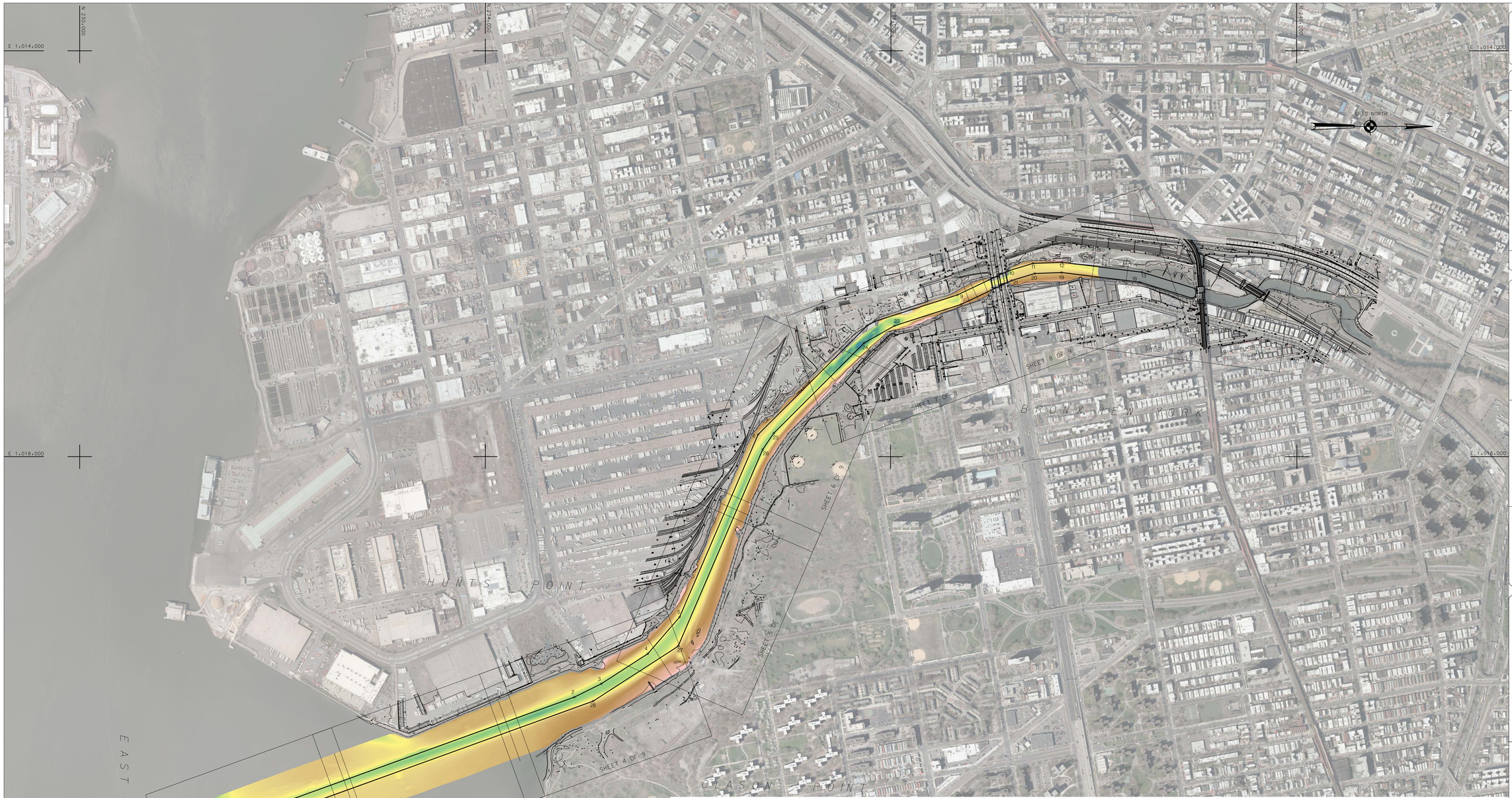



| CHANNEL COORDINATES | | |
|---|---|---|
| Pt. | Northing | Easting |
| 1 | 231219.80 | 1021692.28 |
| 2 | 234877.05 | 1020370.94 |
| 3 | 235144.15 | 1020238.63 |
| 4 | 235602.38 | 1019942.86 |
| 5 | 235915.70 | 1019581.41 |
| 6 | 236690.19 | 1017781.45 |
| 7 | 237763.37 | 1016710.59 |
| 8 | 237838.41 | 1016667.97 |
| 9 | 238654.47 | 1016406.48 |
| 10 | 239151.59 | 1016171.36 |
| 11 | 239400.43 | 1016095.48 |
| 12 | 239687.66 | 1016084.74 |
| 13 | 240474.47 | 1016182.11 |
| 14 | 240998.12 | 1016342.79 |
| 15 | 241009.72 | 1016364.65 |
| 16 | 241000.72 | 1016424.65 |
| 17 | 240972.61 | 1016439.56 |
| 18 | 240453.50 | 1016280.28 |
| 19 | 239683.36 | 1016184.97 |
| 20 | 239417.16 | 1016194.93 |
| 21 | 239187.74 | 1016264.89 |
| 22 | 238691.27 | 1016499.70 |
| 23 | 238034.78 | 1016710.05 |
| 24 | 237734.60 | 1016880.56 |
| 25 | 236845.23 | 1017768.02 |
| 26 | 236734.92 | 1017930.51 |
| 27 | 235900.65 | 1019869.37 |
| 28 | 235062.79 | 1020410.16 |
| 29 | 231253.78 | 1021786.33 |

COORDINATES REFER TO US STATE PLANE (NAD 83), LIL

NOTES:

1. GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM, NAD83.
2. DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).
3. THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 3.9 FEET BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL (VERSION 3.1).
4. CHANNEL LINES ARE APPROXIMATE AND WERE PROVIDED BY THE NEW YORK CORPS OF ENGINEERS.
5. SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2012 AND OBTAINED FROM THE USGS NATIONAL MAP VIEWER.
6. THE PLANIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
7. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET.
8. SOUNDINGS DEPICTED ON THIS MAP HAVE BEEN SORTED TO A 6' INTERVAL USING THE FULL DATA SET.
9. THE DATA DEPICTED ON THIS MAP WERE COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 1110-2-1003.
10. THIS MAP IS CEPD COMPLIANT.
11. THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:
    SURVEY VESSEL: R/V ECHO
    ECHOSOUNDER: ODOM HYDROTRAC
    NAVIGATION SYSTEM: TRIMBLE MS 750 IN REAL TIME KINEMATIC (RTK) MODE
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2013
    SURVEY PROCESSING SOFTWARE: HYPACK SINGLE BEAM EDITOR VERSION 2013
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY OCEAN SURVEYS, INC. (OSI) ON 4-9 MAY 2015 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. 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 OSI.

| LOCAL CONTROL DATA |
|---|
| BENCHMARK: RTK RIVERSIDE<br>ELEVATION: 6.60' NAVD 1988 |

| N.S.R.S BENCHMARK |
|---|
| BENCHMARK: # 340 1952 (PID KU1003)<br>ELEVATION: 20.10' NAVD 1988 |

SCALE : 1" = 400'

0 400 800 1200 1600

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

OCEAN SURVEYS, INC.
OCEANOGRAPHIC & HYDROGRAPHIC SURVEYS
GIS MAPPING & CONSULTING
OLD SAYBROOK, CONNECTICUT
www.oceansurveys.com

DATES OF SURVEY: 4-9 MAY 2015

FILE NO.: 53
REQUEST NO.: 4325

SCALE: ONE INCH = 400 FEET

FIELD BOOKS:

APPROVED: FIELD CARTOGRAPHER

APPROVED: R. SMITH — PROJECT MANAGER

APPROVED: D. CLARKE — CARTOGRAPHER

APPROVED: J. MRAZ — BRANCH CHIEF OF MAPS

DATE: 19 MAY 2015

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

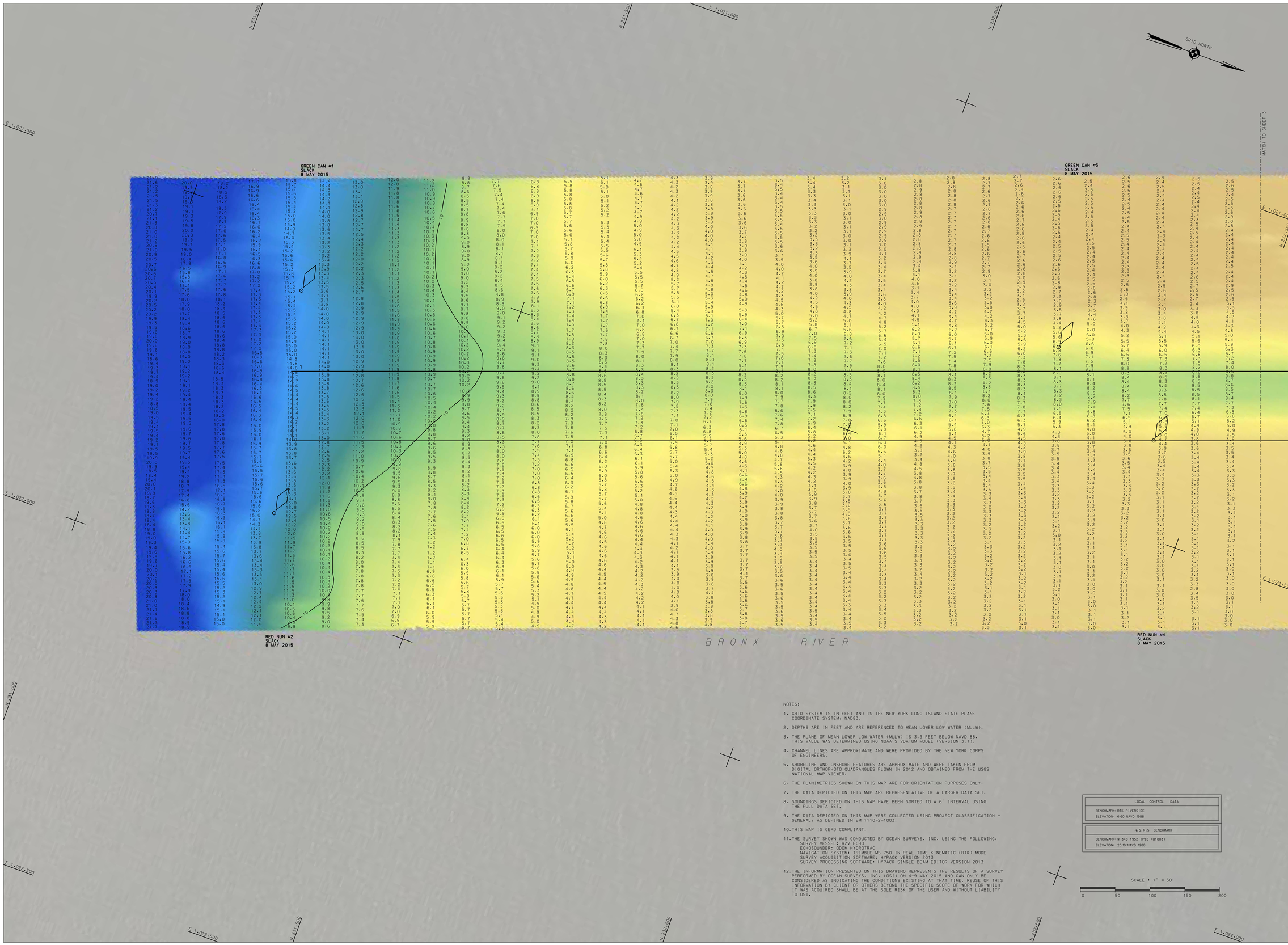
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

# BRONX RIVER
## NEW YORK
## CONDITION SURVEY

VH-101

SHEET 1 OF 9

53
4325




NOTES:

1. GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM. NAD83.
2. DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).
3. THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 3.9 FEET BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL (VERSION 3.1).
4. CHANNEL LINES ARE APPROXIMATE AND WERE PROVIDED BY THE NEW YORK CORPS OF ENGINEERS.
5. SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2012 AND OBTAINED FROM THE USGS NATIONAL MAP VIEWER.
6. THE PLANIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
7. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET.
8. SOUNDINGS DEPICTED ON THIS MAP HAVE BEEN SORTED TO A 6' INTERVAL USING THE FULL DATA SET.
9. THE DATA DEPICTED ON THIS MAP WERE COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 1110-2-1003.
10. THIS MAP IS CEPD COMPLIANT.
11. THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:
    SURVEY VESSEL: R/V ECHO
    ECHOSOUNDER: ODOM HYDROTRAC
    NAVIGATION SYSTEM: TRIMBLE MS 750 IN REAL TIME KINEMATIC (RTK) MODE
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2013
    SURVEY PROCESSING SOFTWARE: HYPACK SINGLE BEAM EDITOR VERSION 2013
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY OCEAN SURVEYS, INC. (OSI) ON 4-9 MAY 2015 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. 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 OSI.

| LOCAL CONTROL DATA |
|---|
| BENCHMARK: RTK RIVERSIDE |
| ELEVATION: 6.60' NAVD 1988 |

| N.S.R.S BENCHMARK |
|---|
| BENCHMARK: W 340 1952 (PID KU1003) |
| ELEVATION: 20.10' NAVD 1988 |

SCALE : 1" = 50'

0 50 100 150 200

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
68 SHIPYARD DR.
GUILFORD, CONNECTICUT
203-453-9400
www.oceansurveys.com

DATES OF SURVEY:
4-9 MAY 2015

FILE NO.: 53
REQUEST NO.: 4325

SCALE:
ONE INCH = 50 FEET

FIELD BOOKS:

APPROVED: FIELD CARTOGRAPHER
APPROVED: R. SMITH PROJECT MANAGER
APPROVED: D. CLARKE CHIEF CARTOGRAPHER
APPROVED: J. MRAZ BRANCH CHIEF OF SURVEY
DATE: 19 MAY 2015

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

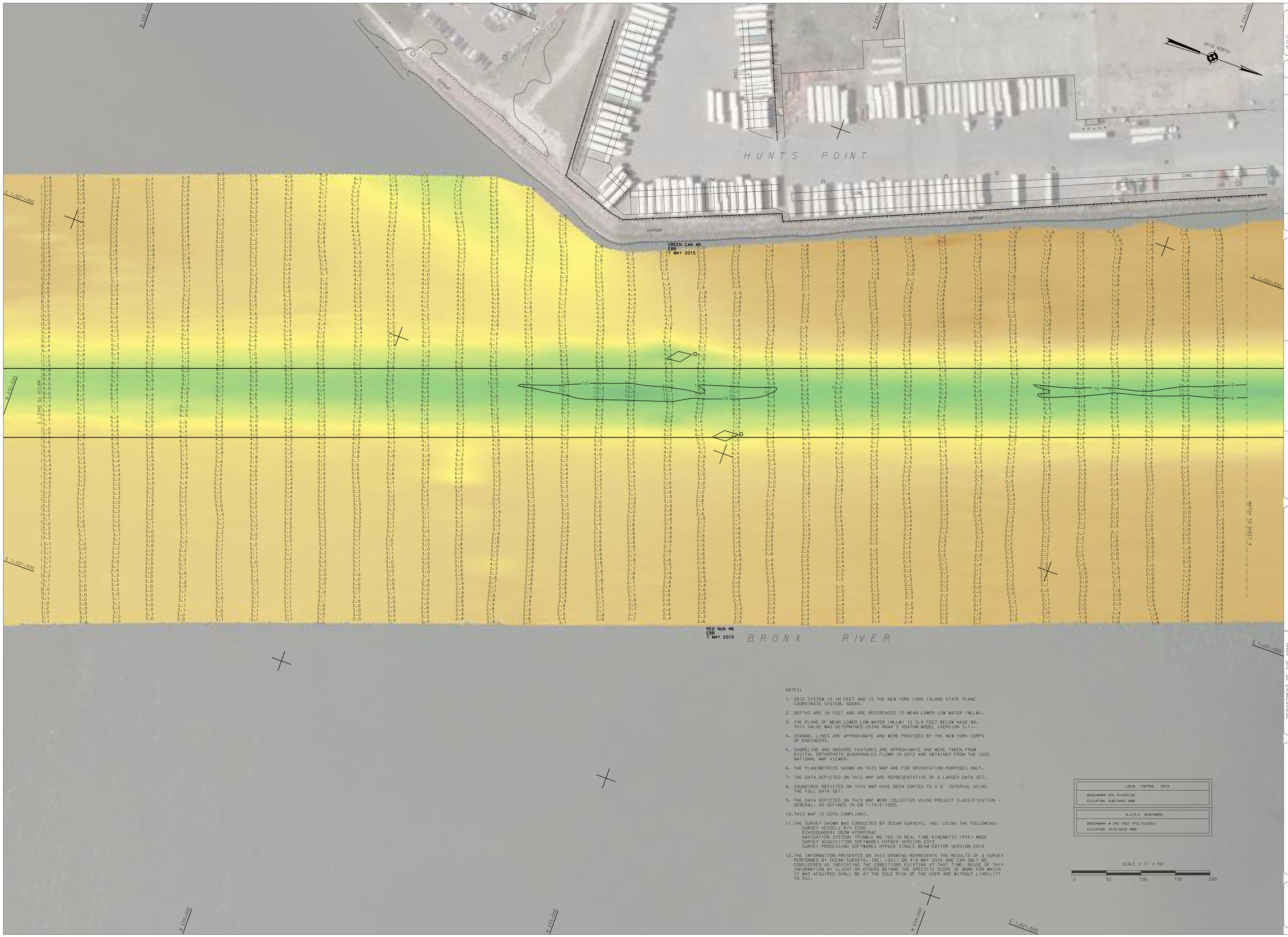
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

BRONX RIVER
NEW YORK
CONDITION SURVEY

VH-102

SHEET 2 OF 9

53
4325




NOTES:

1. GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM. NAD83.

2. DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).

3. THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 3.9 FEET BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL (VERSION 3.1).

4. CHANNEL LINES ARE APPROXIMATE AND WERE PROVIDED BY THE NEW YORK CORPS OF ENGINEERS.

5. SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2012 AND OBTAINED FROM THE USGS NATIONAL MAP VIEWER.

6. THE PLANIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

7. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET.

8. SOUNDINGS DEPICTED ON THIS MAP HAVE BEEN SORTED TO A 6' INTERVAL USING THE FULL DATA SET.

9. THE DATA DEPICTED ON THIS MAP WERE COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 1110-2-1003.

10. THIS MAP IS CEPD COMPLIANT.

11. THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:
    SURVEY VESSEL: R/V ECHO
    ECHOSOUNDER: ODOM HYDROTRAC
    NAVIGATION SYSTEM: TRIMBLE MS 750 IN REAL TIME KINEMATIC (RTK) MODE
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2013
    SURVEY PROCESSING SOFTWARE: HYPACK SINGLE BEAM EDITOR VERSION 2013

12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY OCEAN SURVEYS, INC. (OSI) ON 4-9 MAY 2015 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. 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 OSI.

| LOCAL CONTROL DATA |
|---|
| BENCHMARK: RTK RIVERSIDE |
| ELEVATION: 6.60' NAVD 1988 |

| N.S.R.S BENCHMARK |
|---|
| BENCHMARK: W 340 1952 (PID KU1003) |
| ELEVATION: 20.10' NAVD 1988 |

SCALE : 1" = 50'

0 50 100 150 200

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

OCEAN SURVEYS, INC.
OCEANOGRAPHIC SURVEYS
630 SOUTHPORT, CONNECTICUT
www.oceansurveys.com

DATES OF SURVEY:
4-9 MAY 2015

FILE NO.: 53
REQUEST NO.: 4325

SCALE:
ONE INCH = 50 FEET

FIELD BOOKS:

APPROVED: FIELD CARTOGRAPHER
APPROVED: R. SMITH — PROJECT MANAGER
APPROVED: D. CLARKE — CHIEF CARTOGRAPHER
APPROVED: J. MRAZ — DEPUTY CHIEF OF SURVEY
DATE: 19 MAY 2015

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

BRONX RIVER
NEW YORK
CONDITION SURVEY

VH-103

SHEET 3 OF 9

53
4325

U. S. ARMY

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

SCALE: ONE INCH = 50 FEET

FIELD BOOKS:

DATES OF SURVEY: 4-9 MAY 2015

OCEAN SURVEYS, INC.
139 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4427
www.oceansurveys-usa.com

FILE NO.: 53
RECORDS NO.: 4325

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
NEW YORK DISTRICT
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CEWAN-OP-S

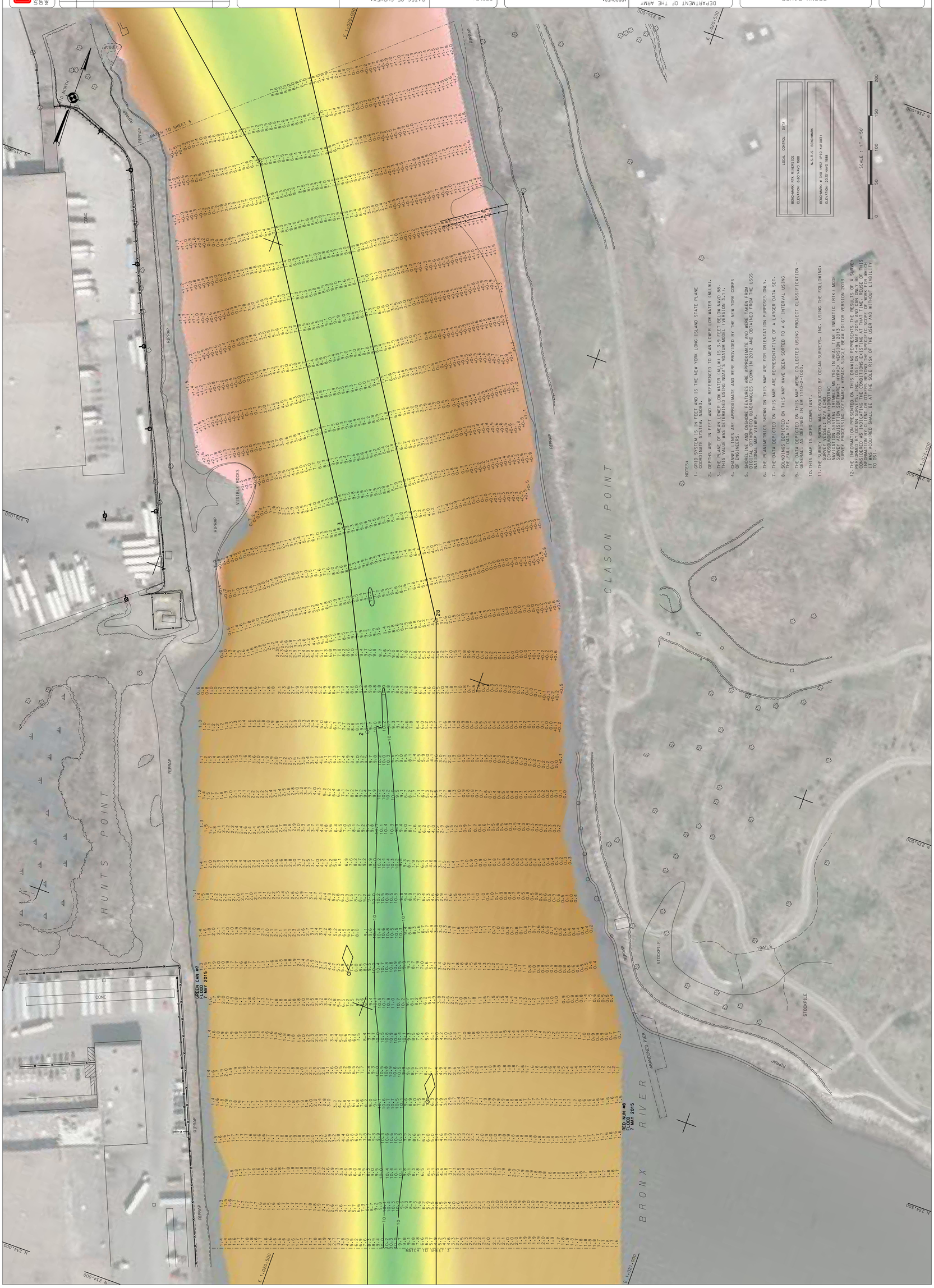
APPROVED:
FIELD CARTOGRAPHER
APPROVED: R. SMITH
PROJECT MANAGER
APPROVED: D. CLARKE
LEAD CARTOGRAPHER
APPROVED: J. MEIAZ
DEPUTY CHIEF OF SURVEY
DATE: 19 MAY 2015

BRONX RIVER
NEW YORK
CONDITION SURVEY

VH-104

SHEET 4 OF 9

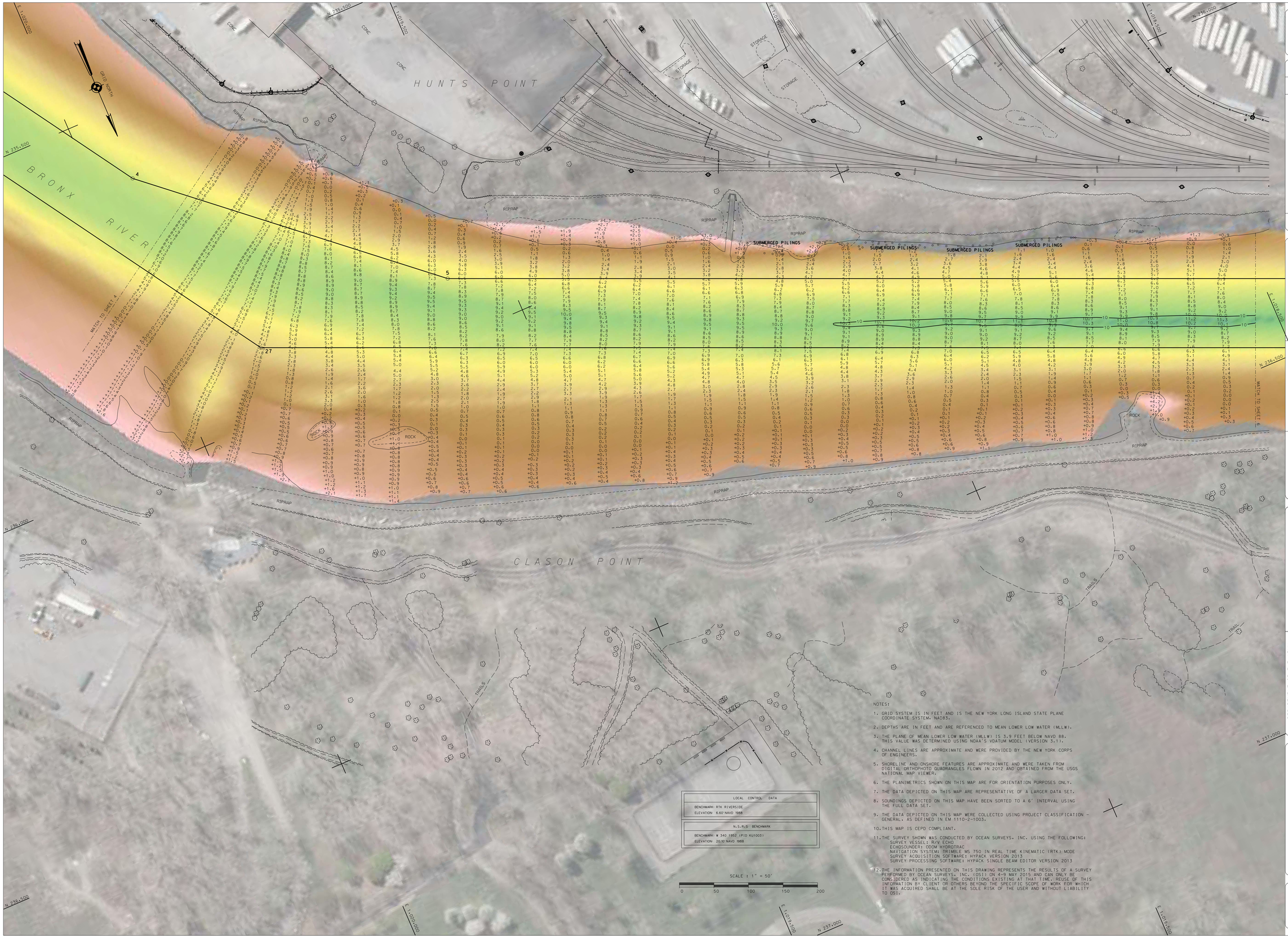
53
4325




CORPS OF ENGINEERS

CORPS OF ENGINEERS

U. S. ARMY




NOTES:

1. GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM. NAD83.
2. DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).
3. THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 3.9 FEET BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL (VERSION 3.1).
4. CHANNEL LINES ARE APPROXIMATE AND WERE PROVIDED BY THE NEW YORK CORPS OF ENGINEERS.
5. SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2012 AND OBTAINED FROM THE USGS NATIONAL MAP VIEWER.
6. THE PLANIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
7. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET.
8. SOUNDINGS DEPICTED ON THIS MAP HAVE BEEN SORTED TO A 6' INTERVAL USING THE FULL DATA SET.
9. THE DATA DEPICTED ON THIS MAP WERE COLLECTED USING PROJECT CLASSIFICATION - GENERAL. AS DEFINED IN EM 1110-2-1003.
10. THIS MAP IS CEPD COMPLIANT.
11. THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:
    SURVEY VESSEL: R/V ECHO
    ECHOSOUNDER: ODOM HYDROTRAC
    NAVIGATION SYSTEM: TRIMBLE MS 750 IN REAL TIME KINEMATIC (RTK) MODE
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2013
    SURVEY PROCESSING SOFTWARE: HYPACK SINGLE BEAM EDITOR VERSION 2013
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY OCEAN SURVEYS, INC. (OSI) ON 4-9 MAY 2015 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. 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 OSI.

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
142 SOUTH MAIN STREET
OLD SAYBROOK, CONNECTICUT
860-388-4164
www.oceansurveysinc.com

DATES OF SURVEY:
4-9 MAY 2015

FILE NO.: 53
REQUEST NO.: 4325

SCALE:
ONE INCH = 50 FEET

FIELD BOOKS:

APPROVED: FIELD CARTOGRAPHER
APPROVED: R. SMITH
PROJECT MANAGER
APPROVED: D. CLARKE
CHIEF CARTOGRAPHER
APPROVED: J. MRAZ
BRANCH CHIEF OF MAPS
DATE: 19 MAY 2015

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

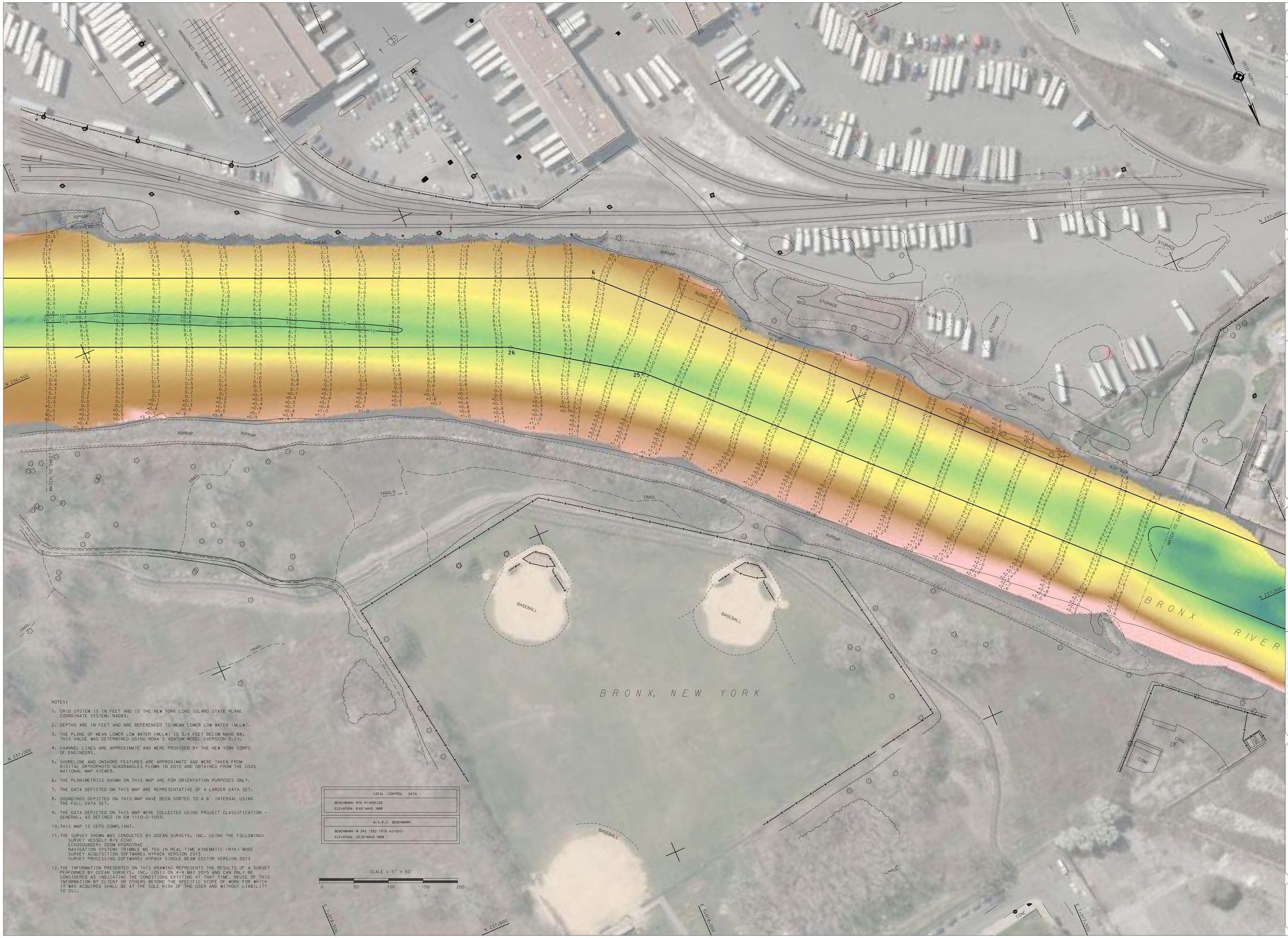
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

BRONX RIVER
NEW YORK
CONDITION SURVEY

VH-105

SHEET 5 OF 9

53
4325




NOTES:

1. GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM. NAD83.
2. DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).
3. THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 3.9 FEET BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL (VERSION 3.1).
4. CHANNEL LINES ARE APPROXIMATE AND WERE PROVIDED BY THE NEW YORK CORPS OF ENGINEERS.
5. SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2012 AND OBTAINED FROM THE USGS NATIONAL MAP VIEWER.
6. THE PLANIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
7. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET.
8. SOUNDINGS DEPICTED ON THIS MAP HAVE BEEN SORTED TO A 6' INTERVAL USING THE FULL DATA SET.
9. THE DATA DEPICTED ON THIS MAP WERE COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 1110-2-1003.
10. THIS MAP IS CEPD COMPLIANT.
11. THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:
    SURVEY VESSEL: R/V ECHO
    ECHOSOUNDER: ODOM HYDROTRAC
    NAVIGATION SYSTEM: TRIMBLE MS 750 IN REAL TIME KINEMATIC (RTK) MODE
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2013
    SURVEY PROCESSING SOFTWARE: HYPACK SINGLE BEAM EDITOR VERSION 2013
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY OCEAN SURVEYS, INC. (OSI) ON 4-9 MAY 2015 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. 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 OSI.

| LOCAL CONTROL DATA |
|---|
| BENCHMARK: RTK RIVERSIDE<br>ELEVATION: 6.60' NAVD 1988 |
| **N.S.R.S BENCHMARK** |
| BENCHMARK: W 340 1952 (PID KU1003)<br>ELEVATION: 20.10' NAVD 1988 |

SCALE : 1" = 50'

0 50 100 150 200

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

OCEAN SURVEYS, INC.
OLD SAYBROOK, CONNECTICUT
GPS SURVEYING, CONSULTING

DATES OF SURVEY:
4-9 MAY 2015

FILE NO.: 53
REQUEST NO.: 4325

SCALE:
ONE INCH = 50 FEET

FIELD BOOKS:

APPROVED: FIELD CARTOGRAPHER
APPROVED: R. SMITH — PROJECT MANAGER
APPROVED: D. CLARKE — CHIEF CARTOGRAPHER
APPROVED: J. MRAZ — BRANCH CHIEF OF MARINE
DATE: 19 MAY 2015

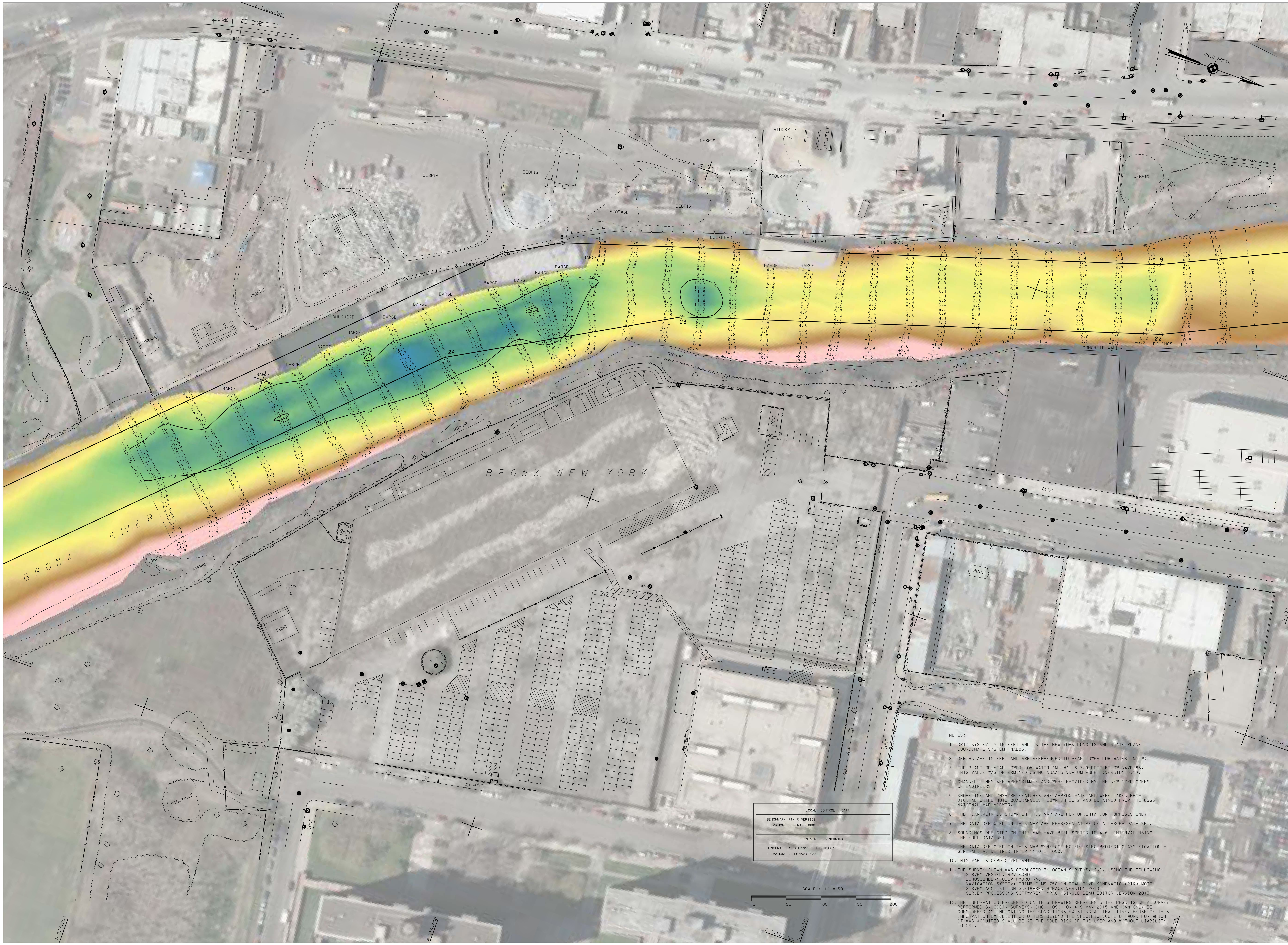
DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

BRONX RIVER
NEW YORK
CONDITION SURVEY

VH-106

SHEET 6 OF 9




NOTES:

1. GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM, NAD83.
2. DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).
3. THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 3.9 FEET BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL (VERSION 3.1).
4. CHANNEL LINES ARE APPROXIMATE AND WERE PROVIDED BY THE NEW YORK CORPS OF ENGINEERS.
5. SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2012 AND OBTAINED FROM THE USGS NATIONAL MAP VIEWER.
6. THE PLANIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
7. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET.
8. SOUNDINGS DEPICTED ON THIS MAP HAVE BEEN SORTED TO A 6' INTERVAL USING THE FULL DATA SET.
9. THE DATA DEPICTED ON THIS MAP WERE COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 1110-2-1003.
10. THIS MAP IS CEPD COMPLIANT.
11. THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING:
    SURVEY VESSEL: R/V ECHO
    ECHOSOUNDER: ODOM HYDROTRAC
    NAVIGATION SYSTEM: TRIMBLE MS 750 IN REAL TIME KINEMATIC (RTK) MODE
    SURVEY ACQUISITION SOFTWARE: HYPACK VERSION 2013
    SURVEY PROCESSING SOFTWARE: HYPACK SINGLE BEAM EDITOR VERSION 2013
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED BY OCEAN SURVEYS, INC. (OSI) ON 4-9 MAY 2015 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. 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 OSI.

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

OCEAN SURVEYS, INC.
129 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4631
www.oceansurveys.com

DATES OF SURVEY:
4-9 MAY 2015

FILE NO.: 53
REQUEST NO.: 4325

SCALE:
ONE INCH = 50 FEET

FIELD BOOKS:

APPROVED: ____ FIELD CARTOGRAPHER
APPROVED: R. SMITH PROJECT MANAGER
APPROVED: D. CLARKE LEAD CARTOGRAPHER
APPROVED: J. MRAZ DEPUTY CHIEF OF SURVEY
DATE: 19 MAY 2015

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

BRONX RIVER
NEW YORK
CONDITION SURVEY

VH–107

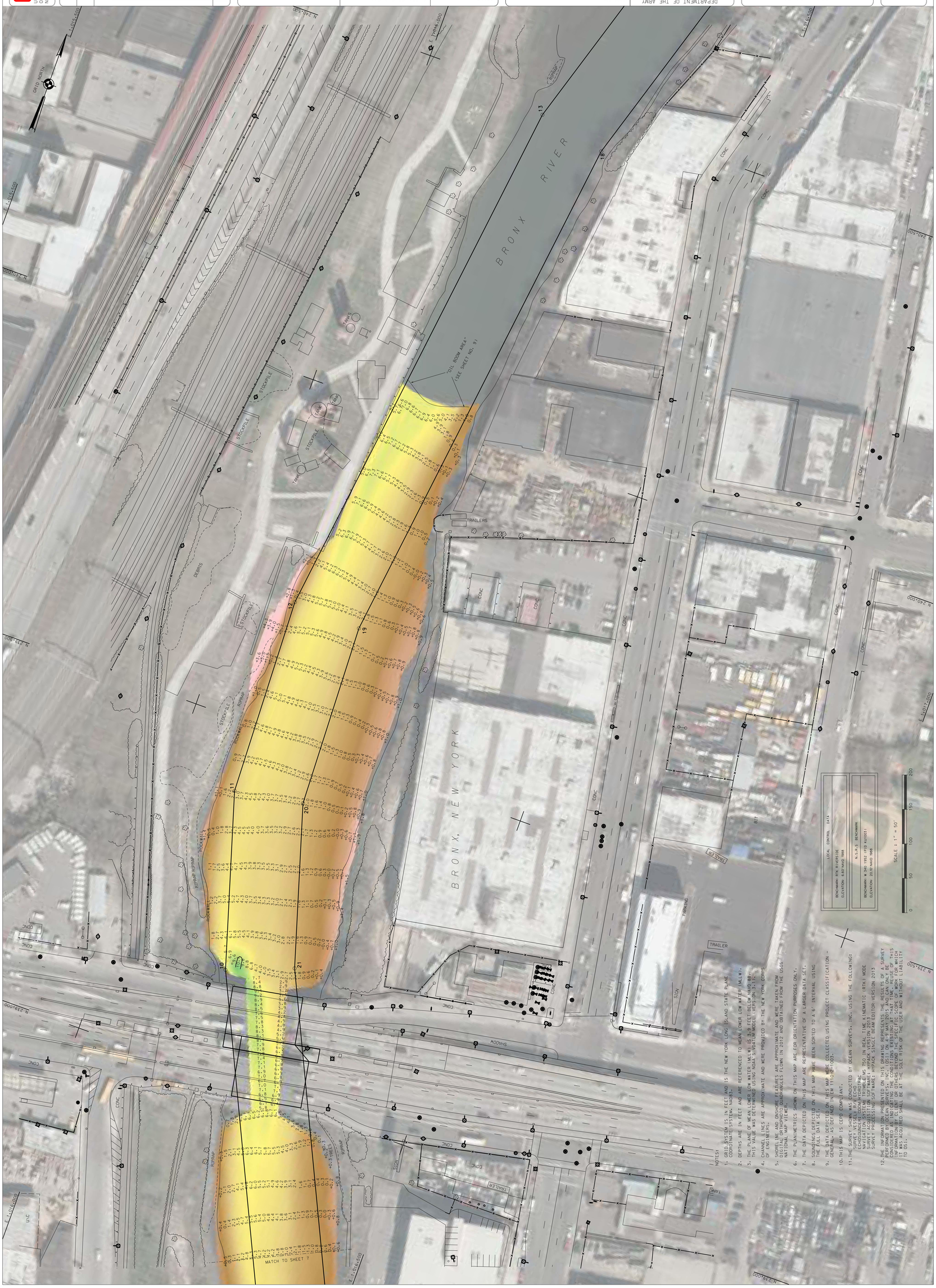


53
4325

U. S. ARMY

CORPS OF ENGINEERS

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT




NOTES:

1. GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM, NAD83.
2. DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).
3. THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 3.9 FEET BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM MODEL (VERSION 3.1).
4. CHANNEL LINES ARE APPROXIMATE AND WERE PROVIDED BY THE NEW YORK CORPS OF ENGINEERS.
5. SHORELINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2012 AND OBTAINED FROM THE USGS NATIONAL MAP VIEWER.
6. THE PLANIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
7. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET.
8. SOUNDINGS DEPICTED ON THIS MAP HAVE BEEN SORTED TO A 6' INTERVAL USING THE FULL DATA SET.
9. THE DATA DEPICTED ON THIS MAP WERE COLLECTED USING PROJECT CLASSIFICATION - GENERAL AS DEFINED IN EM 1110-2-1003.
10. THIS MAP IS CEM COMPLIANT.
11. THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING: SONAR: RESON SEABAT 7125 ECHOSOUNDER ROOM MOTION: SONARDYNE SPRINT INS COUPLED WITH DGPS TO IN REAL TIME KINEMATIC (RTK) MODE SURVEY ACQUISITION SOFTWARE: HYPACK (VERSION 2013) SURVEY PROCESSING SOFTWARE: HYPACK SINGLE BEAM EDITOR VERSION 2013
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY PERFORMED ON THE DATES SHOWN. THE INFORMATION PRESENTED ON THIS DRAWING IS CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. REUSE OF THIS INFORMATION BY CLIENT OR OTHERS BEYOND THE SPECIFIC SCOPE OF WORK FOR WHICH IT WAS PREPARED SHALL BE AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO OSI.

| LOCAL CONTROL DATA |
|---|
| BENCHMARK: RTK-RIVERSIDE<br>ELEVATION: 6.60 NAVD 1988 |
| N.Y.S.P.S. BENCHMARK |
| BENCHMARK: # 3AD 1952 (FTB AU1003)<br>ELEVATION: 20.96 NAVD 1988 |

SCALE 1 1" = 50'

0 50 100 150 200

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

APPROVED: _____ FIELD CHIEF/DRAFTER
APPROVED: R. SMITH PROJECT MANAGER
APPROVED: D. CLARKE LEAD CHIEF/DRAFTER
APPROVED: J. MEAZ DEPUTY CHIEF OF SURVEY
DATE: 19 MAY 2015

BRONX RIVER
NEW YORK
CONDITION SURVEY

VH-108

SHEET 8 OF 9

SCALE: ONE INCH = 50 FEET

FIELD BOOKS: _____ _____ _____

DATES OF SURVEY: 4-9 MAY 2015

FILE NO.: 53
REGEST NO.: 4325

OCEAN SURVEYS, INC.
139 MILL ROCK ROAD EAST
OLD SAYBROOK, CONNECTICUT
(860) 388-4161
www.oceansurveys.com

53
4325

CORPS OF ENGINEERS

U. S. ARMY

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

SCALE:
ONE INCH = 50 FEET

FIELD BOOKS:

DATES OF SURVEY:
4-9 MAY 2015

OCEAN SURVEYS, INC.
139 NEL ROOK ROAD EXT
OLD SAYBROOK, CONNECTICUT
(860) 388-4427

FILE NO.: 53
REQUEST NO.: 4325

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
NEW YORK DISTRICT
OPERATIONS DIVISION
SURVEY SECTION
CEWAN-OP-S
NEW YORK, NEW YORK 10278

APPROVED:
FIELD CHIEF/SUPERVISOR

APPROVED: R. SMITH
PROJECT MANAGER

APPROVED: D. CLARKE
LEAD CHIEF/SUPERVISOR

APPROVED: J. MEIAZ
DEPUTY CHIEF OF SURVEY

DATE: 19 MAY 2015

BRONX RIVER
NEW YORK
CONDITION SURVEY

VH-109

SHEET 9 OF 9

53
4325

NOTES:

1. GRID SYSTEM IS IN FEET AND IS THE NEW YORK LONG ISLAND STATE PLANE COORDINATE SYSTEM NAD83.
2. DEPTHS ARE IN FEET AND ARE REFERENCED TO MEAN LOWER LOW WATER (MLLW).
3. THE PLANE OF MEAN LOWER LOW WATER (MLLW) IS 3.9 FEET BELOW NAVD 88. THIS VALUE WAS DETERMINED USING NOAA'S VDATUM DOTCE VERSION 3.11.
4. CHANNEL LINES ARE APPROXIMATE AND WERE PROVIDED BY THE NEW YORK CORPS OF ENGINEERS.
5. SHOREINE AND ONSHORE FEATURES ARE APPROXIMATE AND WERE TAKEN FROM DIGITAL ORTHOPHOTO QUADRANGLES FLOWN IN 2012 AND OBTAINED FROM THE USGS NATIONAL MAP VIEWER.
6. THE PLANIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
7. THE DATA DEPICTED ON THIS MAP ARE REPRESENTATIVE OF A LARGER DATA SET.
8. SOUNDINGS DEPICTED ON THIS MAP HAVE BEEN SORTED TO A 6' INTERVAL USING THE FULL DATA SET.
9. THE DATA DEPICTED ON THIS MAP WERE COLLECTED USING PROJECT CLASSIFICATION: GENERAL, AS DEFINED IN EM 1110-2-1003.
10. THIS MAP IS CERC COMPLIANT.
11. THE SURVEY SHOWN WAS CONDUCTED BY OCEAN SURVEYS, INC. USING THE FOLLOWING: ECHOSOUNDER: DOM HYDROTRAC
12. THE INFORMATION PRESENTED ON THIS DRAWING REPRESENTS THE RESULTS OF A SURVEY CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME. REUSE OF THIS INFORMATION FOR PURPOSES OTHER THAN THOSE SPECIFIED BY THE USACE, NEW YORK DISTRICT WAS ACQUIRED SOLELY AT THE SOLE RISK OF THE USER AND WITHOUT LIABILITY TO OSI.

CORPS OF ENGINEERS