[illegible]

SCALE: ONE INCH = 1000 FEET	FIELD BOOKS: 1/4	FILE NO.: 531 REQUEST NO.: 4477/41/02
DATES OF SURVEY: 15-18.23.29 NOVEMBER, 8. 9. DECEMBER 2016		

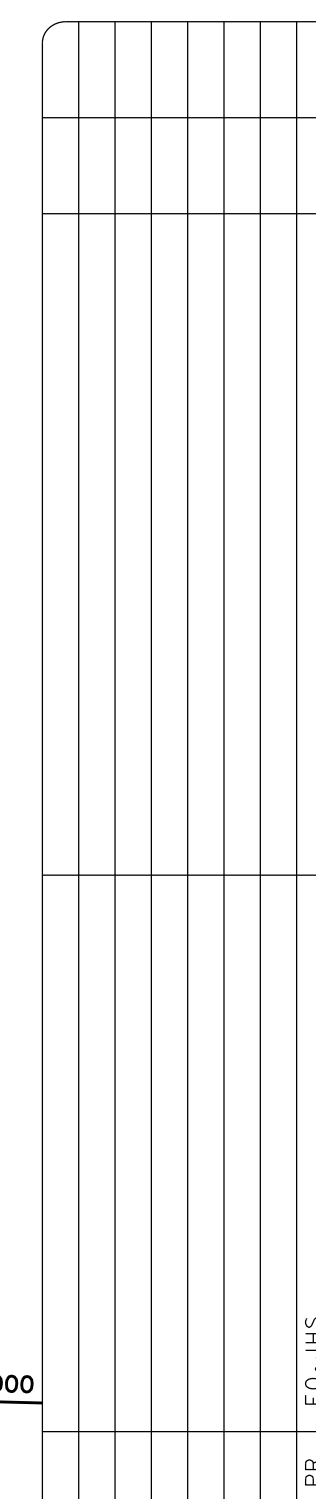
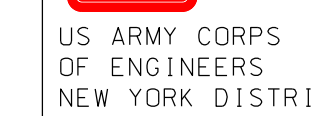
DEPARTMENT OF THE ARMY NEW YORK DISTRICT NEW YORK OFFICE NEW YORK, NEW YORK 10278	APPROVED: J. BERTOLUCCI FILE #158788
OPERATIONS DIVISION SURVEY SECTION CEMAN-OP-8	APPROVED: M. FORT COST ESTIMATE/ANALYSIS
	APPROVED: D. CLARKE UNIT PERFORMANCE
	APPROVED: J. MAZUR SPECIAL INVESTIGATIVE UNIT
	DATE: 30 DECEMBER 2016

RARITAN RIVER
NEW JERSEY
CONDITION SURVEY

VH-101

SHEET 1 OF 11





SCALE : ONE INCH = 100 FEET	DATES OF SURVEY : 15-18, 23, 29 NOVEMBER, 8, 9 DECEMBER 2016
FIELD BOOKS : NA	FILE NO. : 531

APPROVED: J. BERTOLOTI
FIELD ENGINEER

APPROVED: M. FORTE
CIVIL ENGINEERING TECHNICIAN

APPROVED: D. CLARKE
CIVIL CARDISIGNATURE

APPROVED: J. MPAZ
CIVIL ENGINEER

PROJECT SPECIFIC NOTES:

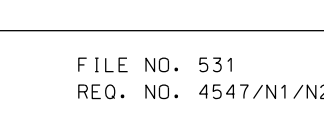
- THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
- COORDINATES ON THIS MAP ARE BASED ON THE U.S. NAVY SURVEY STANDARDS -COORDINATES REFER TO THE STATE PLANE COORDINATE SYSTEM NAD 1983.
- SOUNDINGS ON THIS MAP REFER TO THE MEAN LOWER LOW WATER (MLLW) [EPOCH 1983-2001].
- MEAN CANAL LOW WATER MARK IS 2.3-3.0 FEET BELOW NAVD83 AS DETERMINED USING DATUM (VFM, 3.0').
- SOUNDINGS DEPICTED ON THIS MAP HAVE BEEN SORTED TO A 10' DEPTH INTERVAL USING THE DATA SET.
- CONTOURS ON THIS MAP WERE GENERATED USING THE MAP DATA SET.
- THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES ONLY.
- AERIAL IMAGERY PROVIDED BY NGJN 2012-2013
- PLANNING PURPOSES DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "BAY" TO STATION "1000".
- THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160

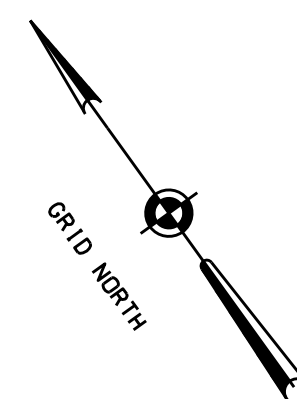
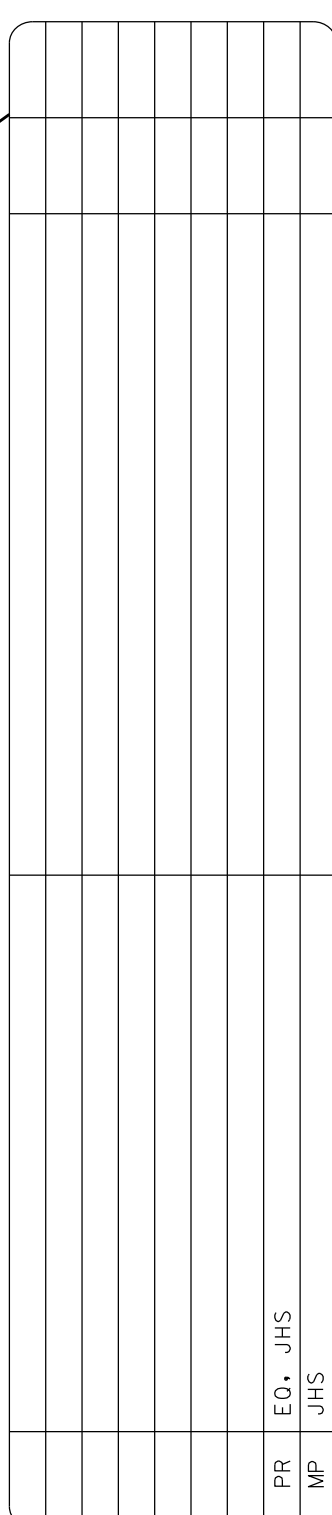
NSRS BENCHMARK	
BENCHMARK: B5	(PID: KV0006)
ELEVATION: 63.49' (NAVD88)	

LOCAL CONTROL DATA	
BENCHMARK: HESS 83	RESET 1988
ELEVATION: 10.25' (NAVD88)	



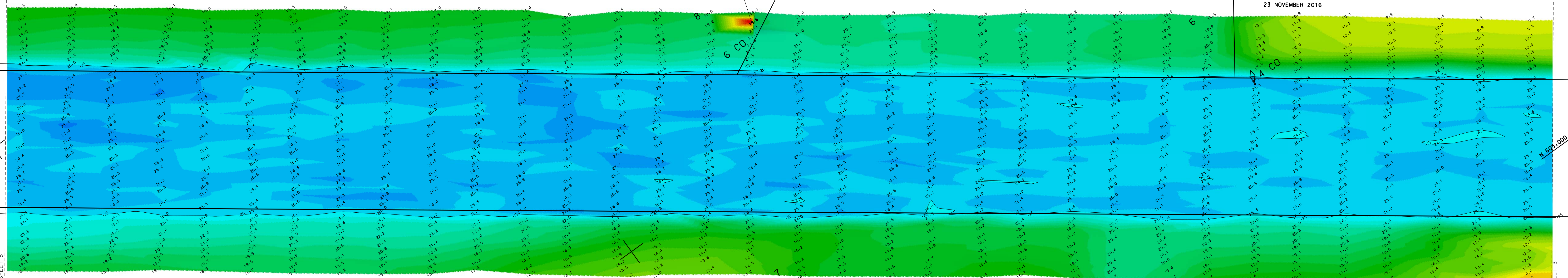
PROJECT METADATA MAY BE VIEWED
BY DOUBLE CLICKING ON ICON ED





RARITAN CUTOFF CHANNEL

JUNCTION LIGHTED RED/GREEN
FLOOD
23 NOVEMBER 2016



SCALE: ONE INCH = 100 FEET	DATES OF SURVEY: 15-18, 23, 29 NOVEMBER 8, 9 DECEMBER 2016
FIELD BOOKS: N/A	FILE NO.: 531 REQUEST NO.: 4547/N1/N2

APPROVED: J. BERTOLOTTI
FIELD COORDINATOR

APPROVED: M. FORTE
CIVIL ENGINEERING TECHNICIAN

APPROVED: D. CLARKE
LEAD CARPENTERS

APPROVED: J. MRAZ
SENIOR CHIEF OF SURVEY

DATE: 30 DECEMBER 2016

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

RARITAN RIVER
NEW JERSEY
CONDITION SURVEY

VH-104

SHEET 4 OF 11

FILE NO. 531
REQ. NO. 4547/N1/N2

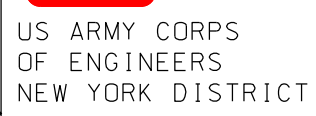
PROJECT SPECIFIC NOTES:

- 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 AN 1110-2+1003 ACCURACY STANDARDS.
- COORDINATES REFER TO THE 1983 NORTH AMERICAN DATUM SYSTEM AND 1983 NORTH MERIDIAN (ZONE - ZONE 2900, US SURVEY FEET).
- SOUNDINGS ON THIS MAP REFER TO THE PLANE OF MEAN LOWER LOW WATER (MLLW) FOR THE YEAR 1990.
- MEAN LOWER LOW WATER IS 2.9-3.0 FEET BELOW NAVD83 AS DETERMINED USING VEDUTAM IVER, 3.01.
- SOUNDINGS DEPICTED ON THIS MAP HAVE BEEN SORTED TO A 15' INTERVAL USING THE HULL DATA SET.
- CONTOURS ON THIS MAP WERE GENERATED USING THE MAP DATA SET.
- THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
- AERIAL IMAGERY PROVIDED BY NGIN 2012-2013
- THE PLANTIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "BAZARDO HESS".
- THIS MAP IS NOT COMPLIANT IN ACCORDANCE WITH ER 1110-2+8160 AND 1110-2+8095.

 #4547- PROJECT METADATA

PROJECT METADATA MAY BE VIEWED
BY DOUBLE CLICKING ON ICON EDGE.

NSRS BENCHMARK
PID: KV0006)
NAVD88)
LOCAL CONTROL DATA
13 RESET 1988
5' (NAVD88)

[illegible]

SCALE : ONE INCH = 100 FEET	DATES OF SURVEY : 15-18, 23, 29 NOVEMBER, _____ 8, 9 DECEMBER 2016 _____
FIELD BOOKS : N/A _____	FILE NO. : 531 REELS NO. : 45741/102

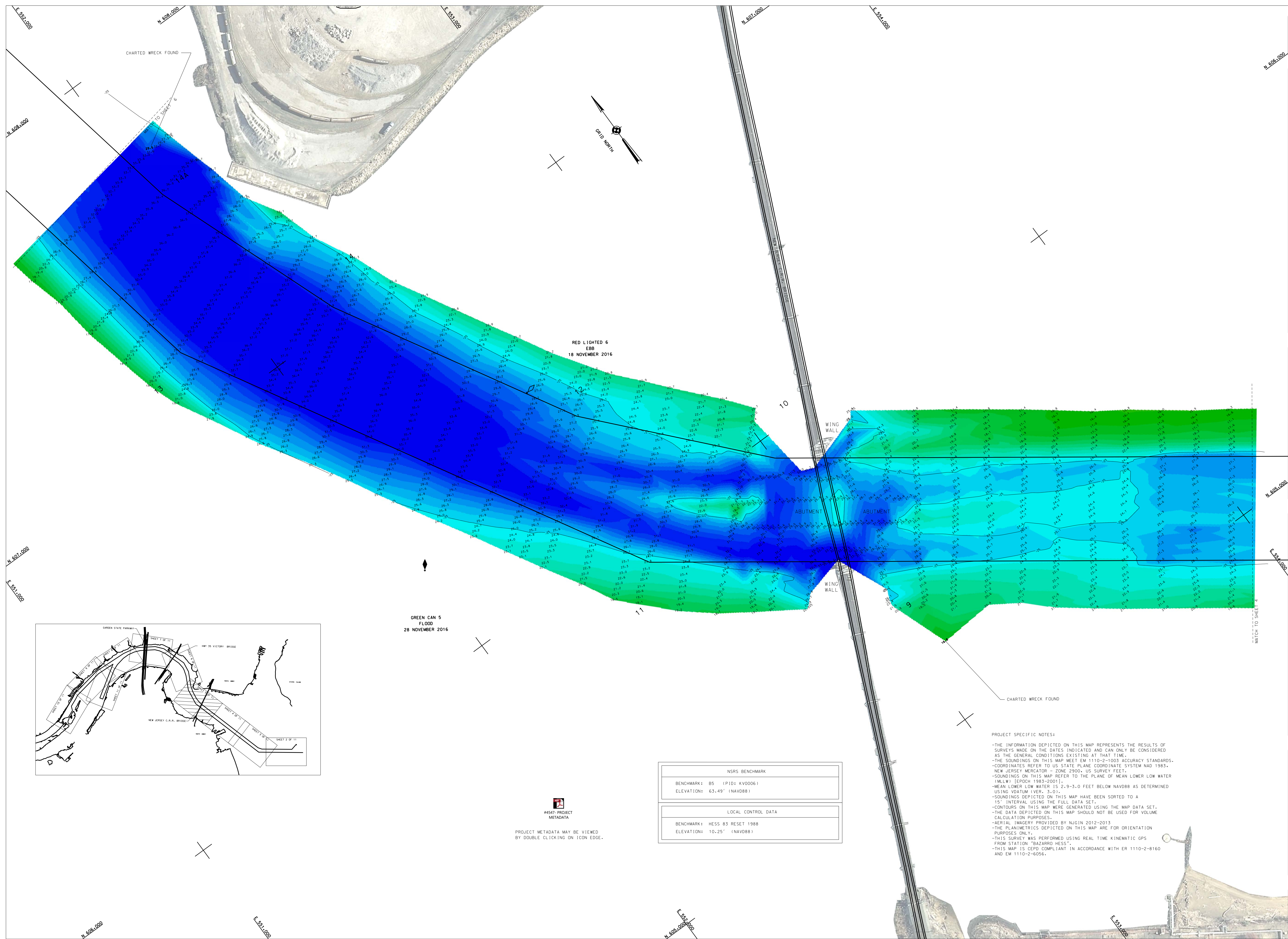
DEPARTMENT OF THE ARMY NEW YORK DISTRICT COMPS OF ENGINEERS NEW YORK, NEW YORK 10278	APPROVED: J. BERTOLUCCI TITLE: ASSISTANT
	APPROVED: M. FORT TITLE: ENGINEERING TECHNICIAN
OPERATIONS DIVISION SURVEY SECTION CEMAN-OP-S	APPROVED: D. CLARKE TITLE: PERFORMANCE
	APPROVED: J. MAZUR TITLE: CHIEF OF BATTERY
	DATE: 30 DECEMBER 2016

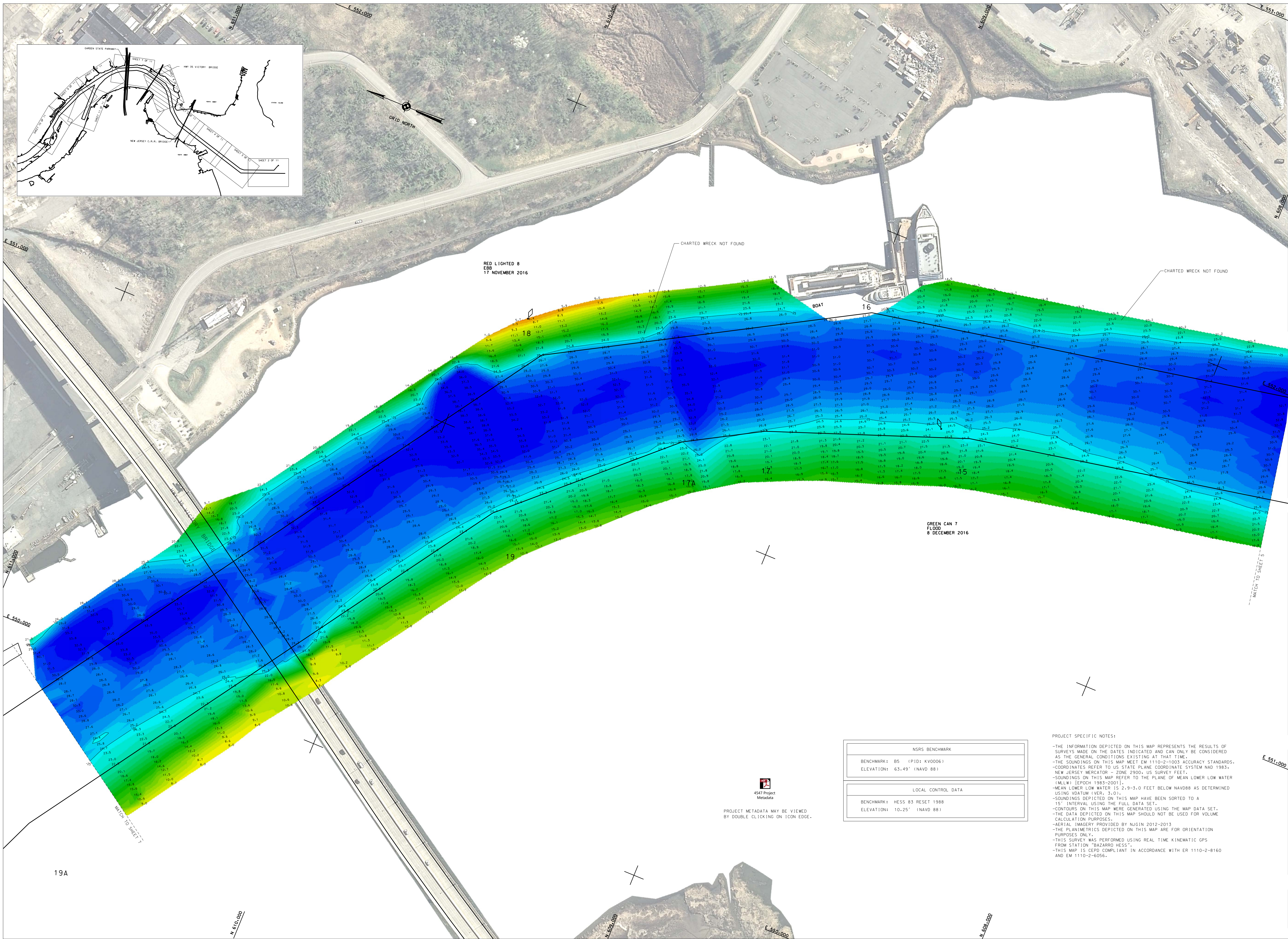
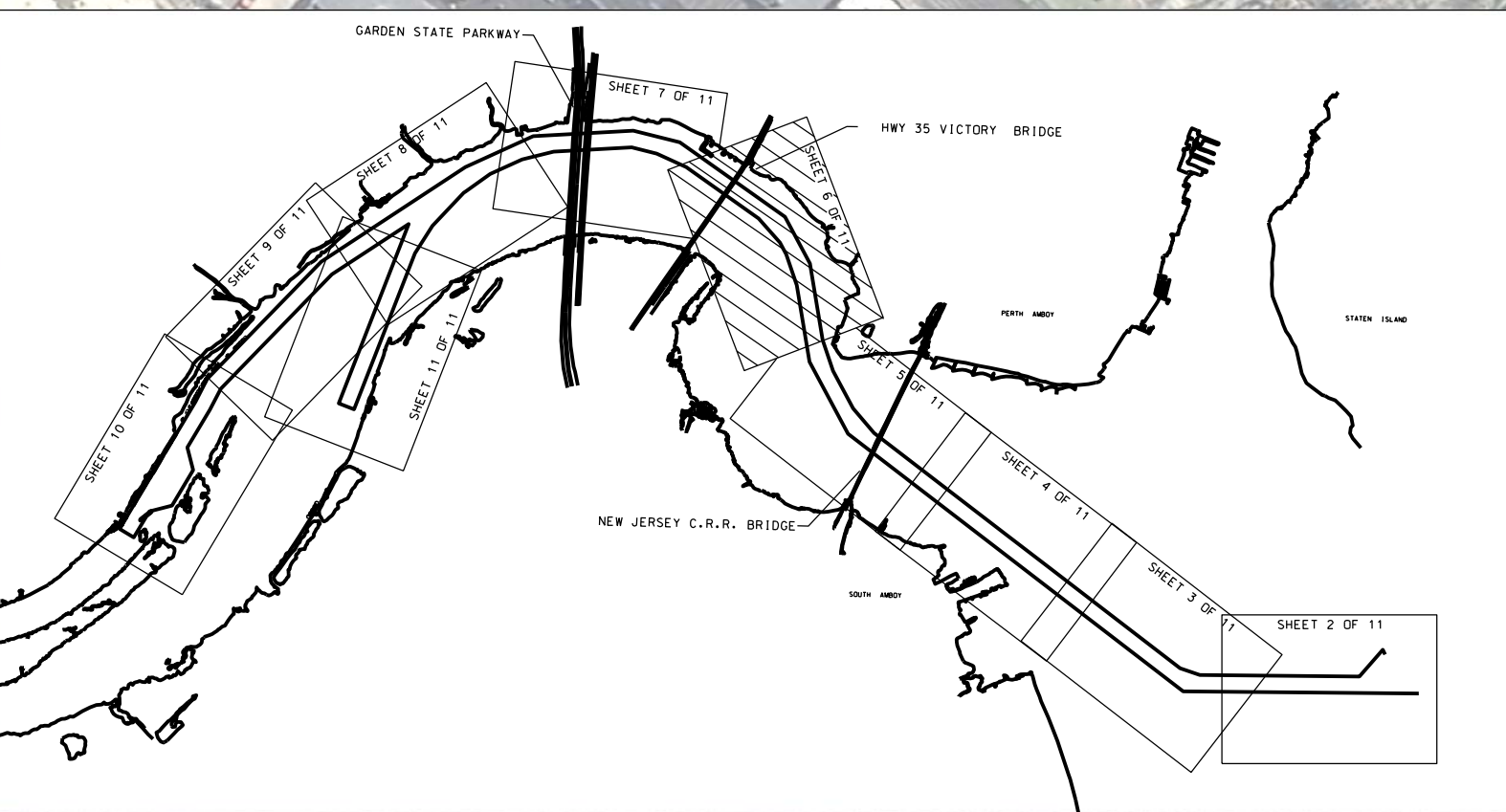
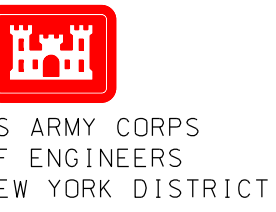
PARITAN RIVER
NEW JERSEY
CONDITION SURVEY

VH-105

SHEET 5 OF 11

FILE NO. 531
REQ. NO. 4547/N1/N2





NSRS BENCHMARK	
BENCHMARK: B5 (PID: KY0006)	
ELEVATION: 63.49' (NAVD 88)	

LOCAL CONTROL DATA	
BENCHMARK: HESS B3 RESET 1988	
ELEVATION: 10.25' (NAVD 88)	

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 2.9-3.0 FEET BELOW NAVD88 AS DETERMINED USING VDATUM EVER, 3.0).
- SOUNDINGS DEPICTED ON THIS MAP HAVE BEEN SORTED TO A 15' INTERVAL USING THE FULL DATA SET.
- CONTOURS ON THIS MAP WERE GENERATED USING THE MAP DATA SET.
- THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
- AERIAL IMAGERY PROVIDED BY NJGIS 2012-2013
- THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "BAZARRO HESS".
- THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

FILE NO. 1531
REQUEST NO.1 647/1/1/2
PH: ED: JHS
MP

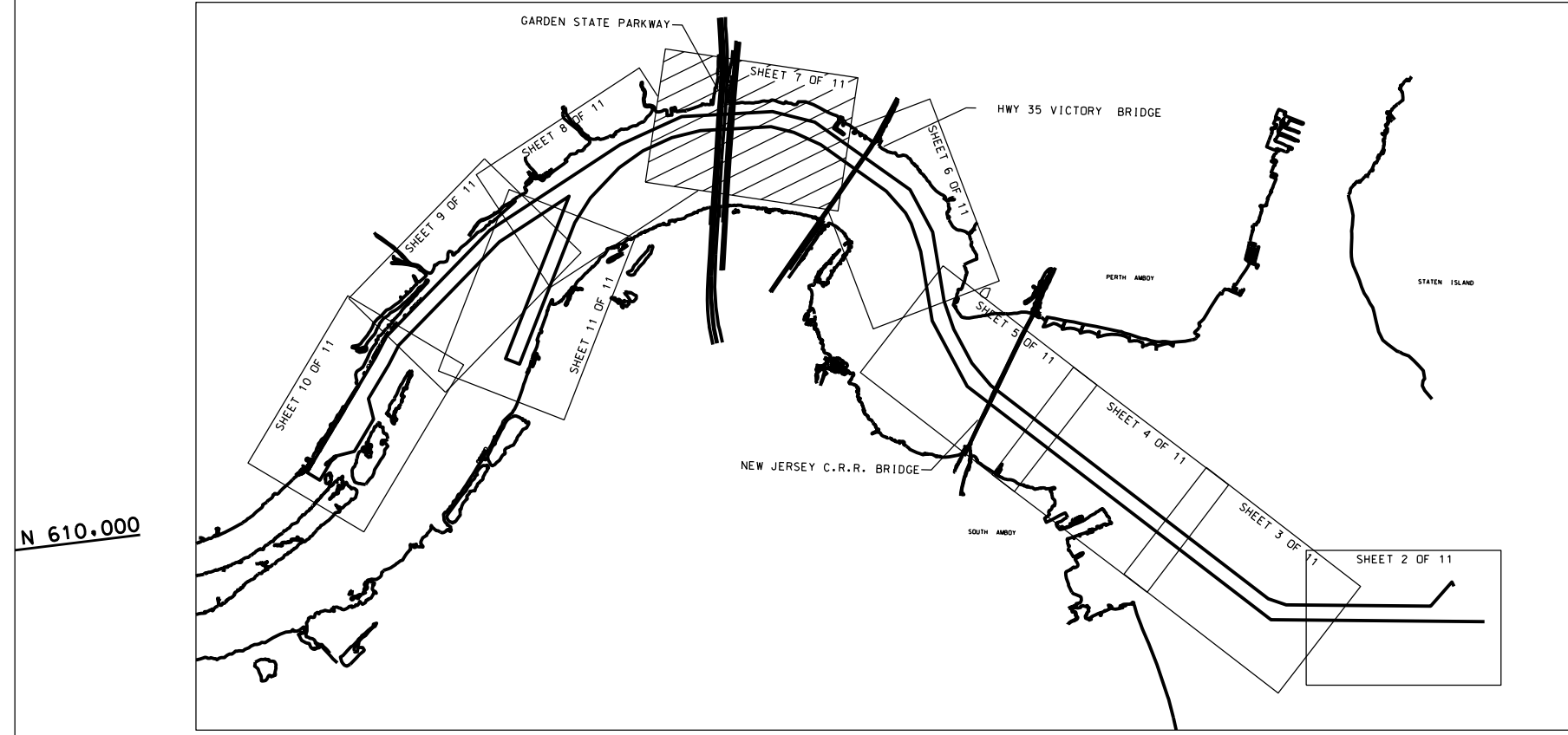
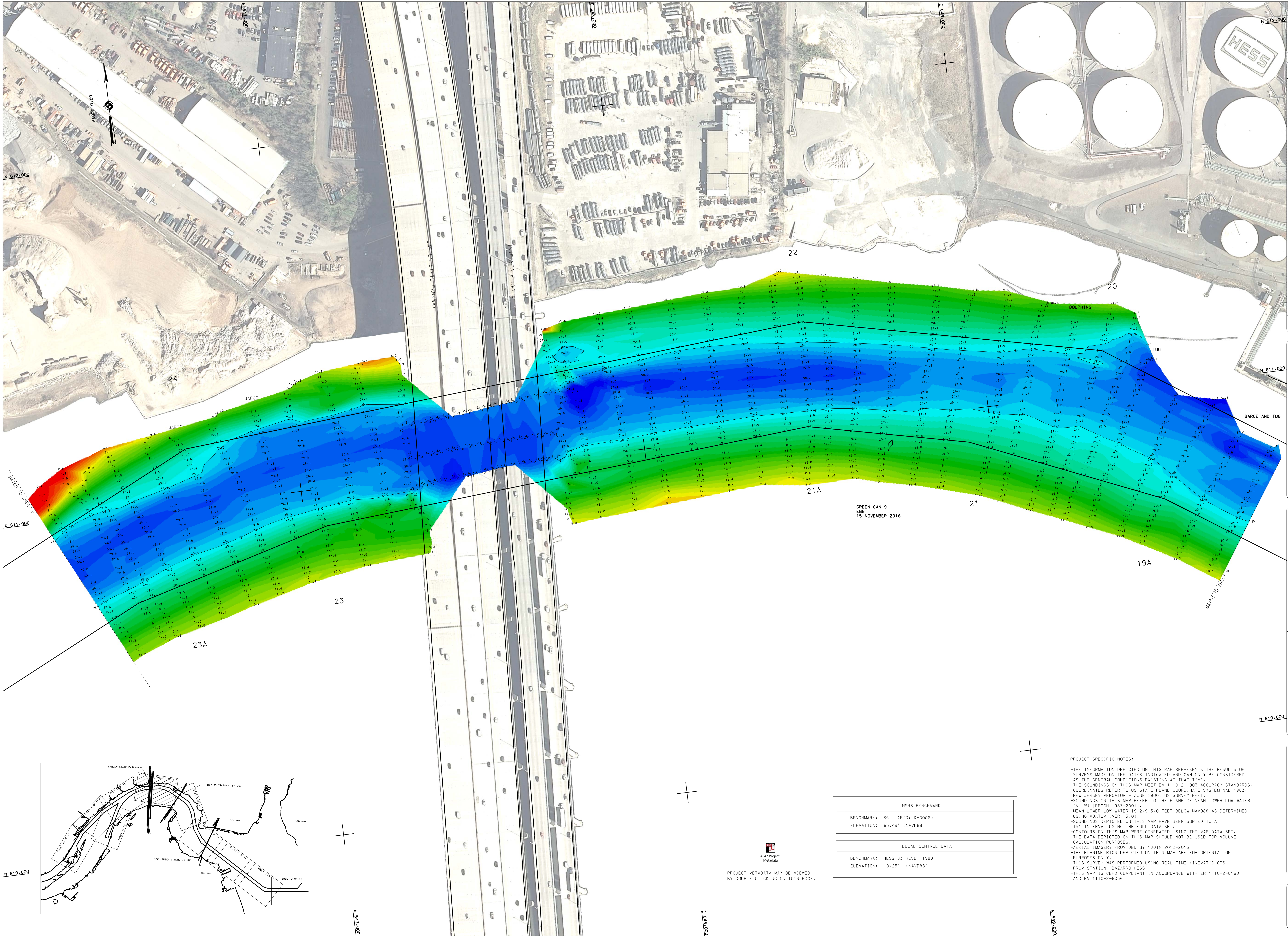
DATES OF SURVEY:	
15-18, 22-23 NOVEMBER	
21-22 DECEMBER 2016	
SCALE:	
ONE INCH = 100 FEET	
FIELD BOOKS:	
NA	

APPROVED: J. BEETO, OTTL	
APPROVED: M. FORTE, CIVIL ENGINEERING MANAGER	
APPROVED: D. CLARKE, CIVIL ENGINEER	
APPROVED: J. MRAZ, CIVIL ENGINEER	
DATE: 30 DECEMBER 2016	

DEPARTMENT OF THE ARMY	
NEW YORK DISTRICT	
NEW YORK, NEW YORK 10278	
OPERATIONS DIVISION	
NEW YORK DISTRICT	
NEW YORK DISTRICT	

RARITAN RIVER	
NEW JERSEY	
CONDITION SURVEY	

VH-106
SHEET 6 OF 11



NSRS BENCHMARK	
BENCHMARK: BS (PID: KY0006)	
ELEVATION: 63.49' (NAVD88)	

LOCAL CONTROL DATA	
BENCHMARK: HESS 83 RESET 1988	
ELEVATION: 10.25' (NAVD88)	

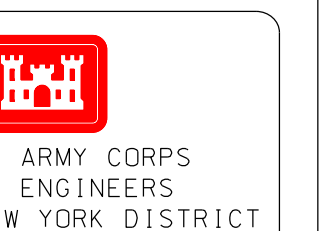
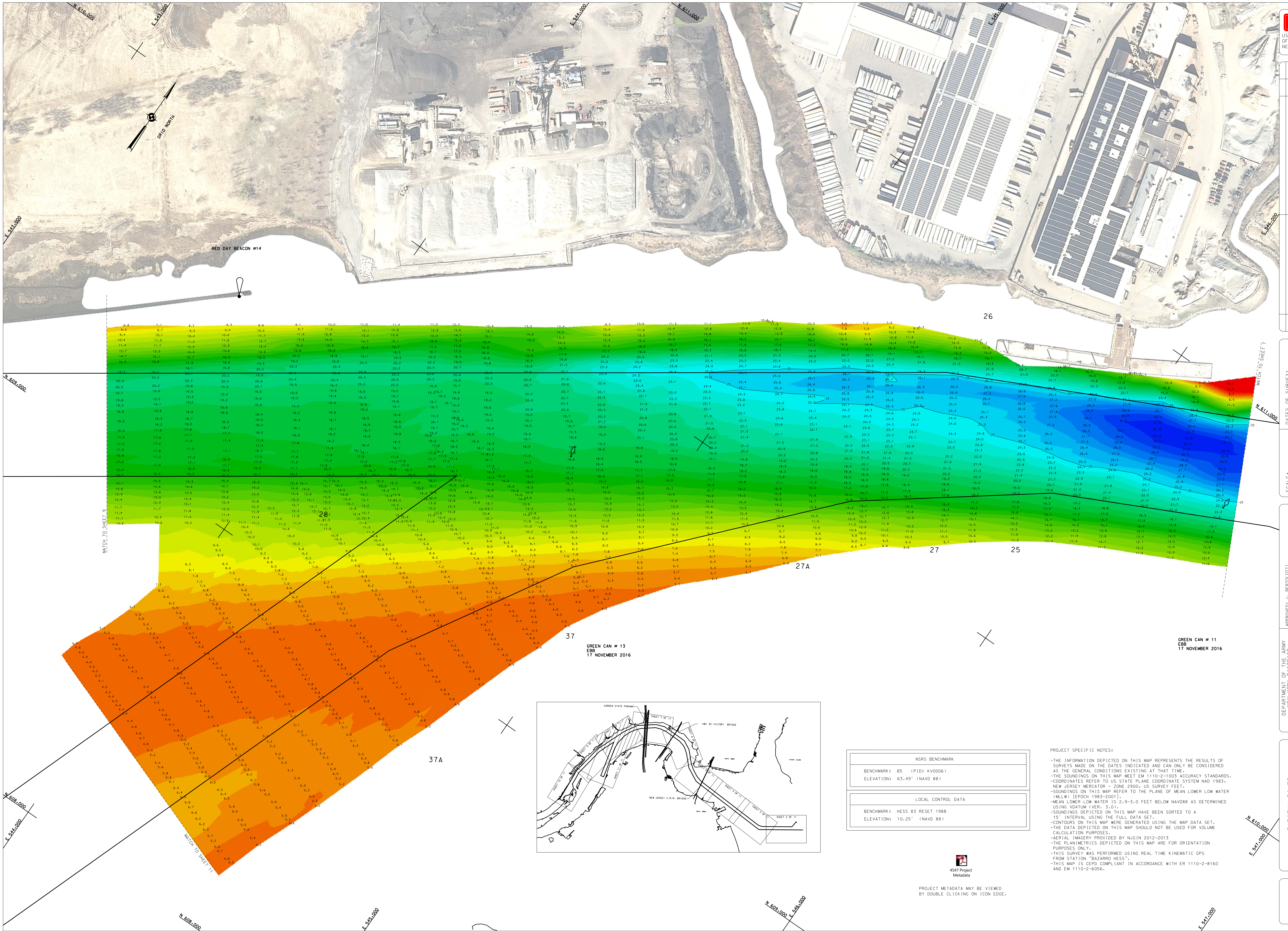
PROJECT SPECIFIC NOTES:

- 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 THIS STATE PLANE COORDINATE SYSTEM NAD 1983, NEW JERSEY MERCATOR - ZONE 2000, US SURVEY FEET.
- SOUNDINGS ON THIS MAP REFER TO THE PLANE OF MEAN LOWER LOW WATER (MLLW) (EPOCH 1985-2001).
- MEAN LOWER LOW WATER IS 2.9-3.0 FEET BELOW NAVD88 AS DETERMINED USING DATUM (VER. 3.0).
- SOUNDINGS DEPICTED ON THIS MAP HAVE BEEN SORTED TO A 15' INTERVAL USING THE FULL DATA SET.
- CONTOURS ON THIS MAP WERE GENERATED USING THE MAP DATA SET.
- THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
- AERIAL IMAGERY PROVIDED BY NAUTIC 2012-2013
- THE PLANNIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "BAZARRO HESS"
- THIS MAP IS CEPO COMPLIANT IN ACCORDANCE WITH EM 1110-2-8160 AND EM 1110-2-6056.

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

DATE OF SURVEY: 15-18-23-23 NOVEMBER 8-3 DECEMBER 2016	FILE NO: 1 531 RESET NO: 1 657/1/12
SCALE: ONE INCH = 100 FEET	FIELD BOOKS: N/A
APPROVED: J. BERTOLOTI PROJECT MANAGER APPROVED: M. EORIE CHIEF ENGINEER APPROVED: D. CLARKE CHIEF SURVEYOR APPROVED: J. MRAZ CHIEF PLANNIMETRICIAN DATE: 30 DECEMBER 2016	DEPARTMENT OF THE ARMY NEW YORK DISTRICT CORPS OF ENGINEERS NEW YORK, NEW YORK 10278 OPERATIONS DIVISION SURVEY SECTION NEW YORK DISTRICT NEW JERSEY CONDITION SURVEY
RARITAN RIVER NEW JERSEY CONDITION SURVEY	
VH-107	
SHEET 7 OF 11	

FILE NO: 531
REQ. NO: 4547/1/1/12



US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

DATE	15-10-2013
TIME	10:00
FILE NO.	151
PR	EDJHS
BY	JTD

DATES OF SURVEY:
15-10-2013
8-12-2013
8-12-2013

SCALE:
ONE INCH = 100 FEET
FIELD BOOKS:
N/A

APPROVED: J. BERTO, DTL
APPROVED: M. EORTE
APPROVED: D. CLARKE
APPROVED: J. MRAZ
DATE: 30 DECEMBER 2013

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278
OPERATIONS DIVISION
SOUNDING SURVEY
NEW JERSEY
CONDITION SURVEY

RARITAN RIVER
NEW JERSEY
CONDITION SURVEY

VH-108
SHEET 8 OF 11

NSRS BENCHMARK
BENCHMARK: B5 (PID: KVO006)
ELEVATION: 63.49' (NAVD 88)
LOCAL CONTROL DATA
BENCHMARK: HESS 83 RESET 1988
ELEVATION: 10.25' (NAVD 88)



PROJECT METADATA MAY BE VIEWED BY DOUBLE CLICKING ON ICON ABOVE.

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 MERIDIAN - ZONE 2000, US SURVEY FEET.
-SOUNDINGS ON THIS MAP REFER TO THE PLANE OF MEAN LOWER LOW WATER (MLLW) [EPOCH 1985-2001].
-MEAN LOWER LOW WATER IS 2.9-3.0 FEET BELOW NAVD88 AS DETERMINED USING VDATUM IVER, 3.01.
-SOUNDINGS DEPICTED ON THIS MAP HAVE BEEN SORTED TO A 15' INTERVAL USING THE FULL DATA SET.
-CONTOURS ON THIS MAP WERE GENERATED USING THE MAP DATA SET.
-THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
-AERIAL IMAGERY PROVIDED BY NJGIN 2012-2013.
-THE PLANIMETRICS DEPICTED ON THIS MAP ARE FOR ORIENTATION PURPOSES ONLY.
-THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "BAZARRO HESS".
-THIS MAP IS CEED COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

[illegible]

SCALE: _____ ONE INCH = 100 FEET	DATE OF SURVEY: _____ 15-18, 23, 29, NOVEMBER. 8, 9 DECEMBER 2016
FIELD BOOKS: _____ N/A	FILE NO.: 531 REQUEST NO.: 4547/N/A2

APPROVED: M. FORTE
CIVIL INSISTING TECHNICIAN

APPROVED: D. CLARKE
LAW CLERK

APPROVED: J. NRAZ
SOCIETY CHIEF OF SURETY

DATE: 30 DECEMBER 2016

NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 1027

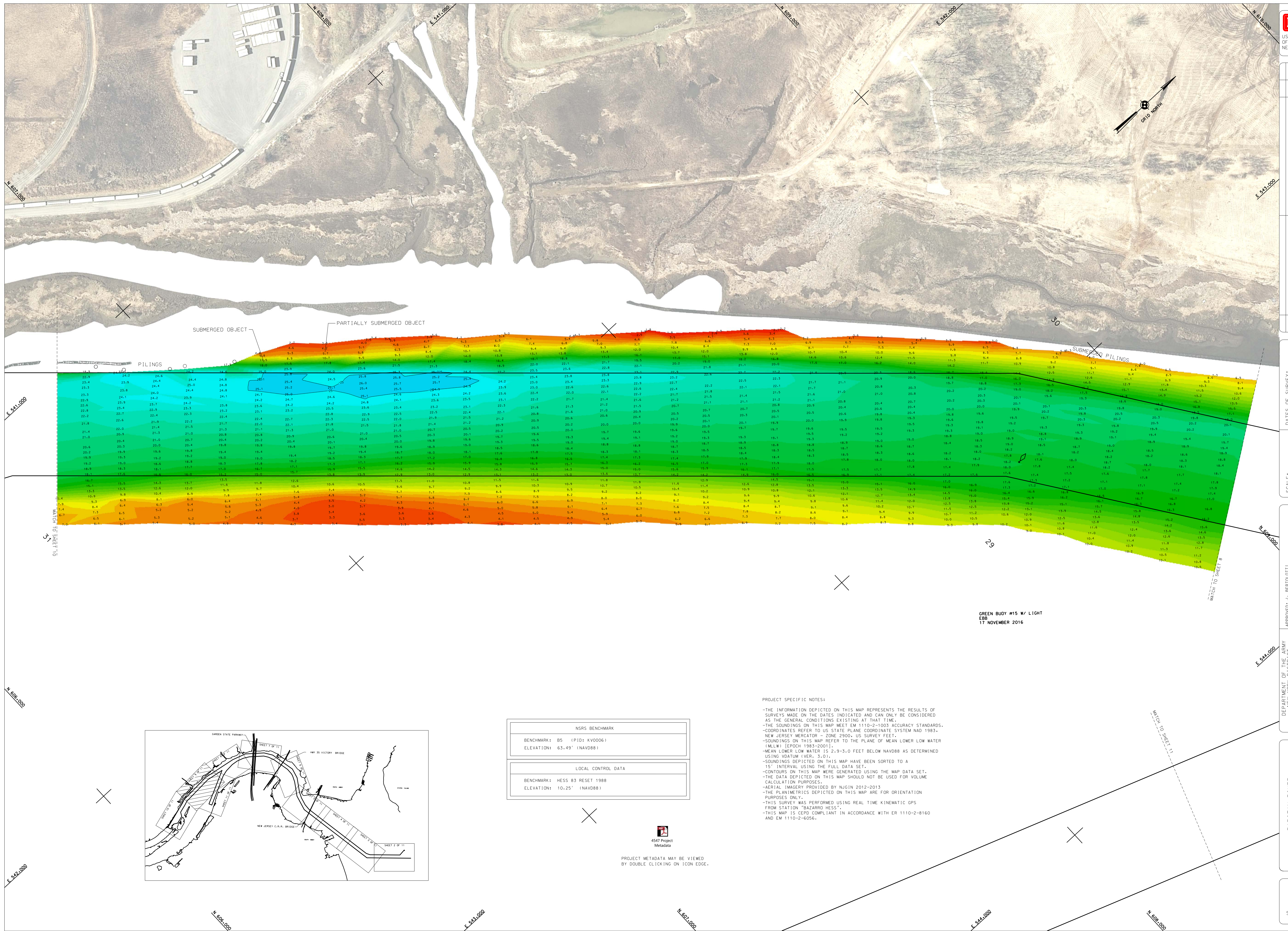
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

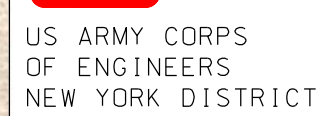
RAITIAN RIVER
NEW JERSEY
CONDITION SURVEY

VH-109

SHEET 09 OF 11

LE NO. 531
O. NO. 4547/N1/N2



[illegible]

SCALE: ONE INCH = 100 FEET	DATES OF SURVEY: 15-18, 23, 29 NOVEMBER, _____ 8, 9 DECEMBER 2016 _____
FIELD BOOKS: N/A _____	FILE NO.: 531 ACQUIS. NO.: 45474/MR

APPROVED: J. BERTOLOTTI
FIELD ENGINEER

APPROVED: M. FORTE
CIVIL ENGINEERING TECHNICIAN

APPROVED: D. CLARKE
LAB CHIEF/ENGINEER

APPROVED: J. MRAZ
SENIOR CHIEF OF STAFF

DATE: 30 DECEMBER 1916

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

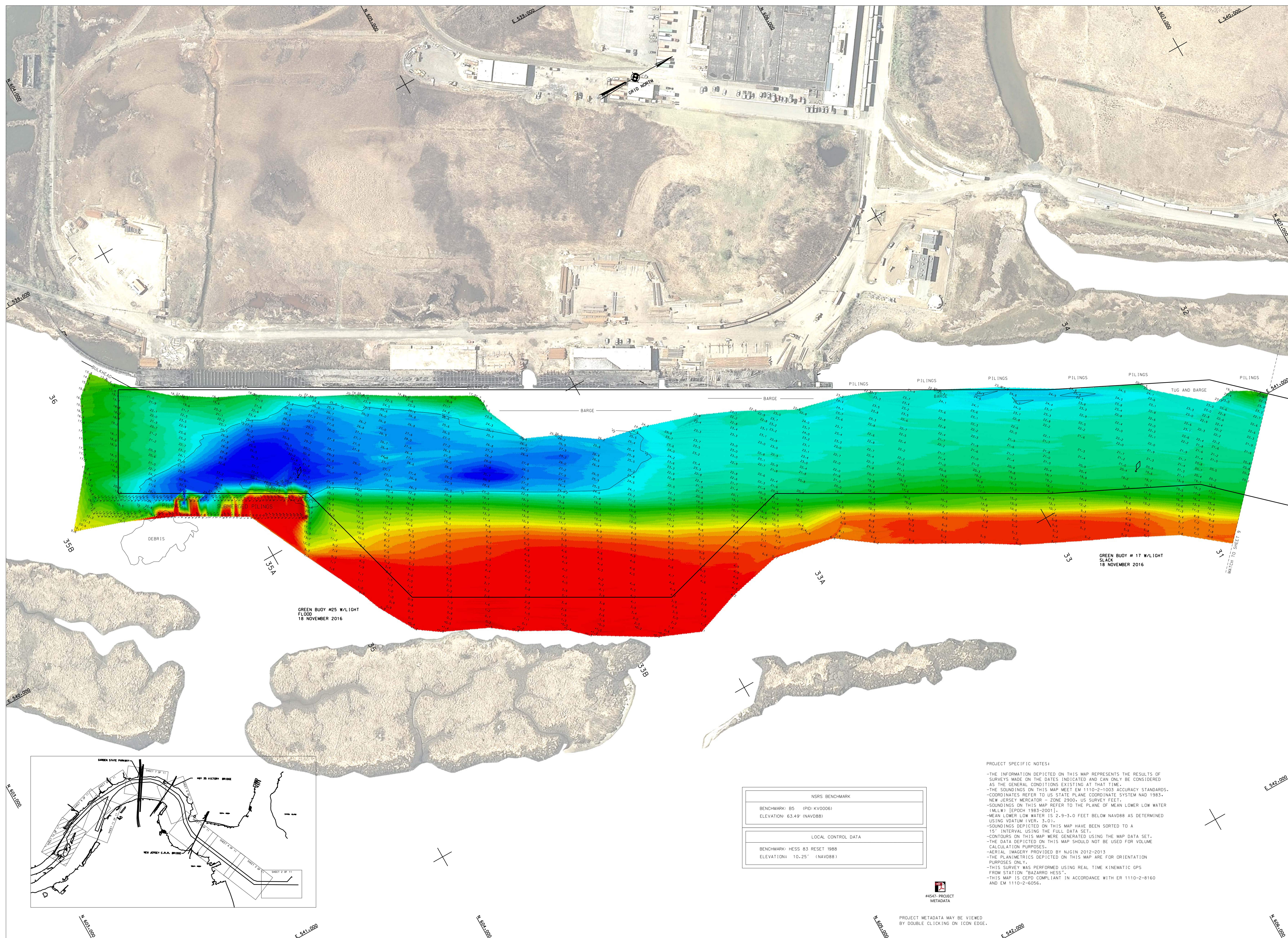
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

RARITAN RIVER
NEW JERSEY
CONDITION SURVEY

VH-110

SHEET 10 OF 11

FILE NO. 531
REQ. NO. 4547/N1/N2



[illegible]

SCALE: _____ ONE INCH = 100 FEET	DATES OF SURVEY: 15-18, 23, 29 NOVEMBER, _____ 8, 9 DECEMBER 2016, _____ _____
FIELD BOOKS: N/A _____ _____	FILE NO.: 531 REQUEST NO.: 4547/PA/02

NEW YORK DISTRICT CLERK OF ENGINEER NEW YORK, NEW YORK 10278	APPROVED: J. J. BERTOLINO JULY 2016
APPROVED: M. FORTE	CIVIL ENGINEERING TECHNICIAN
APPROVED: D. CLARKE	LEE CARDAMONE
APPROVED: J. NERAZ	DATE: 30 DECEMBER 2016

RARITAN RIVER
NEW JERSEY
CONDITION SURVEY

/H-111

SHEET 11 OF 11

LE NO. 531
Q. NO. 4547/N1/N2

