APPENDIX I. TIDES AND WATER LEVELS

The on-line times for acquisition of valid hydrographic data are presented in **Error! Reference source not found.** Abstract of Times of Hydrography, H11456.

Project: OPR-C303-KR-05.
Registry No.: H11456
Contractor Name: Science Applications International Corporation
Date: 27 April 2006
Sheet Letter: J
Inclusive Dates: 4 August 2005 – 27 April 2006

Field work is complete.

Table App. IV- 1. Abstract Times of Hydrography, H11456

Year	Julian Day	Begin Time	Julian Day	End Time
2005	216	17:21:30	220	10:03:57
2005	221	17:30:32	226	02:56:18
2005	227	11:56:14	232	08:00:23
2005	233	02:59:30	236	23:37:26
2005	268	21:50:01	270	02:38:17
2005	270	20:47:57	272	06:54:36
2005	273	22:50:36	274	22:12:23
2005	290	16:28:12	290	21:05:23
2005	292	02:28:48	292	09:38:11
2005	292	13:11:59	295	11:50:49
2005	297	05:55:38	297	18:52:17
2005	300	09:37:19	300	22:35:18
2005	301	18:08:45	301	22:00:19
2005	303	19:57:17	303	23:44:45
2005	305	11:39:06	305	15:05:33
2005	306	11:36:38	306	14:20:23
2005	312	12:22:03	312	20:44:00
2006	109	00:11:19	109	21:16:27
2006	117	11:14:42	117	13:00:43

Final Tide Note

Analysis of the H11456 multibeam data in the **SABER Multi-View Editor** and in depth grids revealed significant depth jumps across the junction of zones based on Atlantic City, NJ (8534720) and the zones based on Sandy Hook, NJ (8531680).

The Statement of Work for OPR-C303-KR-06 provided new NOAA zoning correctors for zones SA13, SA14, SA15, and SA16 with correctors based on Atlantic City, NJ (8534720) instead of Sandy Hook (8531680) as shown in Table App. IV- 2 below.

Table App. IV- 2. Preliminary Tide Zone Parameters Compared to Parameters from Statement of Work for OPR-C303-KR-06 for Atlantic City (8534720)

Zone	Time Corrector (minutes)	Range Ratio	Reference Station
SA13	-12	1.02	8534720
	-36	0.87	8531680
SA14	-6	1.07	8534720
	-36	0.91	8531680
SA15	0	1.06	8534720
	-36	0.91	8531680
SA16	0	1.02	8534720
	-30	0.88	8531680

A spreadsheet was constructed to compare the two sets of NOAA preliminary zoning parameters. The results are summarized in Table App. IV- 3. Verified water levels from 01 August 2005 through 30 November 2005 for stations at Sandy Hook, NJ (8531680) and Atlantic City, NJ (8534720) were entered in the spreadsheet. Correctors were computed at 6-minute intervals for each zone. Differences (Table App. IV- 3) were computed for each zone on Atlantic City, NJ (8534720) compared to the same zones computed on Sandy Hook, NJ (8531680). In addition the differences between zones 17 computed on Atlantic City, NJ (8534720) and 16 computed on Sandy Hook, NJ (8531680) are shown.

Table App. IV- 3. Comparison of Water Level Correctors with Zoning Parameters for Stations 8534720 and 8531680

Zone	16	15	14	13	17-16
Maximum	0.527	0.645	0.610	0.531	0.531
Minimum	-0.639	-0.561	-0.609	-0.633	-0.633
Average	0.005	-0.036	0.108	0.014	0.014
Standard Deviation	0.083	0.088	0.106	0.125	0.108

This verified the significant difference in verified water level correctors at the zone boundaries depending on the stage of the tide and environmental factors (wind, rain). As a result of this analysis the water level zoning correctors based entirely on Atlantic City, NJ (8534720) were applied to all multibeam data for H11456.