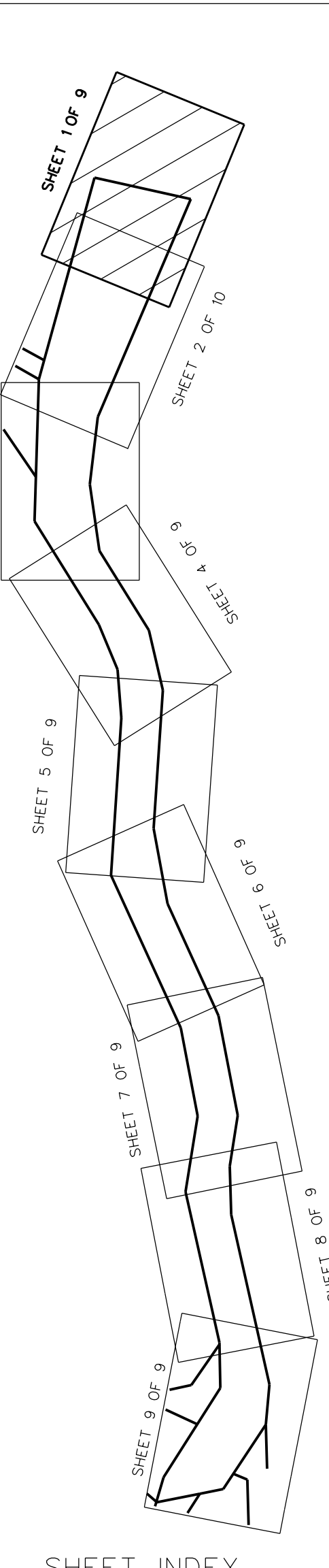


RED/GREEN 'KV' W/LIGHT
EBB
2 NOVEMBER 2021

KA-2



NSRS BENCHMARK	
BENCHMARK:	TIDAL NO 6 STA 4 (KV0611)
ELEVATION:	7.65' (NAVD 1988)
LOCAL CONTROL DATA	
BENCHMARK:	AJD 10029
ELEVATION:	8.32' (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.
 -COORDINATES REFER TO US 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) FROM 1985-2001.
 -MEAN LOWER LOW WATER IS 2.8-3.0 FEET BELOW NAVD88 AS DETERMINED USING DATUM (VER. 4.0-11).
 -SOUNDINGS DEPICTED ON THIS MAP ARE BASED ON A 3' x 3' MEDIAN CELL, SORTED TO A 30" 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 NJGIN WAREHOUSE (2019) AND IS FOR ORIENTATION PURPOSES ONLY.
 -THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "AJD1003".
 -THIS MAP IS CEPO COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

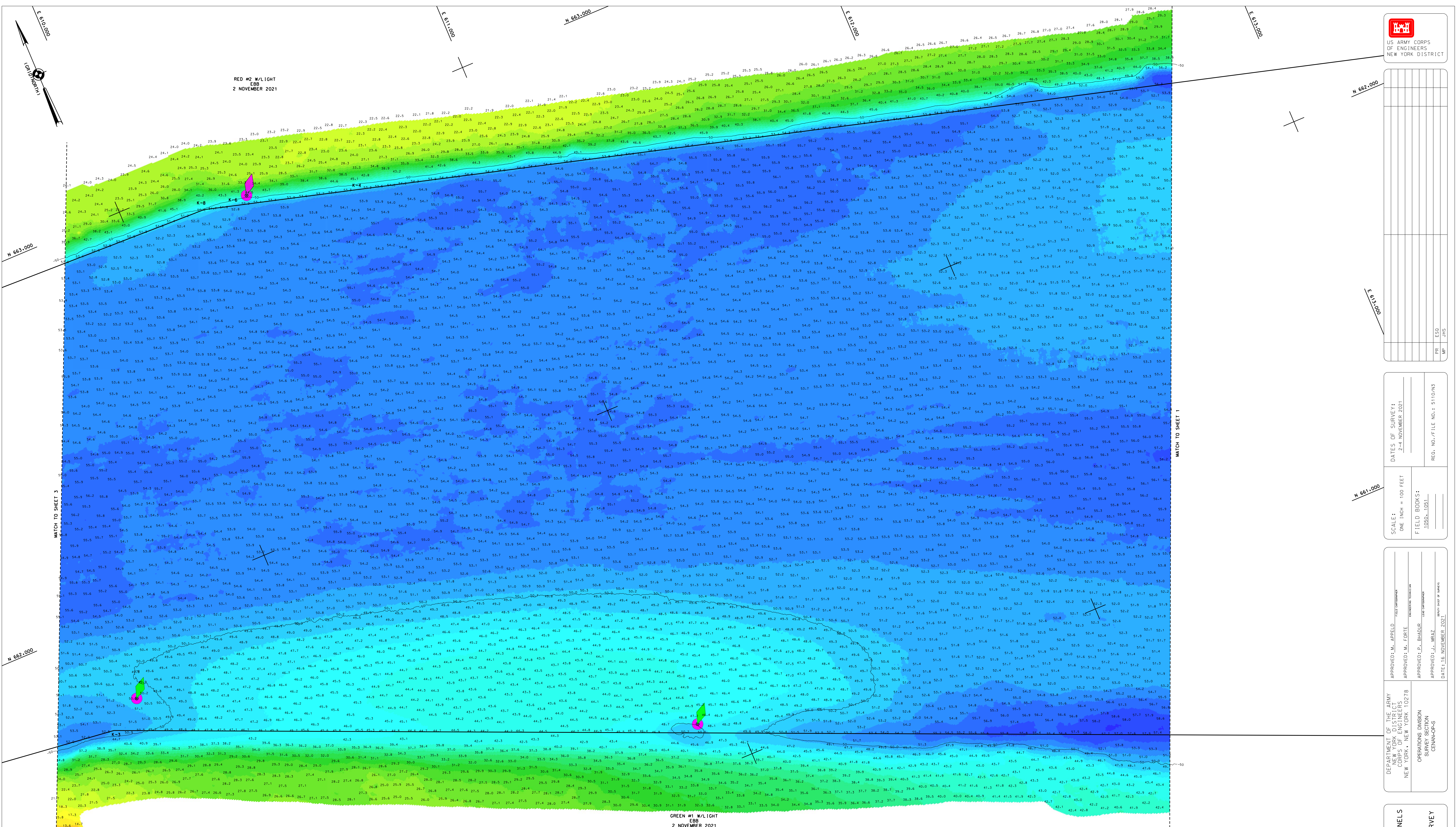
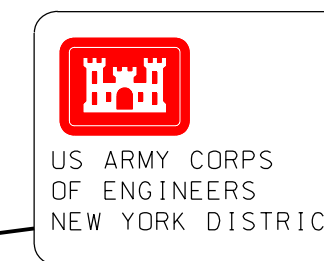
DATE OF SURVEY:	23-24 NOVEMBER 2021
SCALE:	ONE INCH = 100 FEET
FIELD BOOKS:	10001-10001
REQ. NO./FILE NO.:	5110/NS
PREP:	ESD
CHK:	JHS

APPROVED: M. APPELO	TECH. SUPERVISOR
APPROVED: M. FORTE	REGISTERED SURVEYOR
APPROVED: J. BHADUR	REGISTERED SURVEYOR
APPROVED: J. MRAZ	REGISTERED SURVEYOR
DATE:	18 NOVEMBER 2021

DEPARTMENT OF THE ARMY	OPERATIONS DIVISION
NEW YORK DISTRICT	NEW YORK, NEW YORK 10278
NEW YORK & NEW JERSEY CHANNELS	KILL VAN KULL
PLANS & SPECIFICATIONS SURVEY	

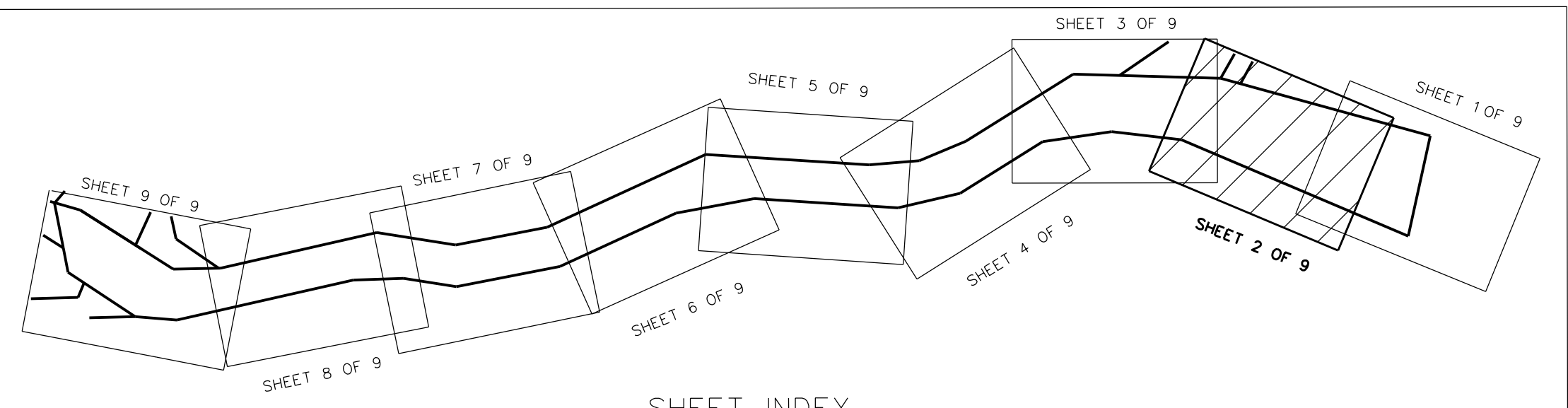
NEW YORK & NEW JERSEY CHANNELS
 KILL VAN KULL
 PLANS & SPECIFICATIONS SURVEY

VH-101
 SHEET 1 OF 9



RED #2 W/LIGHT
EBB
2 NOVEMBER 2021

GREEN #1 W/LIGHT
EBB
2 NOVEMBER 2021



NSRS BENCHMARK	
BENCHMARK:	TIDAL NO 6 STA 4 (KV0611)
ELEVATION:	7.65' (NAVD 1988)
LOCAL CONTROL DATA	
BENCHMARK:	AJ0 10029
ELEVATION:	8.32' (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 1800 - US SURVEY FEET.
 -SOUNDINGS ON THIS MAP REFER TO THE PLANE OF MEAN LOWER LOW WATER (MLLW) (LEFCH 1985-2001).
 -MEAN LOWER LOW WATER IS 2.8-3.0 FEET BELOW NAVD88 AS DETERMINED USING WATUM IVER 4.0.1.
 -SOUNDINGS DEPICTED ON THIS MAP ARE BASED ON A 3' x 3' MEDIAN CELL, SORTED TO A 90' 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 NUGIN WAREHOUSE (2019) AND IS FOR ORIENTATION PURPOSES ONLY.
 -THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "A010031".
 -THIS SURVEY IS LEAD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1111-2-6056.

DATE OF SURVEY:	2-4 NOVEMBER 2021
SCALE:	ONE INCH = 100 FEET
FIELD BOOKS:	18501_1091
RECORD NUMBER:	NO. 5110/NS
DATE:	16 NOVEMBER 2021

APPROVED:	M. ARPEL	TEXT ENGINEER
APPROVED:	M. FORBE	TEXT ENGINEER
APPROVED:	P. BHADUR	TEXT ENGINEER
APPROVED:	J. MREZ	TEXT ENGINEER

DEPARTMENT OF THE ARMY	OPERATIONS DIVISION
CORPS OF ENGINEERS	NEW YORK & NEW JERSEY CHANNELS
NEW YORK & NEW JERSEY CHANNELS	KILL VAN KULL
PLANS & SPECIFICATIONS SURVEY	

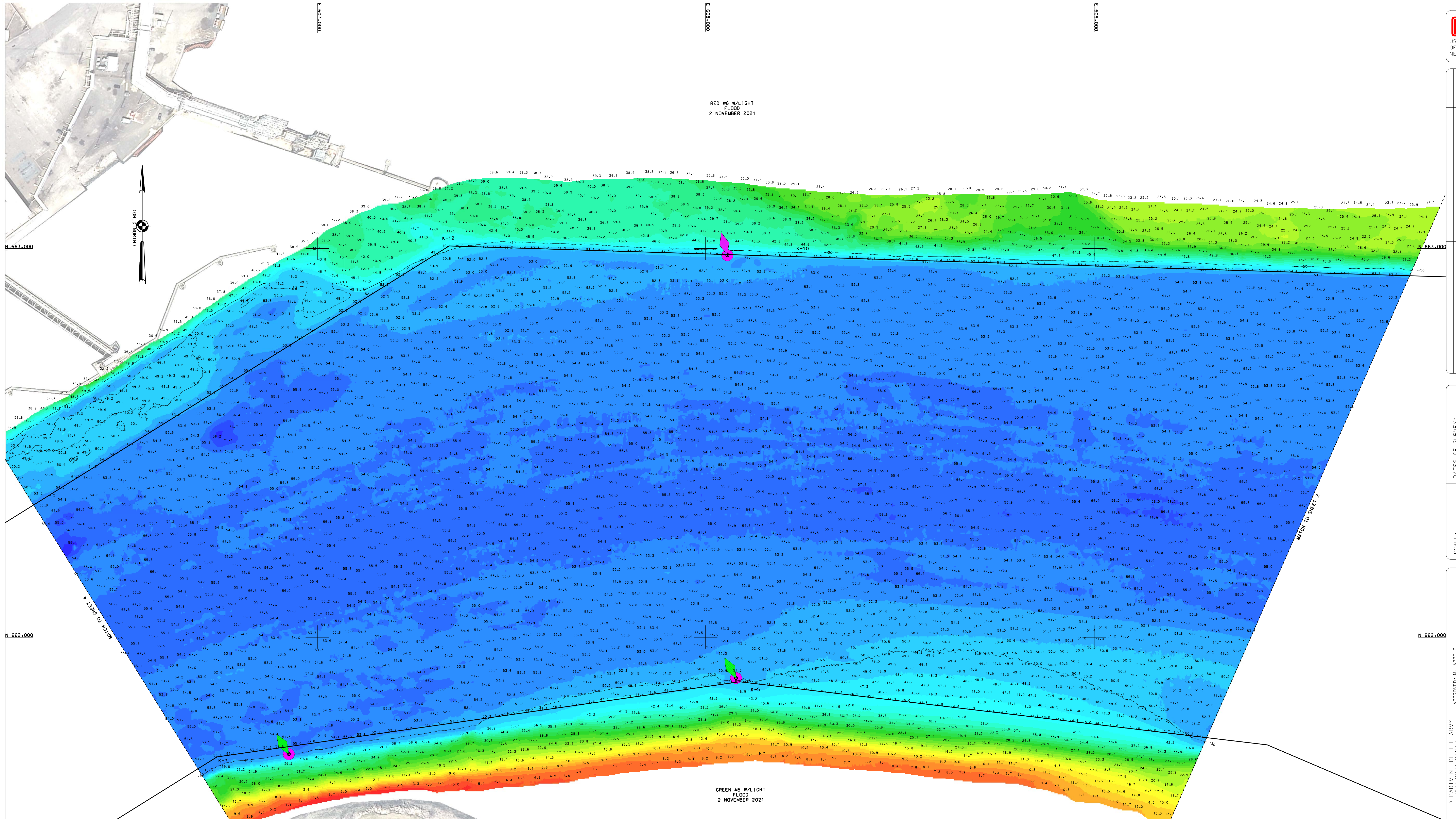
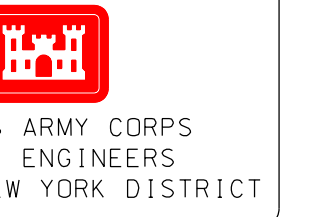
NO. 5110/NS
SHEET 2 OF 9

VH-102
SHEET 2 OF 9

NO. 5110/NS
SHEET 2 OF 9

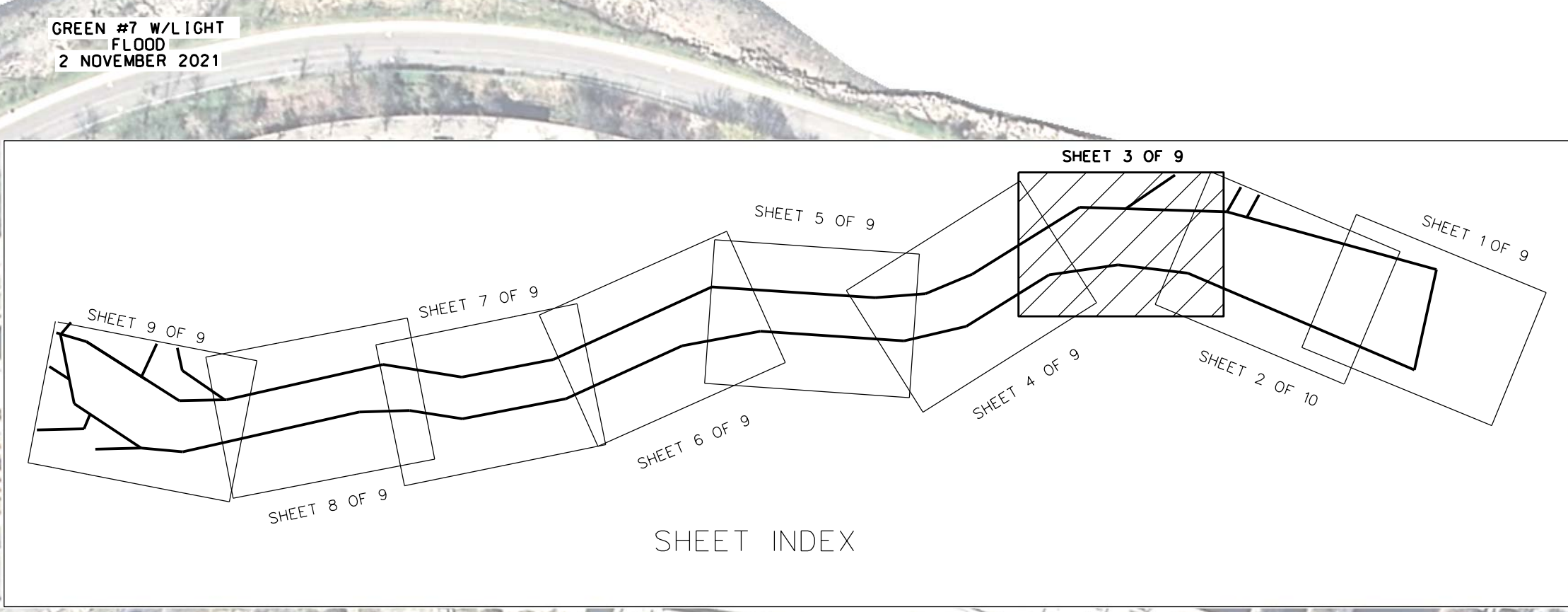
VH-102
SHEET 2 OF 9

NO. 5110/NS
SHEET 2 OF 9



RED #6 W/LIGHT FLOOD 2 NOVEMBER 2021

GREEN #5 W/LIGHT FLOOD 2 NOVEMBER 2021



NSRS BENCHMARK	
BENCHMARK:	TIDAL NO 6 STA 4 (KX0611)
ELEVATION:	7.65' (NAVD 1988)
LOCAL CONTROL DATA	
BENCHMARK:	AJD 10029
ELEVATION:	8.32' (NAVD 1988)

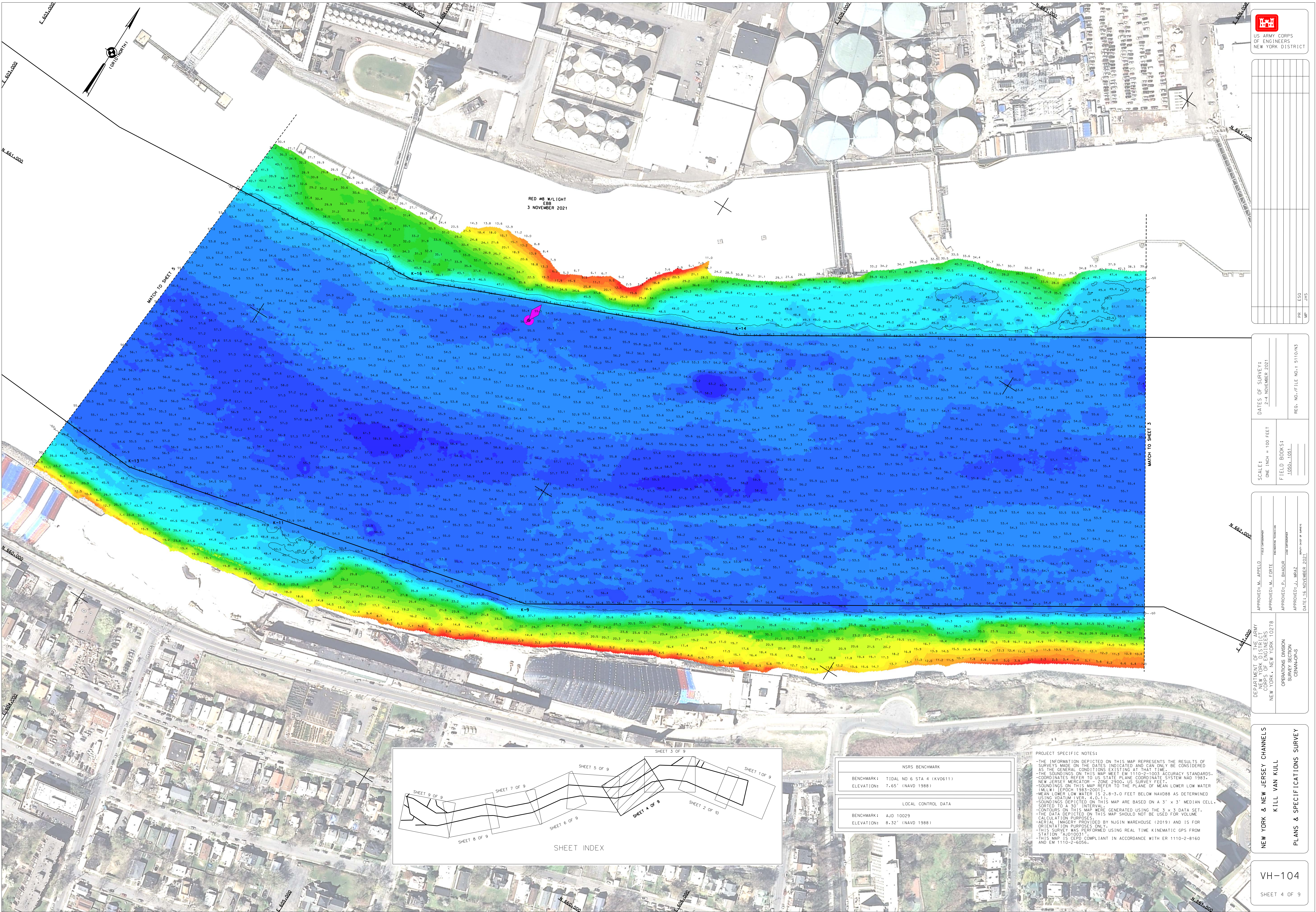
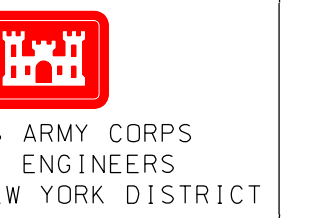
PROJECT SPECIFIC NOTES:
 - THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
 - THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1003 ACCURACY STANDARDS.
 - COORDINATES REFER TO US STATE 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) (EPCH 1983-2001).
 - MEAN LOWER LOW WATER IS 2.0-3.0 FEET BELOW NAVD88 AS DETERMINED USING VDATUM IVER, 4.0.11.
 - SOUNDINGS DEPICTED ON THIS MAP ARE BASED ON A 3' x 3' MEDIAN CELL, SORTED TO A 30' INTERVAL.
 - CONTOURS ON THIS MAP WERE GENERATED USING THE 3' x 3' DATA SET.
 - AERIAL IMAGERY PROVIDED BY NUGIN WAREHOUSE (2019) AND IS FOR ORIENTATION PURPOSES ONLY.
 - THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION "A010031".
 - THIS MAP IS CEPO COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

DATE OF SURVEY:	2-4 NOVEMBER 2021
SCALE:	ONE INCH = 100 FEET
FIELD BOOKS:	18501, 1051
REG. NO./FILE NO.:	5110/NS
DATE:	16 NOVEMBER 2021

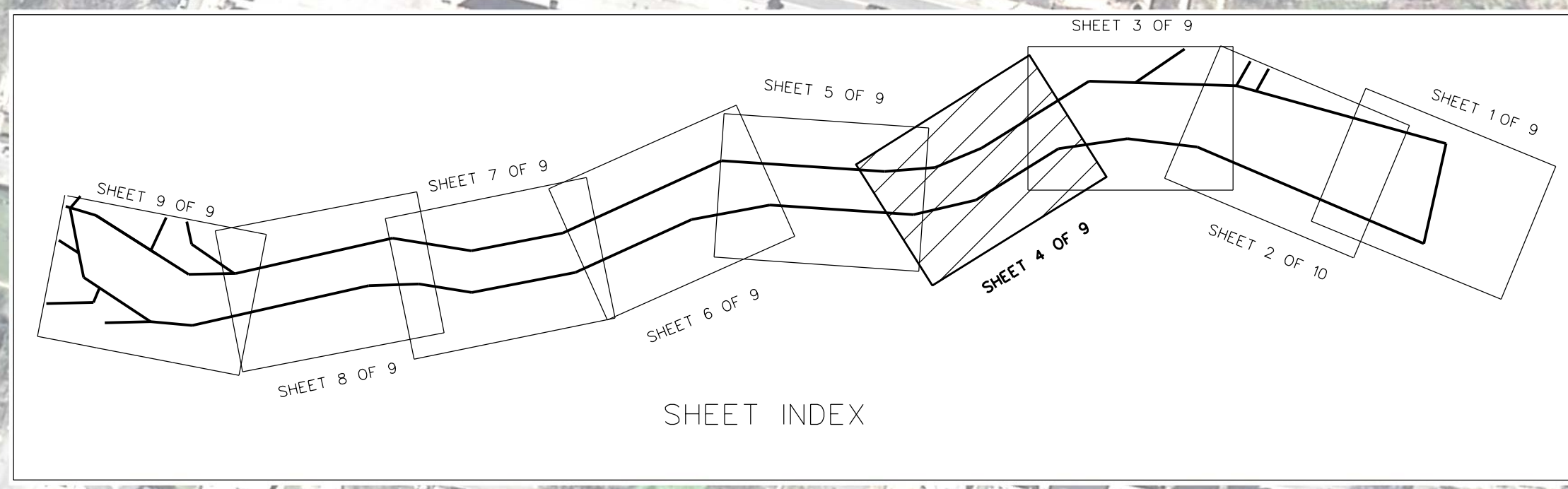
APPROVED:	M. ARPEL	TEST ENGINEER
APPROVED:	M. FORRE	REGISTERED SURVEYOR
APPROVED:	P. BHADUR	REGISTERED SURVEYOR
APPROVED:	J. WREZ	REGISTERED SURVEYOR

DEPARTMENT OF THE ARMY	OPERATIONS DIVISION
NEW YORK & NEW JERSEY CHANNELS	NEW YORK & NEW JERSEY CHANNELS
KILL VAN KULL	KILL VAN KULL
PLANS & SPECIFICATIONS SURVEY	PLANS & SPECIFICATIONS SURVEY

VH-103
SHEET 3 OF 9



RED #8 W/LIGHT
EBB
3 NOVEMBER 2021



NSRS BENCHMARK	
BENCHMARK:	TIDAL NO 6 STA 4 (KVG011)
ELEVATION:	7.65' (NAVD 1988)

LOCAL CONTROL DATA	
BENCHMARK:	AJD 10029
ELEVATION:	8.32' (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) (PERCH 1983-2001).
- MEAN LOWER LOW WATER IS 2.8-3.0 FEET BELOW NAVD83 AS DETERMINED USING VDATUM (VER. 4.0.1).
- SOUNDINGS DEPICTED ON THIS MAP ARE BASED ON A 3' x 3' MEDIAN CELL, SORTED TO A 30' INTERVAL.
- CALCULATION PURPOSES.
- ORIENTATION PURPOSES ONLY.
- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION AJD001.
- THIS MAP IS CEIP COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

DATE OF SURVEY:	14 NOVEMBER 2021
SCALE:	ONE INCH = 100 FEET
FIELD BOOKS:	JBS01-1001
REQ. NO./FILE NO.:	5110XNS
APP.:	JMS

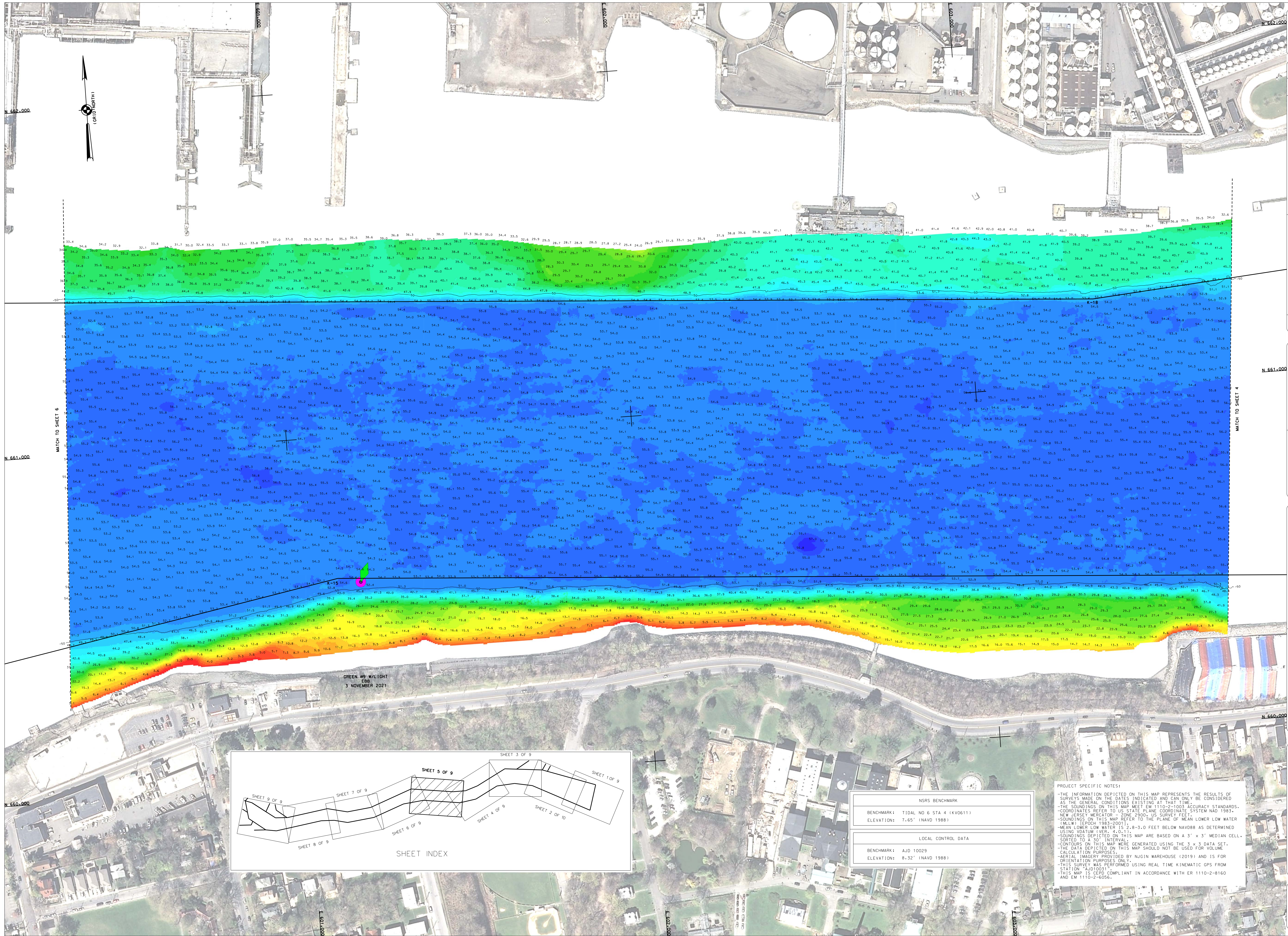
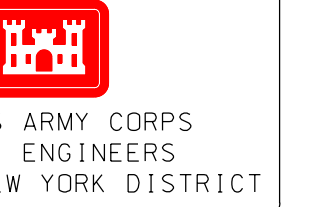
APPROVED: M. APPEL
 APPROVED: M. FORBE
 APPROVED: J. BHADUR
 APPROVED: J. MRAZ

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

OPERATIONS DIVISION
 SURVEYING BRANCH
 CENNAPOCS

NEW YORK & NEW JERSEY CHANNELS
 KILL VAN KULL
 PLANS & SPECIFICATIONS SURVEY

VH-104
 SHEET 4 OF 9

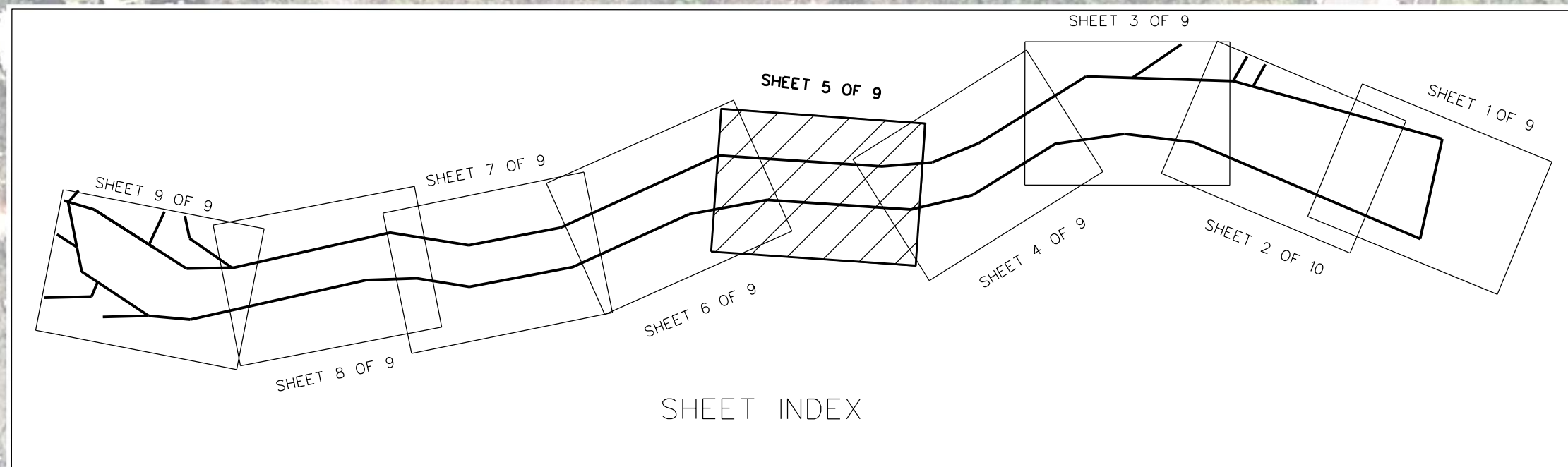


DATE OF SURVEY:	1-4 NOVEMBER 2021
SCALE:	ONE INCH = 100 FEET
FIELD BOOKS:	19501_109
REVISIONS:	NO. / FILE NO. / DATE
BY:	EDD
CHECKED BY:	JMS

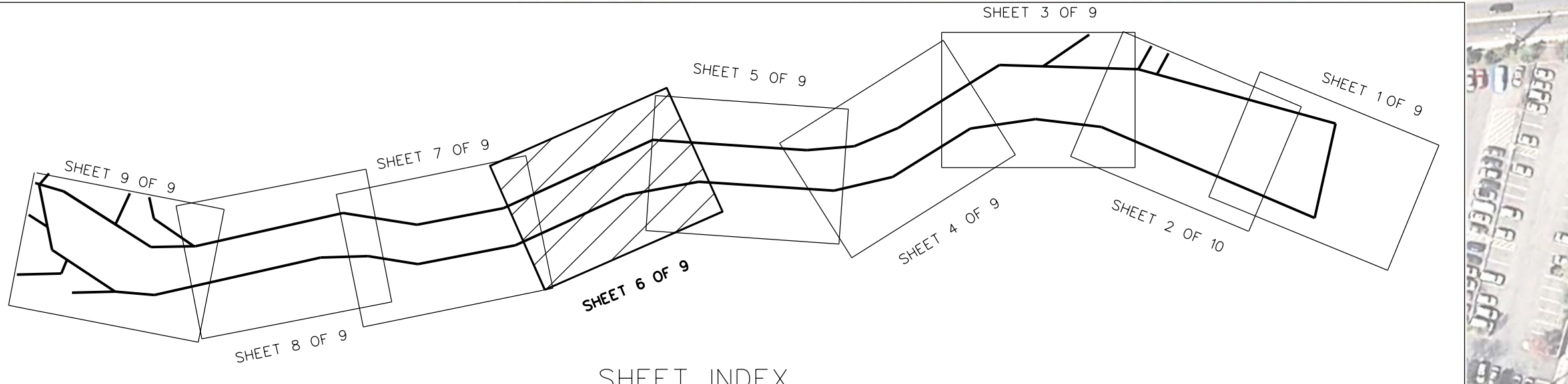
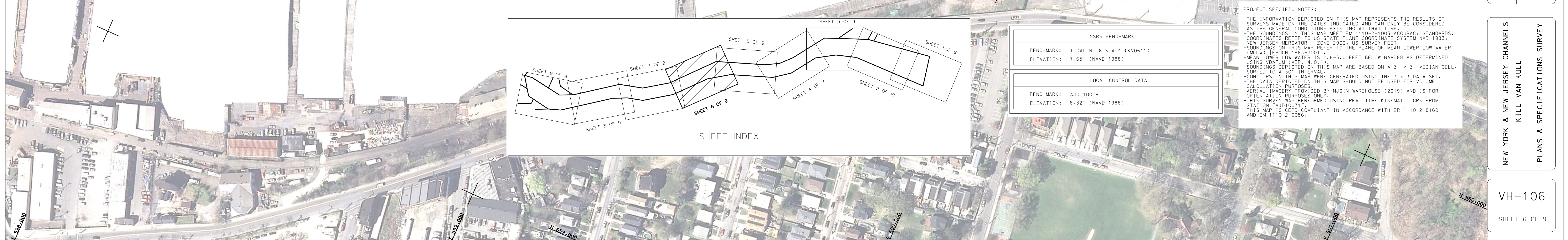
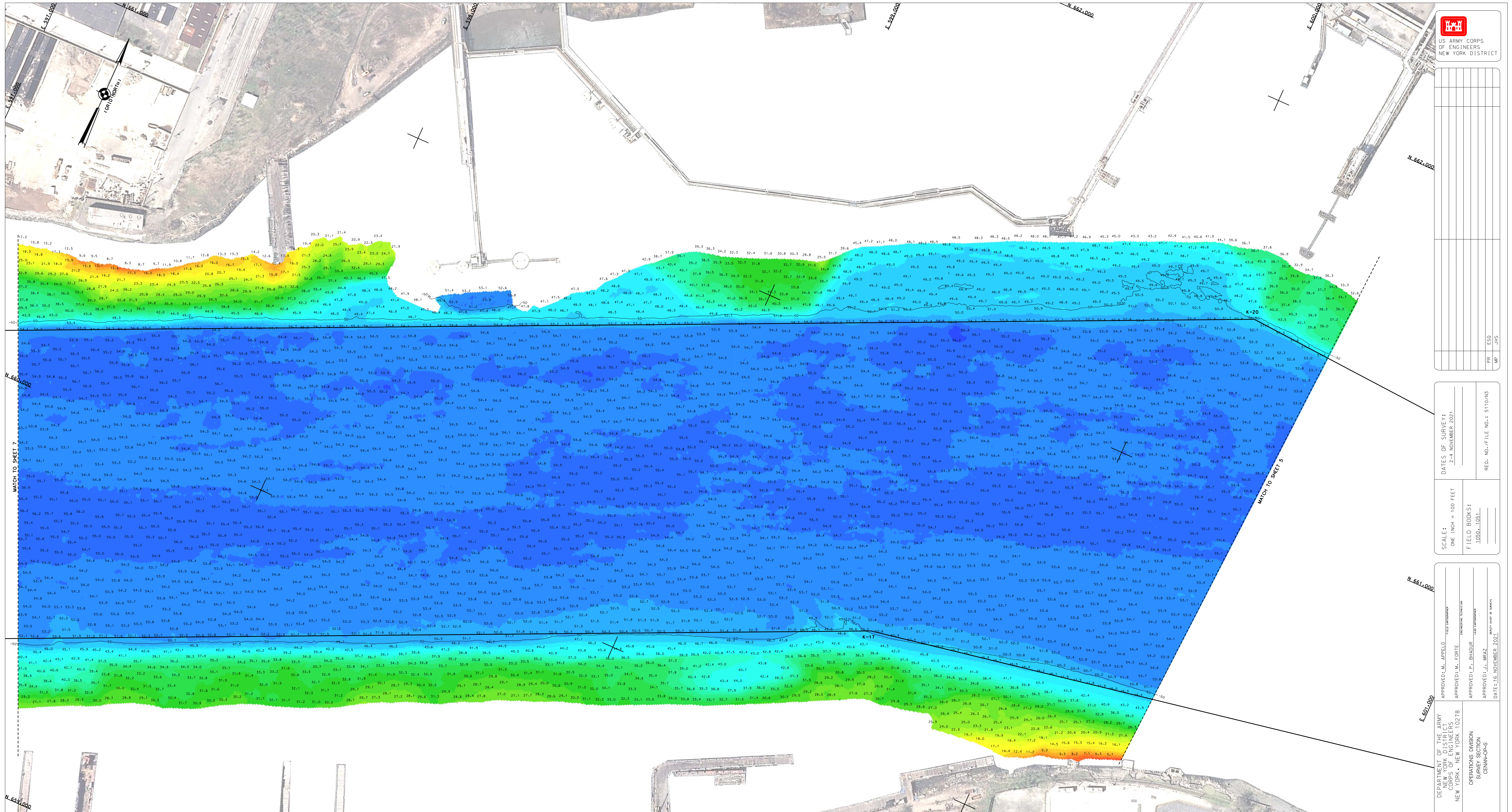
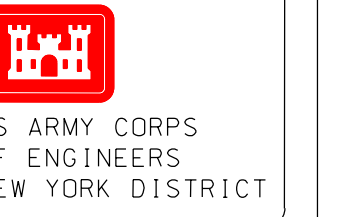
OPERATIONS DIVISION
NEW YORK & NEW JERSEY CHANNELS
KILL VAN KULL
PLANS & SPECIFICATIONS SURVEY

APPROVED: M. ARPEL
APPROVED: M. FORBE
APPROVED: J. BHADUR
APPROVED: J. MRZ
DATE: 16 NOVEMBER 2021

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 2900, US SURVEY FEET.
-SOUNDINGS ON THIS MAP REFER TO THE PLANE OF MEAN LOWER LOW WATER (M.L.L.W.) (FLOOD 1993-2001).
-MEAN LOWER LOW WATER IS 2.8-3.0 FEET BELOW NAVD88 AS DETERMINED USING NAVD88 (EVER 4.0:1).
-SOUNDINGS DEPICTED ON THIS MAP ARE BASED ON A 3' x 3' MEDIAN CELL, SORTED TO A 30' 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 ONLY.
-AERIAL IMAGERY PROVIDED BY NJGIS WAREHOUSE (2019) AND IS FOR ORIENTATION PURPOSES ONLY.
-THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION JAU0033.
-THIS MAP IS CEIP COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.



NSRS BENCHMARK	
BENCHMARK:	TIDAL NO 6 STA 4 (KV0611)
ELEVATION:	7.65' (NAVD 1988)
LOCAL CONTROL DATA	
BENCHMARK:	AJD 10029
ELEVATION:	8.32' (NAVD 1988)



SHEET INDEX

NSRS BENCHMARK	
BENCHMARK:	TIDAL NO 6 STA 4 (KV0611)
ELEVATION:	7.65' (NAVD 1988)
LOCAL CONTROL DATA	
BENCHMARK:	AJD 10029
ELEVATION:	8.32' (NAVD 1988)

PROJECT SPECIFIC NOTES:

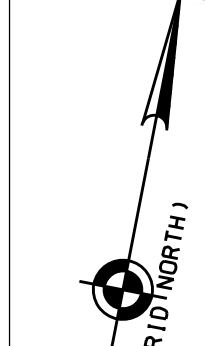
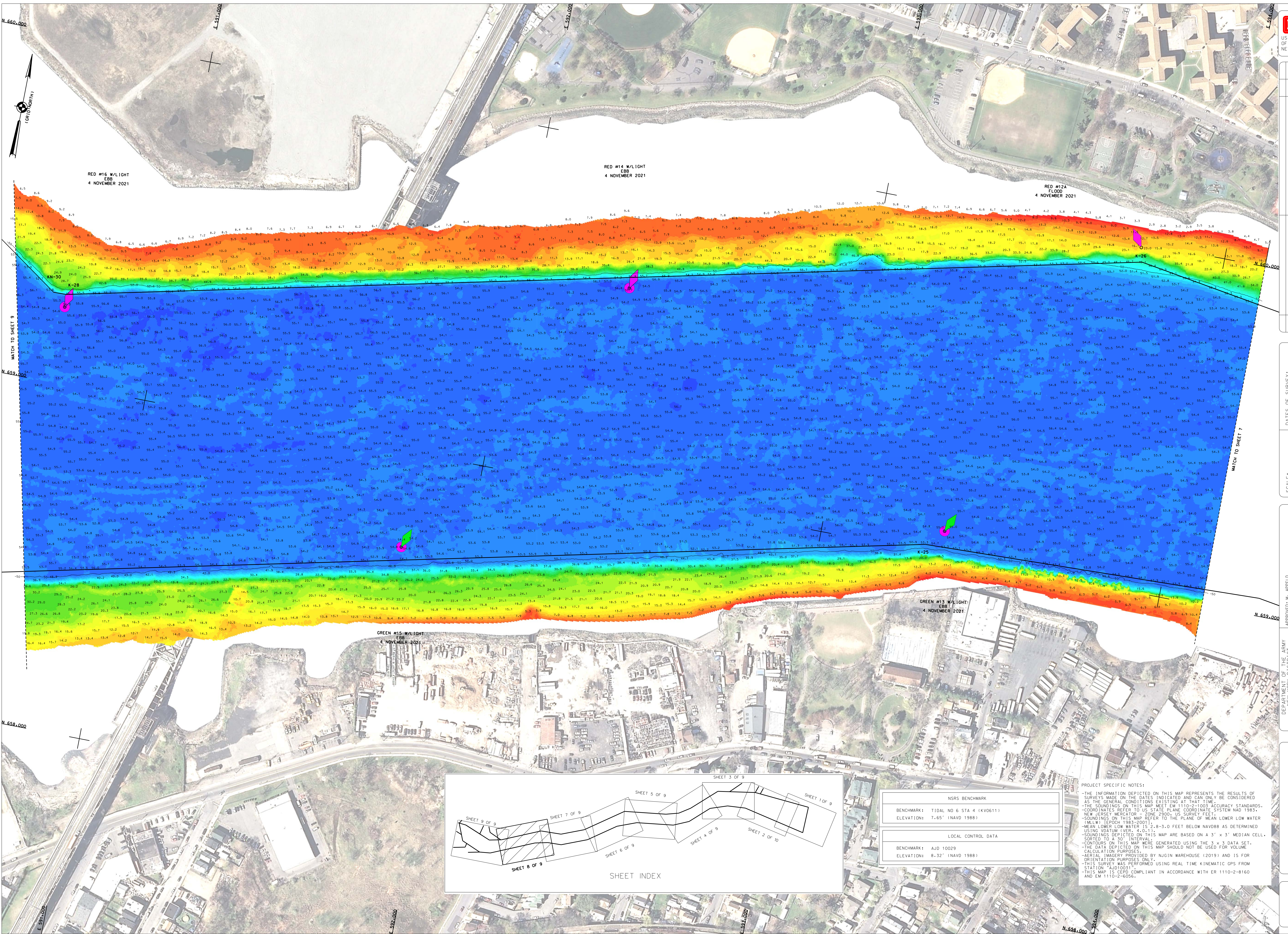
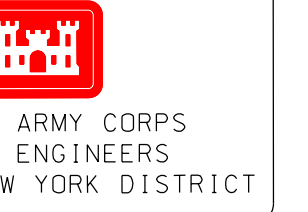
- THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS THE GENERAL CONDITIONS EXISTING AT THAT TIME.
- THE SOUNDINGS ON THIS MAP MEET EM 1110-2-1.003 ACCURACY STANDARDS.
- COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983, NEW JERSEY MERCATOR - ZONE 2000, US SURVEY FEET.
- SOUNDINGS ON THIS MAP REFER TO THE PLANE OF MEAN LOWER LOW WATER (M.L.L.W.) (FIPS 1983-2000).
- MEAN LOWER LOW WATER IS 2.8-3.0 FEET BELOW NAVD88 AS DETERMINED USING VDATUM (VER 4.42.0.1).
- SOUNDINGS DEPICTED ON THIS MAP ARE BASED ON A 3' x 3' MEDIAN CELL, SORTED TO A 30' 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 UGIN WAREHOUSE (2019) AND IS FOR ORIENTATION PURPOSES ONLY.
- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION_AJD10031.
- THIS MAP IS CEPT COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

DATE:	2-4 NOVEMBER 2021
SCALE:	ONE INCH = 100 FEET
FIELD BOOKS:	15504_105
REG. NO./FILE NO.:	5110/NS

APPROVED:	M. ARPEL	TEXT ENGINEER
APPROVED:	M. FORBE	TEXT ENGINEER
APPROVED:	P. BHADOR	TEXT ENGINEER
APPROVED:	J. WREZ	TEXT ENGINEER
DATE:	16 NOVEMBER 2021	

DEPARTMENT OF THE ARMY	CORPS OF ENGINEERS	NEW YORK DISTRICT
OPERATIONS DIVISION	CINTRANS	

NEW YORK & NEW JERSEY CHANNELS
KILL VAN KULL
PLANS & SPECIFICATIONS SURVEY

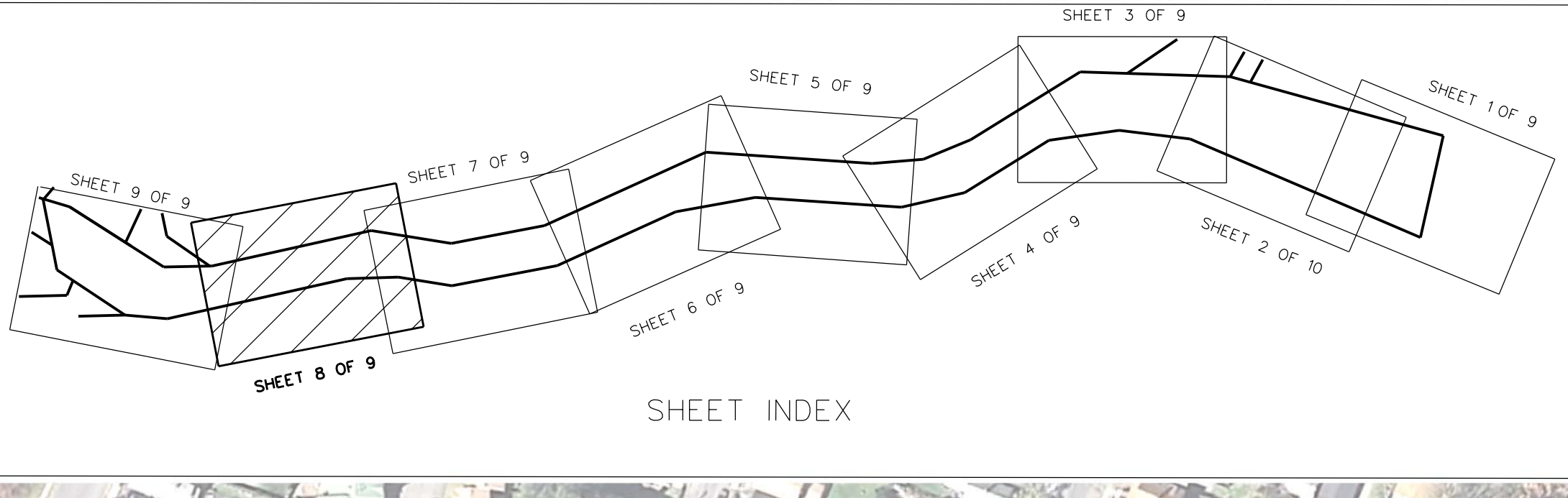


RED #16 W/LIGHT
EBB
4 NOVEMBER 2021

RED #14 W/LIGHT
EBB
4 NOVEMBER 2021

RED #12A
FLOOD FLOOD
4 NOVEMBER 2021

GREEN #15 W/LIGHT
EBB
4 NOVEMBER 2021



NSRS BENCHMARK	
BENCHMARK:	TIDAL NO 6 STA 4 (KY0611)
ELEVATION:	7.65' (NAVD 1988)
LOCAL CONTROL DATA	
BENCHMARK:	AJD 10029
ELEVATION:	8.32' (NAVD 1988)

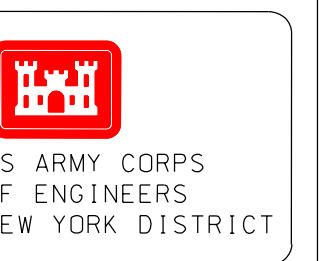
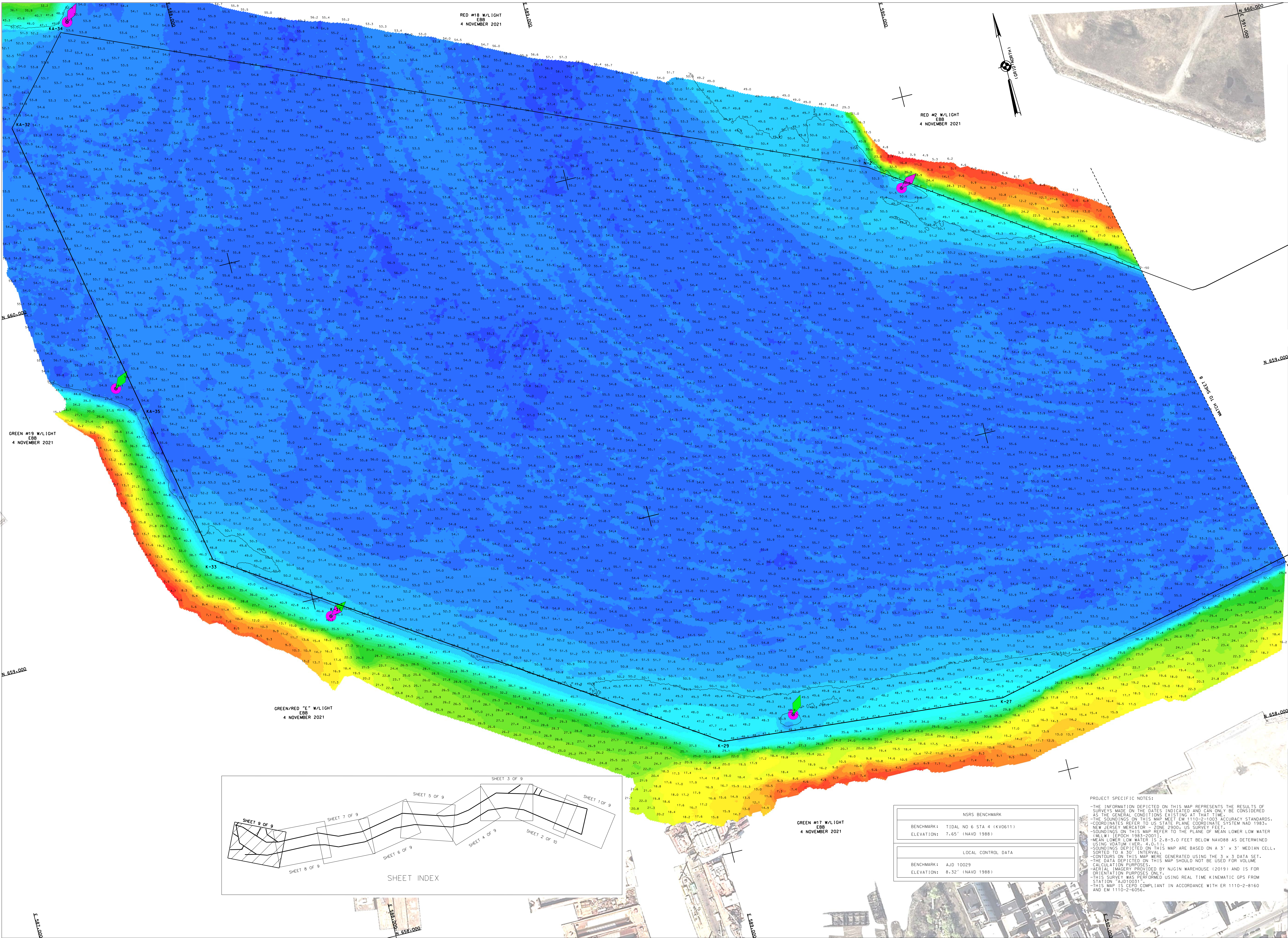
PROJECT SPECIFIC NOTES:

- 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.
- SOUNDINGS ON THIS MAP MEET EM 1110-2-1.003 ACCURACY STANDARDS.
- COORDINATES REFER TO US STATE PLANE COORDINATE SYSTEM NAD 1983.
- NEW JERSEY MERCATOR PROJECTION, 2300M, US SURVEY FEET.
- SOUNDINGS ON THIS MAP REFER TO THE PLANE OF MEAN LOWER LOW WATER.
- MEAN LOWER LOW WATER IS 2.8-3.0 FEET BELOW NAVD88 AS DETERMINED USING DATUM (VER. 4.0.11).
- SOUNDINGS DEPICTED ON THIS MAP ARE BASED ON A 3' x 3' MEDIAN CELL, SORTED TO A 30' 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 NUGEN WAREHOUSE (2019) AND IS FOR ORIENTATION PURPOSES ONLY.
- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION AJD0031.
- THIS MAP IS CEPD COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

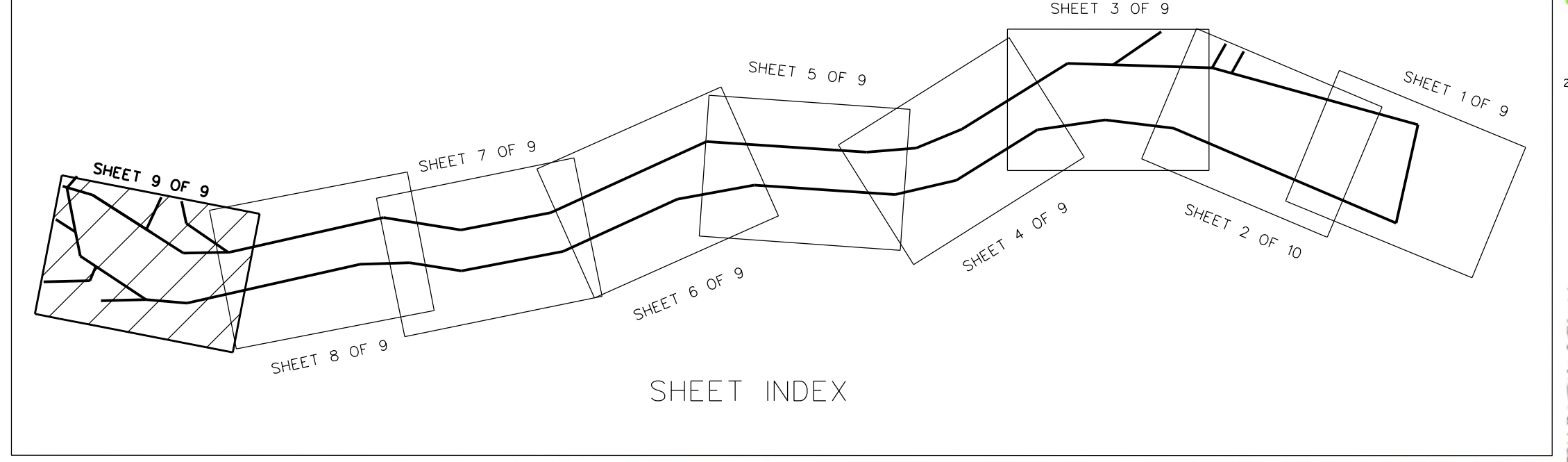
DATE OF SURVEY:	4 NOVEMBER 2021
SCALE:	ONE INCH = 100 FEET
FIELD BOOKS:	18501, 1051
REVISIONS:	
DATE:	16 NOVEMBER 2021
APPROVED:	M. APPEL
APPROVED:	M. FORBIE
APPROVED:	P. BRADSHAW
APPROVED:	J. WREZ
DATE:	16 NOVEMBER 2021

OPERATIONS DIVISION	NEW YORK & NEW JERSEY CHANNELS
SECTION	KILL VAN KULL
PROJECT	PLANS & SPECIFICATIONS SURVEY
PROJECT NO.	VH-108
SHEET NO.	8 OF 9

DEPARTMENT OF THE ARMY	CORPS OF ENGINEERS	NEW YORK & NEW JERSEY CHANNELS
OPERATIONS DIVISION	NEW YORK & NEW JERSEY CHANNELS	KILL VAN KULL
SECTION	PLANS & SPECIFICATIONS SURVEY	
PROJECT NO.	VH-108	
SHEET NO.	8 OF 9	



DATE OF SURVEY: 24 NOVEMBER 2021	REG. NO./FILE NO.: 5110/AS
SCALE: ONE INCH = 100 FEET	FIELD BOOKS: J801 - J801
APPROVED: M. APPEL NEW YORK DISTRICT NEW YORK, NEW YORK 10278	APPROVED: J. BRAUER NEW YORK DISTRICT NEW YORK, NEW YORK 10278
OPERATIONS DIVISION SURVEY SECTION CORPS OF ENGINEERS	DATE: 18 NOVEMBER 2021



NRSR BENCHMARK BENCHMARK: TIDAL NO 6 STA 4 (KV0611) ELEVATION: 7.65' (NAVD 1988)
LOCAL CONTROL DATA BENCHMARK: AJO 10029 ELEVATION: 8.32' (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 2.6-3.0 FEET BELOW NAVD88 AS DETERMINED USING VDATUM (VER. 4.0-11).
- SOUNDINGS DEPICTED ON THIS MAP ARE BASED ON A 3' x 3' MEDIAN CELL, SORTED TO A 30' INTERVAL.
- CALCULATION PURPOSES.
- THE DATA DEPICTED ON THIS MAP SHOULD NOT BE USED FOR VOLUME CALCULATION PURPOSES.
- AERIAL IMAGERY PROVIDED BY NGIN WAREHOUSE (2019) AND IS FOR ORIENTATION PURPOSES ONLY.
- THIS SURVEY WAS PERFORMED USING REAL TIME KINEMATIC GPS FROM STATION AJ010031.
- THIS MAP IS CEPO COMPLIANT IN ACCORDANCE WITH ER 1110-2-8160 AND EM 1110-2-6056.

NEW YORK & NEW JERSEY CHANNELS
KILL VAN KULL
PLANS & SPECIFICATIONS SURVEY
VH-109
SHEET 9 OF 9