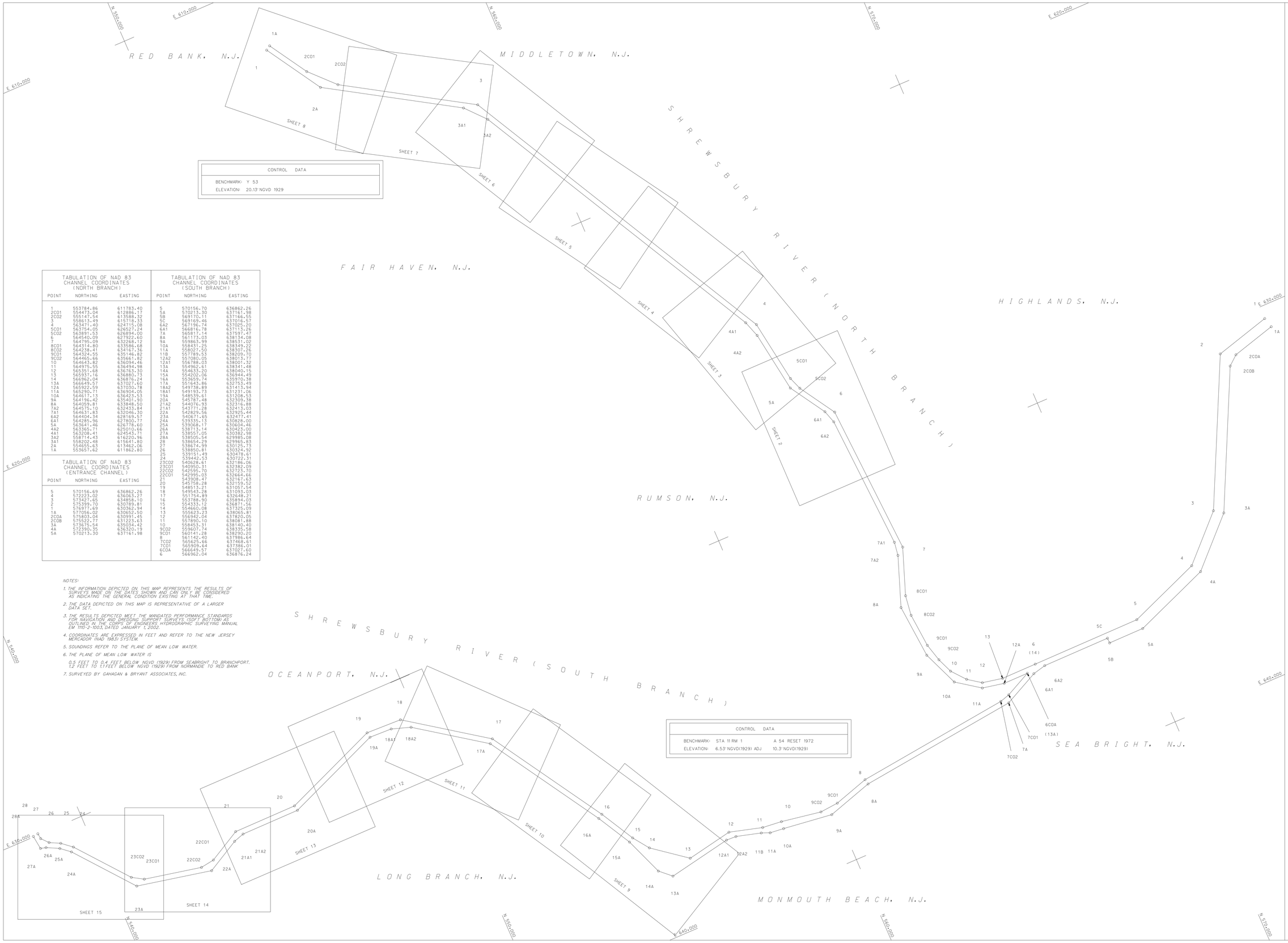
CORPS OF ENGINEERS

U. S. ARMY



CONTROL DATA	
BENCHMARK:	Y 53
ELEVATION:	20.13' NGVD 1929

CONTROL DATA		
BENCHMARK:	STA 11 RM 1	A 54 RESET 1972
ELEVATION:	6.53' NGVD(1929) ADJ	10.3' NGVD(1929)

TABULATION OF NAD 83 CHANNEL COORDINATES (NORTH BRANCH)

POINT	NORTHING	EASTING
1	553784.86	611783.40
2CO1	554473.04	612886.17
2CO2	555147.54	613589.32
2	558613.49	615718.33
3	563471.40	624715.08
3CO1	563754.05	626527.24
3CO2	563891.53	626894.00
5	564540.09	627922.60
7	564795.09	632268.12
8CO1	564314.80	633586.68
8CO2	564238.41	634167.36
9CO1	564324.55	635146.82
9CO2	564465.66	635661.82
10	564643.82	636094.46
11	564975.55	636494.98
12	565351.68	636763.30
13	565937.16	636880.73
14	566962.04	636876.24
13A	566649.57	637027.60
12A	565922.59	637030.78
11A	565290.71	636904.05
10A	564617.13	636423.53
9A	564196.42	635401.90
8A	564059.81	633848.50
7A2	564575.10	632433.84
7A1	564631.83	632046.30
6A2	564404.34	628169.57
6A1	564285.96	627800.77
5A	563641.46	626778.60
4A2	563365.71	625010.66
4A1	563208.41	624543.71
3A2	558714.43	616220.96
3A1	558202.48	615641.80
2A	554655.63	613462.06
1A	553657.62	611862.80

TABULATION OF NAD 83 CHANNEL COORDINATES (ENTRANCE CHANNEL)

POINT	NORTHING	EASTING
5	570156.69	636862.26
4	572223.02	636063.27
3	573427.65	634858.10
2	575399.70	630789.81
1	576977.69	630362.94
1A	577056.02	630652.50
2COA	575803.04	630991.45
2COB	575522.77	631223.63
3A	573675.54	635034.42
4A	572390.35	636320.19
5A	570213.30	637161.98

TABULATION OF NAD 83 CHANNEL COORDINATES (SOUTH BRANCH)

POINT	NORTHING	EASTING
5	570156.70	636862.26
5A	570213.30	637161.98
5B	569170.11	637166.55
5C	569169.46	637016.57
6A2	567196.74	637025.20
6A1	566816.78	637113.26
7A	565817.14	637597.47
8A	561173.03	638134.08
9A	559863.99	638531.02
10A	558431.25	638349.22
11A	558027.50	638307.26
11B	557789.53	638209.70
12A2	557080.05	638013.77
12A1	556788.03	638001.32
13A	554962.61	638341.48
14A	554633.20	638040.15
15A	554202.06	636944.49
16A	553659.74	635970.38
17A	551643.86	632753.49
18A2	549738.89	631413.94
18A1	549193.73	631231.06
19A	548539.61	631208.53
20A	545787.48	632309.38
21A2	544076.93	632316.88
21A1	543771.28	632413.03
22A	542829.56	632925.44
23A	540671.65	632477.41
24A	539335.13	630828.00
25A	539068.17	630604.46
26A	538713.14	630423.00
27A	538557.05	630382.98
28A	538505.54	629985.08
28	538654.29	629965.83
27	538674.99	630125.73
26	538850.81	630324.92
25	539151.49	630478.61
24	539442.53	630722.31
23CO2	540628.61	632186.06
23CO1	540950.31	632382.09
22CO2	542595.70	632723.70
22CO1	542995.03	632664.66
21	543908.47	632167.63
20	545758.28	632159.52
19	548513.21	631057.54
18	549543.28	631093.03
17	551754.89	632648.21
16	553788.90	635894.03
15	554333.12	636871.56
14	554660.08	637325.09
13	555623.23	638065.81
12	556942.04	637820.05
11	557890.10	638081.88
10	558453.31	638140.40
9CO2	559607.74	638335.58
9CO1	560141.28	638290.20
8	561142.40	637986.64
7CO2	565623.66	637468.61
7CO1	565909.64	637386.01
6COA	566649.57	637027.60
6	566962.04	636876.24

NOTES:

1. *THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.*
2. *THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.*
3. *THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.*
4. *COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCADOR (NAD 1983) SYSTEM.*
5. *SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.*
6. *THE PLANE OF MEAN LOW WATER IS*

   0.5 FEET TO 0.4 FEET BELOW NGVD (1929) FROM SEABRIGHT TO BRANCHPORT.
   1.2 FEET TO 1.1 FEET BELOW NGVD (1929) FROM NORMANDIE TO RED BANK
7. *SURVEYED BY GAHAGAN & BRYANT ASSOCIATES, INC.*

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

GBA GAHAGAN & BRYANT ASSOCIATES
ENGINEERS ★ SURVEYORS
GAHAGAN & BRYANT ASSOCIATES, INC.
63 WEST MAIN STREET, SUITE C
FREEHOLD, NEW JERSEY 07728
TEL: (732)462-5448 FAX: (732)655-9218
WEBADDRESS: GBA@GBA-INC.COM

DATES OF SURVEY: 23 AUG. - 7 SEP 2006

FILE NO.: 409
REQUEST NO.: 2965

SCALE: ONE INCH = 1000 FEET

FIELD BOOKS: NY-04-2006

APPROVED: GAHAGAN & BRYANT ASSOC., INC. — CHIEF SURVEYOR
APPROVED: FRED HEINMAN — PROJECT MANAGER
APPROVED: WAM II — CHIEF CARTOGRAPHER
APPROVED: R. KISS — CHIEF OF SURVEY
DATE: 19 SEPTEMBER 2006

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

OPERATIONS DIVISION
SURVEY SECTION
CEMAN-OP-S

SHREWSBURY RIVER
NEW JERSEY
CONDITION SURVEY

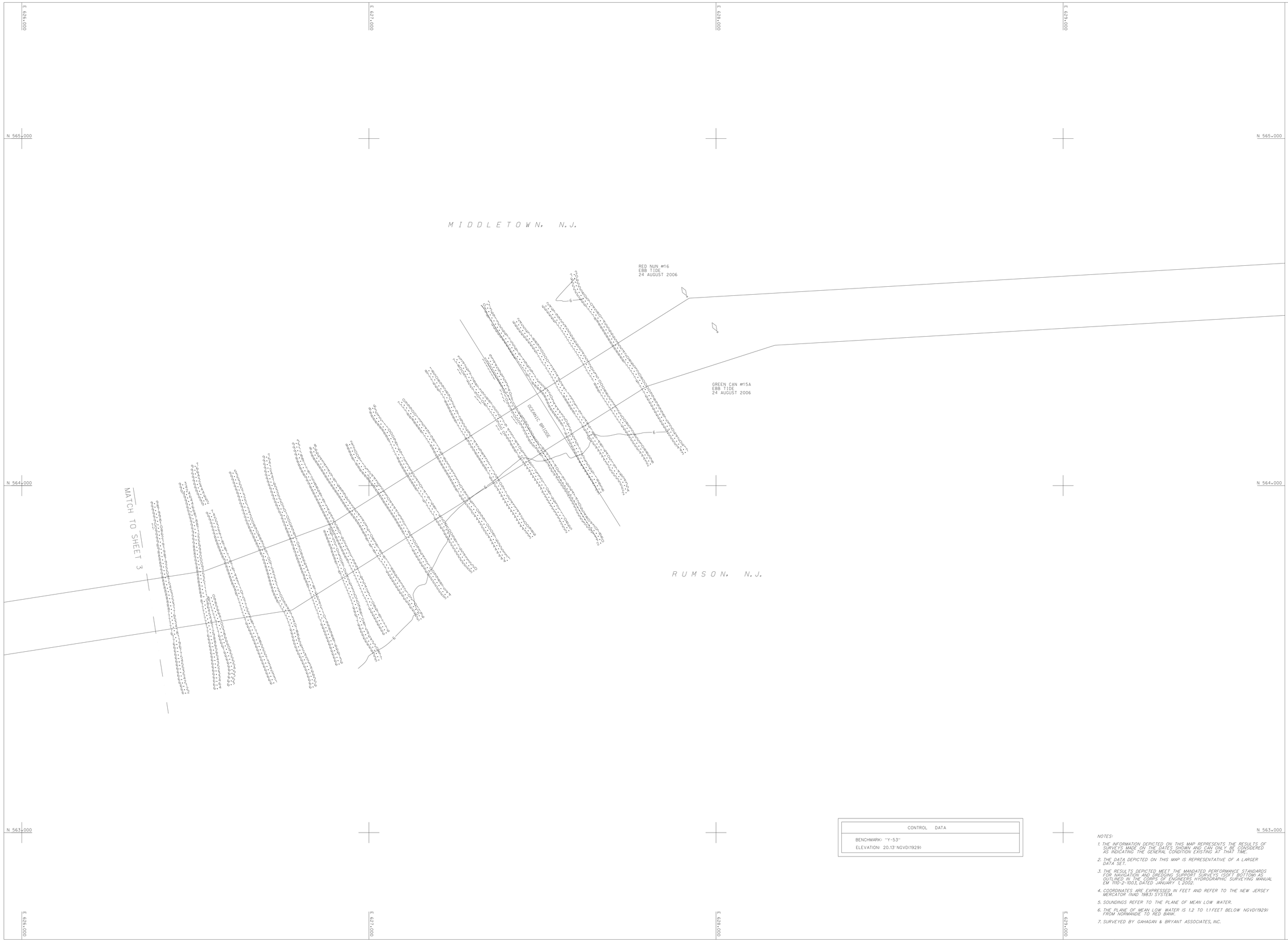
VH-101

SHEET 1 OF 15

409
2965

CORPS OF ENGINEERS

U. S. ARMY



CONTROL DATA
BENCHMARK: "Y-53"
ELEVATION: 20.13' NGVD(1929)

NOTES:

1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.
2. THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.
3. THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.
4. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCATOR (NAD 1983) SYSTEM.
5. SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.
6. THE PLANE OF MEAN LOW WATER IS 1.2 TO 1.1 FEET BELOW NGVD(1929) FROM NORMANDIE TO RED BANK.
7. SURVEYED BY GAHAGAN & BRYANT ASSOCIATES, INC.

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

GAHAGAN & BRYANT ASSOCIATES, INC.
ENGINEERS ★ SURVEYORS
2630 SUNRISE HIGHWAY, SUITE 1
CENTRAL ISLAND, NEW YORK 11722
TEL: (631)582-4848 FAX: (631)585-9218
E-MAIL: GBA@GBA-INC.COM

DATES OF SURVEY:
23 AUG. - 7 SEP 2006

FILE NO.: 409
REQUEST NO.: 2965

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
NY-04-2006

APPROVED: GAHAGAN & BRYANT ASSOC., INC.
LICENSED SURVEYOR

APPROVED: FRED HERMAN
PROJECT MANAGER

APPROVED: WM II
LICENSED HYDROGRAPHER

APPROVED: R. KISS
CHIEF OF SURVEY

DATE: 18 SEPTEMBER 2006

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

SHREWSBURY RIVER
NEW JERSEY
CONDITION SURVEY

VH–102

SHEET 2 OF 15

409
2965

CORPS OF ENGINEERS

U. S. ARMY

CONTROL DATA
BENCHMARK: "Y-53"
ELEVATION: 20.13' NGVD(1929)

NOTES:

1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.
2. THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.
3. THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.
4. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCATOR (NAD 1983) SYSTEM.
5. SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.
6. THE PLANE OF MEAN LOW WATER IS 1.2 TO 1.1 FEET BELOW NGVD(1929) FROM NORMANDIE TO RED BANK.
7. SURVEYED BY: GAHAGAN & BRYANT ASSOCIATES, INC.

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

GAHAGAN & BRYANT ASSOCIATES, INC.
CONSULTING HYDROGRAPHIC SURVEYORS
2803 KIRKWOOD HWY, SUITE D
BELMONT HILL PLAZA
BELMONT HILL, DELAWARE, 19810-1205
TEL: (302) 475-1110 FAX: (302) 475-9218
BILMONT@GBSA-INC.COM

DATES OF SURVEY:
23 AUG. 7 SEP 2006

FILE NO.: 409
REGIST NO.: 2965

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
NY-24-2006

APPROVED: GAHAGAN & BRYANT ASSOC. INC.
CHIEF HYDROGRAPHER
APPROVED: FRED HERMAN
PROJECT MANAGER
APPROVED: WAM II
LEAD CARTOGRAPHER
APPROVED: R. KISS
CHIEF OF SURVEY
DATE: 19 SEPTEMBER 2006

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

SHREWSBURY RIVER
NEW JERSEY
CONDITION SURVEY

VH–103

SHEET 3 OF 15

409
2965

U. S. ARMY

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

GBA
ENGINEERS * SURVEYORS
GAHAGAN & BRYANT ASSOCIATES, INC.
3601 KENNETT PIKE, SUITE 6
CENTREVILLE SQUARE
WILMINGTON, DELAWARE 19807-1935
TEL: 302/652-4848 FAX: 302/655-9298
WILMINGTONDE@BA-INC.COM

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
NY-04-2006

DATES OF SURVEY:
23 AUG, 7 SEP 2006

FILE NO.: 409
REQUEST NO.: 2965

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

APPROVED: GAHAGAN & BRYANT ASSOC. INC.
CHIEF OF SURVEY

APPROVED: FRED HERMAN
PROJECT MANAGER

APPROVED: MAM II
LEAD CARTOGRAPHER

APPROVED: R. KISS
CHIEF OF SURVEY

DATE: 19 SEPTEMBER 2006

SHREWSBURY RIVER
NEW JERSEY
CONDITION SURVEY

VH-104

SHEET 4 OF 15

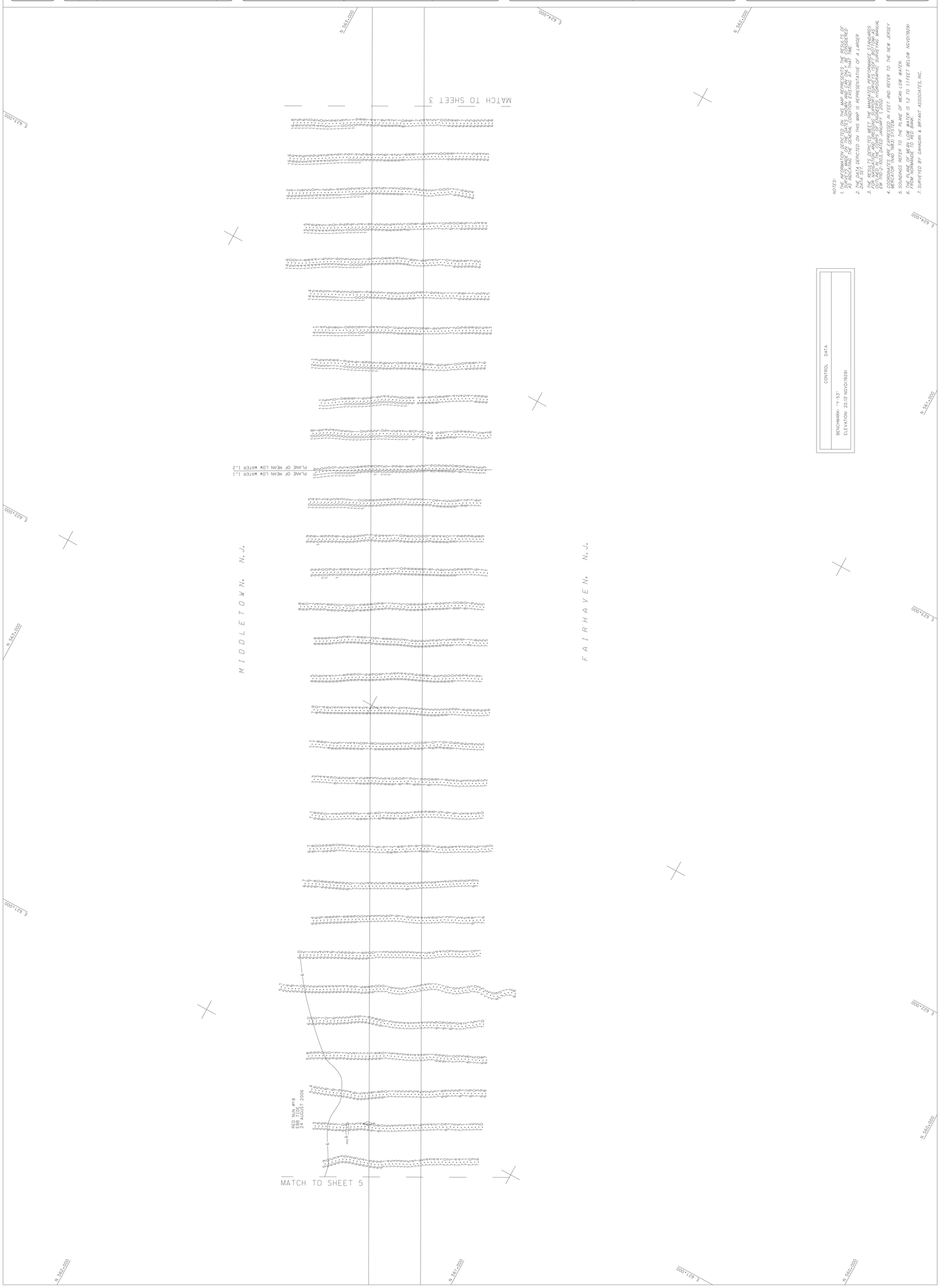
409
2965

NOTES:

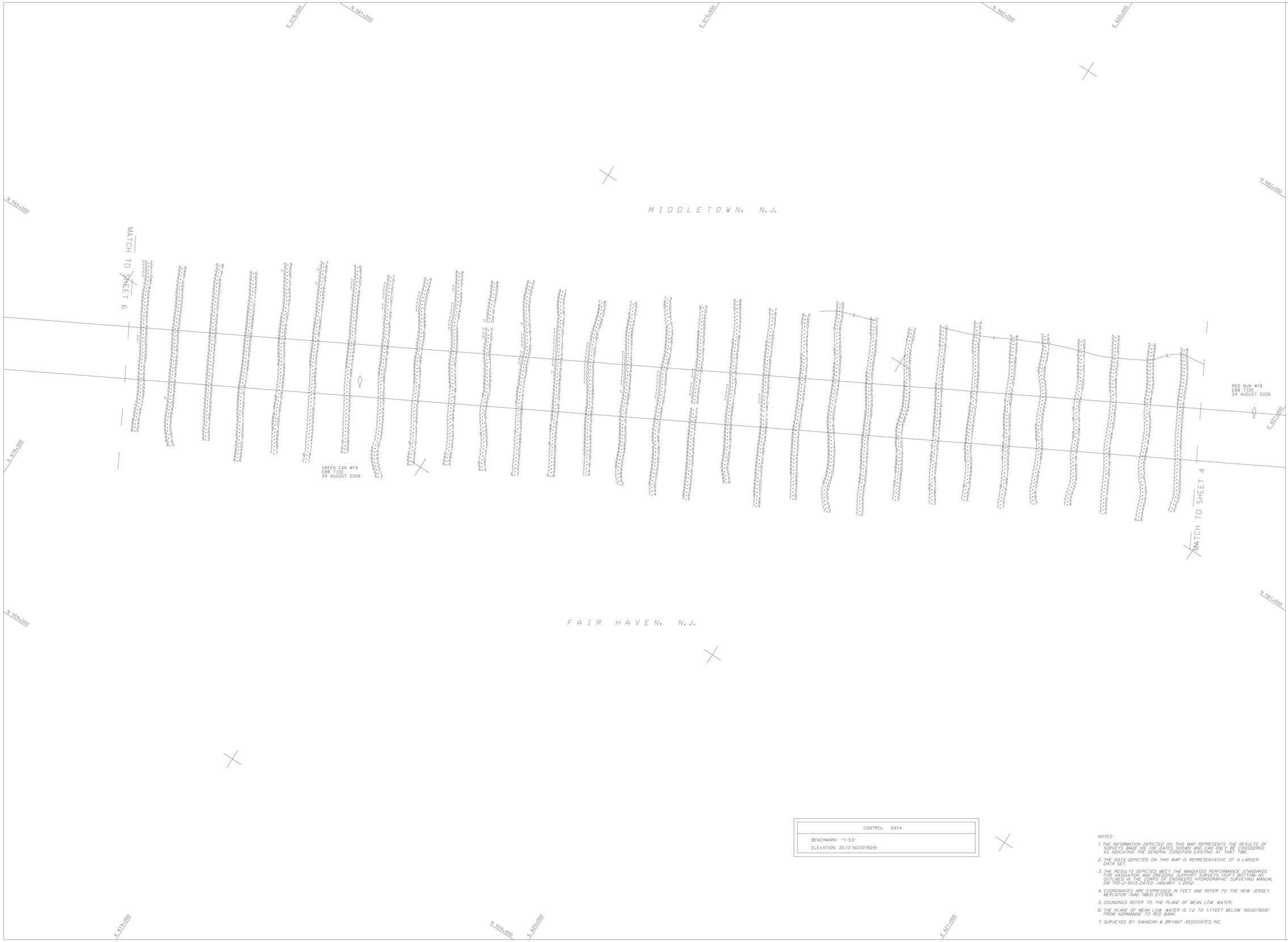
1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE AT THE TIME INDICATED AND MAY NOT BE ACCURATE AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.
2. THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER AREA.
3. THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS-USACE BOTTOM AS DEFINED IN ENGINEERING AND DESIGN, HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.
4. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY COORDINATE SYSTEM.
5. SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.
6. THE PLANE OF MEAN LOW WATER IS 1.2 TO 1.1 FEET BELOW NGVD(1929) FROM NORMANDE TO RED BANK.
7. SURVEYED BY GAHAGAN & BRYANT ASSOCIATES, INC.

CONTROL DATA

BENCHMARK: "Y"-53"
ELEVATION: 20.33' NGVD(1929)



CORPS OF ENGINEERS



CONTROL DATA
BENCHMARK: "Y-53"
ELEVATION: 20.13' NGVD(1929)

NOTES:

1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.
2. THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.
3. THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 110-2-1003, DATED JANUARY 1, 2002.
4. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCATOR (NAD 1983) SYSTEM.
5. SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.
6. THE PLANE OF MEAN LOW WATER IS 1.2 TO 1.1 FEET BELOW NGVD(1929) FROM NORMANDIE TO RED BANK.
7. SURVEYED BY GAHAGAN & BRYANT ASSOCIATES, INC.

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

GAHAGAN & BRYANT ASSOCIATES, INC.
GAHAGAN & BRYANT ASSOCIATES, INC.
2601 KINNEY AVENUE, SUITE D
CHESAPEAKE, VIRGINIA 23325
TEL: (757) 425-2444 FAX: (757) 425-5928
WWW.GBASHAC.COM

DATES OF SURVEY:
23 AUG., 7 SEP 2006

FILE NO.: 409
REGIST NO.: 2965

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
NY-04-2006

APPROVED: GAHAGAN & BRYANT ASSOC., INC.
CHIEF SURVEYOR

APPROVED: FRED HERMAN
PROJECT MANAGER

APPROVED: WAM II
CHIEF CARTOGRAPHER

APPROVED: R. KISS
CHIEF OF SURVEY

DATE: 19 SEPTEMBER 2006

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

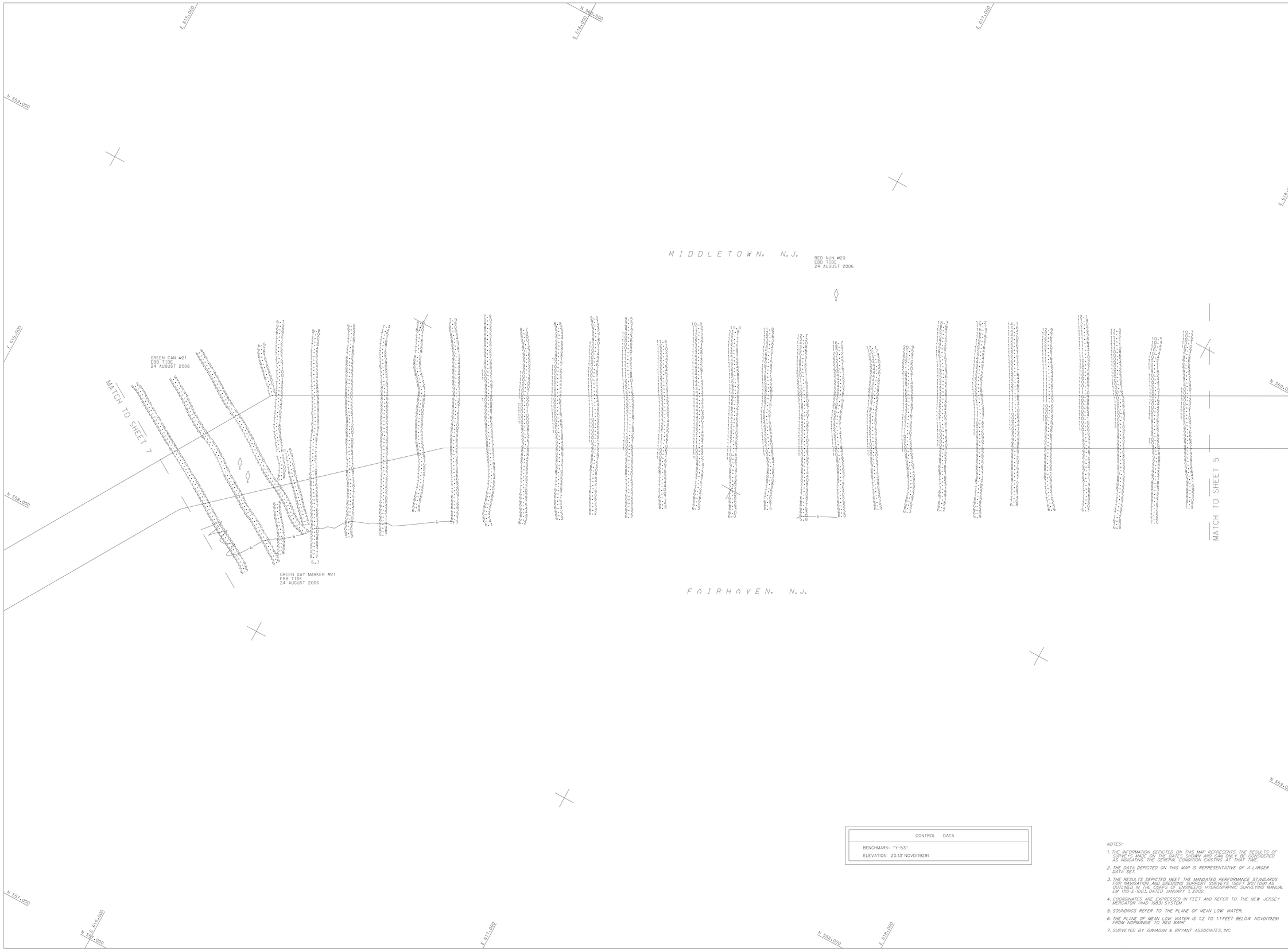
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

SHREWSBURY RIVER
NEW JERSEY
CONDITION SURVEY

VH–105

SHEET 5 OF 15

409
2965



CONTROL DATA
BENCHMARK: "Y-53"
ELEVATION: 20.13' NGVD(1929)

NOTES:

1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.
2. THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.
3. THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.
4. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCATOR (NAD 1983) SYSTEM.
5. SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.
6. THE PLANE OF MEAN LOW WATER IS 1.2 TO 1.1 FEET BELOW NGVD(1929) FROM NORMANDIE TO RED BANK.
7. SURVEYED BY GAHAGAN & BRYANT ASSOCIATES, INC.

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

GAHAGAN & BRYANT ASSOCIATES, INC.
ENGINEERS ★ SURVEYORS
2 DOUGLAS STREET
WILMINGTON, DELAWARE 19803-1195
TELEPHONE: (302) 655-9128
FAX: (302) 655-9129
WILMINGTON@GBA-INC.COM

DATES OF SURVEY:
23 AUG., 7 SEP 2006

FILE NO.: 409
AUGUST 2017 2965

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
NY-04-2006

APPROVED: GAHAGAN & BRYANT ASSOC. INC.
LICENSED SURVEYOR
APPROVED: FRED HERMANN
PROJECT MANAGER
APPROVED: WAM II
CHIEF CARTOGRAPHER
APPROVED: R. KISS
CHIEF OF SURVEY
DATE: 19 SEPTEMBER 2006

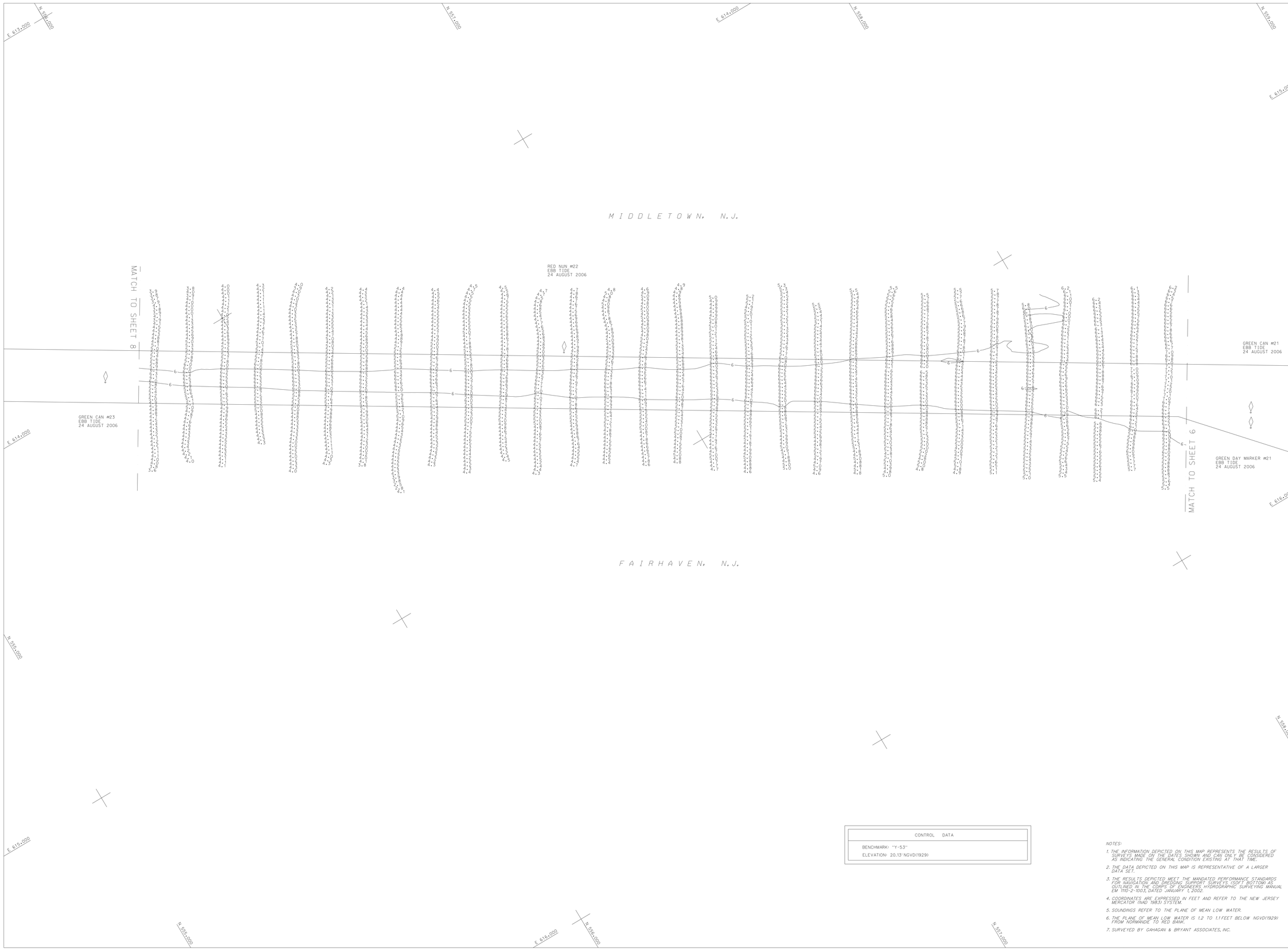
DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

SHREWSBURY RIVER
NEW JERSEY
CONDITION SURVEY

VH-106

SHEET 6 OF 15



CONTROL DATA
BENCHMARK: "Y-53"
ELEVATION: 20.13' NGVD(1929)

NOTES:

1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.
2. THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.
3. THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.
4. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCATOR (NAD 1983) SYSTEM.
5. SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.
6. THE PLANE OF MEAN LOW WATER IS 1.2 TO 1.1 FEET BELOW NGVD(1929) FROM NORMANDIE TO RED BANK.
7. SURVEYED BY GAHAGAN & BRYANT ASSOCIATES, INC.

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

GBA
ENGINEERING ★ SURVEYING
GAHAGAN & BRYANT ASSOCIATES, INC.
5803 KENNETT PIKE, SUITE D
P.O. BOX 1000
WILMINGTON, DELAWARE 19807-1105
TELEPHONE: (302) 654-4454 FAX: (302) 654-5218
WILMINGTON@GBA-INC.COM

DATES OF SURVEY:
23 AUG. - 7 SEP 2006

FILE NO.: 409
REELS: NO.1 RAW

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
NY-04-2006

APPROVED: GAHAGAN & BRYANT ASSOC. INC.
CHARLES GAHAGAN
APPROVED: FRED HEITMANN
PROJECT MANAGER
APPROVED: WAM II
LEAD CARTOGRAPHER
APPROVED: R. KISS
CHIEF OF SURVEY
DATE: 19 SEPTEMBER 2006

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

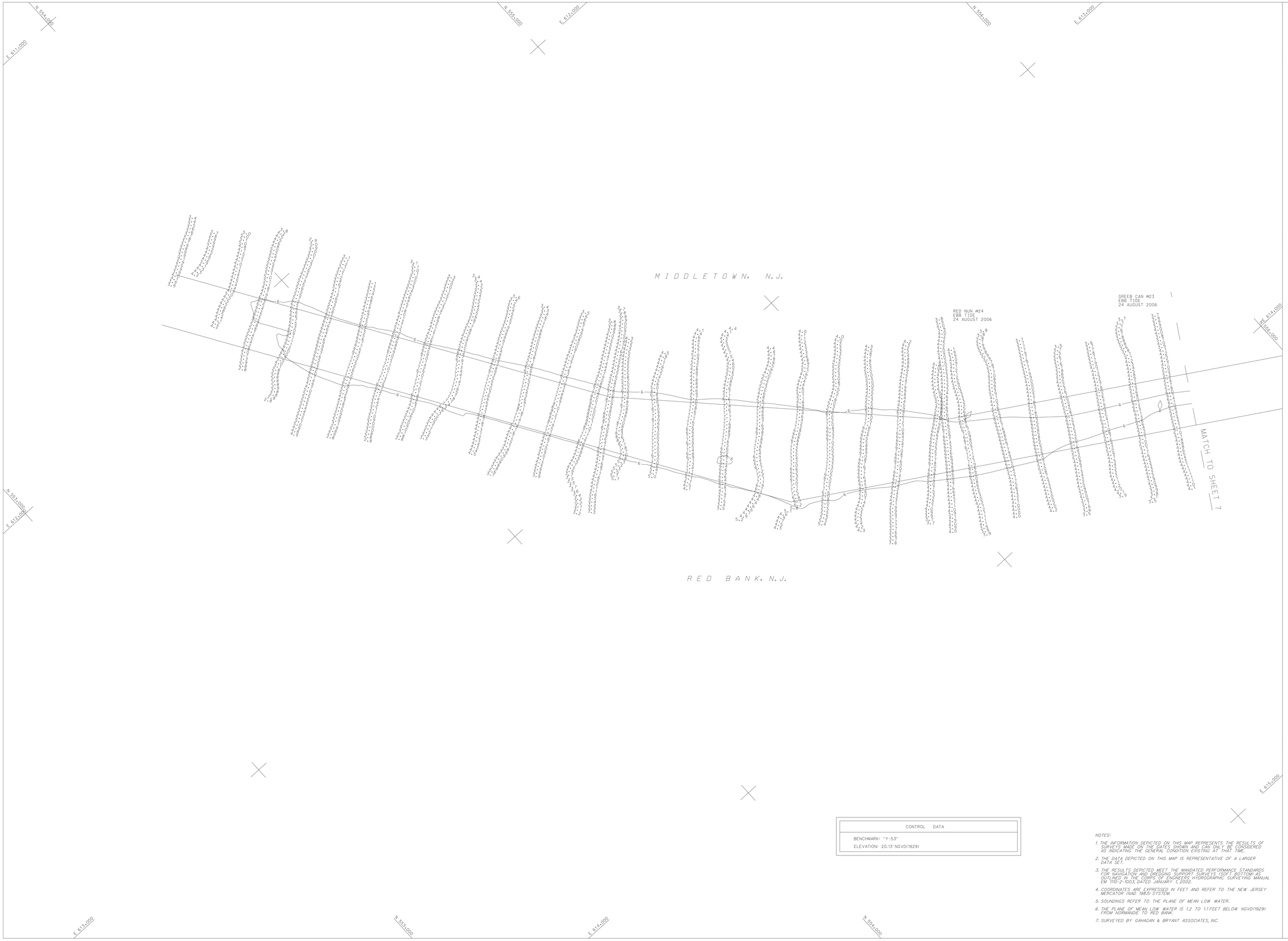
SHREWSBURY RIVER
NEW JERSEY
CONDITION SURVEY

VH-107

SHEET 7 OF 15

CORPS OF ENGINEERS

U. S. ARMY



CONTROL DATA
BENCHMARK: "Y-53"
ELEVATION: 20.13' NGVD(1929)

NOTES:

1. *THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.*
2. *THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.*
3. *THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.*
4. *COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCATOR (NAD 1983) SYSTEM.*
5. *SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.*
6. *THE PLANE OF MEAN LOW WATER IS 1.2 TO 1.1 FEET BELOW NGVD(1929) FROM NORMANDIE TO RED BANK.*
7. *SURVEYED BY GAHAGAN & BRYANT ASSOCIATES, INC.*

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

GBA
GAHAGAN & BRYANT ASSOCIATES, INC.
ENGINEERS ★ SURVEYORS
CARLL'S CORNER, SUITE 1
RT. 113 & DUPONT BLVD., SUITE D1
MILFORD, DELAWARE 19963-1795
TELEPHONE: (302) 422-1404 FAX: (302) 422-9218
WILMINGTON@GBA-INC.COM

DATES OF SURVEY:
23 AUG. - 7 SEP 2006

FILE NO.: 409
REQUEST NO.: 2965

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
NY-04-2006

APPROVED: GAHAGAN & BRYANT ASSOC., INC.
LICENSED SURVEYOR
APPROVED: FRED HEINMANN
PROJECT MANAGER
APPROVED: MAM II
LEAD CARTOGRAPHER
APPROVED: R. KISS
CHIEF OF SURVEY
DATE: 19 SEPTEMBER 2006

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

SHREWSBURY RIVER
NEW JERSEY
CONDITION SURVEY

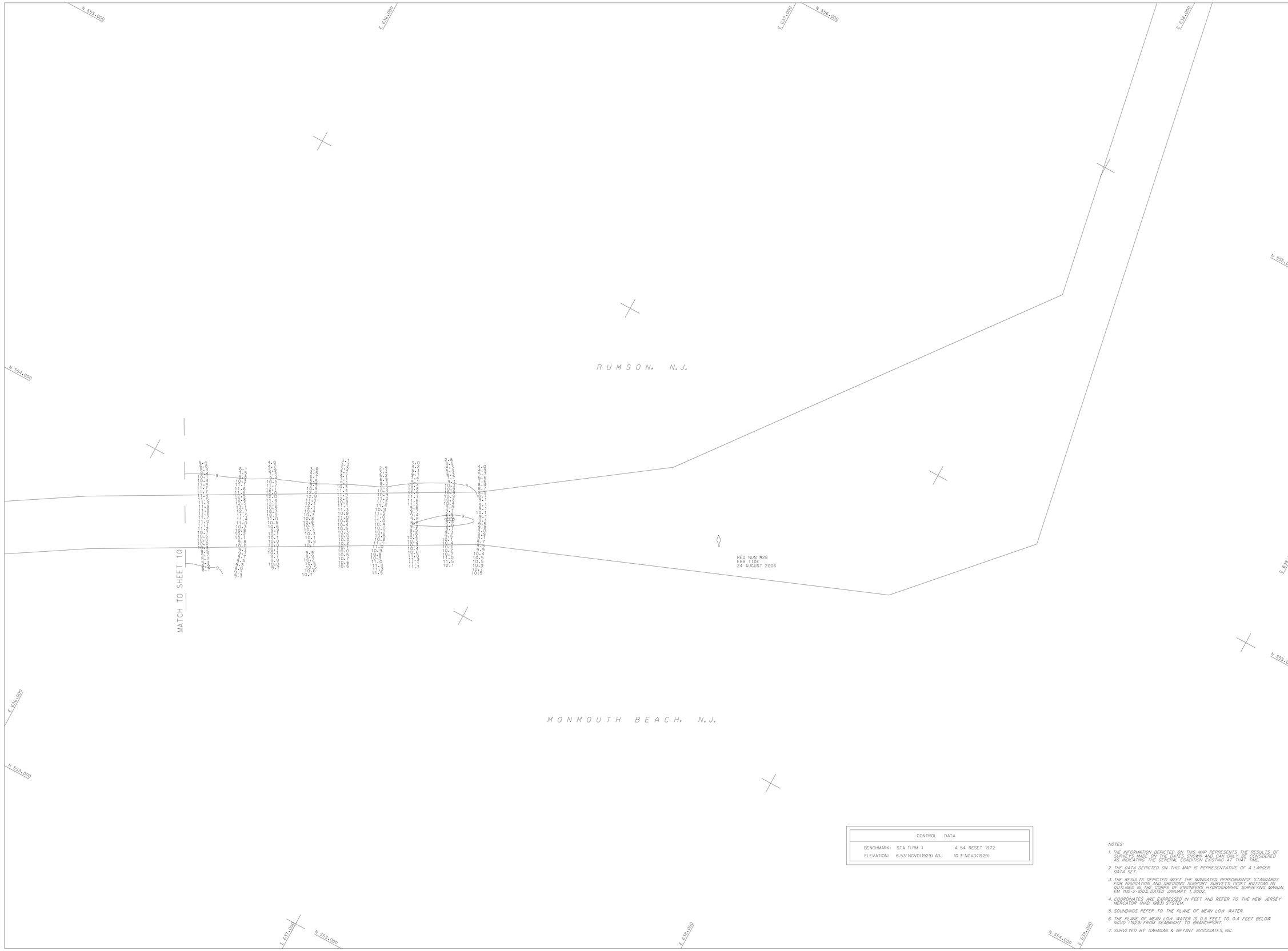
VH-108

SHEET 8 OF 15

409
2965

CORPS OF ENGINEERS

U. S. ARMY



CONTROL DATA		
BENCHMARK:	STA 11 RM 1	A 54 RESET 1972
ELEVATION:	6.53' NGVD(1929) ADJ	10.3' NGVD(1929)

NOTES:

1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.
2. THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.
3. THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.
4. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCATOR (NAD 1983) SYSTEM.
5. SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.
6. THE PLANE OF MEAN LOW WATER IS 0.5 FEET TO 0.4 FEET BELOW NGVD (1929) FROM SEABRIGHT TO BRANCHPORT.
7. SURVEYED BY GAHAGAN & BRYANT ASSOCIATES, INC.

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

GAHAGAN & BRYANT ASSOCIATES, INC.
ENGINEERS ★ SURVEYORS
GAHAGAN & BRYANT ASSOCIATES, INC.
5803 KENNET PIKE
CHADDS FORD, PA 19317
TEL:(302)652-5484 FAX:(302)655-9228
BGA@GAHAGANBRYANT.COM

DATES OF SURVEY:
23 AUG, 7 SEP 2006

FILE NO.: 409
REQUEST No.: 2965

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
YK-04-2006

APPROVED: GAHAGAN & BRYANT ASSOC., INC.
PROJECT MANAGER
APPROVED: FRED HERMAN
PROJECT MANAGER
APPROVED: WAM II
CAD CARTOGRAPHER
APPROVED: R. KISS
CHIEF OF SURVEY
DATE: 19 SEPTEMBER 2006

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

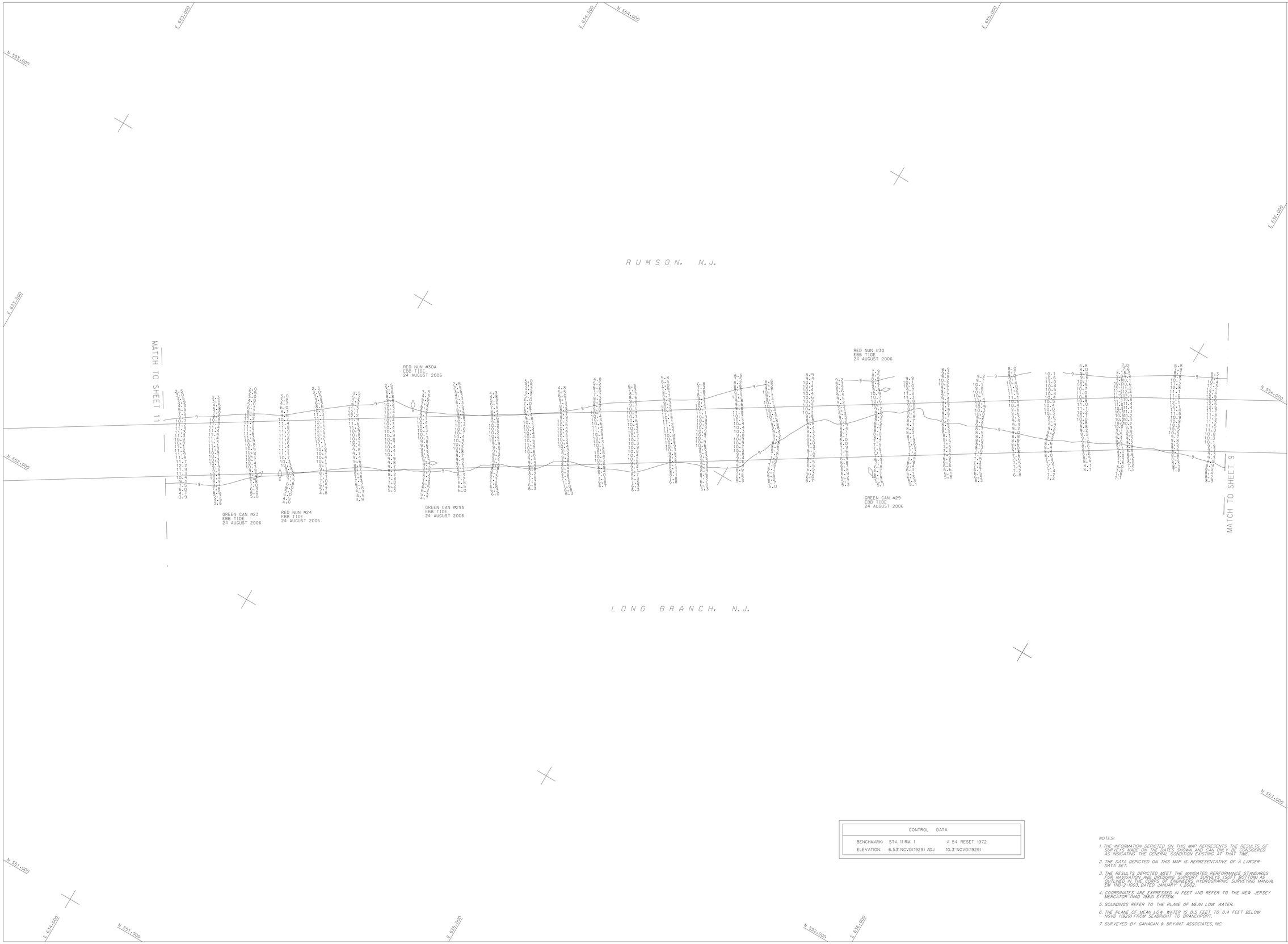
SHREWSBURY RIVER
NEW JERSEY

CONDITION SURVEY

VH–109

SHEET 9 OF 15

409
2965



CONTROL DATA			
BENCHMARK:	STA 11 RM 1		A 54 RESET 1972
ELEVATION:	6.53' NGVD(1929) ADJ		10.3' NGVD(1929)

NOTES:

1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.
2. THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.
3. THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.
4. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCATOR (NAD 1983) SYSTEM.
5. SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.
6. THE PLANE OF MEAN LOW WATER IS 0.5 FEET TO 0.4 FEET BELOW NGVD (1929) FROM SEABRIGHT TO BRANCHPORT.
7. SURVEYED BY GAHAGAN & BRYANT ASSOCIATES, INC.

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

GAHAGAN & BRYANT ASSOCIATES, INC.
CONSULTING ENGINEERS
BRIGANTINE, NEW JERSEY 08203
TEL: 609/266-8888 FAX: 609/266-9298
WEBADDRESS: GBA@C-NJ.COM

DATES OF SURVEY:
23 AUG. - 7 SEP 2006

FILE NO.: 4209
REQUEST NO.: 2965

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
NY-04-2006

APPROVED: GAHAGAN & BRYANT ASSOC. INC.
SURVEY COMPANY
APPROVED: FRED HERMAN
PROJECT MANAGER
APPROVED: WAM II
CHIF CARTOGRAPHER
APPROVED: R. KISS
CHIEF OF SURVEY
DATE: 19 SEPTEMBER 2006

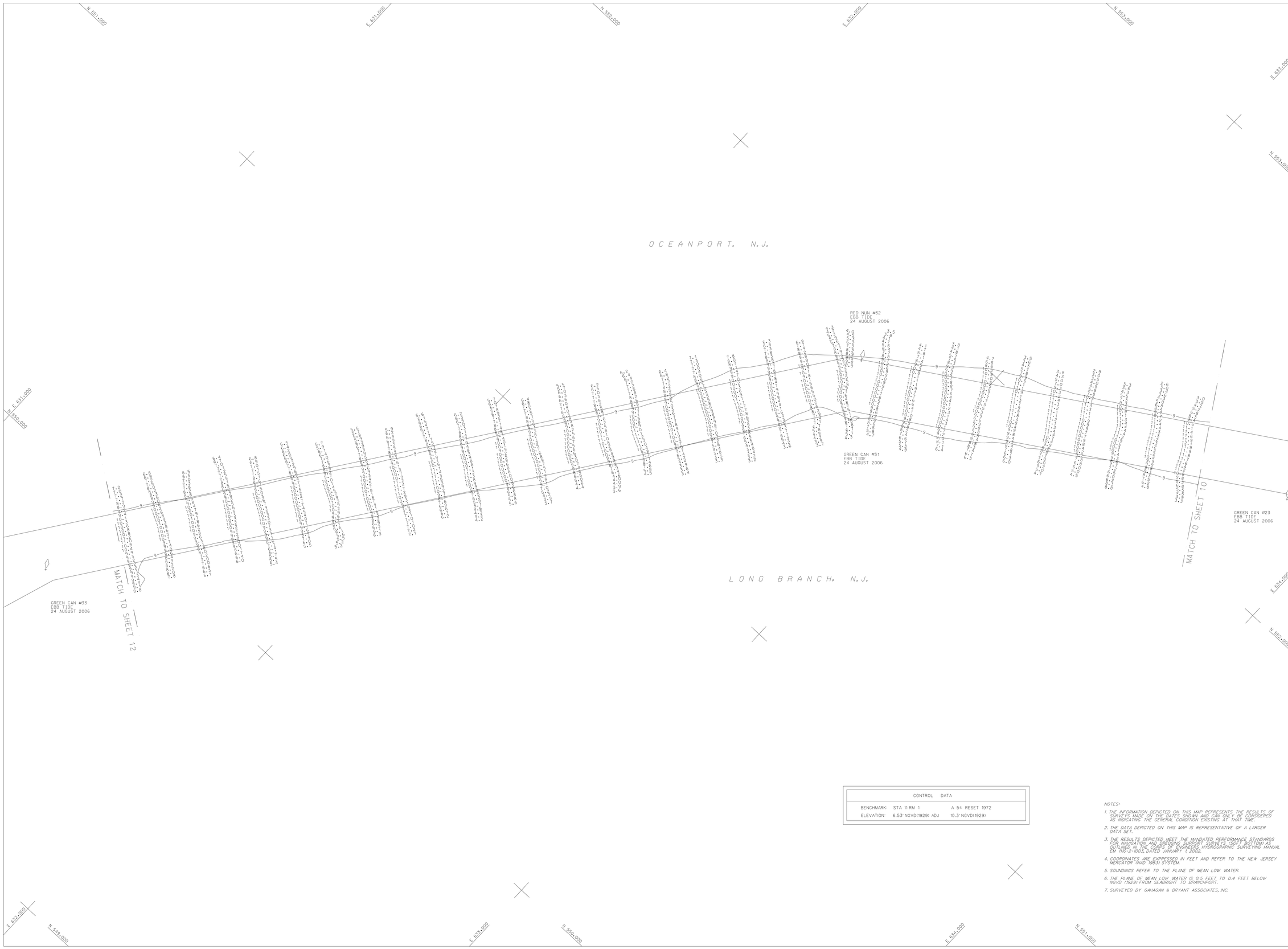
DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

SHREWSBURY RIVER
NEW JERSEY
CONDITION SURVEY

VH-110

SHEET 10 OF 15



CONTROL DATA		
BENCHMARK:	STA 11 RM 1	A 54 RESET 1972
ELEVATION:	6.53' NGVD(1929) ADJ	10.3' NGVD(1929)

NOTES:

1. *THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.*
2. *THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.*
3. *THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.*
4. *COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCATOR (NAD 1983) SYSTEM.*
5. *SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.*
6. *THE PLANE OF MEAN LOW WATER IS 0.5 FEET TO 0.4 FEET BELOW NGVD (1929) FROM SEABRIGHT TO BRANCHPORT.*
7. *SURVEYED BY GAHAGAN & BRYANT ASSOCIATES, INC.*

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

GAHAGAN & BRYANT ASSOCIATES, INC.
2801 KINSLEY PARK, SUITE D
CHESAPEAKE, VIRGINIA 23323
TEL: (757) 425-1444 FAX: (757) 425-5918
WWW.GAHAGANBRYANT.COM

DATES OF SURVEY:
23 AUG., 7 SEP 2006

FILE NO.: 409
REGRET NO.: 2965

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
NY-04-2006

APPROVED: GAHAGAN & BRYANT ASSOC., INC.
CONTRACTOR
APPROVED: FRED HERMAN
PROJECT MANAGER
APPROVED: WAM II
LEAD CARTOGRAPHER
APPROVED: R. KISS
CHIEF OF SURVEY
DATE: 19 SEPTEMBER 2006

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

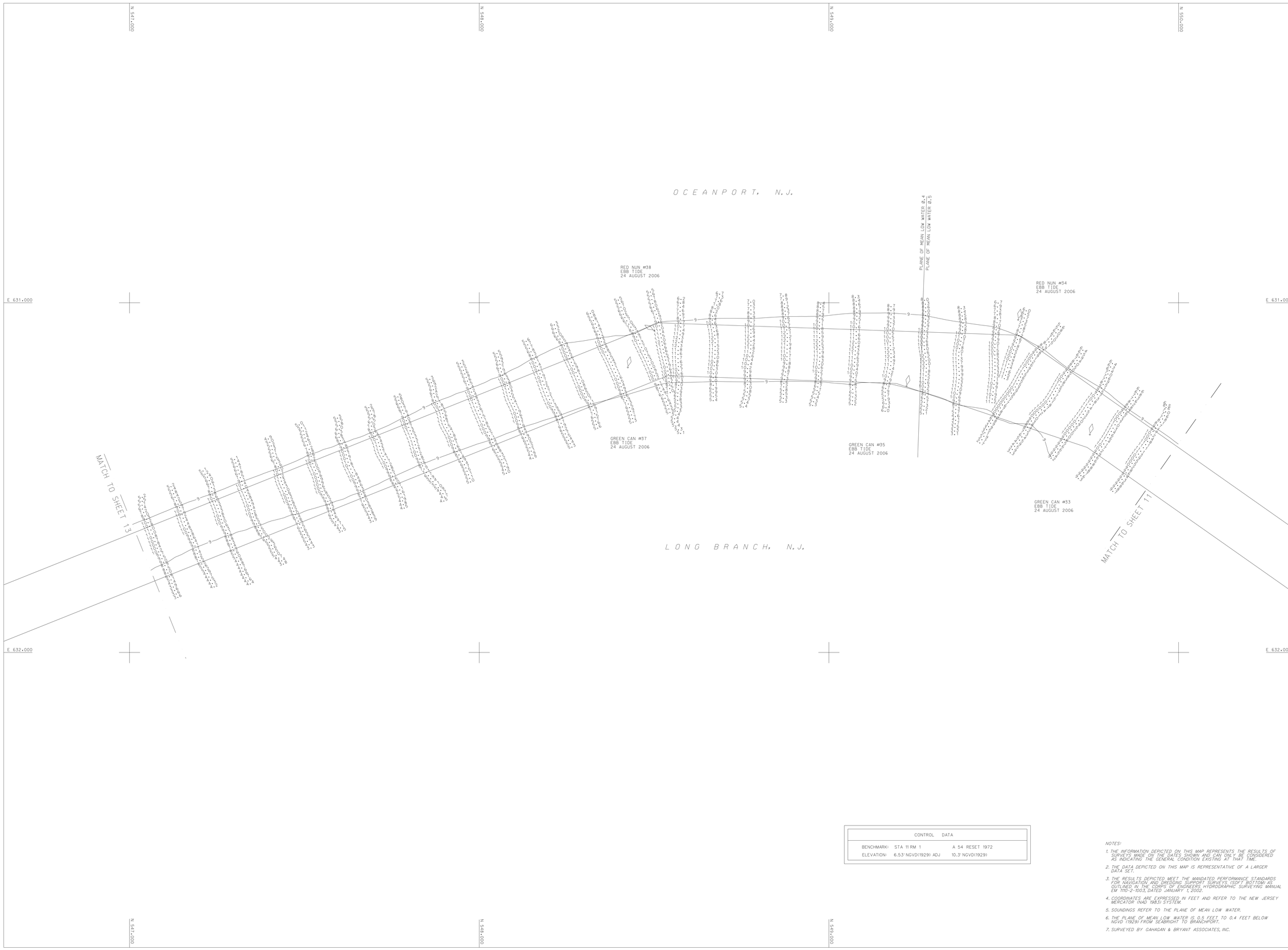
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

SHREWSBURY RIVER
NEW JERSEY
CONDITION SURVEY

VH–111

SHEET 11 OF 15

409
2965



CONTROL DATA		
BENCHMARK:	STA 11 RM 1	A 54 RESET 1972
ELEVATION:	6.53' NGVD(1929) ADJ	10.3' NGVD(1929)

NOTES:

1. *THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.*
2. *THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.*
3. *THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.*
4. *COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCATOR (NAD 1983) SYSTEM.*
5. *SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.*
6. *THE PLANE OF MEAN LOW WATER IS 0.5 FEET TO 0.4 FEET BELOW NGVD (1929) FROM SEABRIGHT TO BRANCHPORT.*
7. *SURVEYED BY GAHAGAN & BRYANT ASSOCIATES, INC.*

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

GAHAGAN & BRYANT ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
CENTERVILLE SQUARE
WILMINGTON, DELAWARE 19807-1995
TEL: (302)652-4848 FAX: (302)655-9228
WWW.GAHAGANANDBRYANT.COM

DATES OF SURVEY:
23 AUG- 7 SEP 2006

FILE NO.: 409
REQUEST NO.: 2965

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
NY-04-2006

APPROVED: GAHAGAN & BRYANT ASSOC. INC.
LICENSED SURVEYOR

APPROVED: FRED HERMAN
PROJECT MANAGER

APPROVED: WAM II
LOA CARTOGRAPHER

APPROVED: R. KISS
CHIEF OF SURVEY

DATE: 19 SEPTEMBER 2006

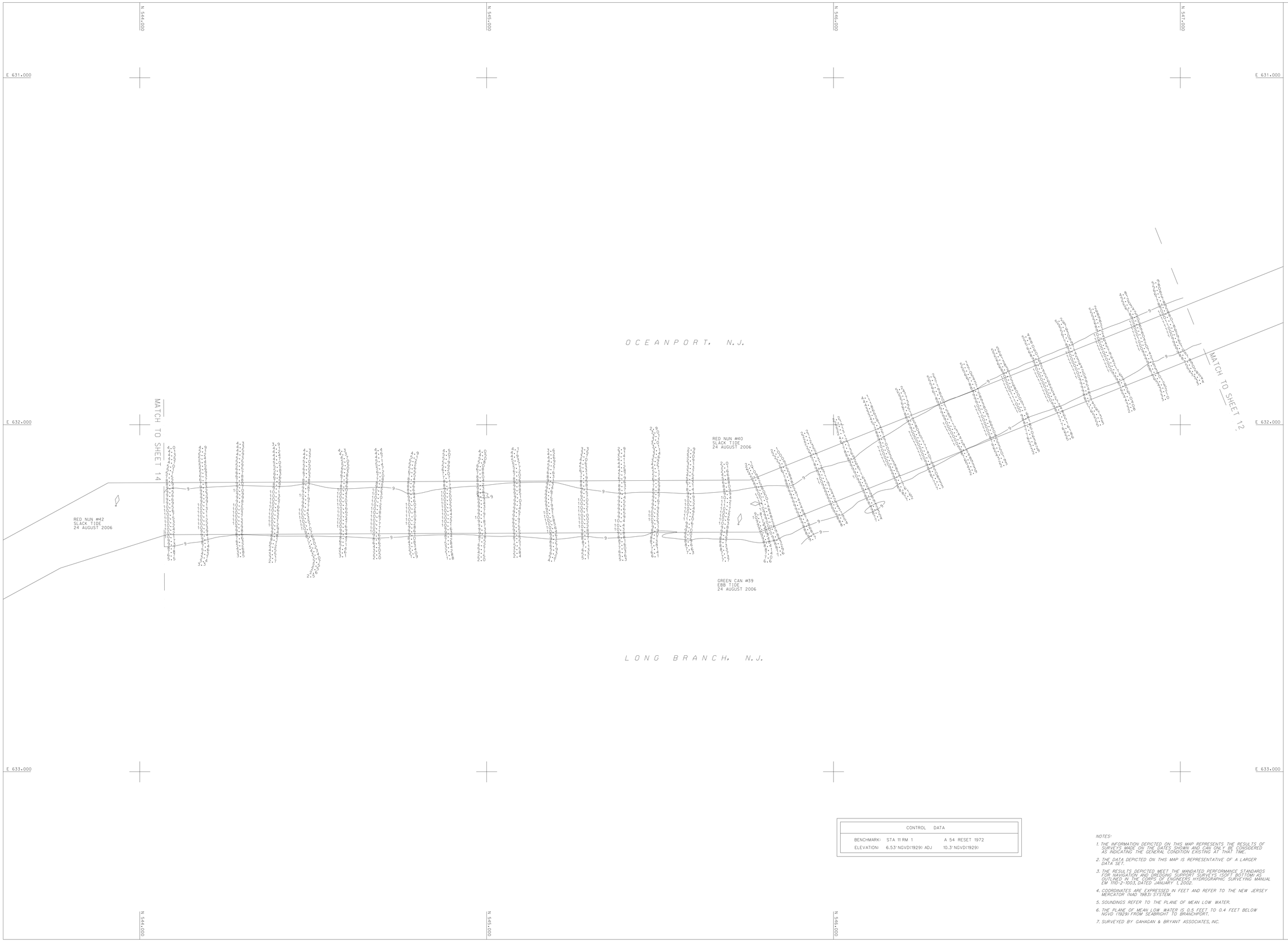
DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

SHREWSBURY RIVER
NEW JERSEY
CONDITION SURVEY

VH–112

SHEET 12 OF 15



CONTROL DATA		
BENCHMARK:	STA 11 RM 1	A 54 RESET 1972
ELEVATION:	6.53' NGVD(1929) ADJ	10.3' NGVD(1929)

NOTES:

1. *THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.*
2. *THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.*
3. *THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.*
4. *COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCATOR (NAD 1983) SYSTEM.*
5. *SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.*
6. *THE PLANE OF MEAN LOW WATER IS 0.5 FEET TO 0.4 FEET BELOW NGVD (1929) FROM SEABRIGHT TO BRANCHPORT.*
7. *SURVEYED BY GAHAGAN & BRYANT ASSOCIATES, INC.*

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

GAHAGAN & BRYANT ASSOCIATES, INC.
ENGINEERS ★ SURVEYORS
CENTRALIA BOARD
NEW CASTLE, DELAWARE 19720-1165
WILMINGTON: 302/655-9428
WILMINGTON@GBA-INC.COM

DATES OF SURVEY:
23 AUG. 7 SEP 2006

FILE NO.: 409
REQUEST NO.: 2965

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
NY-04-2006

APPROVED: GAHAGAN & BRYANT ASSOC. INC.
LICENSED SURVEYOR
APPROVED: FRED HERMANN
PROJECT MANAGER
APPROVED: WAM II
CHIEF CARTOGRAPHER
APPROVED: R. KISS
CHIEF OF SURVEY
DATE: 19 SEPTEMBER 2006

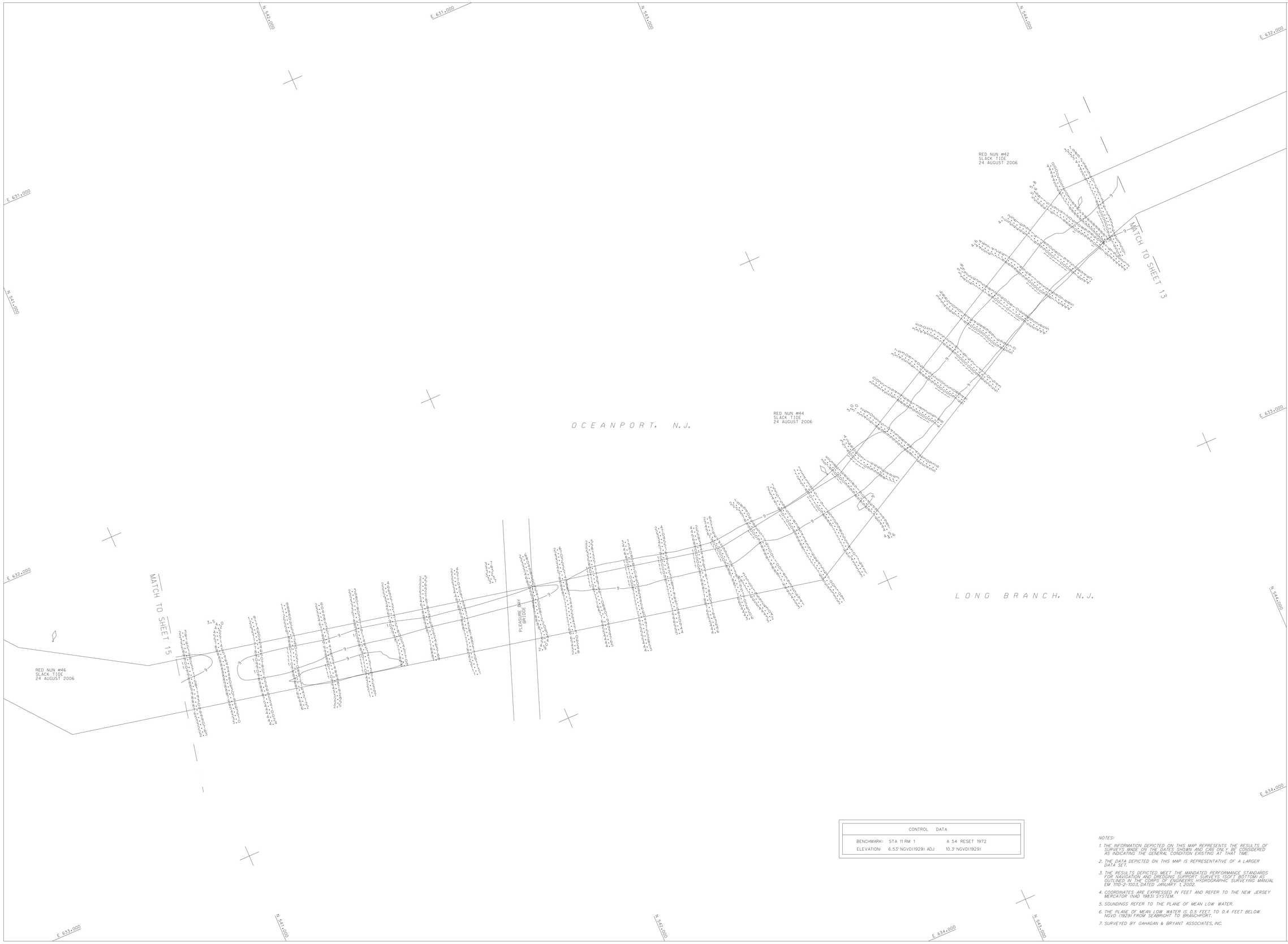
DEPARTMENT OF THE ARMY
NEW YORK DISTRICT
CORPS OF ENGINEERS
NEW YORK, NEW YORK 10278

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

SHREWSBURY RIVER
NEW JERSEY
CONDITION SURVEY

VH-113

SHEET 13 OF 15



CONTROL DATA		
BENCHMARK:	STA 11 RM 1	A 54 RESET 1972
ELEVATION:	6.53' NGVD(1929) ADJ	10.3' NGVD(1929)

NOTES:

1. *THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.*
2. *THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.*
3. *THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.*
4. *COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCATOR (NAD 1983) SYSTEM.*
5. *SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.*
6. *THE PLANE OF MEAN LOW WATER IS 0.5 FEET TO 0.4 FEET BELOW NGVD (1929) FROM SEABRIGHT TO BRANCHPORT.*
7. *SURVEYED BY GAHAGAN & BRYANT ASSOCIATES, INC.*

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

GBA
ENGINEERS ★ SURVEYORS
GAHAGAN & BRYANT ASSOCIATES, INC.
651 NEWPORT CENTER DRIVE
NEWPORT, DELAWARE 19807-1395
TELEPHONE: 302/655-1626 FAX: 302/655-1628
WILMINGTON@GBA-INC.COM

DATES OF SURVEY:
23 AUG. - 7 SEP 2006

FILE NO.: 409
REQUEST NO.: 2965

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
NY-04-2006

APPROVED: GAHAGAN & BRYANT ASSOC., INC.
LICENSED SURVEYOR

APPROVED: FRED HERMAN
PROJECT MANAGER

APPROVED: MAM II
LAND CAD MANAGER

APPROVED: R. KISS
CHIEF OF SURVEY

DATE: 19 SEPTEMBER 2006

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

SHREWSBURY RIVER
NEW JERSEY

CONDITION SURVEY

VH–114

SHEET 14 OF 15

CONTROL DATA		
BENCHMARK:	STA 11 RM 1	A 54 RESET 1972
ELEVATION:	6.53' NGVD(1929) ADJ	10.3' NGVD(1929)

NOTES:

1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.
2. THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.
3. THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.
4. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCATOR (NAD 1983) SYSTEM.
5. SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.
6. THE PLANE OF MEAN LOW WATER IS 0.5 FEET TO 0.4 FEET BELOW NGVD (1929) FROM SEABRIGHT TO BRANCHPORT.
7. SURVEYED BY GAHAGAN & BRYANT ASSOCIATES, INC.

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

GBA
ENGINEERING ★ SURVEYING
GAHAGAN & BRYANT ASSOCIATES, INC.
ONE MAYFIELD AVENUE, SUITE 1
CENTERVILLE SQUARE
EDISON, NEW JERSEY 08837-3928
TEL: 732/652-4848 FAX: 732/855-9218
WWW.GBASURVEYING.COM

DATES OF SURVEY:
23 AUG., 7 SEP 2006

FILE NO.: 409
REQUEST NO.: 2965

SCALE:
ONE INCH = 100 FEET

FIELD BOOKS:
91-GA-2006

APPROVED: GAHAGAN & BRYANT ASSOC., INC.
CHIEF OF SURVEY
APPROVED: FRED HERMAN
PROJECT MANAGER
APPROVED: WMM II
CAD CARTOGRAPHER
APPROVED: R. KISS
CHIEF OF SURVEY
DATE: 19 SEPTEMBER 2006

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

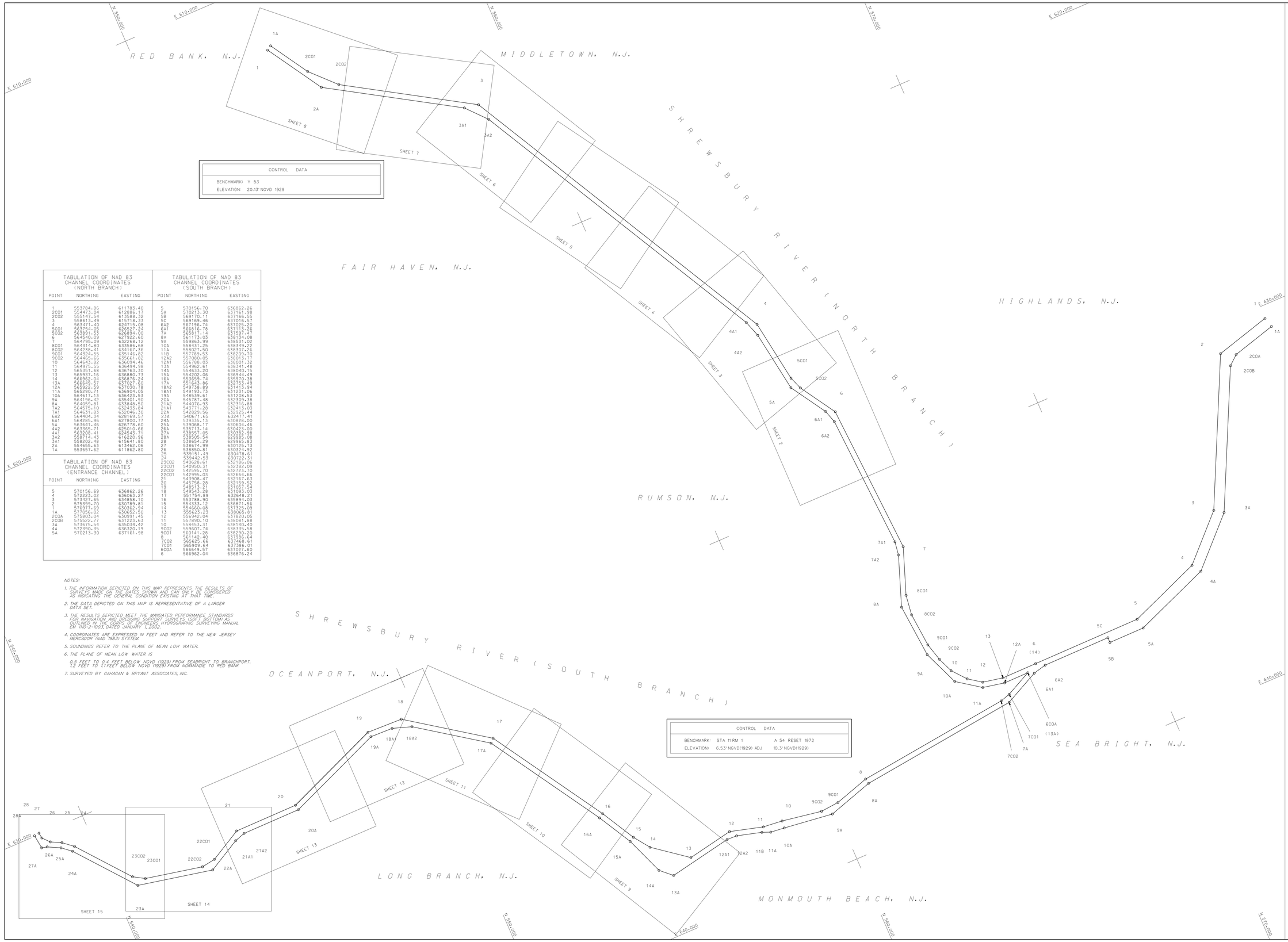
OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

SHREWSBURY RIVER
NEW JERSEY
CONDITION SURVEY

VH-115

SHEET 15 OF 15

409
2965



CONTROL DATA	
BENCHMARK:	Y 53
ELEVATION:	20.13' NGVD 1929

CONTROL DATA		
BENCHMARK:	STA 11 RM 1	A 54 RESET 1972
ELEVATION:	6.53' NGVD(1929) ADJ	10.3' NGVD(1929)

TABULATION OF NAD 83 CHANNEL COORDINATES (NORTH BRANCH)

POINT	NORTHING	EASTING
1	553784.86	611783.40
2CO1	554473.04	612886.17
2CO2	555147.54	613588.32
3	558613.49	615718.33
4	563471.40	624715.08
5CO1	563754.05	626527.24
5CO2	563891.53	626894.00
6	564540.09	627922.60
7	564795.09	632268.12
8CO1	564314.80	633586.68
8CO2	564238.41	634167.36
9CO1	564324.55	635146.82
9CO2	564465.66	635661.82
10	564643.82	636094.46
11	564975.55	636494.98
12	565351.68	636763.30
13	565937.16	636880.73
14	566962.04	636876.24
13A	566649.57	637027.60
12A	565922.59	637030.78
11A	565290.71	636904.05
10A	564617.13	636423.53
9A	564196.42	635401.90
8A	564059.81	633848.50
7A2	564575.10	632433.84
7A1	564631.83	632046.30
6A2	564404.34	628169.57
6A1	564285.96	627800.77
5A	563641.46	626778.60
4A2	563365.71	625010.66
4A1	563208.41	624543.71
3A2	558714.43	616220.96
3A1	558202.48	615641.80
2A	554655.63	613462.06
1A	553651.62	611862.80

TABULATION OF NAD 83 CHANNEL COORDINATES (ENTRANCE CHANNEL)

POINT	NORTHING	EASTING
5	570156.69	636862.26
4	572223.02	636063.27
3	573427.65	634858.10
2	575399.70	630789.81
1	576977.69	630362.94
1A	577056.02	630652.50
2COA	575803.04	630991.45
2COB	575522.77	631223.63
3A	573675.54	635034.42
4A	572390.35	636320.19
5A	570213.30	637161.98

TABULATION OF NAD 83 CHANNEL COORDINATES (SOUTH BRANCH)

POINT	NORTHING	EASTING
5	570156.70	636862.26
5A	570213.30	637161.98
5B	569170.11	637166.55
5C	569169.46	637016.57
6A2	567196.74	637025.20
6A1	566816.78	637113.26
7A	565817.14	637597.47
8A	561173.03	638134.08
9A	559863.99	638531.02
10A	558431.25	638349.22
11A	558027.50	638307.26
11B	557789.53	638209.70
12A2	557080.05	638013.77
12A1	556788.03	638001.32
13A	554962.61	638341.48
14A	554633.20	638040.15
15A	554202.06	636944.49
16A	553659.74	635970.38
17A	551643.86	632753.49
18A2	549738.89	631413.94
18A1	549193.73	631231.06
19A	548539.61	631208.53
20A	545787.48	632309.38
21A2	544076.93	632516.88
21A1	543771.28	632413.03
22A	542829.56	632925.44
23A	540671.65	632477.41
24A	539535.13	630828.00
25A	539068.17	630604.46
26A	538713.14	630423.00
27A	538557.05	630382.98
28A	538505.54	629985.08
28	538654.29	629965.83
27	538674.99	630125.73
26	538850.81	630324.92
25	539151.49	630478.61
24	539442.53	630722.51
23CO2	540628.61	632186.06
23CO1	540950.31	632382.09
22CO2	542595.70	632723.70
22CO1	542995.03	632664.66
21	543908.47	632167.63
20	545758.28	632159.52
19	548513.21	631057.54
18	549543.28	631093.03
17	551754.89	632648.21
16	553788.90	635894.03
15	554333.12	636871.56
14	554660.08	637325.09
13	555623.23	638065.81
12	556942.04	637820.05
11	557890.10	638081.88
10	558453.31	638140.40
9CO2	559607.74	638335.58
9CO1	560141.28	638290.20
8	561142.40	637986.64
7CO2	565625.66	637468.61
7CO1	565909.64	637386.01
6COA	566649.57	637027.60
6	566962.04	636876.24

NOTES:

1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.
2. THE DATA DEPICTED ON THIS MAP IS REPRESENTATIVE OF A LARGER DATA SET.
3. THE RESULTS DEPICTED MEET THE MANDATED PERFORMANCE STANDARDS FOR NAVIGATION AND DREDGING SUPPORT SURVEYS (SOFT BOTTOM) AS OUTLINED IN THE CORPS OF ENGINEERS HYDROGRAPHIC SURVEYING MANUAL EM 1110-2-1003, DATED JANUARY 1, 2002.
4. COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE NEW JERSEY MERCATOR (NAD 1983) SYSTEM.
5. SOUNDINGS REFER TO THE PLANE OF MEAN LOW WATER.
6. THE PLANE OF MEAN LOW WATER IS 0.5 FEET TO 0.4 FEET BELOW NGVD (1929) FROM SEABRIGHT TO BRANCHPORT, 1.2 FEET TO 1.1 FEET BELOW NGVD (1929) FROM NORMANDIE TO RED BANK
7. SURVEYED BY CAHAGAN & BRYANT ASSOCIATES, INC.

US ARMY CORPS OF ENGINEERS NEW YORK DISTRICT

CAHAGAN & BRYANT ASSOCIATES, INC.
CONSULTING ENGINEERS
CENTENNIAL BUILDING, SUITE D
CHEYENNE, WYOMING 82001
TEL: 1(307)637-6448 FAX: 1(307)635-5028
REGISTRATION NO. C-1264

DATES OF SURVEY: 23 AUG., 7 SEP 2006

FILE NO.: 409
REQUEST NO.: 2965

SCALE: ONE INCH = 1000 FEET

FIELD BOOKS: W-134-2006

APPROVED: CAHAGAN & BRYANT ASSOC., INC. — CONSULTING ENGINEER
APPROVED: FRED HERMAN — PROJECT MANAGER
APPROVED: WAM JJ — CADD CARTOGRAPHER
APPROVED: R. KISS — CHIEF OF SURVEY
DATE: 19 SEPTEMBER 2006

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

OPERATIONS DIVISION
SURVEY SECTION
CENAN-OP-S

SHREWSBURY RIVER
NEW JERSEY
CONDITION SURVEY

VH-101

SHEET 1 OF 15