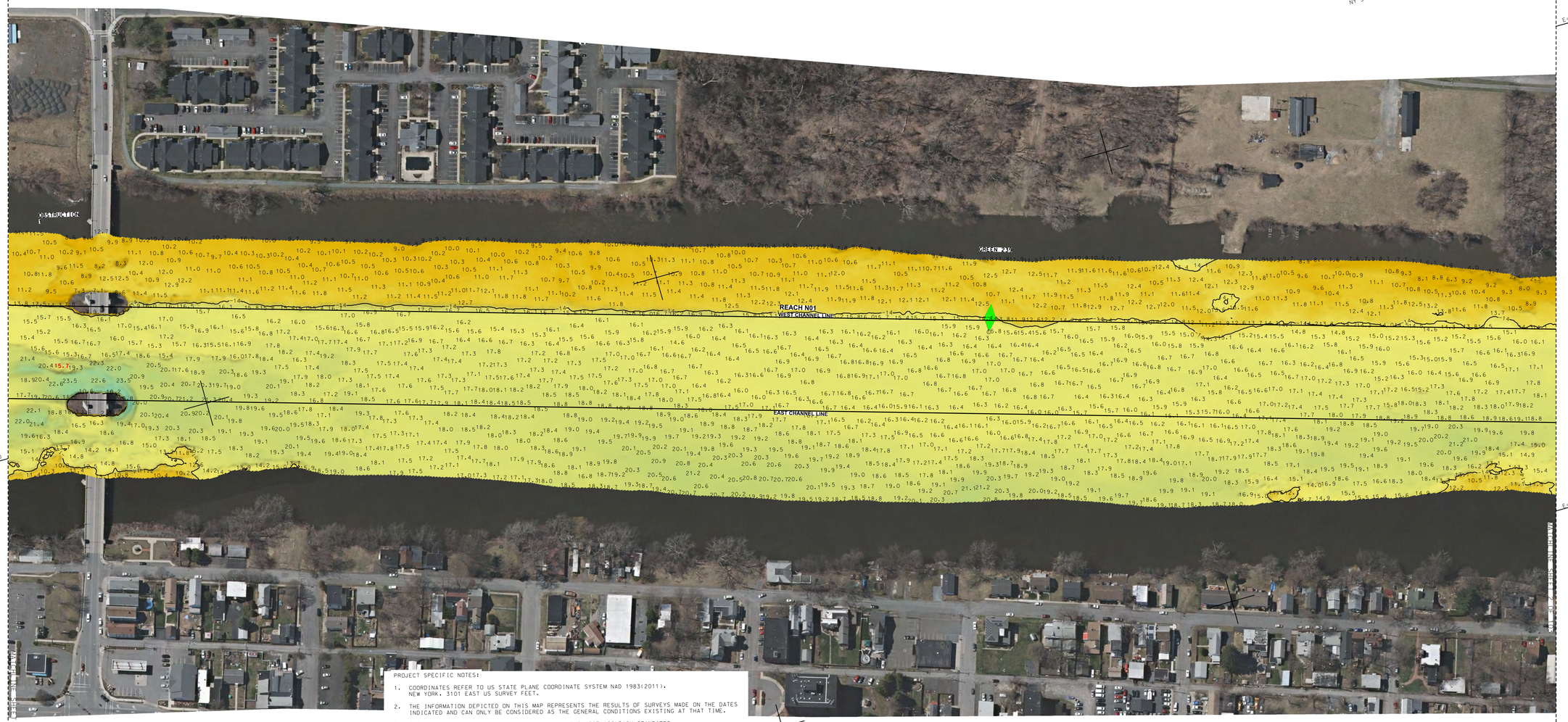
U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-1848
FAX (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY HUDSON RIVER FEDERAL NAVIGATION CHANNEL BETWEEN KINGSTON TO WATERFORD, NY REACH 63 TO REACH N01 KINGSTON, NY TO ABOVE THE FEDERAL DAM IN TROY

SHEET IDENTIFICATION
VH-101
SHEET 1 OF 103


REACH N01
WEST CHANNEL LINE
EAST CHANNEL LINE
REACH N01
REACH N01
REACH N01



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    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILERS: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BB0R68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. PARKER
LICENSED LAND SURVEYOR
No. 49150

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1:1
PLOT DATE: 20211007
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
ISSUE DATE: 20211007
SIZE: ANSI F
FILE NAME: VH-0589890083_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N01

SHEET IDENTIFICATION
VH-103
SHEET 3 OF 103



PROJECT SPECIFIC NOTES:

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    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
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    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
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STATE OF NEW YORK
RAYMOND B. DAWES
049350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

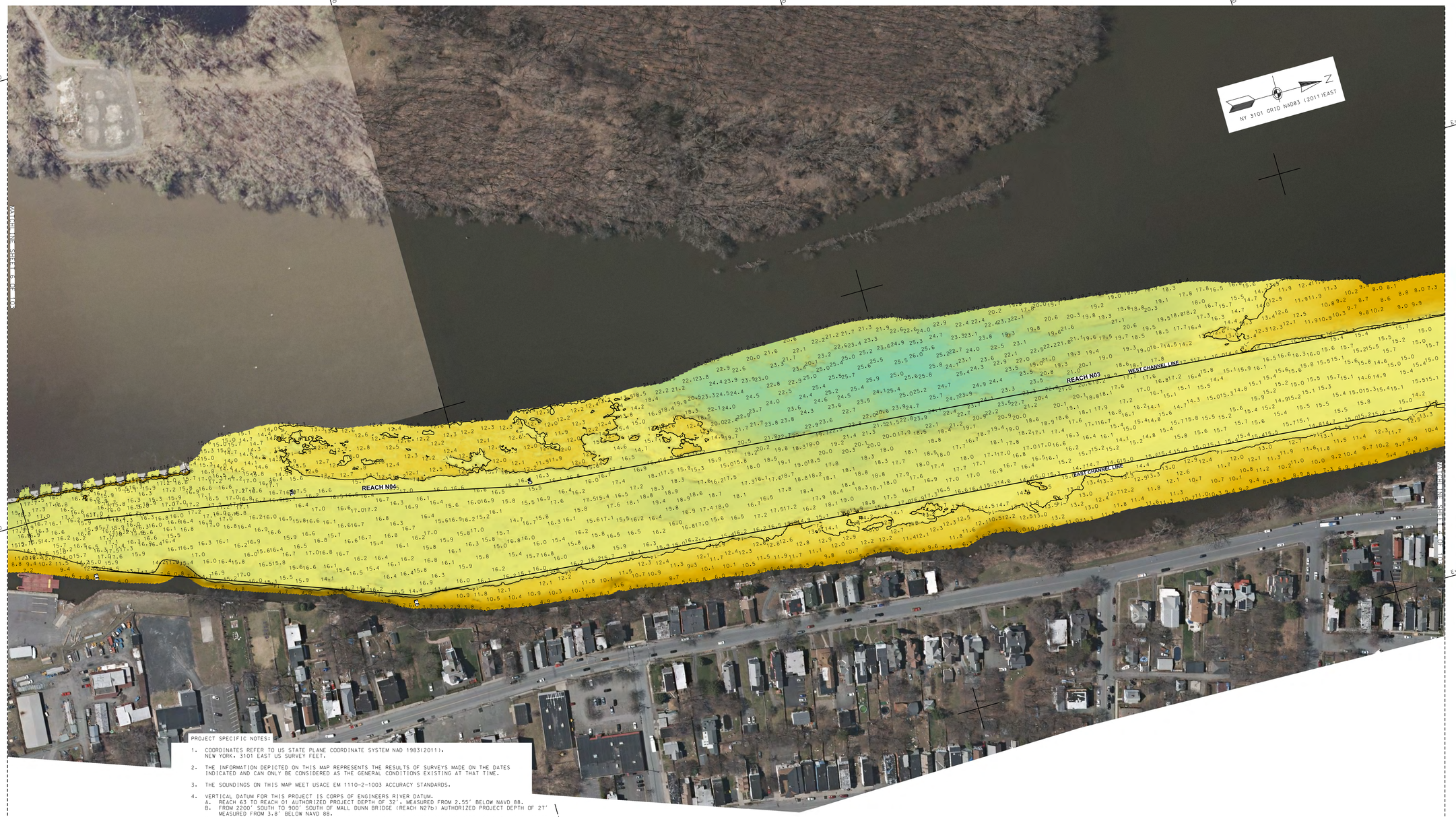
U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

DESIGNED BY: OOO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 200'
PLOT DATE: 8/6/2021
STATE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-DS8899063_HUDSON_2021.DGN

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0348
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N01-N02
FATHOMETER SOUNDINGS IN FEET

SHEET IDENTIFICATION
VH-104
SHEET 4 OF 103



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STATE OF NEW YORK
RAYMOND B. BARBER
No. 49350
LICENSED LAND SURVEYOR

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ELEVATION: 25.32' NAVD 88		1,428,037.76 709,760.15

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BENCHMARK: HR-12	PID#	NORTHING EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55 684451.34
STAMPED: HR-12 2016		

LOCAL CONTROL DATA		
BENCHMARK: 01-1	PID#	NORTHING EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59 641003.46
STAMPED:		

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:100
PLOT DATE: 8/20/21
ISSUE DATE: AUGUST 2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-DSB890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 341-0048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N03-N04

SHEET IDENTIFICATION
VH-105
SHEET 5 OF 103


1
2
3
4
5
A
B
C
D
N=1426000
N=1427000
N=1428000
N=1429000
E=710000
E=711000
E=712000
CDE TROY DAM 1
N=1428037.76
E=709760.15
Z=25.32
NY 3101 GRID NAD83 (2011) EAST
N
MATCHLINE SHEET 5 OF 103
MATCHLINE SHEET 7 OF 103
REACH 22
REACH N05
REACH N06
WEST CHANNEL LINE
EAST CHANNEL LINE
GREEN ENGINEERS
RESTRICTION
RESTRICTION
RESTRICTION

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.

15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.

16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.

17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NY 3101 GRID NAD83 (2011) EAST

REACH N11 · OBSTRUCTION A · REACH N10 · REACH N09 · WEST CHANNEL LINE · REACH N08 · REACH N07 · OBSTRUCTION B · MARKER BUOY · EAST CHANNEL LINE · OBSTRUCTION C · REACH N06

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK · RAYMOND B. DANNER · LICENSED NO. 49339 · LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DRN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: 8/30/2021
PLOT SCALE: 1:600
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL (910) 251-8251 (800) 579-7548
FAX (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N07-N10

SHEET IDENTIFICATION
VH-107
SHEET 7 OF 103


NY 3101 GRID NADB3 (2011)EAST
REACH N14
REACH N13
REACH N12
REACH N11
TIDAL FLOW
TIDAL FLOW
TIDAL FLOW

1 2 3 4 5

D C B A

N=417000 N=418000 N=419000

E=707000 E=708000



NY 3101 GRID NAD83 (2011) EAST

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3x3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

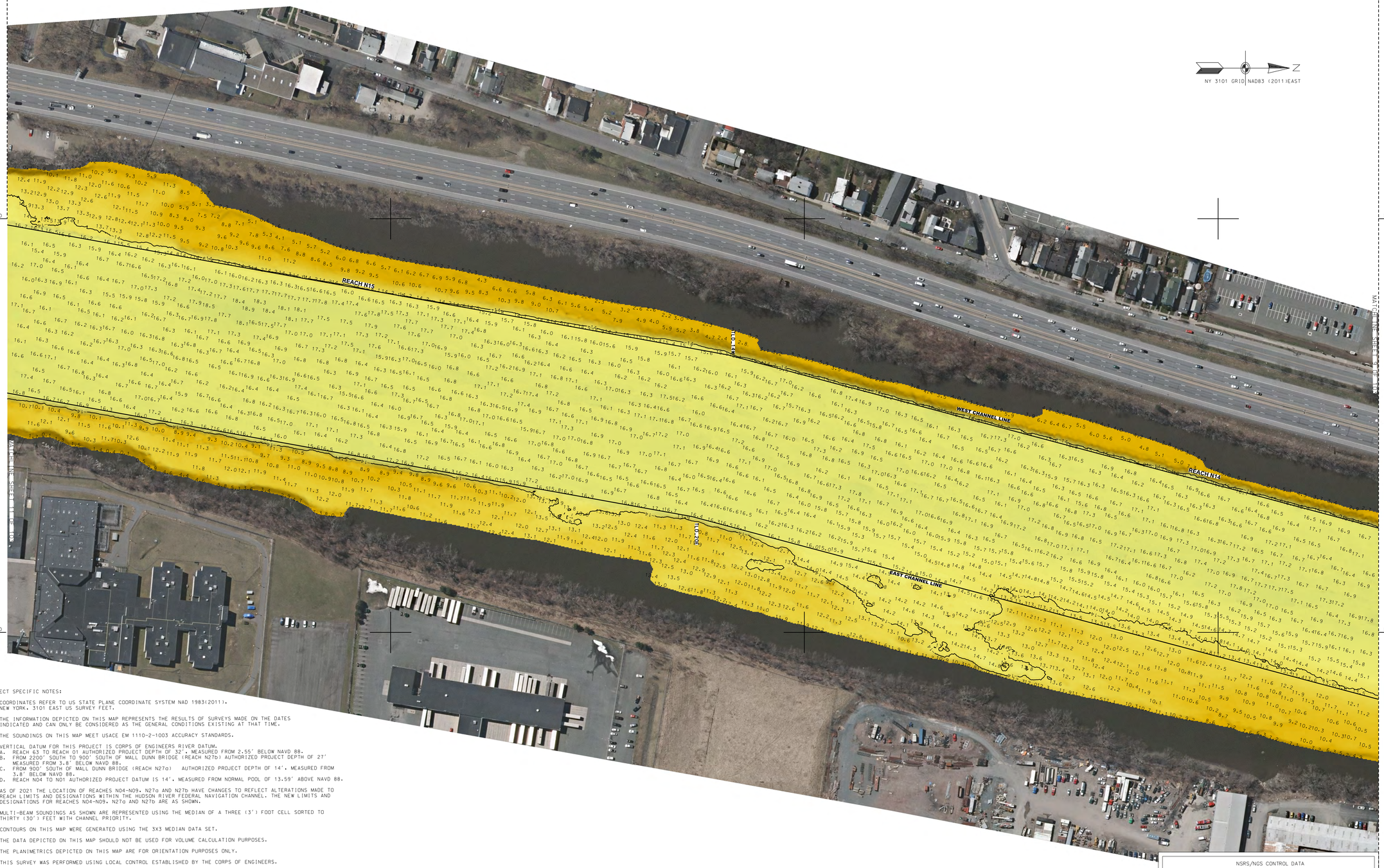
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1"=100'
PLOT DATE: 6/30/2021
SIZE: ANSI F
ISSUE DATE: 6/30/2021
FILE NUMBER: VH-058890963_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N14

SHEET IDENTIFICATION
VH-109
SHEET 9 OF 103



NY 3101 GRID NAD83 (2011) EAST

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK) MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME, BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BB0R68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. PARKER
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

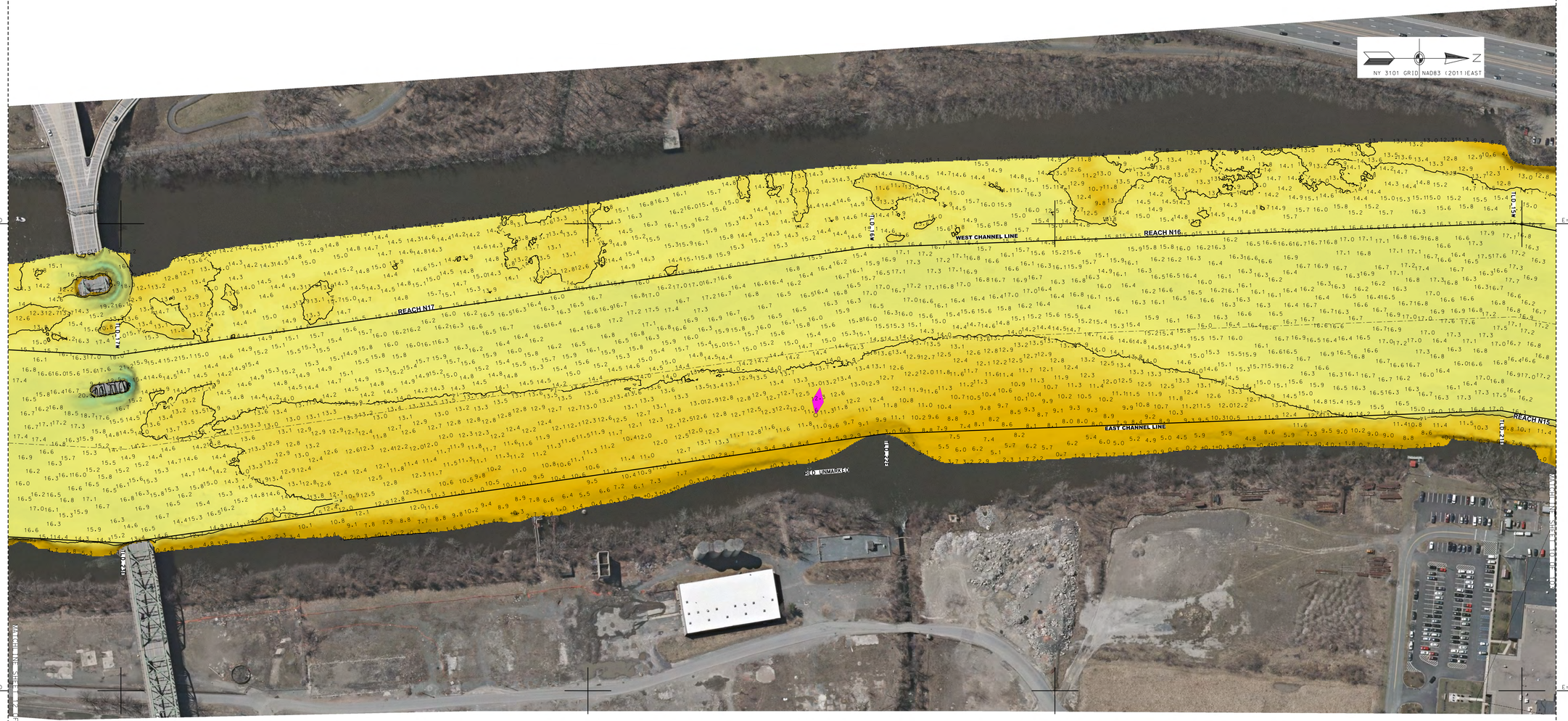
DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
ISSUE DATE: MAY 2021
SIZE: ANSI F
FILE NUMBER:
FILE NAME: VH-0589890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 14-15

SHEET IDENTIFICATION
VH-110
SHEET 10 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
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    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
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STATE OF NEW YORK
RAYMOND B. GARBER
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

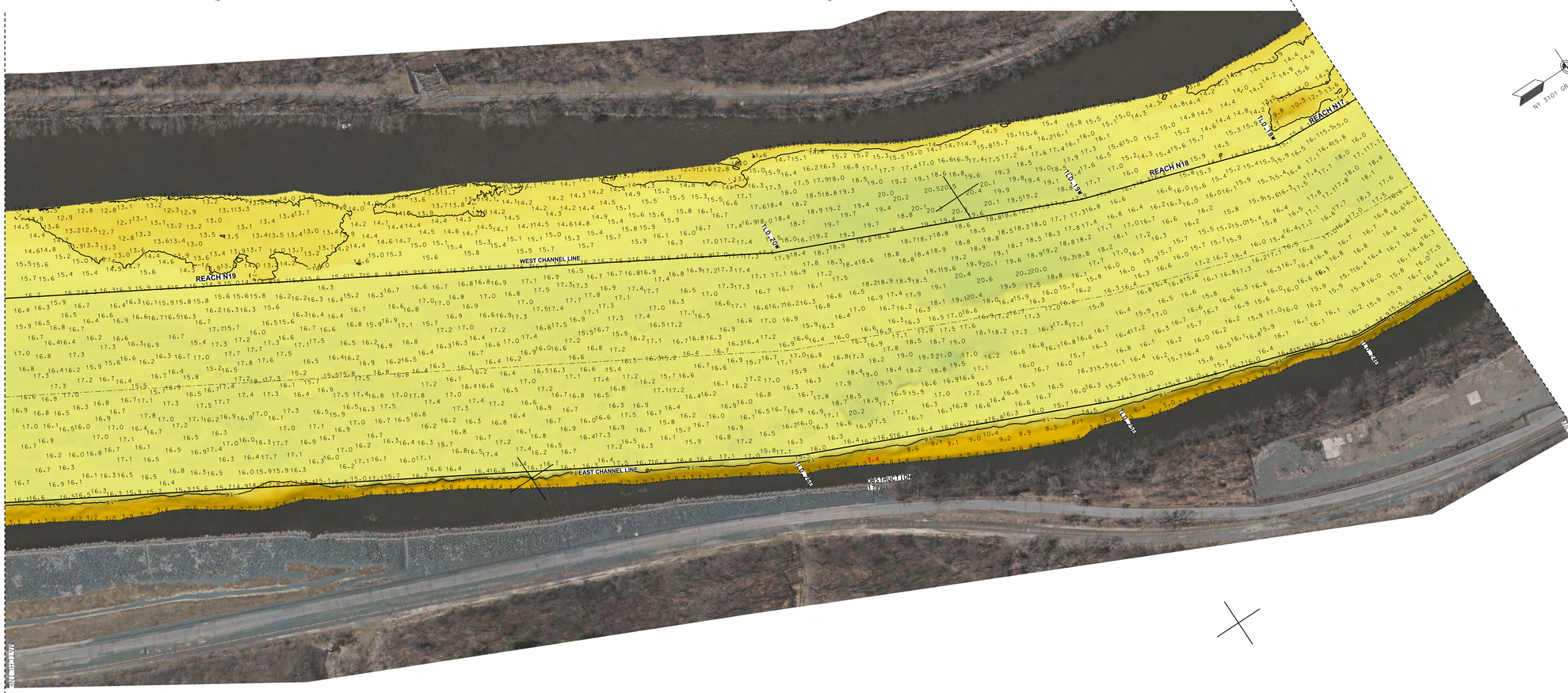
DESIGNED BY: OOD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1"=100'
SIZE: ANSI F
ISSUE DATE: AUGUST 2021
FILE NAME: VH-G58890063_HUDSON_2021.DGN
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 343-1648
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N15-N17

SHEET IDENTIFICATION
VH-111
SHEET 11 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK) MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. BAKER
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

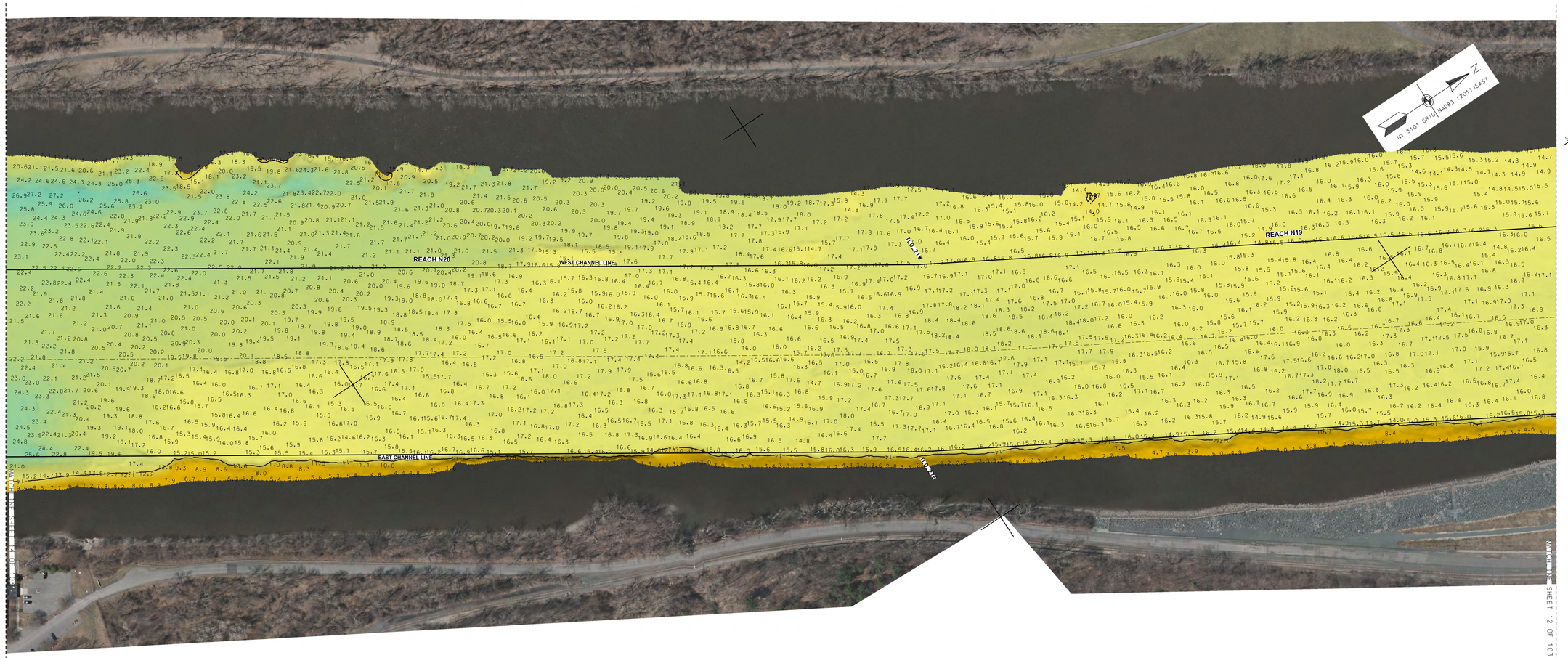
DESIGNED BY: OOD
DRWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19. 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0005
TASK ORDER NO.:
FILE NUMBER:
PLOT SCALE: 1" = 100'
ISSUE DATE: AUGUST 2021
SIZE: ANSI F
FILE NAME: VH-088990063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1104
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N17-N19

SHEET IDENTIFICATION
VH-112
SHEET 12 OF 103



PROJECT SPECIFIC NOTES:

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    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK) MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
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STATE OF NEW YORK
RAYMOND B. DANNER
049366
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

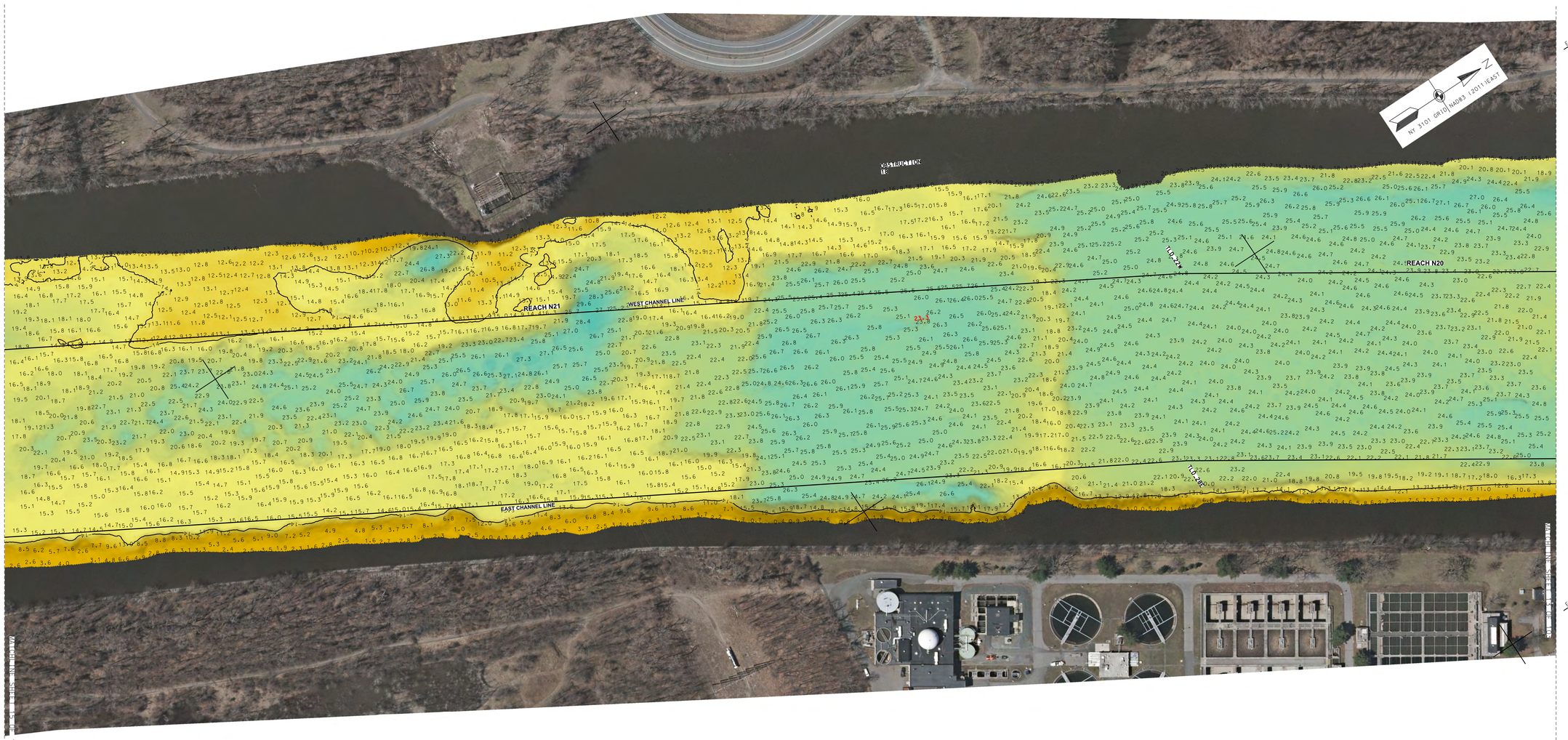
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
ISSUE DATE: 09/03/2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8348
FAX (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N19-N20

SHEET IDENTIFICATION
VH-113
SHEET 13 OF 103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PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

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15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.

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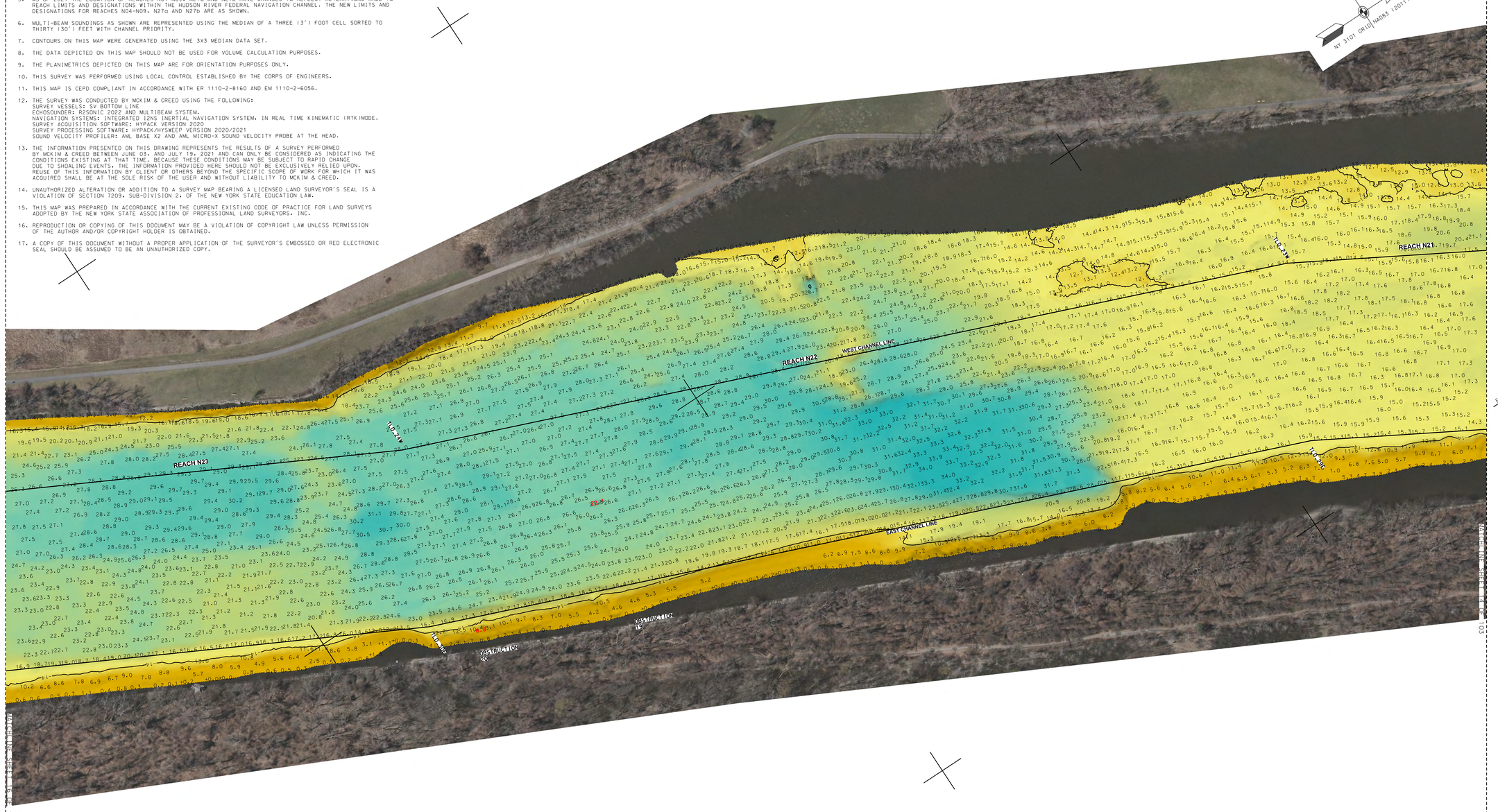
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.



SCALE 1" = 100'

0 100 200 300 400

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

RAYFORD B. BAXTER
No. 49350
STATE OF NEW YORK
LICENSED LAND SURVEYOR

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0468
FAX: (910) 251-2252

DESIGNED BY: OOO	DATE: JUNE 03 - JULY 19, 2021		
DWN BY: MBH	CKD BY: RBD	SOLICITATION NO.:	
SUBMITTED BY: DLJ		CONTRACT NO.: W912DS-20-D-0003	
PLOT SCALE: 1" = 100'	PLOT DATE: 2021	FILE NUMBER:	
SIZE: ANSI F	FILE NAME: VH-038899093_HUDSON_2021.DGN		

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACHES N21-N23

SHEET IDENTIFICATION
VH-115
SHEET 15 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED 12NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILERS AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

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15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.

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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NY 3101 GRID NAD83 (2011) EAST

REACH N25

REACH N24

REACH N23

WEST CHANNEL LINE

EAST CHANNEL LINE

OBSTRUCTION

MALL DUNN

16.9

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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DARWER
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

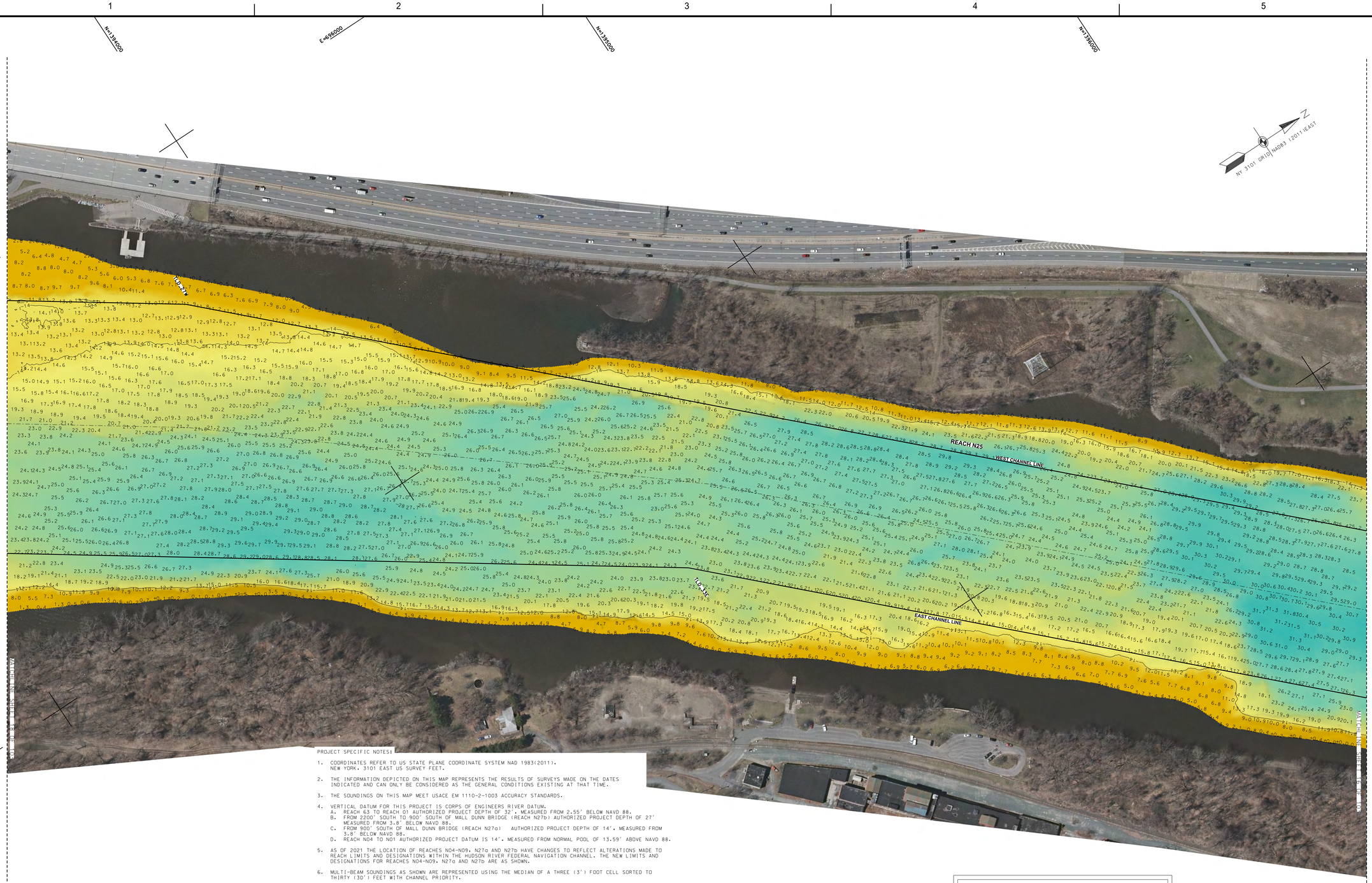
U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
245 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8444
FAX (910) 251-8252

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1.000
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
ISSUE DATE: 08/11/2021
FILE NAME: VH-058890063_HUDSON_2021.DGN

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N23-N25

SHEET IDENTIFICATION
VH-116
SHEET 16 OF 103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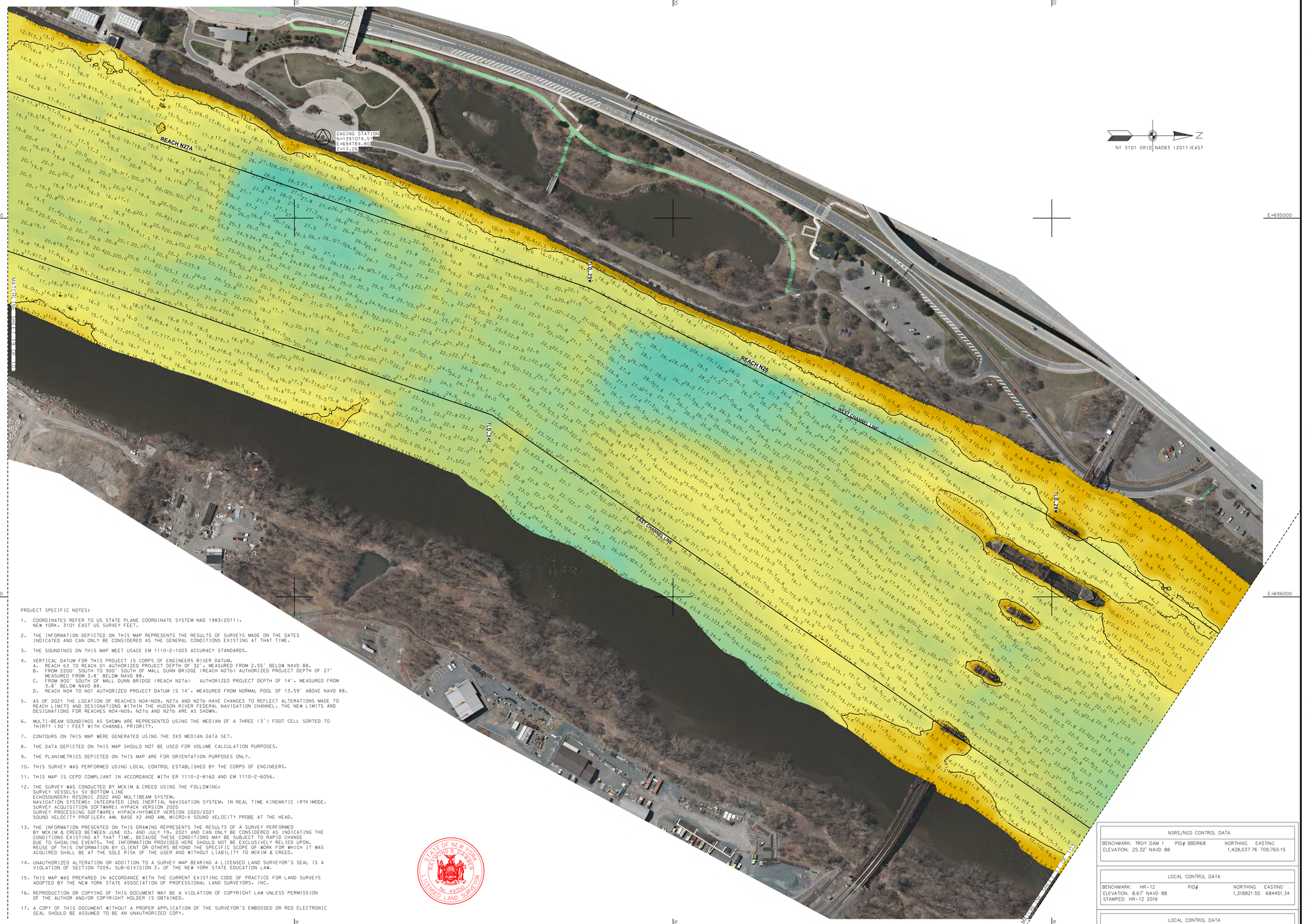


PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. DWYER
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

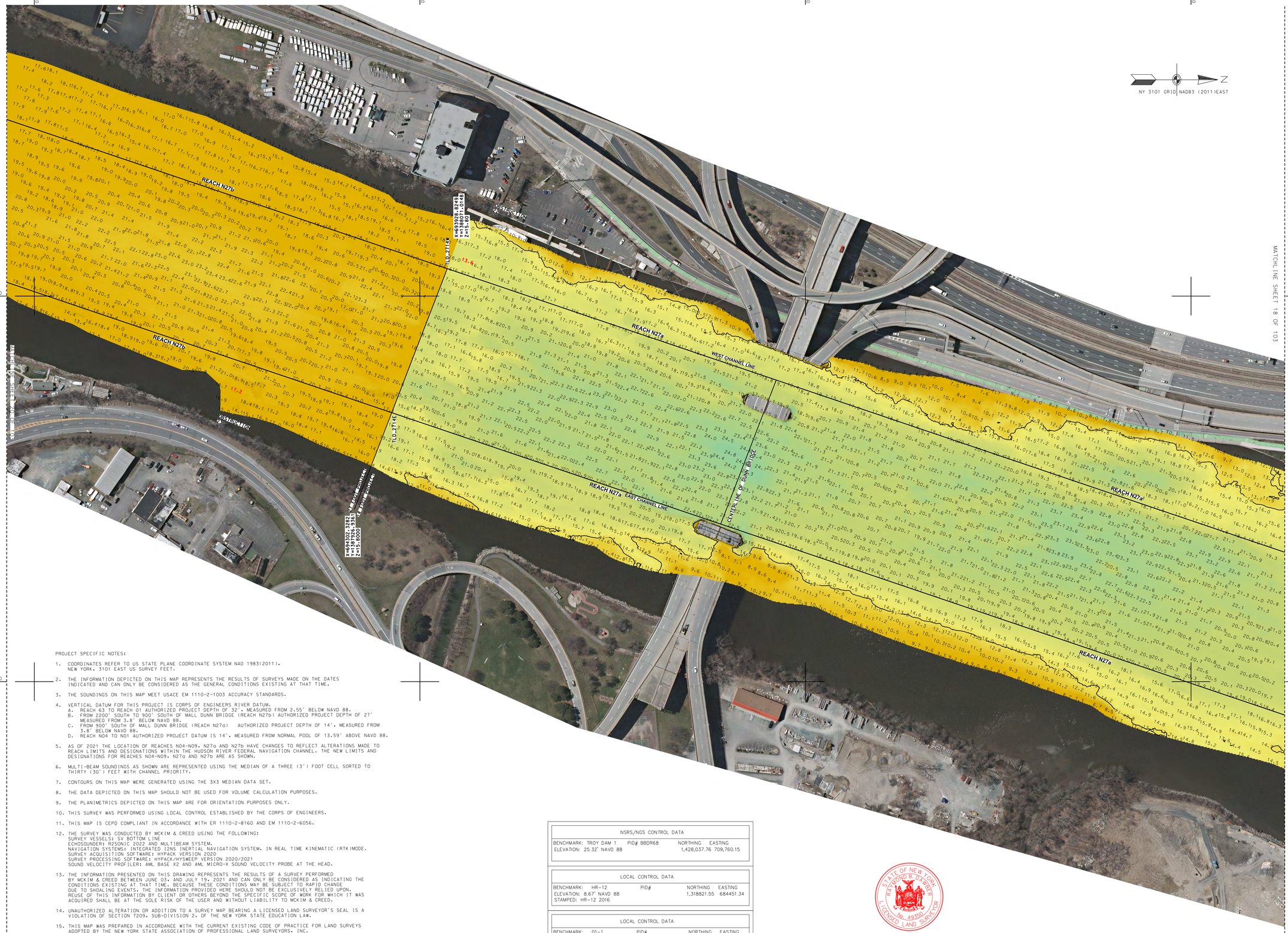
DESIGNED BY: DWD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:100
ISSUE DATE: AUGUST 2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-038899093_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0888
FAX: (910) 251-2252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N26-N27A

SHEET IDENTIFICATION
VH-118
SHEET 18 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
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7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK) MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DARBEE
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

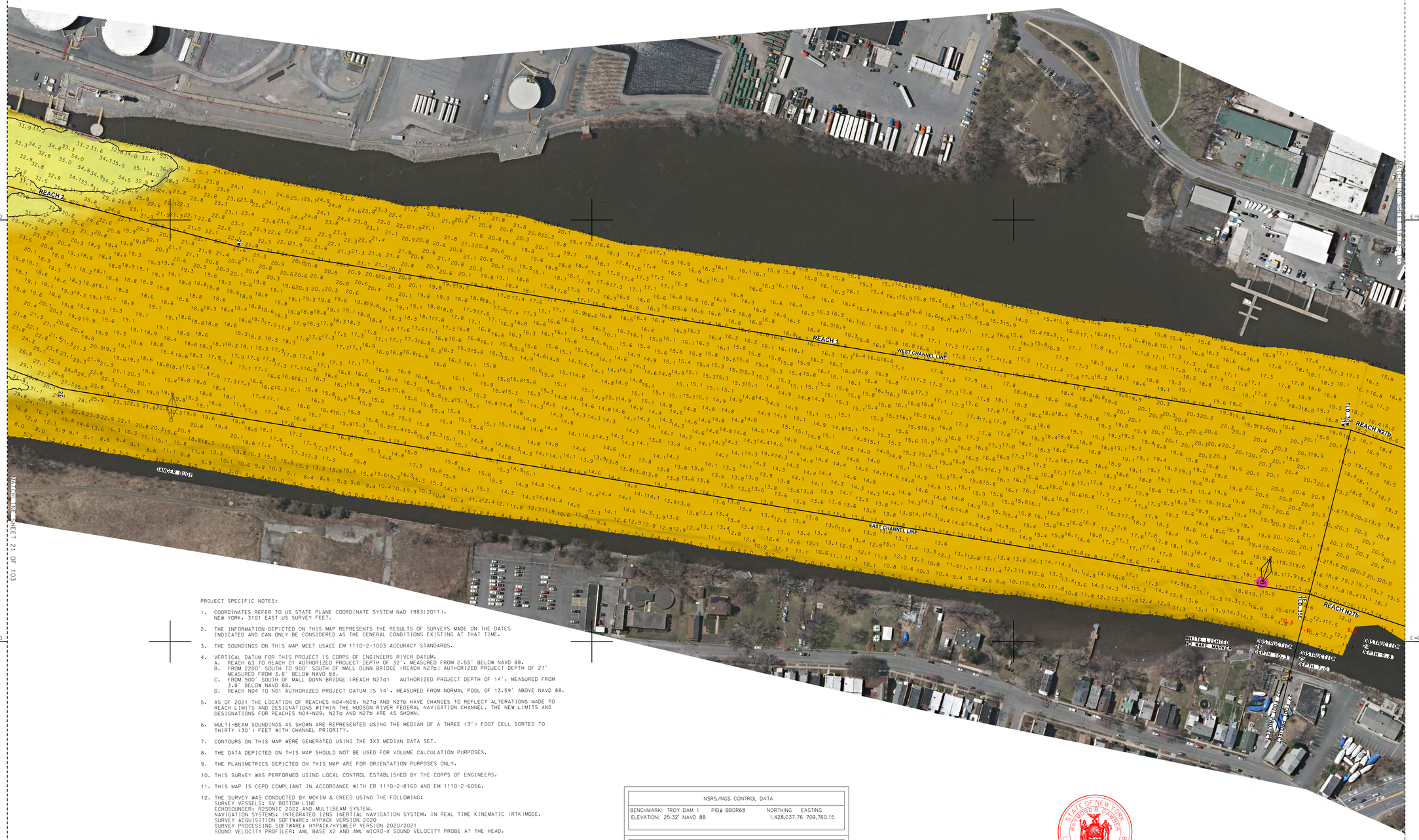
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:100
ISSUE DATE: 09/30/2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8848
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH N27a-N27b

SHEET IDENTIFICATION
VH-119
SHEET 19 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DARBY
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

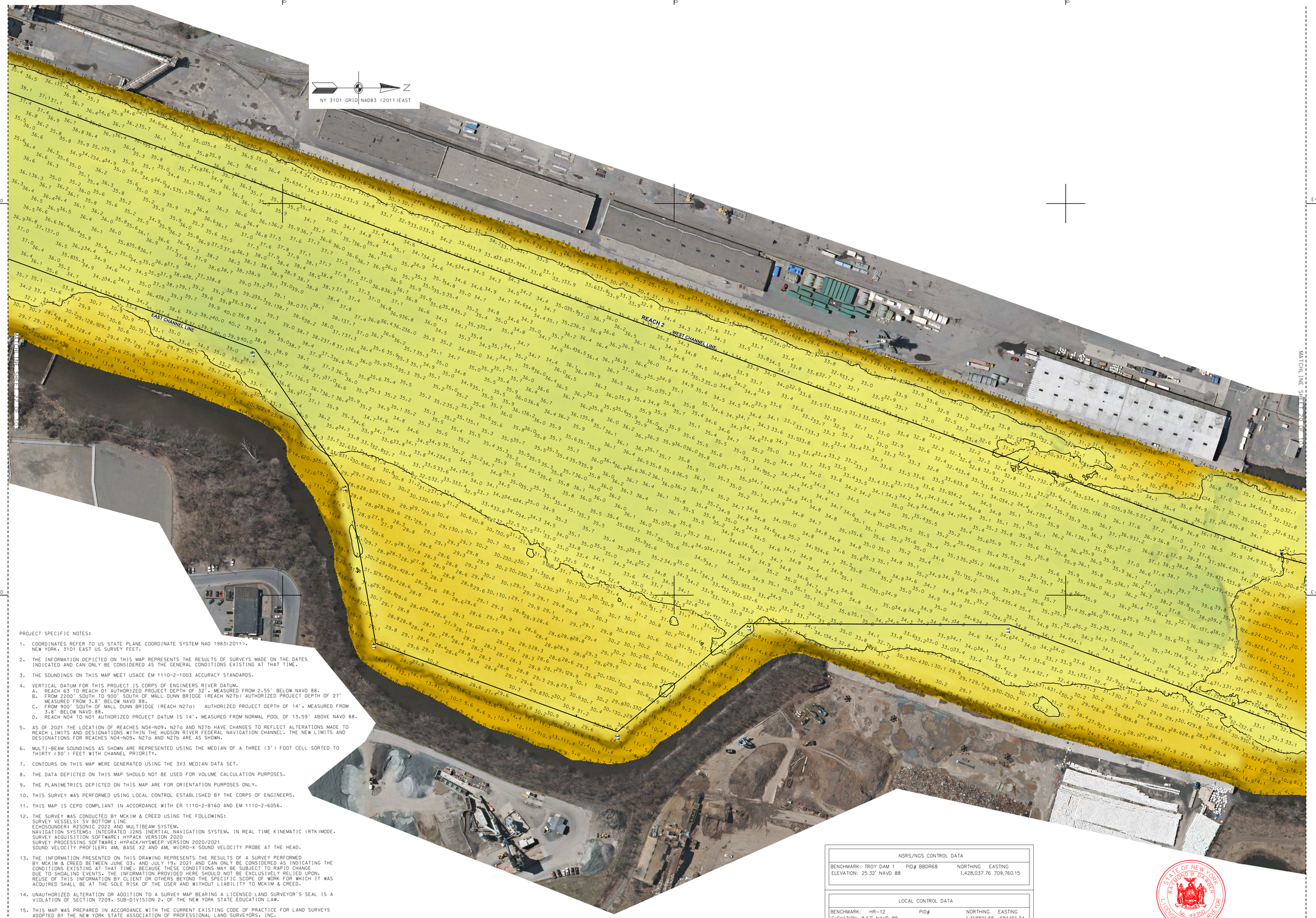
DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:100'
ISSUE DATE: MAY 2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-0388890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
PHONE: (910) 251-0051 FAX: (910) 251-2252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 27b-N02

SHEET IDENTIFICATION
VH-120
SHEET 20 OF 103



PROJECT SPECIFIC NOTES:

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    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DAWER
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-058890063_HUDSON_2021.DGN

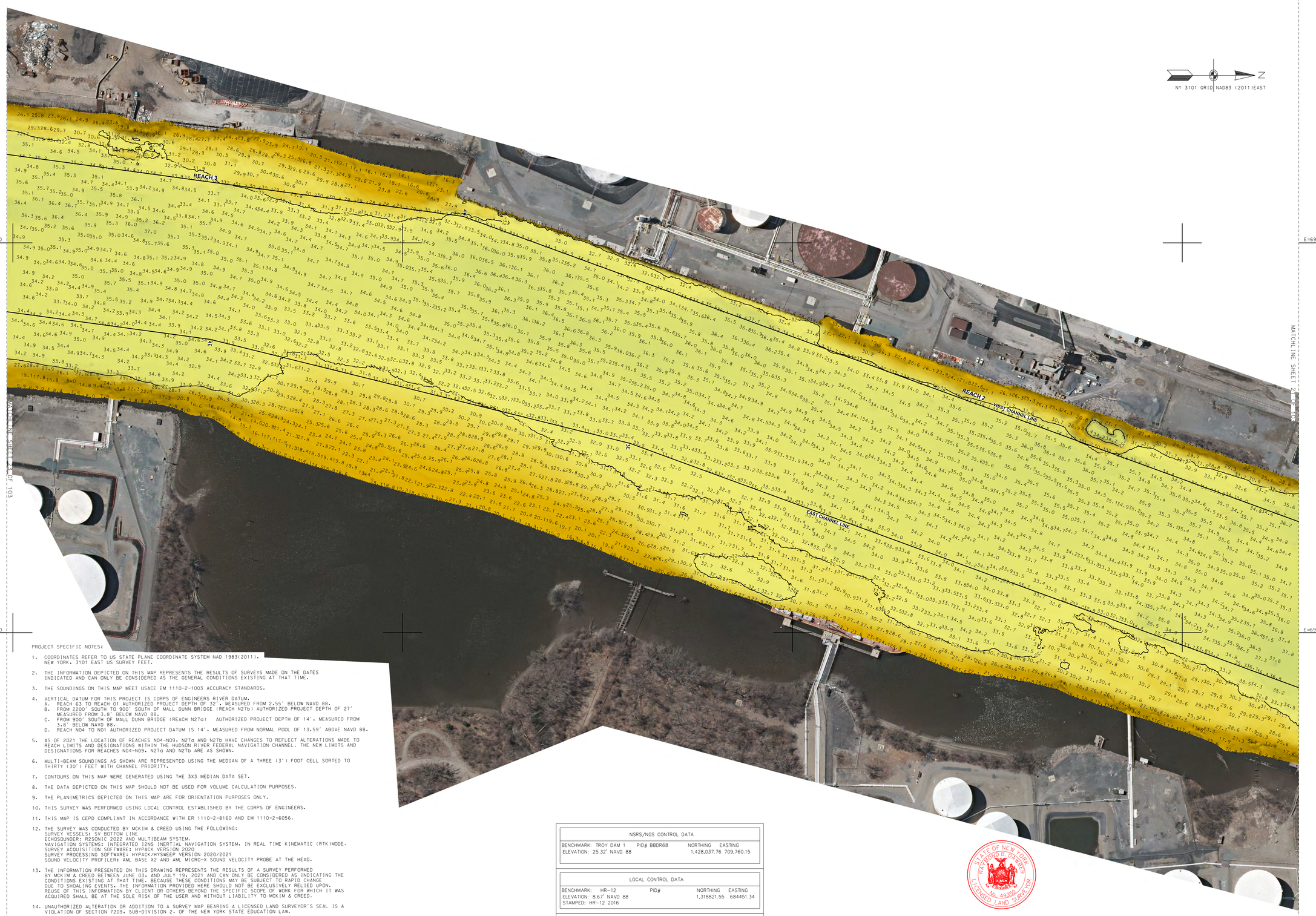
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1:600
ISSUE DATE: 2021
SIZE: ANSI F

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8444
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 02

SHEET IDENTIFICATION
VH-121
SHEET 21 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RICHARD B. BAKER
090487
NO. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

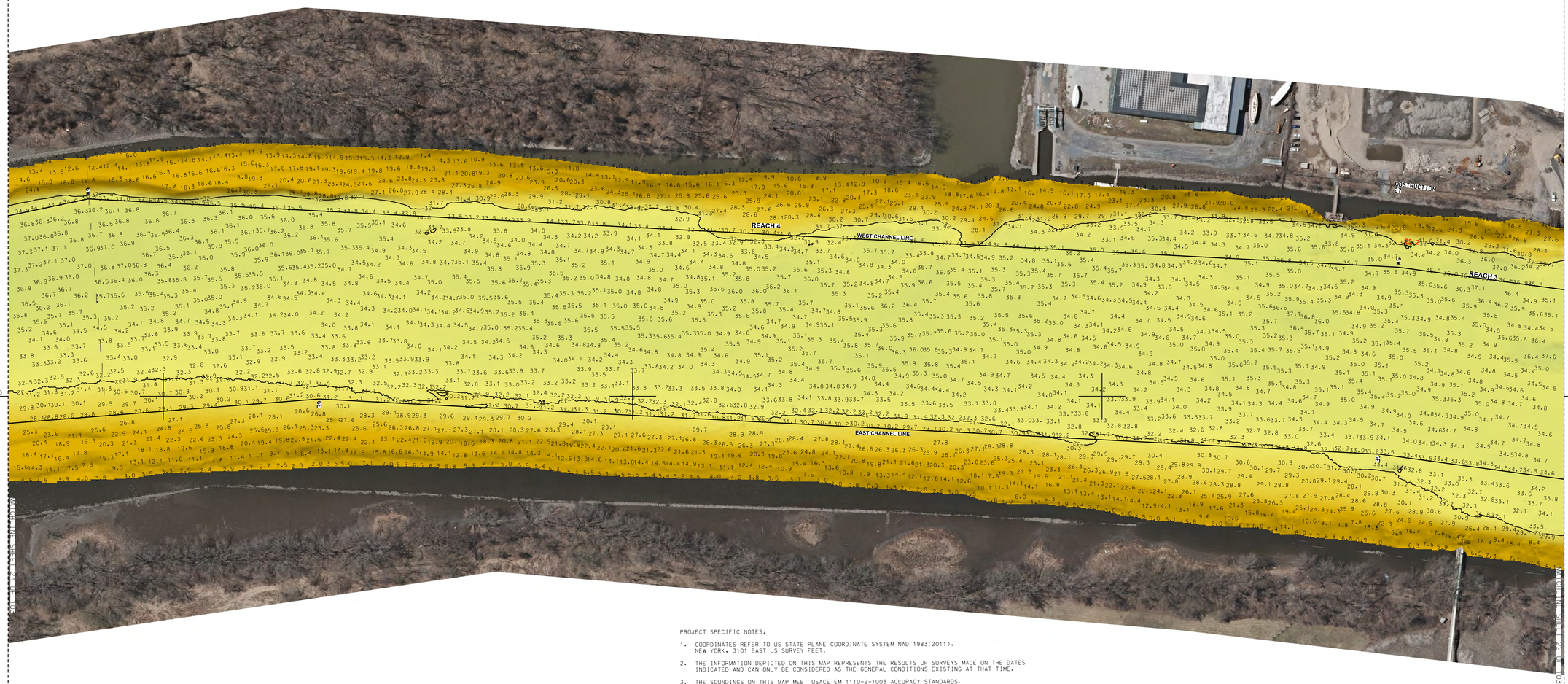
DESIGNED BY: CDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
PLOT SCALE: 1" = 100'
SIZE: ANSI F

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: AUGUST 2021
FILE NUMBER:
FILE NAME: VH-0589890063_HUDSON_2021.DGN

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 02-03

SHEET IDENTIFICATION
VH-122
SHEET 22 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH O1 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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STATE OF NEW YORK
RAYMOND B. PARKER
049360
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:100
PLOT DATE: 2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890863_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL (910) 251-8251 (800) 733-1548
FAX (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 03-04

SHEET IDENTIFICATION
VH-123
SHEET 23 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
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5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
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12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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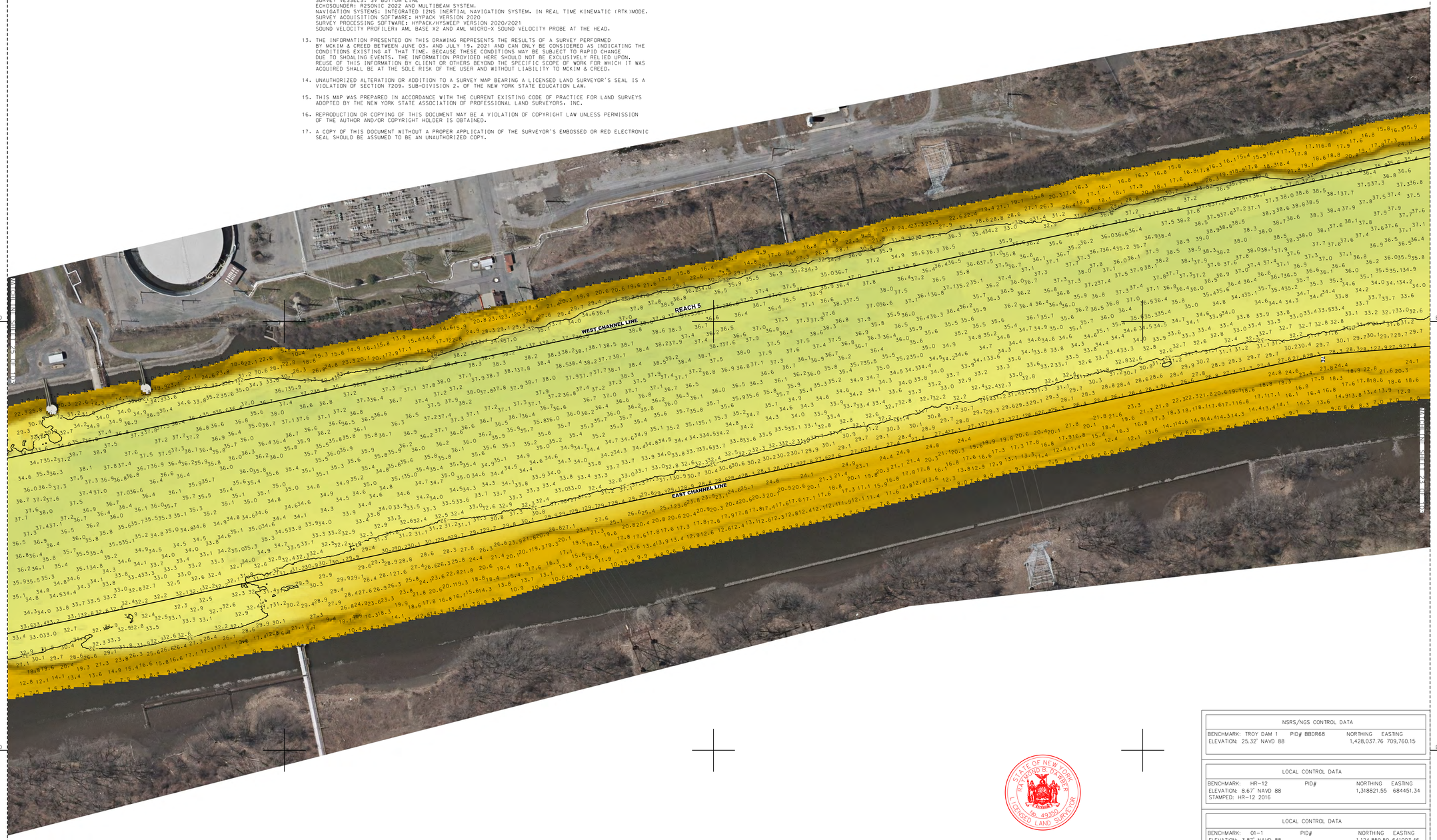

NY 3101 GRID NAD83 (2011)EAST

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK RAYMOND B. DWYER No. 49350 LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: OOO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0005
FILE NUMBER:
PLOT SCALE: 1" = 100'
PLOT DATE: 20211
ISSUE DATE: AUGUST 2021
SIZE: ANSI F
FILE NAME: VH-G38899063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0468
FAX: (910) 251-2252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 05

SHEET IDENTIFICATION
VH-124
SHEET 24 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
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    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
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    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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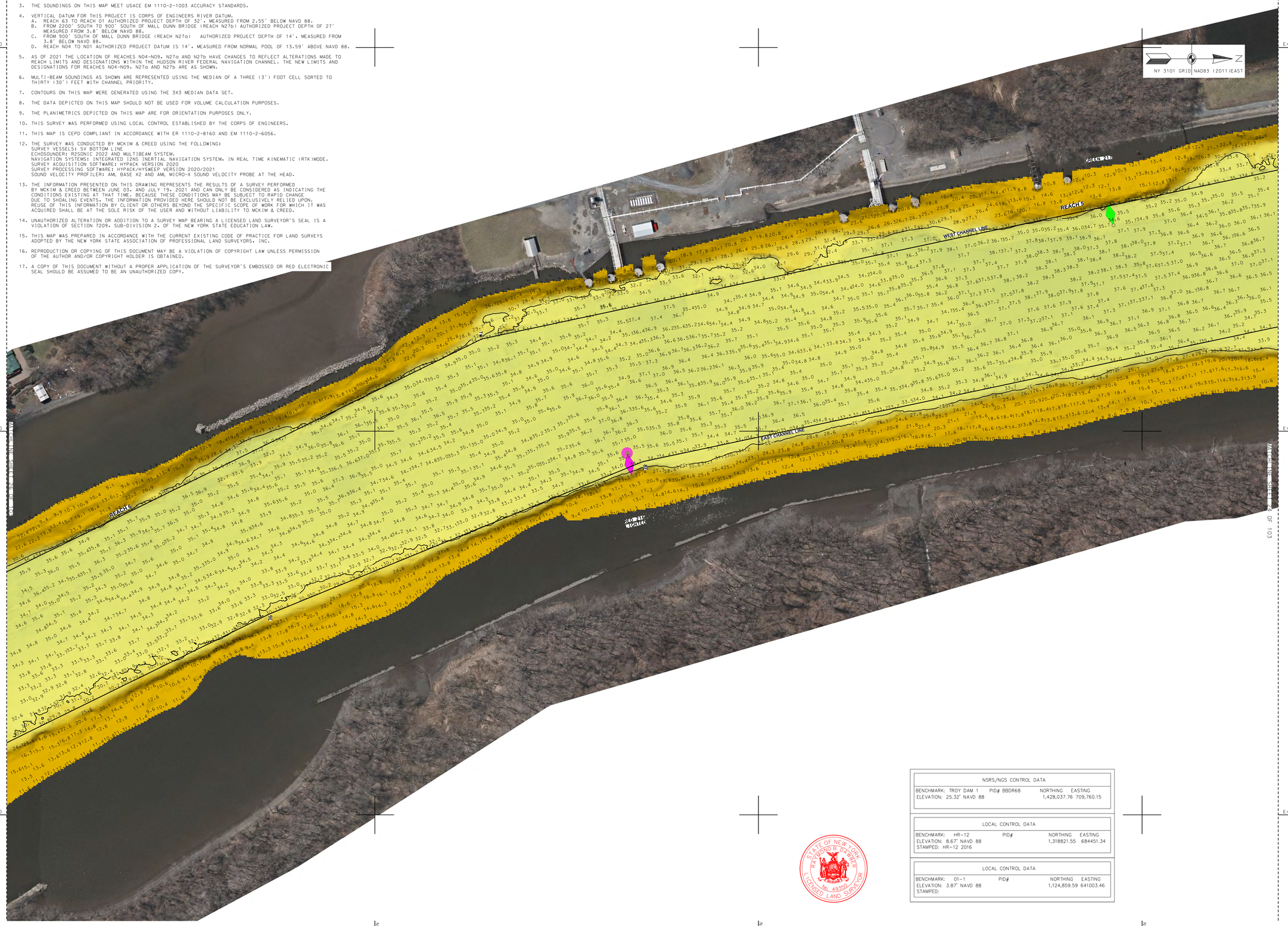

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DEWEES
LICENSED LAND SURVEYOR
No. 49350

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1"=100'
PLOT DATE: 20211207
SIZE: ANSI F
ISSUE DATE:
FILE NUMBER:
FILE NAME: VH-G58899093_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0468
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 05-06

SHEET IDENTIFICATION
VH-125
SHEET 25 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.

15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.

16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.

17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.



STATE OF NEW YORK
RAYMOND B. FARMER
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8444
FAX: (910) 251-8282

DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
PLOT SCALE: 1:100'
PLOT DATE: 8/6/2021
ISSUE DATE:
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 06-07

SHEET IDENTIFICATION
VH-126
SHEET 26 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH NO4 TO NO1 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES NO4-NO9, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES NO4-NO9, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM:
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. CRAWFORD
LICENSED LAND SURVEYOR
NO. 49150

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
ISSUE DATE: MAY 2021
FILE NUMBER:
FILE NAME: VH-508890R0_HUDSON_2021.DGN
SIZE: ANSI F

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
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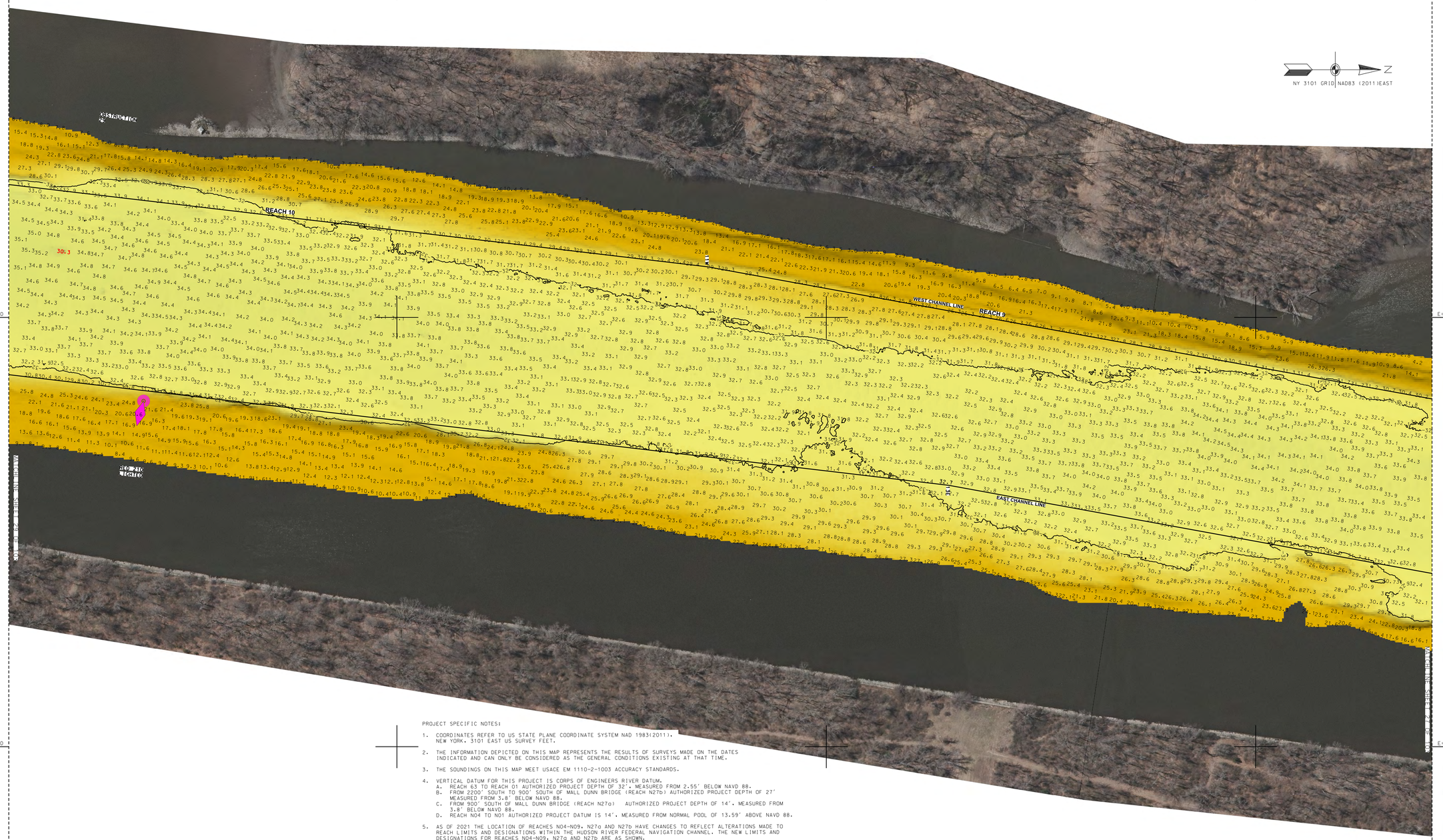
TELEPHONE: (910) 251-8348
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 07-09

SHEET IDENTIFICATION
VH-127
SHEET 27 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYFORD B. OWEN
No. 49358
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA		
BENCHMARK: TROY DAM 1 PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88	1,428,037.76	709,760.15

LOCAL CONTROL DATA		
BENCHMARK: HR-12 PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88	1,318821.55	684451.34
STAMPED: HR-12 2016		

LOCAL CONTROL DATA		
BENCHMARK: 01-1 PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88	1,124,859.59	641003.46
STAMPED:		

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

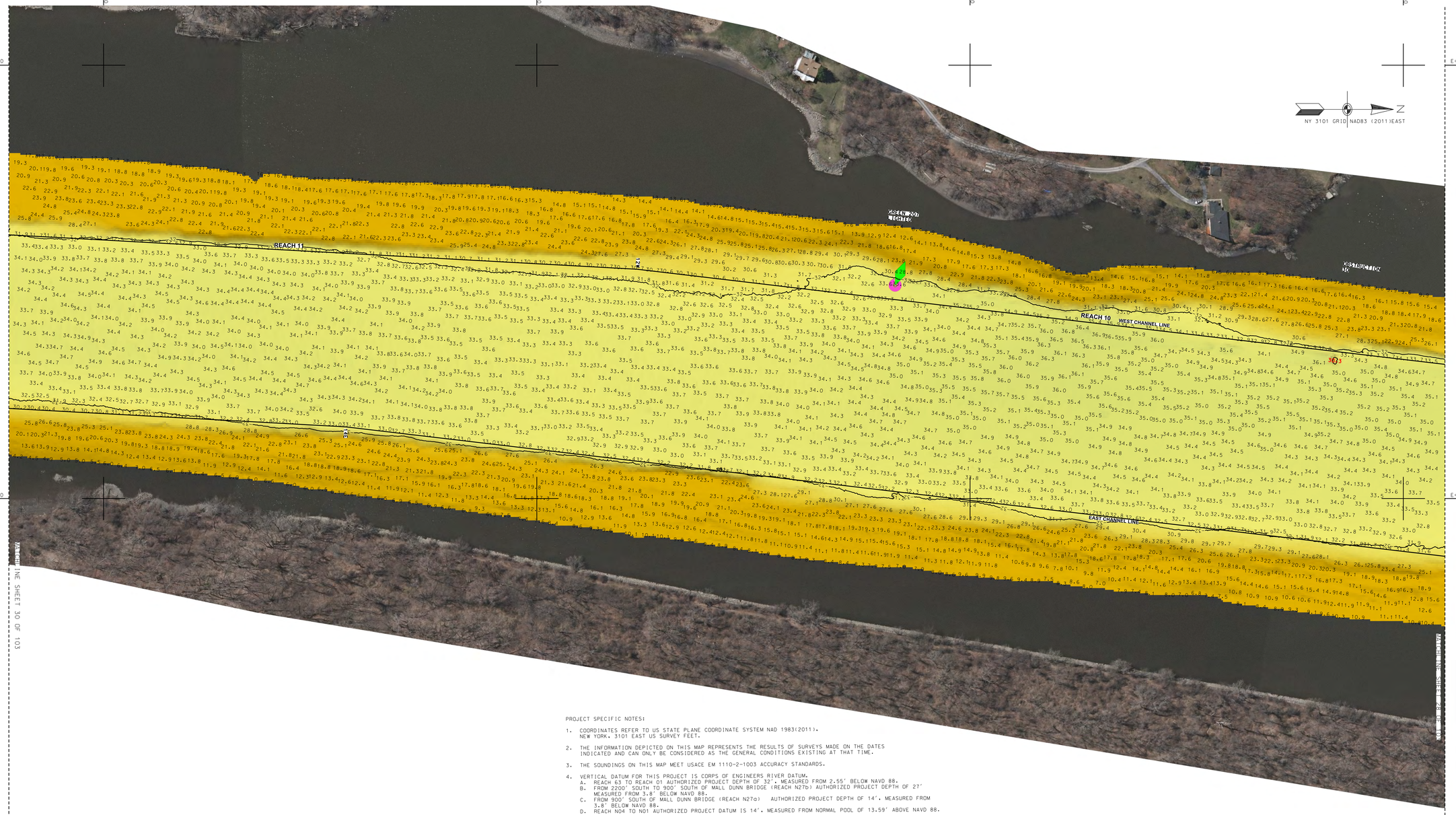
DESIGNED BY: 000
DRAWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
PLOT BY: MBH
ISSUE DATE: AUGUST 2021
SIZE: ANSI F
FILE NUMBER: VH-068890663_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0349
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 09-10

SHEET IDENTIFICATION
VH-128
SHEET 28 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED 12NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.

15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.

16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.

17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND E. BARBER
049350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA		
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76 709,760.15

LOCAL CONTROL DATA		
BENCHMARK: HR-12	PID#	NORTHING EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55 684451.34
STAMPED: HR-12 2016		

LOCAL CONTROL DATA		
BENCHMARK: 01-1	PID#	NORTHING EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59 641003.46
STAMPED:		

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers
New York District

MARK	DESCRIPTION	DATE	APPR.

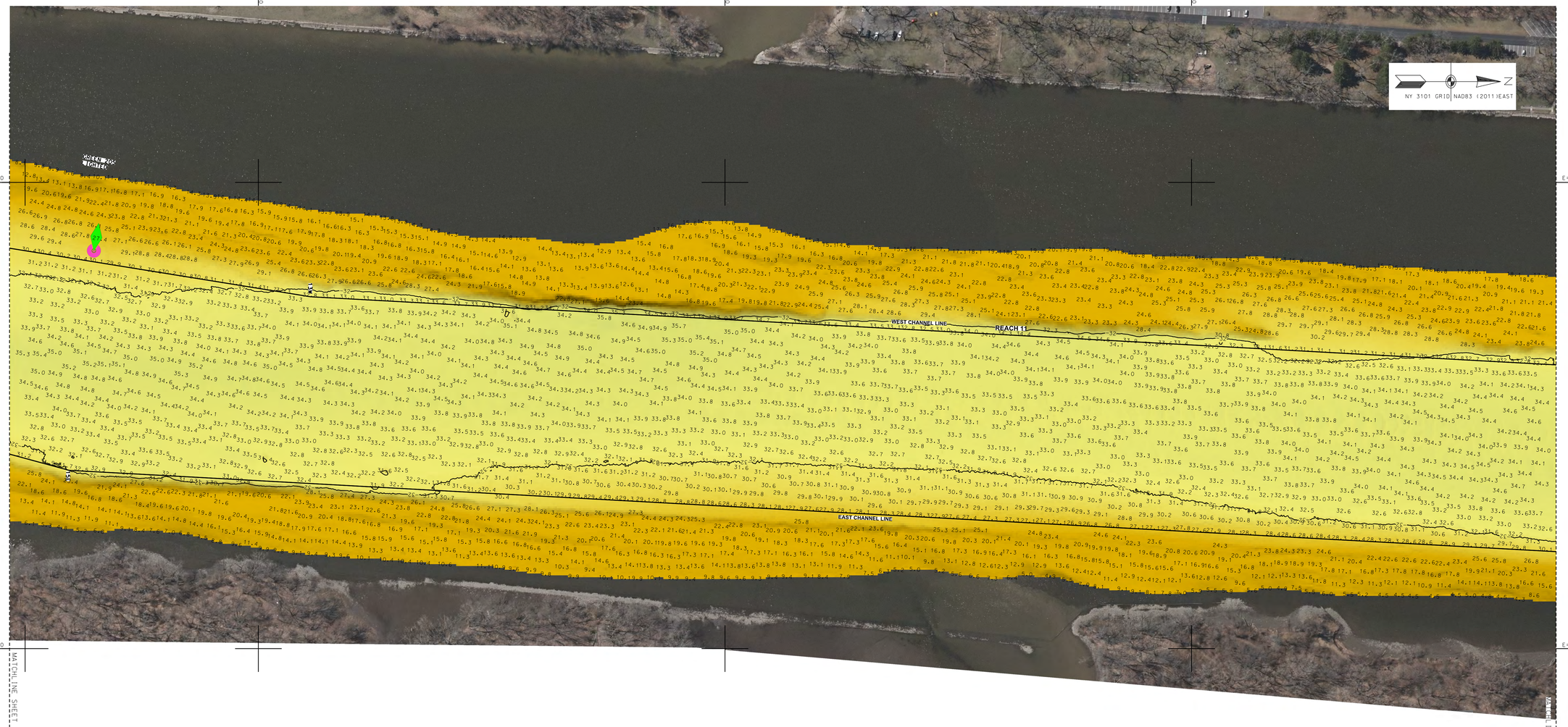
DESIGNED BY: OOO	DATE: JUNE 03 - JULY 19, 2021
DWN BY: MBH	CKD BY: RBD
SUBMITTED BY: DLJ	CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'	ISSUE DATE: NOV 2021
SIZE: ANSI F	FILE NAME: VH-5958900150_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8348
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 10-11

SHEET IDENTIFICATION
VH-129
SHEET 29 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. CARTER
050450
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers
New York District

MARK	DESCRIPTION	DATE	APPR.

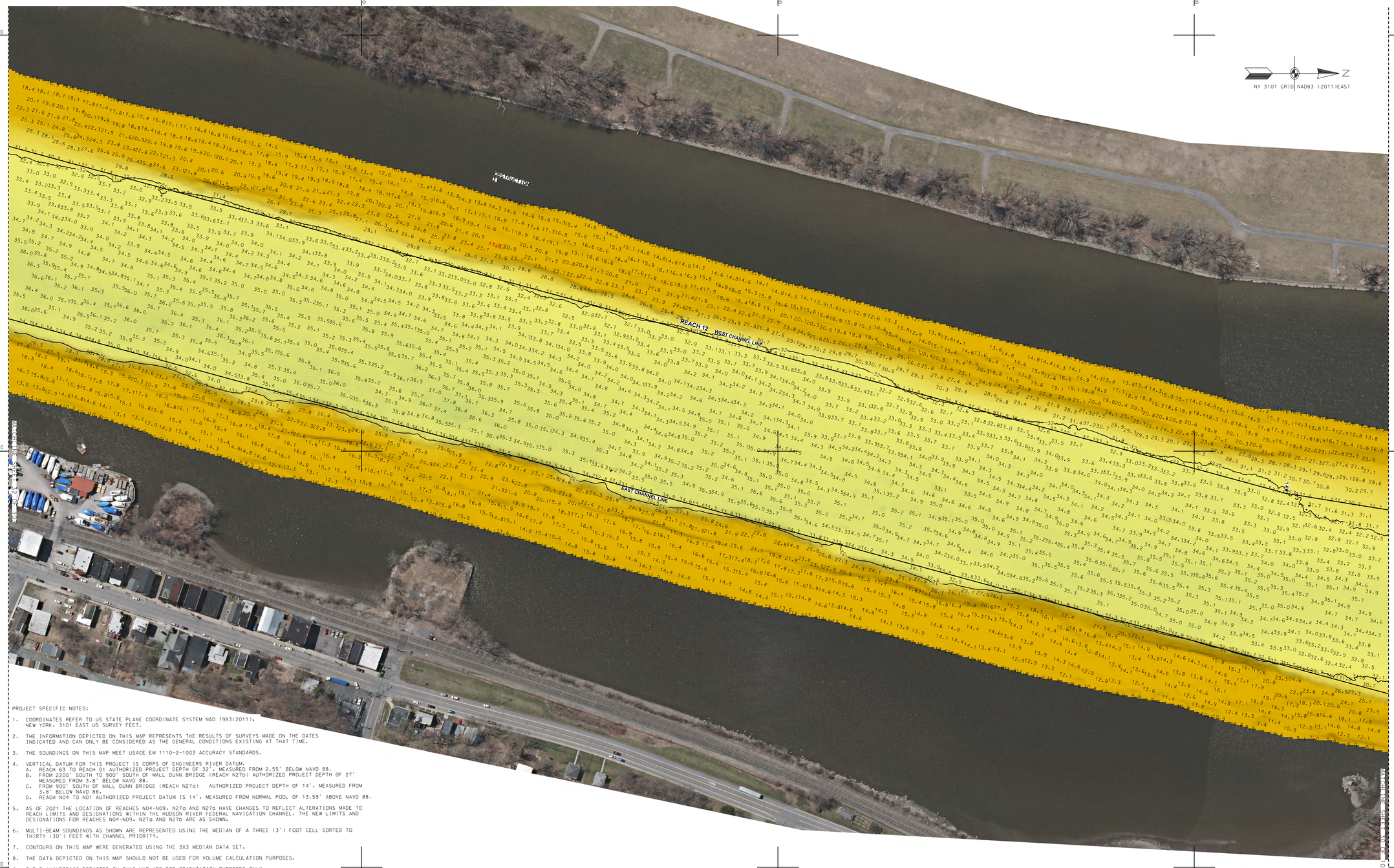
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
PLOT SCALE: 1" = 100'
PLOT DATE: 10/6/2021
SIZE: ANSI F
FILE NAME: VH-GSB890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8348
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 11

SHEET IDENTIFICATION
VH-130
SHEET 30 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DARBY
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
PLOT DATE: 8/6/2021
SIZE: ANSI F
ISSUE DATE:
FILE NUMBER:
FILE NAME: VH-0938990063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
100
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0349
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 12

SHEET IDENTIFICATION
VH-131
SHEET 31 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH NO4 TO NO1 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES NO4-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES NO4-N09, N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.

16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.

17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND R. DAMBER
LICENSED LAND SURVEYOR
No. 49350

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

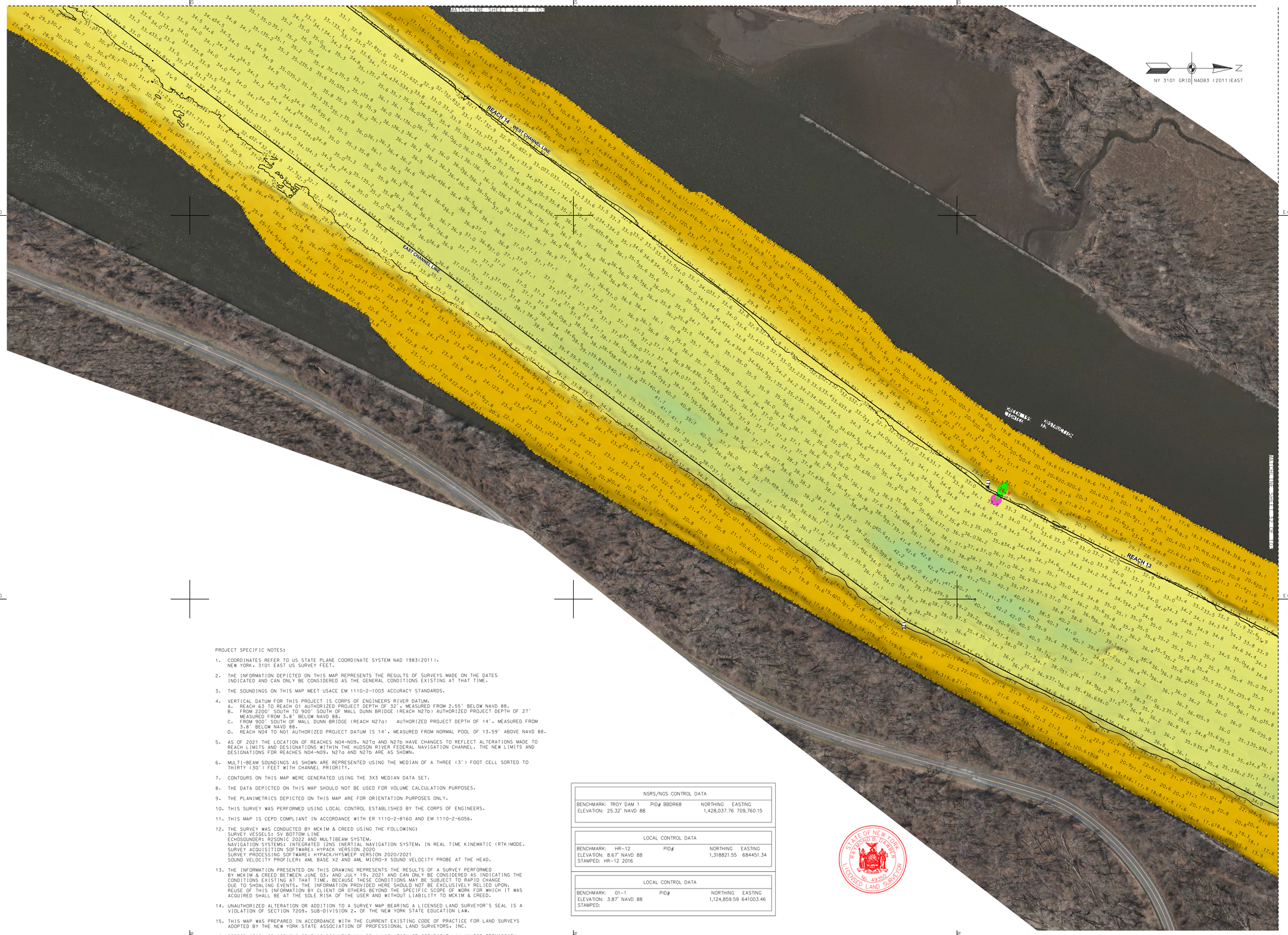
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
ISSUE DATE: AUGUST 2021
FILE NAME: VH-508890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 12-13

SHEET IDENTIFICATION
VH-132
SHEET 32 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

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15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.

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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DWYER
LICENSED LAND SURVEYOR
No. 49356

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0005
FILE NUMBER:
FILE NAME: H_HUDSON_2021.DGN

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJ
ISSUE DATE: AUGUST 2021
PLOT SCALE: 1" = 100'
SIZE: ANSI F

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0104
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 13-14

SHEET IDENTIFICATION
VH-133
SHEET 33 OF 103

1 2 3 4 5

D C B A

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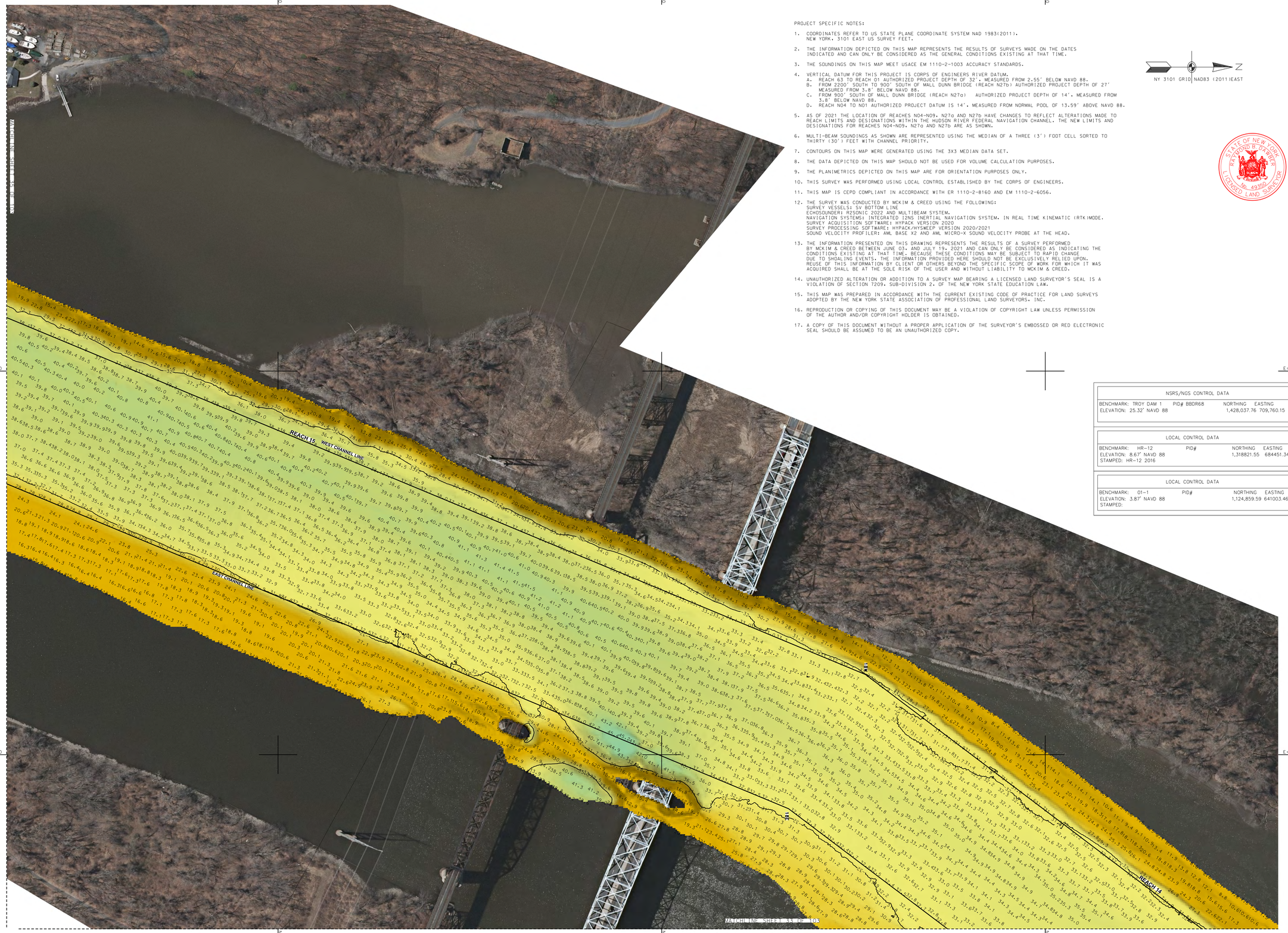
E=687000 E=688000



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NY 3101 GRID | NAD83 (2011)EAST

STATE OF NEW YORK
RAYMOND B. BAKER
090 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DRWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
ISSUE DATE: 09/08/2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890563_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8444
FAX (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 14-15

SHEET IDENTIFICATION
VH-134
SHEET 34 OF 103

1 2 3 4 5

D C B A

N=1135000 N=1136000 N=1137000 N=1138000

E=686000 E=687000

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH NO4 TO NO1 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILERS: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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NY 3101 GRID | NAD83 (2011) | EAST

WEST CHANNEL LINE

EAST CHANNEL LINE

REACH 15

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK · RAYMOND B. TARBER · No. 49350 · LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
PLOT SCALE: 1=100'
ISSUE DATE: 09/30/2021
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN

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NEW YORK, NY

McKIM & CREED
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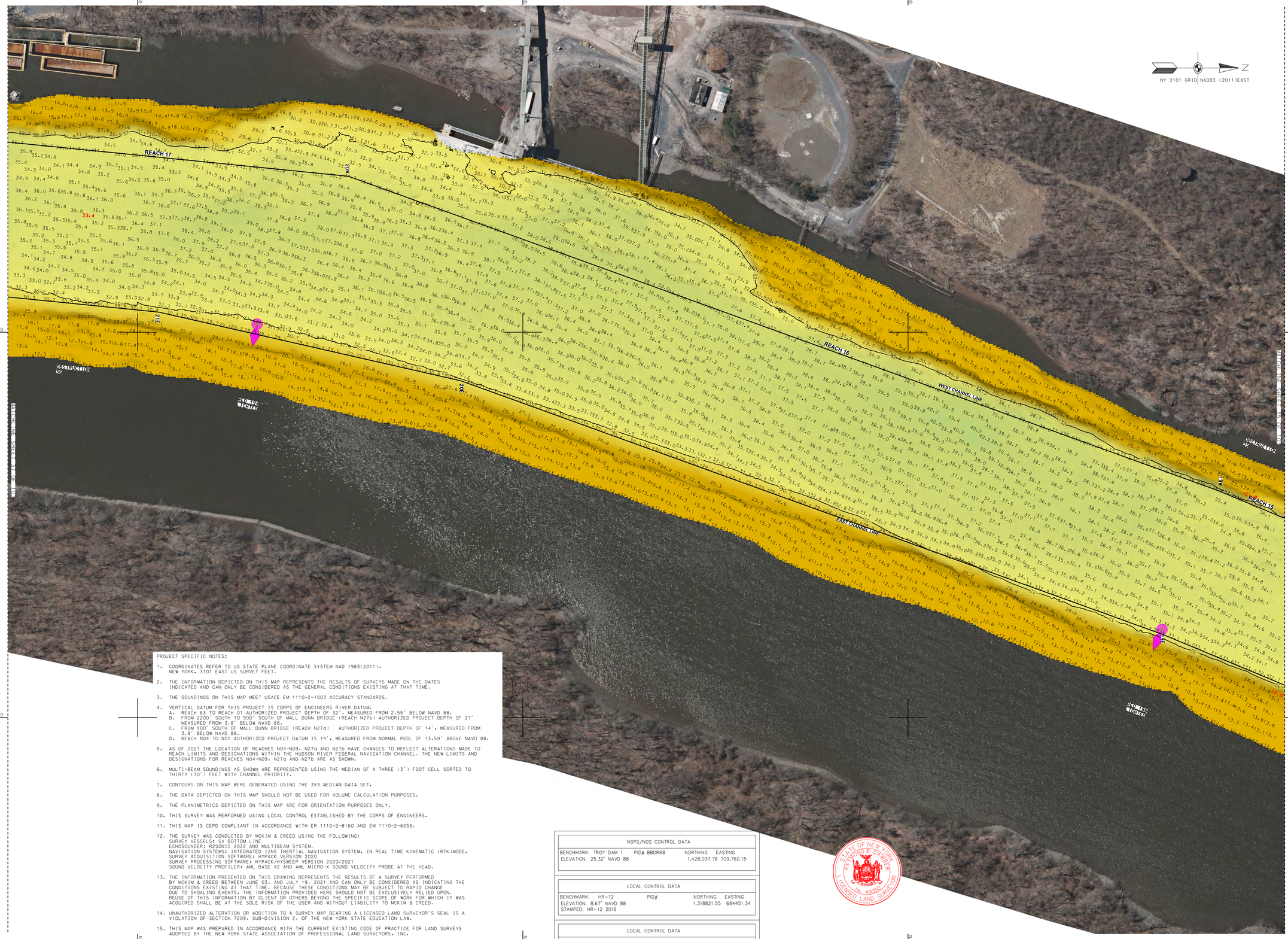
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 15

SHEET IDENTIFICATION
VH-135
SHEET 35 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK) MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK RAYMOND B. DARBER 049350 LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: GLJ
DATE: JUNE 03 - JULY 19, 2021
PLOT SCALE: 1" = 100'
ISSUE DATE: AUGUST 2021
SIZE: ANSI F
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-036899093_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
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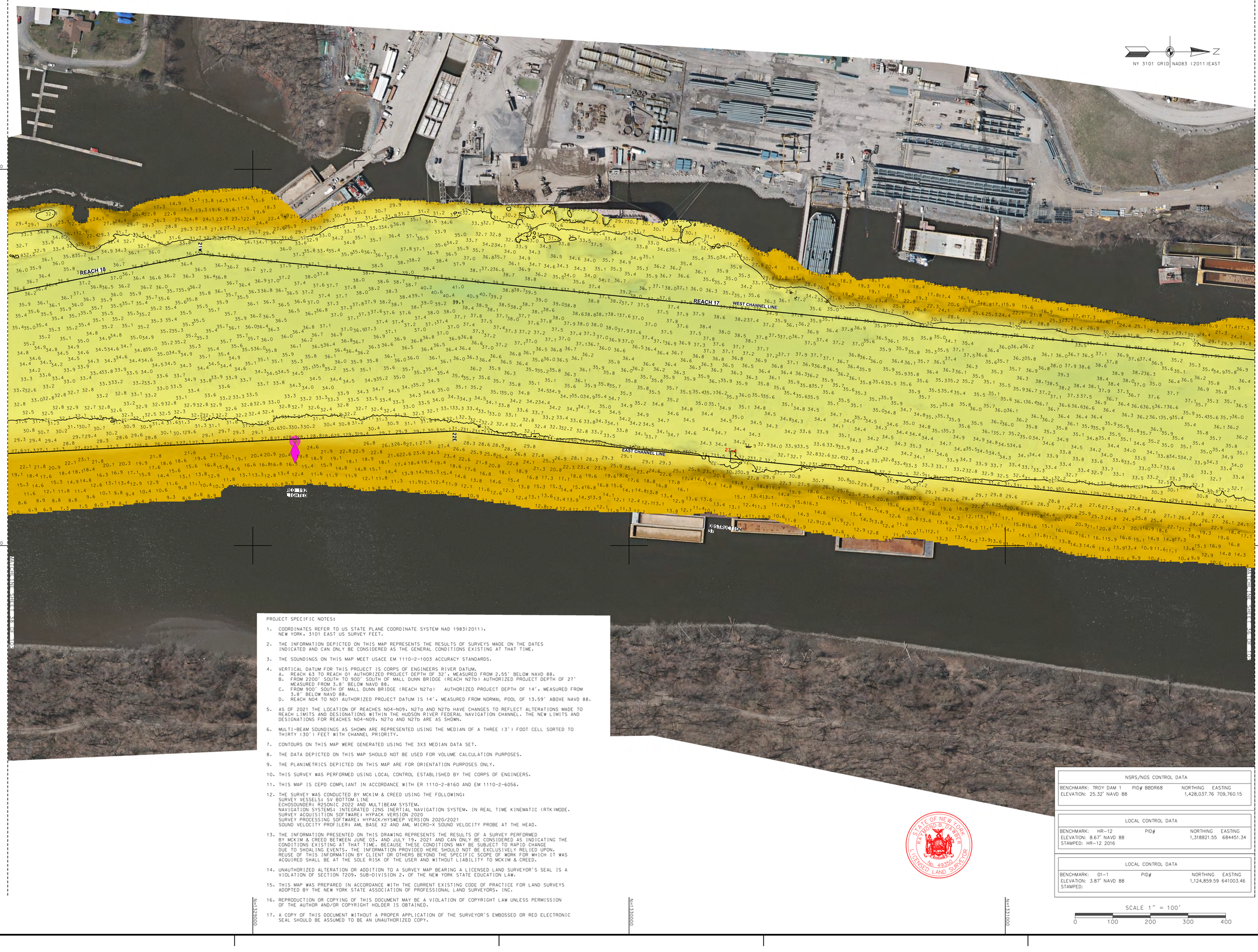
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0051
FAX: (910) 251-2252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 15-17

SHEET IDENTIFICATION
VH-136
SHEET 36 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK) MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

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NSRS/NGS CONTROL DATA

BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA

BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA

BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND E. DAWES
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

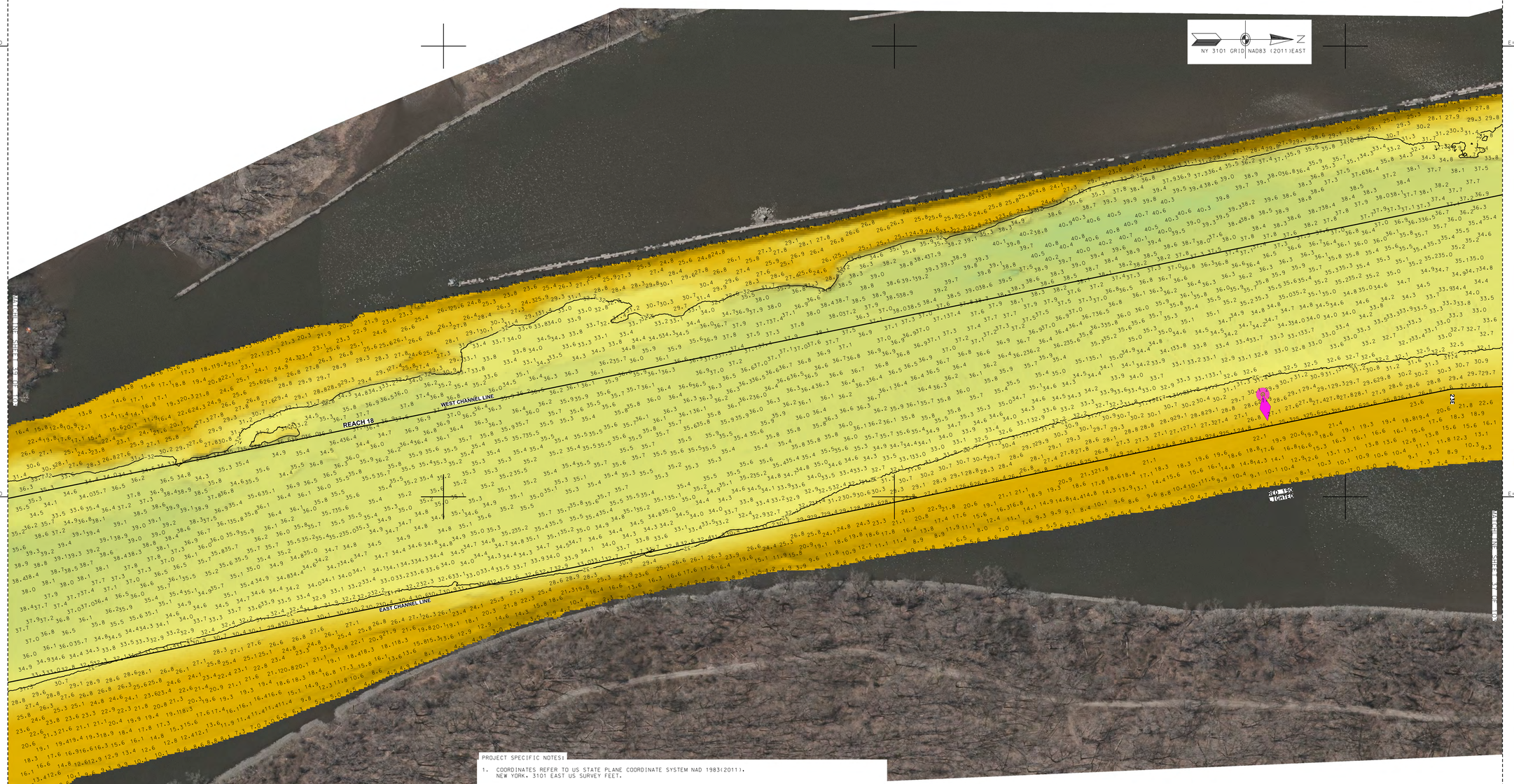
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:100
ISSUE DATE: JULY 2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8444
FAX (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 17-18

SHEET IDENTIFICATION
VH-137
SHEET 37 OF 103



PROJECT SPECIFIC NOTES:

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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. DARBER
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

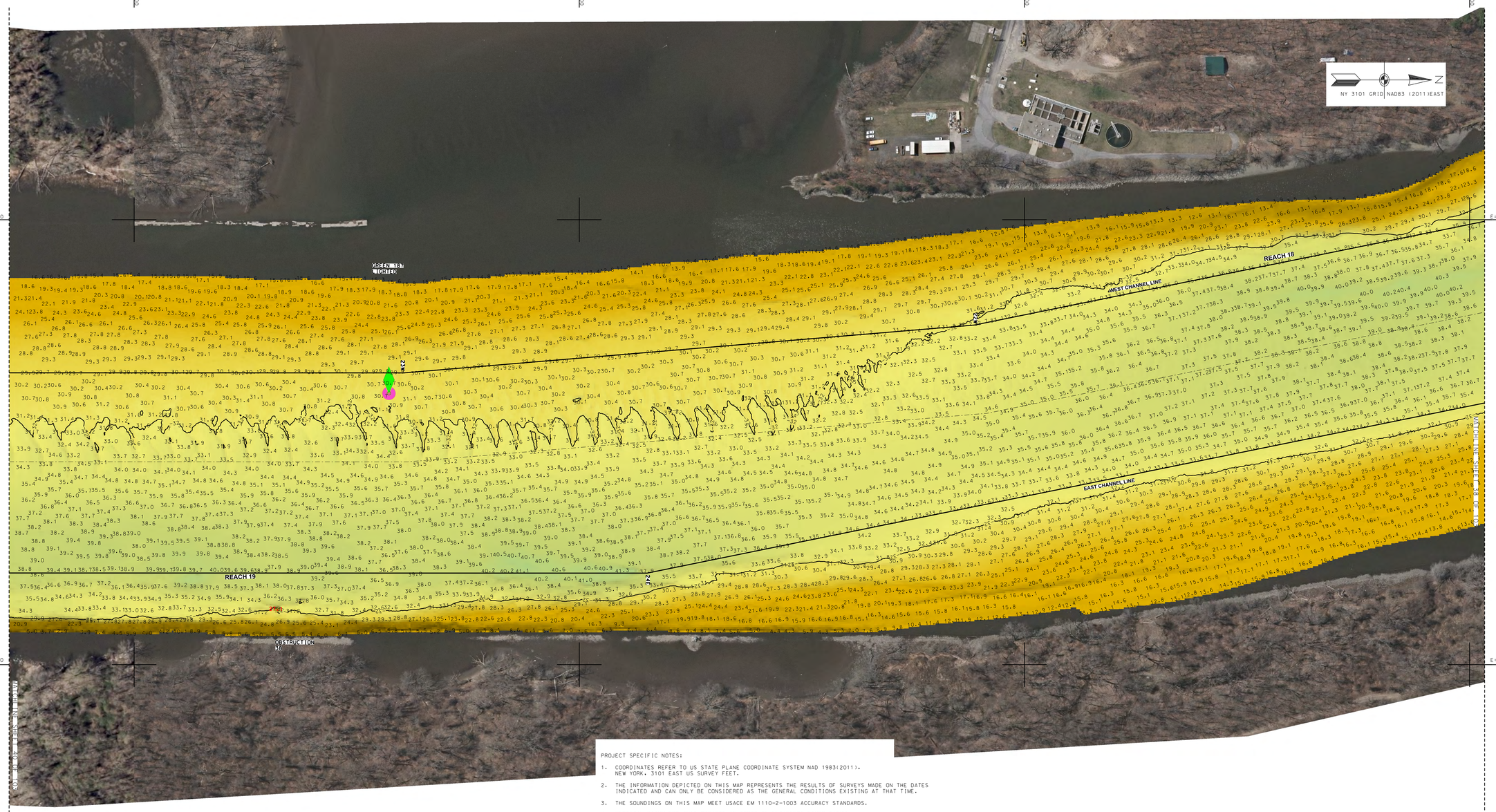
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:600
ISSUE DATE: AUGUST 2021
SIZE: ANSI F
FILE NUMBER:
FILE NAME: VH-5958900169_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8348
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 18

SHEET IDENTIFICATION
VH-138
SHEET 38 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.

15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.

16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.

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STATE OF NEW YORK
RAYMOND B. BAKER
LICENSED LAND SURVEYOR
NO. 49350

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
PLOT DATE: 08/16/2021
SIZE: ANSI F
ISSUE DATE: 08/16/2021
FILE NAME: VH-0389890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0349
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 18-19

SHEET IDENTIFICATION
VH-139
SHEET 39 OF 103

1 2 3 4 5

D C B A

N=1319000 N=1320000 N=1321000

E=685000 E=686000

HR-12 2016
N=1318921.55
E=684451.34
Z=8.67

NY 3101 GRID | NAD83 (2011) | EAST

REACH 20

WEST CHANNEL LINE

EAST CHANNEL LINE

REACH 19

30' DEEP FEDERAL NAVIGATION CHANNEL

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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STATE OF NEW YORK
RAYMOND B. DWYER
No. 49352
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

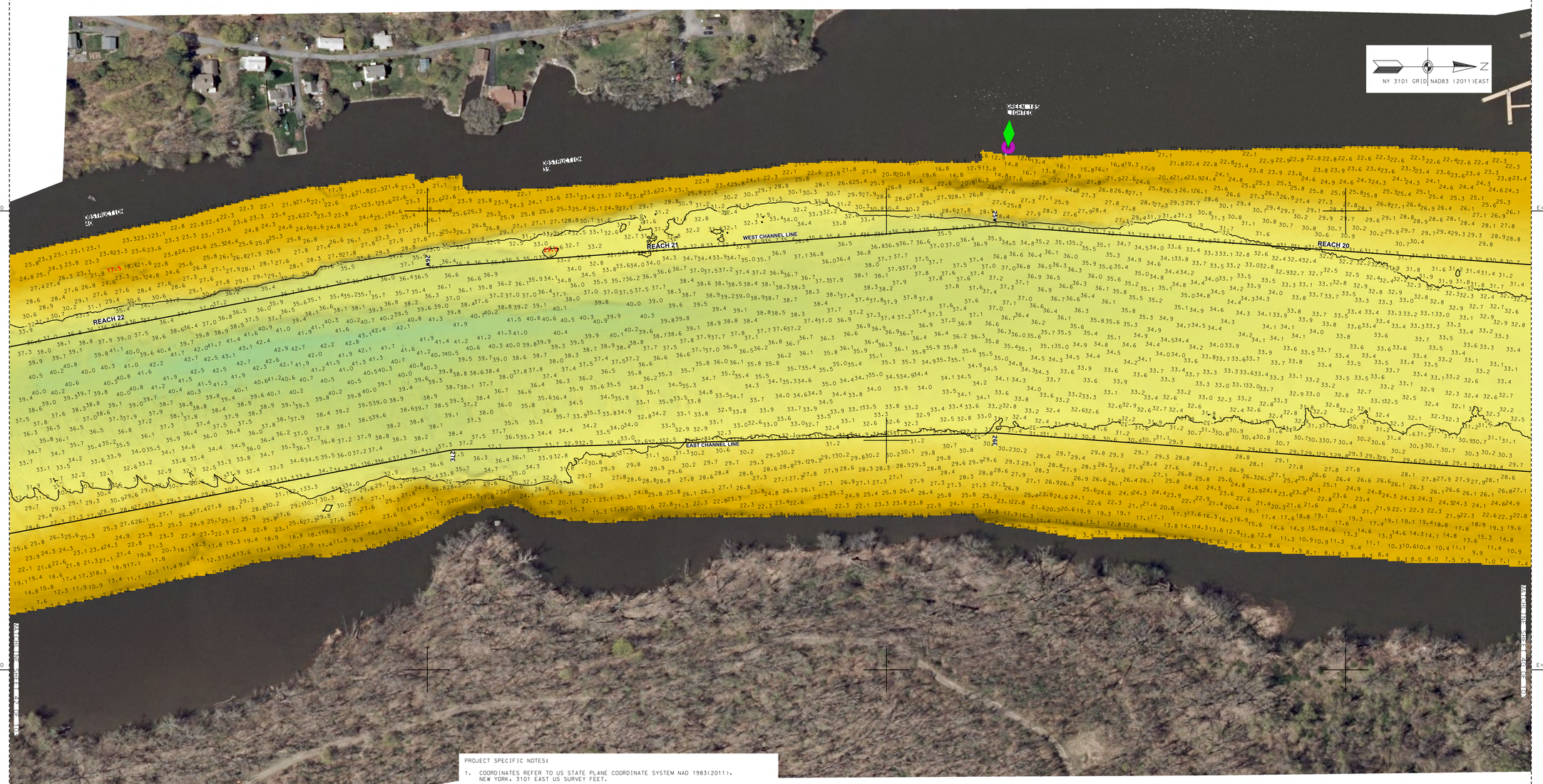
U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8444
FAX: (910) 251-8282

DESIGNED BY: 000
DRWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
PLOT DATE: 08/27/2021
SIZE: ANSI F
FILE NUMBER:
FILE NAME: VH-068890063_HUDSON_2021.DGN

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 19-20

SHEET IDENTIFICATION
VH-140
SHEET 40 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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STATE OF NEW YORK
RAYMOND B. BAKER
No. 49351
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0005
FILE NUMBER:
PLOT SCALE: 1:100
ISSUE DATE: 09/01/2021
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8444
FAX (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 20-22

SHEET IDENTIFICATION
VH-141
SHEET 41 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
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6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
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10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK) MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. DAWKINS
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BB0R68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: CDD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJ
PLOT SCALE: 1" = 600'
SIZE: ANSI F
ISSUE DATE: AUGUST 2021
FILE NAME: VH-0588900863_HUDSON_2021.DGN
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 22

SHEET IDENTIFICATION
VH-142
SHEET 42 OF 103

1 2 3 4 5

D C B A

N:1090500 N:1091000 N:1091500

E=686000 E=687000

REACH 23 REACH 22

WEST CHANNEL LINE EAST CHANNEL LINE

RED 13 LIGHTED

RED 15 LIGHTED

RED 17 LIGHTED

GREEN 16 LIGHTED

NY 3101 GRID | NAD83 (2011) | EAST

SCALE 1" = 100'

0 100 200 300 400

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED IXNS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILERS: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.

16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.

17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. BAKER JR.
LICENSED LAND SURVEYOR
No. 49360

NSRS/NGS CONTROL DATA

BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA

BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA

BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
PLOT SCALE: 1:00
ISSUE DATE: 08/06/2021
FILE NAME: VH-5985900583_HUDSON_2021.DGN
SIZE: ANSI F

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 22-23

SHEET IDENTIFICATION
VH-143
SHEET 43 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME, BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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NSRS/NGS CONTROL DATA

BENCHMARK:	TROY DAM 1	PID#	BBDR68	NORTHING	EASTING
ELEVATION:	25.32' NAVD 88			1,428,037.76	709,760.15

LOCAL CONTROL DATA

BENCHMARK:	HR-12	PID#	NORTHING	EASTING
ELEVATION:	8.67' NAVD 88		1,318821.55	684451.34
STAMPED:	HR-12 2016			

LOCAL CONTROL DATA

BENCHMARK:	01-1	PID#	NORTHING	EASTING
ELEVATION:	3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:				

STATE OF NEW YORK
RAYMOND B. OSWALD
No. 49350
LICENSED LAND SURVEYOR

US Army Corps of Engineers
New York District

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: AUGUST 2021
FILE NUMBER:
FILE NAME: VH-0589890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
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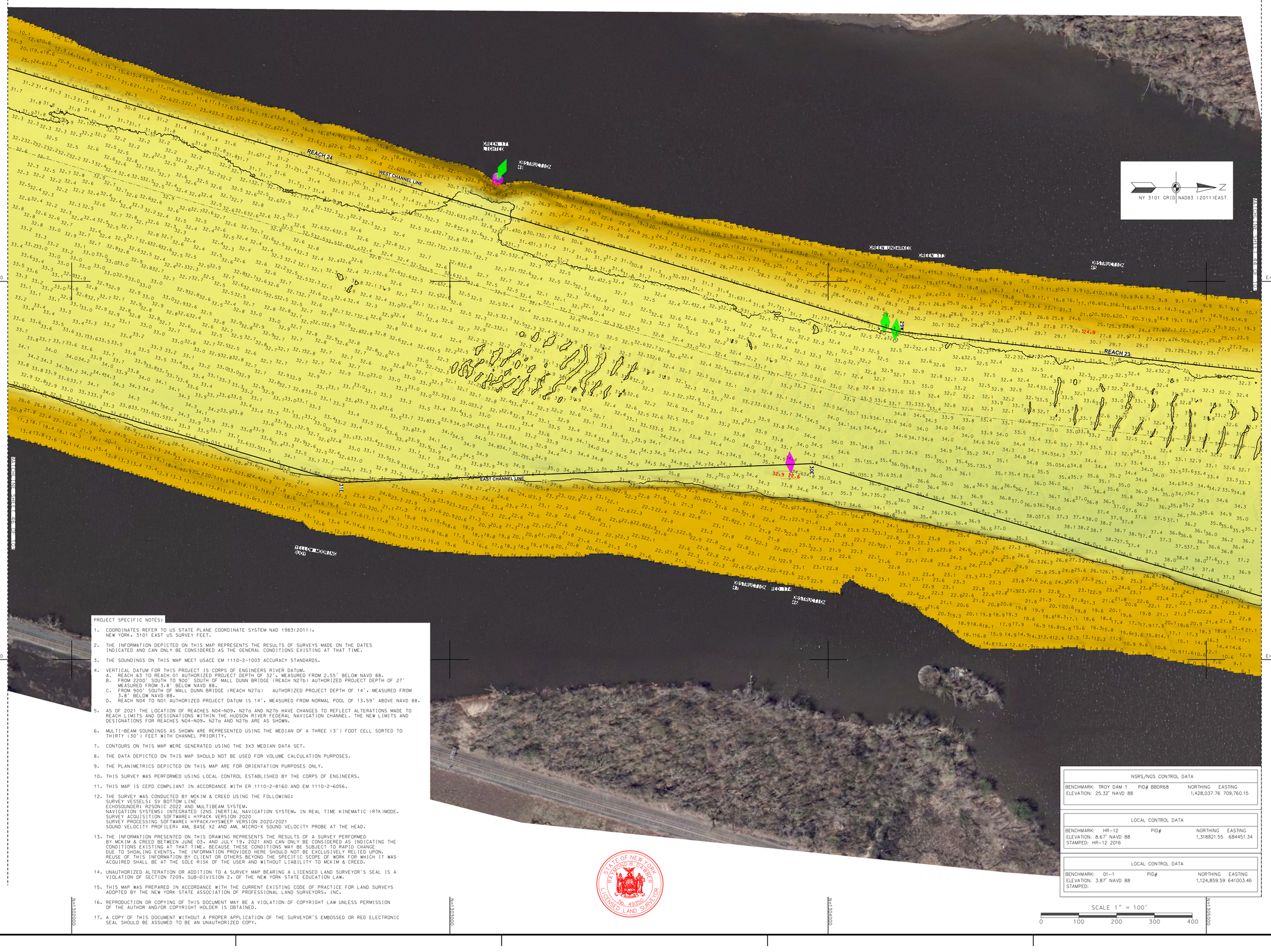
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 23

SHEET IDENTIFICATION
VH-144
SHEET 44 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. DARBY
049350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

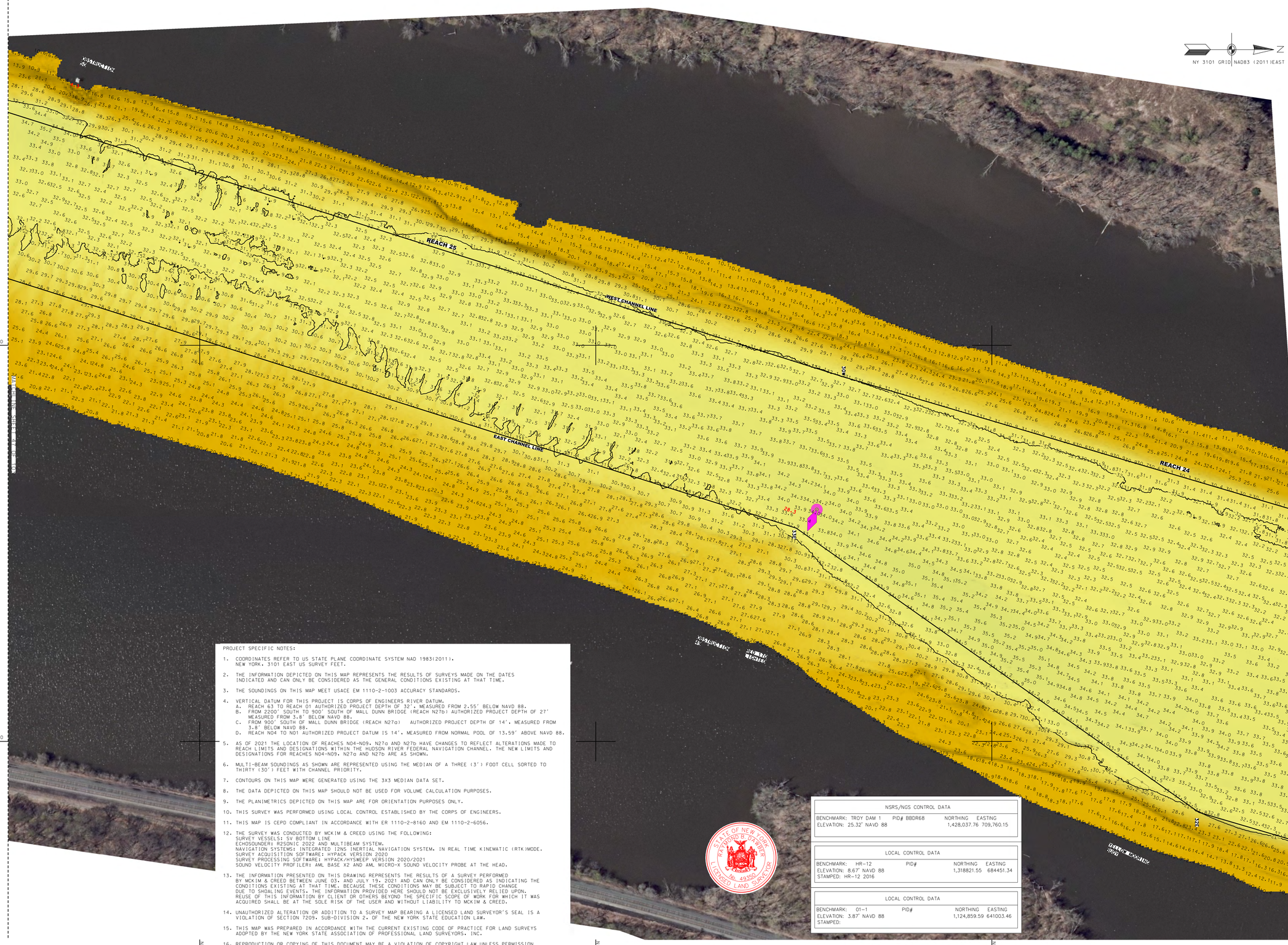
DESIGNED BY: 000
DRWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: 2021
PLOT SCALE: 1=100'
SIZE: ANSI F
FILE NUMBER: VH-0938990063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 23-24

SHEET IDENTIFICATION
VH-145
SHEET 45 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
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    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
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NSRS/NGS CONTROL DATA

BENCHMARK:	TROY DAM 1	PID#	BBDR68	NORTHING	EASTING
ELEVATION:	25.32' NAVD 88			1,428,037.76	709,760.15

LOCAL CONTROL DATA

BENCHMARK:	HR-12	PID#	NORTHING	EASTING
ELEVATION:	8.67' NAVD 88		1,318821.55	684451.34
STAMPED:	HR-12 2016			

LOCAL CONTROL DATA

BENCHMARK:	01-1	PID#	NORTHING	EASTING
ELEVATION:	3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:				

STATE OF NEW YORK RAYFORD B. PARKER LICENSED LAND SURVEYOR No. 49350

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

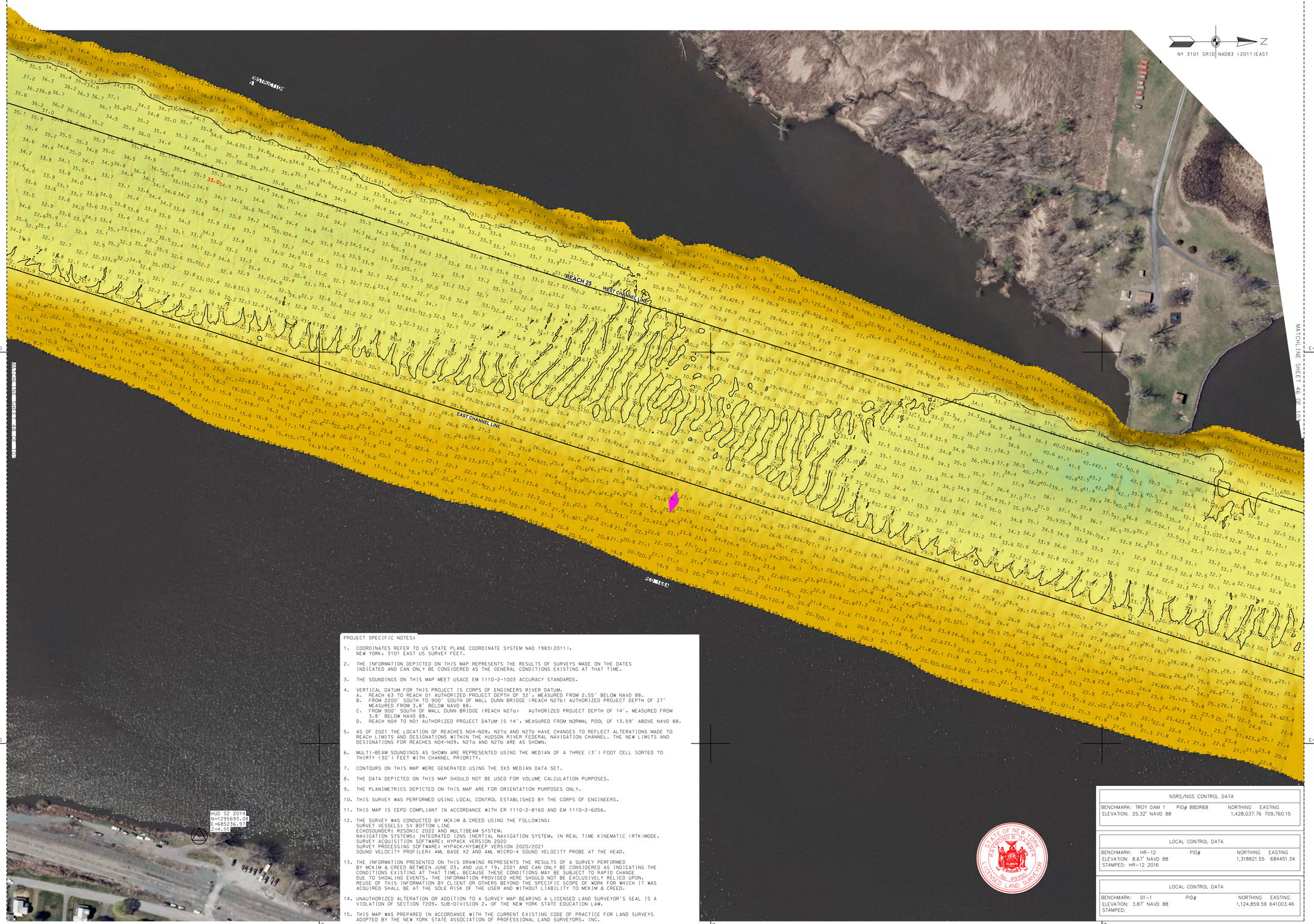
DESIGNED BY: DDD
DRWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1=100'
PLOT DATE: 9/8/2021
ISSUE DATE:
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-0938990063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 341-0049
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 24-25

SHEET IDENTIFICATION
VH-146
SHEET 46 OF 103



PROJECT SPECIFIC NOTES:

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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDERS: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA

BENCHMARK:	PID#	NORTHING	EASTING
TROY DAM 1	BBDR68	1,428,037.76	709,760.15

ELEVATION: 25.32' NAVD 88

LOCAL CONTROL DATA

BENCHMARK:	PID#	NORTHING	EASTING
HR-12		1,318821.55	684451.34

ELEVATION: 8.67' NAVD 88
STAMPED: HR-12 2016

LOCAL CONTROL DATA

BENCHMARK:	PID#	NORTHING	EASTING
01-1		1,124,859.59	641003.46

ELEVATION: 3.87' NAVD 88
STAMPED:

STATE OF NEW YORK
RAYMOND B. PARKER
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

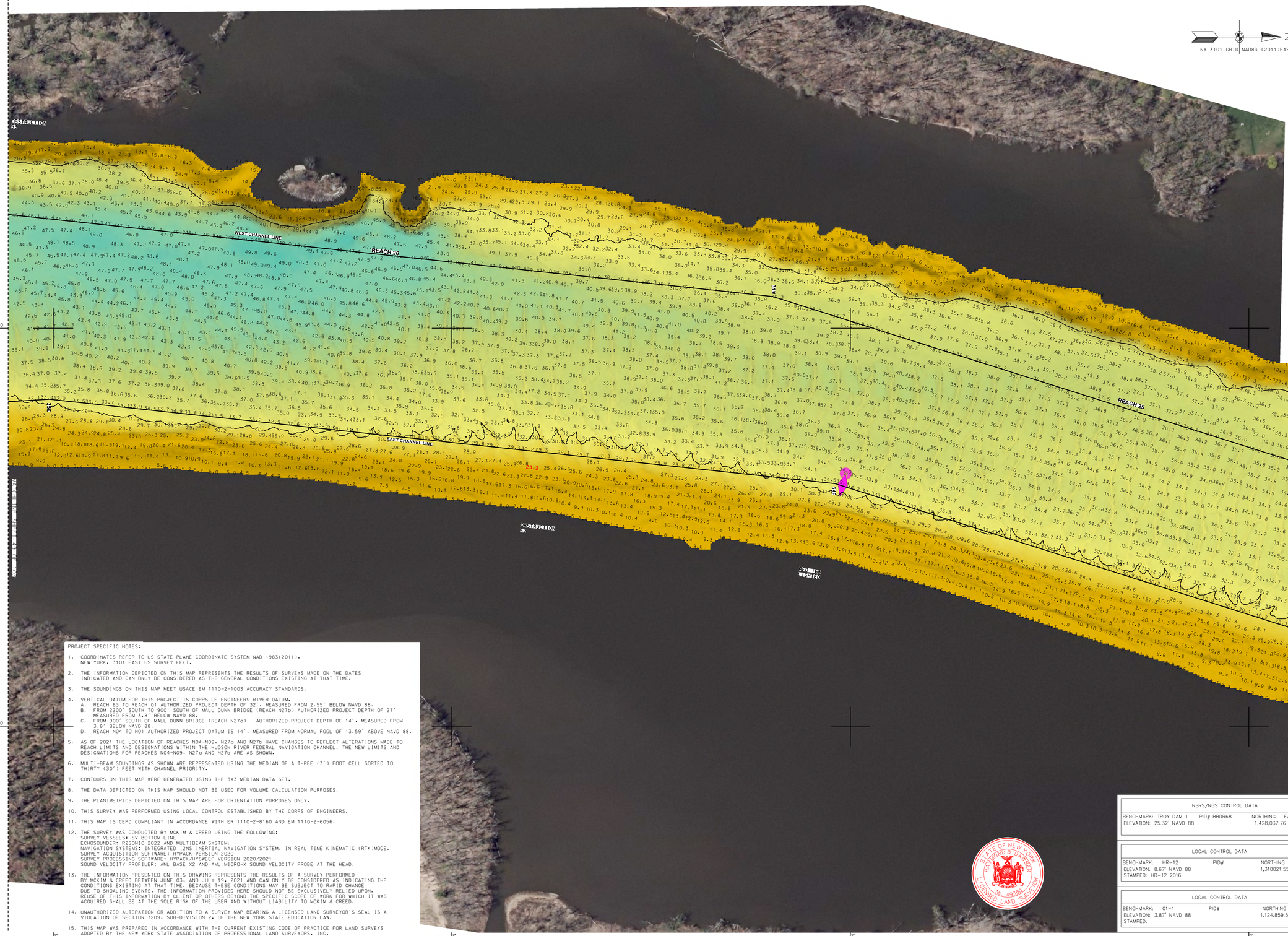
DESIGNED BY: 000
DRAWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DMJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:1000
ISSUE DATE: 08/06/2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
245 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8444
FAX (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 25

SHEET IDENTIFICATION
VH-147
SHEET 47 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED IINS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA

BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA

BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA

BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

RAYMOND B. BAKER
LICENSED LAND SURVEYOR
No. 49350
STATE OF NEW YORK

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

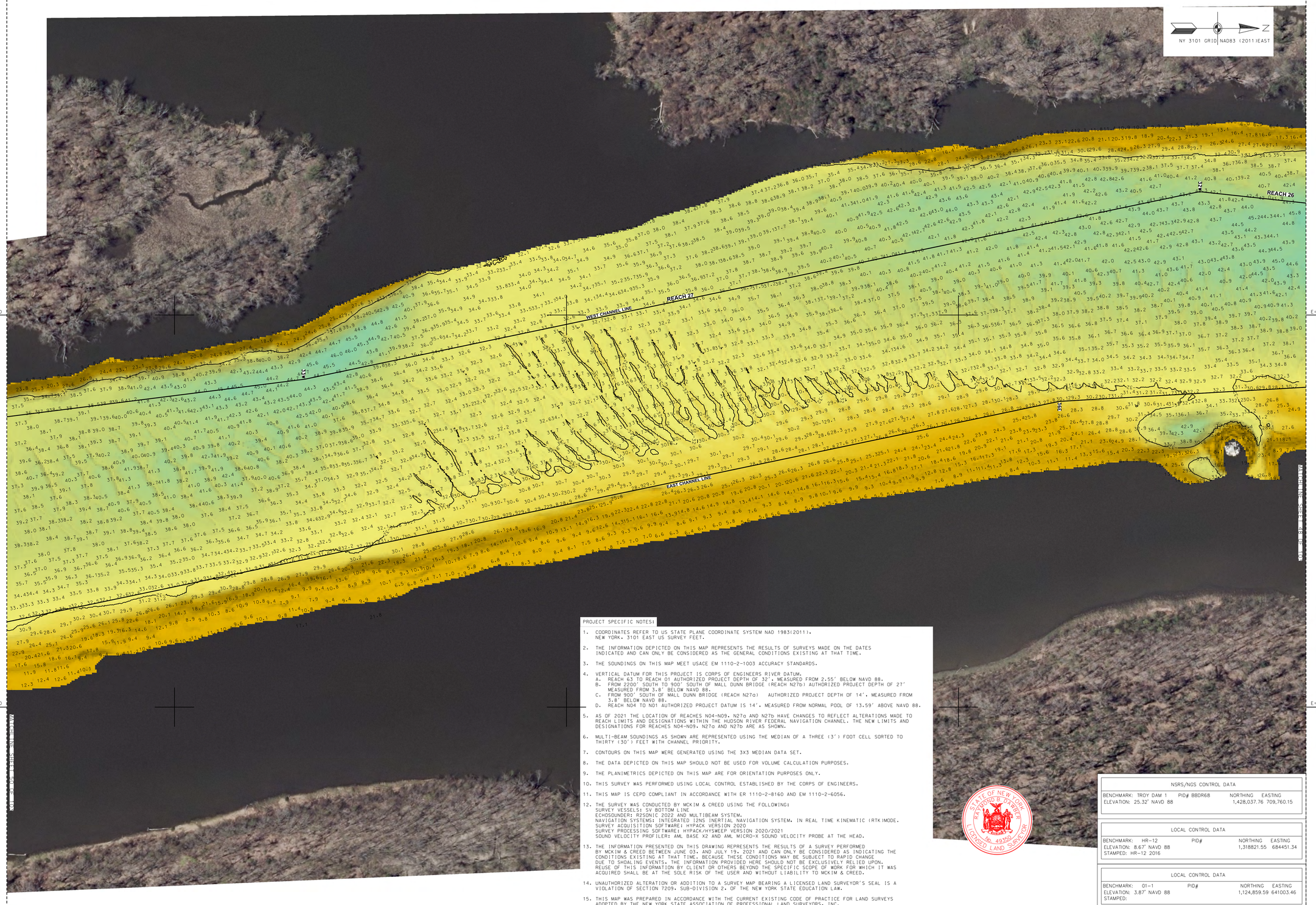
DESIGNED BY: 000
DRWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
ISSUE DATE: 8/30/2021
SIZE: ANSI F
FILE NUMBER:
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8444
FAX (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 25-26

SHEET IDENTIFICATION
VH-148
SHEET 48 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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STATE OF NEW YORK
RAYMOND B. DAWER
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BB0R68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:600
ISSUE DATE: 19 NOV 2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-5858800563_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 27-28

SHEET IDENTIFICATION
VH-149
SHEET 49 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. DARKER
090 49150
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

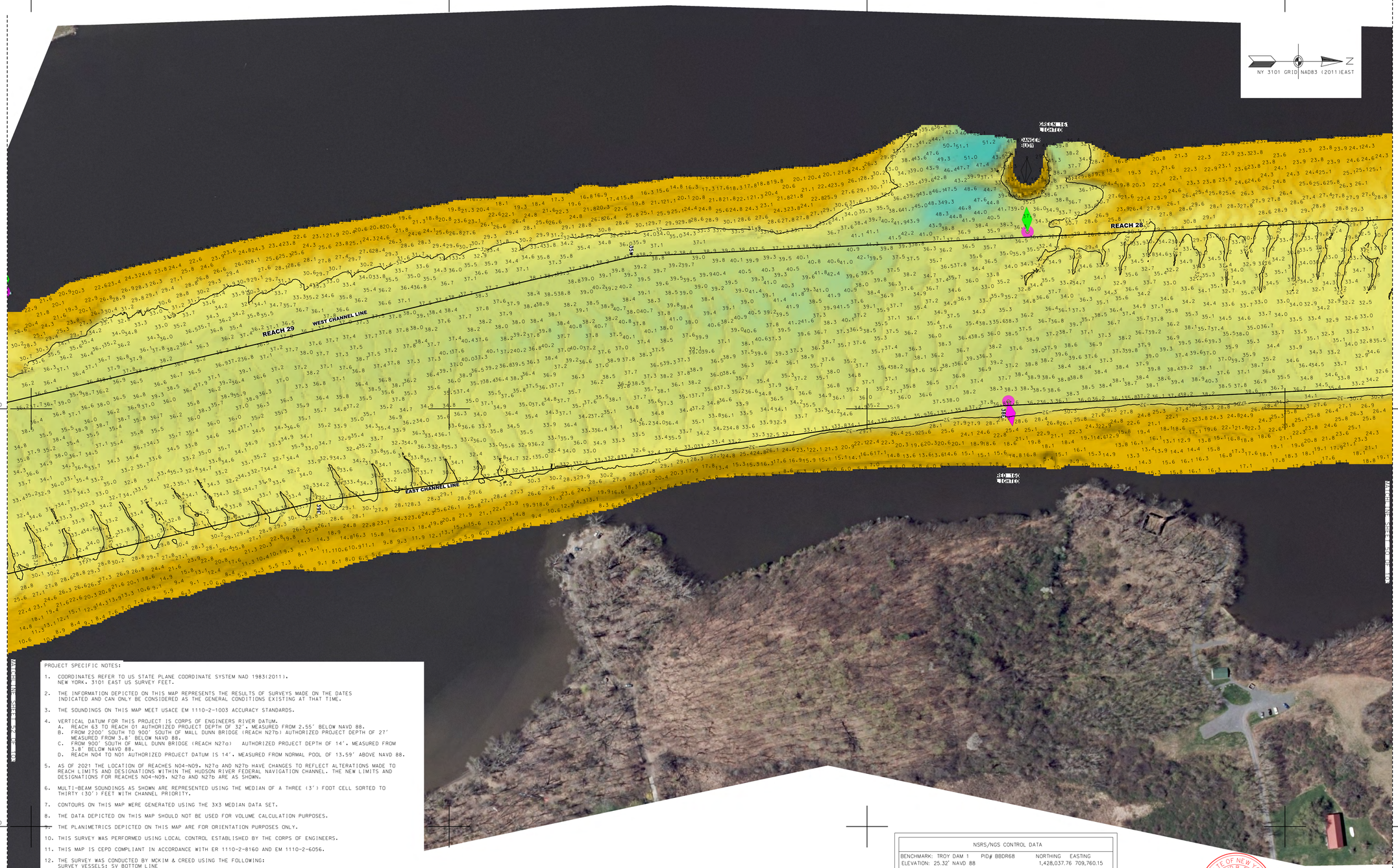
DESIGNED BY: OOD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
ISSUE DATE: NOVEMBER 2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-508890953_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8348
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 27-28

SHEET IDENTIFICATION
VH-150
SHEET 50 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011), NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
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   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
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7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED 12NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

STATE OF NEW YORK
RAYMOND B. BAKER
LICENSED LAND SURVEYOR
No. 49350

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

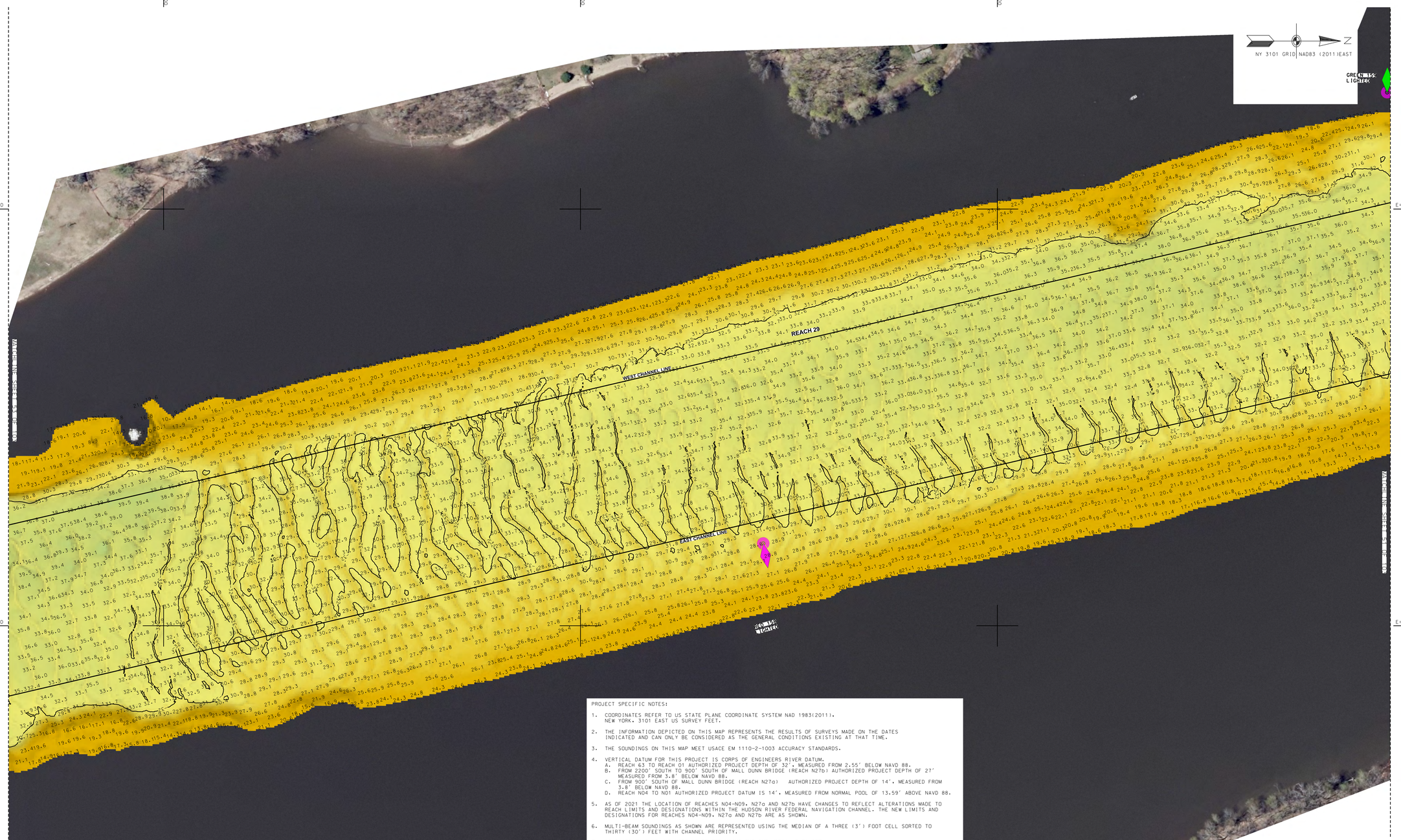
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: 06 DEC 2021
PLOT SCALE: 1 = 100'
PLOT DATE: 06 DEC 2021
SIZE: ANSI F
FILE NUMBER:
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8251
FAX (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 28-29

SHEET IDENTIFICATION
VH-151
SHEET 51 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYFORD B. OWEN
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

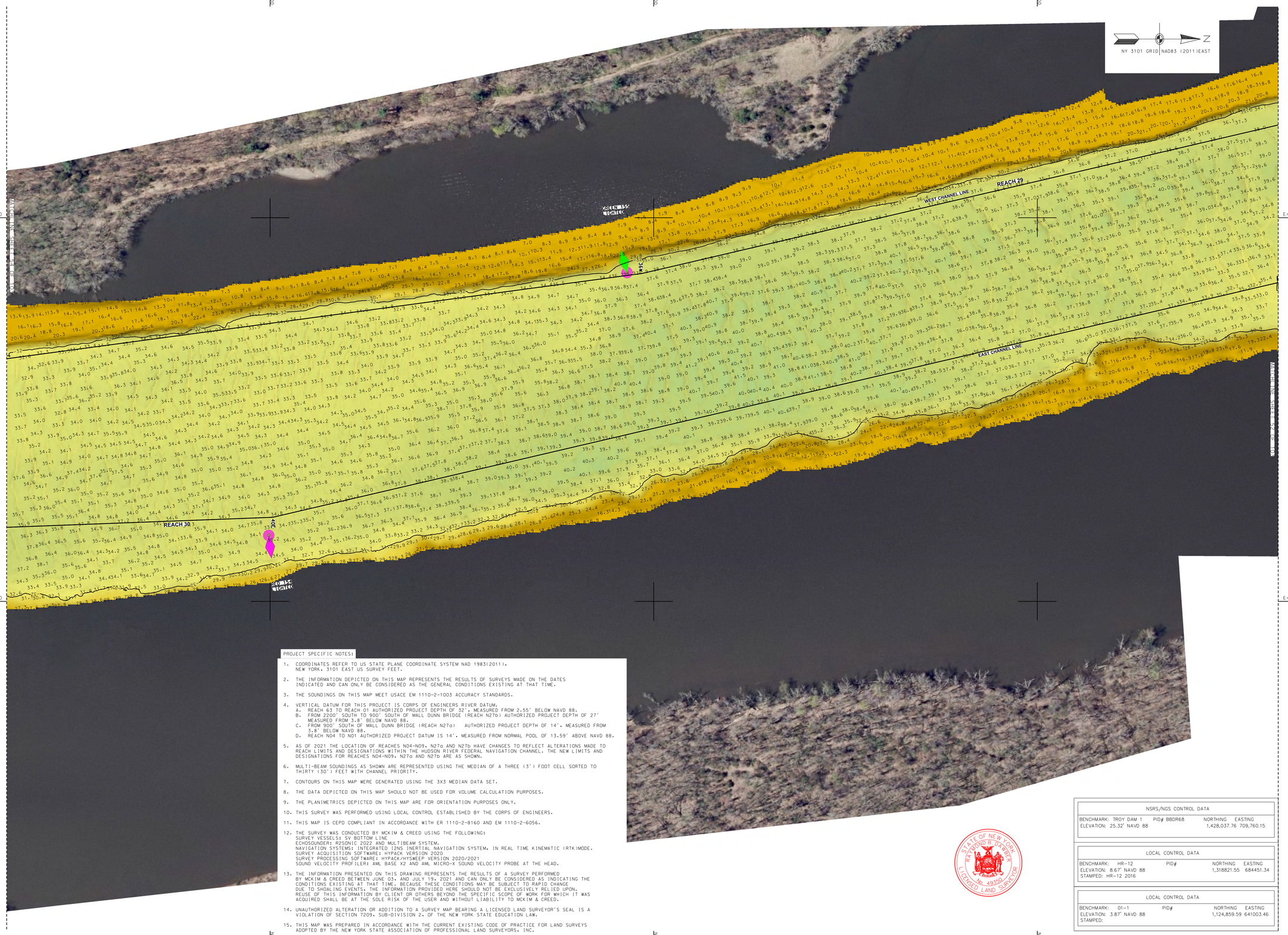
DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
PLOT DATE: 08/06/2021
SIZE: ANSI F
ISSUE DATE: 08/06/2021
FILE NUMBER:
FILE NAME: VH-058890963_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 29

SHEET IDENTIFICATION
VH-152
SHEET 52 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
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5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. PRICE
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:100
ISSUE DATE: AUG 2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-03889093_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1088
FAX: (910) 251-2252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 29-30

SHEET IDENTIFICATION
VH-153
SHEET 53 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM, IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. CRAMER
090 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

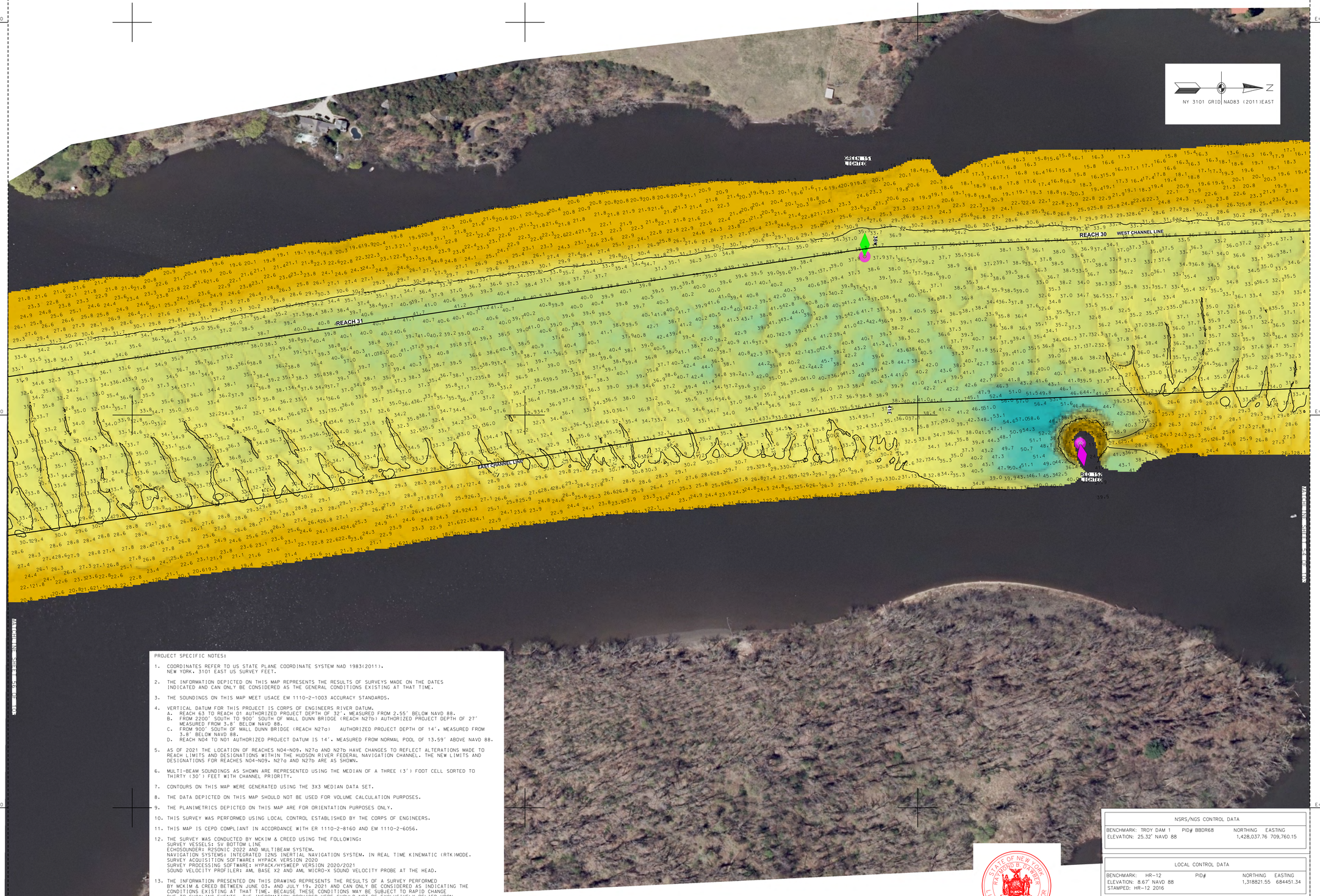
DESIGNED BY: DDD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 50'
ISSUE DATE: 09/08/2021
SIZE: ANSI F
FILE NUMBER:
FILE NAME: VH-658890963_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 30

SHEET IDENTIFICATION
VH-154
SHEET 54 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. PARKER
LICENSED LAND SURVEYOR
No. 49350

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDO	DATE: JUNE 03 - JULY 19, 2021
DWN BY: MBH	SOLICITATION NO.:
CKD BY: RBD	CONTRACT NO.: W912DS-20-D-0003
SUBMITTED BY: DLJ	FILE NUMBER:
PLOT SCALE: 1" = 100'	ISSUE DATE: AUGUST 2021
SIZE: ANSI F	FILE NAME: VH-038899093_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0888
FAX: (910) 251-2252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 30-31

SHEET IDENTIFICATION
VH-155
SHEET 55 OF 103

1 2 3 4 5

D C B A

N=1266000 N=1267000 N=1268000

E=686000 E=687000



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27o) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27o AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27o AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. BARBER
049350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

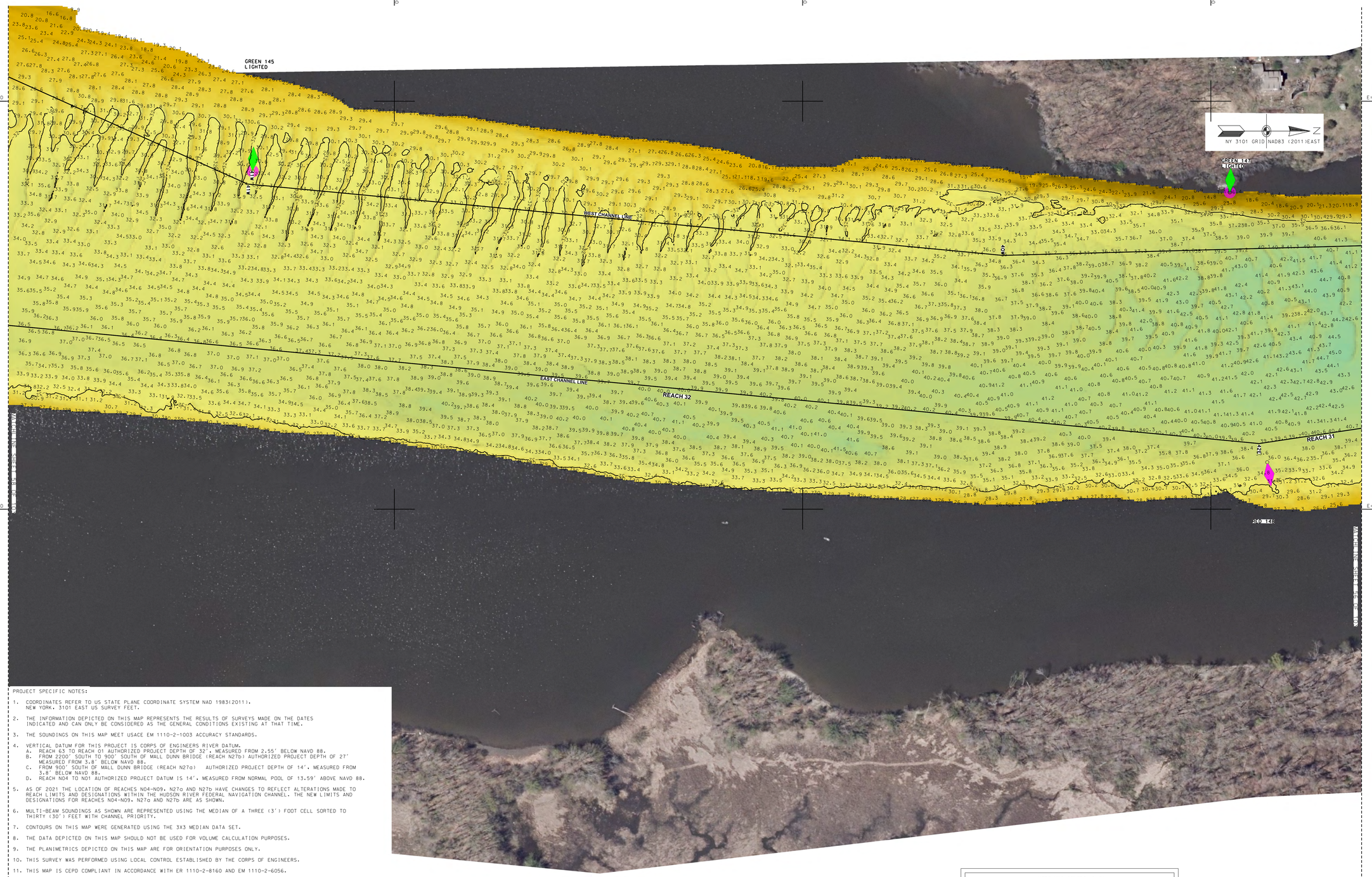
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:400
ISSUE DATE: 09/30/2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8348
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 31

SHEET IDENTIFICATION
VH-156
SHEET 56 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
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6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

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STATE OF NEW YORK
RAYMOND B. DOWER
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: OSD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
PLOT DATE: 6/08/2021
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

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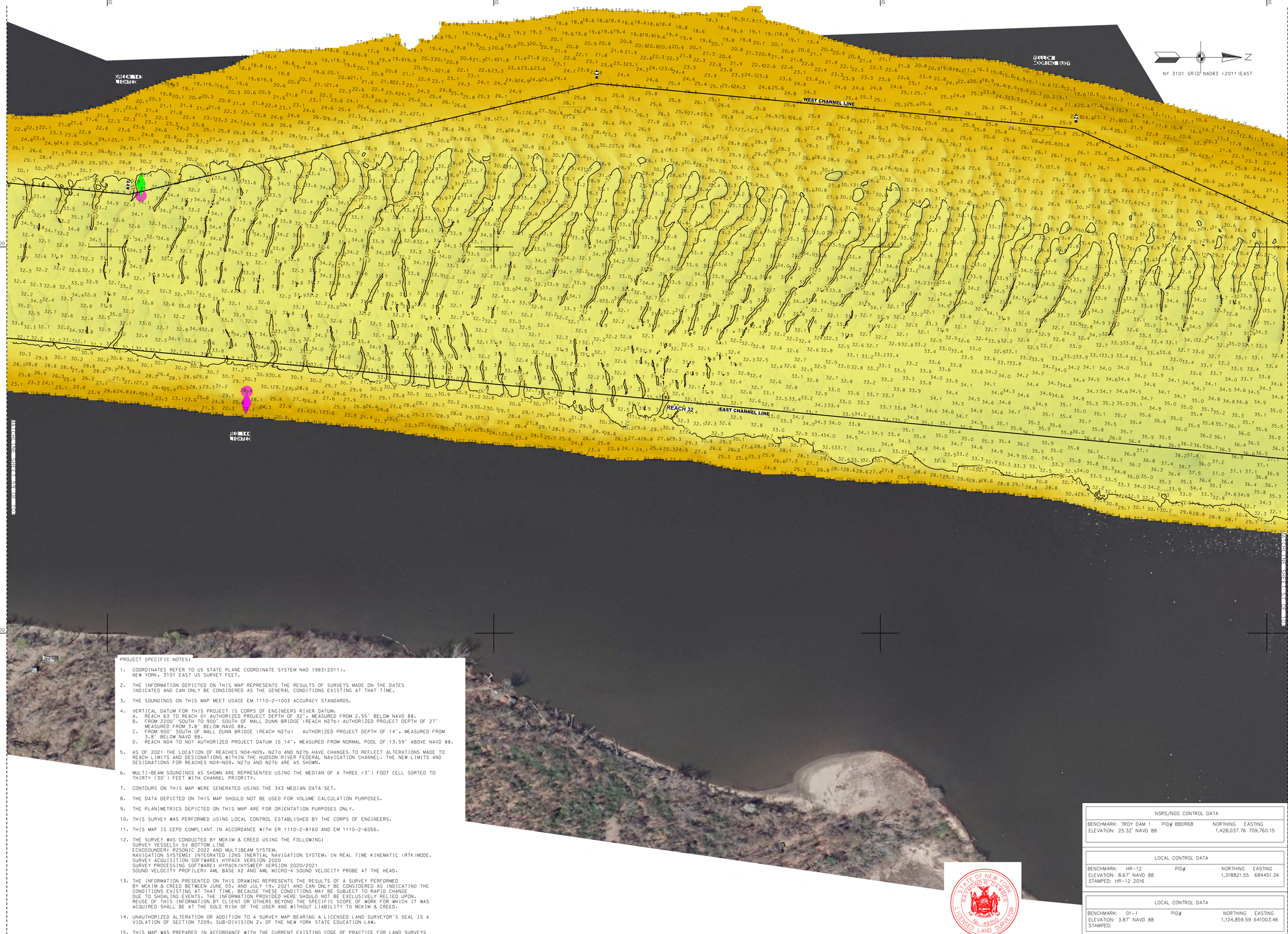
FAX (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 31-32

SHEET IDENTIFICATION
VH-157
SHEET 57 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
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   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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STATE OF NEW YORK
RAYMOND E. DARKER
090 49750
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA

BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA

BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA

BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
ISSUE DATE: 09/16/2021
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-0588990083_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
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WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 32

SHEET IDENTIFICATION
VH-158
SHEET 58 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
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9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
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STATE OF NEW YORK
RAYMOND B. BAKER
96 49351
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

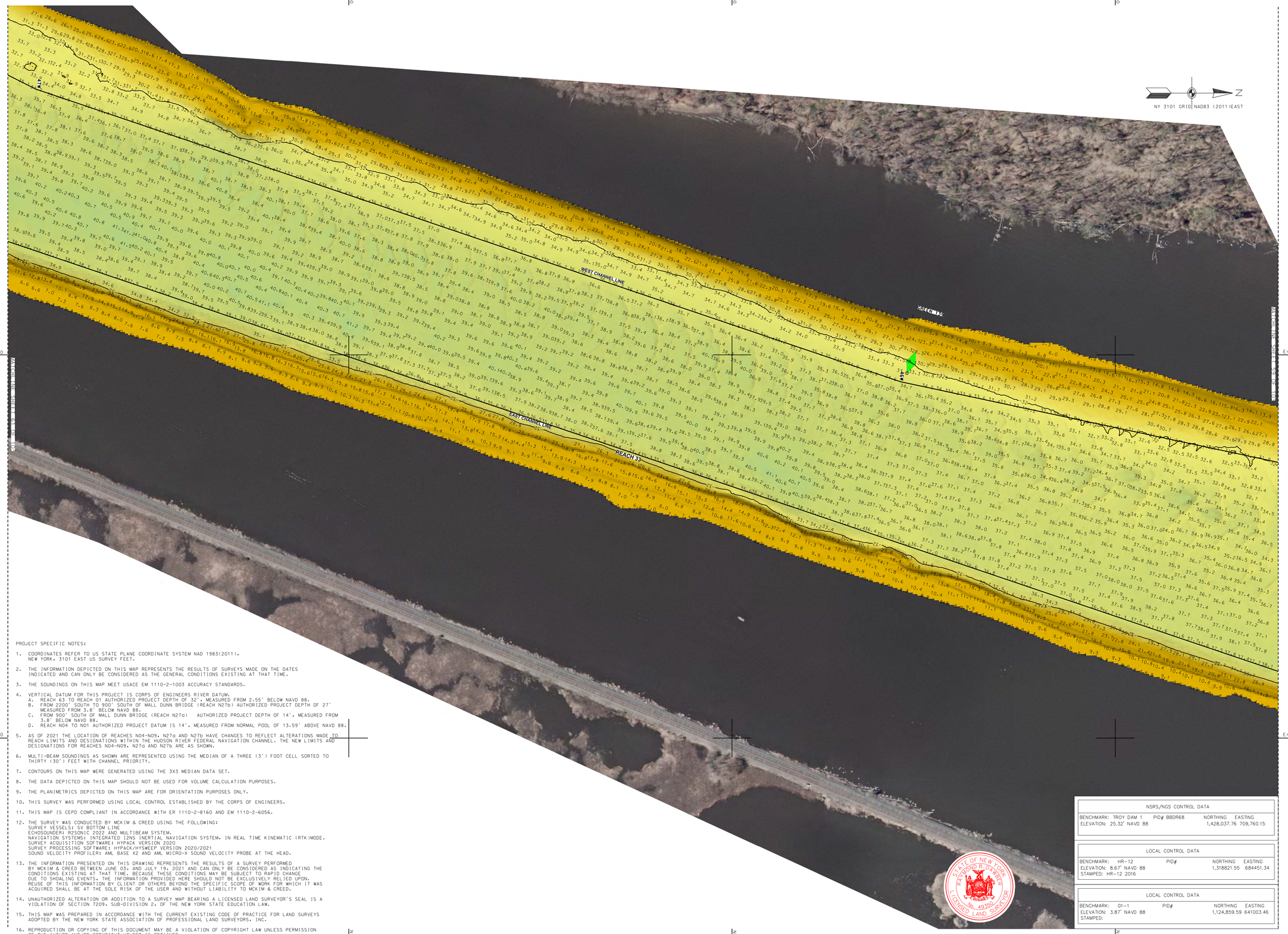
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
ISSUE DATE: 08/31/2021
SIZE: ANSI F
FILE NAME: VH-5958900169_HUDSON_2021.DGN
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 343-1648
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 32-33

SHEET IDENTIFICATION
VH-159
SHEET 59 OF 103



PROJECT SPECIFIC NOTES:

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   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DARKER
049350
LICENSED LAND SURVEYOR

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

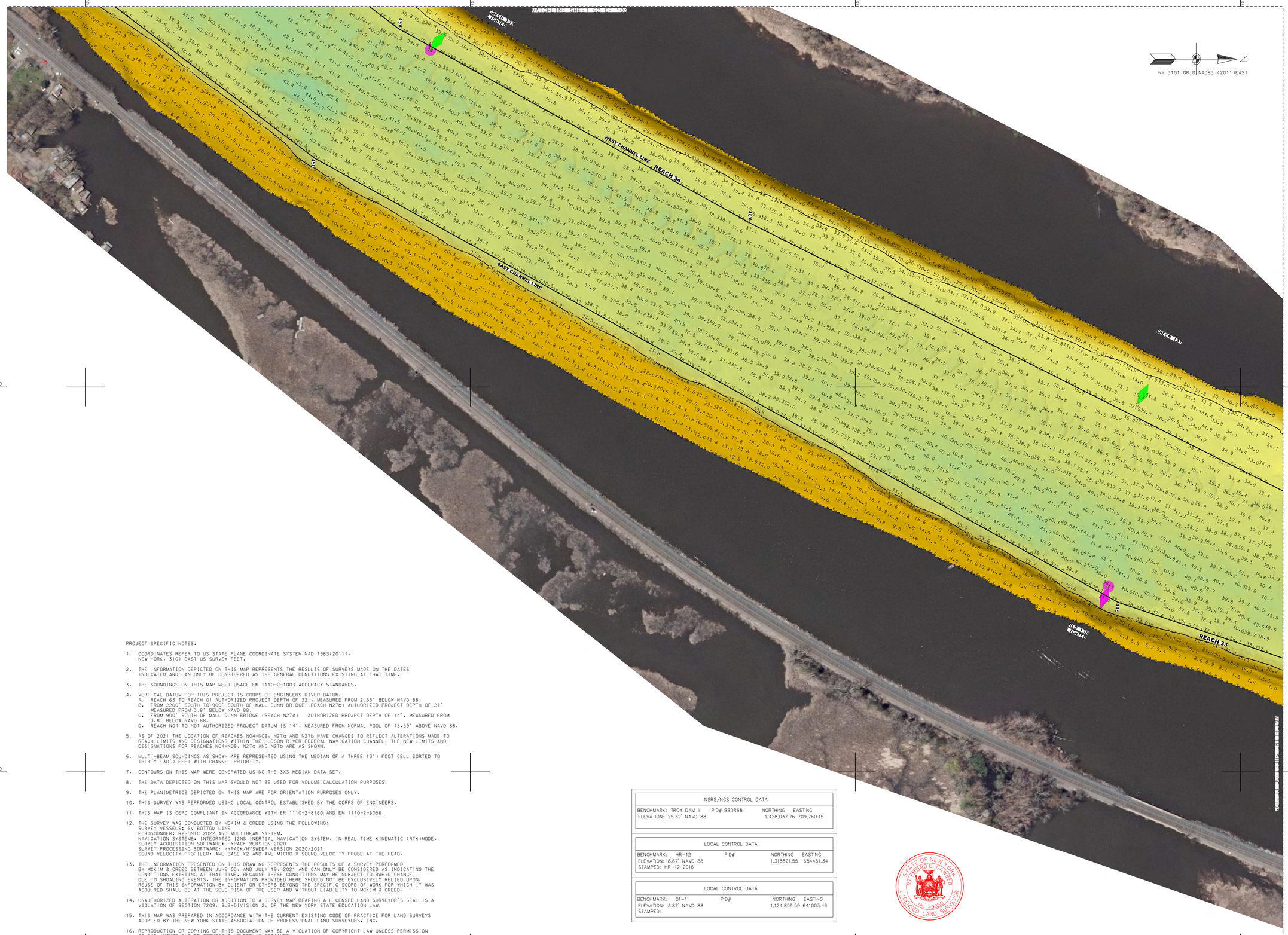
DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
PLOT SCALE: 1" = 100'
PLOT DATE: 8/30/2021
SIZE: ANSI F
ISSUE DATE: AUGUST 2021
FILE NAME: VH-0388890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0848
FAX: (910) 251-2252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 33

SHEET IDENTIFICATION
VH-160
SHEET 60 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH NO4 TO NO1 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. BAKER
090 49386
LICENSED LAND SURVEYOR

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

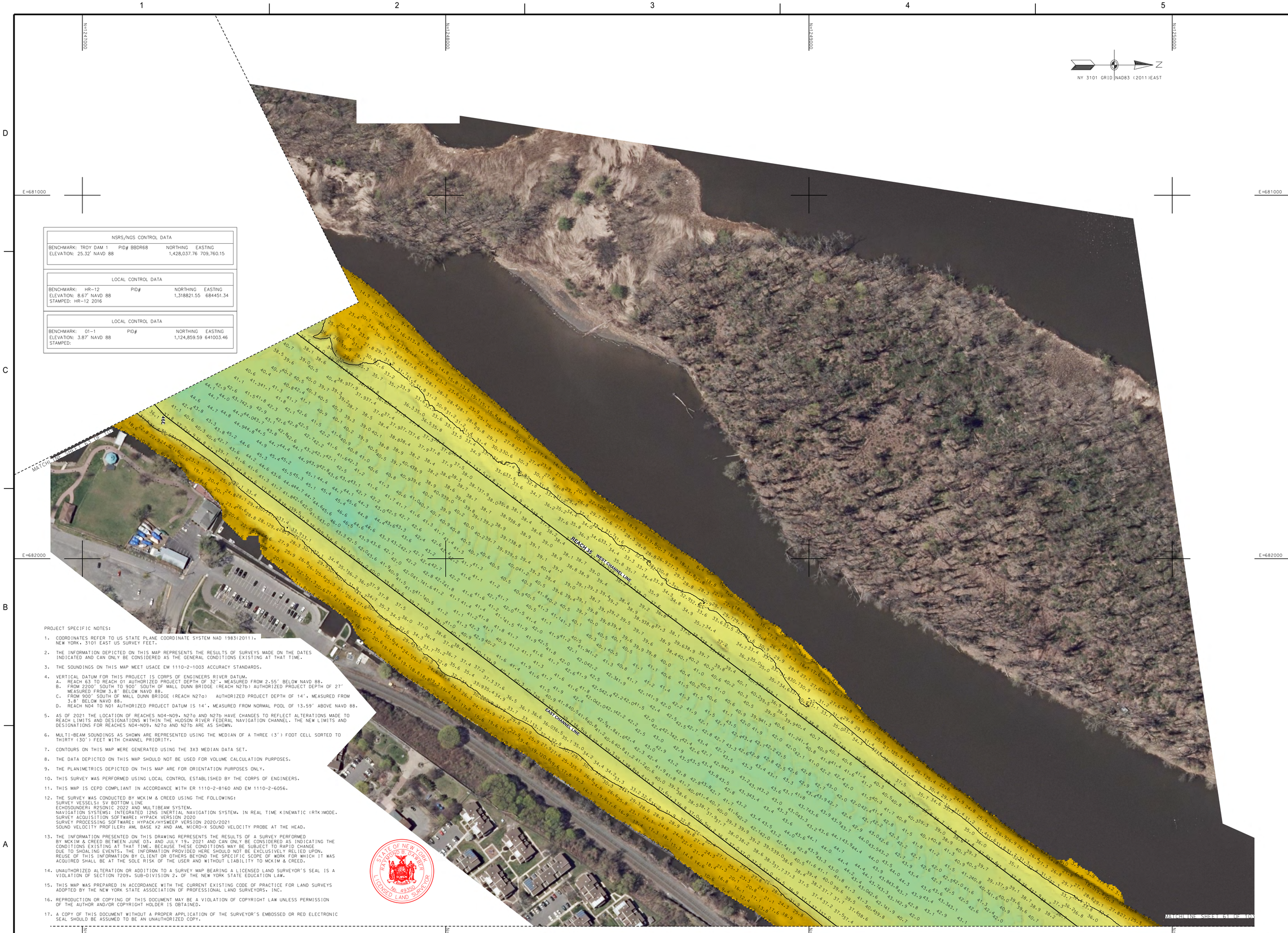
DESIGNED BY: DDD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1"=50'
PLOT DATE: 8/30/2021
SIZE: ANSI F
ISSUE DATE: 8/30/2021
FILE NUMBER:
FILE NAME: VH-659890963_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 33-34

SHEET IDENTIFICATION
VH-161
SHEET 61 OF 103



NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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STATE OF NEW YORK
RAYMOND B. DWYER
LICENSED LAND SURVEYOR
No. 49350

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

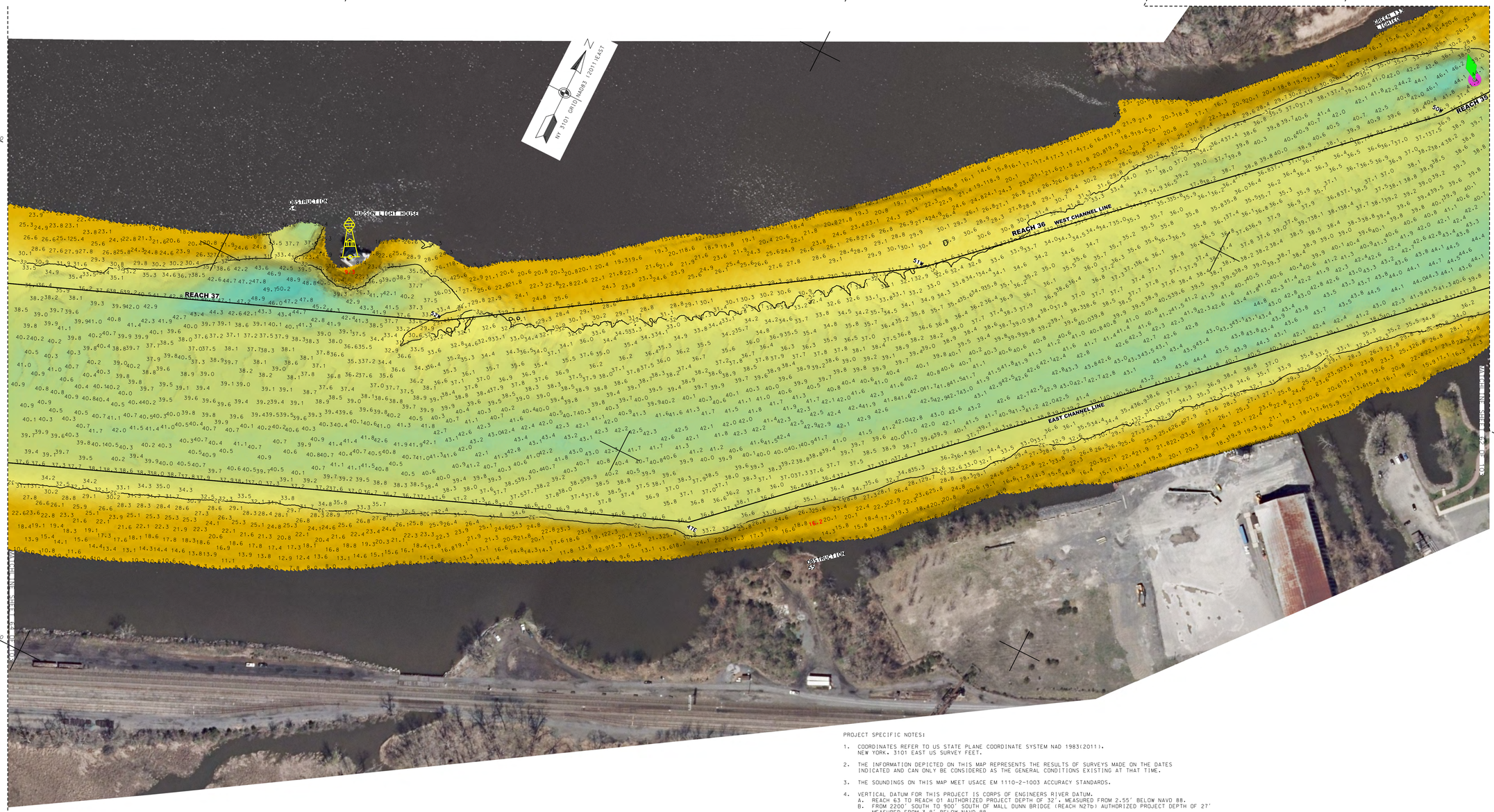
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
ISSUE DATE: 09/01/2021
FILE NAME: VH-058890063_HUDSON_2021.DGN
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8251 (800) 733-1048
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 35

SHEET IDENTIFICATION
VH-162
SHEET 62 OF 162



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED IXNS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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STATE OF NEW YORK
RAYMOND B. DAWBER
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BB0R68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

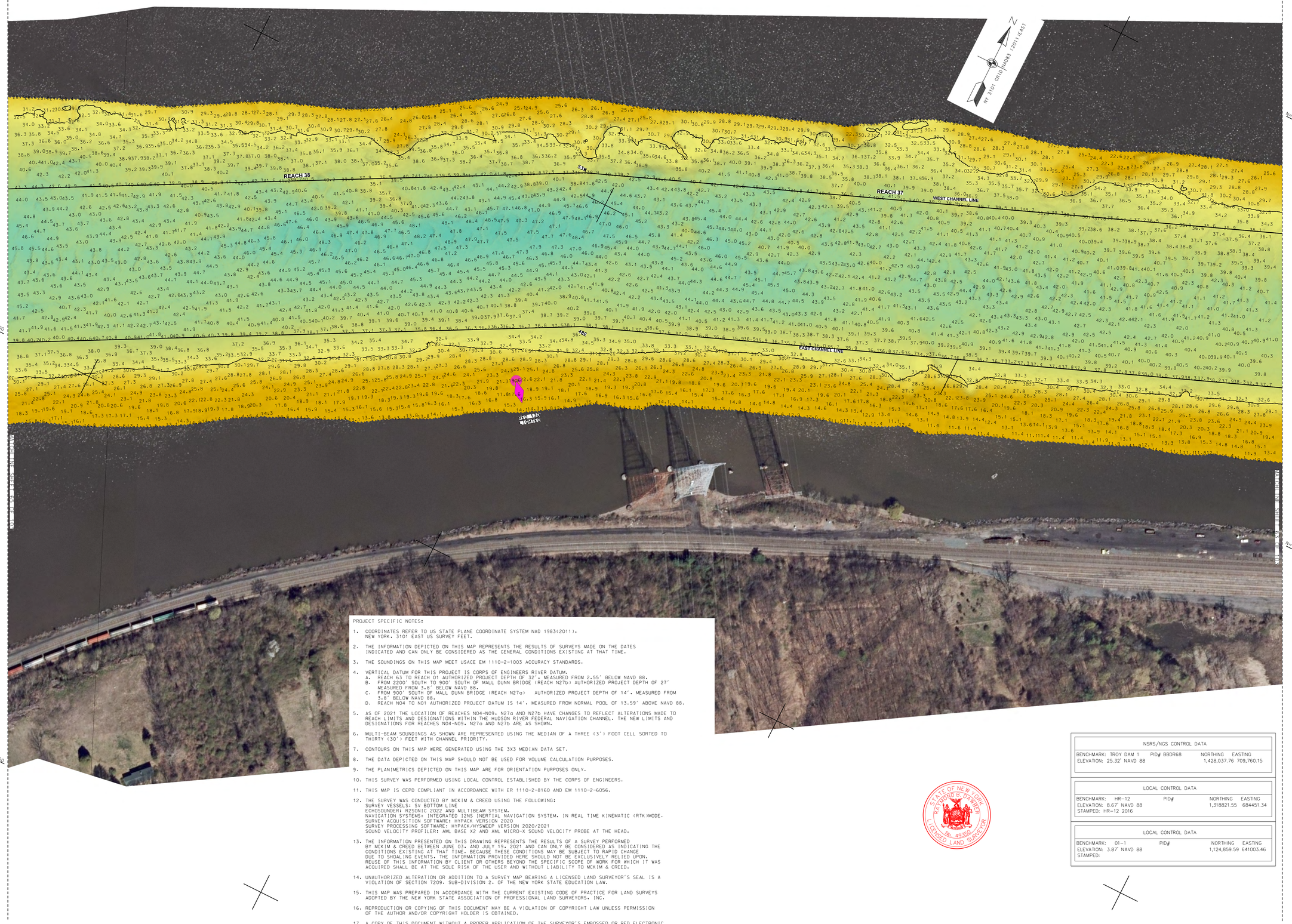
DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
PLOT BY: ANSI F
ISSUE DATE: AUGUST 2021
FILE NUMBER:
FILE NAME: VH-0938990063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 341-0049
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 35-37

SHEET IDENTIFICATION
VH-163
SHEET 63 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND P. DAVIES
049350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers
New York District

	DESCRIPTION	DATE	APPR.
MARK			
MARK			
MARK			
MARK			
MARK			
MARK			
MARK			
MARK			

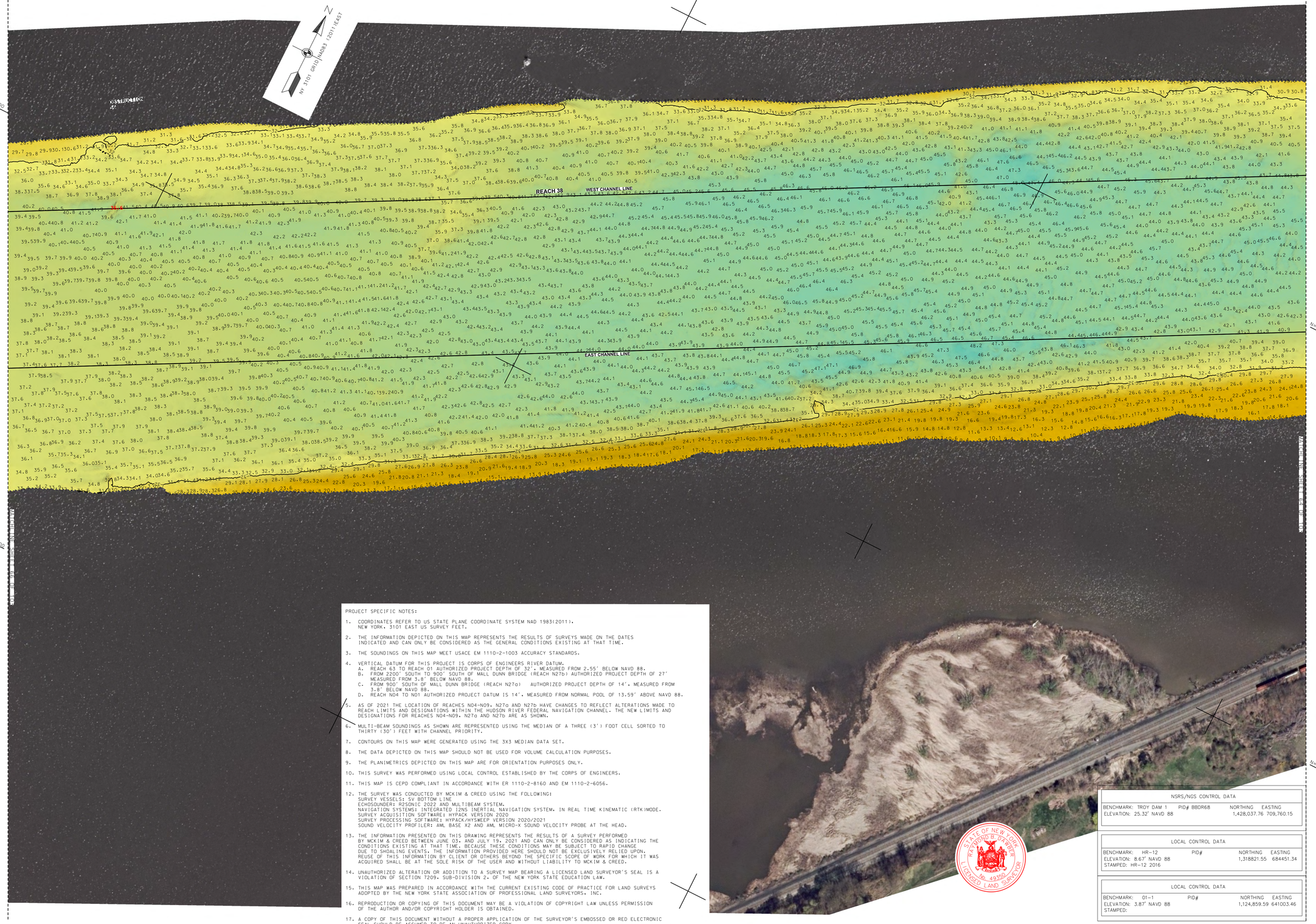
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
ISSUE DATE: AUGUST 2021
FILE NAME: VH-GS8890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8848
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 37-38

SHEET IDENTIFICATION
VH-164
SHEET 64 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

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15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.

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STATE OF NEW YORK
RAYMOND B. BYRNES
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

US Army Corps of Engineers ®
New York District

DESCRIPTION	DATE	APPR.

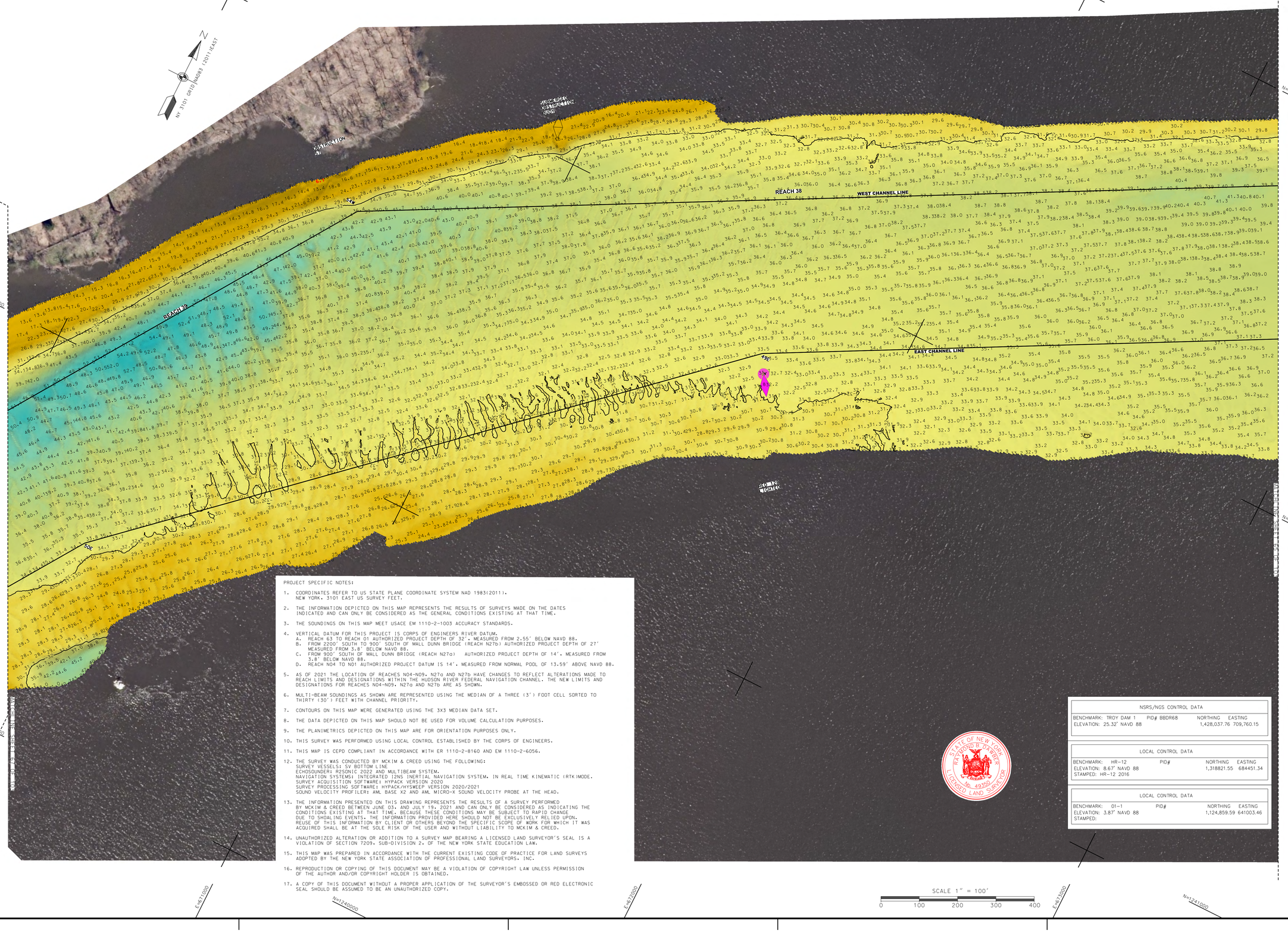
DESIGNED BY:	DATE:
DWN BY: MBH	JUNE 03 - JULY 19, 2021
CKD BY: RBD	SOLICITATION NO.:
SUBMITTED BY: DLJ	CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'	ISSUE DATE: SEPTEMBER 2021
SIZE: ANSI F	FILE NAME: VH-DSB990063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 38

SHEET IDENTIFICATION
VH-165
SHEET 65 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.
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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DWYER
No. 49350
LICENSED LAND SURVEYOR

US Army Corps of Engineers
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
PLOT DATE: 8/6/2021
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
245 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA, 28401
TELEPHONE (910) 251-1848
FAX (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 38-39

SHEET IDENTIFICATION
VH-166
SHEET 66 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 43 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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NY 3101 GRID NAD83 (2011)EAST

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

REACH 39 - WEST CHANNEL LINE

EAST CHANNEL LINE

MATCHLINE SHEET 68 OF 103

MATCHLINE SHEET 66 OF 103

SCALE 1" = 100'
0 100 200 300 400

STATE OF NEW YORK
RAYMOND B. PARKER
090482
LICENSED LAND SURVEYOR

US Army Corps of Engineers ®
New York District

DESCRIPTION	DATE	APPR.

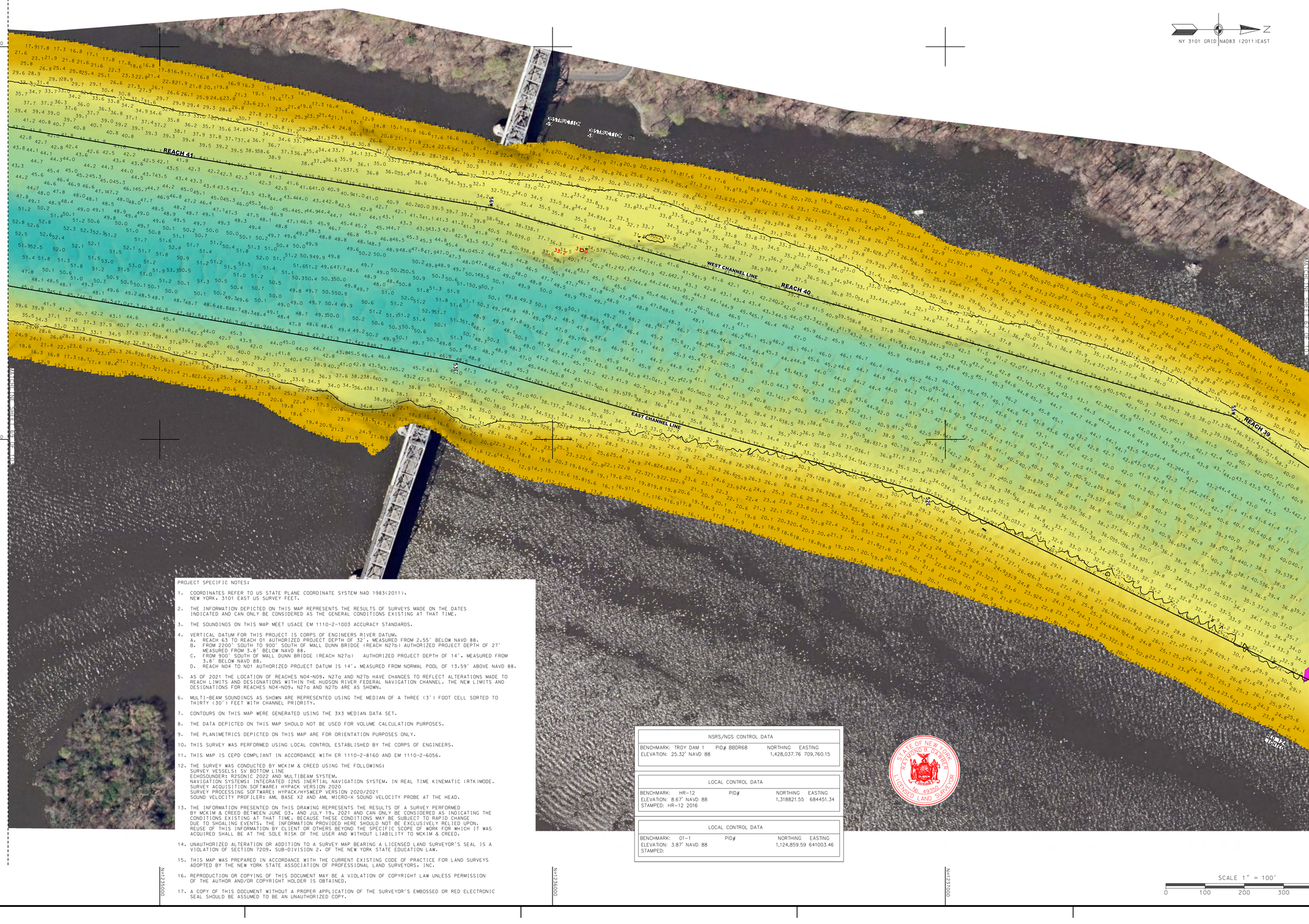
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:100'
PLOT DATE: 09/08/2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890083_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8348
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 39

SHEET IDENTIFICATION
VH-167
SHEET 67 OF 103



PROJECT SPECIFIC NOTES:

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4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM:
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. PARKER
049493
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

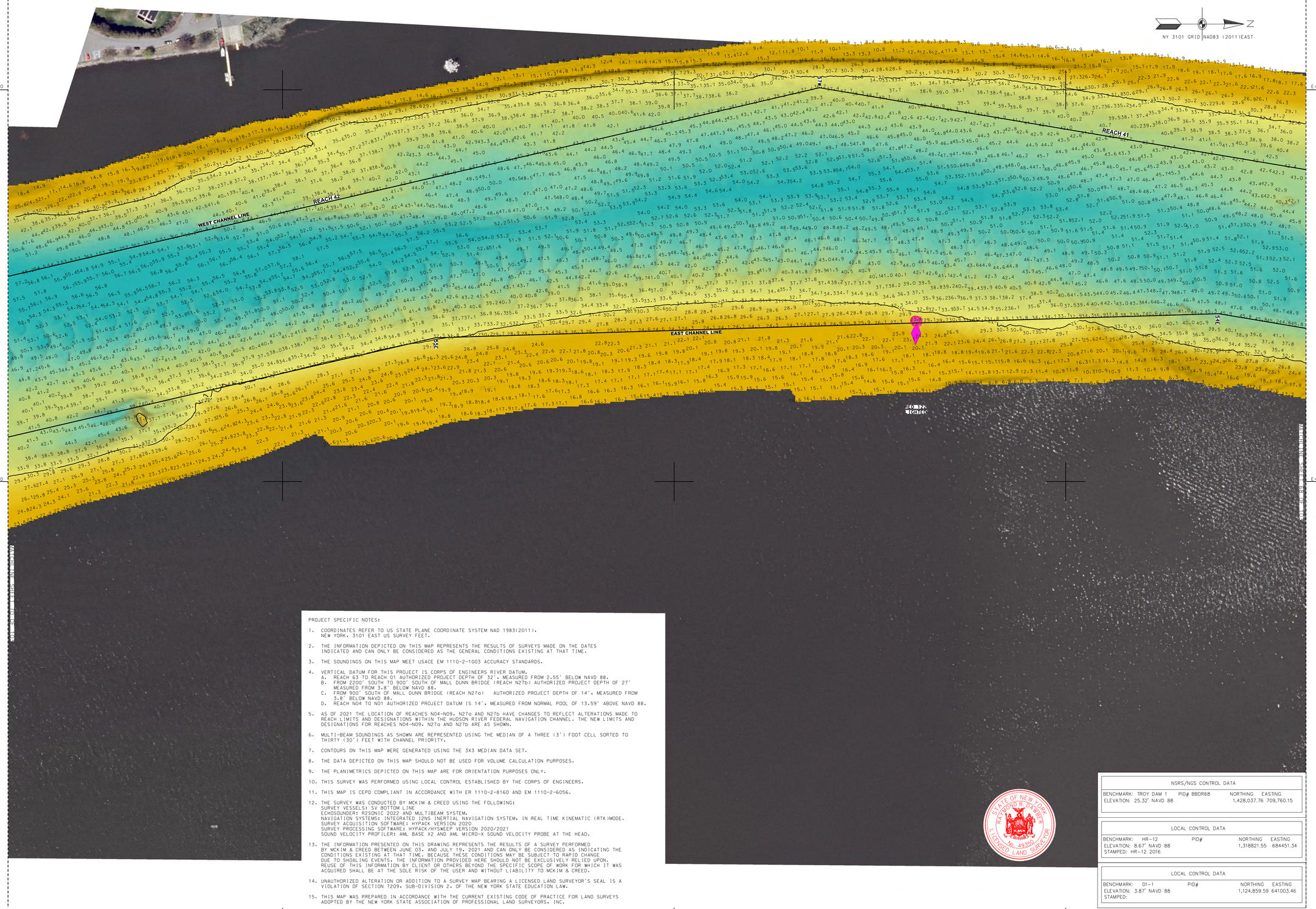
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:100
ISSUE DATE: 09/30/2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-508890083_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
245 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8848
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 39-41

SHEET IDENTIFICATION
VH-168
SHEET 68 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.
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STATE OF NEW YORK
RAYMOND B. D'AMBRA
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

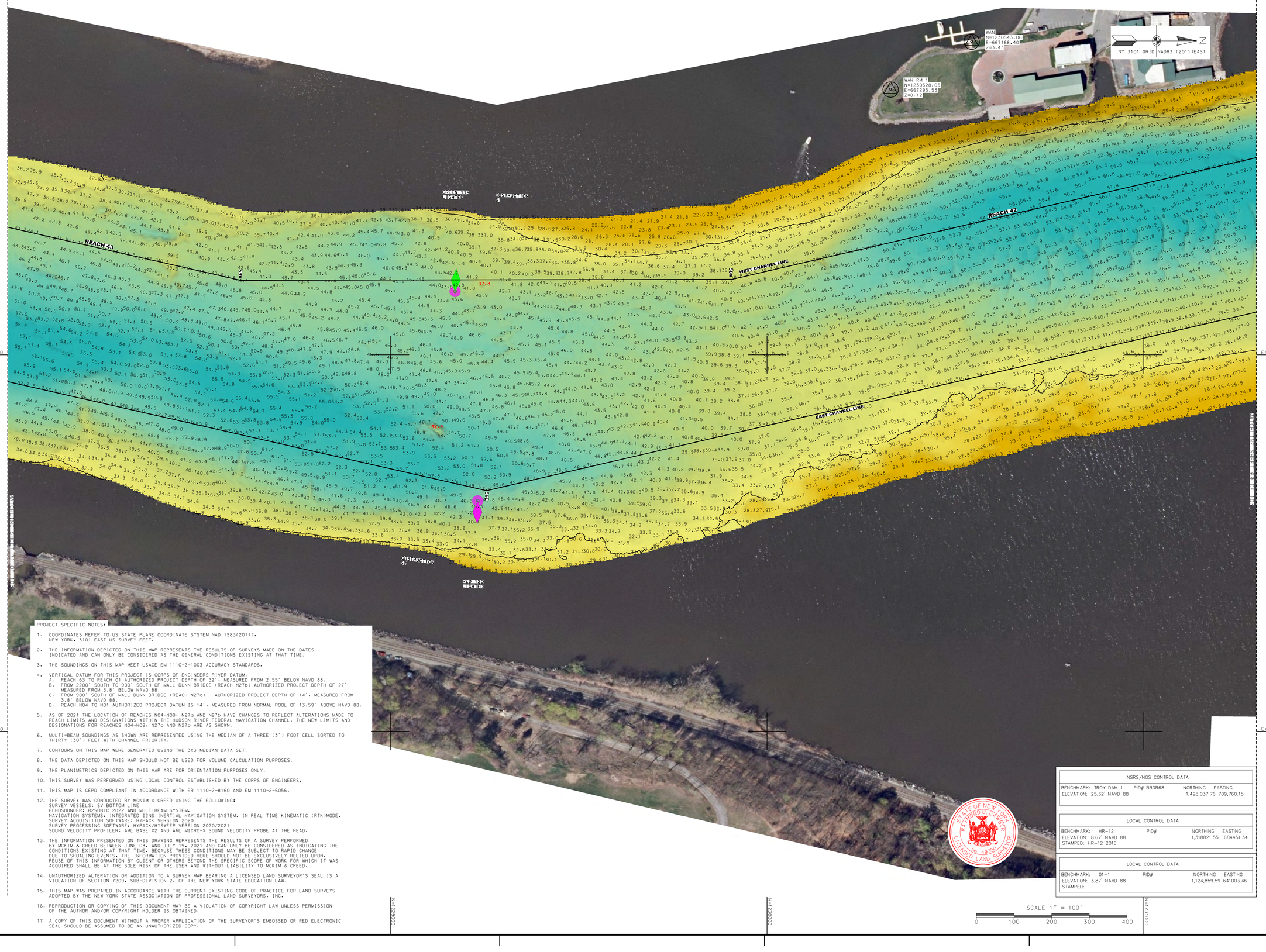
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJ
PLOT SCALE: 1" = 100'
PLOT DATE: 6/06/2021
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-0588900963_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8444
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 41-42

SHEET IDENTIFICATION
VH-169
SHEET 69 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
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8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. PARKER
LICENSED LAND SURVEYOR
No. 49350

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

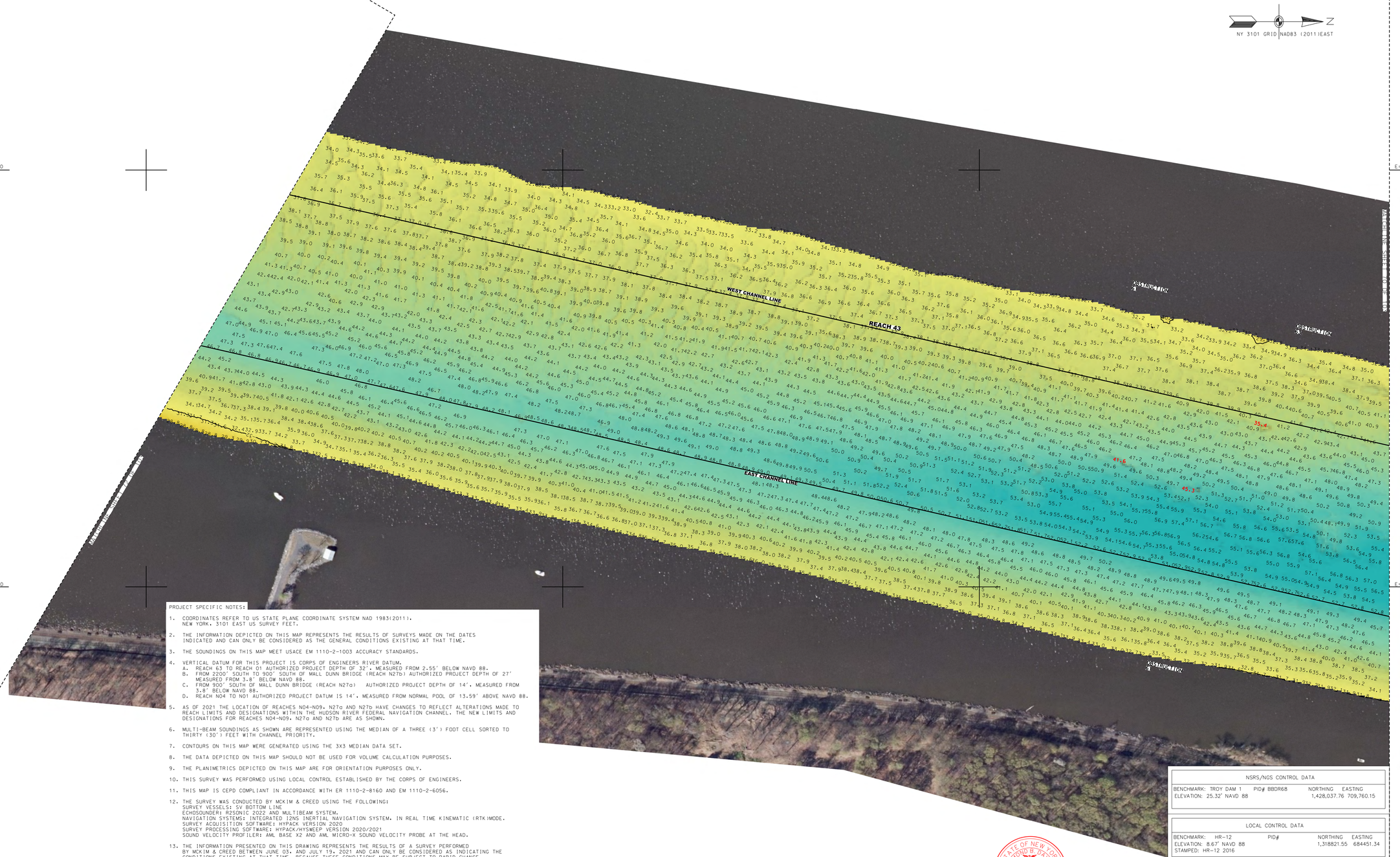
DESIGNED BY: OOO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
ISSUE DATE: AUGUST 2021
FILE NAME: VH-038899093_HUDSON_2021.DGN
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:

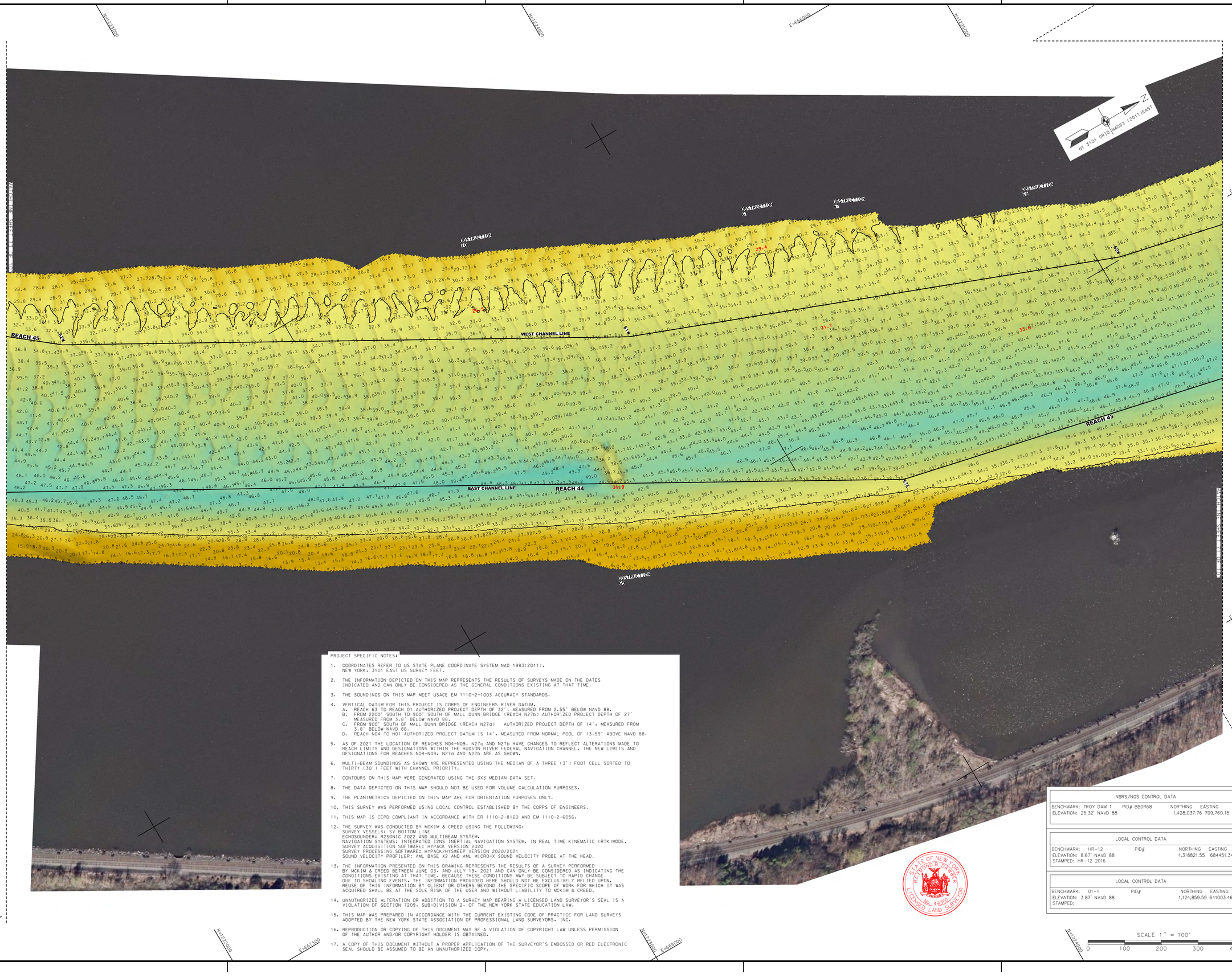
U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8851
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 42-43

SHEET IDENTIFICATION
VH-170
SHEET 70 OF 103


N=1225000
N=1226000
N=1227000
E=667000
E=668000
NY 3101 GRID NADD83 (2011) EAST
WEST CHANNEL LINE
REACH 43
EAST CHANNEL LINE
ANCHORAGE 3
ANCHORAGE 3
ANCHORAGE 3
MANHATTAN SHORE OF HUDSON RIVER
CONRAIL BRIDGE
CONRAIL BRIDGE
CONRAIL BRIDGE



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. PARKER
No. 49350
LICENSED LAND SURVEYOR

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

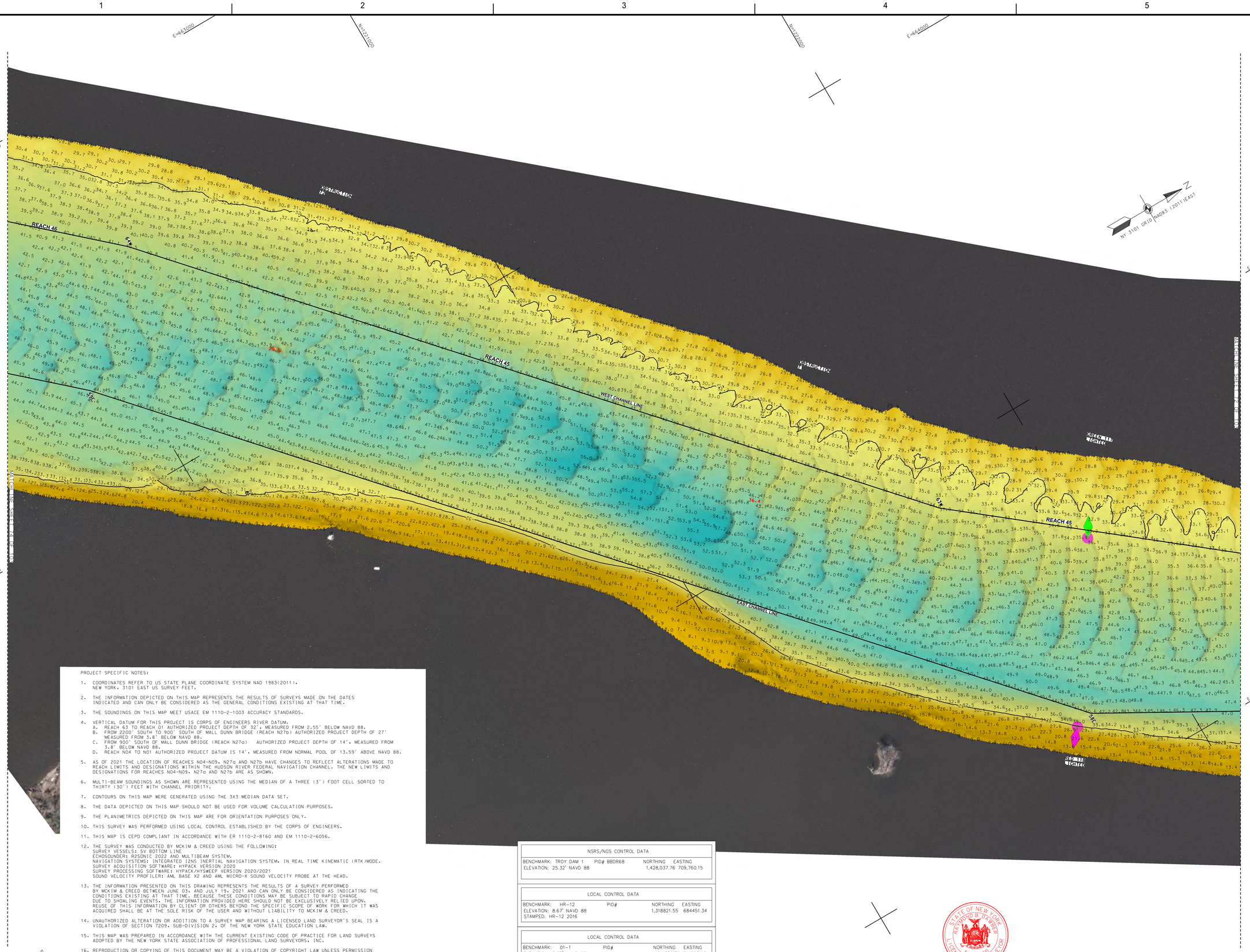
McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1088
FAX: (910) 251-2252

DESIGNED BY: DDO	DWN BY: MBH	CKD BY: RBD	SUBMITTED BY: DLJ
PLOT SCALE: 1"=100'	ISSUE DATE: AUG 2021	SIZE: ANSI F	

DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-638899093_HUDSON_2021.DGN

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 43-45

SHEET IDENTIFICATION
VH-172
SHEET 72 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DARBY
No. 49350
LICENSED LAND SURVEYOR

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: DDO	DWN BY: MBH	CKD BY: RBD	SUBMITTED BY: DLJ	PLOT SCALE: 1"=100'	ISSUE DATE: AUGUST 2021	FILE NAME: VH-038899063_HUDSON_2021.DGN

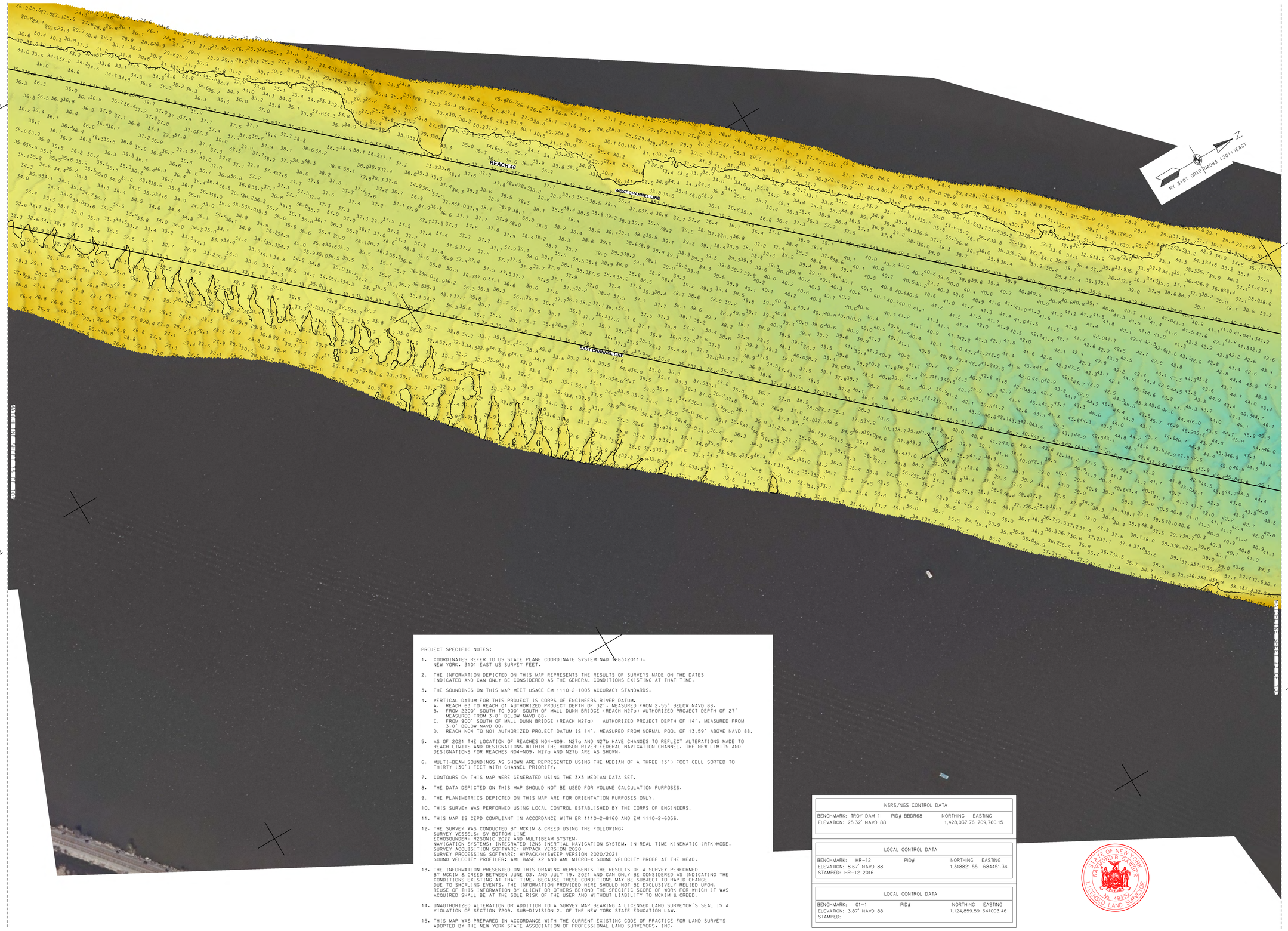
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
SIZE: ANSI F

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0468
FAX: (910) 251-2252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 45-46

SHEET IDENTIFICATION
VH-173
SHEET 73 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RICHFORD P. GARBER
LICENSED LAND SURVEYOR
NO. 49350

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJ
PLOT SCALE: 1" = 100'
PLOT DATE: 06/14/2021
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-058890963_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8444
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 46

SHEET IDENTIFICATION
VH-174
SHEET 74 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK) MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
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16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

RICHARD B. DEWEY
NEW YORK
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
PLOT DATE: 7/26/2021
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-0589900963_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
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NEW YORK, NY

McKIM & CREED
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WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8251
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 46-47

SHEET IDENTIFICATION
VH-175
SHEET 75 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
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7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. OWEN
LICENSED LAND SURVEYOR
NO. 49501

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,426,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

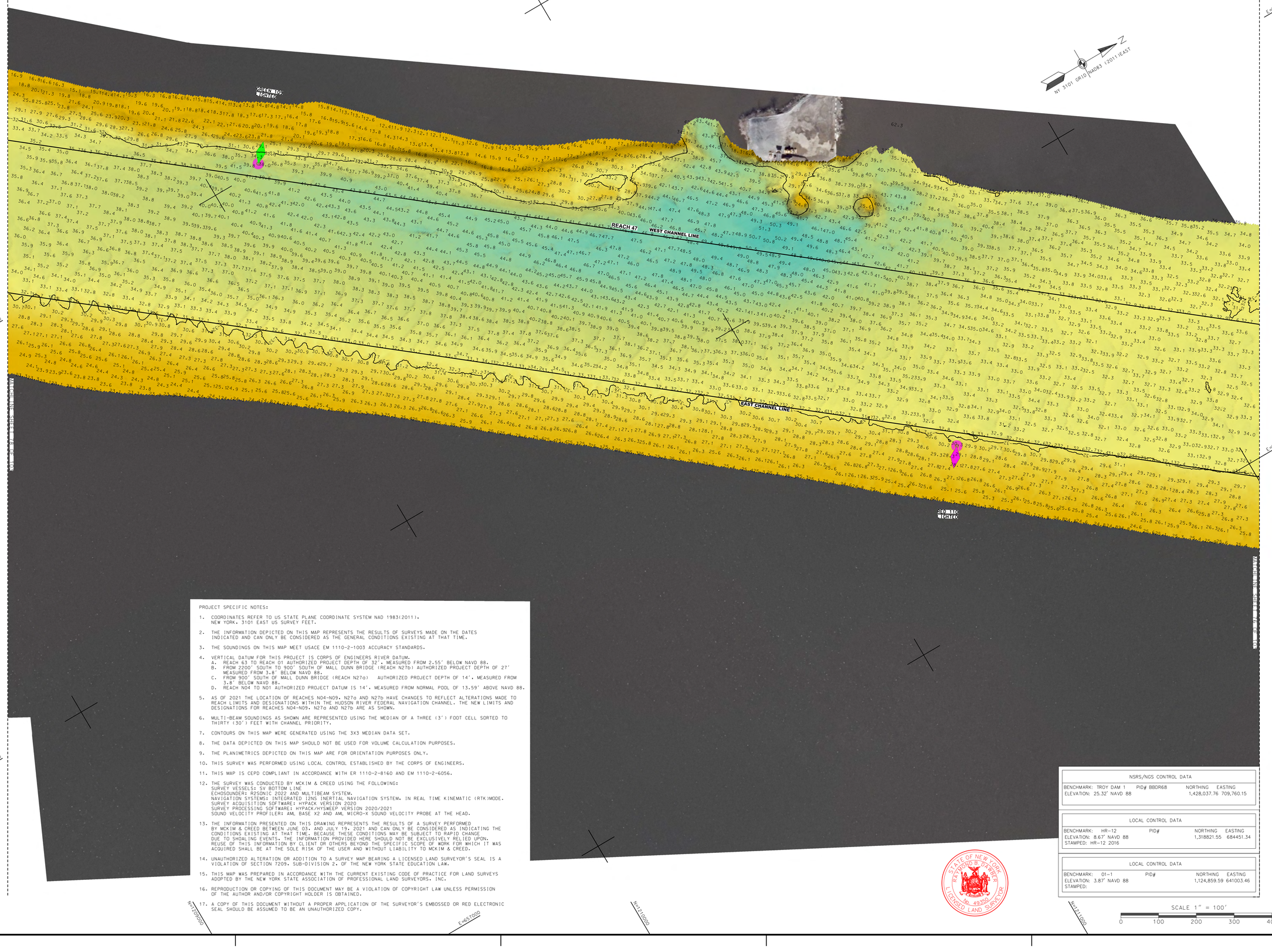
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0005
FILE NUMBER:
DESIGNED BY: 000
DRWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 200'
PLOT DATE: AUGUST 2021
SIZE: ANSI F
ISSUE DATE: AUGUST 2021
FILE NAME: VH-0388990063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 341-0408
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 47

SHEET IDENTIFICATION
VH-176
SHEET 76 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
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8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DWYER
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers
New York District

MARK	DESCRIPTION	DATE	APPR.

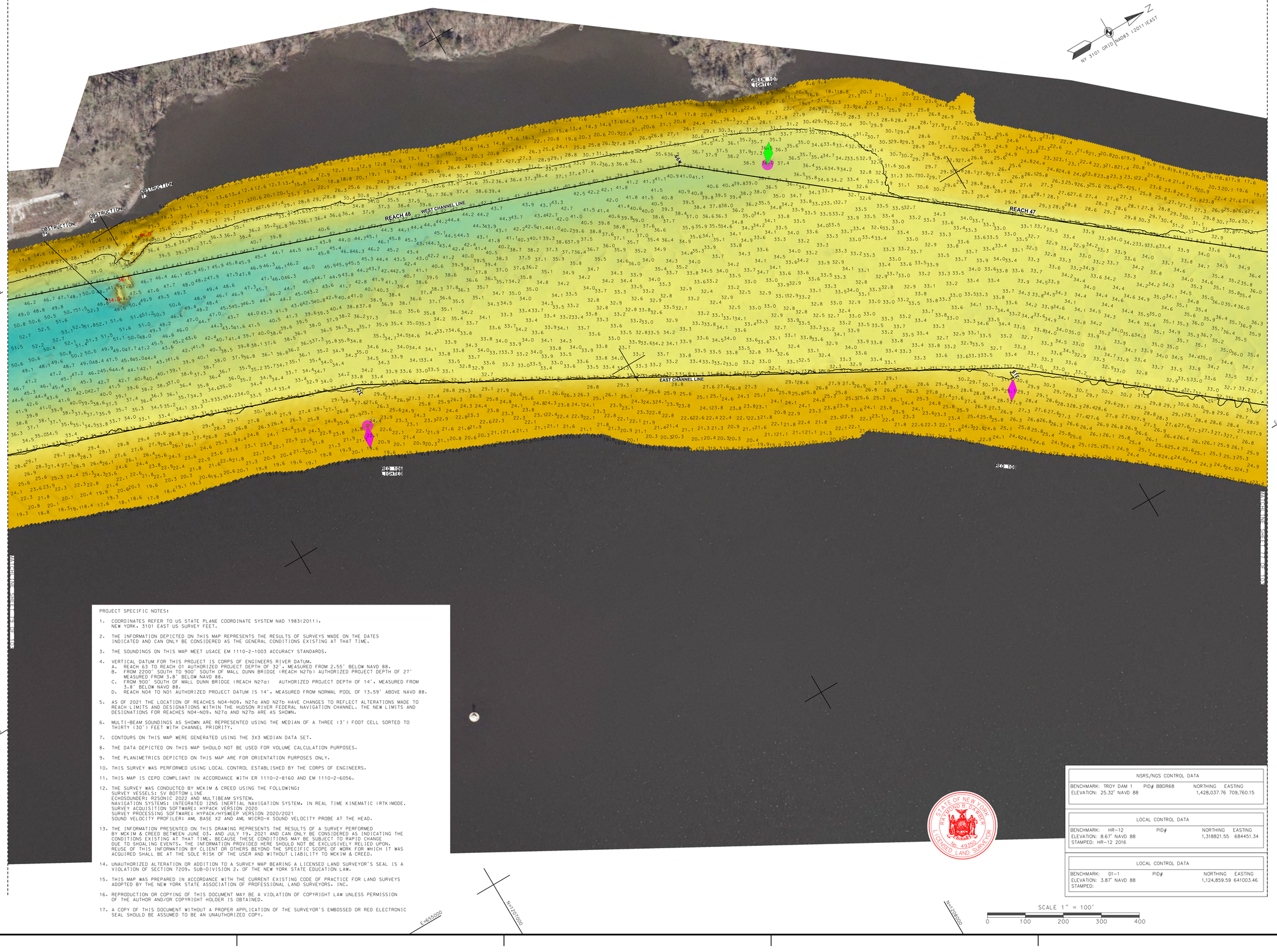
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:1,000
ISSUE DATE: 08/31/2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-5085890563_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
248 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8348
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 47

SHEET IDENTIFICATION
VH-177
SHEET 77 OF 103


OBSTRUCTION
OBSTRUCTION
OBSTRUCTION
REACH 48
WEST CHANNEL LINE
REACH 47
EAST CHANNEL LINE
GREEN "10" LIGHT
RED "16" LIGHT
RED "18" LIGHT
RED "20" LIGHT
RED "22" LIGHT
RED "24" LIGHT
RED "26" LIGHT
RED "28" LIGHT
RED "30" LIGHT
RED "32" LIGHT
RED "34" LIGHT
RED "36" LIGHT
RED "38" LIGHT
RED "40" LIGHT
RED "42" LIGHT
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RED "50" LIGHT
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RED "56" LIGHT
RED "58" LIGHT
RED "60" LIGHT
RED "62" LIGHT
RED "64" LIGHT
RED "66" LIGHT
RED "68" LIGHT
RED "70" LIGHT
RED "72" LIGHT
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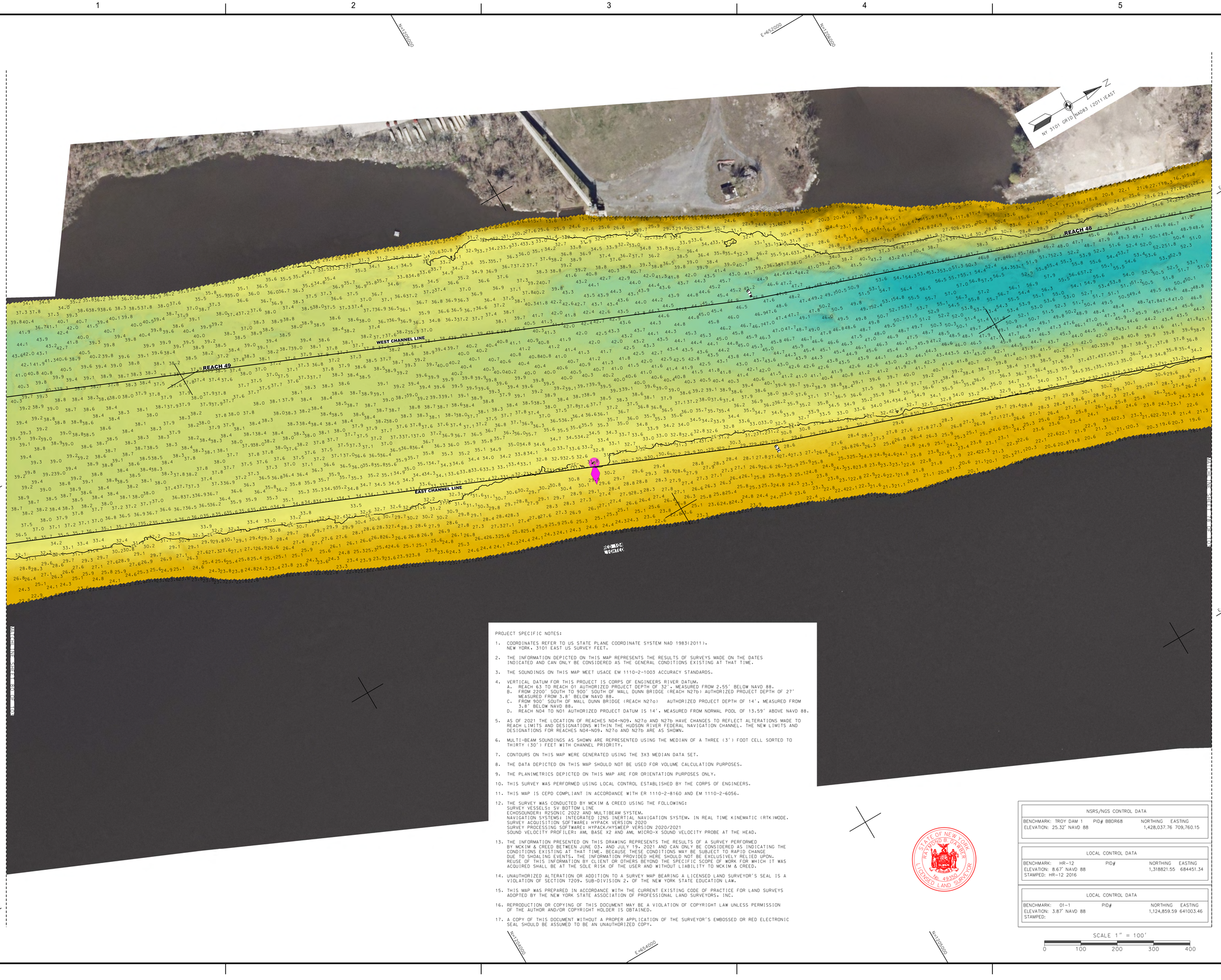
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REACH 49
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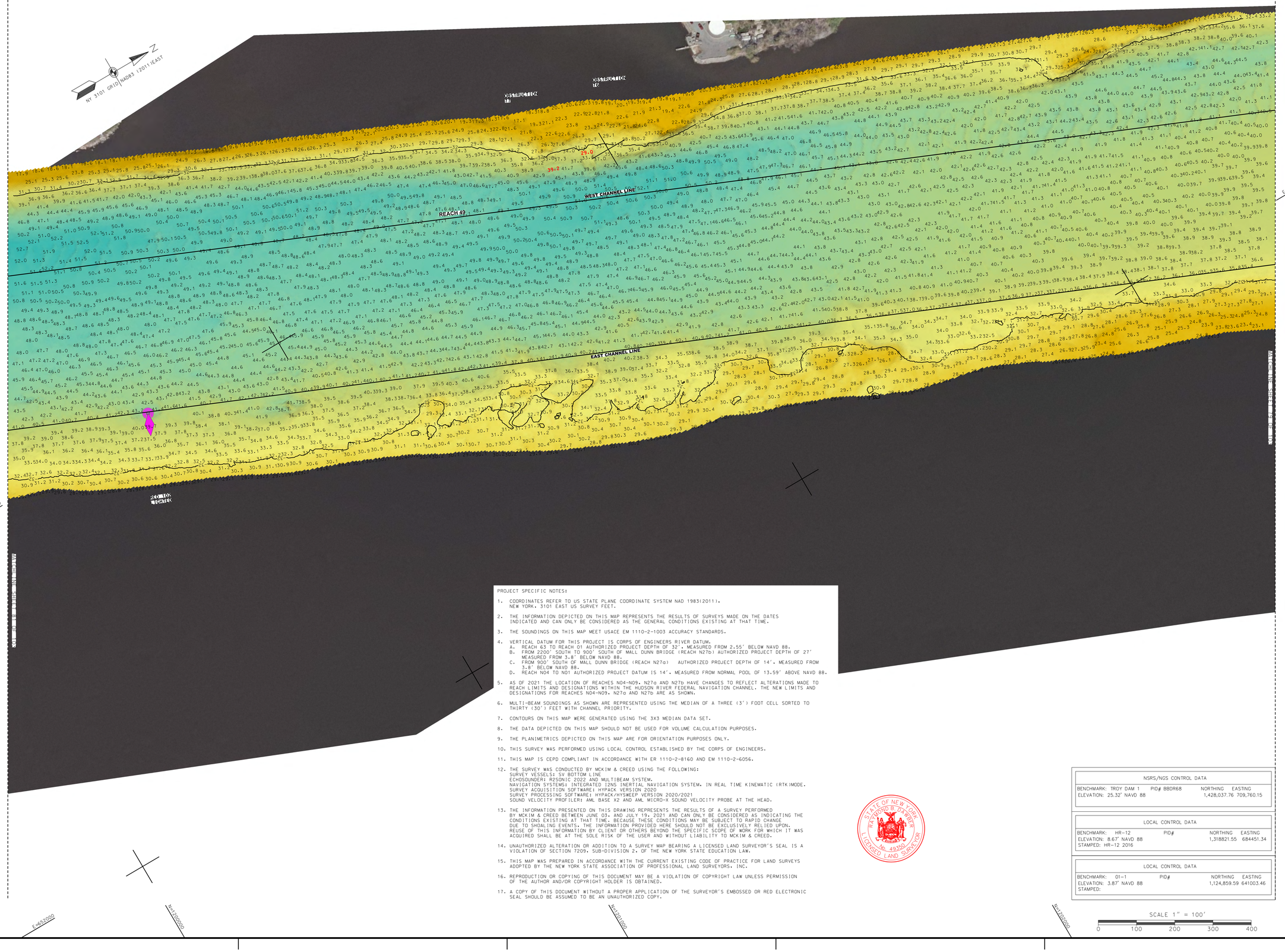
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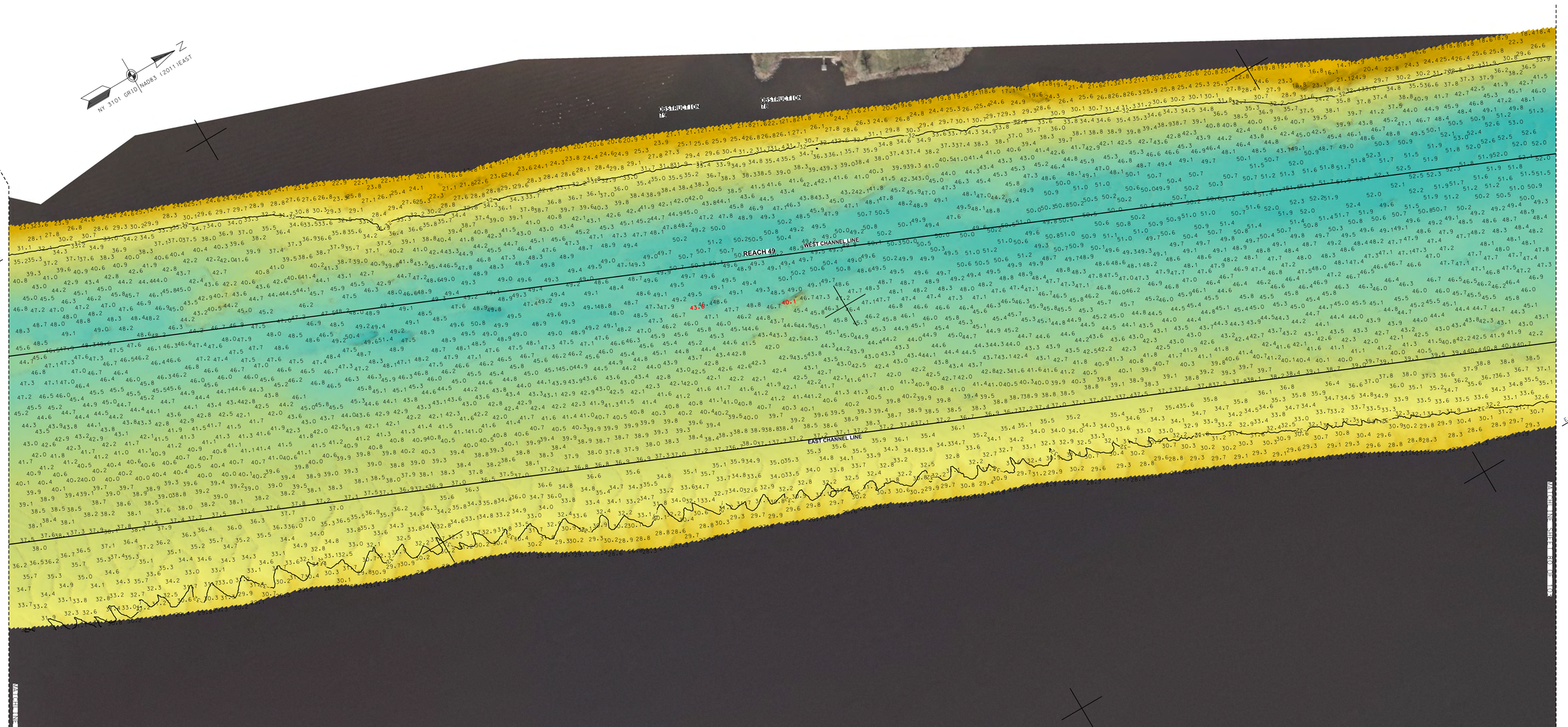


PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.

15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.

16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.

17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. TAWBER
No. 49350
LICENSED LAND SURVEYOR

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

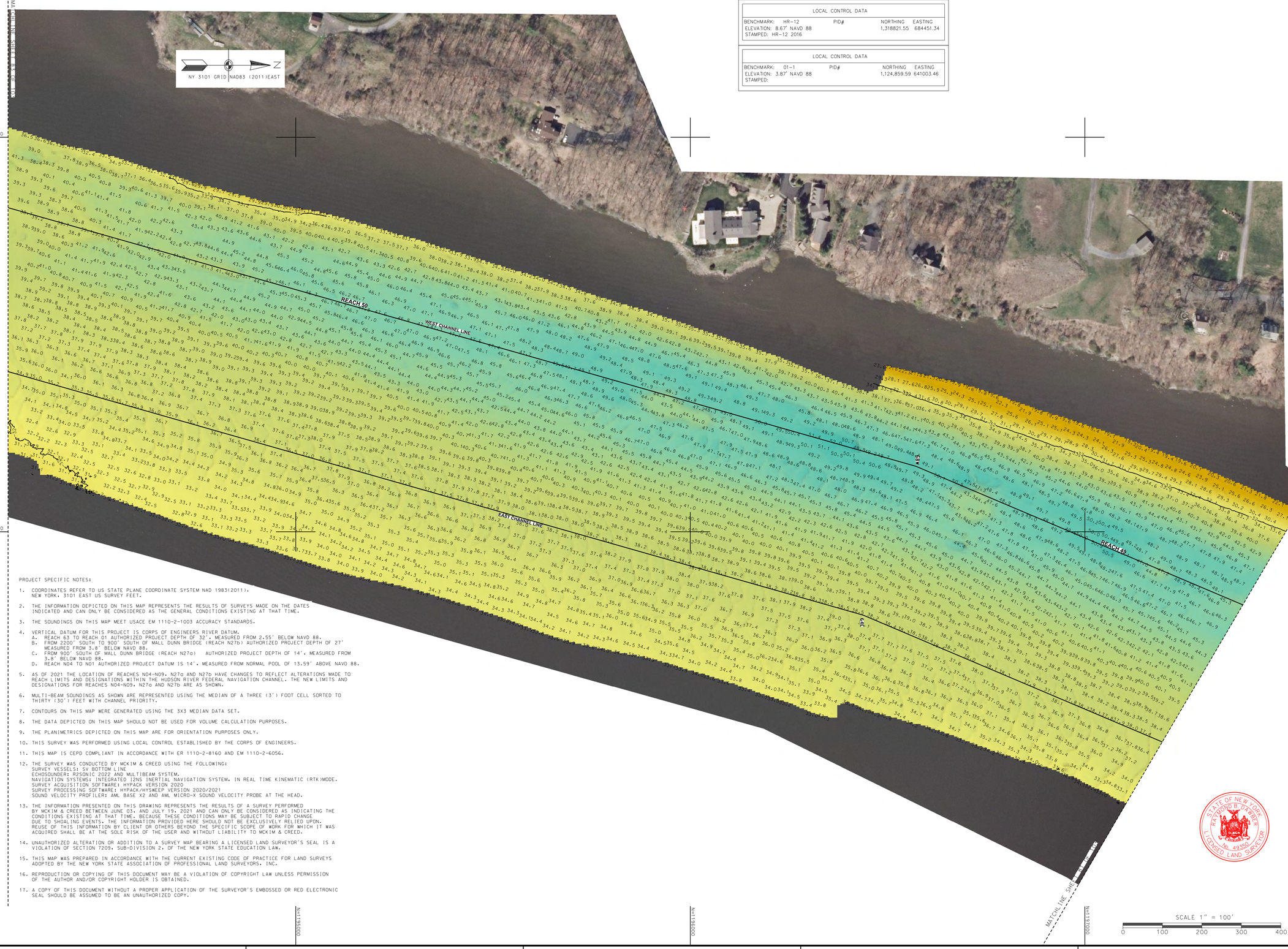
DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
PLOT DATE: 6/08/2021
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-0589900063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-1048
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 49

SHEET IDENTIFICATION
VH-181
SHEET 81 OF 103



NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH NO4 TO NO1 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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STATE OF NEW YORK
RAYMOND B. OWNER
No. 49350
LICENSED LAND SURVEYOR

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0005
FILE NUMBER:

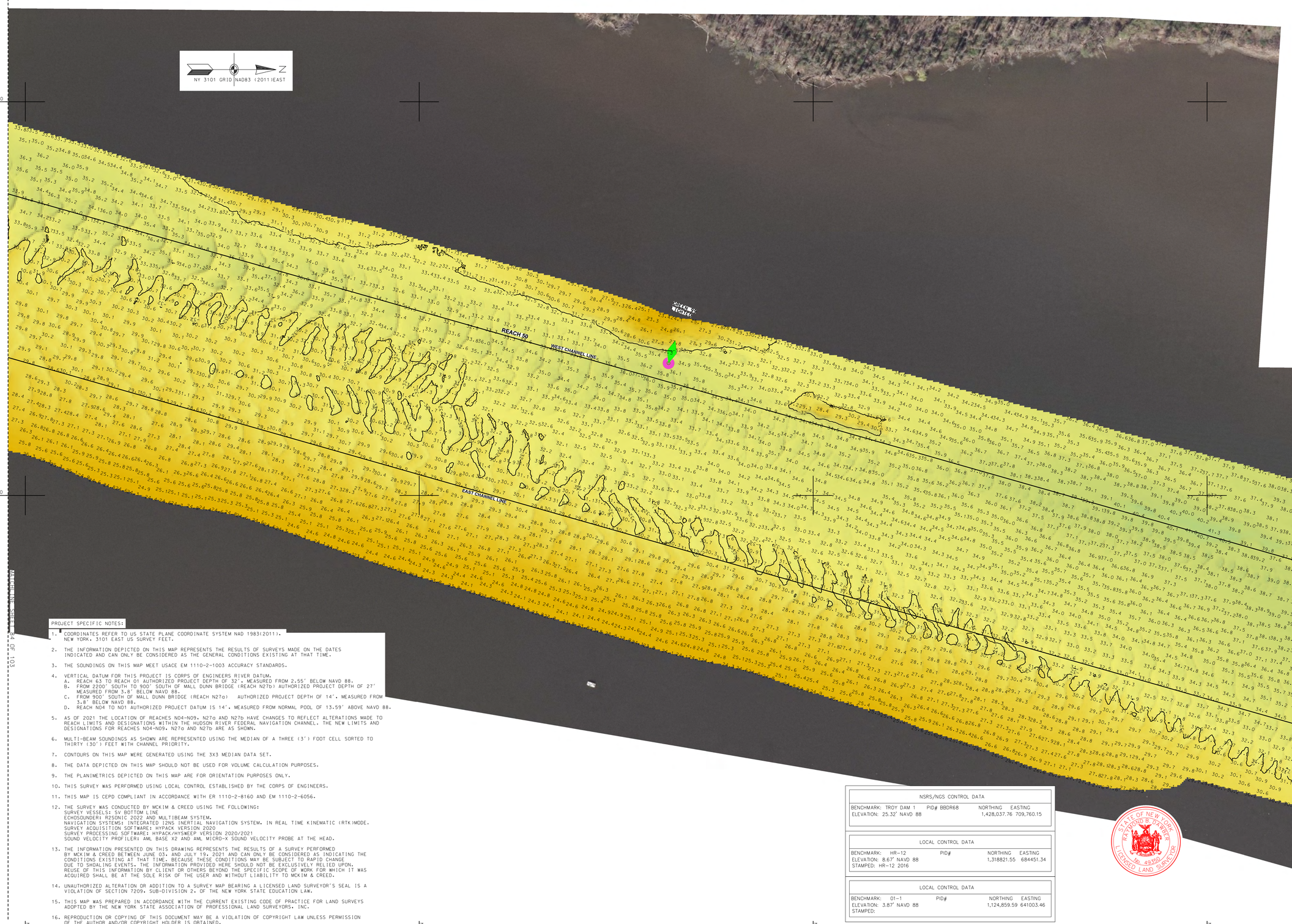
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJJ
PLOT SCALE: 1" = 100'
ISSUE DATE: 10/01/2021
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8214
FAX: (910) 251-8232

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 49-50

SHEET IDENTIFICATION
VH-182
SHEET 82 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK RAYMOND B. DYWER No. 49350 LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

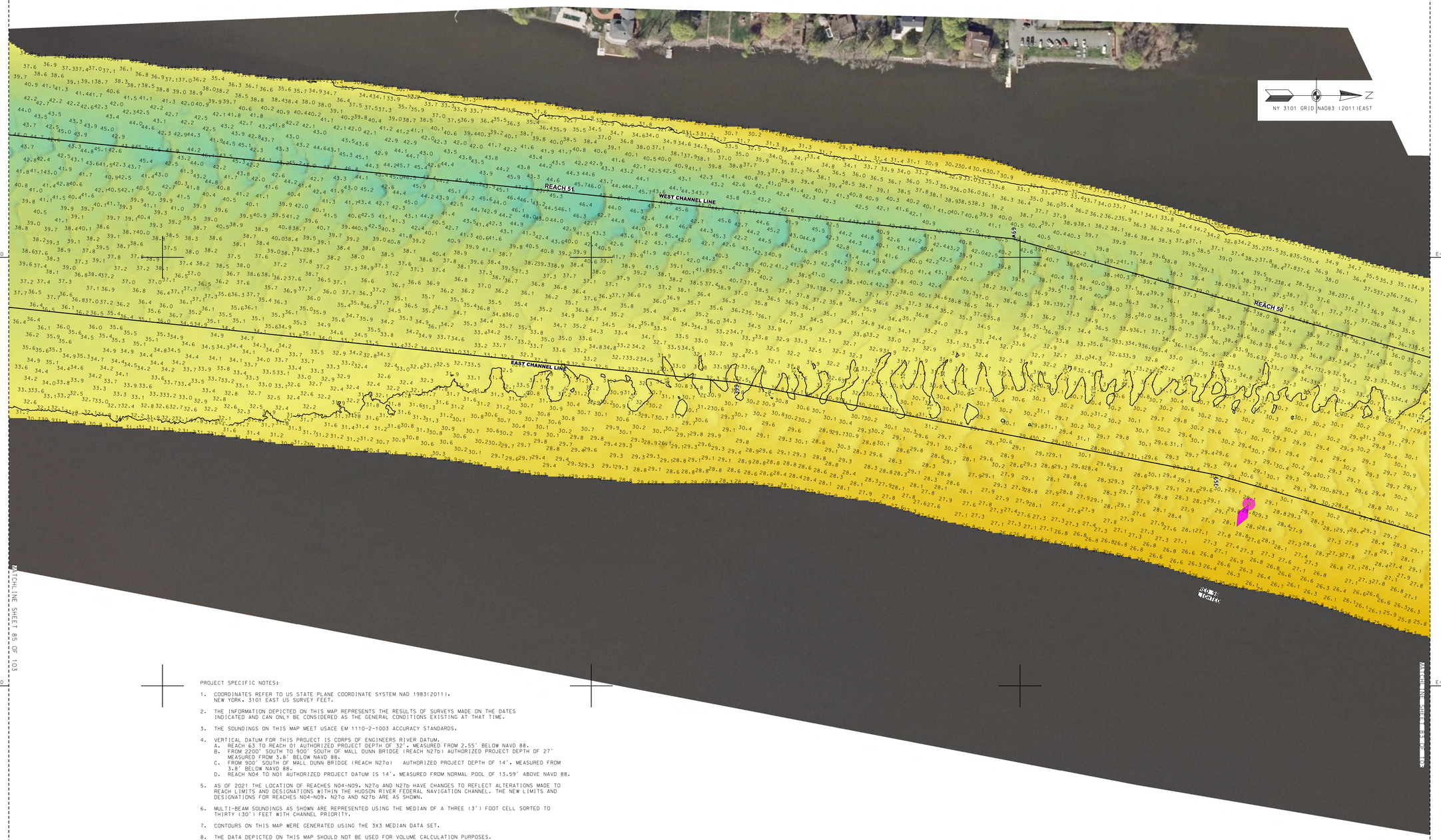
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: MAY 2021
FILE NUMBER:
FILE NAME: VH-0589890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0348
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 50

SHEET IDENTIFICATION
VH-183
SHEET 83 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
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    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED IXNS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. BAKER
049350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

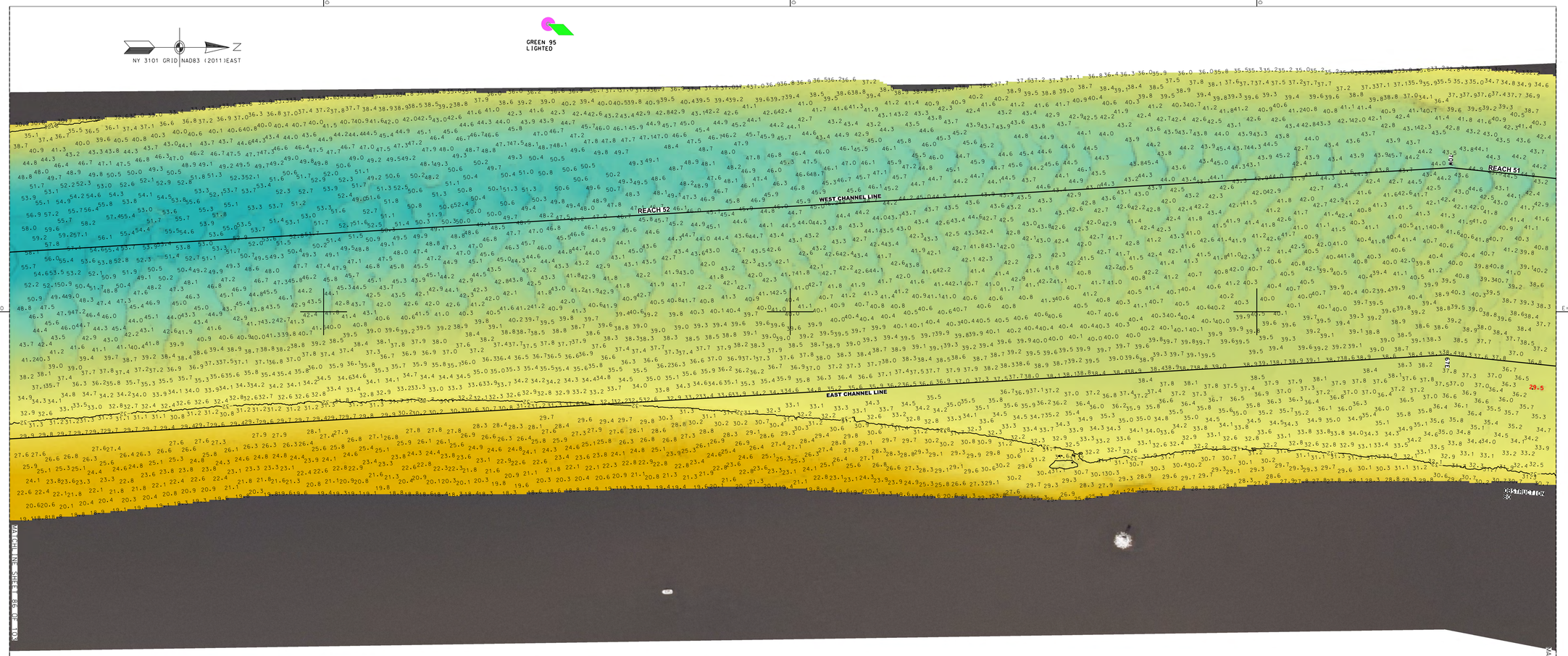
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: 06 AUG 2021
PLOT SCALE: 1" = 100'
SIZE: ANSI F
FILE NUMBER:
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8251
FAX (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 50-51

SHEET IDENTIFICATION
VH-184
SHEET 84 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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STATE OF NEW YORK
RAYMOND B. GARBER
LICENSED LAND SURVEYOR
NO. 49280

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

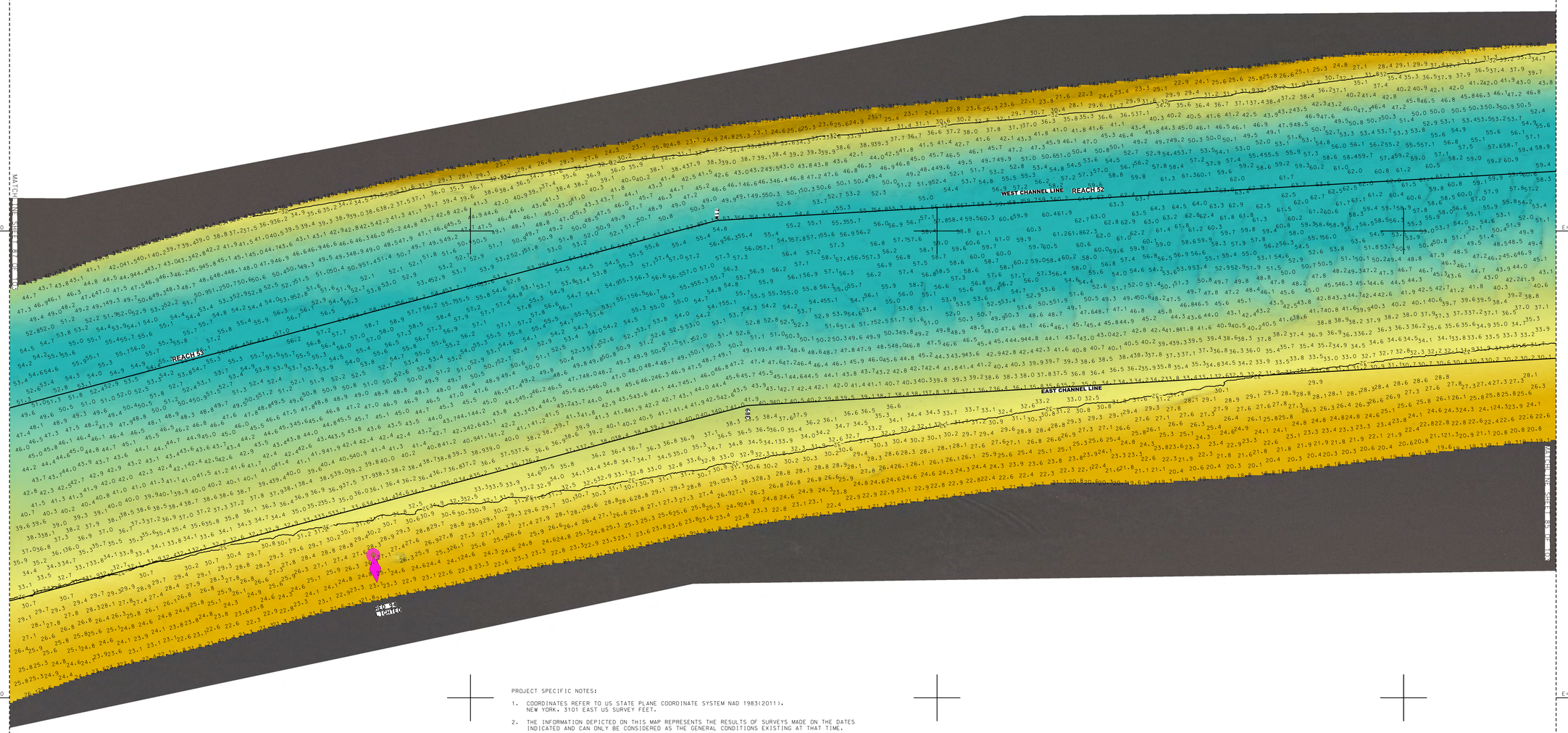
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: 09/01/2021
FILE NUMBER:
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8444
FAX (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 51-52

SHEET IDENTIFICATION
VH-185
SHEET 85 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
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8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. O'KEEFE
No. 49356
LICENSED LAND SURVEYOR

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1"=100'
PLOT DATE: 8/6/2021
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8444 FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 52-53

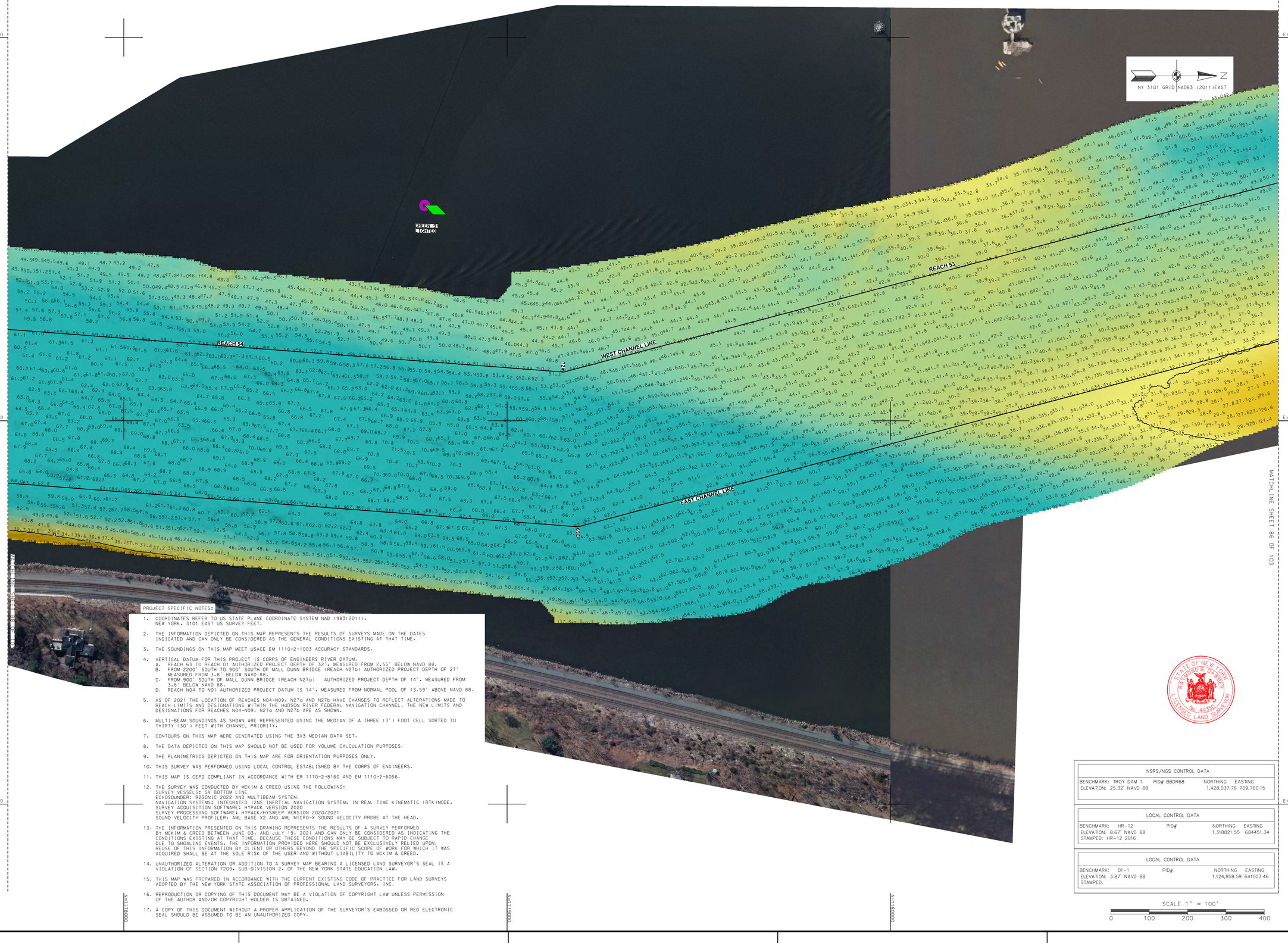
SHEET IDENTIFICATION
VH-186
SHEET 86 OF 103

1 2 3 4 5

D C B A

N=118000 N=119000 N=118000

E=647000 E=648000 E=649000



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH NO4 TO NO1 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES NO4-NO9. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
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    SURVEY VESSEL: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS, INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. BARBER
LICENSED LAND SURVEYOR
No. 49280

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

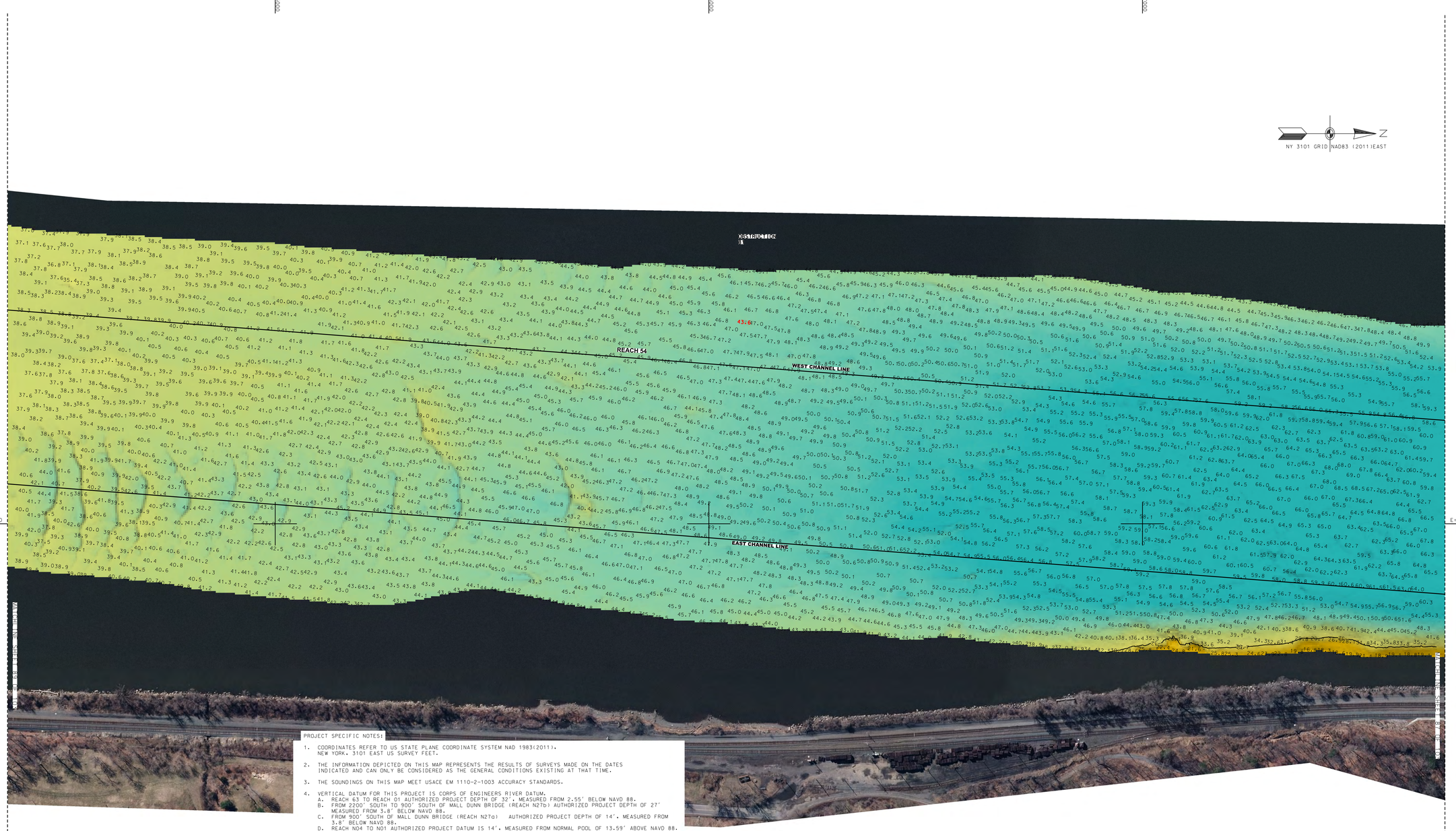
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DQ-20-D-0003
FILE NUMBER:
PLOT SCALE: 1:600
ISSUE DATE: 09/30/2021
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8348
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 53-54

SHEET IDENTIFICATION
VH-187
SHEET 87 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011), NEW YORK, 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RICHARD D. BAKER
49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

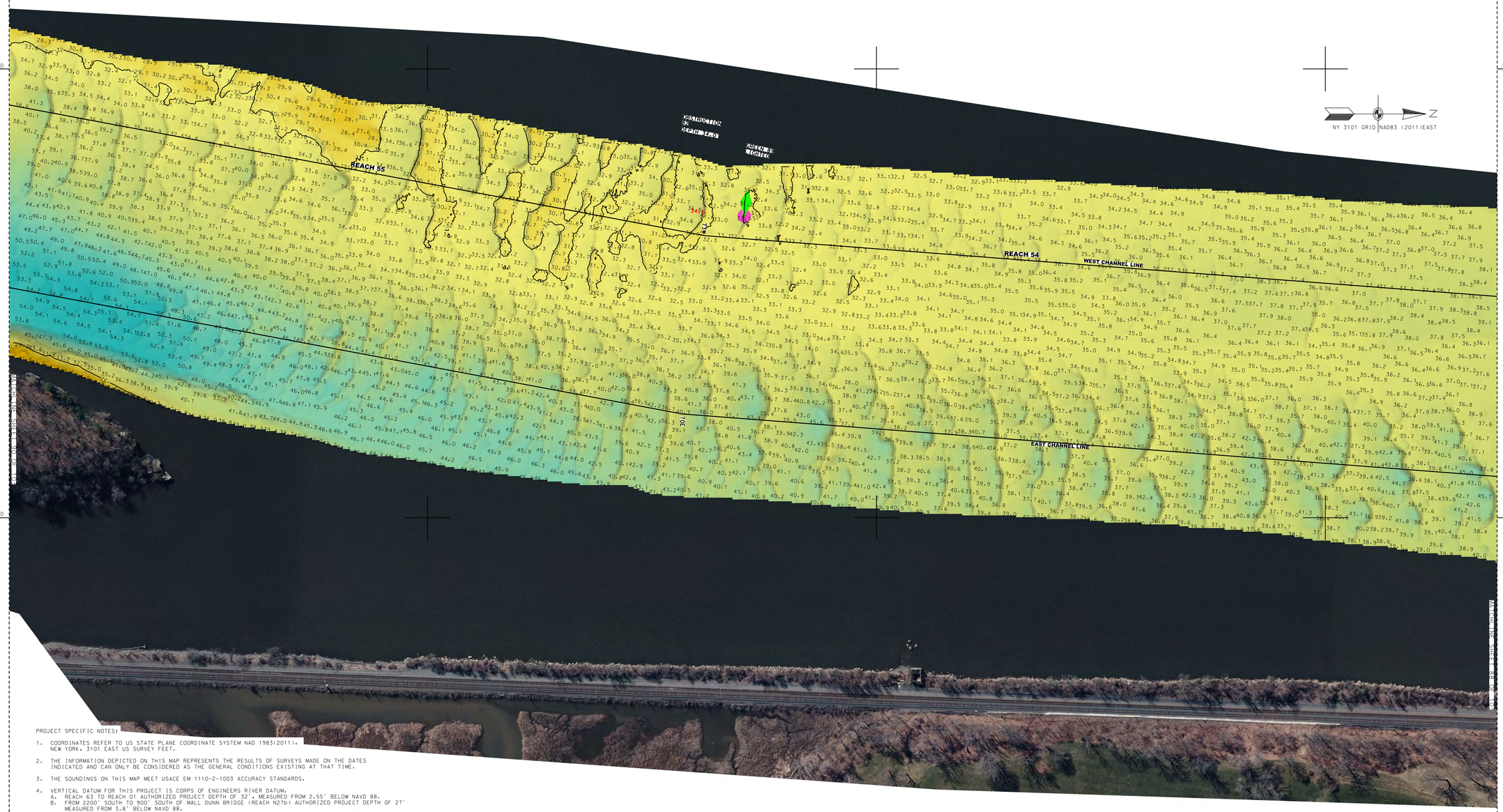
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1:100'
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
ISSUE DATE: 09/08/2021
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8848
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 54

SHEET IDENTIFICATION
VH-188
SHEET 88 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DANNER
LICENSED LAND SURVEYOR
No. 49350

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DiJ
PLOT SCALE: 1" = 100'
ISSUE DATE: 6 AUG 2021
SIZE: ANSI F
FILE NAME: VH-05880063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8444
FAX (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 54-55

SHEET IDENTIFICATION
VH-189
SHEET 89 OF 103

1 2 3 4 5

D C B A

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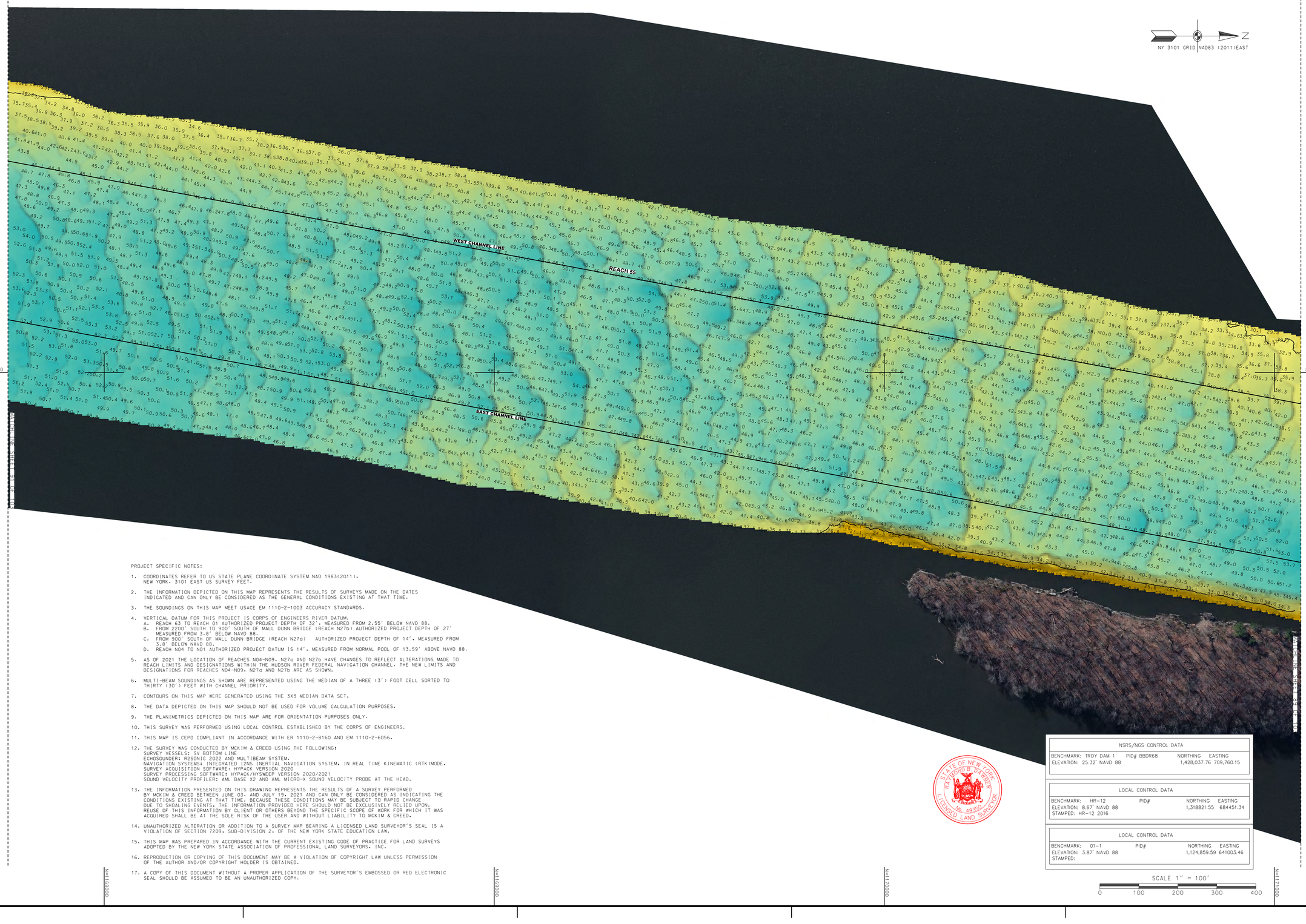
E=647000



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011), NEW YORK, 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
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6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
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9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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STATE OF NEW YORK
RAYMOND B. DWYER
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

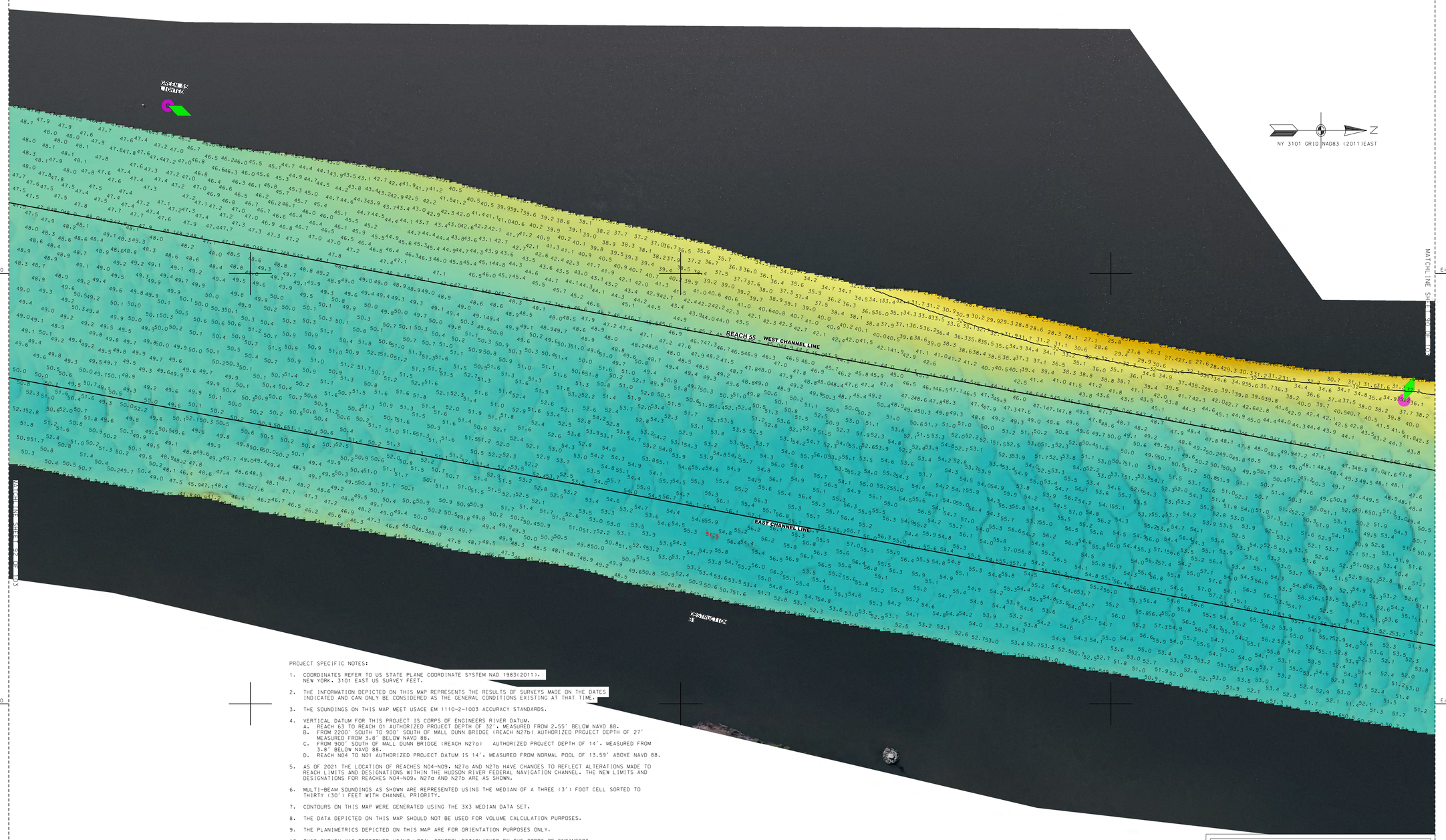
DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:100'
ISSUE DATE: AUGUST 2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-0389890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0468
FAX: (910) 251-2252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 55

SHEET IDENTIFICATION
VH-190
SHEET 90 OF 103



PROJECT SPECIFIC NOTES:

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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

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10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
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    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
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15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.

16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.

17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. TAWES
No. 49356
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

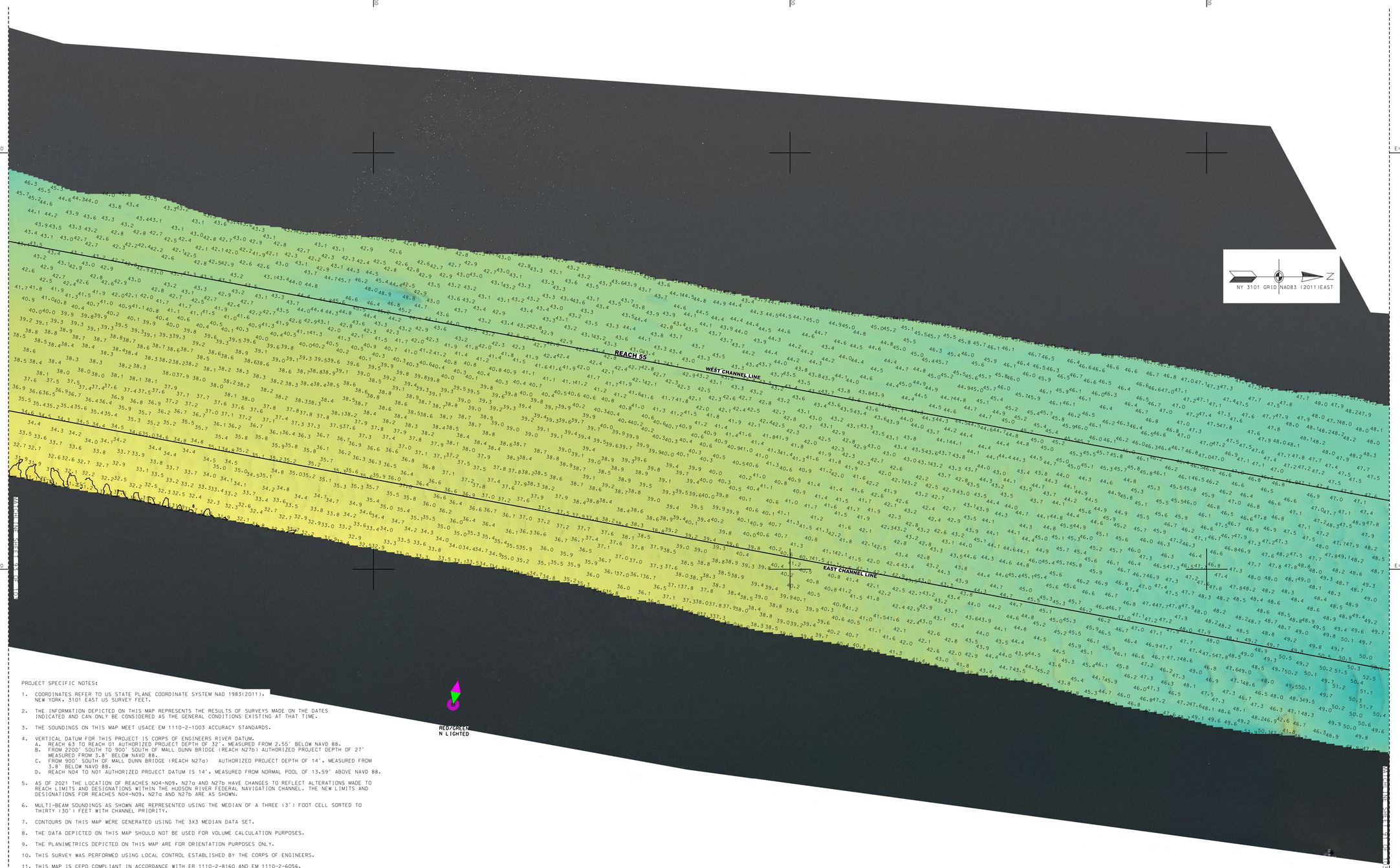
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1=100'
ISSUE DATE: 09/08/2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8848
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 55

SHEET IDENTIFICATION
VH-191
SHEET 91 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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STATE OF NEW YORK · RAYMOND B. PARKER · No. 49350 · LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

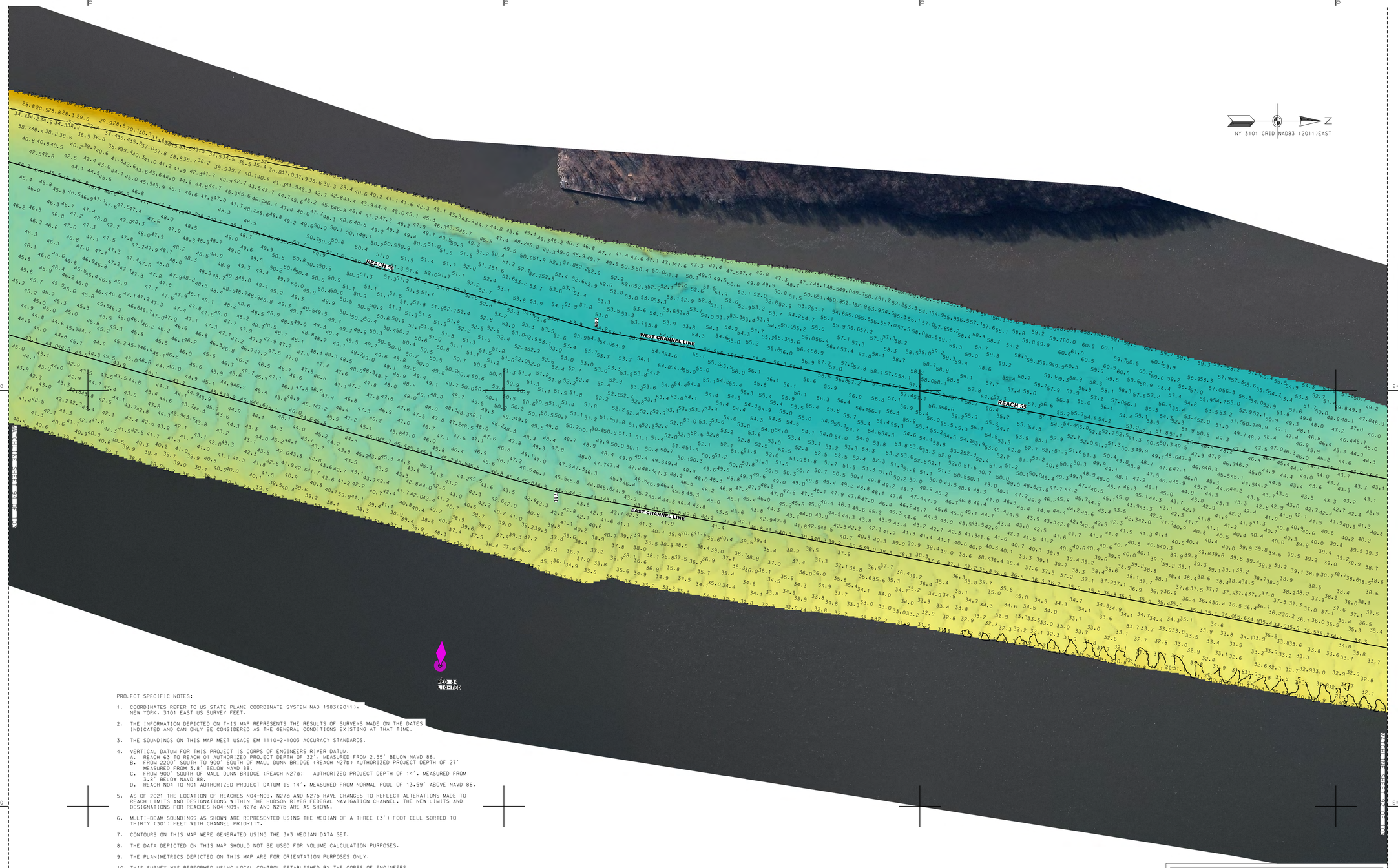
DESIGNED BY: DDO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
PLOT DATE: 20210721
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-638899063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0888
FAX: (910) 251-2252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 55

SHEET IDENTIFICATION
VH-192
SHEET 92 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED IXNS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

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STATE OF NEW YORK
RAYMOND B. WEBER
LICENSED No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA		
BENCHMARK: TROY DAM 1 PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88	1,428,037.76	709,760.15

LOCAL CONTROL DATA		
BENCHMARK: HR-12 PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88	1,318821.55	684451.34
STAMPED: HR-12 2016		

LOCAL CONTROL DATA		
BENCHMARK: 01-1 PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88	1,124,859.59	641003.46
STAMPED:		

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

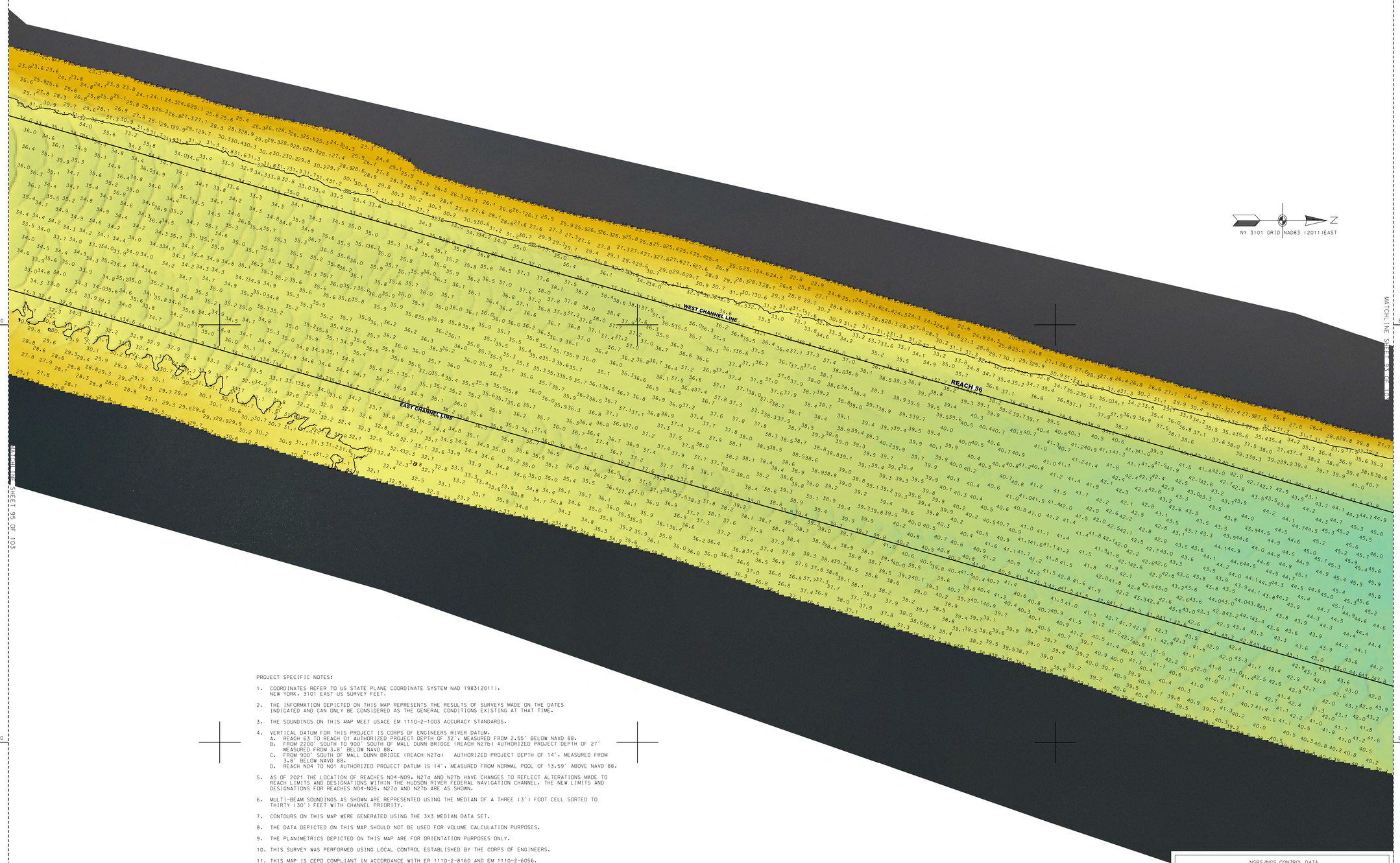
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:600
ISSUE DATE: 09/08/2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
241 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8348
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 55-56

SHEET IDENTIFICATION
VH-193
SHEET 93 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
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   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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STATE OF NEW YORK
RAYMOND B. DAWLEY
LICENSED LAND SURVEYOR
No. 49350

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

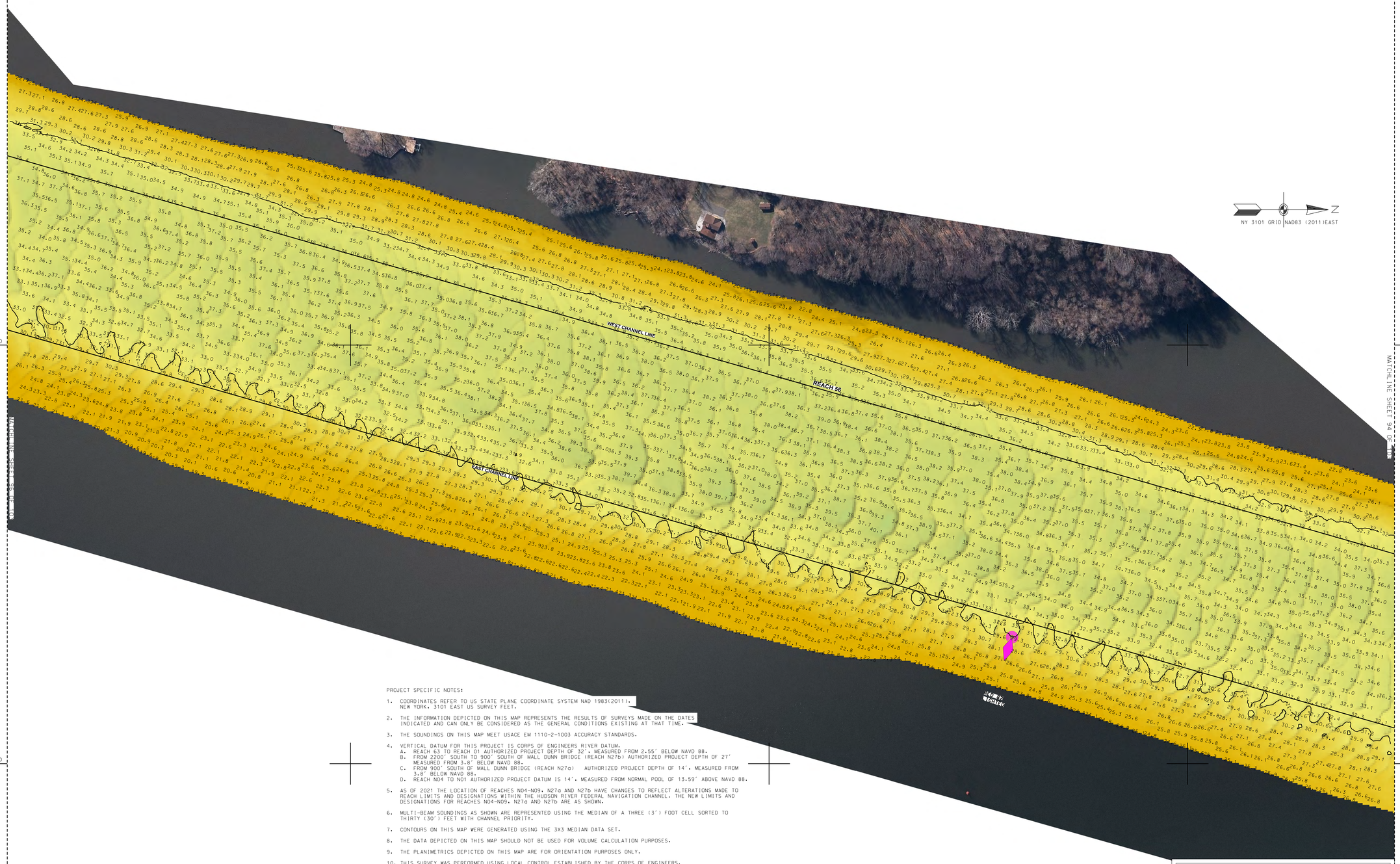
DESIGNED BY: 000
DRWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1 = 100'
PLOT DATE: 20210831
FILE NAME: VH-5085890650_HUDSON_2021.DGN
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-8348
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 56

SHEET IDENTIFICATION
VH-194
SHEET 94 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
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   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
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7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK) MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. TYNER
No. 49356
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

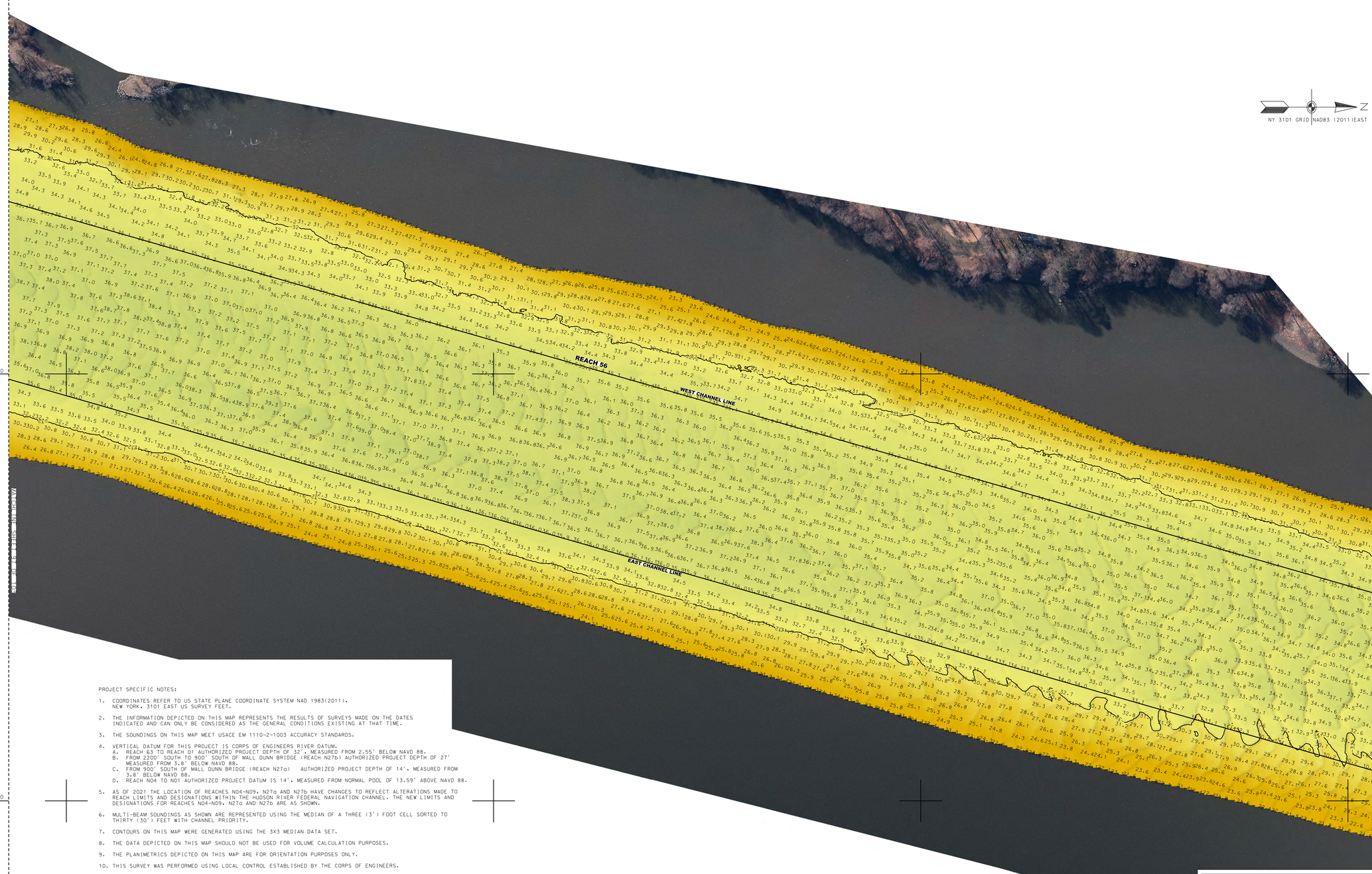
DESIGNED BY: ODO
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
PLOT DATE: 8/6/2021
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: 0_G58899093_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0848
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 56

SHEET IDENTIFICATION
VH-195
SHEET 95 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK RAYMOND E. DARBER No. 49350 LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

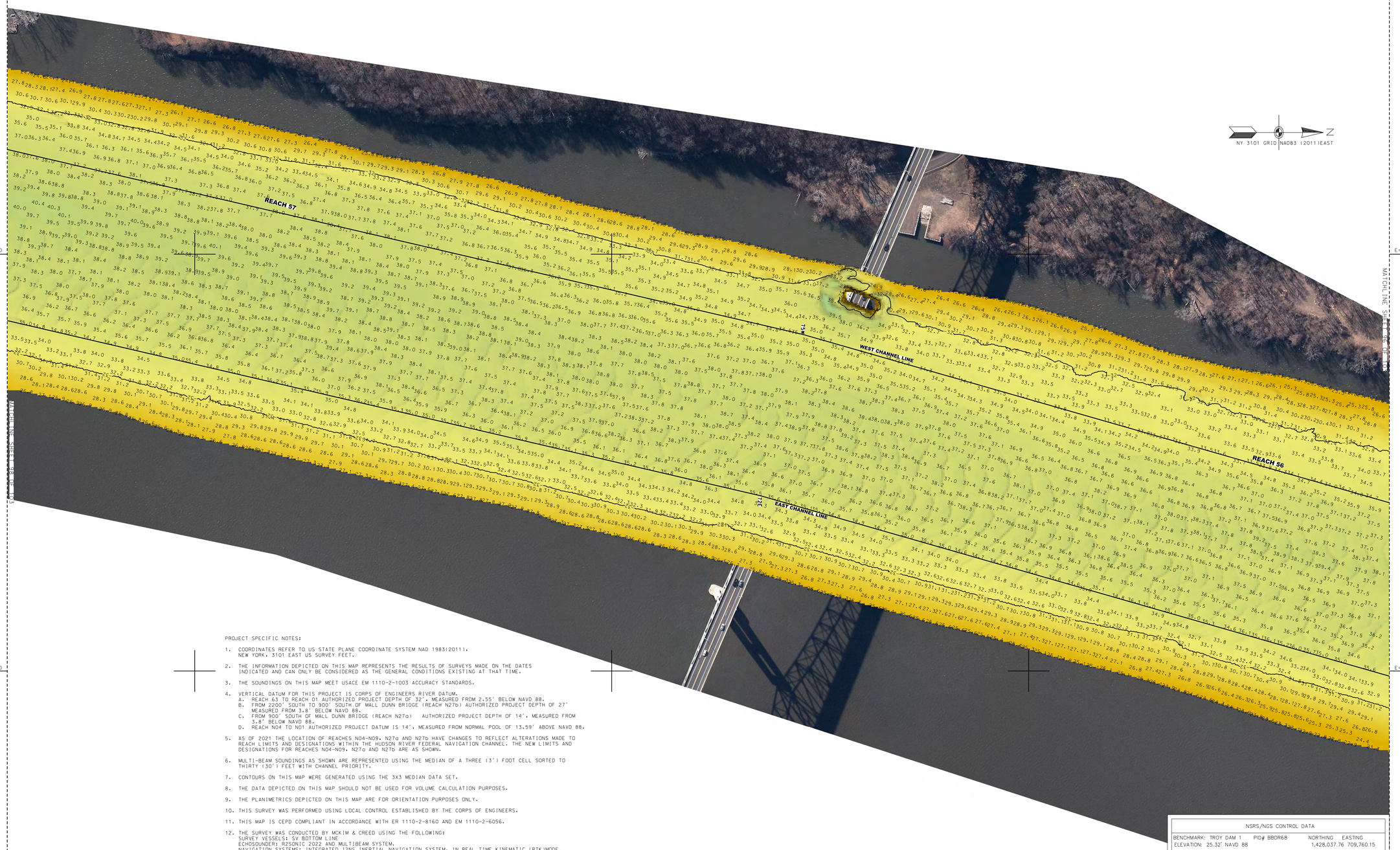
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DiJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
PLOT SCALE: 1" = 100'
ISSUE DATE: 15 OCT 2021
FILE NAME: VH-058890063_HUDSON_2021.DGN
SIZE: ANSI F

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-1848
FAX (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 56

SHEET IDENTIFICATION
VH-196
SHEET 96 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DARKER
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1:600
ISSUE DATE: 2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-5958900150_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
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NEW YORK, NY

McKIM & CREED
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WILMINGTON, NORTH CAROLINA 28401
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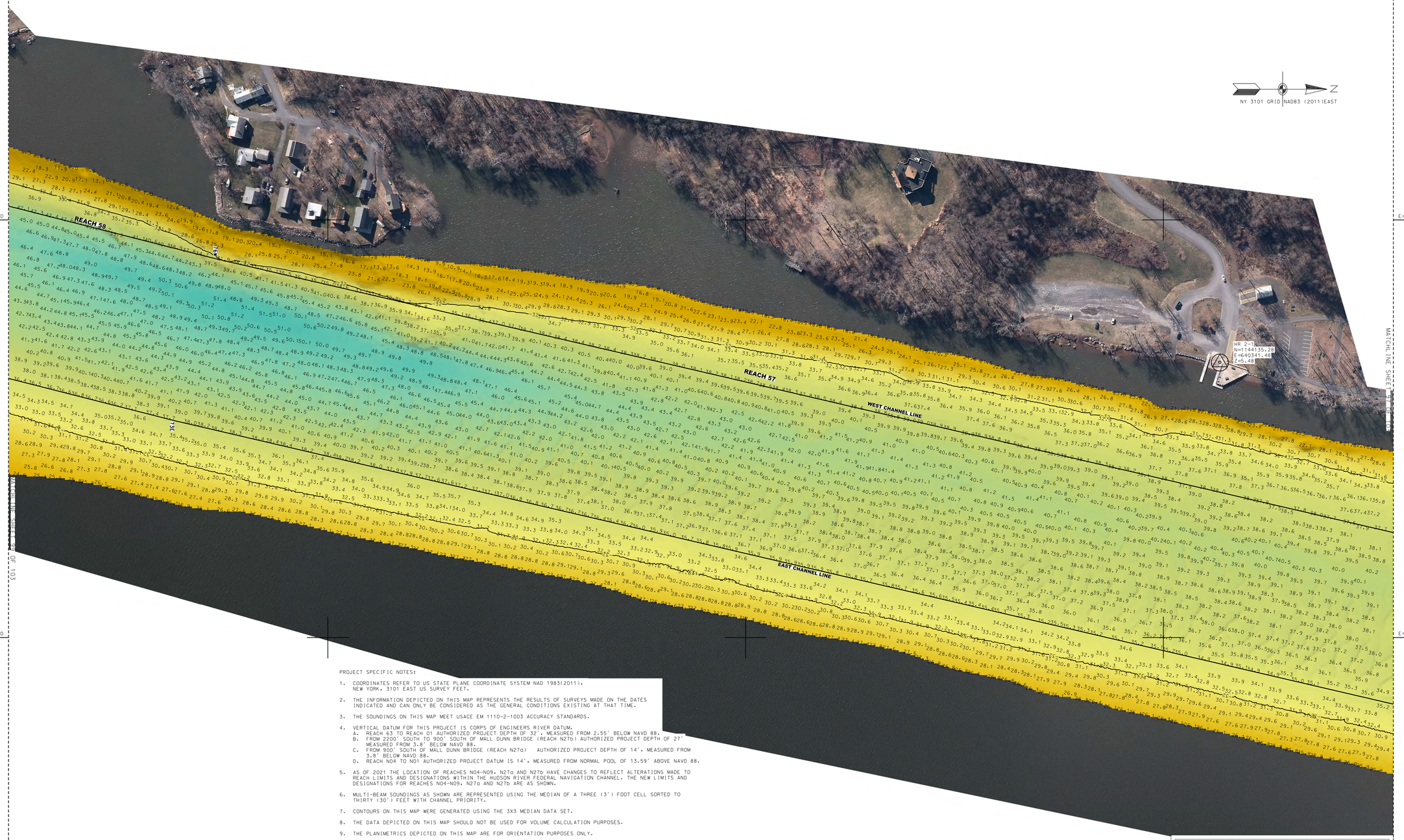
FAX: (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 56-57

SHEET IDENTIFICATION
VH-197
SHEET 97 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK, 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
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   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
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11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03, AND JULY 19, 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS, THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND D. DOWARE
LICENSED LAND SURVEYOR
No. 49350

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: 000
DRWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
ISSUE DATE: 20211001
PLOT SCALE: 1:600
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890563_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
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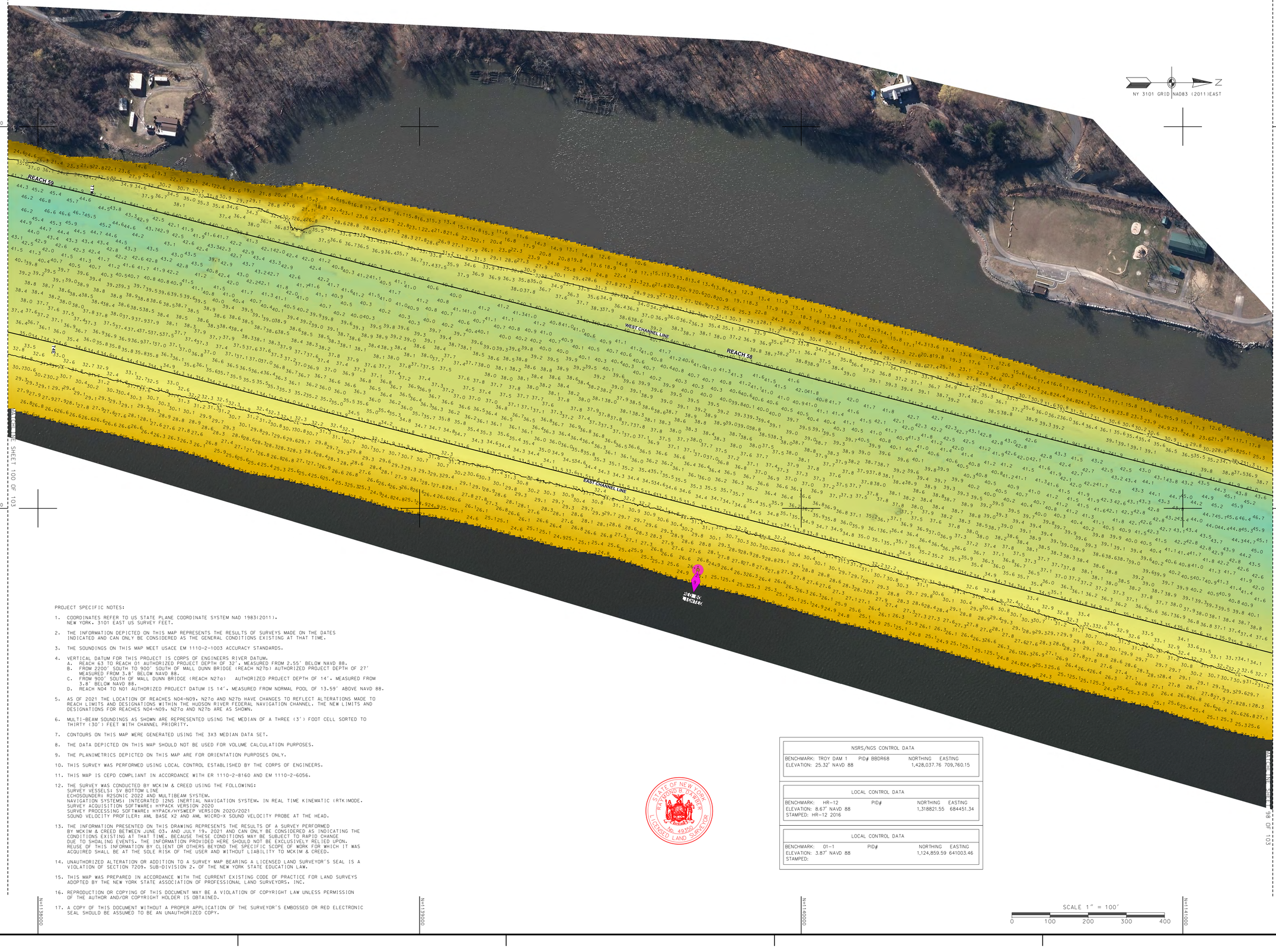
WILMINGTON, NORTH CAROLINA 28401
TEL (910) 251-8444
FAX (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 57-58

SHEET IDENTIFICATION
VH-198
SHEET 98 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
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4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
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   D. REACH N04 TO N01 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
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12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,31821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

STATE OF NEW YORK
RAYMOND B. DARBE
No. 49350
LICENSED LAND SURVEYOR

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0005
FILE NUMBER:

DESIGNED BY: DDD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1:100'
ISSUE DATE: 10/6/2021
SIZE: ANSI F
FILE NAME: VH-DSB890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 251-8848
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 58-59

SHEET IDENTIFICATION
VH-199
SHEET 99 OF 103

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

NY 3101 GRID NAD83 (2011) EAST

STATE OF NEW YORK
RAYMOND B. DANNER
LIC. NO. 49356
LICENSED LAND SURVEYOR

WEST CHANNEL LINE

REACH 59

EAST CHANNEL LINE

MATCHLINE SHEET 101 OF 103

MATCHLINE SHEET 99 OF 103

PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST IS SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH O1 AUTHORIZED PROJECT DEPTH OF 32', MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14', MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH NO4 TO NO1 AUTHORIZED PROJECT DATUM IS 14', MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.
5. AS OF 2021 THE LOCATION OF REACHES N04-N09, N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09, N27a AND N27b ARE AS SHOWN.
6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.
7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.
8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.
11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.
12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.
14. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209. SUB-DIVISION 2. OF THE NEW YORK STATE EDUCATION LAW.
15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.
16. REPRODUCTION OR COPYING OF THIS DOCUMENT MAY BE A VIOLATION OF COPYRIGHT LAW UNLESS PERMISSION OF THE AUTHOR AND/OR COPYRIGHT HOLDER IS OBTAINED.
17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-0938990063_HUDSON_2021.DGN

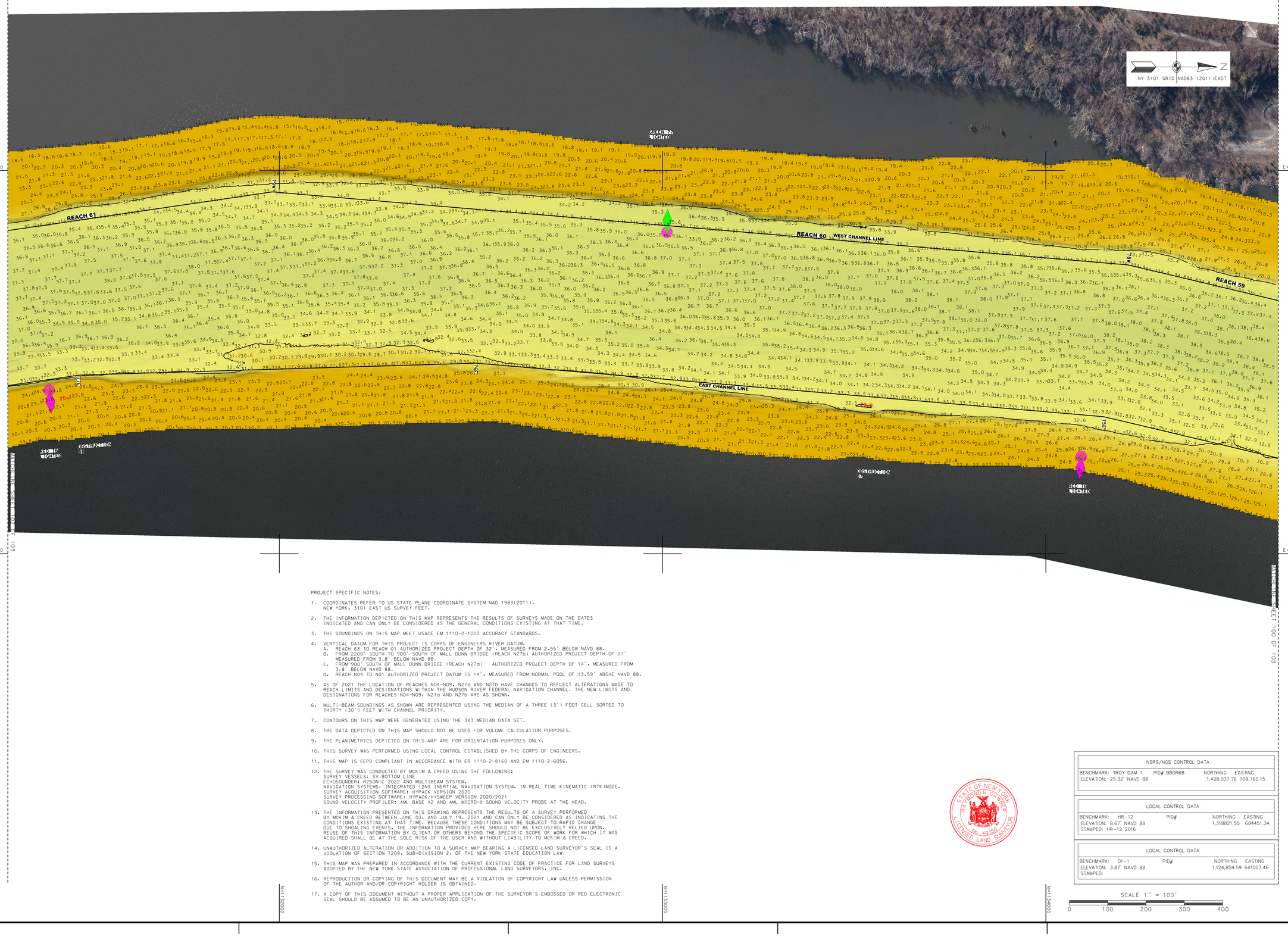
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DJ
PLOT SCALE: 1" = 100'
ISSUE DATE: 08/31/2021
SIZE: ANSI F

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 59

SHEET IDENTIFICATION
VH-200
SHEET 100 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.

2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.

3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.

4. VERTICAL DATUM FOR THIS PROJECT IS CORPS OF ENGINEERS RIVER DATUM.
   A. REACH 63 TO REACH 01 AUTHORIZED PROJECT DEPTH OF 32'. MEASURED FROM 2.55' BELOW NAVD 88.
   B. FROM 2200' SOUTH TO 900' SOUTH OF MALL DUNN BRIDGE (REACH N27b) AUTHORIZED PROJECT DEPTH OF 27' MEASURED FROM 3.8' BELOW NAVD 88.
   C. FROM 900' SOUTH OF MALL DUNN BRIDGE (REACH N27a) AUTHORIZED PROJECT DEPTH OF 14'. MEASURED FROM 3.8' BELOW NAVD 88.
   D. REACH NO4 TO NO1 AUTHORIZED PROJECT DATUM IS 14'. MEASURED FROM NORMAL POOL OF 13.59' ABOVE NAVD 88.

5. AS OF 2021 THE LOCATION OF REACHES NO4-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES NO4-N09. N27a AND N27b ARE AS SHOWN.

6. MULTI-BEAM SOUNDINGS AS SHOWN ARE REPRESENTED USING THE MEDIAN OF A THREE (3') FOOT CELL SORTED TO THIRTY (30') FEET WITH CHANNEL PRIORITY.

7. CONTOURS ON THIS MAP WERE GENERATED USING THE 3X3 MEDIAN DATA SET.

8. THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.

9. THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

10. THIS SURVEY WAS PERFORMED USING LOCAL CONTROL ESTABLISHED BY THE CORPS OF ENGINEERS.

11. THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.

13. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY MCKIM & CREED BETWEEN JUNE 03. AND JULY 19. 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. BECAUSE THESE CONDITIONS MAY BE SUBJECT TO RAPID CHANGE DUE TO SHOALING EVENTS. THE INFORMATION PROVIDED HERE SHOULD NOT BE EXCLUSIVELY RELIED UPON. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS ACQUIRED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO MCKIM & CREED.

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15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.

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17. A COPY OF THIS DOCUMENT WITHOUT A PROPER APPLICATION OF THE SURVEYOR'S EMBOSSED OR RED ELECTRONIC SEAL SHOULD BE ASSUMED TO BE AN UNAUTHORIZED COPY.

STATE OF NEW YORK
RAYMOND B. DRAPER
No. 49350
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.

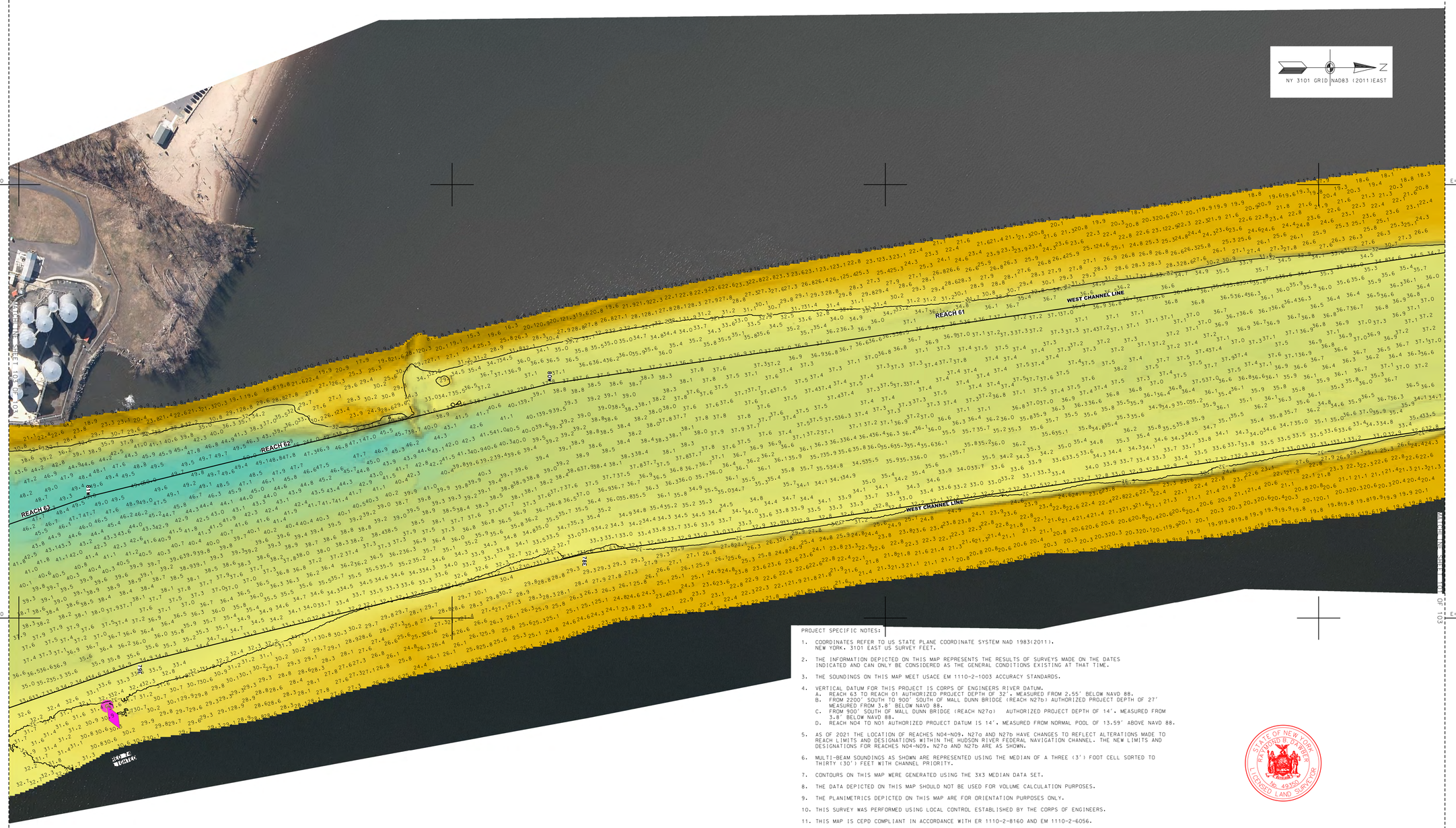
DESIGNED BY: 000
DRWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
PLOT SCALE: 1" = 100'
ISSUE DATE: 06 DEC 2021
FILE NUMBER:
SIZE: ANSI F
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8348
FAX (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 59-61

SHEET IDENTIFICATION
VH-201
SHEET 101 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. THE SOUNDINGS ON THIS MAP MEET USACE EM 1110-2-1003 ACCURACY STANDARDS.
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5. AS OF 2021 THE LOCATION OF REACHES N04-N09. N27a AND N27b HAVE CHANGES TO REFLECT ALTERATIONS MADE TO REACH LIMITS AND DESIGNATIONS WITHIN THE HUDSON RIVER FEDERAL NAVIGATION CHANNEL. THE NEW LIMITS AND DESIGNATIONS FOR REACHES N04-N09. N27a AND N27b ARE AS SHOWN.
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12. THE SURVEY WAS CONDUCTED BY MCKIM & CREED USING THE FOLLOWING:
    SURVEY VESSELS: SV BOTTOM LINE
    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
    SOUND VELOCITY PROFILER: AML BASE X2 AND AML MICRO-X SOUND VELOCITY PROBE AT THE HEAD.
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STATE OF NEW YORK
RAYMOND B. BARBER
049360
LICENSED LAND SURVEYOR

NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

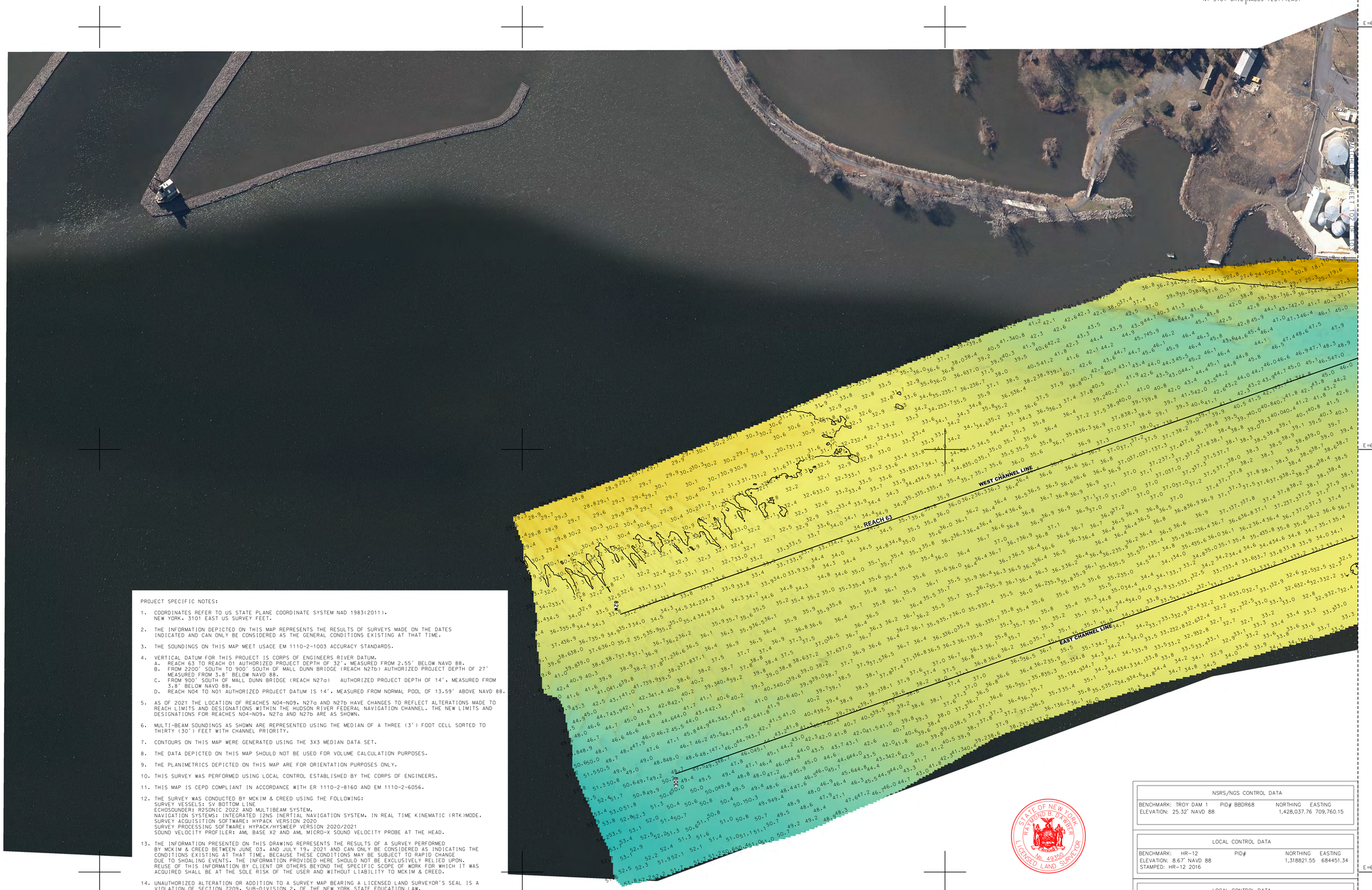
DESIGNED BY: 000
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1:100
PLOT DATE: 08/06/2021
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
FILE NAME: VH-058890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE (910) 251-8251
FAX (910) 251-8252

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 61-63

SHEET IDENTIFICATION
VH-202
SHEET 102 OF 103



PROJECT SPECIFIC NOTES:

1. COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983(2011). NEW YORK. 3101 EAST US SURVEY FEET.
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    ECHOSOUNDER: R2SONIC 2022 AND MULTIBEAM SYSTEM.
    NAVIGATION SYSTEMS: INTEGRATED I2NS INERTIAL NAVIGATION SYSTEM. IN REAL TIME KINEMATIC (RTK)MODE.
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2020
    SURVEY PROCESSING SOFTWARE: HYPACK/HYSWEEP VERSION 2020/2021
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15. THIS MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. INC.
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NSRS/NGS CONTROL DATA			
BENCHMARK: TROY DAM 1	PID# BBDR68	NORTHING	EASTING
ELEVATION: 25.32' NAVD 88		1,428,037.76	709,760.15

LOCAL CONTROL DATA			
BENCHMARK: HR-12	PID#	NORTHING	EASTING
ELEVATION: 8.67' NAVD 88		1,318821.55	684451.34
STAMPED: HR-12 2016			

LOCAL CONTROL DATA			
BENCHMARK: 01-1	PID#	NORTHING	EASTING
ELEVATION: 3.87' NAVD 88		1,124,859.59	641003.46
STAMPED:			

SCALE 1" = 100'
0 100 200 300 400

US Army Corps of Engineers ®
New York District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: ODD
DWN BY: MBH
CKD BY: RBD
SUBMITTED BY: DLJ
PLOT SCALE: 1" = 100'
SIZE: ANSI F
DATE: JUNE 03 - JULY 19, 2021
SOLICITATION NO.:
CONTRACT NO.: W912DS-20-D-0003
FILE NUMBER:
ISSUE DATE: AUGUST 2021
FILE NAME: VH-0389890063_HUDSON_2021.DGN

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NY

McKIM & CREED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TELEPHONE: (910) 251-0444
FAX: (910) 251-8282

HYDROGRAPHIC CONDITIONS SURVEY
HUDSON RIVER FEDERAL NAVIGATION CHANNEL
REACH 63

SHEET IDENTIFICATION
VH-203
SHEET 103 OF 103