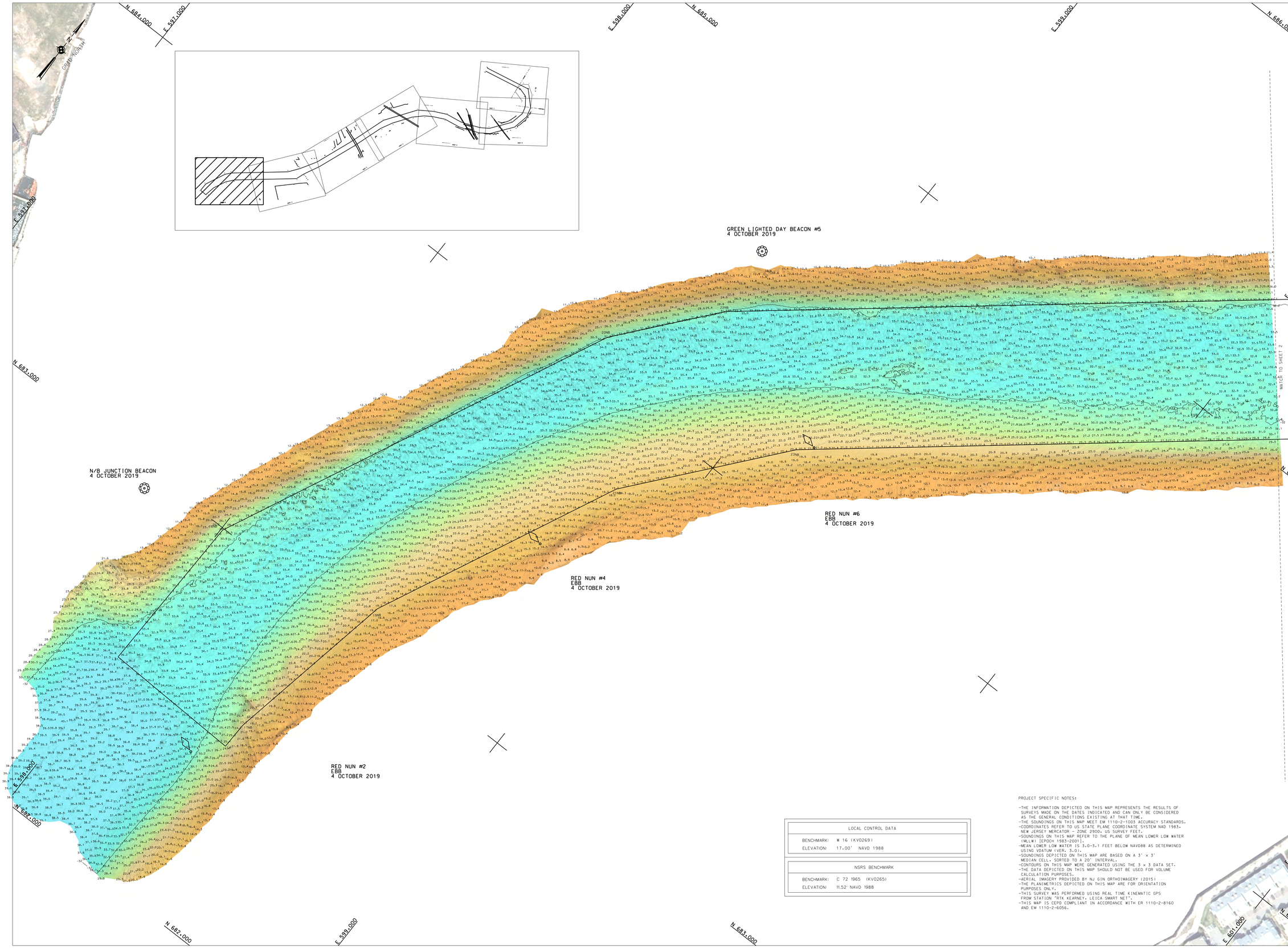


US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

BS	PR	
BS	WP	

DATES OF SURVEY:
3,4,7 OCTOBER 2019

FILE NO: 4877
REQUEST NO: 1 4877(N)

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
1995

APPROVED: M. APPELO — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — LAND CARTOGRAPHER
APPROVED: J. MIRAZ — DEPUTY CHIEF OF SURVEYS
DATE: 24 OCTOBER 2019

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

OPERATIONS DIVISION
SURVEY SECTION
CEWAN-OP-S

NEWARK BAY, HACKENSACK & PASSAIC RIVERS
HACKENSACK RIVER
CONDITION SURVEY

VH-101

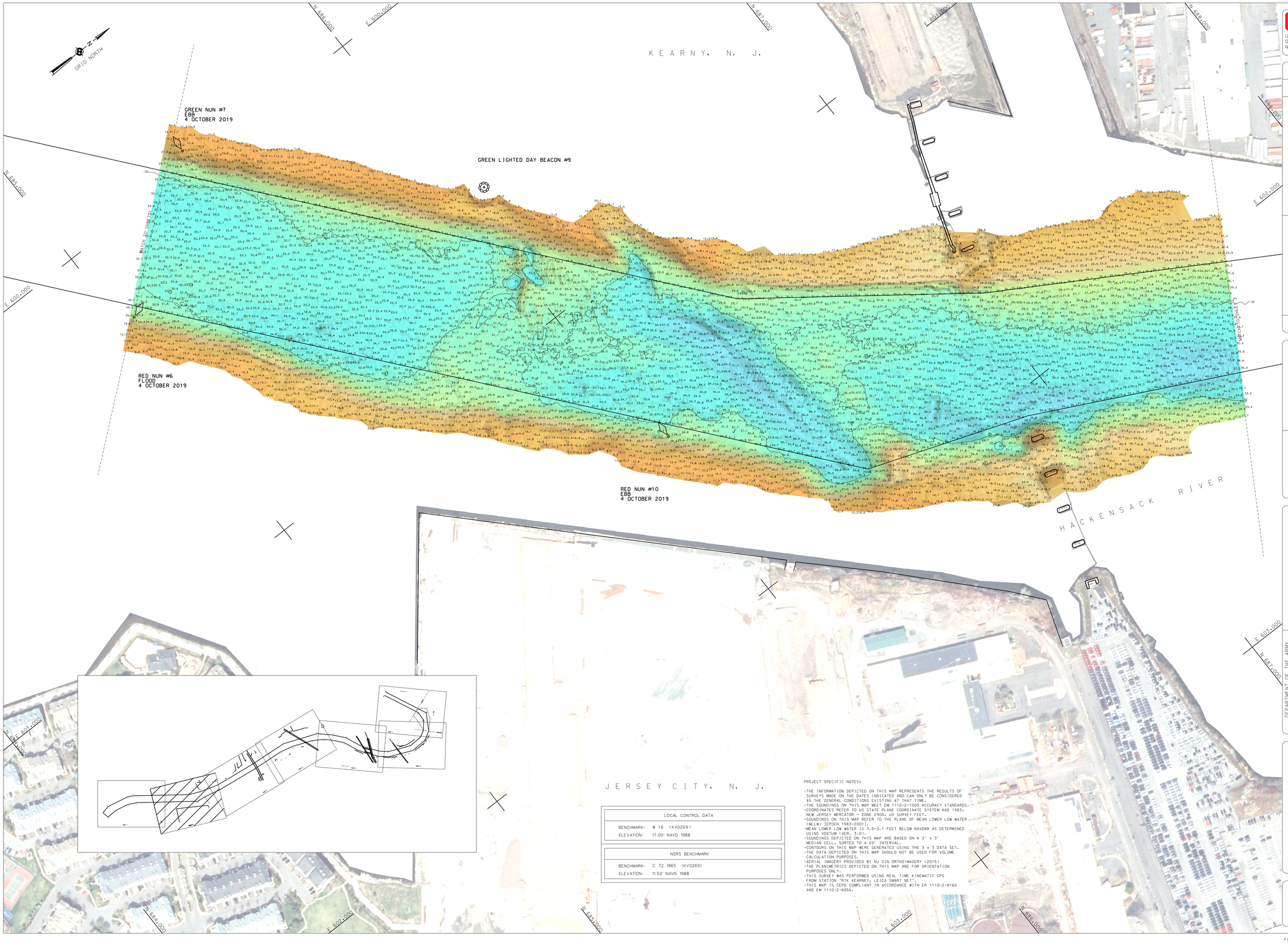
SHEET 1 OF 7

LOCAL CONTROL DATA	
BENCHMARK:	W 16 (KV0269)
ELEVATION:	17.00' NAVD 1988

NSRS BENCHMARK	
BENCHMARK:	C 72 1965 (KV0265)
ELEVATION:	11.52' NAVD 1988

PROJECT SPECIFIC NOTES:

- 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.
- THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS.
- COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983. NEW JERSEY MERCATOR - ZONE 2900. US SURVEY FEET.
- SOUNDINGS ON THIS MAP REFER TO THE PLANE OF MEAN LOWER LOW WATER (MLLW) [EPOCH 1983-2001].
- MEAN LOWER LOW WATER IS 3.0-3.1 FEET BELOW NAVD88 AS DETERMINED USING VDATUM (VER. 3.0).
- SOUNDINGS DEPICTED ON THIS MAP ARE BASED ON A 3' x 3' MEDIAN CELL, SORTED TO A 20' INTERVAL.
- CONTOURS ON THIS MAP WERE GENERATED USING THE 3 x 3 DATA SET.
- THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
- AERIAL IMAGERY PROVIDED BY NJ GIN ORTHOIMAGERY (2015)
- THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "RTK KEARNEY. LEICA SMART NET".
- THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.



LOCAL CONTROL DATA	
BENCHMARK:	W 16 (KV0269)
ELEVATION:	17.00' NAVD 1988

NSRS BENCHMARK	
BENCHMARK:	C 72 1965 (KV0265)
ELEVATION:	11.52' NAVD 1988

PROJECT SPECIFIC NOTES:

- 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.
- THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS.
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- AERIAL IMAGERY PROVIDED BY NJ GIN ORTHOIMAGERY (2015)
- THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "RTK KEARNEY, LEICA SMART NET".
- THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

	DS	PR
	DS	MP

DATES OF SURVEY:
3,4,7 OCTOBER 2019

SCALE:
ONE INCH = 100 FEET

FILE NO: 4877
REQUEST NO.: 4877/N1

FIELD BOOKS:
1035

APPROVED: M. APPELO — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — CHIEF CARTOGRAPHER
APPROVED: J. MRAZ — AGENCY CHIEF OF SURVEYS
DATE: 24 OCTOBER 2019

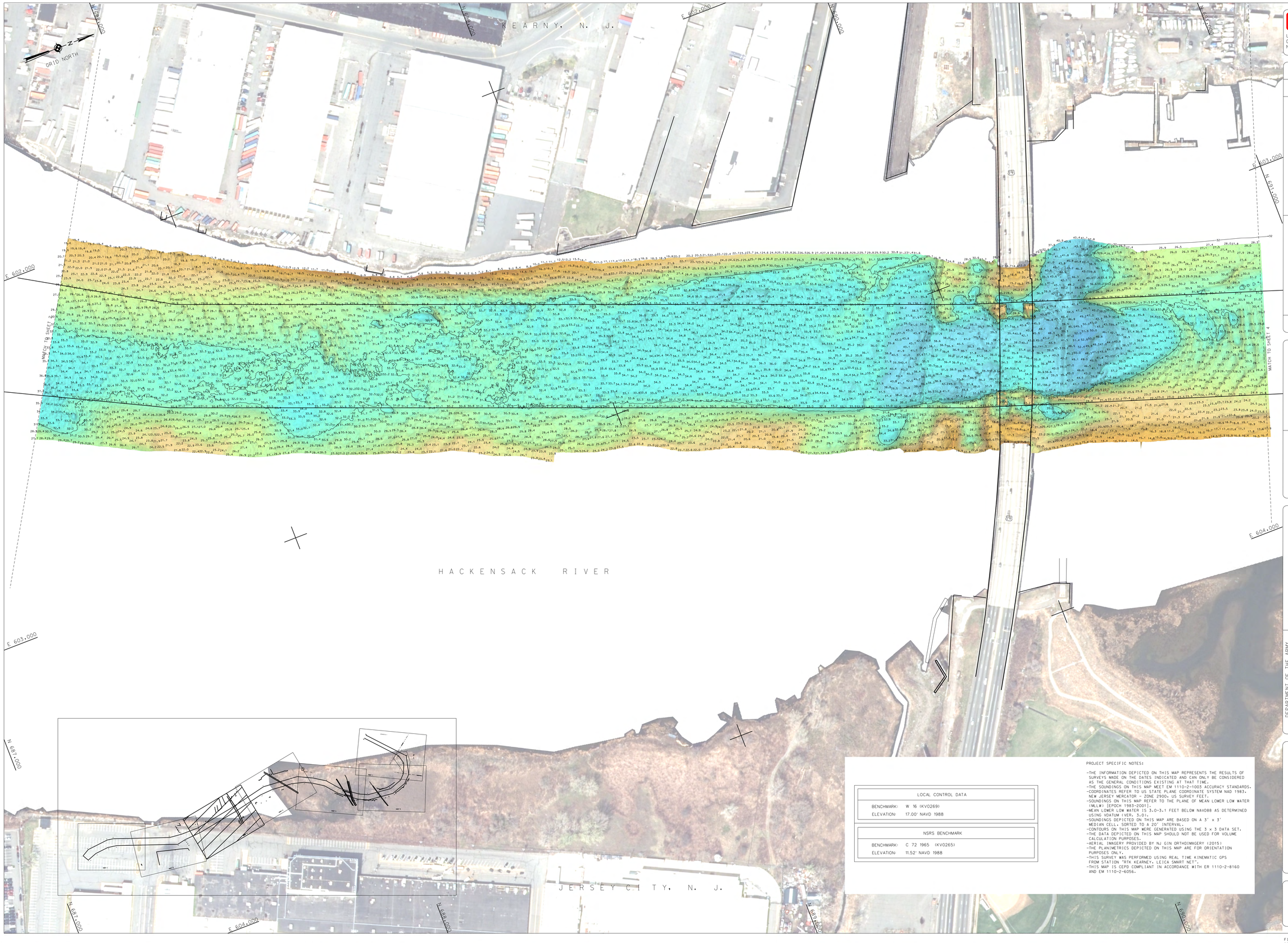
DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

NEWARK BAY, HACKENSACK & PASSAIC RIVERS
HACKENSACK RIVER
CONDITION SURVEY

VH-102

SHEET 2 OF 7



LOCAL CONTROL DATA	
BENCHMARK:	W 16 (KV0269)
ELEVATION:	17.00' NAVD 1988

NSRS BENCHMARK	
BENCHMARK:	C 72 1965 (KV0265)
ELEVATION:	11.52' NAVD 1988

PROJECT SPECIFIC NOTES:

- 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.
- THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS.
- COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983, NEW JERSEY MERCATOR - ZONE 2900, US SURVEY FEET.
- SOUNDINGS ON THIS MAP REFER TO THE PLANE OF MEAN LOWER LOW WATER (MLLW) [EPOCH 1983-2001].
- MEAN LOWER LOW WATER IS 3.0-3.1 FEET BELOW NAVD88 AS DETERMINED USING VDATUM (VER. 3.0).
- SOUNDINGS DEPICTED ON THIS MAP ARE BASED ON A 3' x 3' MEDIAN CELL, SORTED TO A 20' INTERVAL.
- CONTOURS ON THIS MAP WERE GENERATED USING THE 3 x 3 DATA SET.
- THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
- AERIAL IMAGERY PROVIDED BY NJ GIN ORTHOIMAGERY (2015)
- THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "RTK KEARNEY, LEICA SMART NET".
- THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

US ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

05	PR	
05	MP	

DATES OF SURVEY:
3,4,7 OCTOBER 2019

FILE NO: 4877
REQUEST NO.: 4877/N1

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
1035

APPROVED: M. APPELD — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — DEPUTY CHIEF OF SURVEYS
DATE: 24 OCTOBER 2019

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

NEWARK BAY, HACKENSACK & PASSAIC RIVERS
HACKENSACK RIVER
CONDITION SURVEY

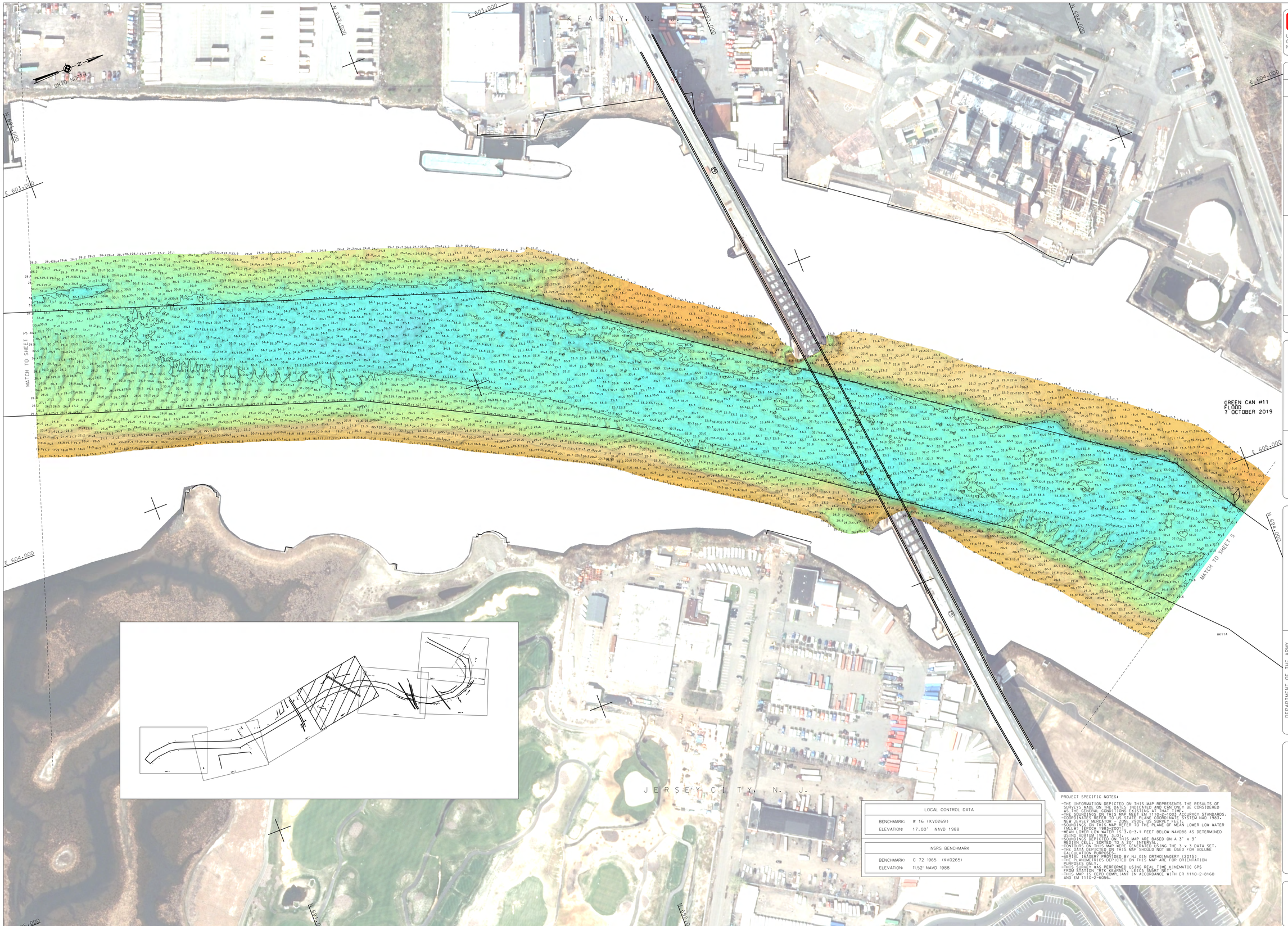
VH-103

SHEET 3 OF 7

FILE NO: 4877
REQ NO.: 4877/N1

CORPS OF ENGINEERS

U. S. ARMY



LOCAL CONTROL DATA	
BENCHMARK:	W 16 (KV0269)
ELEVATION:	17.00' NAVD 1988

NSRS BENCHMARK	
BENCHMARK:	C 72 1965 (KV0265)
ELEVATION:	11.52' NAVD 1988

PROJECT SPECIFIC NOTES:

- 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.
- THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS.
- COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983, NEW JERSEY MERCATOR - ZONE 2900, US SURVEY FEET.
- SOUNDINGS ON THIS MAP REFER TO THE PLANE OF MEAN LOWER LOW WATER (MLLW) (EPOCH 1983-2001).
- MEAN LOWER LOW WATER IS 3.0-3.1 FEET BELOW NAVD88 AS DETERMINED USING VDATUM VERSION 3.1.
- SOUNDINGS DEPICTED ON THIS MAP ARE BASED ON A 3' x 3' MEDIAN CELL, SORTED TO A 20' INTERVAL.
- CONTOURS ON THIS MAP WERE GENERATED USING THE 3 x 3 DATA SET.
- THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
- AERIAL IMAGERY PROVIDED BY NJ GIN ORTHOIMAGERY (2015).
- THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM SPECTRA PRECISION STRATOS, KERNEL, AND SMARTNET.
- THIS MAP IS CERD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

05	PR		
05			

DATES OF SURVEY:
3,4,7 OCTOBER 2019

FILE NO: 4877
REQUEST NO.: 4877/N1

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
1938

APPROVED: M. APPELO — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — DEPUTY CHIEF OF SURVEYS
DATE: 24 OCTOBER 2019

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

NEWARK BAY, HACKENSACK & PASSAIC RIVERS
HACKENSACK RIVER
CONDITION SURVEY

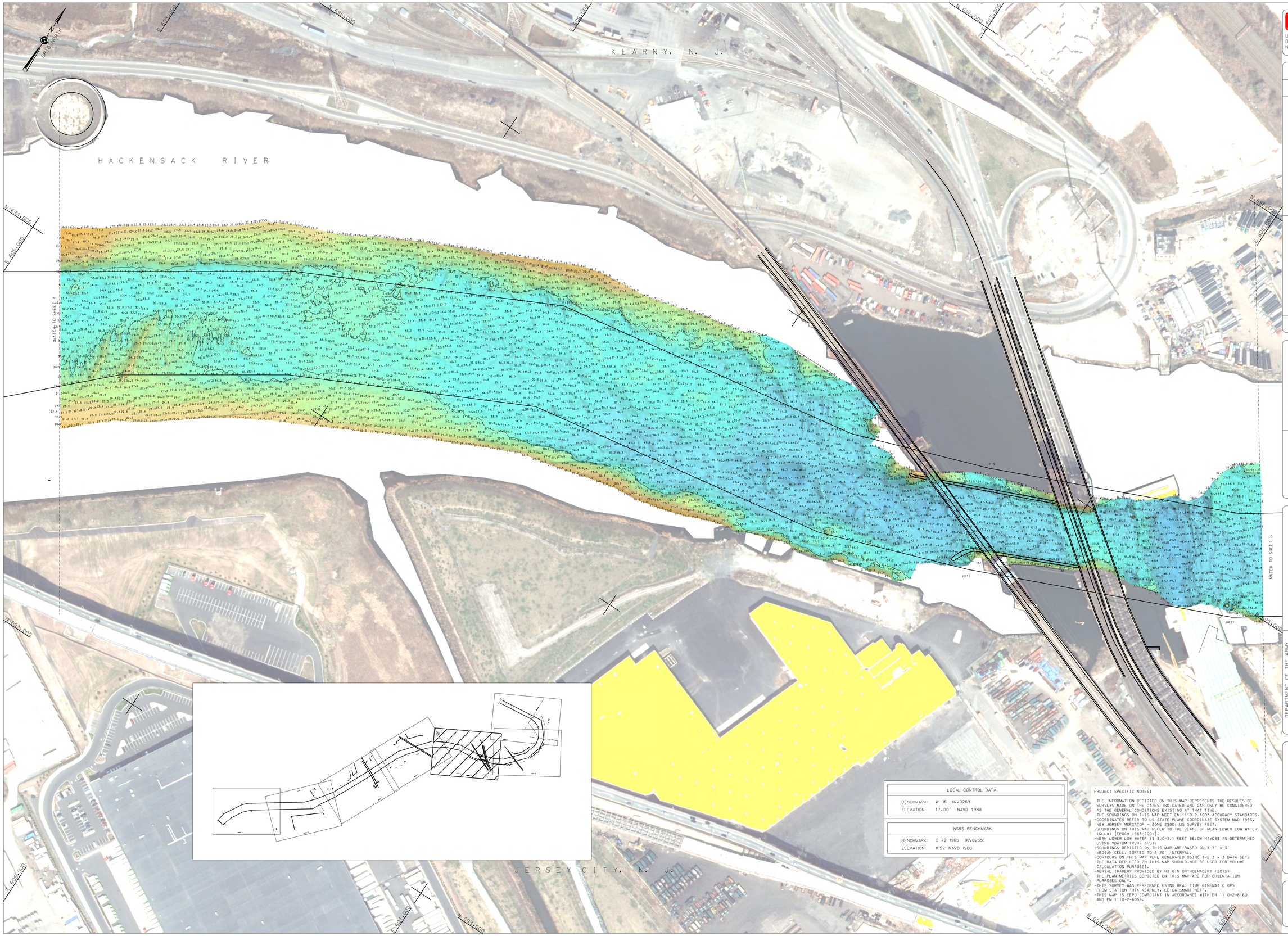
VH-104

SHEET 4 OF 7

FILE NO: 4877
REQ NO.: 4877/N1

CORPS OF ENGINEERS

U. S. ARMY



US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

DS	PR
DS	MP

DATES OF SURVEY:
3,4,7 OCTOBER 2019

FILE NO: 4877
REQUEST NO.: 4877/N1

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
1035

APPROVED: M. APPELD — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — DEPUTY CHIEF OF SURVEYS
DATE: 24 OCTOBER 2019

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

NEWARK BAY, HACKENSACK & PASSAIC RIVERS
HACKENSACK RIVER
CONDITION SURVEY

VH–105

SHEET 5 OF 7

LOCAL CONTROL DATA	
BENCHMARK:	W 16 (KV0269)
ELEVATION:	17.00' NAVD 1988

NSRS BENCHMARK	
BENCHMARK:	C 72 1965 (KV0265)
ELEVATION:	11.52' NAVD 1988

PROJECT SPECIFIC NOTES:

-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.
-THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS.
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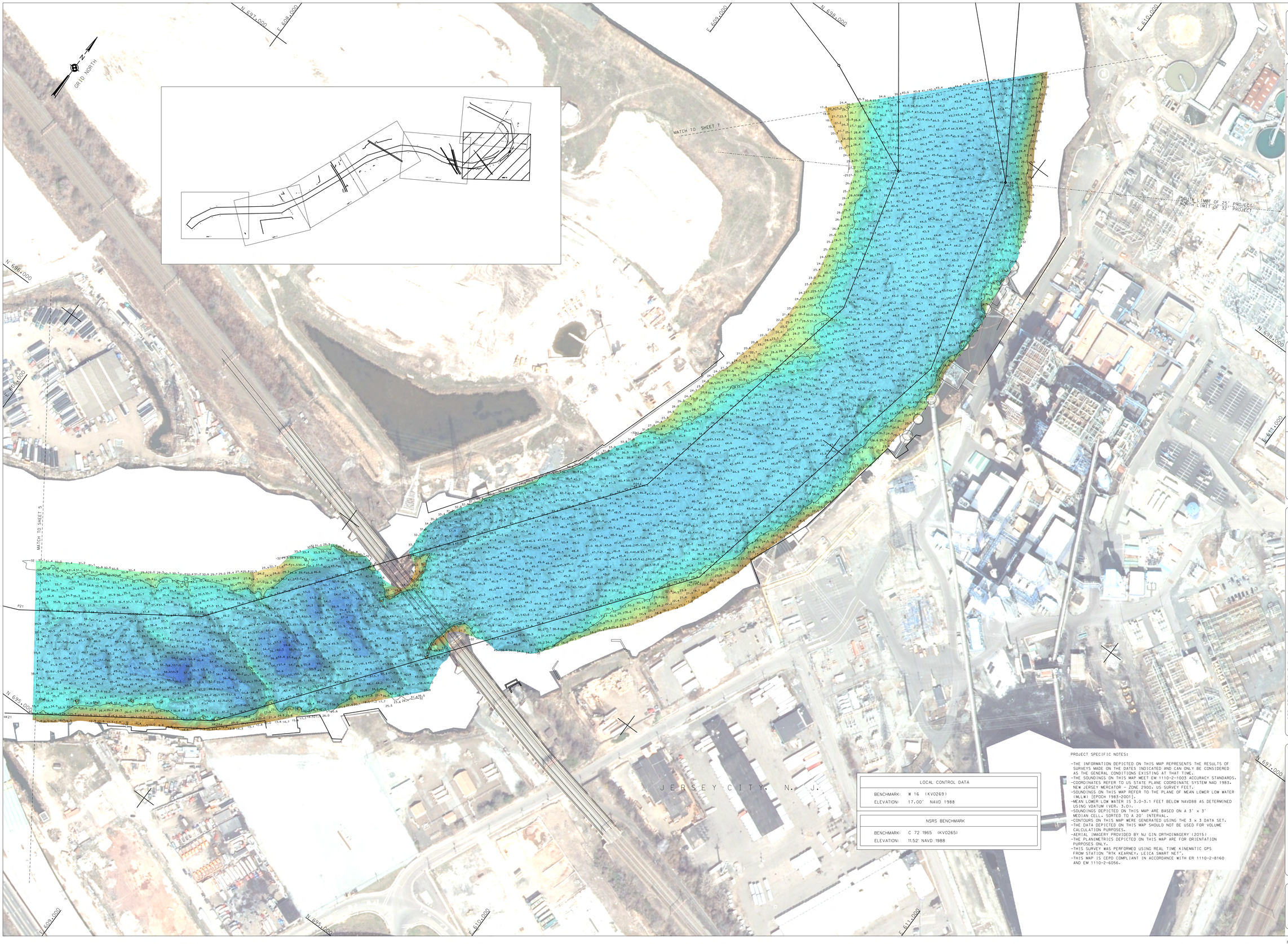
-THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
-THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "RTK KEARNEY, LEICA SMART NET".
-THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

FILE NO: 4877
REQ NO.: 4877/N1

CORPS OF ENGINEERS

U. S. ARMY



LOCAL CONTROL DATA	
BENCHMARK:	W 16 (KV0269)
ELEVATION:	17.00' NAVD 1988

NSRS BENCHMARK	
BENCHMARK:	C 72 1965 (KV0265)
ELEVATION:	11.52' NAVD 1988

PROJECT SPECIFIC NOTES:

- 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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US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

		DS	PR
		DS	DS

DATES OF SURVEY: 3,4,7 OCTOBER 2019

FILE NO: 4877
REQUEST NO.: 4877/N1

SCALE: ONE INCH = 100 FEET

FIELD BOOKS: 1023

APPROVED: M. APPELD — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL PARAMETRIC TECHNICIAN
APPROVED: D. CLARKE — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — DEPUTY CHIEF OF SERVICES
DATE: 24 OCTOBER 2019

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

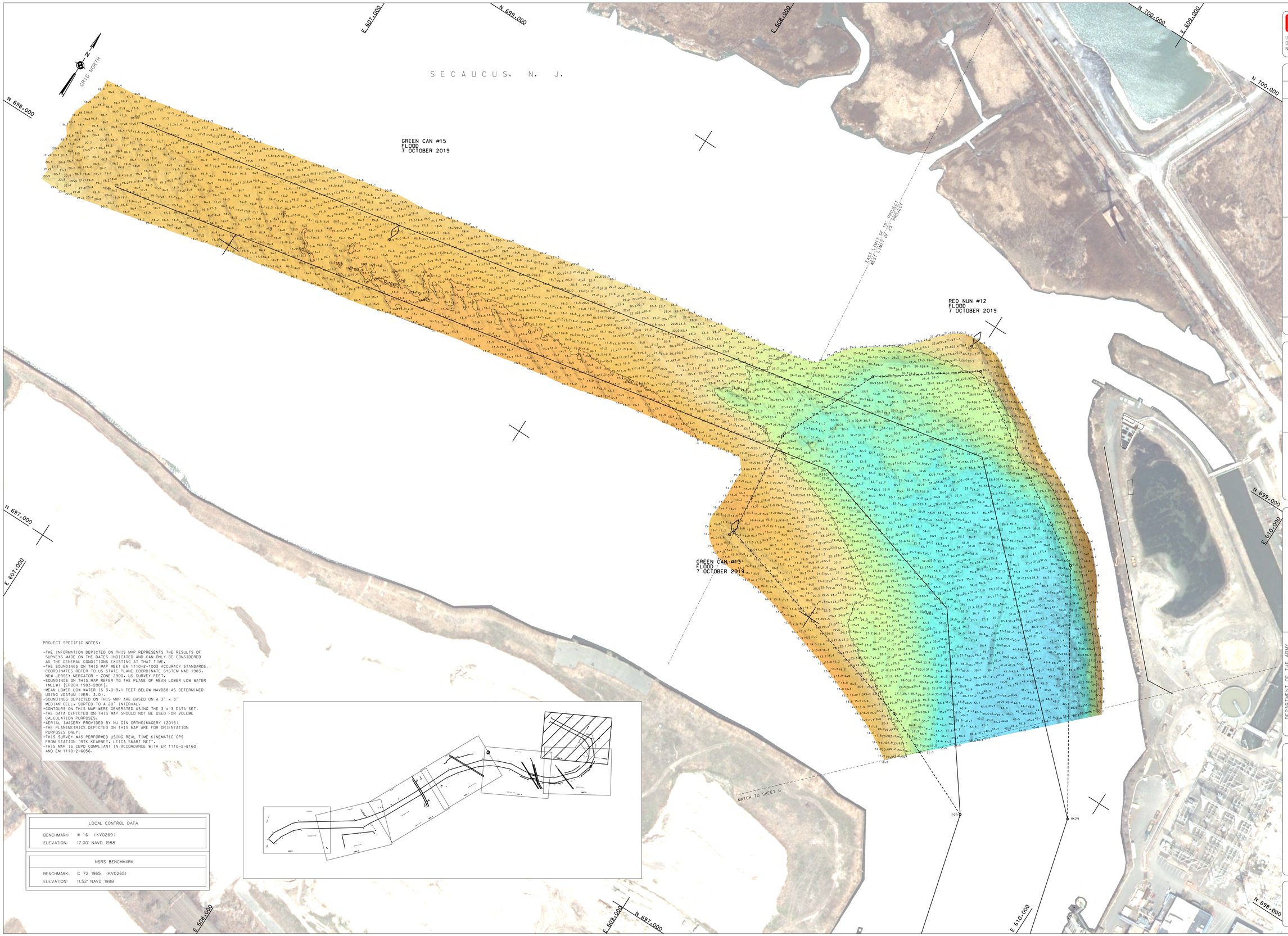
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OPS

NEWARK BAY, HACKENSACK & PASSAIC RIVERS
HACKENSACK RIVER
CONDITION SURVEY

VH-106

SHEET 6 OF 7

FILE NO: 4877
REQ NO.: 4877/N1



PROJECT SPECIFIC NOTES:

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LOCAL CONTROL DATA	
BENCHMARK:	W 16 (KV0269)
ELEVATION:	17.00' NAVD 1988

NSRS BENCHMARK	
BENCHMARK:	C 72 1965 (KV0265)
ELEVATION:	11.52' NAVD 1988

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

DS	PR	
DS	MP	

DATES OF SURVEY:
3,4,7 OCTOBER 2019

FILE NO: 4877
REQUEST NO.: 4877/N1

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
1055

APPROVED: M. APPELD — FIELD CARTOGRAPHER
APPROVED: M. FORTE — CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE — LEAD CARTOGRAPHER
APPROVED: J. MRAZ — SURVEY CHIEF OF SERVICES
DATE: 24 OCTOBER 2019

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

NEWARK BAY, HACKENSACK & PASSAIC RIVERS
HACKENSACK RIVER
CONDITION SURVEY

VH-107

SHEET 7 OF 7