[illegible]

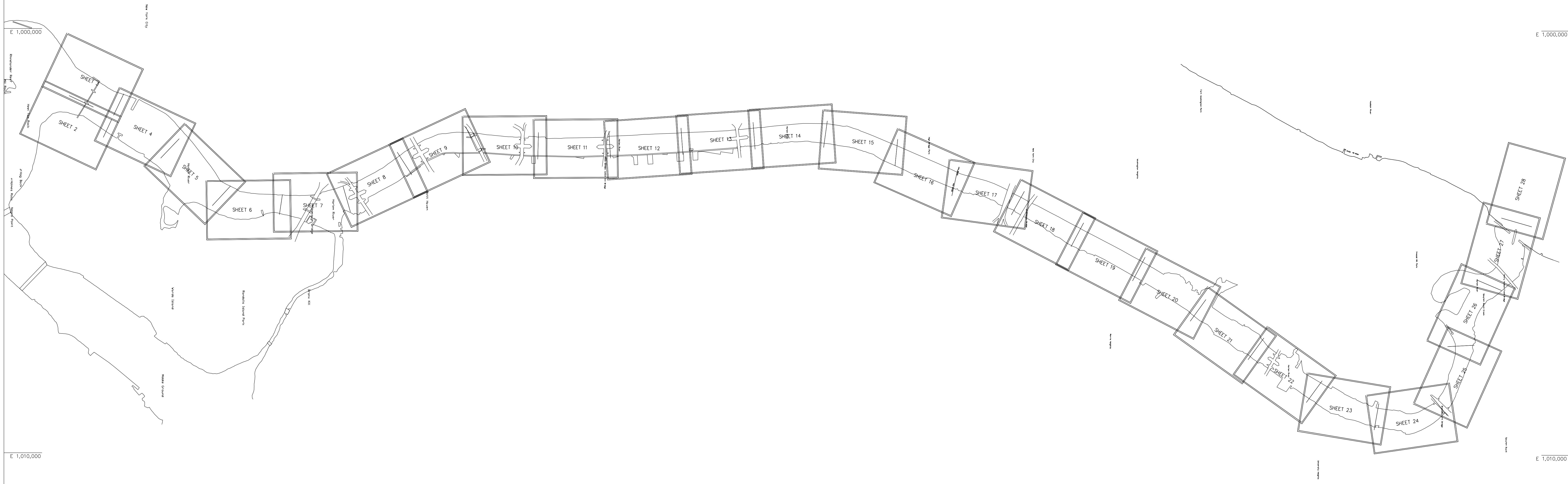
SCALE:  
1" = 1,000'

DEPARTMENT OF THE ARMY  
NEW YORK DISTRICT  
CORPS OF ENGINEERS

VH-10

SHEET 1 OF 28

FILE NO.: 38  
REQ NO.: 4308

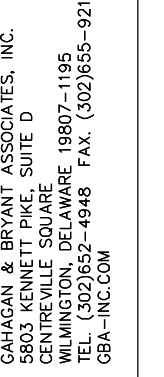


NOTE:  
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND ONLY ONE SET OF COORDINATES WAS USED. THE EXACT TIME COORDINATES REFER TO THE LONG ISLAND (LAMBERT) SYSTEM (NA 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOWER LOW WATER. THE PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 - 2.82 FEET BELOW MEAN SEA LEVEL. THE EXACT MEAN LOW WATER SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 1110-1-2.035.  
THE DATA ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET. THE PLANIMETRICS SHOW ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.  
THIS SURVEY WAS PERFORMED USING RTK GPS FROM THE KEYSTONE PRECISION VRS NETWORK.  
THE LOCATIONS OF BRIDGES, PIER, ABUTMENTS & OBSTRUCTIONS WAS OBTAINED FROM A SCALED AND ROTATED Aerial PHOTO THEN DIGITIZED TO REPRESENT THEIR APPROXIMATE LOCATIONS.



NOTE:  
THE INFORMATION DERIVED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED, AND CAN ONLY BE CONSIDERED CONDITIONS EXISTING AT THAT TIME. THE DATA ARE REFERRED TO THE 1983 DATUM SYSTEM AND 1983 SOUNDINGS REFER TO THE PLANE OF MEAN LOWER LOW WATER. THE PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 - 2.82 FEET BELOW NAVD (1988), BASED ON THE NOAA WATMAD MODEL. THE SOUNDING DATA SHOWN ON THIS MAP WAS COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 110-2-1003.  
THIS MAP OF THE RIVER MAP IS REPRESENTATIVE OF A LARGER DATA SET. THE PLANEIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.  
THIS SURVEY WAS PERFORMED USING RTK GPS FROM THE KEYSTONE PRECISION VRS NETWORK.  
THE LOCATIONS OF BRIDGES, PIERS, ABUTMENTS & OBSTRUCTIONS WAS DETERMINED BY MEANS OF A TOTAL STATION THEN PHOTOZOOMED TO REPRESENT THEIR APPROXIMATE LOCATIONS.



[illegible]

FIELD BOOKS:	

FIELD #

APPROVED: R. SWARTH PROJECT MANAGER

APPROVED: D. CLARKE

APPROVED: \_\_\_\_\_

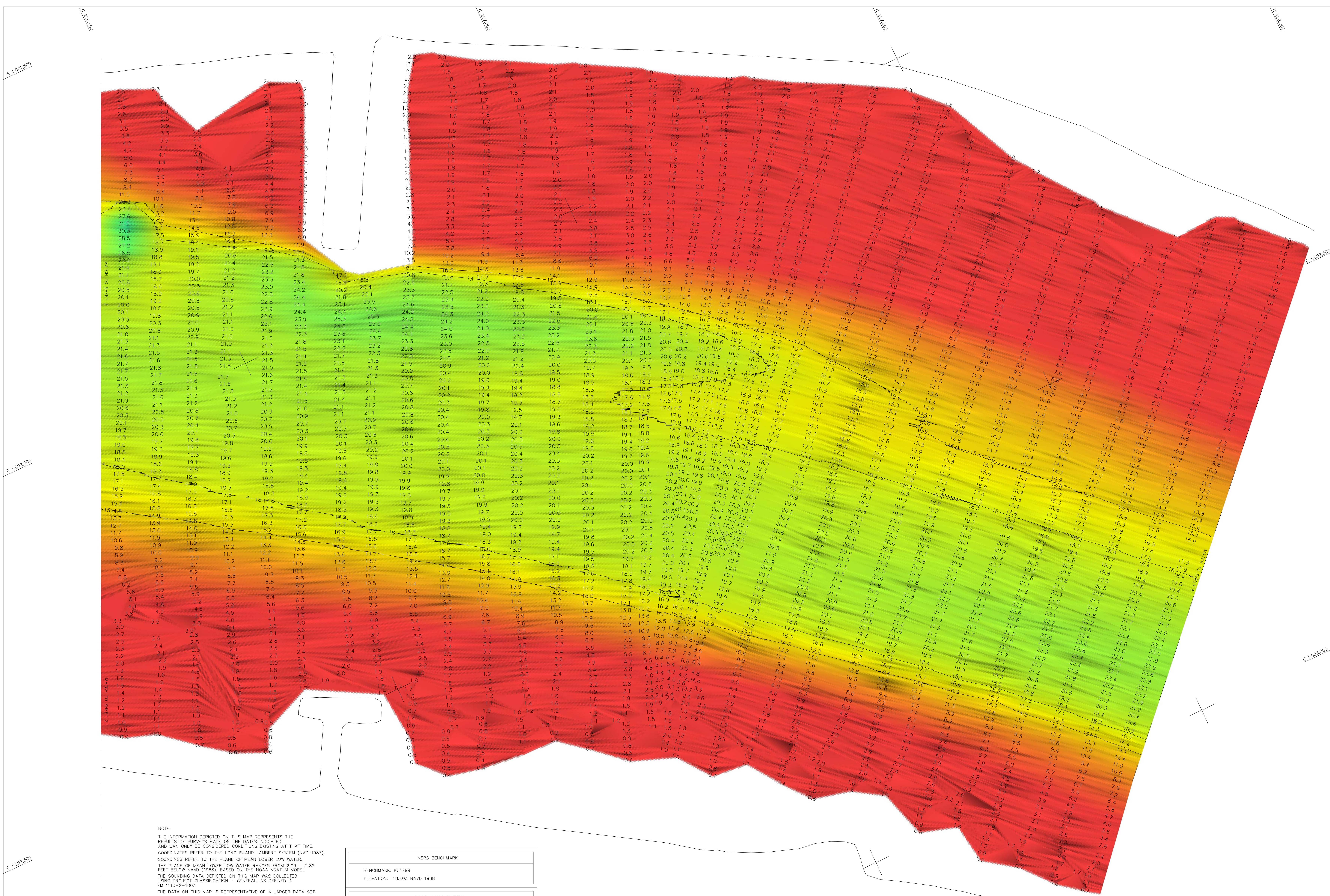
NEW YORK, NEW YORK 102  
OPERATIONS DIVISION

NEW YORK OFFICE

NEW YORK

SHEET 4 OF 28

E NO.: 38  
Q NO.: 4308



NOTE:

THE INFORMATION PRESENTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED CONDITIONS EXISTING AT THAT TIME. COORDINATES REFER TO THE LONG ISLAND LIGHTHOUSE SYSTEM (NAD 1983). SOUNDINGS ARE GIVEN IN FEET OF WATER. THE LOWEST WATER PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 ± 2.82 FEET BELOW NAD (1983). BASED ON THE NOAA VDatum MODEL. THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 110-2-1003.

THE DATA ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET. THE PLACEMENTS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

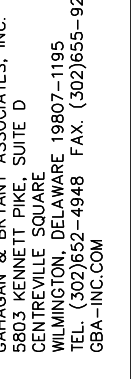
THIS SURVEY WAS PERFORMED USING RTK GPS FROM THE KEYSTONE PRECISION SURVEYING NETWORK. LOCATIONS OF THE LOCATIONS OF BRIDGES, PIERS, ABUTMENTS & OBSTRUCTIONS WAS OBTAINED FROM A SCALED AND ROTATED AERIAL PHOTO THEN DIGITIZED

NRSR BENCHMARK
BENCHMARK: KU1799
ELEVATION: 183.03 NAVD 1988

LOCAL CONTROL DATA
BENCHMARK: 8639D
ELEVATION: 8.31 NAVD 1988



[illegible]

FILE NO.: 38  
REQUEST NO.: 4308

|||

APPROVED: J. MRAZ/F. POSTIGLIONE  
CHIEF OF SURVEY

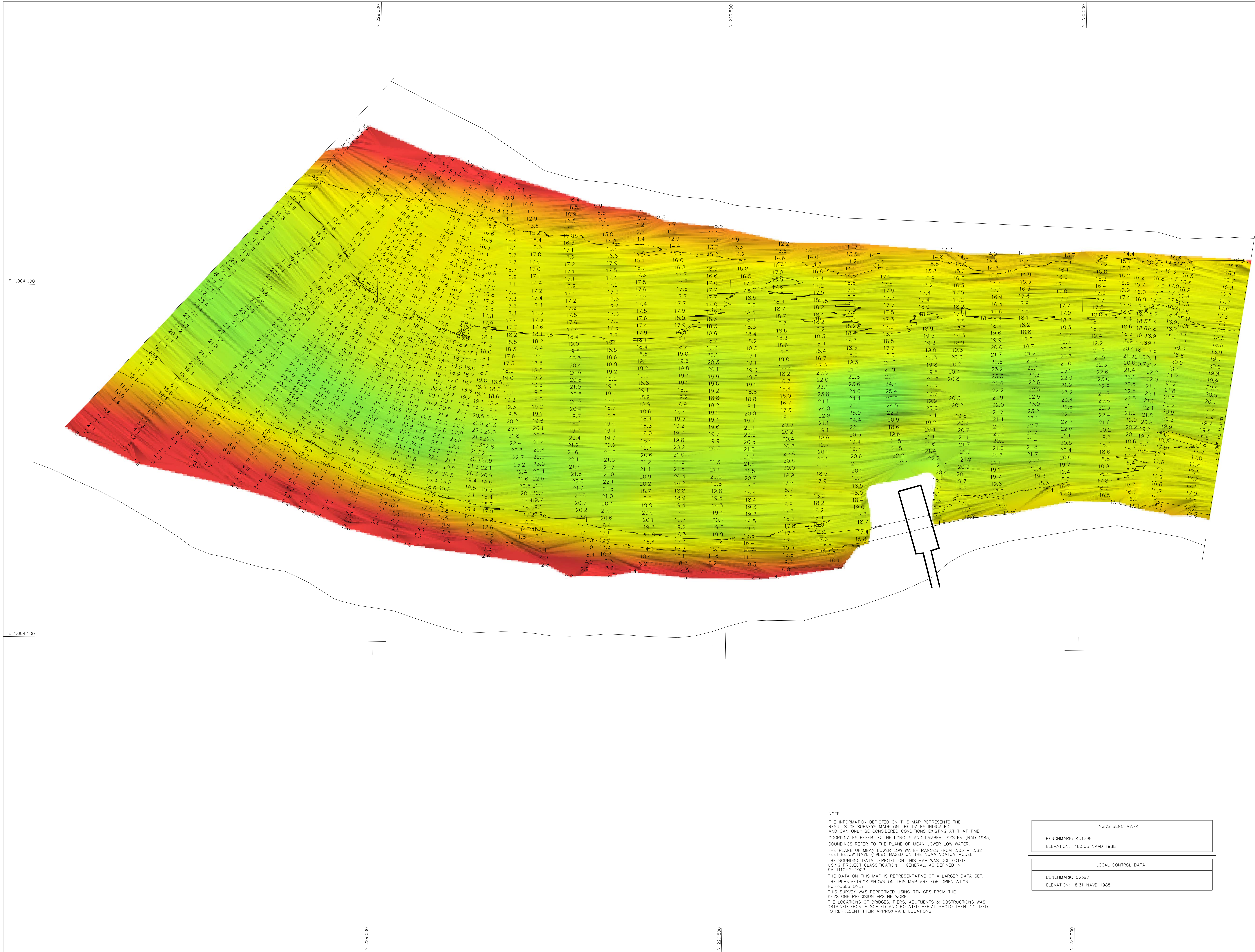
DATE: 12 JUNE 2015

SURVEY SECTION  
CENAN-OP-S

CONDITION SURVEY

SHEET 6 OF 28

FILE NO.: 38  
REQ NO.: 4308



NOTE:

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED CONDITIONS EXISTING AT THAT TIME. THIS MAP IS REFERRED TO AS THE LAWRENCE SYSTEM (AND 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOWER LOW WATER. THE PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 - 2.82 FEET BELOW NAD (1983), BASED ON THE NOAA VADWAVE MODEL. THE SURVEY DATA DEPICTED ON THIS MAP WAS COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 1110-2-1003.

THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET. THE PLANNETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

THE SURVEY WAS PERFORMED USING RTK GPS FROM THE KEYSTONE PRECISION VRS NETWORK.

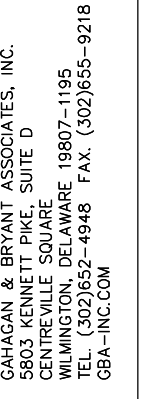
THE LOCATIONS OF BRIDGES, PILES, ABUTMENTS & OBSTRUCTIONS WAS ESTABLISHED ON A SEPARATE DATASET AND THEN DIGITIZED TO REPRESENT THEIR APPROXIMATE LOCATIONS.

NSRS BENCHMARK
BENCHMARK: KU1799 ELEVATION: 183.03 NAVD 1988

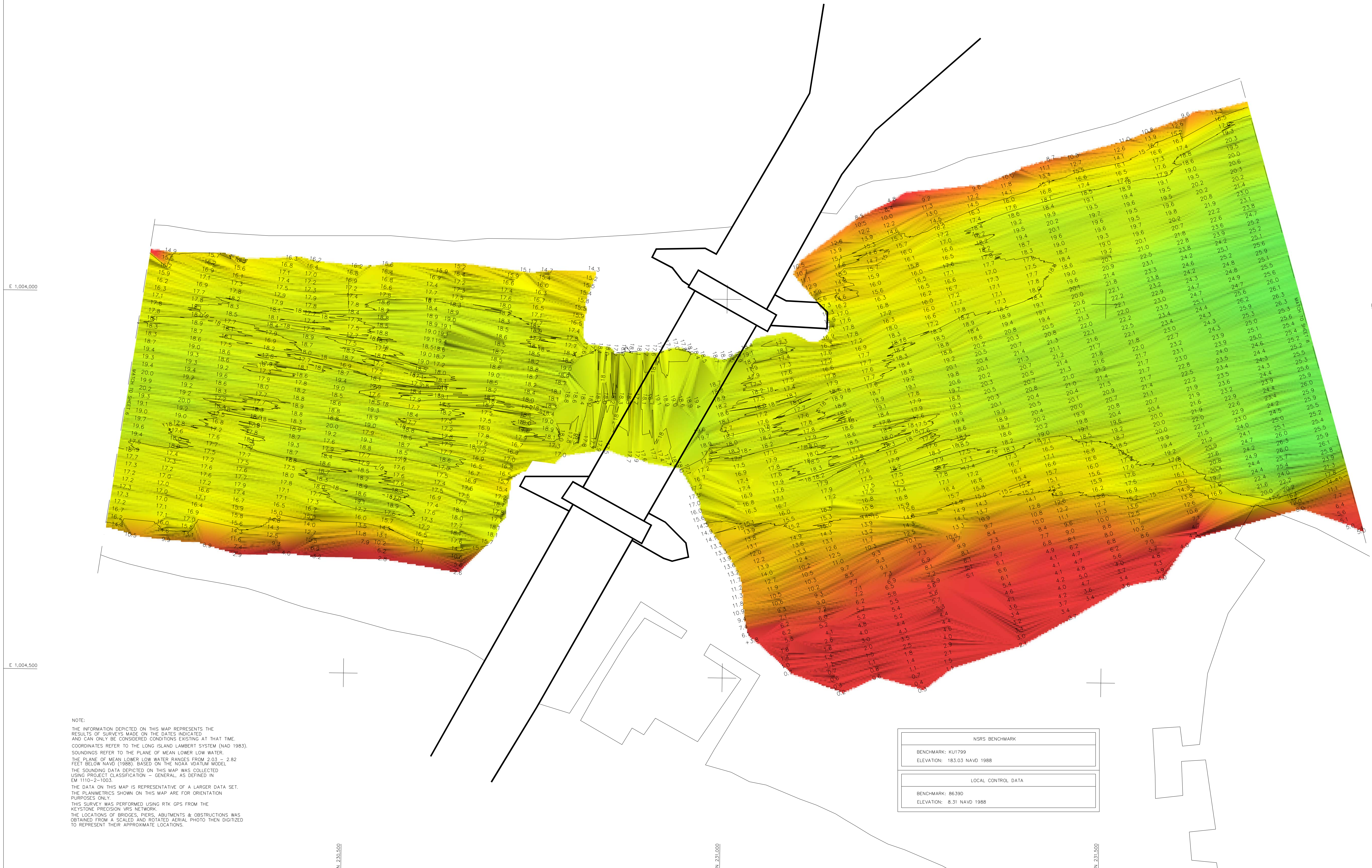
LOCAL CONTROL DATA
BENCHMARK: 8639D ELEVATION: 8.31 NAVD 1988



SHEET 7 OF 28

E NO.: 38  
Q NO.: 4308



NOTE:

THE INFORMATION DERIVED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE TO MEASURE THE GEOMETRIC AND HYDROGRAPHIC CONDITIONS OF THE RIVER AT THAT TIME. COORDINATES REFER TO THE NAD 83 U.S. NATIONAL DATUM. SOUNDINGS REFLECT TO THE PLANE OF MEAN LOWER LOW WATER. THE PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 - 2.82 FEET BELOW NAVD (1986), BASED ON THE NOAA VITAMON MODEL.

THE QUANTITY DATA DEPICTED ON THIS MAP WAS COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 110-2-1003.

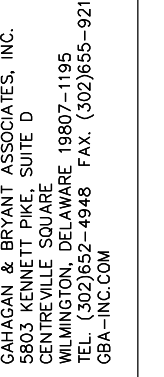
THIS MAP IS A LARGE SCALE REPRESENTATIVE OF A LARGER DATA SET. THE PLANIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

THE SURVEY WAS PERFORMED USING RTK GPS FROM THE KEYSTONE PRECISION RV'S NETWORK.

THE LOCATIONS OF BRIDGES, PIERS, ABUTMENTS & OBSTRUCTIONS WAS OBTAINED FROM A SCANNED PHOTO. THESE WERE THEN DIGITIZED TO REPRESENT THEIR APPROXIMATE LOCATION.

NSRS BENCHMARK  
BENCHMARK: KU1799  
ELEVATION: 183.03 NAVD 1988

LOCAL  
BENCHMARK: 8639D  
ELEVATION: 8.31 NAVD 1988

[illegible]

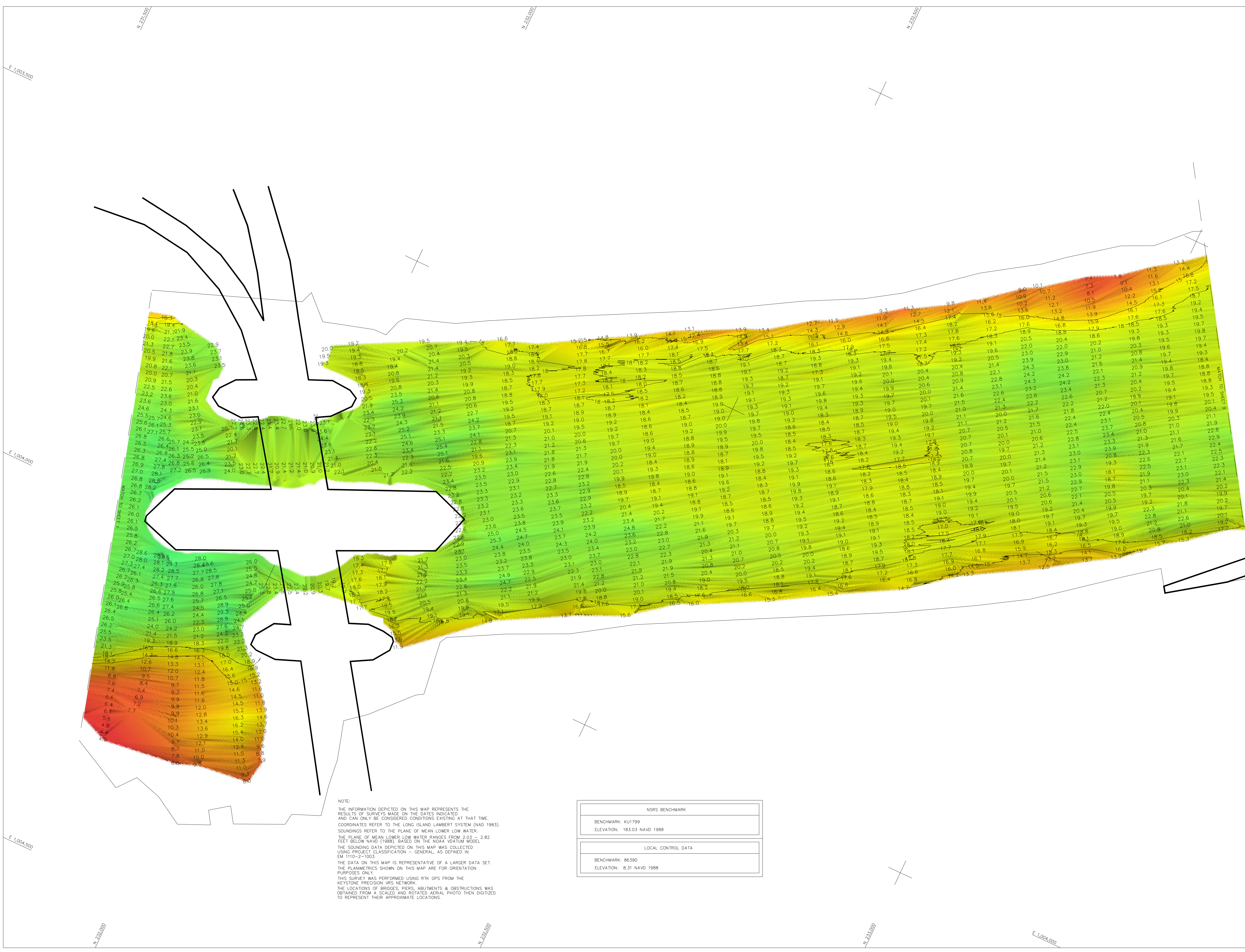
---

APPROVED: N. SMITH  
PROJECT MANAGER

NEW YORK, NEW YORK 10278

NEW YORK

SHEET 8 OF 28



NOTE:

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED CONDITIONS EXISTING AT THAT TIME. THE DATA REFLECTS THE DATA FROM THE LAMBERT SYSTEM (NAD 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOWER LOW WATER. THE PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 - 2.82 FEET BELOW NAD (1988). BASED ON THE NOAA WATWAY MODEL. THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 1110-2-1003.

THIS DATA SET IS REPRESENTATIVE OF A LARGER DATA SET. THE PLANIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

THIS SURVEY WAS PERFORMED USING RTK GPS FROM THE KENTON PRECISION VYR NETWORK.

THE LOCATIONS OF BRIDGES, PIERS, ABUTMENTS & OBSTRUCTIONS WAS OBTAINED FROM A SCALED AERIAL PHOTOGRAPH THEN DIGITIZED USING THE PLANIMETER.

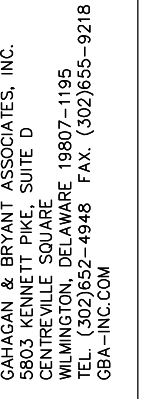
NSRS BENCHMARK
BENCHMARK: KU1799
ELEVATION: 183.03 NAVD 1988

LOCAL CONTROL DATA
BENCHMARK: 86390
ELEVATION: 8.31 NAVD 1988



N 234,500



8 MAY 2005

50 FEET

INCH =

MOORE  
LICENSED SURVEYOR

DOUGLAS  
R. SMITH

APPROVED:

ST  
RS  
10278

DISTRICT  
ENGINEER  
NEW YORK

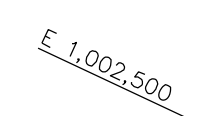
NEW

VER  
IKEM RIV  
W YORHARL  
NE

VH-109

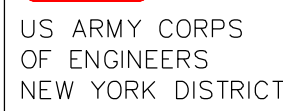
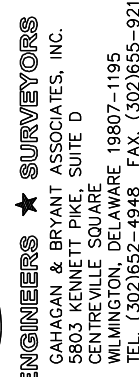
SHEET 9 OF 28

E NO.: 38  
Q NO.: 4308



NOTE:  
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE  
RESULTS OF SURVEYS MADE ON THE DATES INDICATED.

NSRS BENCHMARK

[illegible]

SCALE: ONE INCH = 50 FEET	DATES OF SURVEY: 2-8 MAY 2015 _____
FIELD BOOKS: _____ _____ _____	FILE NO.: 39 REQUEST NO.: 4508

APPROVED: DOUGLAS MOORE  
LICENSEE NUMBER

APPROVED: R. SMITH  
PROJECT MANAGER

APPROVED: D. CLARKE  
LEAD CONTRACTOR

APPROVED: J. MRAZ/F. POSTOLONE  
CHIEF OF SURVEY

DATE: 12 JUNE 2015

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

OPERATIONS DIVISION  
SURVEY SECTION  
CENAN-OP-5

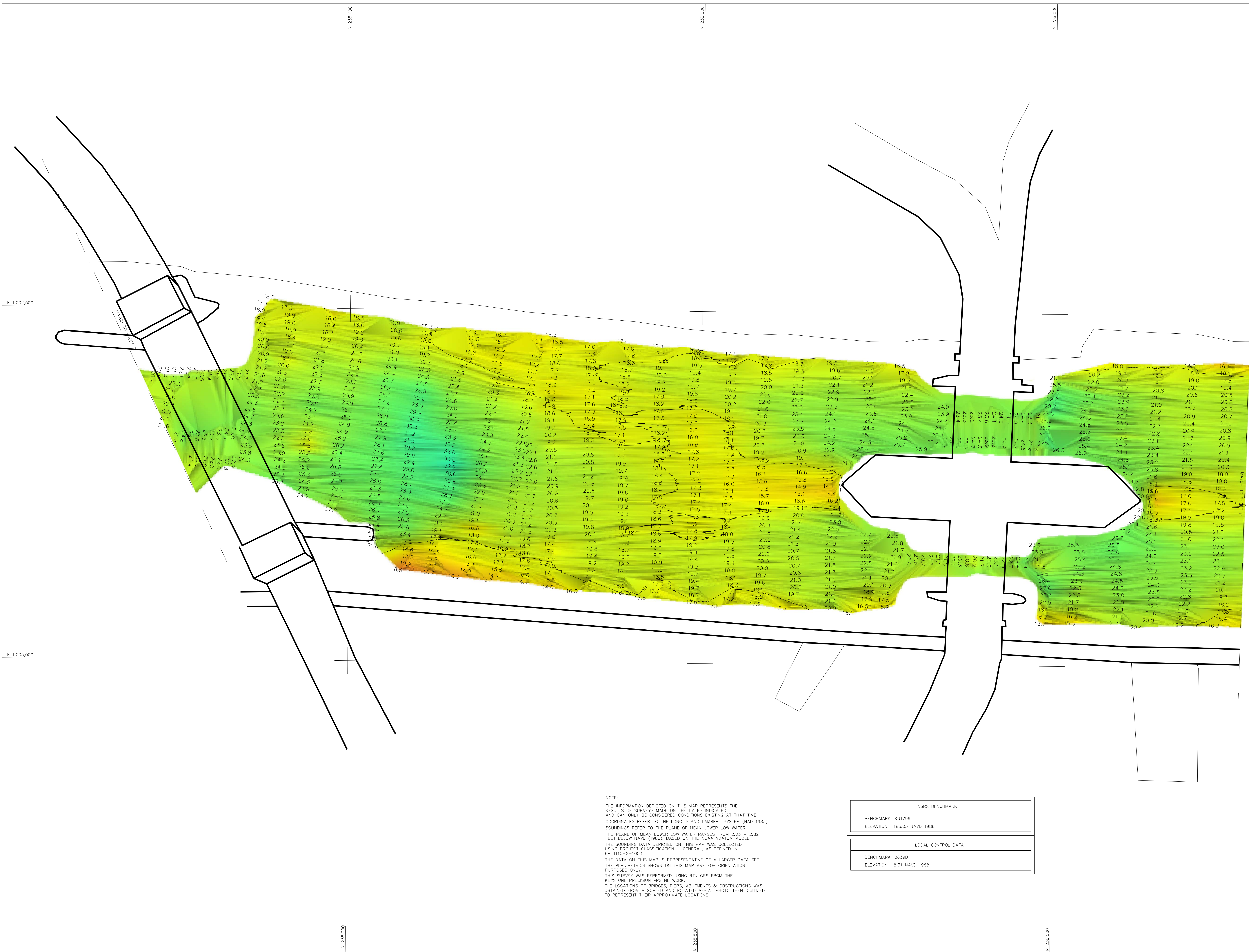
HARLEM RIVER  
NEW YORK

CONDITION SURVEY

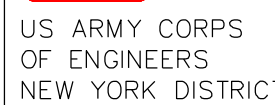
VH-110

SHEET 10 OF 28

FILE NO.: 38  
REQ NO.: 4308



NOTE:  
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND IS NOT GUARANTEED TO BE ACCURATE AT THAT TIME. COORDINATES REFER TO THE LONG ISLAND LIGHTBURY SYSTEM (NAD 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOWER LOW WATER. THE PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 - 2.82 FEET BELOW NAVD (1988), BASED DATA FROM NOAA WATERSHED MODEL. THE SOUNDING DATA ACQUIRED ON THIS MAP WAS COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 1110-2-1003.  
THIS MAP SHOW IS REPRESENTATIVE OF A LARGER DATA SET. THE PLANIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.  
THE SURVEY WAS PERFORMED USING RTK GPS FROM THE KEYSTONE PRECISION VRS NETWORK.  
THE LOCATIONS OF BRIDGES, PILES, ABUTMENTS & OBSTRUCTIONS WAS OBTAINED FROM A SOURCE OTHER THAN AERIAL PHOTO THEN DIGITIZED TO REPRESENT THEIR APPROXIMATE LOCATIONS.

[illegible]

SCALE: ONE INCH = 50 FEET	DATES OF SURVEY: 2-8 MAY 2015
FIELD BOOKS:	FILE NO.: 38 REQUEST NO.: 4008

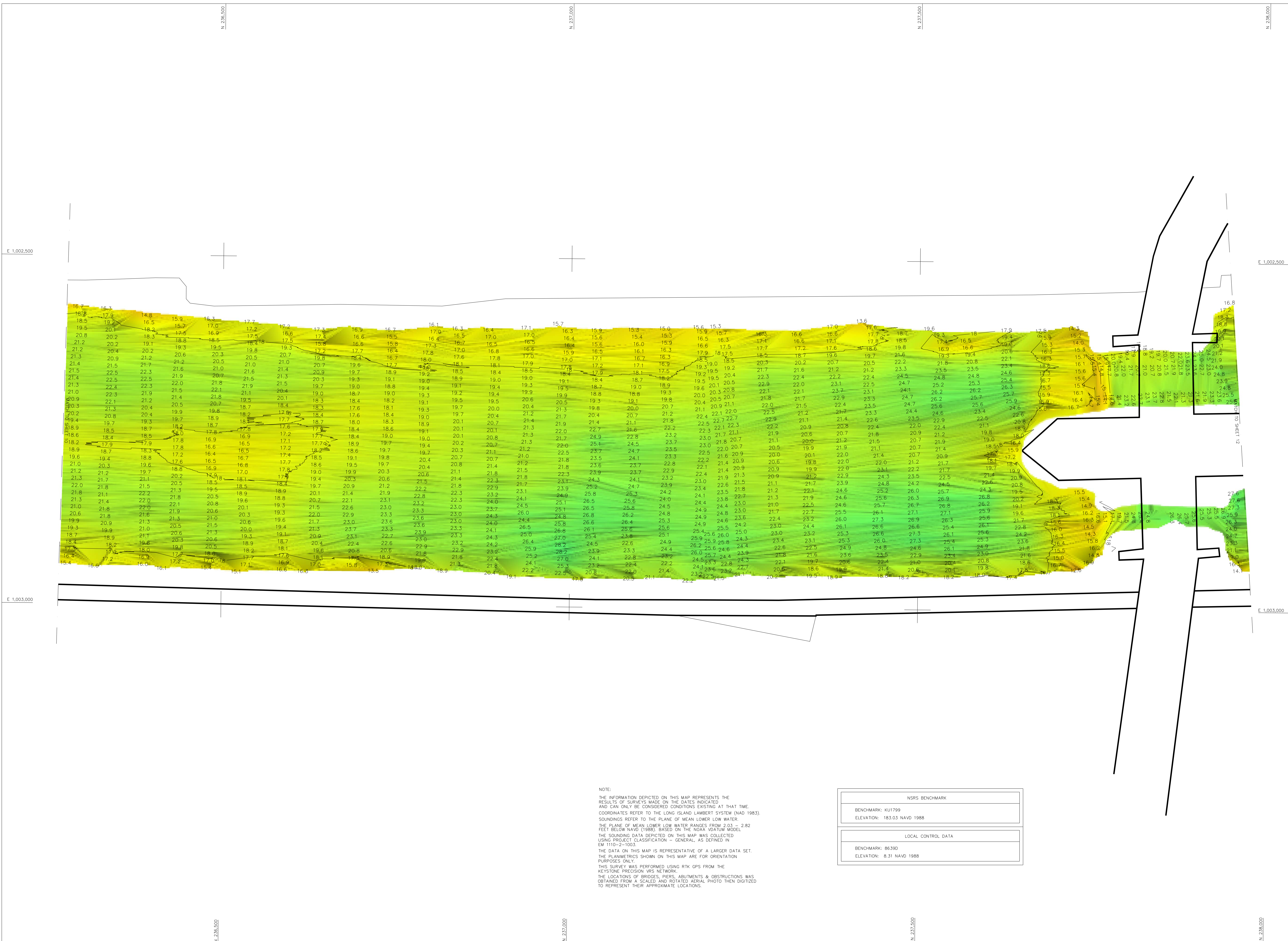
DEPARTMENT OF THE ARMY NEW YORK DISTRICT CORPS OF ENGINEERS NEW YORK, NEW YORK 10278	APPROVED: <u>DOUGLAS MACKER</u> CHIEF OF DISTRICT
	APPROVED: <u>R. SMITH</u> PROJECT MANAGER
OPERATIONS DIVISION SURVEY SECTION CENAN-OP-5	APPROVED: <u>D. CLARKE</u> LAW COORDINATOR
	APPROVED: <u>J. BRAYZ</u> POSTGRADUATE SCHOOL OF ARMY
	DATE: 12 AUG 2015

HARLEM RIVER  
NEW YORK  
CONDITION SURVEY

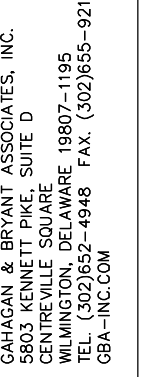
VH-11

SHEET 11 OF 28

FILE NO.: 38  
REQ NO.: 430





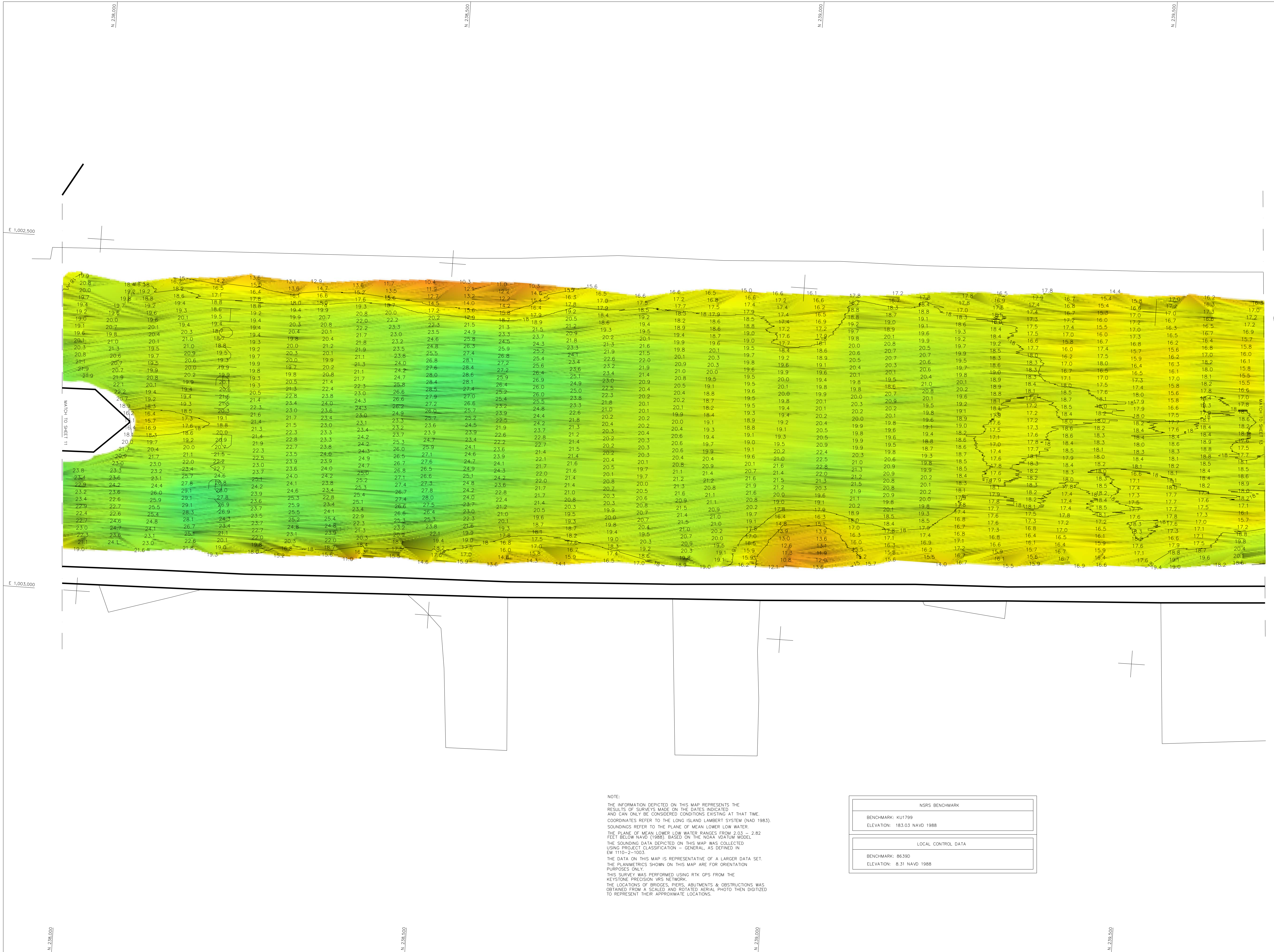
SCALE: ONE INCH = 50 FEET	DATES OF SURVEY: 2-8 MAY 2015
FIELD BOOKS: _____ _____ _____	FILE NO.: 39 REQUEST NO.: 4508

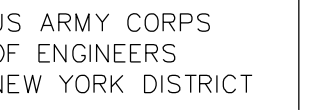
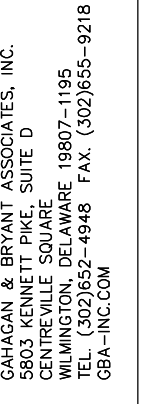
[illegible]

HARLEM RIVER  
NEW YORK  
CONDITION SURVEY

H-112

SHEET 12 OF 28



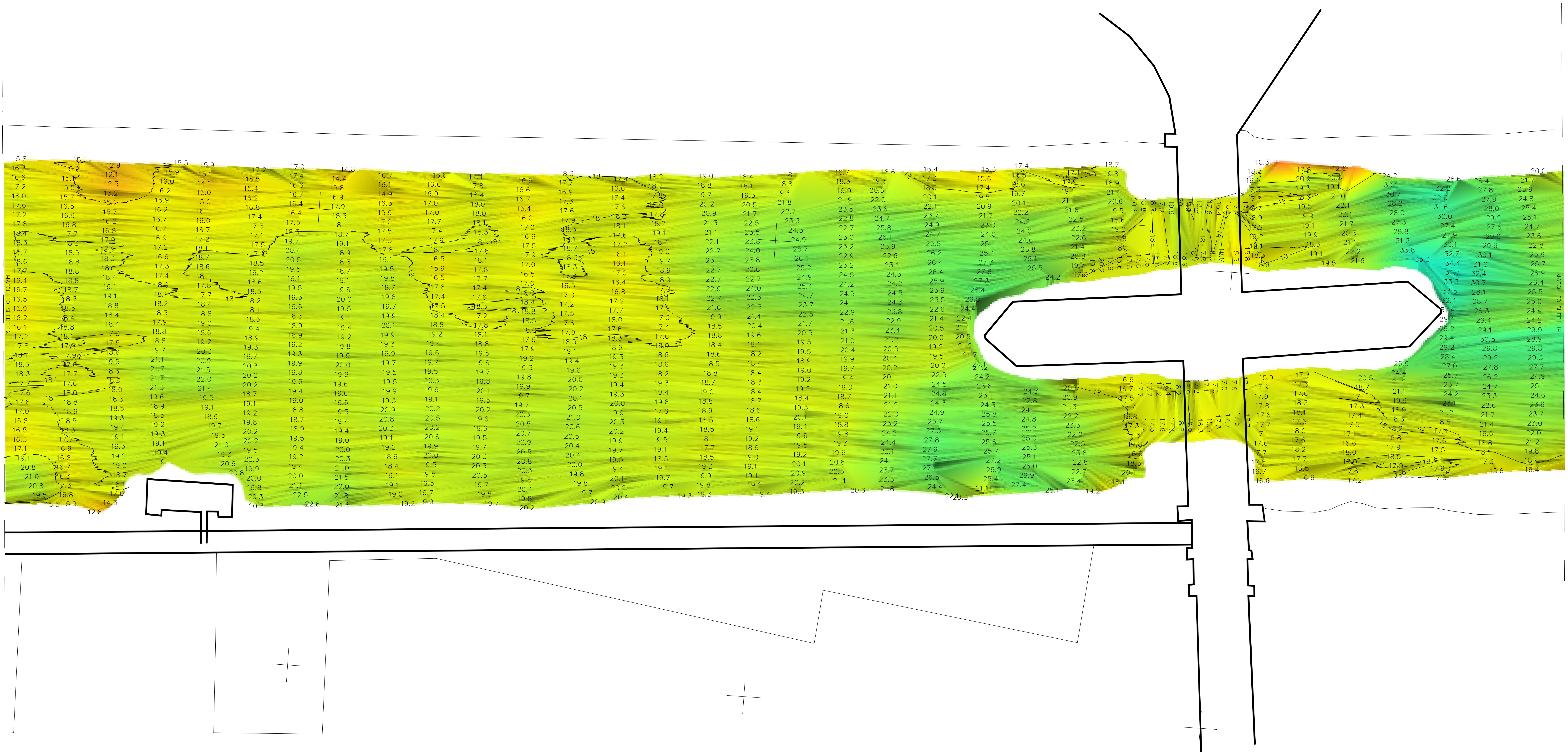
[illegible]

SCALE:  
ONE INCH = 50 FEET

NEW YORK DISTRICT  
CORPS OF ENGINEERS  
NEW YORK, NEW YORK 10278

HARLEM RIVER  
NEW YORK  
CONDITION SURVEY

SHEET 13 OF 28



NOTE:

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED, AND CAN ONLY BE CONSIDERED CONDITIONS EXISTING AT THAT TIME. THIS MAP IS NOT INTENDED TO BE USED AS A NAVIGATION SYSTEM (WD 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOWER LOW WATER. THE PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 - 2.82 FEET BELOW NAVD (1986), BASED ON THE NADAR VIOUW MODEL. THE SURFACE DATA RECORDED ON THIS MAP WAS COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EX-110-2-1003.

THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET. THE PLATIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

THIS SURVEY WAS PERFORMED USING RTK GPS FROM THE KEYSTONE PRECISION VRS NETWORK.

THE LOCATIONS OF BRIDGES, PILES, ABUTMENTS & OBSTRUCTIONS WAS OBTAINED FROM AERIAL PHOTOGRAPHY. PHOTO DATA THEN DIGITIZED TO REPRESENT THEIR APPROXIMATE LOCATIONS.

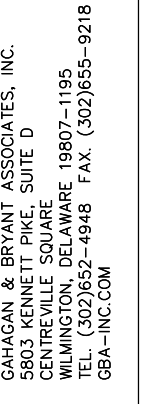
NSRS BENCHMARK	
BENCHMARK: KU1799	
ELEVATION: 183.03 NAVD 1988	

LOCAL CONTROL DATA	
BENCHMARK: 8639D	
ELEVATION: 8.31 NAVD 1988	





[illegible]

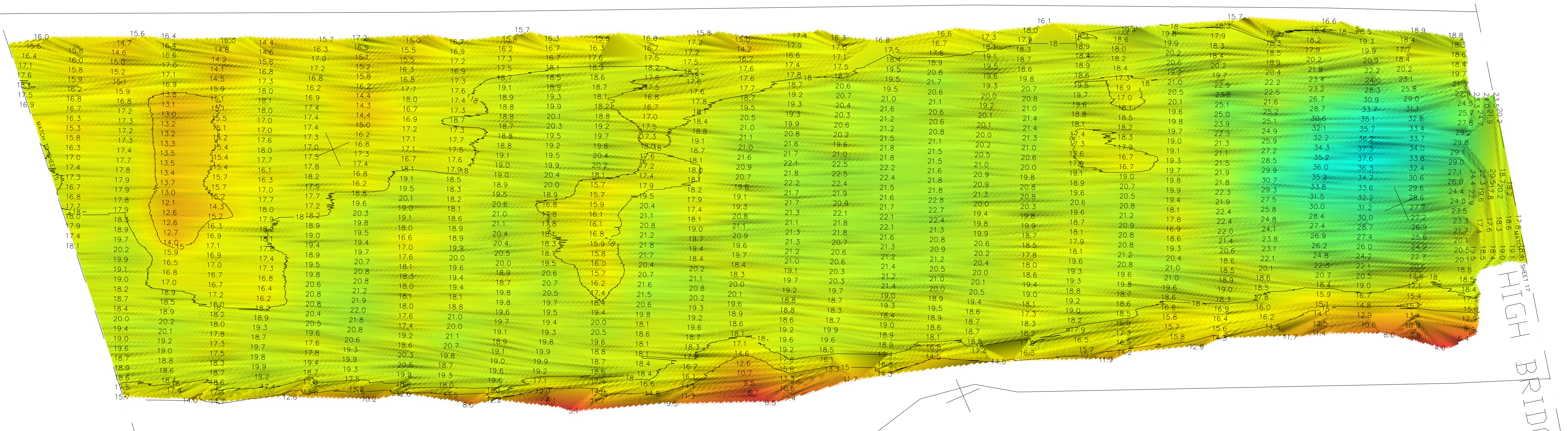
FIELD BOOKS:

APPROVED: D. CLARKE

OPERATIONS DIVISION

SHEET 16 OF 28

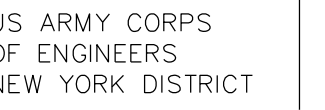
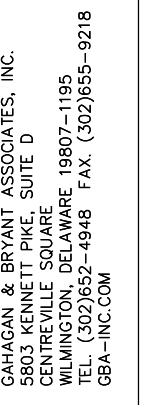
E NO.: 38  
Q NO.: 4308



NOTE:  
THE INFORMATION PREPARED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED CONDITIONS EXISTING AT THAT TIME. COORDINATES ARE BASED ON THE NATIONAL DATUM 1983. SOUNDINGS REFER TO PLANE OF MEAN LOWER LOW WATER. THE PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 - 2.82 FEET BELOW NAVD (1985) BASED ON THE NOAA WATMOT MODEL. THE DATA FROM THIS MAP ON THE TIDE WAS COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 110-2-1003.  
THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET. THE PLANNETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.  
THE SURVEY WAS PERFORMED USING RTK GPS FROM THE KEYSTONE PRECISION WVS NETWORK.  
THE LOCATIONS OF BRIDGES, PIER, ABUTMENTS & OBSTRUCTIONS WAS OBTAINED ON A SCALED AND ADJUSTED AERIAL PHOTO THEN DIGITIZED TO REPRESENT THEIR APPROXIMATE LOCATIONS.

NSRS BENCHMARK
BENCHMARK: KU1799
ELEVATION: 183.03 NAVD 1988

LOCAL CONTROL DATA
BENCHMARK: 8639D
ELEVATION: 8.31 NAVD 1988

[illegible]

SCALE:  
ONE INCH = 50 FEET

SCALE:  
ONE INCH = 5

FIELD BOOKS:

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

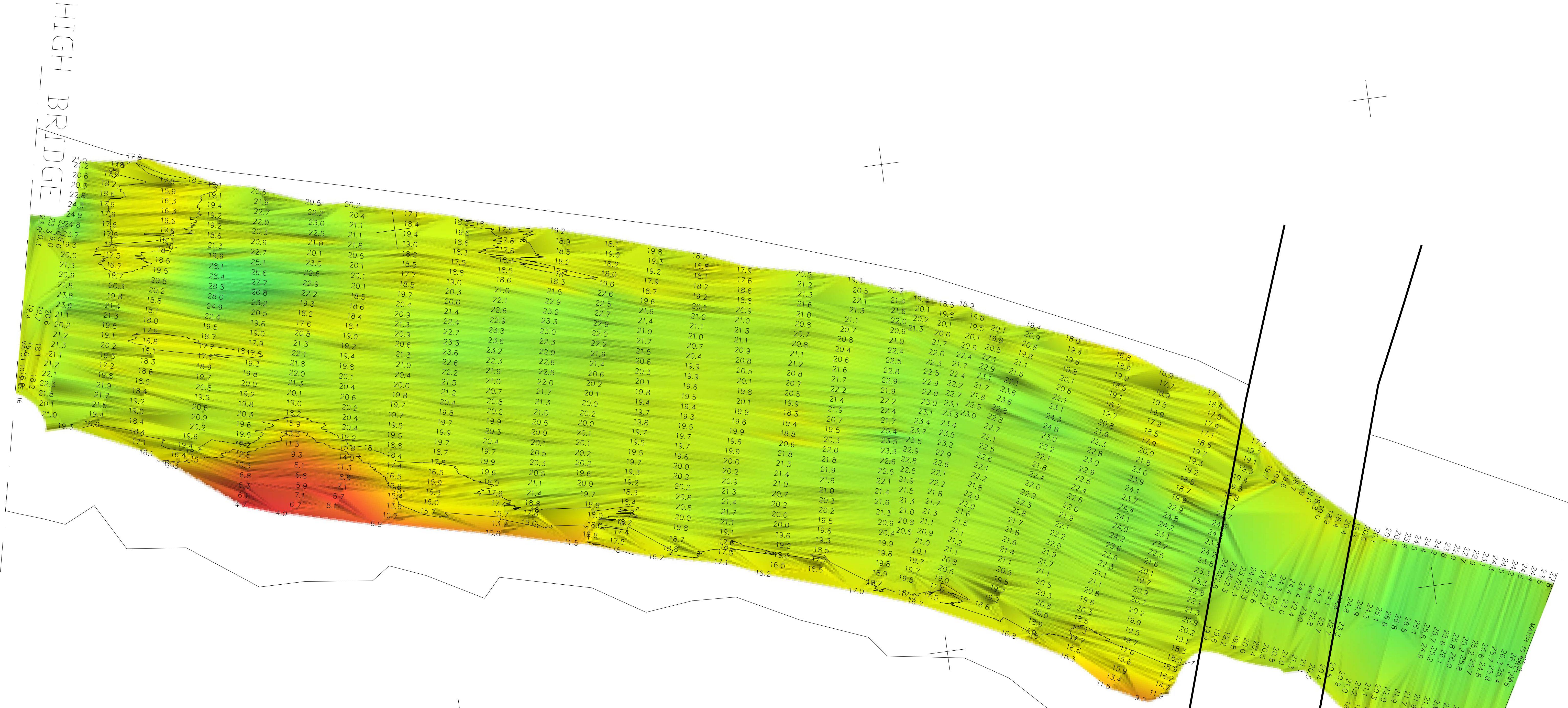
DEPARTMENT OF THE ARMY  
NEW YORK DISTRICT  
CORPS OF ENGINEERS  
NEW YORK, NEW YORK 10278

HARLEM RIVER  
NEW YORK  
CONDITION SURVEY

VH-117

SHEET 17 OF 28

E NO.: 38  
Q NO.: 4308



NOTE:

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED, AND CAN ONLY BE CONSIDERED CONDITIONS EXISTING AT THAT TIME. CONDITIONS REFER TO FLOODING, SLUSH, ICE, AND WIND (NAVD 1983). SOUNDINGS REFER TO THE PLANE MEAN LOWER LOW WATER. THE PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 - 2.82 FEET BELOW NAVD. (BASED ON THE NOKA WADAO MODEL. THE SOUNDING DATA RECORDED ON THIS MAP WAS COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 110-2-1003).

THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET. THE PLANIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

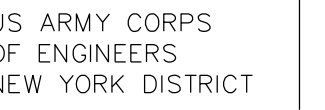
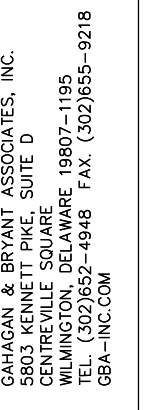
THIS SURVEY WAS PERFORMED USING RTK GPS FROM THE KEYSTONE PRECISION RVS NETWORK.

THE LOCATIONS OF BRIDGES, PILES, ABUTMENTS & OBSERVATIONS WAS OBTAINED FROM AERIAL PHOTOGRAPHY. PHOTO THEN DIGITIZED TO REPRESENT THEIR APPROXIMATE LOCATIONS.

NSRS BENCHMARK
BENCHMARK: KU1799 ELEVATION: 183.03 NAVD 1988

LOCAL CONTROL DATA
BENCHMARK: 86390 ELEVATION: 8.31 NAVD 1988

[illegible]

SCALE:  
ONE INCH = 50 FEET

SCALE:  
ONE INCH = 5  
FIELD BOOKS:

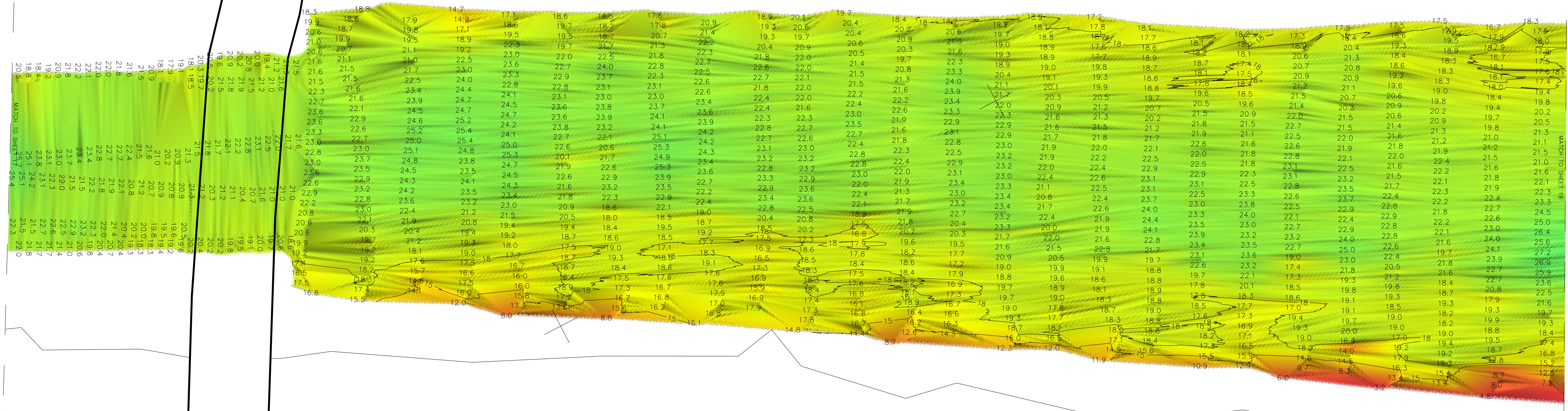
HARLEM RIVER

HARLEM RIVER  
NEW YORK

VH-118

SHEET 18 OF 28

E NO.: 38  
Q NO.: 4308



NOTE:

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

COORDINATE DATA WERE OBTAINED FROM THE NAVD 83 SOUNDINGS REFER TO THE PLANE OF MEAN LOWER LOW WATER.

THE PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 - 2.82 FEET BELOW NAVD 83, BASED ON THE NOAA WATUM MODEL.

THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 110-2-1003.

THE DATA ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.

THE PLANNIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

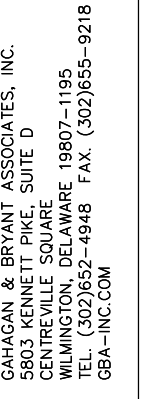
THIS SOUNDING WAS PERFORMED USING RTK GPS FROM THE KEYSTONE PRECISION RVS NETWORK.

THE LOCATIONS OF BRIDGES, PIER, ABUTMENTS & OBSTRUCTIONS WAS OBTAINED FROM A SONAR AND PHOTO AERIAL PHOTO THEN DIGITIZED TO REPRESENT THEIR APPROXIMATE LOCATIONS.

NSRS BENCHMARK	
BENCHMARK: KUI799	
ELEVATION: 183.03 NAVD 1988	

LOCAL CONTROL DATA	
BENCHMARK: 86390	
ELEVATION: 8.31 NAVD 1988	

[illegible]

2015

ONE INCH = 5

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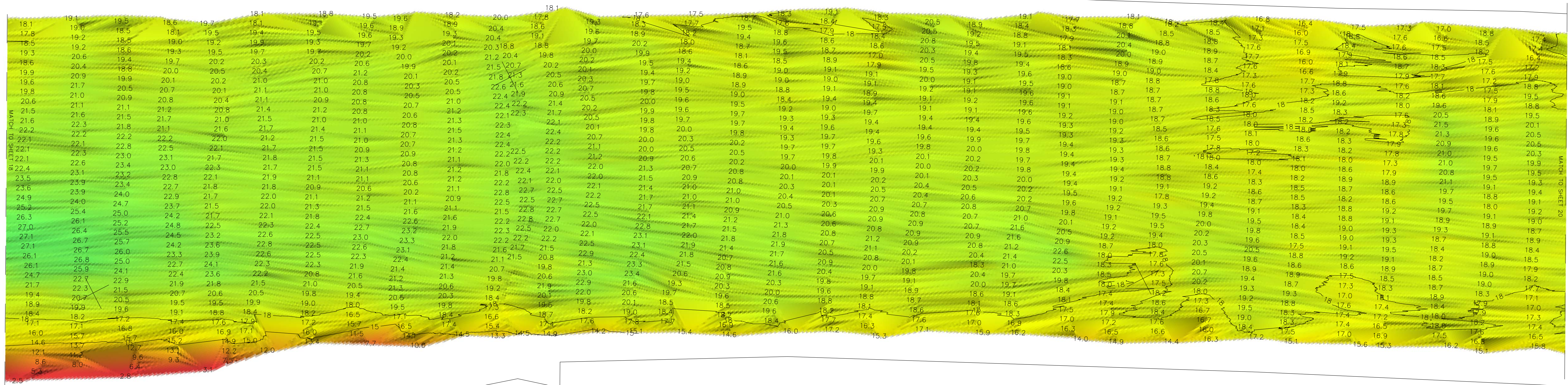
APPROVED: R. SMITH

CORPUS OF ENGINEERS  
NEW YORK, NEW YORK 10278

NEW YORK

SHEET 19 OF 28

FILE NO.: 38  
Q NO.: 4308



NOTE:

THE INFORMATION PROVIDED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED, AND CAN ONLY BE CONSIDERED CONDITIONS EXISTING AT THAT TIME. THE INFORMATION IS BASED ON DATA FROM THE RISK RANKING SYSTEM (WAD 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOWER LOW WATER. THE PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 - 2.82 FEET BELOW NAVD (1988), BASED ON THE NOAA VERTUWAL MODEL. THE SURVEY DATA USED ON THIS MAP WAS COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EX-110-2-1003.

THE INFORMATION ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET. THE PLANNETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

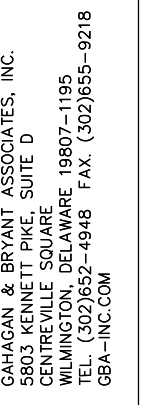
THIS SURVEY WAS PERFORMED USING AN ISAK GUNFIRE SYSTEM FROM THE KEYES PRECISION VESSELS NETWORK.

THE LOCATIONS OF BRIDGES, PIERS, ABUTMENTS & OBSTRUCTIONS WAS OBTAINED FROM AERIAL AND AERIAL PHOTO DATA THEN DIGITIZED TO REPRESENT THEIR APPROXIMATE LOCATIONS.

NSRS BENCHMARK	
BENCHMARK:	KU1799
ELEVATION:	183.03 NAVD 1988

LOCAL CONTROL DATA	
BENCHMARK:	86390
ELEVATION:	6.31 NAVD 1988

[illegible]

SCALE:  
ONE INCH = 50 FEET

SCALE:  
ONE INCH = 5

---

FIELD BOOKS:

APPROVED: \_\_\_\_\_ DOUGLAS MOORE  
LICENSED SURVEYOR

APPROVED: \_\_\_\_\_

NEW YORK DISTRICT  
CORPS OF ENGINEERS

DEPARTMENT OF THE  
NEW YORK DISTRICT  
CORPS OF ENGINEERS

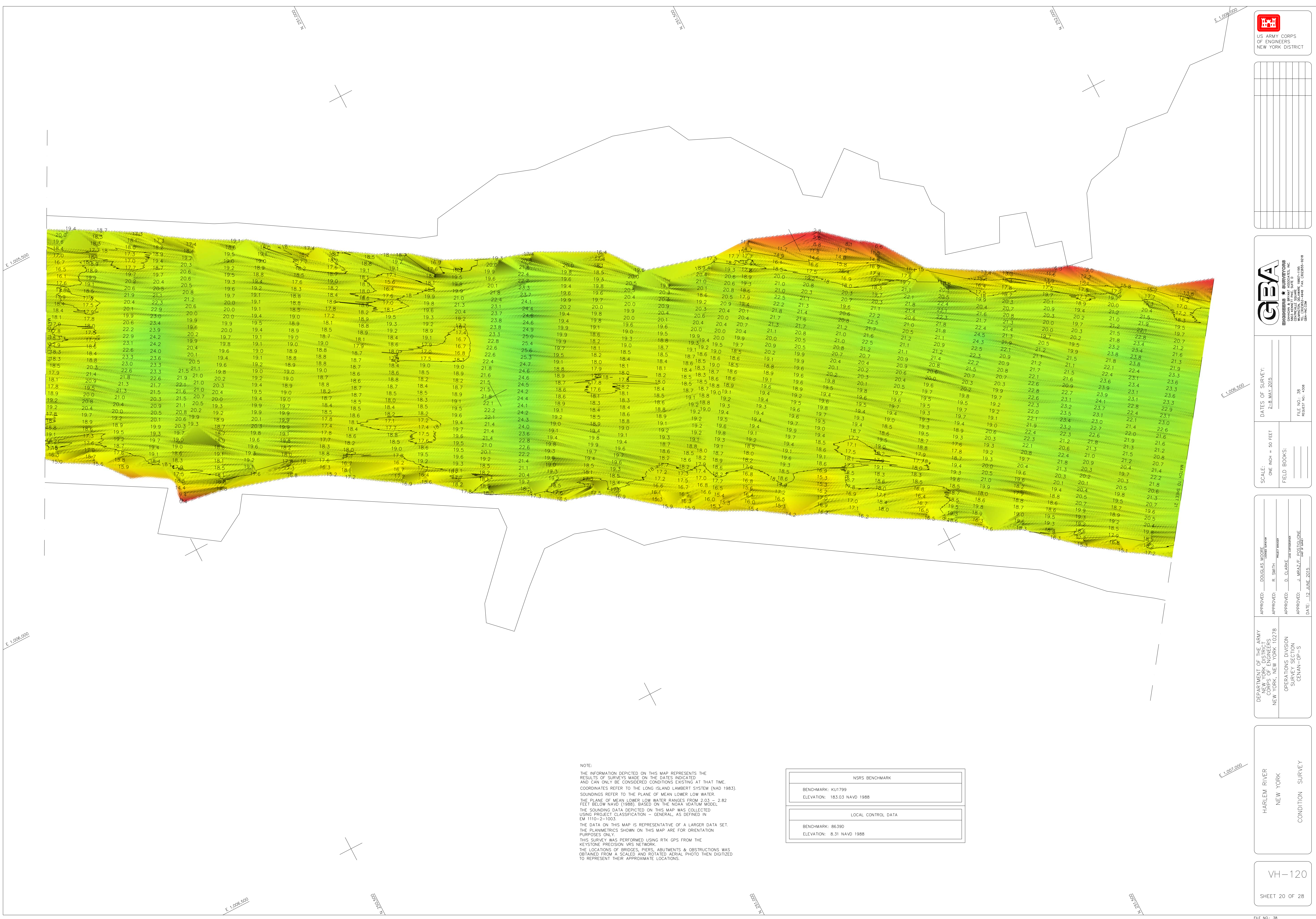
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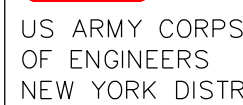
ARLEM RIVER

VH-120

SHEET 20 OF 28

E. NO.: 38








TES OF SURVEY:  
2-8 MAY 2015

SCALE:  
ONE INCH = 50 FEET

FIELD BOOKS: \_\_\_\_\_

APPROVED: DOUGLAS MOORE  
CHIEF OF POLICE

APPROVED: R. SMITH  
PROJECT MANAGER

APPROVED: D. CLARKE  
LEAD CHIEF OF POLICE

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

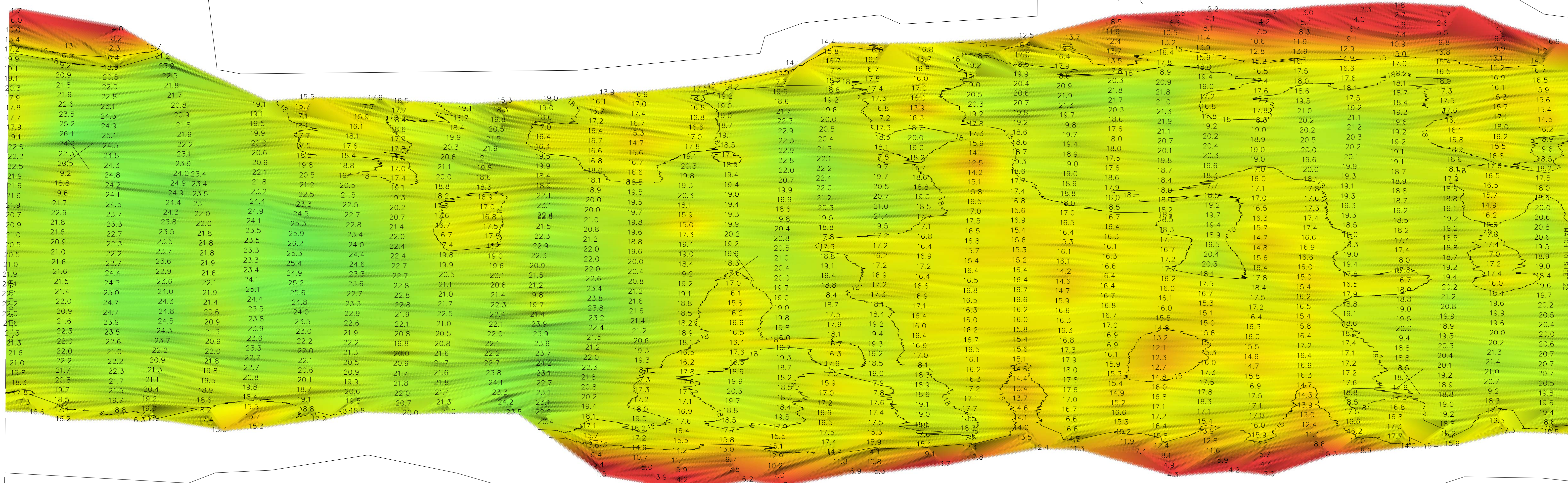
OPERATIONS DIVISION  
SURVEY SECTION

HARLEM RIVER  
NEW YORK

VH-1

SHEET 21 OF

FILE NO.: 38



NOTE:

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

COORDINATES REFER TO THE LONG ISLAND LAKEWAY SYSTEM (NAD 83). THIS MAP DOES NOT NEED TO BE REVERSED LOW WATER.

THE PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 - 2.82 FEET BELOW NAVD (1988), BASED ON THE NOAA DATUM MODEL.

THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING A SOUNDING CLASSIFICATION - GENERAL, AS DEFINED IN EX 11102-11003.

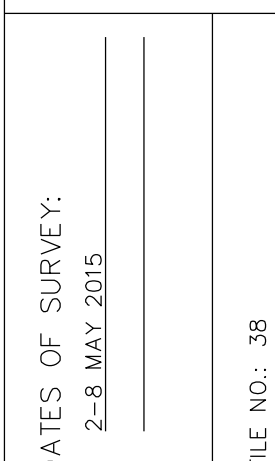
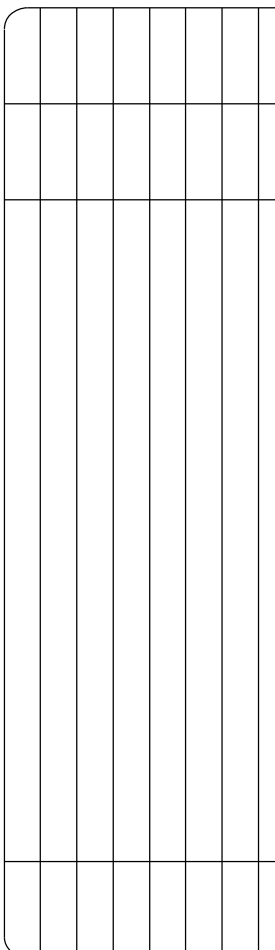
THE DATA ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET. THIS MAP'S DISCUSSION ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.

THIS SURVEY WAS PERFORMED USING RTK GPS FROM THE K&H PRECISION APPROXIMATION.

THE LOCATIONS OF BRIDGES, PIERS, ABUTMENTS & OBSTRUCTIONS WAS OBTAINED FROM A SCALED AND ROTATED AERIAL PHOTO THEN DIGITIZED.







SCALE:  
ONE INCH = 50 FEET

FIELD BOOKS:  
\_\_\_\_\_  
\_\_\_\_\_

APPROVED:	DOUGLAS MOORE
	LOANED SENATOR
APPROVED:	R. SMITH
	PROJECT MANAGER
APPROVED:	D. CLARKE
	LEAD COUNSELLOR
APPROVED:	J. MRAZ/F. POSTiglione

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

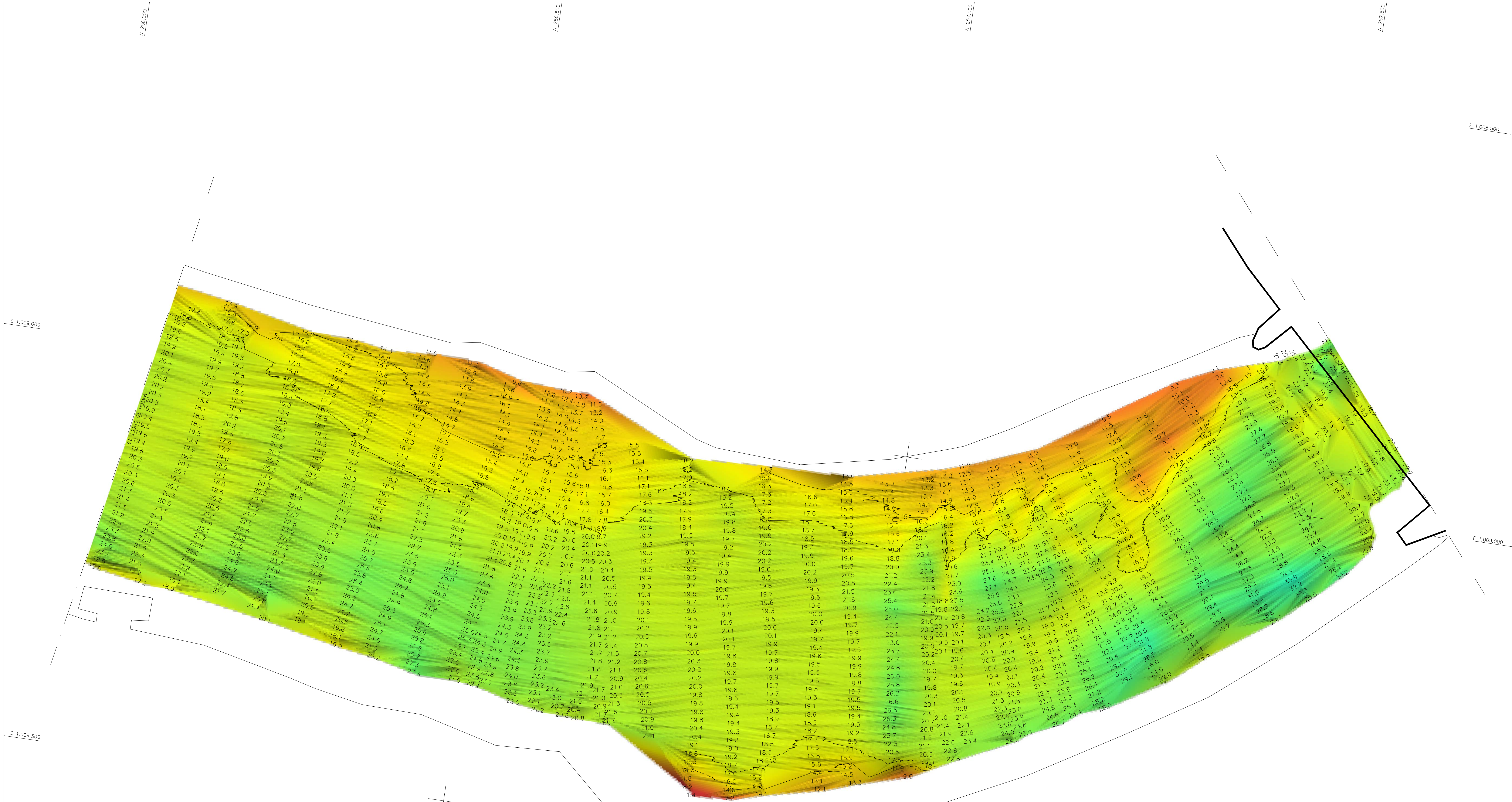
OPERATIONS DIVISION  
SURVEY SECTION  
CENAN-OP-S

HARLEM RIVER NEW YORK	CONDITION SURVEY
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VH-12

SHEET 24 OF 25

FILE NO.: 38  
REQ NO.: 4308

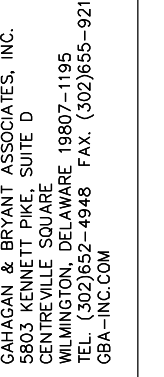


NOTE:  
THE INFORMATION DERIVED FROM THIS MAP REPRESENTS THE  
RESULTS OF SURVEYS MADE ON THE DATES LISTED ABOVE  
AND CAN ONLY BE CONSIDERED CONDITIONS EXISTING AT THAT TIME.  
COORDINATES REFER TO THE PLANE OF LEAN LAMBERT SYSTEM (NAD 1983).  
SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER (NAD).  
THE PLANE OF MEAN LOW WATER IS BASED ON DATA FROM 2.0 - 2.82  
FEET BELOW NAVD (1983), BASED ON THE NOAA VDATUM MODEL.  
THE SOUNDING DATA DERIVED ON THIS MAP WAS COLLECTED  
USING THE FOLLOWING CLASSIFICATION - GENERAL, AS DEFINED IN  
EN 110-2-1003.  
THE DATA ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.  
THE SOUNDINGS SHOWN ON THIS MAP ARE FOR ORIENTATION  
PURPOSES ONLY.  
THIS SURVEY WAS PERFORMED USING RTK GPS FROM THE  
KEYS TO THE PREDIGON NETWORK.  
THE LOCATIONS OF BRIDGES, PERS., ABUTMENTS & OBSTRUCTIONS  
WAS OBTAINED FROM A SCALED AND RECORDED AERIAL PHOTO THEN DIGITIZED

NRSR BENCHMARK
BENCHMARK: KU1799
ELEVATION: 183.03 NAVD 1988

LOCAL CONTROL DATA
BENCHMARK: 8639D
ELEVATION: 8.31 NAVD 1988

[illegible]

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FIELD BOOKS:

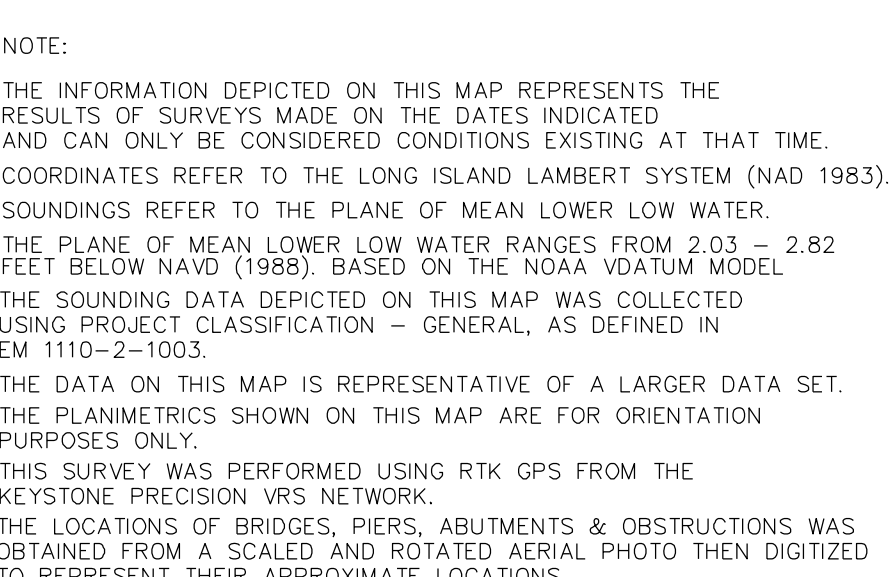
APPROVED: N. SWELSH PROJECT MANAGER

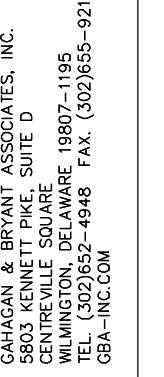
APPROVED: D. CLARKE

NEW YORK, NEW YORK 10278  
OPERATIONS DIVISION

NEW YORK

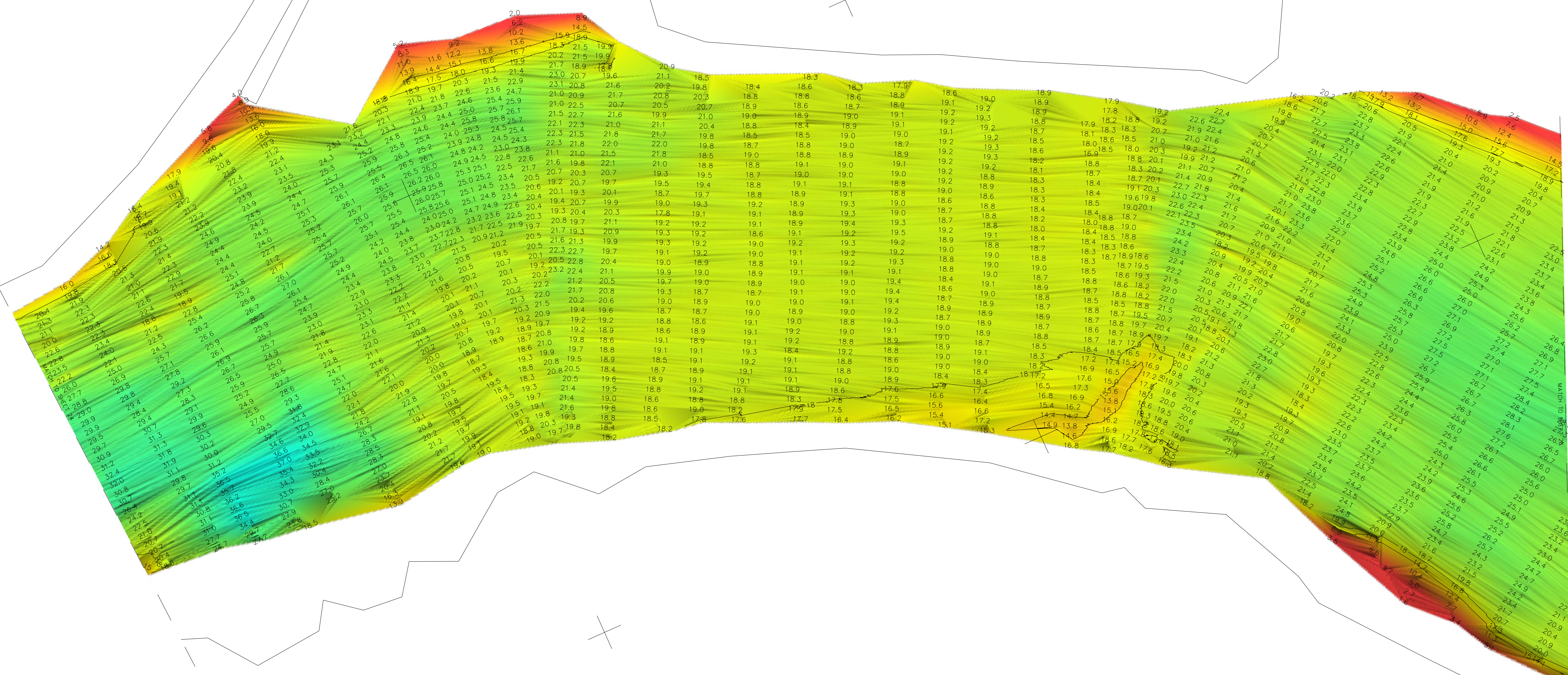
SHEET 25 OF 28



[illegible]V  
SHEET

SHEET 26 OF 28

E NO.: 38  
Q NO.: 4308

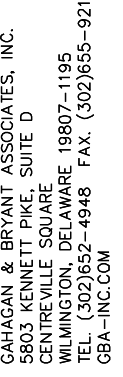


NOTE:  
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE  
RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND  
CAN ONLY BE CONSIDERED CONDITIONS EXISTING AT THAT TIME.  
COORDINATES REFER TO THE LONG ISLAND LIGHTHOUSE SYSTEM (NAD 1983).  
SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.  
THE PLANE OF MEAN LOW WATER PARALLELS FROM 2.03 ± 2.82  
FEET BELOW NAVD 1988, BASED ON THE NOAA VDatum MODEL.  
THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED  
USING THE FOLLOWING CLASSIFICATION - GENERAL, AS DEFINED IN  
EM 1110-2-1003.  
THE DATA ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.  
PLANNING SURVEYS SHOWN ON THIS MAP ARE FOR ORIENTATION  
PURPOSES ONLY.  
THIS SURVEY WAS PERFORMED USING RTK GPS FROM THE  
KEY POINT PRECISION SURVEY NETWORK.  
THE LOCATIONS OF BUREAU, PIER, ABUTMENTS & OBSTRUCTIONS  
WAS OBTAINED FROM A SCALED AND ROTATED Aerial PHOTO THEN DIGITIZED

NRSR BENCHMARK
BENCHMARK: KU1799 ELEVATION: 183.03 NAVD 1988

LOCAL CONTROL DATA
BENCHMARK: 8639D ELEVATION: 8.31 NAVD 1988

[illegible]

SCALE:  
ONE INCH = 5'

HARLEM RIVER

SHEET 27 OF 28

E NO.: 38  
Q NO.: 4308

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED. DATA CAN ONLY BE CONSIDERED CONDITIONS EXISTING AT THAT TIME. COORDINATES REFER TO THE LONG ISLAND LAMBERT SYSTEM (NAD 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOWER LOW WATER. THE PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 TO 2.82 METERS BELOW LOWEST TIDE ON THE NEARLY 100-M METER DEPTH. THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 1110-2-1003.

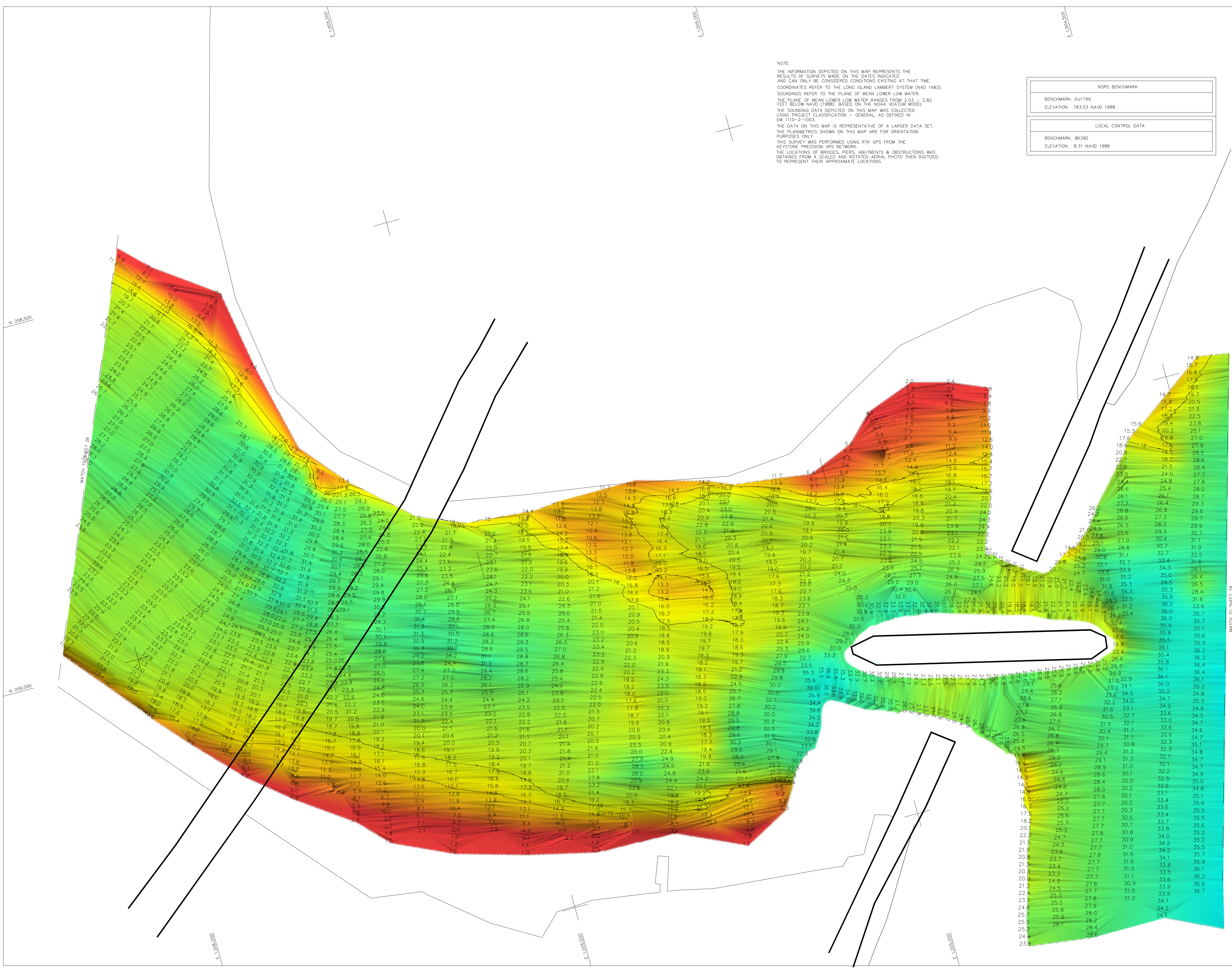
THE DATA ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.  
THE PLANIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION  
PURPOSES ONLY.

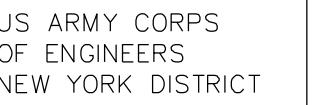
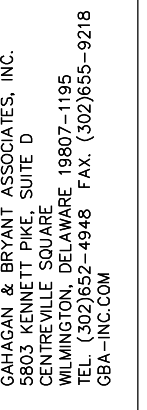
THIS SURVEY WAS PERFORMED USING RTK GPS FROM THE  
KEYSTONE PRECISION VRS NETWORK.

THE LOCATIONS OF BRIDGES, PIERS, ABUTMENTS & OBSTRUCTIONS WAS  
OBTAINED FROM A SCALED AND ROTATED AERIAL PHOTO THEN DIGITIZED  
TO REPRESENT THEIR APPROXIMATE LOCATIONS.

NSRS BENCHMARK
BENCHMARK: KU1799 ELEVATION: 183.03 NAVD 1988

LOCAL CONTROL DATA
BENCHMARK: 8639D ELEVATION: 8.31 NAVD 1988



[illegible]

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FIELD BOOKS:

OPERATIONS DIVISION

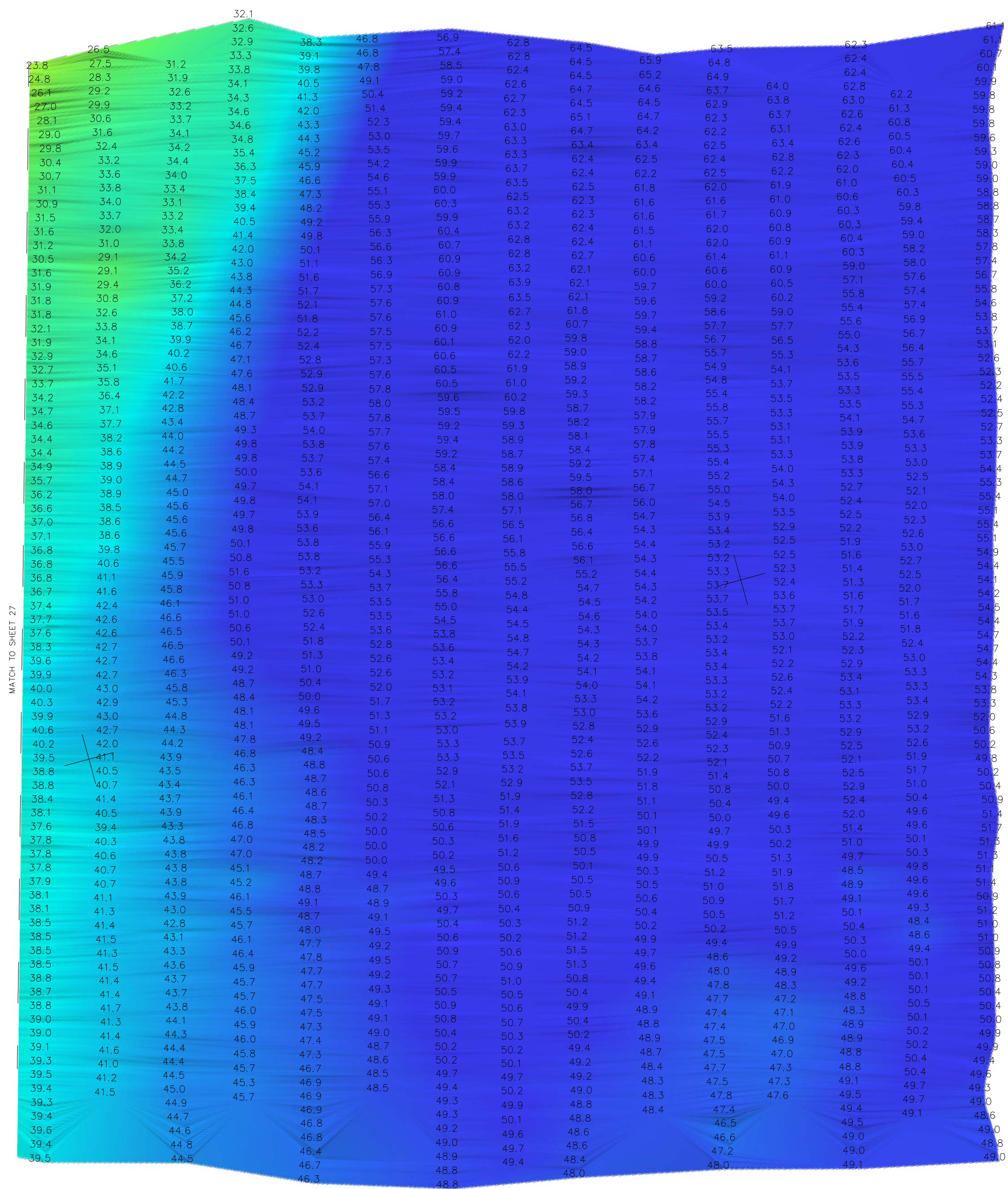
APPROVED: D. CLARKE

PROJECT: BERNHOUT

CONDITION SURVEY

SHEET 28 OF 28

E NO.: 38  
Q NO.: 4308



THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED CONDITIONS EXISTING AT THAT TIME. COORDINATES REFER TO THE LONG ISLAND LAMBERT SYSTEM (NAD 1983). SOUNDINGS REFER TO THE PLANE OF MEAN LOWER LOW WATER. THE PLANE OF MEAN LOWER LOW WATER RANGES FROM 2.03 - 2.82 FEET BELOW NAVD (1988), BASED ON THE NOAA DATUM MODEL. THE SOUNDING DATA DEPICTED ON THIS MAP WAS COLLECTED USING PROJECT CLASSIFICATION - GENERAL, AS DEFINED IN EM 1110-2-1003.

THE DATA ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.  
THE PLANIMETRICS SHOWN ON THIS MAP ARE FOR ORIENTATION  
PURPOSES ONLY.  
THIS SURVEY WAS PERFORMED USING RTK GPS FROM THE  
KEYSTONE PRECISION VRS NETWORK.  
THE LOCATIONS OF BRIDGES, PIERS, ABUTMENTS & OBSTRUCTIONS WAS  
OBTAINED FROM A SCALED AND ROTATED AERIAL PHOTO THEN DIGITIZED  
TO REPRESENT THEIR APPROXIMATE LOCATIONS.

E NO.: 38  
Q NO.: 4308