

April 18, 2007

MEMORANDUM FOR: Michael C. O'Hargan
Chief, Field Operations Division

FROM: Michael W. Szabados
Director, Center for Operational Oceanographic Products
and Services (CO-OPS)

SUBJECT: Amendment No. 1
2007 Project Instructions – Coastal and Great Lakes Water Level
Station Components

The enclosed document, "Amendment No. 1, Project Instructions: Installation, Operation, Maintenance, and Removal of Coastal and Great Lakes Water Level Stations for calendar year 2007," is forwarded for implementation.

Amendment No. 1 addresses only changes to the station specific requirements in Part C, Section 2.0. One item was added to 41 stations requiring a reconnaissance for the possible installation of met sensors in FY08, pending receipt of anticipated funding for this task. This information was provided to the Atlantic Region Operations (ARO) prior to the Caribbean Islands inspection trips, but is too late for the Hawaiian Island station inspections. The Pacific Region Operations (PRO) shall gather as much information as possible from knowledge of the stations and local contacts, without making a special recon trip to the islands.

Field crews shall perform a recon to assess the feasibility of installing a met sensor package in FY08, and provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor at the stations listed below. The station specific requirements are updated accordingly in this document – please replace the original specifics with this list.

<u>Station #</u>	<u>Station Name</u>	<u>Station #</u>	<u>Station Name</u>
1612340	Honolulu, HI	8510560	Montauk, NY
1612480	Mokuoloe, HI	8518750	The Battery, NY
1615680	Kahului, HI	8551910	Reedy Point, DE
8411250	Cutler, ME	8570283	Ocean City Inlet, MD
8413320	Bar Harbor, ME	8574680	Baltimore, MD
8449130	Nantucket Island, MA	8575512	Annapolis, MD
8467150	Bridgeport, CT	8594900	Washington, DC

<u>Station #</u>	<u>Station Name</u>	<u>Station #</u>	<u>Station Name</u>
8631044	Wachapreague, VA	9432780	Charleston, OR
8638610	Sewells Point, VA	9437540	Garibaldi, OR
8652587	Oregon Inlet, NC	9441102	Westport, WA
8656483	Beaufort, NC	9442396	LaPush, WA
9052000	Cape Vincent, NY	9450460	Ketchikan, AK
9052058	Rochester, NY	9452210	Juneau, AK
9052076	Olcott, NY	9459450	Sand Point, AK
9063028	Sturgeon Point, NY	9459681	King Cove, AK
9075080	Mackinaw City, MI	9461710	Atka, AK
9076032	Little Rapids, MI	9462450	Nikolski, AK
9087031	Holland, MI	9751364	St Croix, VI
9087079	Green Bay, WI	9752695	Vieques Island, PR
9418767	North Spit, CA	9759412	Aguadilla, PR
9419750	Crescent City, CA		

Enclosures

cc:

N/OPS	R. Edwing	N/OPS2	A. Moss
N/OPS	M. Gibson	N/OPS2	M. Bailey
N/OPS	S. Gill	N/OPS2	K. Fuhs
N/OPS	R. Bassett	N/OPS2	D. Jones
N/OPS	J. Welch	N/OPS2	C. Kakazu
N/OPS1	T. Mero	N/OPS2	J. Lewis
N/OPS1	T. Landon	N/OPS2	K. Dinberg
N/OPS1	M. Samant	N/OPS3	A. Allen
N/OPS1	B. Servary	N/OPS3	J. Culp
N/OPS1	J. Brown	N/OPS3	S. Duncan
N/OPS1	A. Johnson	N/OPS3	K. Earwaker
N/OPS1	D. Robison	N/OPS3	J. Hovis
N/OPS1	J. Sprenke	N/OPS3	C. Martin
N/OPS1	S. Baldelli	N/OPS3	R. Nace
N/OPS1	W. Krug	N/OPS3	C. Paternostros
N/OPS2	R. Meyer	N/OPS3	L. Rear
N/OPS2	L. Neeson	N/OPS3	P. Stone
N/OPS2	B. Wynn	N/OPS3	K. Tronvig
N/OPS2	J. Stepnowski	N/OPS4	J. Burton
N/OPS2	R. James	N/OPS4	M. Evans

SECTION 2.0 INDIVIDUAL STATION REQUIREMENTS

The following individual station requirements, in addition to the required maintenance listed in the Standing Project Instructions (PART B), are based on the information obtained from review of field, data processing, and datum records. FOD and contractors are responsible for reviewing the NGWLMS status reports, e-mails, and CORMS morning reports for a station to determine recent station problems as part of the staging process for the annual inspection. Additional requirements or changes will be addressed in an amendment to Project Instructions. L-numbers for digital leveling are for calendar year 2007. NGS Permanent ID (PID) for the primary bench mark and station GPS mark, where available, are identified below in parenthesis for each station.

Station specific requirements are grouped as follows: East, Gulf, and Caribbean (FOD); Florida and Gulf Coast (MDI); and Pacific Islands and West Coast (FOD); and Alaska (GSA Contract).

EAST COAST, GULF COAST, CARIBBEAN SEA (FOD)

8410140 Eastport, ME

L26908

Part 1

Primary Bench Mark: 841 0140 TIDAL 3 (PD0006)

PBM above SD: 15.685 m

Station GPS Bench Mark: 841 0140 TIDAL 4 (PD0007)

MSL above SD: 4.420 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.
3. Put wind-bird on a hinge plate with a Shakespeare pole.

8411250 Cutler, ME

L26908

Part 2

Primary Bench Mark: 841 1250 M TIDAL (AJ2727)

BM above SD: 15.725 m

Station GPS Bench Mark: 841 1250 M TIDAL (AJ2727)

MSL above SD: 8.921 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8413320 Bar Harbor, ME

L26908

Part 3

Primary Bench Mark: 841 3320 TIDAL 13 (NO PID ASSIGNED)

PBM above SD: 7.544 m

Station GPS Bench Mark: 841 3320 TIDAL 1 (AI8315)

MSL above SD: 2.786 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
3. Replace the old tide house with a new one; the harbor master's office needs to be called to remove camera and electronic equipment from building in advance. Harbor master phone number: 207-288-9690.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8418150 Portland, ME

L26908

Part 4

Primary Bench Mark: TIDAL 31 STA 84 (OC0005)

PBM above SD: 8.406 m

Station GPS Bench Mark: 841 8150 TIDAL (AJ2726)

MSL above SD: 4.113 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Contact the Maine State Pier regarding plans for its redevelopment and relocation of the water level station.
2. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8419317 Wells, ME

L26908

Part 5

Primary Bench Mark: 841 9317 PUMP (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: LORD (OC2106)

MSL above SD: 5.933 m

GPS Observation Frequency: NA

Dive Inspection Frequency: Annually

1. Coordinate the annual inspection with the COASTAL program manager.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8423898 Fort Point, NH

L26909

Part ?

Primary Bench Mark: 842 3898 TIDAL 2 (NO PID ASSIGNED)

PBM above SD: 7.510m

Station GPS Bench Mark: Undetermined

MSL above SD: 2.258 m

GPS Observation Frequency: NA

Dive Inspection Frequency: Annually

1. Run levels to all marks – **MUST** be done.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8443970 Boston, MA

L26910

Part 1

Primary Bench Mark: K 12 (MY0555)

PBM above SD: 6.858 m

Station GPS Bench Mark: 844 3970 D TIDAL (AJ4030)

MSL above SD: 2.660 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8447386 Fall River, MA

L26910

Part 2

Primary Bench Mark: STATE (LW2264)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 7.029 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8447387 Borden Flats Light, MA

1. Replace wind sensor nose cone.
2. Take one general location photo showing the met station in relationship to its supporting structure and the local body of water.

8447930 Woods Hole, MA

L26910

Part 3

Primary Bench Mark: 844 7930 TIDAL 11 (LW1571)

PBM above SD: 3.447 m

Station GPS Bench Mark: 844 7930 B TIDAL (AJ4031)

MSL above SD: 1.096 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. **Unresolved from 2006 Project Instructions.** Take digital photos of 844 7930 TIDAL 12, including face and location.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8449130 Nantucket, MA

L26910

Part 4

Primary Bench Mark: 844 9130 TIDAL 25 (NO PID ASSIGNED)

PBM above SD: 3.147 m

Station GPS Bench Mark: 844 9130 K TIDAL (AJ4032)

MSL above SD: 1.454 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
3. **Unresolved from 2005 Project Instructions.** Station needs to be completely rebuilt requiring a new frame and professionally designed and built wood frame instrument house with wood sided shingles in accordance with the Island's historical requirements.
4. **Unresolved from 2005 Project Instructions.** There is an available Coast Guard 3-D bench mark on the Nantucket Yacht Club property however it is covered by a wood piling. Ask the Coast Guard if the wood piling can be removed so that the mark can be leveled.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8452660 Newport, RI**L26911****Part 1**

Primary Bench Mark: 845 2660 TIDAL 6 (LW0493)

PBM above SD: 2.813 m

Station GPS Bench Mark: 845 2660 TIDAL 6 (LW0493)

MSL above SD: 1.106 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Pier pilings have deteriorated and the pier is off limits to vehicles and pedestrians. The pier is slated to be replaced in September 2007. Make plans to install a temporary gauge and relocate the station.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8452944 Conimicut Light, RI**L26911****Part 2**

Primary Bench Mark: 845 2944 BOLT

PBM above SD: 10.532 m

Station GPS Bench Mark: Undetermined

MSL above SD: 6.290 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Only four bench marks exist at this station. If nearby marks are not found in the NGS database, then establish, describe, and connect via levels one mark stamped 2944 C 2007.
2. Update the bench mark sketch with the new mark.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8452951 Potter Cove, RI

1. Replace wind sensor nose cone.

2. Take one general location photo showing the met station in relationship to its supporting structure and the local body of water.

8454000 Providence, RI**L26911****Part 3**

Primary Bench Mark: 845 4000 TIDAL 6 RESET (LW0150)

PBM above SD: 4.493 m

Station GPS Bench Mark: 845 4000 L TIDAL (AJ4033)

MSL above SD: 1.749 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8454049 Quonset Point, RI**L26911****Part 4**

Primary Bench Mark: 845 4049 D (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 7.580 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. **Unresolved from 2006 Project Instructions.** Replace the Vitel gage due to multiple sensor problems.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8461490 New London, CT**L26912****Part 1**

Primary Bench Mark: 846 1490 TIDAL 15 (LX0157)

PBM above SD: 4.880 m

Station GPS Bench Mark: 846 1490 K TIDAL (LX3418)

MSL above SD: 1.542 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. **Unresolved from 2006 Project Instructions.** A dive inspection **MUST** be performed during this site visit; last dive was done in 7/04.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8465705 New Haven, CT**L26912****Part 2**

Primary Bench Mark: 846 5705 D (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 6.622 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. **Unresolved from 2006 Project Instructions.** A dive inspection **MUST** be performed during this site visit; last dive was done in 7/04.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.
3. Search the NGS database for any geodetic marks within one mile leveling distance; if recovered, add to the station network and include in the level run.

8467150 Bridgeport, CT

L26912

Part 3

Primary Bench Mark: 846 7150 A (AI1725)

PBM above SD: 3.544 m

Station GPS Bench Mark: 846 7150 D TIDAL (AJ4034)

MSL above SD: 1.708 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
3. **Unresolved from 2006 Project Instructions.** A dive inspection **MUST** be performed during this site visit; last dive was done in 7/04.
4. **Unresolved from 2006 Project Instructions.** FOD needs to relocate this station if the city carries out plans to renovate wharf area into a retail/park district. Incorporate station into plans, professionally designed and built.
5. **Unresolved from 2006 Project Instructions.** Only six bench marks exist at the station. If construction is still being performed in the area, investigate if marks were set by construction crews. If construction has ended, check for nearby marks in the NGS database; or establish, describe, and connect via levels two 3D rod marks and four surface marks stamped 7150 G 2007, 7150 H 2007, 7150 J 2007, and 7150 K 2007.
6. Update the bench mark sketch with any new bench marks.
7. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8510560 Montauk, NY

L26913

Part 1

Primary Bench Mark: 851 0560 J (AH6725)

PBM above SD: 3.618 m

Station GPS Bench Mark: TIDAL 9 STA 2 50 (LW0831)

MSL above SD: 1.554 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
3. A dive inspection **MUST** be performed during this site visit; last dive was done in 10/04.
4. Rebuild station with new instrument shelter constructed per condominiums covenants. Will need new station components.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8510719 Silver Eel Pond, NY

L26913

Part 8

Primary Bench Mark: 851 0719 TIDAL 1 (NO PID ASSIGNED)

PBM above SD: 4.834 m

Station GPS Bench Mark: Undetermined

MSL above SD: 2.764 m

GPS Observation Frequency: NA

Dive Inspection Frequency: Annually

1. Run closing levels to all marks and remove the gauge.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8512668 Mattituck Inlet, NY

L26913

Part 6

Primary Bench Mark: 851 2668 B (NO PID ASSIGNED)

PBM above SD: 9.592 m

Station GPS Bench Mark: Undetermined

MSL above SD: 7.035 m

GPS Observation Frequency: NA

Dive Inspection Frequency: Annually

1. Run closing levels to all marks and remove the gauge.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8512735 South Jamesport, NY

L26913

Part 9

FULL ANNUAL MAINTENANCE NOT PERFORMED SINCE CY2004.

Primary Bench Mark: 851 2735 A TIDAL (NO PID ASSIGNED)

PBM above SD: 2.512 m

Station GPS Bench Mark: Undetermined

MSL above SD: 0.914 m

GPS Observation Frequency: NA

Dive Inspection Frequency: Annually

1. Run closing levels to all marks and remove the gauge.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8515786 Eatons Neck, NY

L26913

Part 7

Primary Bench Mark: 851 5786 A (NO PID ASSIGNED)

PBM above SD: 10.0 m

Station GPS Bench Mark: Undetermined

MSL above SD: 7.635 m

GPS Observation Frequency: NA

Dive Inspection Frequency: Annually

1. Run closing levels to all marks and remove the gauge.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8516945 Kings Point, NY

L26913

Part 2

Primary Bench Mark: 851 6945 A (NO PID ASSIGNED)

PBM above SD: 9.662 m

Station GPS Bench Mark: 851 6945 TIDAL 5 (NO PID ASSIGNED)

MSL above SD: 5.103 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. **Unresolved from 2005 Project Instructions.** Only seven bench marks exist at the station. If nearby marks are not found in the NGS database, then establish, describe, and connect via levels three marks stamped 6945 F 2007, 6945 G 2007, and 6945 H 2007.
2. Update the bench mark sketch with any new bench marks.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8518750 The Battery, NY

L26913

Part 3

Primary Bench Mark: 851 8750 TIDAL 7 (AB6736)

PBM above SD: 5.470 m

Station GPS Bench Mark: R 340 (KV0587)

MSL above SD: 1.785 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. **Unresolved from 2005 Project Instructions.** Only seven good bench marks exist at the station. If nearby marks are not found in NGS database, then establish, describe, and connect via levels three new marks, at least one being a 3D rod mark. Stamp the marks 8750 B 2007, 8750 C 2007, 8750 D 2007. **Do not install a surface mark in the concrete base surrounding the tide house!**
3. Update the bench mark sketch with and take digital photos of any new bench marks.
4. **Unresolved from 2005 Project Instructions.** Level all bench marks. Station can not be published until more elevations are obtained.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8519461 Bayonne Bridge Air Gap, NY

L26913

Part ?

1. No additional requirements.

8519483 Bergen Point, NY

L26913

Part 4

Primary Bench Mark: 851 9483 B TIDAL (AH6737)

PBM above SD: 6.428 m

Station GPS Bench Mark: 851 9483 E (NO PID ASSIGNED)

MSL above SD: 2.137 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Install new parallel plates.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8530973 Robins Reef, NY

1. Take one general location photo showing the met station in relationship to its supporting structure and the local body of water.

8531680 Sandy Hook, NJ

L26914

Part 1

Primary Bench Mark: 853 1680 A TIDAL (KV3519)

PBM above SD: 3.578 m

Station GPS Bench Mark: SIMPSON 2 RM 3 (KV0707)

MSL above SD: 1.551 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. **Unresolved from 2006 Project Instructions.** Include in the leveling run one GPS reference mark: AB3784.
2. Update the bench mark sketch.
3. **Unresolved from 2006 Project Instructions.** Relocate station back to pier.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8534720 Atlantic City, NJ

L26914

Part 2

Primary Bench Mark: 853 4720 F (NO PID ASSIGNED)

PBM above SD: 10.554 m

Station GPS Bench Mark: Undetermined

MSL above SD: 2.186 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Develop plans for relocation of the gauge and recon new sites for bench marks, if needed. Install a temporary gauge when given notice to remove the NWLON gauge.
2. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8536110 Cape May, NJ

L26914

Part 3

Primary Bench Mark: 853 6110 TIDAL 1 (HU1194)

PBM above SD: 4.892 m

Station GPS Bench Mark: J 79 (HU1197)

MSL above SD: 1.521 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. **Unresolved from 2006 Project Instructions.** A dive inspection **MUST** be performed during this site visit; last dive was done in 8/04.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8537121 Ship John Shoal, NJ

L26914

Part 4

Primary Bench Mark: 853 7121 TIDAL 1 (NO PID ASSIGNED)

PBM above SD: 8.666 m

Station GPS Bench Mark: Undetermined

MSL above SD: 6.498 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8538886 Tacony-Palmyra, NJ

L26914

Part 5

Primary Bench Mark: 853 8886 A (NO PID ASSIGNED)

PBM above SD: 10.084 m

Station GPS Bench Mark: Undetermined

MSL above SD: 6.395 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. **Unresolved from 2006 Project Instructions.** A dive inspection **MUST** be performed during this site visit (last dive date?)
2. **Unresolved from 2005 Project Instructions.** Update the bench mark sketch with 853 8886 LAG 1 RESET.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8539094 Burlington Bridge, NJ

L26914

Part 6

Primary Bench Mark: 853 9094 F (NO PID ASSIGNED)

PBM above SD: 9.731 m

Station GPS Bench Mark: Undetermined

MSL above SD: 6.313 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8540433 Marcus Hook, PA

L26915

Part 1

Primary Bench Mark: 854 0433 E (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 7.546 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. **Unresolved from 2006 Project Instructions.** Investigate moving the station off of the Sunoco property.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8545240 Philadelphia, PA

L26915

Part 2

Primary Bench Mark: 854 5240 A (NO PID ASSIGNED)

PBM above SD: 4.688 m

Station GPS Bench Mark: 854 5240 J TIDAL (AJ2129)

MSL above SD: 2.211 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8548989 Newbold, PA

L26915

Part 3

Primary Bench Mark: 854 8989 A (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 5.634 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. **Unresolved from 2006 Project Instructions.** A dive inspection **MUST** be performed during this site visit; last dive was done in 9/02.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8551762 Delaware City, DE

L26916

Part 1

Primary Bench Mark: 855 1762 C (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: ?

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8551910 Reedy Point, DE

L26916

Part 2

Primary Bench Mark: R 41 (JU2187)

PBM above SD: 2.031 m

Station GPS Bench Mark: 855 1910 B TIDAL (JU2189)

MSL above SD: 1.301 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
3. **Unresolved from 2006 Project Instructions.** Verify the destruction of bench mark PORT PENN RM 2.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8551910 Reedy Point Air Gap, DE

L26916

Part ?

1. No additional requirements.

8555889 Brandywine Shoal Light, DE

L26916

Part 3

Temp. Primary Bench Mark: 855 5889 BOLT 1 (NO PID ASSIGNED)

PBM above SD: 8.478 m

Station GPS Bench Mark: Undetermined

MSL above SD: 6.590 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. **Unresolved from 2005 Project Instructions.** Take digital photographs of 855 5889 BOLT 3 and any new marks installed.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8557380 Lewes, DE

L26916

Part 4

Primary Bench Mark: 855 7380 TIDAL 20 (AJ8038)

PBM above SD: 3.990 m

Station GPS Bench Mark: 855 7380 TIDAL 20 (AJ8038)

MSL above SD: 1.528 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8570283 Ocean City Inlet, MD

L26917

Part 1

Primary Bench Mark: 857 0283 J (NO PID ASSIGNED)

PBM above SD: 4.979 m

Station GPS Bench Mark: SPEICHER (HU0266)

MSL above SD: 2.829 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8571359 Snow Hill, MD

L26917

Part 20

Primary Bench Mark: 21 BALTO (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 4.057 m

GPS Observation Frequency: NA

Dive Inspection Frequency: Annually

1. This station will remain in operation to support Photogrammetry.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8571421 Bishops Head, MD

L26917

Part 11

Primary Bench Mark: 857 1421 A (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 9.111 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Coordinate with the COASTAL program manager to ensure that educational material is provided to the Karen Noonan Center. This was a condition of our agreement to establish the station.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8571559 Macready's Creek, MD

L26917

Part 8

Primary Bench Mark: 857 1559 B (NO PID ASSIGNED)

PBM above SD: 3.157 m

Station GPS Bench Mark: Undetermined

MSL above SD: 2.400 m

GPS Observation Frequency: NA

Dive Inspection Frequency: Annually

1. A dive inspection **MUST** be performed during this site visit; last dive was done in 2003. This station will remain in operation to support COASTAL Program and the Photogrammetry project in Chesapeake Bay.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8571702 Beaverdam Creek, MD

L26917

Part 23

Primary Bench Mark: 857 1702 E (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 9.258 m

GPS Observation Frequency: NA

Dive Inspection Frequency: Annually

1. Run closing levels to all marks and remove the gauge.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8571773 Vienna, MD

L26917

Part 21

Primary Bench Mark: 857 1773 X5 RESET (HU0640)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 6.907 m

GPS Observation Frequency: NA

Dive Inspection Frequency: Annually

1. This station will remain in operation to support Photogrammetry project.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8571892 Cambridge, MD

L26917

Part 2

Primary Bench Mark: 857 1892 D TIDAL (AC6854)

PBM above SD: 3.344 m

Station GPS Bench Mark: 857 1892 D TIDAL (AC68540)

MSL above SD: 1.060 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. A dive inspection **MUST** be performed during this site visit; last dive was done in 2004.
3. **Unresolved from 2006 Project Instructions.** Wind sensor cable needs to be lengthened and the 3/4" conduit needs to be made longer to allow the tower to be lowered per 2005 work request.
4. Battery needs to be replaced for both DCP1 and DCP2, and the Aquatrak sounding tube needs new brass end per 2006 work requests.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8573349 Crumpton, MD

L26917

Part 26

Primary Bench Mark: 857 3349 A (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 3.714 m

GPS Observation Frequency: NA

Dive Inspection Frequency: Annually

1. This station will remain in operation to support Photogrammetry project.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8573364 Tolchester, MD

L26917

Part 3

Primary Bench Mark: 857 3364 A (NO PID ASSIGNED)

PBM above SD: 2.963 m

Station GPS Bench Mark: 857 3364 B TIDAL (AJ8034)

MSL above SD: 1.295 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8573927 Chesapeake City, MD

L26917

Part 4

Primary Bench Mark: U 2 (JU1833)

PBM above SD: 3.158 m

Station GPS Bench Mark: Undetermined

MSL above SD: 1.417 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Recover bench mark 857 3927 A. Provide digital photos, add the mark to the bench mark sketch, and include it in the level run.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8573928 Chesapeake City Air Gap, MD

L26917

Part ?

1. No additional requirements.

8574680 Baltimore, MD

L26917

Part 5

Primary Bench Mark: 857 4680 TIDAL 32 (JV0586)

PBM above SD: 3.158 m

Station GPS Bench Mark: 857 4680 TIDAL BASIC (JV0578)

MSL above SD: 1.495 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. **Unresolved from 2006 Project Instructions.** A dive inspection **MUST** be performed during this site visit; last dive was done in 3/01.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8574728 Francis Scott Key Bridge, MD

1. Replace wind sensor nose cone.
2. Take one general location photo showing the met station in relationship to its supporting structure and the local body of water.

8575512 Annapolis, MD

L26917

Part 6

Primary Bench Mark: 857 5512 TIDAL 7 (HV0207)

PBM above SD: 2.877 m

Station GPS Bench Mark: 857 5512 D TIDAL (AJ8035)

MSL above SD: 1.596 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
3. **Unresolved from 2005 Project Instructions.** Investigate moving well outside of Oceanographic lab.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8577380 Solomons Island, MD

L26917

Part 7

Primary Bench Mark: 857 7330 E TIDAL (AJ8036)

PBM above SD: 4.456 m

Station GPS Bench Mark: 857 7330 E TIDAL (AJ8036)

MSL above SD: 1.366 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8577018 Cove Point, MD

1. Replace wind sensor nose cone.
2. Take one general location photo showing the met station in relationship to its supporting structure and the local body of water.

8578240 Piney Point, MD

1. Replace wind sensor nose cone.
2. Take one general location photo showing the met station in relationship to its supporting structure and the local body of water.

8579542 Lower Marlboro, MD

L26917

Part 28

Primary Bench Mark: 857 9542 TIDAL 5

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 2.879 m

GPS Observation Frequency: NA

Dive Inspection Frequency: Annually

1. This station will remain in operation to support COASTAL program.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8594900 Washington, DC

L26918

Part 1

Primary Bench Mark: 859 4900 TIDAL 1 (HV1980)

PBM above SD: 4.115 m

Station GPS Bench Mark: 859 4900 TIDAL 4 (HV9068)

MSL above SD: 1.859 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. **Unresolved from 2005 Project Instructions.** Establish one new bench mark near the tide station stamped 4900 J 2007, if a suitable nearby mark is not found in the NGS database.
3. Update the bench mark sketch with the new mark.
4. **Unresolved from 2005 Project Instructions.** Install a special clamp made to attach to the lower unprotected section of the well.
5. **Unresolved from 2005 Project Instructions.** Take digital photos of the entire well.
6. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8631044 Wachapreague, VA

L26919

Part 1

Primary Bench Mark: 863 1044 B (NO PID ASSIGNED)

PBM above SD: 4.130 m

Station GPS Bench Mark: 863 1044 K TIDAL (AJ4587)

MSL above SD: 1.401 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8631961 Cape Charles GPS Buoy, VA

1. No additional requirements.

8632200 Kiptopeke, VA

L26919

Part 2

Primary Bench Mark: L 418 (FW0303)

PBM above SD: 4.093 m

Station GPS Bench Mark: 863 2200 B TIDAL (AJ4588)

MSL above SD: 1.539 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Only nine bench marks exist at the station. If nearby bench marks are not found in the NGS database, then install, describe, and connect via levels one surface bench mark, and stamp it as 2200 M 2007.
2. Update the bench mark sketch with the new mark.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8632837 Rappahannock Light, VA

FULL ANNUAL MAINTENANCE NOT PERFORMED SINCE CY99 (or no site reports submitted).

1. Replace wind sensor nose cone.
2. Take one general location photo showing the met station in relationship to its supporting structure and the local body of water.

8635150 Colonial Beach, VA

L26919

Part 3

Primary Bench Mark: 863 5150 E (NO PID ASSIGNED)

PBM above SD: 2.729 m

Station GPS Bench Mark: 863 5150 TIDAL 8 (HV8249)

MSL above SD: 1.099 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Rebuild the station if an appropriate location and structure are identified; the city has declined permission for using the city pier. The station was destroyed by Hurricane Isabel in 2003.

8635750 Lewisetta, VA

L26919

Part 4

Primary Bench Mark: R 462 (GV0156)

PBM above SD: 2.874 m

Station GPS Bench Mark: 863 5750 J TIDAL (AJ4589)

MSL above SD: 1.685 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8636580 Windmill Point, VA

L26919

Part 5

FULL ANNUAL MAINTENANCE NOT PERFORMED IN CY2006.

Primary Bench Mark: 863 6580 B (NO PID ASSIGNED)

PBM above SD: 1.842 m

Station GPS Bench Mark: Undetermined

MSL above SD: 0.903 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. **Unresolved from 2006 Project Instructions.** A dive inspection **MUST** be performed during this site visit; last dive was done in 6/98.
2. **Unresolved from 2006 Project Instructions.** Investigate moving protective well to a deeper location. Well consistently silts in and the data becomes degraded.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8637611 York River East Rear Range Light, VA

1. Replace wind sensor nose cone.
2. Take one general location photo showing the met station in relationship to its supporting structure and the local body of water.

8637689 Yorktown, VA

L26919

Part 6

Primary Bench Mark: 863 7689 B (NO PID ASSIGNED)

PBM above SD: 5.070 m

Station GPS Bench Mark: Undetermined

MSL above SD: 1.981 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Use bench mark 863 7689 B as the PBM for a couple years until a rod mark has been established and leveled at least twice.
2. One deep rod mark should be installed to become the future PBM, but before installing the mark, contact Cmd. Fred Sommer at 757-856-2113. Cmd. Sommer will have grounds marked for underground utilities and is aware of the need for a deep rod mark and has good working knowledge of where mark should be installed.
3. Update the bench mark sketch.
4. Add grout around the edge of bench mark FUEL.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8638511 Dominion Terminal, VA

1. Replace wind sensor nose cone
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water.

8638595 South Craney Island, VA

1. Replace wind sensor nose cone
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water.

8638610 Sewells Point, VA**L26919****Part 7**

Primary Bench Mark: TIDAL 6 STA 97 (NO PID ASSIGNED)

PBM above SD: 5.197 m

Station GPS Bench Mark: L 308 RESET (FX4422)

MSL above SD: 1.748 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. **Unresolved from 2006 Project Instructions.** Recon an area on the base away from the piers where a 3D mark can be installed and leveled. The pier area is not stable and all of the marks are exhibiting movement. Stamp the bench mark 8610 F 2007.
3. Update the bench mark sketch.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8638863 Chesapeake Bay Bridge Tunnel, VA**L26919****Part 8**

Primary Bench Mark: 863 8863 NO 2 TIDAL (AJ4591)

PBM above SD: 15.914 m

Station GPS Bench Mark: 863 8863 NO 2 TIDAL (AJ4591)

MSL above SD: 8.135 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. **Unresolved from 2006 Project Instructions.** A dive inspection **MUST** be performed during this site visit.
3. **Unresolved from 2006 Project Instructions** Station interior needs to be refurbished. The top cap needs to be removed and new additional aluminum wells need to be jacked into ocean bottom and secured to building floor with additional access holes.
4. **Unresolved from 2006 Project Instructions** Only eight bench marks at station. Obtain permission from the bridge authority and establish, describe, and level two new marks stamped 8863 D 2006 and 8863 E 2006. If V 422 can be leveled without stopping traffic, only one mark needs to be established.
5. Update the bench mark sketch.
6. **Unresolved from 2006 Project Instructions** Take digital photos of the well, gauge shelter exterior, bench mark DE GRASSE disk face, and any new marks. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8638979 Chesapeake Light, VA

FULL ANNUAL MAINTENANCE NOT PERFORMED SINCE CY99

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water.

8638999 Cape Henry, VA

1. Replace wind sensor nose cone
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water.

8639348 Money Point, VA

L26919

Part 9

FULL ANNUAL MAINTENANCE NOT PERFORMED IN CY2005.

Primary Bench Mark: 863 9348 E (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: 863 9348 D TIDAL (AJ4592)

MSL above SD: 7.067 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. A dive inspection **MUST** be performed during this site visit.
2. Replace the brass section of the sounding tube. Replace wind sensor nose cone.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8651370 Duck, NC

L26927

Part 1

Primary Bench Mark: 865 1370 B TIDAL, (FW0688)

PBM above SD: 10.061 m

Station GPS Bench Mark: 865 1370 C (FW0686)

MSL above SD: 6.202 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to Sutron Xpert and Xpert Dark as planned.
2. Last dive was done 06/04; dive **MUST** be performed during this inspection.
3. Contract to remove existing experimental and test well and components per request from COE.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8652587 Oregon Inlet Marina, NC

L26927

Part 5

Primary Bench Mark: 865 2587 NO 3 TIDAL (EX0150)

PBM above SD: 5.214 m

Station GPS Bench Mark: 865 2587 NO 3 TIDAL (EX0150)

MSL above SD: 0.979 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8654400 Cape Hatteras, NC

L269927

Part 2

Primary Bench Mark: 865 4400 NO 1 TIDAL (EX0250)

PBM above SD: 3.408 m

Station GPS Bench Mark: 865 4400 NO 2 TIDAL (EX0249)

MSL above SD: 1.453 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. FOD has evaluated the new pier structure to be unacceptable for long term data collection. An alternate site is being investigated at the Coast Guard Station at Hatteras Inlet. The station shall be relocated if this site is determined to be acceptable and permission is obtained. The DCPs shall be upgraded to the Sutron Xpert and Xpert Dark when the station is installed.

8656483 Duke Marine Lab, NC

L26927

Part 3

Primary Bench Mark: 865 6483 NO 11 (AI9505)

PBM above SD: 3.097 m

Station GPS Bench Mark: 865 6483 E TIDAL (DE7961)

MSL above SD: 1.083 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8658120 Wilmington, NC

L26927

Part 4

Primary Bench Mark: 865 8120 D (NO PID ASSIGN.)

PBM above SD: 2.454 m

Station GPS Bench Mark: 865 8120 C TIDAL RM 1 (EA3063)

MSL above SD: 1.490 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8658163 Wrightsville Beach, NC

L26927

Part 11

Primary Bench Mark: 865 8163 A (NO PID ASSIGN.)

PBM above SD: 10.000 m

Station GPS Bench Mark: C 163 (EA0631)

MSL above SD: 6.446 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8661070 Springmaid Pier, SC

L26928

Part 1

Primary Bench Mark: 866 1070 J TIDAL (DD1542)

PBM above SD: 11.948 m

Station GPS Bench Mark: K 17 (DD0853)

MSL above SD: 9.754 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Replace the hinges on the trap door in the pier deck.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8662245 Oyster Landing, SC

L26928

Part 8

Primary Bench Mark: 866 2245 A TIDAL (DD1345)

PBM above SD: 2.962 m

Station GPS Bench Mark: 866 2245 A TIDAL (DD1345)

MSL above SD: 2.007 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Add the standard title block to the bench mark sketch.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8665530 Charleston, SC

L26928

Part 2

Primary Bench Mark: 866 5530 TIAL 13 (CJ0085)

PBM above SD: 4.020 m

Station GPS Bench Mark: 866 5530 TIDAL 13 (CJ0085)

MSL above SD: 1.733 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Establish local contact to clean sensor on monthly basis.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8670870 Fort Pulaski, GA

L26929

Part 1

Primary Bench Mark: 867 0870 TIDAL 5 (CK0697)

PBM above SD: 4.877 m

Station GPS Bench Mark: 867 0870 TIDAL 5 (CK0697)

MSL above SD: 2.230 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8677433 St Simons Island Lighthouse, GA

L26929

Part 2

Primary Bench Mark: TIDAL 2 (BR0078)

PBM above SD: 5.606 m

Station GPS Bench Mark: TIDAL 2 (BR0078)

MSL above SD: 1.606 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Level to all marks and remove the station as schedule permits - station is no longer funded. Contact the city to notify them that the equipment is being removed from the pier. The equipment shall be returned to Chesapeake and included in our inventory.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8726384 Port Manatee, FL (PORTS)

L26930

Part 20

Primary Bench Mark: 872 6384 E TIDAL (AG7341)

PBM above SD: 2.666 m

Station GPS Bench Mark: 872 6384 E TIDAL (AG7341)

MSL above SD: 0.419 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

NOTE: All maintenance for Tampa Bay PORTS stations shall be coordinated with Brad Wynn and Dr. Mark Luther, Chief Operating Officer of GTBMAC/PORTS (727-553-1528).

1. Recon a location for a new rod mark, if construction has destroyed another surface mark, install and stamp the rod mark 6384 M 2007; update the bench mark sketch.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8726413 C-Cut, FL (MET only)

1. Replace the wind sensor nose cone.

8726520 St. Petersburg, FL (PORTS)

L26930

Part 11

Primary Bench Mark: 872 6520 F (NO PID ASSIGN.)

PBM above SD: 4.023 m

Station GPS Bench Mark: 872 6520 A TIDAL (AG9358)

MSL above SD: 1.394 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

NOTE: All maintenance for Tampa Bay PORTS stations shall be coordinated with Brad Wynn and Dr. Mark Luther, Chief Operating Officer of GTBMAC/PORTS (727-553-1528).

1. **Unresolved from 2004 Project Instructions.** Take digital photo of bench mark 6520 M and 6520 L (not clear in 2001 photo).
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8726607 Old Port Tampa, FL (PORTS)

L26930

Part 21

Primary Bench Mark: 872 6607 A (NO PID ASSIGN.)

PBM above SD: 10.000 m

Station GPS Bench Mark: 872 6607 A (NO PID ASSIGN.)

MSL above SD: 9.018 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

NOTE: All maintenance for Tampa Bay PORTS stations shall be coordinated with Brad Wynn and Dr. Mark Luther, Chief Operating Officer of GTBMAC/PORTS (727-553-1528).

1. **Unresolved from 2004 Project Instructions.** Replace wind sensor nose cone. Install a Shakespeare met sensor mast and remount met sensors.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8726667 CSX Rockport Terminal, FL (PORTS) L26930 Part 22

Primary Bench Mark: 872 6667 J (NO PID ASSIGN.) PBM above SD: 3.120 m
 Station GPS Bench Mark: 872 6667 C TIDAL (AG7506) MSL above SD: 0.542 m
 GPS Observation Frequency: Every five years (required this year)
 Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8726669 Berth 223, FL (MET only)

1. Replace wind sensor nosecone.

8726673 SEABULK, FL (MET only)

1. Replace wind sensor nosecone.

8735181 Dauphin Island, AL (Hydro) L26931 Part 2

Primary Bench Mark: 873 5180 TIDAL 1 (BH1756) PBM above SD: 6.288 m
 Station GPS Bench Mark: 873 5180 TIDAL 1 (BH1756) MSL above SD: 1.058 m
 GPS Observation Frequency: NA
 Dive Inspection Frequency: Annually

1. Continue operation of this temporary station as a backup to the NWLON station.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water.

873xxxx Weeks Bay, AL (NERRS) L26931 Part 11

Primary Bench Mark: PBM above SD: m
 Station GPS Bench Mark: MSL above SD: m
 GPS Observation Frequency: Annually
 Dive Inspection Frequency: Annually

1. Install a full station, including backup, with five marks in support of the COASTAL program.

8737048 Mobile, AL (PORTS)

L26931

Part 10

Primary Bench Mark: 7048 A 1980 (NO PID ASSIGNED)
Station GPS Bench Mark: Select most stable mark observable
GPS Observation Frequency: Annually
Dive Inspection Frequency: Annually

PBM above SD: 10.000m
MSL above SD: 0.721m

This station will be installed by CO-OPS/FOD in the spring of 2007 as the 200th NWLON station.

8737373 Lower Bryant Landing, AL

L26931

Part 3

Primary Bench Mark: 873 7373 A (NO PID ASSIGNED)
Station GPS Bench Mark: Select most stable mark observable
GPS Observation Frequency: NA
Dive Inspection Frequency: NA

PBM above SD: 10.000 m
MSL above SD: 6.378 m

1. **Unresolved from 2006 Project Instructions.** Level to the PBM and all benchmarks upon notice to remove the station. Coordinate this schedule with the COASTAL program manager.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8741533 Pascagoula NOAA Lab, MS

L26932

Part 6

Primary Bench Mark: 874 1533 B (NO PID ASSIGNED)
Station GPS Bench Mark: Select most stable mark observable
GPS Observation Frequency: Annually
Dive Inspection Frequency: Annually

PBM above SD: 9.145 m
MSL above SD: 6.898m

1. This site will be upgraded under the PORTS program.

8745557 Gulfport Harbor, MS

L26932

Part 5

Primary Bench Mark: 874 5557 C (NO PID ASSIGNED)
Station GPS Bench Mark: Select most stable mark observable
GPS Observation Frequency: Annually
Dive Inspection Frequency: Annually

PBM above SD: 2.934 m
MSL above SD: 0.996 m

1. This site will be upgraded under the PORTS program.

8764044 Tesoro Marine Terminal, LA**L26933****Part 34**

Primary Bench Mark: 876 4044 E

PBM above SD: 5.000 m

Station GPS Bench Mark: (use mark observed by NGS - ?)

MSL above SD: 5.781m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

FOD will perform the annual inspection in 2007. Upgrade of the station with hurricane funding has been postponed.

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8765251 Cypremort Point, LA**L26933****Part 7**

Primary Bench Mark: 876 5251 CYPR (NO PID ASSIGNED)

PBM above SD: 8.495 m

Station GPS Bench Mark: CYPR (NO PID ASSIGNED)

MSL above SD: 7.556 m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

FOD will perform the annual inspection in 2007; not included in the O&M task order.

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8766072 Freshwater Canal Locks, LA**L26933****Part 8**

Primary Bench Mark: 876 6072 A (NO PID ASSIGNED)

PBM above SD: 8.887m

Station GPS Bench Mark: 876 6072 A (NO PID ASSIGNED)

MSL above SD: 6.760m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

FOD will perform the annual inspection in 2007. Upgrade of the station with hurricane funding has been postponed.

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8767816 Lake Charles, LA

L26933

Part 9

Primary Bench Mark: A 269 (BK1489)
Station GPS Bench Mark: CIVIC (BK3291)
GPS Observation Frequency: Annually
Dive Inspection Frequency: Annually

PBM above SD: 10.000 m
MSL above SD: 8.323m

FOD will perform the annual inspection in 2007. Upgrade of the station with hurricane funding has been postponed.

1. Lengthen the protective well and sounding tube to ensure the collection of lower low water data; the well is now approximately 1.5 feet too short.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

General note for all stations in Texas maintained by DNR:

Arrange for transfer of all station and bench mark photos in the DNR database to CO-OPS to ensure CO-OPS has the full set of photos.

8770570 Sabine Pass North, TX

L26934

Part 1

Primary Bench Mark: 877 0570 A TIDAL (AV1014)

PBM above SD: 3.264 m

Station GPS Bench Mark: 877 0570 A TIDAL (AV1014)

MSL above SD: 1.343 m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8770613 Morgans Pint, TX (PORTS)

L26934

Part 8

Primary Bench Mark: 877 0613 A TIDAL (AW4858)

PBM above SD: 7.0048 m

Station GPS Bench Mark: 877 0613 A TIDAL (AW4858)

MSL above SD: 1.813 m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

1. **Unresolved from 2006 Project Instructions.** Determine and report status of bench marks E1007, E1205, and include in levels if in good condition.
2. **Unresolved from 2006 Project Instructions.** Take digital photos of well and gage shelter inside and out.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8771013 Eagle Point, TX (PORTS)

L26934

Part 13

Primary Bench Mark: 877 1013 B (NO PID ASSIGNED)

PBM above SD: 3.913 m

Station GPS Bench Mark: 877 1013 A (AJ4424)

MSL above SD: 1.446 m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

1. **Unresolved from 2006 Project Instructions.** Determine status and report on bench marks EAGLE POINT 1932, EAGLE POINT NO 1 and NO 2 1932, 4 1973, and 5 1973 at the old site north of the present site.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8771341 Galveston North Jetty, TX (PORTS) **L26934** **Part 41**
Primary Bench Mark: 877 1314 A (NO PID ASSIGNED) PBM above SD: 4.180 m
Station GPS Bench Mark: Select most stable mark observable MSL above SD: 3.082 m
GPS Observation Frequency: Annually
Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8771450 Galveston Pier 21, TX (PORTS) **L26934** **Part 2**
Primary Bench Mark: 7.151 (AW0433) PBM above SD: 2.856 m
Station GPS Bench Mark: 877 1450 TIDAL 40 RESET (AW0569) MSL above SD: 1.588 m
GPS Observation Frequency: Annually
Dive Inspection Frequency: Annually

1. Take digital photos of the Xpert and Xpert Dark DCPs inside the tide house.
2. Calculate the barometer coefficient.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8771510 Galveston Pleasure Pier, TX (PORTS) **L26934** **Part 3**
Primary Bench Mark: 877 1510 TIDAL 43 (AW0592) PBM above SD: 8.605 m
Station GPS Bench Mark: 877 1510 TIDAL 46 (AW1703) MSL above SD: 1.404 m
GPS Observation Frequency: Annually
Dive Inspection Frequency: Annually

1. A dive inspection **MUST** be performed – missed this in 2006.
2. Calculate the barometer coefficient.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8772447 USCG Freeport, TX

L26934

Part 4

Primary Bench Mark: 877 2447 A (NO PID ASSIGNED)

PBM above SD: 10.0 m

Station GPS Bench Mark: 877 2447 A (NO PID ASSIGNED)

MSL above SD: Undetermined

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8774770 Rockport, TX

L26934

Part 5

Primary Bench Mark: 877 4770 TIDAL 10 (AN1876)

PBM above SD: 2.841 m

Station GPS Bench Mark: 877 4770 TIDAL 4 (AN1880)

MSL above SD: 1.914 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Relocate the station to a hardened platform outside the harbor if funding is available to build the platform.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8775870 Corpus Christi, TX

L26934

Part 6

Primary Bench Mark: 877 5870 A TIDAL (AC8459)

PBM above SD: 9.098 m

Station GPS Bench Mark: 877 5870 H TIDAL (AH1762)

MSL above SD: 6.635 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Rebuild the stairway and deck rails under a major maintenance contract modification.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8779770 Port Isabel, TX

L26934

Part 7

Primary Bench Mark: 877 9770 TIDAL 10 (AB1227)

PBM above SD: 4.276 m

Station GPS Bench Mark: X 1406 (AB1225)

MSL above SD: 1.423 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. A/C needs to be re-connected and new breaker panel installed. Phone line from the demarc also needs to be re-established. The station needs a phone line switch and line conditioner due to high noise in the line. A replacement modem module needs to be installed back into the Xpert Dark. An IP modem should also be added for more reliable communications.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9751364 Christiansted Harbor , St. Croix, VI**L26936****Part 3**

Primary Bench Mark: 975 1364 A (NO PID ASSIGN.)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 8.362 m

GPS Observation Frequency: Every five years (waived for 2007)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. In the HA file, ensure that all bench marks have a detailed to reach statement at the start of the text description, have handheld GPS positions at the end of the description, have a minimum of three reference ties, and are coded in the APP field for suitability for GPS observations.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9751381 Lameshur Bay, St Johns, VI**L26936****Part 4**

Primary Bench Mark: 975 1391 A (NO PID ASSIGN.)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 8.924 m

GPS Observation Frequency: Every five years (waived for 2007)

Dive Inspection Frequency: Annually

1. In the HA file, ensure that all bench marks have a detailed to reach statement at the start of the text description, have handheld GPS positions at the end of the description, have a minimum of three reference ties, and are coded in the APP field for suitability for GPS observations.
2. Establish, describe, and connect via levels five surface marks or marks on rock outcrop, designation/stamping: 975 1381 C/1381 C 2007, 975 1381 D/1381 D 2007, 975 1381 E/1381 E 2007, 975 1381 F/1381 F 2007, and 975 1381 G/1381 G 2007.
3. Update the bench mark sketch with new marks.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9751401 Limetree Bay, St. Croix, VI

L26936

Part 1

Primary Bench Mark: 975 1401 M (NO PID ASSIGN.)

PBM above SD: 13.612 m

Station GPS Bench Mark: Undetermined

MSL above SD: 10.501 m

GPS Observation Frequency: Every five years (waived for 2007)

Dive Inspection Frequency: Annually

1. In the HA file, ensure that all bench marks have handheld GPS positions at the end of the description, and are coded in the APP field for suitability for GPS observations.
2. **Unresolved from 2006 Project Instructions.** West coast mounting plate needs to be installed.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9751639 Charlotte Amalie, St. Thomas, VI

L26936

Part 2

Primary Bench Mark: 975 1639 F (NO PID ASSIGN.)

PBM above SD: 3.267 m

Station GPS Bench Mark: Undetermined

MSL above SD: 1.715 m

GPS Observation Frequency: Every five years (waived for 2007)

Dive Inspection Frequency: Annually

1. In the HA file, ensure that all bench marks have handheld GPS positions at the end of the description, and are coded in the APP field for suitability for GPS observations.
2. **Unresolved from 2006 Project Instructions.** As noted on the 2004 Site Report, replace GOES antenna and move it inside gage house if possible.
3. **Unresolved from 2006 Project Instructions.** Replace parallel plates.
4. **Unresolved from 2006 Project Instructions.** Station needs a new bottle of snoop.
5. **Unresolved from 2006 Project Instructions.** West coast mounting plate needs to be installed.
6. Establish, describe and connect via levels two 3D rod marks or marks on rock outcrop; designation/stamping: 975 1639 R/1639 R 2007 and 975 1639 S/1639 S 2007.
7. Update bench mark sketch with new marks.
8. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9752235 Culebra, PR**L26935****Part 6**

Primary Bench Mark: 975 2235 A TIDAL (NO PID ASSIGN.)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 8.523 m

GPS Observation Frequency: Every five years (waived for 2007)

Dive Inspection Frequency: Annually

1. In the HA file, ensure that all bench marks have a detailed to reach statement at the start of the text description, have handheld GPS positions at the end of the description, have a minimum of three reference ties, and are coded in the APP field for suitability for GPS observations.
2. Establish, describe, and connect via levels four surface marks or marks on rock outcrop, designation/stamping: 975 2235 G/2235 G 2007, 975 2235 H/2235 H 2007, 975 2235 J/2235 J 2007, and 975 2235 K/2235 K 2007.
3. Update bench mark sketch with new marks.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9752695 Vieques Island, PR**L26935****Part 7**

Primary Bench Mark: 975 2295 A TIDAL (NO PID ASSIGN.)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 8.035 m

GPS Observation Frequency: Every five years (waived for 2007)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. In the HA file, ensure that all bench marks have a detailed to reach statement at the start of the text description, have handheld GPS positions at the end of the description, have a minimum of three reference ties, and are coded in the APP field for suitability for GPS observations.
3. Establish, describe, and connect via levels four surface marks or marks on rock outcrop, designation/stamping: 975 2695 G/2695 G 2007, 975 2695 H/2695 H 2007, 975 2695 J/2695 J 2007, and 975 2695 K/2695 K 2007.
4. Update bench mark sketch with new marks.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9755371 San Juan, PR

L26935

Part 3

Primary Bench Mark: 975 5371 A TIDAL (TV1513)

PBM above SD: 2.600 m

Station GPS Bench Mark: Undetermined

MSL above SD: 1.266 m

GPS Observation Frequency: Every five years (waived for 2007)

Dive Inspection Frequency: Annually

1. In the HA file, ensure that all bench marks have handheld GPS positions at the end of the description, and are coded in the APP field for suitability for GPS observations.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9759110 Magueyes Island, PR

L26935

Part 4

Primary Bench Mark: 975 9110 BM 1 (NO PID ASSIGN.)

PBM above SD: 4.755 m

Station GPS Bench Mark: Undetermined

MSL above SD: 1.191 m

GPS Observation Frequency: Every five years (waived for 2007)

Dive Inspection Frequency: Annually

1. In the HA file, ensure that all bench marks have handheld GPS positions at the end of the description, and are coded in the APP field for suitability for GPS observations.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9759412 Aguadilla, PR**L26935****Part 8**

Primary Bench Mark: 975 9938 A (NO PID ASSIGN.)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 7.100 m

GPS Observation Frequency: Every five years (waived for 2007)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. In the HA file, ensure that all bench marks have a detailed to reach statement at the start of the text description, have handheld GPS positions at the end of the description, have a minimum of three reference ties, and are coded in the APP field for suitability for GPS observations.
3. Establish, describe, and connect via levels two surface marks or marks on rock outcrop, designation/stamping: 975 9412 D/9412 D 2007 and 975 9412 E/9412 E 2007.
4. Update bench mark sketch with new marks.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9759938 Mona Island, PR**L26935****Part 9**

Primary Bench Mark: 975 9938 A (NO PID ASSIGN.)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: *undetermined*

GPS Observation Frequency: Every five years (waived for 2007)

Dive Inspection Frequency: Annually

1. In the HA file, ensure that all bench marks have a detailed to reach statement at the start of the text description, have handheld GPS positions at the end of the description, have a minimum of three reference ties, and are coded in the APP field for suitability for GPS observations.
2. Establish, describe, and connect via levels five surface marks or marks on rock outcrop, designation/stamping: 975 9938 F/9938 F 2007, 975 9938 G/9938 G 2007, 975 9938 H/9938 H 2007, 975 9938 J/9938 J 2007, and 975 9938 K/9938 K 2007.
3. Update the bench mark sketch with new marks.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

GULF COAST O&M - TASK ORDER XVI

(provided to MDI in November 2006)

8720030 Fernandina Beach, FL

L26930

Part 1

Primary Bench Mark: 872 0030 TIDAL 34 (BC0166)

PBM above SD: 4.770 m

Station GPS Bench Mark: CONTAINER (BC2488)

MSL above SD: 1.522 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

1. No additional requirements

8720218 Bar Pilots Dock, FL

L26930

Part 2

Primary Bench Mark: 870 0218 A TIDAL (BC2486)

PBM above SD: 5.000 m

Station GPS Bench Mark: 872 0220 A TIDAL (BC2486)

MSL above SD: 3.509 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

1. No further requirements. This station uses bench marks at the former location at the ferry maintenance terminal (8720220) and does not need any new marks established as specified in Task Order XVI.

8721604 Trident Pier, FL

L26930

Part 19

Primary Bench Mark: 872 1604 A

PBM above SD: 9.303 m

Station GPS Bench Mark: 872 1604 C TIDAL (AJ2449)

MSL above SD: 6.006 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

1. Move orifice to an outside pile. Sand is an issue at the existing location.

8723214 Virginia Key, FL

L26930

Part 5

Primary Bench Mark: 872 3214 B (AH5251)

PBM above SD: 5.000 m

Station GPS Bench Mark: Select most stable mark observable

MSL above SD: 3.431 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

1. Recon a site for a temporary gage, install the gage and run levels to the PBM and four marks, and remove the equipment from the former site prior to reconstruction of the pier. Station relocation and installation shall be accomplished under a separate task order – the cost is not covered under the O&M task order.

8723962 Key Colony Beach, FL

L26930

Part 6

Primary Bench Mark: 872 3962 A TIDAL (AA0883)

PBM above SD: 2.758 m

Station GPS Bench Mark: Select most stable mark observable

MSL above SD: 1.371 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

1. This station needs to be reinstalled but CO-OPS does not have any plans this year.

8723970 Vaca Key, FL

L26930

Part 7

Primary Bench Mark: 872 3970 TIDAL 1 (AA0896)

PBM above SD: 2.073 m

Station GPS Bench Mark: R 273 (AA0302)

MSL above SD: 0.931 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

1. No additional requirements.

8724580 Key West, FL

L26930

Part 8

Primary Bench Mark: 872 4580 E TIDAL (AJ2450)

PBM above SD: 3.116 m

Station GPS Bench Mark: 872 4580 E TIDAL (AJ2450)

MSL above SD: 1.662 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

NGS is planning to install a CORS site in close proximity to the Key West water level station in January 2007.

1. No additional requirements.

8725110 Naples Pier, FL

L26930

Part 9

Primary Bench Mark: 872 5110 TIDAL 7 (AD5731)

PBM above SD: 4.225 m

Station GPS Bench Mark: 872 5110 C TIDAL (AD6337)

MSL above SD: 1.155 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

1. Replace the PVC pipe and/or setting for bench mark 872 5110 C TIDAL; the 4-inch PVC pipe presents a problem for leveling. The mark is recessed into the sidewalk.

8725520 Ft. Myers, FL

L26930

Part 10

Primary Bench Mark: 872 5520 A TIDAL (AD7888)

PBM above SD: 2.746 m

Station GPS Bench Mark: 872 5520 A TIDAL (AD7888)

MSL above SD: 1.522 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

1. Establish and level one surface mark, designation and stamping as follows:
872 5520 K/5520 K XXXX (year)
2. Update the bench mark sketch with the new mark.

8726724 Clearwater Beach, FL**L26930****Part 12**

Primary Bench Mark: LP 10 1 FLHD (AG7197)

PBM above SD: 2.234 m

Station GPS Bench Mark: 872 6724 N TIDAL (AG9359)

MSL above SD: 0.970 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

1. No further requirements.

8727520 Cedar Key, FL**L26930****Part 13**

Primary Bench Mark: TIDAL STATION 3-60 TIDAL 8 (AR1204)

PBM above SD: 2.347 m

Station GPS Bench Mark: PARK (AR1851)

MSL above SD: 1.171 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

The city pier was closed after the 2004 hurricane season and FOD personnel were not allowed access to the tide gage room in the restroom building. A contractor recon has been made to select a new gage site at the end of the city pier. FEMA will be providing funding for the reconstruction of the pier, with plans to include a stand alone platform off the end of the pier. The platform will be built and gauge installed under a separate task order in 2007 – the cost is not covered under the O&M task order.

1. Perform a routine annual inspection on the existing station prior to pier reconstruction.
2. Recover and level the FDNR 1 bench mark rather than install a new mark.
3. Update the bench mark sketch with the new mark.
4. Recon a site for a temporary gage, install the gage and run levels to the PBM and four marks, and remove the equipment from the former site prior to reconstruction of the pier. This work will be covered under a major maintenance mod to the task order.

8728690 Apalachicola, FL**L26930****Part 15**

Primary Bench Mark: TIDAL STA 3-66 TIDAL 1 (AS0240)

PBM above SD: 5.669 m

Station GPS Bench Mark: APALACHICOLA (AS0246)

MSL above SD: 1.584 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

This station needs to be relocated based on the recon performed by MDI in 2005 – cost is not covered under the O&M task order.

1. No additional requirements

8729108 Panama City, FL**L26930****Part 16**

Primary Bench Mark: 872 9108 L TIDAL (BE3028)

PBM above SD: 3.965 m

Station GPS Bench Mark: 872 9108 L TIDAL (BE3028)

MSL above SD: 1.222 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

1. No additional requirements. The steel frame and shelter need to be replaced in 2007 or 2008 – cost of work is not covered under the O&M task order.

8729210 Panama City Beach, FL**L26930****Part 17**

Primary Bench Mark: 872 9210 A (NO PID ASSIGNED)

PBM above SD: 13.725 m

Station GPS Bench Mark: Select most stable mark observable

MSL above SD: 8.440 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

1. Perform recon for a temporary gage (Paros sensor), install the gage and run levels to the PBM and four marks, and remove the equipment from the former site prior to reconstruction of the pier.
2. Coordinate with the city on plans for a new station once the pier is rebuilt. The cost is not covered under the O&M task order.
3. Many station bench marks have been destroyed in the last two years. Recon possible sites for new marks to be installed in 2007; ensure that the station has a minimum of three rod marks. If construction in the area is settled, proceed with the installation of the following new marks and include in the leveling.
4. Establish and level one surface mark, designation and stamping as follows:
872 9210 R/9210 R XXXX (year)
5. Establish and level two 3D rod marks, designation and stamping as follows:
872 9210 P/9210 P XXXX (year); 872 9210 Q/9210 Q XXXX (year)
6. Update the bench mark sketch with the new marks.

8729840 Pensacola, FL**L26930****Part 18**

Primary Bench Mark: 872 9840 M TIDAL (BG4867)

PBM above SD: 4.368 m

Station GPS Bench Mark: 872 9840 M TIDAL (BG4867)

MSL above SD: 2.757 m

GPS Observation Frequency: Every five years (required this year while under IDIQ Task Order)

Dive Inspection Frequency: Annually

1. No further requirements.

8735180 Dauphin Island, AL

L26931

Part 1

Primary Bench Mark: 873 5180 TIDAL 1 (BH1756)
Station GPS Bench Mark: 873 5180 TIDAL 1 (BH1756)
GPS Observation Frequency: Annually
Dive Inspection Frequency: Annually

PBM above SD: 6.288 m
MSL above SD: 1.049 m

1. Investigate options for installation of a removable ladder for access to the platform. Also, provide a report on the status of pier reconstruction. The cost of the ladder is not covered under the O&M task order.
2. Install an IP modem for communications access until the pier is rebuilt and phone line installed.

8737048 Mobile, AL

L26931

Part 10

Primary Bench Mark: 7048 A 1980 (NO PID ASSIGNED)
Station GPS Bench Mark: Select most stable mark observable
GPS Observation Frequency: Annually
Dive Inspection Frequency: Annually

PBM above SD: 10.000m
MSL above SD: 0.721m

This station will be installed by CO-OPS/FOD in the spring of 2007 and will not need an annual inspection in 2007. O&M services begin in FY08.

8743281 Ocean Springs, MS

L26932

Part 4

Primary Bench Mark: 874 3281 A (NO PID ASSIGNED)
Station GPS Bench Mark: Select most stable mark observable
GPS Observation Frequency: Annually
Dive Inspection Frequency: Annually

PBM above SD: 10.000m
MSL above SD: 9.458m

This station will be installed under Task Order 22 and will not need an annual inspection in 2007. O&M services begin in FY08.

8747437 Bay Waveland YC, MS

L26932

Part 3

Primary Bench Mark: 874 7437 TIDAL 1 (BH0937)
Station GPS Bench Mark: Select most stable mark observable
GPS Observation Frequency: Annually
Dive Inspection Frequency: Annually

PBM above SD: 2.473 m
MSL above SD: 0.990m

This station will be installed under Task Order 22 and will not need an annual inspection in 2007. O&M services begin in FY08.

8760922 Pilots Station East, SW Pass, LA

L26933

Part 2

Primary Bench Mark: 876 0922 C (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: 876 0922 C (NO PID ASSIGNED)

MSL above SD: 9.313 m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

1. The requirement for establishment of five new rod is waived, since there is insufficient land in the area of the Pilots Station. This station shall have only two surface marks on the platform and three rod marks in the marsh.

8761305 Shell Beach, LA

L26933

Part 35

Primary Bench Mark: 876 1305 F (If Recovered)

PBM above SD: 1.487

Station GPS Bench Mark: SHELL BEACH (NO PID ASSIGNED)

MSL above SD: 1.24

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

This station will be installed under Task Order 22 and will not need an annual inspection in 2007. O&M services begin in FY08.

8761724 Grand Isle, LA

L26832 (2006)

Part 1

Primary Bench Mark: 10 (AT0687)

PBM above SD: 2.810 m

Station GPS Bench Mark: 876 1724 C TIDAL (AT0681)

MSL above SD: 1.947 m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

1. Station infrastructure will need hardening in 2007. This shall be accomplished under a separate task order – cost is not covered under the O&M task order.

8761927 USCG New Canal Station, LA

L26832 (2006)

Part 10

Primary Bench Mark: ALCO (BJ1342)

PBM above SD: 3.149 m

Station GPS Bench Mark: ALCO (BJ1342)

MSL above SD: 1.350 m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

1. Establish and level one 3D rod mark, designation and stamping as follows:
876 1927 G/1927 G XXXX (year)
2. Update the bench mark sketch with the new mark.

8762075 Port Fourchon, LA

L26832 (2006)

Part 33

Primary Bench Mark: 876 2075 A (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: Select most stable mark observable

MSL above SD: 9.163 m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

1. This is a hydro support station; no further requirements.

8762372 East Bank 1, LA

L26832 (2006)

Part 3

Primary Bench Mark: 876 2372 E (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: 876 2372 F (NO PID ASSIGNED)

MSL above SD: 9.847 m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

1. The platform shall be rebuilt under a separate task order if St Charles Parish provides the funding required for reconstruction.
2. Establish and level five 3D Rod marks, designation and stamping as follows:
876 2372 H/2372 H XXXX (year); 876 2372 J/2372 J XXXX (year);
876 2372 K/2372 K XXXX (year); 876 2372 L/2372 L XXXX (year);
876 2372 M/2372 M XXXX (year)
3. Update the bench mark sketch with the new marks.

8762482 West Bank 1, LA

L26832 (2006)

Part 4

Primary Bench Mark: 876 2482 A (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: 876 2482 E (NO PID ASSIGNED)

MSL above SD: 9.662 m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

1. The station shall be relocated under a separate task order in coordination with plans to rebuild the dock – is cost covered by the Parish?
2. Establish and level five 3D Rod marks, designation and stamping as follows:
876 2482 H/2482 H XXXX (year); 876 2482 J/2482 J XXXX (year);
876 2482 K/2482 K XXXX (year); 876 2482 L/2482 L XXXX (year);
876 2482 M/2482 M XXXX (year)
4. Update the bench mark sketch with the new marks.

8764044 Tesoro Marine Terminal, LA

L26933

Part 34

Primary Bench Mark: 876 4044 E (NO PID ASSIGNED)

PBM above SD: 5.000 m

Station GPS Bench Mark: (use mark observed by NGS - ?)

MSL above SD: 5.781m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

FOD will perform the annual inspection in 2007. Upgrade of the station with hurricane funding has been postponed.

8764227 LAWMA, Amerada Pass, LA

L26933

Part 11

Primary Bench Mark: 876 4227 A (NO PID ASSIGNED)

PBM above SD: 8.759m

Station GPS Bench Mark: GPS GAGE 36 (NO PID ASSIGNED)

MSL above SD: N/A

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

This station will be installed under Task Order 22 and will not need an annual inspection in 2007. O&M services begin in FY08.

8766072 Freshwater Canal Locks, LA

L26933

Part 8

Primary Bench Mark: 876 6072 A (NO PID ASSIGNED)

PBM above SD: 8.887m

Station GPS Bench Mark: 876 6072 A (NO PID ASSIGNED)

MSL above SD: 6.760m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

FOD will perform the annual inspection in 2007. Upgrade of the station with hurricane funding has been postponed.

8767816 Lake Charles, LA

L26933

Part 9

Primary Bench Mark: A 269 (BK1489)

PBM above SD: 10.000 m

Station GPS Bench Mark: CIVIC (BK3291)

MSL above SD: 8.323m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

FOD will perform the annual inspection in 2007. Upgrade of the station with hurricane funding has been postponed.

8768094 Calcasieu Pass, East Jetty LA

L26933

Part 5

Primary Bench Mark: 876 8094 A (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: 876 8094 E TIDAL (NO PID ASSIGNED)

MSL above SD: 8.549 m

GPS Observation Frequency: Annually

Dive Inspection Frequency: Annually

This station will be installed under Task Order 22 and will not need an annual inspection in 2007. O&M services begin in FY08.

GREAT LAKES

ST. LAWRENCE RIVER

8311030 Ogdensburg, NY

L26941

Part 1

Primary Bench Mark: 831 1030 A (PH0768)

PBM elevation (Dynamic):84.6140 m

Station GPS Bench Mark: 831 1030 H (DE7800)

Hydraulic Corrector: +0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. This station is being considered for infrastructure repairs and will be submitted to the CELRE contract pipeline if funding is obtained in FY07/08. A statement of work to include house replacement and steel sheet pile sump wall refurbishment is being drafted.
2. Prior to flushing the sump, contact the New York Power Authority Control room at (315) 769-3099 and let them know you are temporarily taking their gauge out of service and will let them know when it is back in operation. Ensure that their Amass encoder display is matching with the ETG reading.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

8311062 Alexandria Bay, NY

L26941

Part 2

Primary Bench Mark: 831 1062 LAND (LX4057)

PBM elevation (Dynamic):86.1710 m

Station GPS Bench Mark: 831 1062 LMN (DE7816)

Hydraulic Corrector: +0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: Annually

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned. Retain the pressure sensor. The present pressure sensor is bad as of 2/07. Check to see if the sensor was replaced by Jeff Calhoun the Eastern Lakes contractor. If not, replace.
2. Remove the intake inserts for both primary and backup well, flush and clear of any obstructions. Check structural integrity of brackets for possible ice damage.
3. Inspect the installation for the well heaters, installed by contractor after last years O&M. the primary well froze in January and February.
4. Update bench mark sketch and chart section to include bench marks JAMISON, DEE, TIB, and. LEDGE.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

LAKE ONTARIO

9052000 Cape Vincent, NY

L26942

Part 1

Primary Bench Mark: 905 2000 CAPE (PJ0033)

PBM elevation (Dynamic): 77.0712m

Station GPS Bench Mark: 905 2000 F (AH9230)

Hydraulic Corrector: +0.008 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: Annually

1. This station is scheduled for relocation and was submitted to the CELRE contract.
2. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
3. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned. Retain the pressure sensor as backup.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9052030 Oswego, NY (MASTER)

L26942

Part 2

Primary Bench Mark: 905 2030 LAKE (OF0658)

PBM elevation (Dynamic): 77.4870 m

Station GPS Bench Mark: 905 2030 J (AH9231)

Hydraulic Corrector: +0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Inspect and repair as necessary leaks around the valve and sump walls. Replace the bottom 9 feet of the sump ladder as necessary.
2. Obtain permission to recover BM WAREHOUSE which has been asphalted over. Once recovered, sleeve and cap.
3. Inspect all CORS station components for proper operation and notify NGS of any problems found.
4. Recover historic benchmark "A" (OF0673). If found, re-describe and map out route for future leveling requirements.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9052058 Rochester, NY

L26942

Part 3

Primary Bench Mark: 905 2058 SUB (OF1082)
Station GPS Bench Mark: 905 2058 K (AH9232)
GPS Observation Frequency: Every five years
Dive Inspection Frequency: As found necessary or required

PBM elevation (Dynamic): 76.8041
Hydraulic Corrector: +0.006 m

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Perform dive to inspect and clean the intake and verify the elevation of both inside and outside inverts. Update intake GPS coordinates.
3. Sump should be pumped down enough times (minimum 4 to 6) to ensure entire length of intake line has been cleared of any debris.
4. Recover and plot benchmarks 331 and BATH HOUSE on the station chart section.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9052076 Olcott, NY

L26942

Part 4

Primary Bench Mark: 905 2076 WEST (OG0098)
Station GPS Bench Mark: 905 2076 H (AH9233)
GPS Observation Frequency: Every five years
Dive Inspection Frequency: As found necessary or required

PBM elevation (Dynamic): 77.4920 m
Hydraulic Corrector: +0.008 m

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
3. Contact the new land owner and discuss the status for the upgrade work and the permanent lease on the gauge building. Funding for the rebuild has not been identified for FY07.
4. Delete bench mark NO 4 from the bench mark sketch.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

NIAGARA RIVER

9063007 Ashland Avenue, NY

L26943

Part 1

Primary Bench Mark: 906 3007 POOL (OG0229)

PBM elevation (Dynamic): 111.4279

Station GPS Bench Mark: NA

Hydraulic Corrector: +0.000 m

Dive Inspection Frequency: Annually (Contracted)

1. New York Power Authority (NYPA) security office must be contacted prior to entering the gorge area. NYPA and Ontario Hydro control rooms must be contacted prior to any gauge maintenance or shutting down of the sump. See station report for contact phone numbers.
2. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned. This station has a NYPA encoder operating and reporting to both the U.S. and Canadian control rooms. If room for installation of a redundant NOAA encoder is not available then we will need to maintain the B1 pressure sensor as backup.
3. Coordinate with NYPA for a dive contractor to inspect and remove any debris from inside around the valve at the bottom of the sump. Also have them inspect and jet out as necessary the offshore end of the intake. NYPA is scheduling dive operations for FY07. NOAA will schedule for FY08.
4. Update the bench mark sketch, to be consistent with the format for the other GL stations.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9063009 American Falls, NY**L26943****Part 2**

Primary Bench Mark: 906 3009 FRONTIER (OG0223) PBM elevation (Dynamic): 171.8554

Station GPS Bench Mark: W 411 (OG0350)

Hydraulic Corrector: +0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: N/A (Above Falls)

1. The Niagara Falls Park Police must be contacted prior to bench mark recovery and leveling. NYPA and Ontario Hydro control rooms must be contacted prior to any gauge maintenance or shutting down of the sump. See station report for contact phone numbers.
2. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned. This station has a NYPA encoder operating and reporting to both the U.S. and Canadian control rooms. If room for installation of a redundant NOAA encoder is not available then we will need to maintain the B1 pressure sensor as backup.
3. Establish, describe, and connect via levels one surface mark in the newly built bridge abutment, designation/stamping: 906 3009 G/3009 G 2007. See station report for Parks engineer to contact prior to setting.
4. Add bench mark U 411 Reset and 906 3009 G to the bench mark sketch and chart section.
6. This stations bypass pipe is equipped with a Chicago air fitting connection for blowing out the intake. Rent a compressor large enough to blow the entire length of the intake out.
7. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9063012 Niagara Intake, NY**L26943****Part 3**

Primary Bench Mark: 906 3012 INTAKE (OG0215) PBM elevation (Dynamic): 173.3803 m

Station GPS Bench Mark: 906 3012 INTAKE (OG0215)

Hydraulic Corrector: +0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: N/A (Power Intakes)

1. New York Power Authority (NYPA) security office must be contacted prior to entering the station. NYPA control room must be contacted prior to any gauge maintenance or shutting down of the sump. See station report for contact phone numbers.
2. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
3. Check and see if NYPA has performed the needed roof repairs to keep the rain water from leaking down on the gauge equipment.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

LAKE ERIE

9063020 Buffalo, NY

L26944

Part 1

Primary Bench Mark: 906 3020 MACHINE (NC0403) PBM elevation (Dynamic): 176.5548 m

Station GPS Bench Mark: 906 3020 H (AH9234)

Hydraulic Corrector: -0.026 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Contact the Coast Guard prior to arrival to gain permission to access the property. Contact the Buffalo COE water management team prior to pumping the sump. See station report for contact phone numbers.
2. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
3. A dive is required to inspect conduit welds for temperature probe housing. The temperature sensor has failed as of January 07. Check to see if the GL contractor has replaced the sensor, if not, do so.
4. Inspect all CORS station components for proper operation and notify NGS if any problems are found.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9063028 Sturgeon Point, NY

L26944

Part 2

Primary Bench Mark: 906 3028 WATER (NC0430) PBM elevation (Dynamic): 197.5510 m

Station GPS Bench Mark: 906 3028 L (DE7802)

Hydraulic Corrector: -0.023 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
3. Perform dive to inspect and clean the intake and verify the elevation of both inside and outside inverts.
4. Inspect sump ladder rungs for corrosion; if necessary, contract for replacement.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9063038 Erie, PA

L26944

Part 3

Primary Bench Mark: D 362 (ND0163)

PBM elevation (Dynamic): 175.4628 m

Station GPS Bench Mark: D 362 (ND0163)

Hydraulic Corrector: -0.025 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9063053 Fairport, OH (MASTER)

L26944

Part 4

Primary Bench Mark: K 321 (MB1625)

PBM elevation (Dynamic): 175.9180 m

Station GPS Bench Mark: Under Evaluation

Hydraulic Corrector: +0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. The entire area is subsiding due to the underground mining of salt. All benchmarks at the station have indicated subsidence of 5 centimeters or more. NGS performed a level tie to the net in September for verification. All benchmark heights are being evaluated.
2. The DCPs and sensors were upgraded by our GL maintenance contractor in December 2006. Inspect and report on the entire system upgrade.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9063063 Cleveland, OH

L26944

Part 5

Primary Bench Mark: G 321 (MB1563)

PBM elevation (Dynamic): 177.7308 m

Station GPS Bench Mark: G 321 (MB1563)

Hydraulic Corrector: +0.010 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. The DCPs and sensors were upgraded by our GL maintenance contractor in December 2006. Inspect and report on the entire system upgrade.
2. Inspect all CORS station components for proper operation and notify NGS if any problems are found.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9063079 Marblehead, OH

Primary Bench Mark: Z 317 (MC0984)
Station GPS Bench Mark: 906 3079 L (AH9236)
GPS Observation Frequency: Every five years
Dive Inspection Frequency: Annually

L26944

PBM elevation (Dynamic): 177.2379 m
Hydraulic Corrector: -0.006 m

Part 6

1. During the dive inspection remove and clean both the intake cap opening and the pass through pipe on the redundant 12" well and ream out the intake pass through on the primary 18" well.
2. Install the BEI display.
3. Inspect all CORS station components for proper operation and notify NGS if any problems are found.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9063085 Toledo, OH

Primary Bench Mark: 906 3085 NAVAL (MC0269)
Station GPS Bench Mark: 906 3085 G (AH9237)
GPS Observation Frequency: Every five years
Dive Inspection Frequency: As found necessary or required (contracted)

L26944

PBM elevation (Dynamic): 175.4592 m
Hydraulic Corrector: -0.005 m

Part 7

1. Report on the status for the valve, valve stem, and sump ladder. Pump and pressure wash the sump.
2. Contact Cooley Communications, GL maintenance contractor and have his crew replace the RM Young wind bird nose cones on the Coast Guard tower.
3. Verify all plotting of the benchmarks on the chart section and add 906 3085 G. Inspect and verify that the direct readout displays at both the Corps of Engineers and Coast Guard offices are reading properly. Displays should readout the water level in inches above or below Low Water Datum (LWD) as well as Local Standard Time (LST).
4. Check and report on the status for the offshore buoy marking the intake. Contact FOD if found to be missing.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9063090 Fermi Power Plant, MI**L26944****Part 8**

Primary Bench Mark: 906 3090 POWER (MC0873)

PBM elevation (Dynamic): 177.5893 m

Station GPS Bench Mark: 906 3090 G (AH9238)

Hydraulic Corrector: +0.023 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. A dive inspection is required to obtain and verify the elevation of both inside and outside inverts. Update GPS coordinates on offshore intake goose neck.
2. Obtain permission, establish, describe, and connect via levels one rod mark, designation/stamping: 906 3090 H/3090 H 2007. Recommend this mark be set between 906 3090 G and F 234.
3. Update the bench mark sketch.
4. Report on the status for the valve and pressure wash the sump as necessary.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

DETROIT RIVER**9044020 Gibraltar****L26945****Part 13**

Primary Bench Mark: M 234 (NE0857)

PBM elevation (Dynamic): 176.6298 m

Station GPS Bench Mark: H 115 X (NO PID ASSIGNED)

Hydraulic Corrector: 0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Ensure that readout display at the Gibraltar Police station is working properly. Displays should readout the water level in inches above or below Low Water Datum (LWD) as well as Local Standard Time (LST).
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9044030 Wyandotte, MI

L26945

Part 2

Primary Bench Mark: 904 4030 CHIEF (NE0577)

PBM elevation (Dynamic): 176.1190 m

Station GPS Bench Mark: Select most stable mark observable

Hydraulic Corrector: 0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Obtain permission, establish, describe, and connect via levels one rod mark, designation/stamping: 904 4030 K/4030 K 2007. Recommend this mark be set between 904 4030 J and 904 4030 G along the river front and open to the sky for GPS observations.
2. A two meter level rod is required for proper placement on the PBM.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9044036 Fort Wayne, MI

L26945

Part 3

Primary Bench Mark: 904 4036 RAMP (NE0622)

PBM elevation (Dynamic): 175.2317 m

Station GPS Bench Mark: FORT WAYNE A (AA8055)

Hydraulic Corrector: 0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Contact the COE office at the boatyard, prior to arrival to gain permission to access the property. See station report for contacts.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9044049 Windmill Point, MI

L26945

Part 4

Primary Bench Mark: 904 4049 USPHS (NE0136)

PBM elevation (Dynamic): 176.5770 m

Station GPS Bench Mark: Select most stable mark observable

Hydraulic Corrector: 0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Obtain permission, establish, describe, and connect via levels one rod mark, designation/stamping: 904 4049 M/4049 M 2007. This mark should be open to the sky for GPS observations.
2. Update the bench mark sketch.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

LAKE ST CLAIR

9034052 St. Clair Shores, MI (MASTER)

L26946

Part 1

Primary Bench Mark: 903 4052 FOOD (NE0165)

PBM elevation (Dynamic): 176.9698m

Station GPS Bench Mark: N 235 (NE0898)

Hydraulic Corrector: 0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. If funding is available, this station is scheduled for DCP upgrades by our GL maintenance contractor in March. If installed, inspect and report on the entire system upgrade. If not, then upgrade DCPs and sensor suites as directed and schedules can be accommodated.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

ST CLAIR RIVER

9014070 Algonac, MI

L26947

Part 1

Primary Bench Mark: 901 4070 TREAT (NE0255)

PBM elevation (Dynamic): 176.8682m

Station GPS Bench Mark: Select most stable mark observable

Hydraulic Corrector: 0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: Annually

1. This site is scheduled to be upgraded by contract. The engineering drawings have been finalized but prior to advertising and awarding the construction contract the City of Algonac, property owner, needs to finalize the litigation for the required repairs to the seawall from previous construction in the area.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9014080 St. Clair State Police, MI

L26947

Part 2

Primary Bench Mark: A 237 (NE0943)
Station GPS Bench Mark: 901 4080 F (AC9129)
GPS Observation Frequency: Every five years
Dive Inspection Frequency: As found necessary or required

PBM elevation (Dynamic): 176.5906m
Hydraulic Corrector: 0.000 m

1. Contact the property owner at least 2 weeks in advance to schedule an access time to survey to the PBM, A 237. The backyard where the mark is located has two German Shepherds that have access to the yard 24X7. Do not enter without the landowners' permission.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9014087 Dry Dock, MI

L26947

Part 3

Primary Bench Mark: Z 236 (NE0953)
Station GPS Bench Mark: Select most stable mark observable
GPS Observation Frequency: Every five years
Dive Inspection Frequency: As found necessary or required

PBM elevation (Dynamic): 180.7617 m
Hydraulic Corrector: 0.000 m

1. Obtain permission, establish, describe, and connect via levels one surface or rod mark, designation/stamping: 901 4087 G/4087 G 2007. Recommend, if at all possible, installing this mark in the vicinity of 16th Street and Military Avenue.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9014090 Mouth of the Black River, MI

L26947

Part 4

Primary Bench Mark: Z 43 (NE0088)
Station GPS Bench Mark: 901 4090 D (NE0955)
GPS Observation Frequency: Every five years
Dive Inspection Frequency: Annually

PBM elevation (Dynamic): 178.9323m
Hydraulic Corrector: 0.000 m

1. This site is scheduled to be upgraded by contract in 2007. When that happens, a crew must be available to assist with the station DCP installation and leveling.
2. Perform dive to inspect and clean the intakes. Remove intakes for both primary and backup well, flush and clear of any obstructions.
3. Test the heat rods. If replacement is required, contract with Tim Cooley to do so.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9014096 Dunn Paper, MI**L26947****Part 5**

Primary Bench Mark: 3060 (NE0081)

PBM elevation (Dynamic): 179.1206m

Station GPS Bench Mark: Select most stable mark observable Hydraulic Corrector: 0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: Annually

1. Perform dive to inspect and clean the intakes.
2. Test the heat rods. If replacement is required, contract with Tim Cooley to do so.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9014098 Fort Gratiot, MI**L26947****Part 6**

Primary Bench Mark: 901 4098 RETAINING WALL (OJ0009) PBM elevation (Dynamic):179.5533 m

Station GPS Bench Mark: 901 4098 RETAINING WALL (OJ0009) Hydraulic Corrector: 0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Inspect the display in the basement entrance way for the lighthouse to see that it is displaying the winds and LST correctly. This display provides wind speed in MPH and direction in North, South East or West along with Local Standard Time (LST).
2. If the crew is unable to change out the RM Young wind bird nose cone atop the lighthouse then contact Tim Cooley, the GL maintenance contractor to do so.
3. A new spike (SPSN 606) is required to be set every year at this station in order to perform the Water Transfer (inside/outside) check.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

LAKE HURON

9075002 Lakeport, MI

L26948

Part 1

Primary Bench Mark: 907 5002 BURTCH (OJ0036)

PBM elevation (Dynamic): 178.7965m

Station GPS Bench Mark: LAKEPORT RM 2 (OJ0599)

Hydraulic Corrector: +0.013 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required.

1. A dive inspection is required to verify that the PVC gooseneck is still intact. This intake is in shallow water and subject to ice damage as well as being covered up by a moving sand bar in the area. If replacement is required, contact FOD for shipment of intake parts.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9075014 Harbor Beach, MI (MASTER)

L26948

Part 2

Primary Bench Mark: GRIST (OJ0219)

PBM elevation (Dynamic): 180.2752 m

Station GPS Bench Mark: LSC 5C93 (OJ0517)

Hydraulic Corrector: 0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. If funding is available, this station is scheduled for DCP upgrades by our GL maintenance contractor in March. If installed, inspect and report on the entire system upgrade. If not, then upgrade DCPs and sensor suites as directed and schedules can be accommodated.
2. Use and level to the **new PBM GRIST plus 4**. The old PBM E 237 has been covered up with siding. Contact property owner to see if siding can be cut out for proper accessing the mark.
3. Inspect all CORS station components for proper operation and notify NGS if any problems are found.
4. Inspect the sump ladder for structural integrity. If replacement is necessary, obtain estimate for replacement and contact FOD.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9075035 Essexville, MI

Primary Bench Mark: 907 5035 CON (OJ0526)

Station GPS Bench Mark: ESSEX A (AA8053)

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

L26948

PBM elevation (Dynamic): 179.1734 m

Hydraulic Corrector: -0.002 m

Part 3

1. Prior to arrival on site, call and notify plant security, at minimum, one week in advance of the field parties' arrival. Pre arrange access through the rear entrance gate so that a Water Transfer (inside/outside) check can be obtained. See station report for contacts.
2. NOTE: PBM elevation subject to change. NGS re-leveled the network of station marks to the net in 2006. Contact FOD for elevation update prior to running of the abstract.
3. If funding is available, this station is scheduled for DCP upgrades by our GL maintenance contractor in March/April. If installed, inspect and report on the entire system upgrade. If not, then upgrade DCPs and sensor suites as directed and schedules can be accommodated.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9075059 Harrisville, MI

Primary Bench Mark: K 306 (PK0230)

Station GPS Bench Mark: LAUNCH SITE (AH9229)

GPS Observation Frequency: Every five years

Dive Inspection Frequency: Annually

L26948

PBM elevation (Dynamic): 184.7660 m

Hydraulic Corrector: -0.003 m

Part 4

1. Station is scheduled for closing. Contact RDD/FOD for final decision on station closure.
2. If station is closed then closeout levels are to be performed to all station benchmarks. If not, then level to PBM plus 4.
3. If the station closes then remove all components. Contract to have the well removed from the underside of the wharf. Replace the wood flooring as required. Remove the ice eaters and all support cabling. Contact the power and phone company for termination of the accounts.
4. Diving will be required to remove the ice eaters and cabling. The area around the lower section of the well will also need to be jetted out prior to its removal.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9075065 Alpena, MI

L26948

Part 7

Primary Bench Mark: 907 5065 POST OFFICE (GJ0009) PBM elevation (Dynamic): 180.1536 m

Station GPS Bench Mark: 907 5065 G (NO PID ASSIGNED) Hydraulic Corrector: +0.031 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Inspect all CORS station components for proper operation and notify NGS if any problems are found.
2. Update chart section and benchmark sketch.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9075080 Mackinaw City, MI

L26948

Part 5

Primary Bench Mark: J 299 (QK0428)

PBM elevation (Dynamic): 179.6082 m

Station GPS Bench Mark: J 299 (QK0428)

Hydraulic Corrector: +0.043 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. This site is scheduled to be upgraded by contract in 2007. When that happens, a crew must be available to assist with the station DCP installation and leveling. Upon completion of the construction, install a complete lakes setup to include an Xpert and Xpert Dark DCP with BEI and Water Log encoder. This station will also have a complete array of meteorological sensors installed and GPS for inclusion into the CORS network. A digital display mounted either on the gauge house or close by is required by the DNR Park Service. The digitized display will provide the water level in inches, wind speed and direction, air and water temperature, Local Standard Time (LST) and any other sensor or advertisement about NOAA/NOS/CO-OPS that we would like to have displayed.
2. Update chart section and benchmark sketch.
3. Diving will be required to inspect and obtain the new intake invert elevation upon completion of the new station.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9075099 Detour Village, MI (PORTS)

L26948

Part 6

Primary Bench Mark: L 293 (QJ0086)

PBM elevation (Dynamic): 179.7044m

Station GPS Bench Mark: DETOUR MARINA (AH9228)

Hydraulic Corrector: +0.005 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Update chart section and benchmark sketch.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

ST. MARYS RIVER

9076024 Rock Cut, MI (PORTS)

L26950

Part 3

Primary Bench Mark: 907 6024 B (NO PID ASSIGNED) PBM elevation (Dynamic): 178.0183m

Station GPS Bench Mark: 907 6024 B (NO PID ASSIGNED)

Hydraulic Corrector: 0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: Annually

1. Seal the air gap around the wells where they come through the fiberglass flooring
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9076027 West Neebish Island, MI (PORTS)

L26950

Part 6

Primary Bench Mark: E 297 (RJ0670)

PBM elevation (Dynamic): 178.7844 m

Station GPS Bench Mark: 907 6027 DOCK (RJ0186)

Hydraulic Corrector: 0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Inspect the door mortar joint for cracks. Report to FOD if any are found.
2. Inspect all CORS station components for proper operation and notify NGS if any problems are found.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9076028 Lookout Station #4, MI (PORTS)

Primary Bench Mark: F 297 (RJ0669)
Station GPS Bench Mark: C6W-017 (RJ1381)
GPS Observation Frequency: Every five years
Dive Inspection Frequency: Annually

L26950

Part 4

PBM elevation (Dynamic): 177.6140 m
Hydraulic Corrector: 0.000 m

1. Perform dive to inspect and clean the intake.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9076032 Little Rapids, MI (PORTS)

Primary Bench Mark: D 293 (RJ0616)
Station GPS Bench Mark: FERRY DOCK (RJ0617)
GPS Observation Frequency: Every five years
Dive Inspection Frequency: Annually

L26950

Part 5

PBM Dynamic Height: 178.3058 m
Hydraulic Corrector: 0.000 m

1. This site is scheduled to be upgraded by contract in 2007. When that happens, a crew must be available to assist with the station DCP installation and leveling.
2. Perform a recon to assess the feasibility of installing a met sensor package in FY07/08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
3. Perform dive to inspect and clean the intake and obtain the invert elevation.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9076060 U.S. Slip, MI (PORTS)

Primary Bench Mark: C 293 (RJ0613)
Station GPS Bench Mark: UNIT 10 106 (AE8008)
GPS Observation Frequency: Every five years
Dive Inspection Frequency: As found necessary or required

L26950

PBM elevation (Dynamic): 184.3007 m
Hydraulic Corrector: 0.000 m

Part 1

1. Contact Ken Smith with the COE Soo Area Office @ (906) 635-3455 or (906) 440-7592 cell. Ken is the new observer for both the U.S. Slip and S.W. Pier stations, replacing Kevin Sprague. Even though Kevin has trained Ken on the required observer duties go over everything to ensure he is comfortable with the requirements.
2. If diving becomes necessary the dive operations can only occur after a written plan has been submitted to the head of dive operations in the Detroit District office and the SOO operations engineer. This has to be done at least a week in advance of the dive.
3. To access the PBM inside Brady Park and on the Indian grounds contact Mr. Cecil Pavlat with the Tribal Council, office @ 906-632-7480 or 906-440-7849 cell.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9076070 S.W. Pier, MI (PORTS)

Primary Bench Mark: V 295 (RJ0608)
Station GPS Bench Mark: UNIT 10 106 (AE8008)
GPS Observation Frequency: Every five years
Dive Inspection Frequency: As found necessary or required

L26950

PBM elevation (Dynamic): 186.0904 m
Hydraulic Corrector: 0.000 m

Part 2

1. If diving becomes necessary the dive operations can only occur after a written plan has been submitted to the head of dive operations in the Detroit District office and the SOO operations engineer. This has to be done at least a week in advance of the dive.
4. Level to the PBM and bench marks KRISTIN plus three.

LAKE MICHIGAN

9087023 Ludington, MI

L26949

Part 1

Primary Bench Mark: J 318 (OL0303)

PBM elevation (Dynamic): 177.9833 m

Station GPS Bench Mark: J 318 (OL0303)

Hydraulic Corrector: +0.087 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Inspect all CORS station components for proper operation and notify NGS if any problems are noticed.
2. The DCPs and sensors were upgraded by our GL Contractor in Jan 2007. Inspect and report on the entire system upgrade.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9087031 Holland, MI

L26949

Part 2

Primary Bench Mark: W 319 (NG0413)

PBM elevation (Dynamic): 177.5769 m

Station GPS Bench Mark: 908 7031 J (AH5303)

Hydraulic Corrector: +0.090 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: Annually

1. This relocation has been added to the CELRE contract pipeline and the engineering designs are being prepared.
2. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
3. During the dive inspection remove and clean both the intake cap opening and the pass through pipe for the 12" encoder well and ream out the intake pass through on the ETG well.
4. Test the heat rods. If replacement is required, contact Tim Cooley to do so.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9087044 Calumet Harbor, IL

L26949

Part 3

Primary Bench Mark: 908 7044 COM (ME2189)

PBM Dynamic Height: 178.0648 m

Station GPS Bench Mark: 908 7044 H (AE9231)

Hydraulic Corrector: +0.104 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Inspect all CORS station components for proper operation and notify NGS if any problems are found.
2. This station is scheduled for DCP upgrades by our GL maintenance contractor in March. If installed, inspect and report on the entire system upgrade. If not, then upgrade DCPs and sensor suites as directed and schedules can be accommodated.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9087057 Milwaukee, WI

L26949

Part 4

Primary Bench Mark: NAVY (OL0278)

PBM Dynamic Height: 182.9494 m

Station GPS Bench Mark: MILWAUKEE A (AA8061)

Hydraulic Corrector: +0.106 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9087068 Kewaunee, WI

L26949

Part 5

Primary Bench Mark: 908 7068 ROD (PM0373)

PBM Dynamic Height: 177.9684 m

Station GPS Bench Mark: 908 7068 H (AH5304)

Hydraulic Corrector: +0.114 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: Annually

1. This site is scheduled to be upgraded by contract in 2007 or 2008. When that happens, a crew must be available to assist with the station DCP installation and leveling.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9087069 Kewaunee Met, WI

1. Standard DCP maintenance is required.
2. Replace GPS antenna and cable.
3. Take one general location photo showing the met station in relationship to its supporting structure and the local body of water.

9087072 Sturgeon Bay Canal, WI

L26949

Part 6

Primary Bench Mark: 908 7072 GARAGE (PM0361)

PBM Dynamic Height: 181.8608 m

Station GPS Bench Mark: STURGEON A (AA8057)

Hydraulic Corrector: +0.106 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9087079 Green Bay, WI

L26949

Part 7

Primary Bench Mark: 908 7078 WIS (PN0090)

PBM Dynamic Height: 179.6563 m

Station GPS Bench Mark: 908 7079 H (AH5305)

Hydraulic Corrector: +0.114 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required (contracted)

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
3. This site is scheduled to be upgraded or relocated by contract in 2007 or 2008. If upgraded a crew must be available to install and level to a temporary gauge that will be required to operate for approximately 3 months while construction is proceeding.
4. A buoy marking the intake location is required to be installed in the Spring and removed in late Fall. The contact for the dive contractor to place the buoy in this area is:
Seaview Diving Contractors, Inc
N8867 County Rd Y
Seymour, WI 54165
Contact Name: Mike Holdridge
Phone: 902-833-7601
Fax: 920-833-7701
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9087088 Menominee, WI

Primary Bench Mark: MARATHON (QL0345)

Station GPS Bench Mark: 35 A (PID ??)

GPS Observation Frequency: Every five years

Dive Inspection Frequency: Annually

L26949

Part 9

PBM Dynamic Height: 179.5330 m

Hydraulic Corrector: +0.106 m

1. This site is scheduled to be upgraded by contract in 2007 or 2008. When that happens, a crew must be available to assist with the station DCP installation and leveling.
2. NOTE: PBM elevation subject to change. NGS re-leveled the network of station marks to the net in 2006. Contact FOD for elevation update prior to running of the abstract.
3. Perform dive to inspect and clean the orifices and replace the temperature sensor.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9087096 Port Inland, MI

Primary Bench Mark: 908 7096 G (AC8317)

Station GPS Bench Mark: 908 7096 J (NO PID ASSIGNED)

GPS Observation Frequency: Every five years

Dive Inspection Frequency: Annually

L26949

Part 8

PBM Dynamic Height: 181.3705m

Hydraulic Corrector: +0.046m

1. Perform dive to inspect and clean the intakes and obtain the intake elevations.
2. If the GL maintenance contractor has not already done so, install a redundant Teledesign 5 watt radio in the redundant DCP.
3. Inspect the stand alone met station.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

LAKE SUPERIOR

9099004 Point Iroquois, MI (PORTS)

L26951

Part 1

Primary Bench Mark: A 293 (RJ0586)

PBM elevation (Dynamic): 187.7989 m

Station GPS Bench Mark: A 293 (RJ0586)

Hydraulic Corrector: -0.100 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required

1. Dive required to inspect and to obtain the elevation of the offshore intake invert. Obtain the GPS coordinates for the offshore end of the intake.
2. Inspect all CORS station components for proper operation and notify NGS if any problems are found.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9099018 Marquette, MI (MASTER)

L26951

Part 2

Primary Bench Mark: U 329 (RK0448)

PBM elevation (Dynamic): 189.9332 m

Station GPS Bench Mark: 909 9018 K (AH7272)

Hydraulic Corrector: 0.000 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required.

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Inspect all CORS station components for proper operation and notify NGS if any problems are found.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9099044 Ontonagon, MI

L26951

Part 3

Primary Bench Mark: 909 9044 2 (RL1512)

PBM elevation (Dynamic): 185.4428 m

Station GPS Bench Mark: 909 9044 L (NO PID ASSIGNED)

Hydraulic Corrector: +0.049 m

GPS Observation Frequency: Every five years

Dive Inspection Frequency: As found necessary or required.

1. Upgrade DCPs to the Sutron Xpert and Xpert Dark as planned.
2. Contact the GL maintenance contractor for upgrading the electrical system and installing a new heater assemble.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9099064 Duluth, MN

Primary Bench Mark: 909 9064 BAR (RN1077)
Station GPS Bench Mark: 602 (AE8289)
GPS Observation Frequency: Every five years
Dive Inspection Frequency: As found necessary or required

L26951

PBM elevation (Dynamic): 184.4324 m
Hydraulic Corrector: +0.079 m

Part 4

1. No further requirements.

9099090 Grand Marais, MN

Primary Bench Mark: 909 9090 SCOTT (SH0674)
Station GPS Bench Mark: MARAIS RESET (AA2869)
GPS Observation Frequency: Every five years
Dive Inspection Frequency: As found necessary or required

L26951

PBM elevation (Dynamic): 184.9850 m
Hydraulic Corrector: +0.046 m

Part 5

1. Inspect all CORS station components for proper operation and notify NGS if any problems are found.
2. Repair or replace the flapper valve and stem as required.
3. IF PBM SCOTT is ever found to be inaccessible then use BM Z 176 as the PBM @ 188.5940 m.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

WEST COAST O&M - TASK ORDER XXI

9410170 San Diego, CA

L26937

Part 1

Primary Bench Mark: 941 0170 TIDAL 12 (DC0891)

PBM above SD: 6.325 m

Station GPS Bench Mark: 941 0170 R TIDAL (DC1428)

MSL above SD: 2.052 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Allow ample dive time for the removal and topside inspection of plates, evaluate and replace is necessary.
2. Select another bench mark for future GPS surveying with a better sky view.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9410230 La Jolla, CA

L26937

Part 2

Primary Bench Mark: 941 0230 TIDAL 7 (DC0986)

PBM above SD: 12.299 m

Station GPS Bench Mark: 941 0320 M TIDAL (DC1313)

MSL above SD: 2.163 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

- 1 Install new brackets (belly bands) for the acoustic well, as instructed by TR.
- 2 Remove the old/ broken well clamp.
- 3 Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9410660 Los Angeles, CA

L26937

Part 3

Primary Benchmark: 8 - 14 FT ABOVE MLW (DY1083)

PBM above SD: 5.361 m

Station GPS Bench Mark: 8 – 14 FT ABOVE MLW (DY1083)

MSL above SD: 2.028 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9410689 Long Beach Air Gap, CA

- 1 No additional requirements.

9410840 Santa Monica, CA

L26937

Part 4

Primary Bench Mark: 941 0840 TIDAL 12 (EW6840)

PBM above SD: 15.060 m

Station GPS Bench Mark: 941 0840 N TIDAL (AH7469)

MSL above SD: 1.594 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Replace cooper liner inside the bottom of the well.
2. Replace the well clamp (2nd from top) at the highest observed tide.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9411340 Santa Barbara, CA

L26937

Part 16

Primary Bench Mark: 941 1340 TIDAL 1 (EW3742)

PBM above SD: 5.925 m

Station GPS Bench Mark: 941 1340 L

MSL above SD: 1.824 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Replace the water temp sensor.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9412110 Port San Luis, CA

L26937

Part 5

Primary Bench Mark: 941 2110 TIDAL 16 (FV1078)

PBM above SD: 5.691 m

Station GPS Bench Mark: 941 2110 TIDAL 6 (FV0898)

MSL above SD: 2.149 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Replace the existing brackets with new stainless steel banding for the bubbler orifice.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9413450 Monterey, CA**L26937****Part 6**

Primary Bench Mark: 941 3450 TIDAL 2 (GU2090)

PBM above SD: 5.669 m

Station GPS Bench Mark: 941 3450 M TIDAL (GU4116)

MSL above SD: 1.893 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9414290 San Francisco, CA**L26937****Part 7**

Primary Bench Mark: 941 4290 TIDAL 180 (HT0702)

PBM above SD: 5.794 m

Station GPS Bench Mark: 941 4290 TIDAL 180 (HT0702)

MSL above SD: 2.773 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Remove lower orifice stop.
2. Check water temp conduit attachment on piling every year.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9414750 Alameda, CA**L26937****Part 9**

Primary Bench Mark: 941 4750 TIDAL 8 (HT0890)

PBM above SD: 4.795 m

Station GPS Bench Mark: 941 4750 TIDAL 7 (HT0882)

MSL above SD: 2.067 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Replace the existing backup orifice.
2. Include bench mark Water Tank North in the level run; this mark was not leveled last year.
3. Establish and level one 3D rod mark, designation/stamping as follows: 941 4750 W/4750 W 2007.
4. Update the bench mark sketch with the new mark.
5. Install a 5" pipe and a lid for bench mark 941 4750 Q.
6. Replace the old wind-bird mast with a 20 ft. hinged or lightweight mast due to the inability to arrange for a man-lift for servicing.
7. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9414863 Richmond, CA

L26937

Part 10

Primary Bench Mark: TIDAL 1 STA III 23 (HT0934)

PBM above SD: 7.330 m

Station GPS Bench Mark: Undetermined

MSL above SD: 4.520 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. Establish and level two 3D rod marks, designation/stamping as follows: 941 4863 L/4863 L 2007 and 941 4863 M/4863 M 2007. If one or both of the 3D rod marks can not be established, then establish one or both marks on rock outcrop (stability code A). Then drop existing bench marks 4863 F 1995 and 4863 K 1998.
2. Update the bench mark sketch with the new marks.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9415020 Point Reyes, CA

L26937

Part 11

Primary Bench Mark: B 243 (HT1839)

PBM above SD: 4.977 m

Station GPS Bench Mark: 941 5020 Q TIDAL (HT3505)

MSL above SD: 2.152 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Replace center belly bands with stainless steel units.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9415144 Port Chicago, CA

L26937

Part 12

Primary Bench Mark: 941 5144 H (AH7472)

PBM above SD: 4.209 m

Station GPS Bench Mark: 941 5144 H TIDAL (AH7472)

MSL above SD: 1.996 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Use the trash pump to remove the silting under the acoustic well.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9416841 Arena Cove, CA**L26937****Part 13**

Primary Bench Mark: 941 6841 TIDAL 6 (JT9392)

PBM above SD: 11.604 m

Station GPS Bench Mark: 941 6841 J TIDAL (JT9387)

MSL above SD: 9.786 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Replace 2nd bellyband from top (18" and 6") galvanizing is falling and steel clamps are delaminating.
2. Inspect 3rd bellyband from the top for replacement consideration in 2008.
3. Replace current wind-bird conductor with 5 conductor with shield.
4. Since benchmark 941 6841 R is covered with landslide rock, install a new bench mark with a stamping 6841 S 2007 (designation 941 6841 S).
5. Update the bench mark sketch with the new mark.
6. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9418767 North Spit, CA**L26937****Part 14**

Primary Bench Mark: 941 8767 TIDAL 9 (LV0361)

PBM above SD: 9.205 m

Station GPS Bench Mark: 941 8767 TIDAL 11 (LV0359)

MSL above SD: 5.562 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9419750 Crescent City, CA

L26937

Part 15

Primary Bench Mark: 941 9750 TIDAL 20 RESET (LV0110)

PBM above SD: 5.227 m

Station GPS Bench Mark: 941 9750 TIDAL 20 RESET (LV0110)

MSL above SD: 2.254 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Inspect middle well clamp closely for future replacement.
3. Replace top well clamp with stainless steel unit.
4. Move GOES and GPS antenna mast to the north side of the tide house.
5. Replace cracked GOES antenna.
6. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9431647 Port Orford, OR

L26938

Part 1

Primary Bench Mark: 941 1647 TIDAL 6 (OA0075)

PBM above SD: 12.256 m

Station GPS Bench Mark: 943 1647 TIDAL LEAD (OA0790)

MSL above SD: 8.224 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Check pump serial numbers.
2. Check the lead acid battery condition.
3. Replace the backup water level gauge power box battery.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9432780 Charleston, OR

L26938

Part 2

Primary Bench Mark: 943 2780 A TIDAL (OA0650)

PBM above SD: 5.895 m

Station GPS Bench Mark: 943 2780 A TIDAL (OA0650)

MSL above SD: 2.390 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Install the wind sensor, and mast at selected location.
3. Use trash pump to remove the silting underneath the acoustic well.
4. Replace the bronze bolt in the bottom flange of the primary well.
5. Obtain the GPS coordinates using a hand held GPS receiver for bench mark 943 2780 B.
6. Include bench mark 943 2780 D in the level run; this mark was last leveled in 2003.

9435380 South Beach, OR**L26938****Part 3**

Primary Bench Mark: C 590 (QE1114)

PBM above SD: 6.194 m

Station GPS Bench Mark: C 590 (QE1114)

MSL above SD: 2.806 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Replace water temperature sensor.
2. Excavate and replace the PVC pipe on benchmark 943 5380 E.
3. Include benchmark Y2 in the level run; this mark was last leveled in 1997.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9437540 Garibaldi, OR**L26938****Part 5**

Primary Bench Mark: TIDAL BM 7540 A 1978

PBM above SD: 5.827 m

Station GPS Bench Mark: 943 7540 H

MSL above SD: 2.511 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Replace the water temperature sensor.
3. Install a telephone line surge suppressor.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9439040 Astoria, OR**L26938****Part 4**

Primary Bench Mark: 943 9040 TIDAL 11 (SC1053)

PBM above SD: 5.934 m

Station GPS Bench Mark: 943 9040 TIDAL 12 (SC1055)

MSL above SD: 2.054 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Install lightning rod to the wind sensor tower.
2. Install a telephone line surge suppressor.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

HAWAII, PACIFIC ISLANDS, AND WASHINGTON (FOD)

1611400 Nawiliwili, HI

Primary Bench Mark: 161 1400 TIDAL 14 (NO PID ASSIGNED) PBM above SD: 3.155 m
Station GPS Bench Mark: WALL (destroyed in 2006) MSL above SD: 0.949 m
GPS Observation Frequency: Every five years (not required this year)
Dive Inspection Frequency: Annually

1. Establish and level one 3D rod mark, designation/stamping as follows: 161 1400 K/1400 K 2007.
2. Update the bench mark sketch with the new mark.
3. **Unresolved from 2006 Project Instructions.** Replace/add bails for the sounding tube.
4. **Unresolved from 2006 Project Instructions.** Add a new stovepipe.
5. Add one brass bolt to the parallel plate flange.
6. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

1612340 Honolulu, HI

Primary Bench Mark: 161 2340 BM 8 (TU0286) PBM above SD: 3.734 m
Station GPS Bench Mark: GSL 2340 1987 (NO PID ASSIGNED) MSL above SD: 1.412 m
GPS Observation Frequency: Every five years (not required this year)
Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Remount all NOAA equipment in APX box.
3. Install a mast for the solar panels and satellite antenna.
4. Install conduit for all cables going into the shed.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

1612480 Mokuoloe, HI

Primary Bench Mark: 161 2480 NO 1 (NO PID ASSIGNED)

PBM above SD: 1.969 m

Station GPS Bench Mark: NO 2 1987 (NO PID ASSIGNED)

MSL above SD: 1.210 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. **Unresolved from 2006 Project Instructions.** Install new taller top hat assembly that will accommodate the new Aquatrak connector.
3. **Unresolved from 2006 Project Instructions.** Replace existing tide house door and paint interior and exterior deck surfaces.
4. Repair roof.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.
6. Replace bottom bail.
7. Replace machete.

1615680 Kahului, HI

Primary Bench Mark: 161 5680 A (NO PID ASSIGNED)

PBM above SD: 3.007 m

Station GPS Bench Mark: 5680 D 1983 (NO PID ASSIGNED)

MSL above SD: 1.075 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Replace old bracket second from the bottom on the well.
3. Install new bales for the sounding tube and the vent screen(s) on the protective well, as necessary.
4. **Unresolved from 2006 Project Instructions.** Hire an electrical contractor so that A/C power can be brought into the tide house. This can be done in conjunction with the replacement of the shelter next year.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

1617433 Kawaihae, HI

Primary Bench Mark: 161 7433 B (NO PID ASSIGNED)

PBM above SD: 3.094 m

Station GPS Bench Mark: 7433 B 1989 (NO PID ASSIGNED)

MSL above SD: 1.049 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. **Unresolved from 2006 Project Instructions.** Install new bales.
2. Replace the orifice tubing and the rigid conduit from the edge of the pier to the Dixon board and add flex conduit to cover the tube going into the Dixon board.
3. Repair the current configuration for sensor run near the well (all those LB angles).
4. Replace the 6" well bracket and 90 degree angle bracket for Dixon board and make this connection rigid.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

1617760 Hilo, HI

Primary Bench Mark: 161 7760 TIDAL 4 (TU0020)

PBM above SD: 4.663 m

Station GPS Bench Mark: 7760 A 1983 (NO PID ASSIGNED)

MSL above SD: 1.545 m

GPS Observation Frequency: Every five years (required this year)

Dive Inspection Frequency: Annually

1. **Unresolved from 2006 Project Instructions.** Install new bales for the sounding tube and the copper insert for the protective well.
2. **Unresolved from 2006 Project Instructions.** Install new taller top hat assembly that will accommodate the new Aquatrak connector.
3. **Unresolved from 2006 Project Instructions.** Repair setting of bench mark 7760 A 1983 with thorite, as necessary.
4. **Unresolved from 2006 Project Instructions.** Install a junction box under the eave of the roof to splice the cable and then run flex conduit for the solar panels.
5. Run rigid conduit from the tide house to the roof.
6. Replace all solar cable.
7. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

1619910 Sand Island, Midway Islands

Primary Bench Mark: 161 9910 TIDAL 21 (NO PID ASSIGNED)

PBM above SD: 3.243 m

Station GPS Bench Mark: Undetermined

MSL above SD: 1.020 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

1630000 Guam

Primary Bench Mark: 163 0000 TIDAL 4 (TW0041)

PBM above SD: 2.996 m

Station GPS Bench Mark: 163 0000 TIDAL 11 (AA4394)

MSL above SD: 0.826 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Co-ordinate the annual maintenance trip for NWLON station at Apra Harbor with the annual maintenance trip of the tide station at Pago Bay installed for the PILOT project for USACE, and the installation of the redundant station for OGP.
2. Install Sutron XPERT as DCP 3 with single orifice Paros sensor N1 and Xpert Dark as DCP 4 with Druck pressure sensor B1 at the old (existing NWLON) location. This existing site will serve as the redundant DCP for OGP funded project.
3. Remove the existing hydro Sutron 9210 as DCP 3 with single Paros sensor N1 (at the same time the OGP funded DCP 3 and 4 are installed).
4. Install a line of site transmitting radio at the DCP and a receiving radio at the tower so that 6 minute GOES transmissions can be transmitted in real time.
5. Replace the air temperature sensor.
6. Ground galvanized pole at the top of the Shakespeare mast to the nearby ground rod.
7. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.
8. If OSTEP is successful for implementation of the Iridium phone hardware and software by the time of maintenance visit, then install the iridium phone.

1631428 Pago Bay, Guam

Primary Bench Mark: 163 1428 B (NO PID ASSIGNED)

PBM above SD: 10.000 m

Station GPS Bench Mark: Undetermined

MSL above SD: 7.731 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Plan annual maintenance of USCOE station installed for PILOT project with NWLON station at Apra Harbor, Guam.
2. A dive inspection MUST be performed in the sump and on the reef during this site visit; last dive inspection was not possible in 11/2006.
3. Install a line of site transmitting radio at the DCP and a receiving radio at the tower so that 6 minute GOES transmissions can be transmitted in real time.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.
5. If OSTEP is successful for implementation of the Iridium phone hardware and software by the time of maintenance visit, then install the iridium phone.

1770000 Pago Pago

Primary Bench Mark: 177 0000 S (NO PID ASSIGNED)

PBM above SD: 2.557 m

Station GPS Bench Mark: Undetermined

MSL above SD: 1.194 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

1820000 Kwajalein

Primary Bench Mark: 182 0000 TIDAL 8 (NO PID ASSIGNED) PBM above SD: 2.853 m

Station GPS Bench Mark: 182 0000 TIDAL 12 (NO PID ASSIGNED) MSL above SD: 1.457 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Install Perform a reconnaissance to install the OGP funded Sutron Xpert System as redundant DCPs in FY 2007
2. Replace sounding tube, sensors and cabling.
3. Two 12" stainless steel bellybands and two stainless steel "L" brackets need to be replaced on topside of the well.
4. Replace stainless steel "U" bolts on the 30w solar panel and remount.
5. Bring one extra battery and phone switch for the DCP.
6. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

1890000 Wake Island

Primary Bench Mark: 189 0000 TIDAL 12 (TW0169)

PBM above SD: 4.353 m

Station GPS Bench Mark: 161 0000 L (NO PID ASSIGNED)

MSL above SD: 1.608 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. A dive inspection MUST be performed during the site visit; last dive was done in 11/2005.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.
3. Move the air temperature to the tower (30 m cable).
4. Patch hole in the deck.
5. Repair wood timber fender.
6. Install equipment barriers around ROHN tower.
7. Replace faulty phone switch.
8. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9411406 Topex, CA

Primary Bench Mark: 941 1406 NO STAMPING (+20 LEG 1992) (NO PID ASSIGNED)
Station GPS Bench Mark: Undetermined PBM above SD: 20.150 m
GPS Observation Frequency: Every five years (not required this year) MSL above SD: 14.467 m
Dive Inspection Frequency: Annually

Replace the stainless steel LP bolt on the riser to a longer size to allow leveling without removing the flange. The new bolt length should be 2 ¾"-3" full thread.

9414523 Redwood City, CA

L26937

Part 8

Primary Bench Mark: 941 4523 TIDAL 13 (HT2319) PBM above SD: 5.993 m
Station GPS Bench Mark: 941 4523 TIDAL 13 (HT2319) MSL above SD: 3.378 m
GPS Observation Frequency: Every five years (not required this year)
Dive Inspection Frequency: Annually

1. Replace the existing instrument enclosure with one of the fiberglass enclosures.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9439099 Wauna, OR

L26938

Part 6

Primary Bench Mark: 943 9909 F (SC1084) PBM above SD: 5.290 m
Station GPS Bench Mark: Undetermined MSL above SD: 1.332 m
GPS Observation Frequency: Every five years (not required this year)
Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9439201 St. Helens, OR

L26938

Part 7

Primary Bench Mark: TIDAL 3 (RD0587) PBM above SD: 12.571 m
Station GPS Bench Mark: Undetermined MSL above SD: 1.047 m
GPS Observation Frequency: Every five years (not required this year)
Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9440083 Vancouver, WA**L26939****Part 11**

Primary Bench Mark: 49 1915 48.002 FT (NO PID ASSIGNED)

PBM above SD: 9.488 m

Station GPS Bench Mark: Undetermined

MSL above SD: 0.940 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Install Sutron XPERT DCP with Paros sensor and backup redundant XPERT DARK DCP with Paros sensor for Columbia River PORTS® as per the PORTS® agreement.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9440422 Longview, WA**L26939****Part 12**

Primary Bench Mark: NO 5 1949 (SC1112)

PBM above SD: 8.360 m

Station GPS Bench Mark: Undetermined

MSL above SD: 1.382 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Replace I/O modules in both Xpert and Xpert Dark DCP in order to upgrade OS (old PIC versions). Also upgrade Satlink OS and add Satlink.sll.
2. Install 6' battery cable in Xpert to improve the ability to work on the system.
3. Install AC charger in Dark.
4. Replace SDI-12 cable on the pump to Paros 1.
5. Install battery bracket in Dark.
6. Install 5 conductor wind bird cable so sensor can be grounded.
7. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9440569 Skamokawa, WA**L26939****Part 13**

Primary Bench Mark: NO 5 1940 (SC0340)

PBM above SD: 5.504 m

Station GPS Bench Mark: Undetermined

MSL above SD: 1.270 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Install Sutron XPERT DCP with Paros sensor and backup redundant XPERT DARK DCP with Paros sensor for Columbia River PORTS® as per the PORTS® agreement.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9440910 Toke Point, WA**L26939****Part 1**

Primary Bench Mark: 944 0910 H (NO PID ASSIGNED)

PBM above SD: 6.669 m

Station GPS Bench Mark: FLAG (SC0916)

MSL above SD: 2.836 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. If silting-in continues, recon for dual orifice Paros sensor to be installed in FY 2007.
2. Replace water temperature cable.
3. Remove silt accumulation from under the acoustic well.
4. Water jet and suction mud from below the well to create a larger/deeper hole.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9441102 Westport, WA**L26939****Part 2**

Primary Bench Mark: 944 1102 A (NO PID ASSIGNED)

PBM above SD: 5.592 m

Station GPS Bench Mark: Undetermined

MSL above SD: 2.244 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of relocating the met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9442396 La Push, WA**L26939****Part 3**

Primary Bench Mark: 944 2396 TIDAL 7 (NO PID ASSIGNED)

PBM above SD: 10.4 m

Station GPS Bench Mark: 944 2396 G (NO PID ASSIGNED)

MSL above SD: 2.943 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of relocating the met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Install a telephone conditioner.
3. Install belly bands to attach the Dixon board to the piling.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9443090 Neah Bay, WA**L26939****Part 4**

Primary Bench Mark: 9444 3090 TIDAL 19 (TS0161)

PBM above SD: 6.507 m

Station GPS Bench Mark: 944 3090 TIDAL 19 (TS0161)

MSL above SD: 1.925 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Include bench marks 944 3090 TIDAL 28 and NEAH EAST be in level run; these marks have not been leveled since 2002.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9444090 Port Angeles, WA**L26939****Part 5**

Primary Bench Mark: L 467 (TR0790)

PBM above SD: 14.475 m

Station GPS Bench Mark: L 467 (TR0790)

MSL above SD: 10.534 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Include bench mark 944 4090 TIDAL 13 in the level run; this mark has not leveled since 2004.
2. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9444900 Port Townsend, WA**L26939****Part 6**

Primary Bench Mark: 944 4900 BM 18 (NO PID ASSIGNED)

PBM above SD: 6.559 m

Station GPS Bench Mark: 944 4900 D TIDAL (AI2202)

MSL above SD: 2.547 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Replace the bubbler board.
2. Replace the fan in the top hat of the well.
3. Keep an eye on the stove pipe; be prepared to replace.
4. Include bench marks 944 4900 TIDAL 10, 944 4900 TIDAL 9, and S 257 RESET in the level run, these marks have not been leveled since 2002-2003..
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9446484 Tacoma, WA**L26939****Part 7**

Primary Bench Mark: 944 6484 A (NO PID ASSIGNED)

PBM above SD: 5.326 m

Station GPS Bench Mark: Undetermined

MSL above SD: 2.268 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. **Unresolved from 2006 Project Instructions.** Establish one to four new bench marks, designation/stamping as follows: 944 6484 D/6484 D 2007, 944 6484 E/6484 E 2007, 944 6484 F/6484 F 2007, and 944 6484 G/6484 G 2007.
2. Update the bench mark sketch.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9447130 Seattle, WA**L26939****Part 8**

Primary Bench Mark: 944 7130 TIDAL 23 (NO PID ASSIGNED)

PBM above SD: 8.851 m

Station GPS Bench Mark: WSDOT 17005 (NO PID ASSIGNED)

MSL above SD: 4.443 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Replace the wind sensor.
2. Replace steel clamps as needed; showing significant corrosion.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9449424 Cherry Point, WA**L26939****Part 9**

Primary Bench Mark: 944 9424 TIDAL 1 (NO PID ASSIGNED)

PBM above SD: 11.226 m

Station GPS Bench Mark: 941 9424 J TIDAL (AI2204)

MSL above SD: 3.543 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

9449880 Friday Harbor, WA

L26939

Part 10

Primary Bench Mark: 944 9880 TIDAL 10 (NO PID ASSIGNED)

PBM above SD: 4.892 m

Station GPS Bench Mark: 944 9880 C TIDAL (AI2205)

MSL above SD: 2.561 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take digital photos of the setting (waist or chest high view) and general location of all existing bench marks. Take face, setting, and location photos for any newly established marks.

ALASKA (GSA Contract)

9450460 Ketchikan, AK

Primary Bench Mark: 945 0460 TIDAL 24 (NO PID ASSIGN.) PBM above SD: 8.946 m
Station GPS Bench Mark: 945 0460 TIDAL 37 (NO PID ASSIGN.) MSL above SD: 4.345 m
GPS Observation Frequency: Every five years (not required this year)
Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Secure orifice tubing with additional 10" diameter stainless steel hose clamps or stainless steel banding.
3. Replace tide house window.
4. Install loop current regulator in phone line to phone switch.
5. Phone line enters gauge through a large Pg-11 bulkhead fitting which will not seal around the phone cable. Replace with Pg-9 fitting and install plug in hole now in use.
6. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9451054 Port Alexander, AK

Primary Bench Mark: BM 2 1924 (NO PID ASSIGN.) PBM above SD: 6.270 m
Station GPS Bench Mark: Undetermined MSL above SD: N/A
GPS Observation Frequency: Every five years, but required this year during new installation
Dive Inspection Frequency: Annually

1. Establish new NWLON tsunami tide station by installing Sutron Xpert primary DCP and dual orifice ParoScientific primary sensors; and Sutron Xpert Dark redundant DCP and a Druck redundant sensor along with the GFE provided.
2. Install the backup orifice (and tubing) independent of the primary sensor orifices.
3. Existing historical bench marks 1 1924 and 2 1924 were found during the reconnaissance. Hence, if existing additional suitable nearby marks (within 1 mile of station location) are not found in the NGS database, then install, describe, and connect by levels two recovered marks and 8 additional bench marks, on rock outcrop, stamped as 1054 A 2007, 1054 B 2007, 1054 C 2007, 1054 D 2007, 1054 E 2007, 1054 F 2007, 1054 G 2007, and 1054 H 2007.
4. Obtain GPS observations on one suitable mark as per CO-OPS' User Guide for GPS Observations, Updated March 2007.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.
6. Investigate the availability and cost of phone service to the instrument enclosure. If the hardware (GFE) and programming are available, then only install satellite phone or IP modem to gauges.

9451600 Sitka, AK

Primary Bench Mark: 945 1600 L (NO PID ASSIGN.)

PBM above SD: 13.669 m

Station GPS Bench Mark: 945 1600 N (NO PID ASSIGN.)

MSL above SD: 2.989 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9452210 Juneau, AK

Primary Bench Mark: 945 2210 TIDAL 8 (NO PID ASSIGN.)

PBM above SD: 13.036 m

Station GPS Bench Mark: 945 2210 JNU TIDAL GPS 1999 (AI 4908) MSL above SD: 3.782 m

GPS Observation Frequency: Annually (required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Verify the elevation difference between the digibub staff stop and the digibub orifices zero on an annual basis.
3. Install proper Paros sensor housing with vent valve plumbing
4. Install water temperature sensor.
5. Replace the existing battery with a new 40 AH gel cell battery.
6. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9452400 Skagway, AK

Primary Bench Mark: 945 2400 TIDAL 11 (NO PID ASSIGN.)

PBM above SD: 11.646 m

Station GPS Bench Mark: 945 2400 C (NO PID ASSIGN.)

MSL above SD: 3.617 m

GPS Observation Frequency: Annually (required this year)

Dive Inspection Frequency: Annually

1. Install a cover on the Xpert Dark serial port.
2. Verify the elevation difference between the digibub staff stop and the digibub orifices zero on an annual basis.
3. Execute the follow-up plan for relocating the station due to dangerously bad corrosion, to new location. Check with the pier owner regarding the schedule and permission issues and inform CO-OPS within timely fashion of the intention of the owners, or the re-construction plan, if any as appropriate.
4. Sand existing Martex patches, patch any new holes, and repair the outside of the enclosure. Make sure the enclosure is in good condition and protects the instrumentation.
5. Install a tide station sign.
6. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9452634 Elfin Cove, AK

Primary Bench Mark: 945 2634 TIDAL 4 (NO PID ASSIGN.)

PBM above SD: 9.365 m

Station GPS Bench Mark: 945 2634 F (NO PID ASSIGN.)

MSL above SD: 4.683 m

GPS Observation Frequency: Annually (required this year)

Dive Inspection Frequency: Annually

1. Verify the elevation difference between the digibub staff stop and the digibub orifices zero on an annual basis.
2. Include bench mark S2946 in the level run; this mark was not leveled last year.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9453220 Yakutat, AK

Primary Bench Mark: 945 3220 Z (NO PID ASSIGN.)

PBM above SD: 8.745 m

Station GPS Bench Mark: 945 3220 M (NO PID ASSIGN.)

MSL above SD: 2.238 m

GPS Observation Frequency: Annually (required this year)

Dive Inspection Frequency: Annually

1. Check with the cannery for AC power through the winter. Cannery is considering cutting power in the winter.
2. Aquatrak well tophat needs a new bolt and nut.
3. Add ground lug to pump power box and install ground wire.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9454050 Cordova, AK

Primary Bench Mark: 945 4050 Q (NO PID ASSIGN.) PBM above SD: 16.456 m
Station GPS Bench Mark: 945 4050 TIDAL 13 (NO PID ASSIGN.) MSL above SD: 3.972 m
GPS Observation Frequency: Every five years (not required this year)
Dive Inspection Frequency: Annually

1. Install caps on the serial ports of the Xpert and Xpert Dark DCPs.
2. Establish and level one 3D rod mark or mark on rock outcrop, designation/stamping as follows: 945 4050 V/4050 V 2007.
3. Update the bench mark sketch with the new marks.
4. Pump power box needs grounding lug and ground cable.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9454240 Valdez, AK

Primary Bench Mark: 945 4240 TIDAL 21 (NO PID ASSIGN.) PBM above SD: 8.327 m
Station GPS Bench Mark: 945 4240 T (NO PID ASSIGN.) MSL above SD: 4.035 m
GPS Observation Frequency: Every five years (not required this year)
Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9455090 Seward, AK

Primary Bench Mark: 945 5090 B (NO PID ASSIGN.) PBM above SD: 8.314 m
Station GPS Bench Mark: 945 5090 TIDAL 19 (NO PID ASSIGN.) MSL above SD: 3.566 m
GPS Observation Frequency: Every five years (not required this year)
Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9455500 Seldovia, AK

Primary Bench Mark: 945 5500 BM 19 (NO PID ASSIGN.) PBM above SD: 11.272 m
Station GPS Bench Mark: 945 5500 TIDAL 19 (NO PID ASSIGN.) MSL above SD: 5.114 m
GPS Observation Frequency: Annually (required this year)
Dive Inspection Frequency: Annually

1. Replace the pump power box.
2. Equip station with spare Aquatrak sounding tubes.
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9455760 Nikiski, AK

Primary Bench Mark: 945 5760 L (NO PID ASSIGN.)
Station GPS Bench Mark: 945 5760 L (NO PID ASSIGN.)
GPS Observation Frequency: Annually (required this year)
Dive Inspection Frequency: N/A

PBM above SD: 14.850 m
MSL above SD: 5.591 m

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9455920 Anchorage, AK

Primary Bench Mark: 945 5920 TIDAL 15 1966 (TT0711)
Station GPS Bench Mark: 945 5920 C (NO PID ASSIGN.)
GPS Observation Frequency: Annually (required this year)
Dive Inspection Frequency: N/A

PBM above SD: 13.231 m
MSL above SD: 6.931 m

1. Re-plumb the pumps so that the Paros sensors are connected to the H350 line, not the Outlet line so that purging will not over pressurize Paros sensors.
2. Replace the pump power battery.
3. Remove the nitrogen bottles and HP/LP regulators.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9457292 Kodiak, AK

Primary Bench Mark: 945 7292 B (NO PID ASSIGN.)
Station GPS Bench Mark: 945 7292 E (NO PID ASSIGN.)
GPS Observation Frequency: Annually (required this year)
Dive Inspection Frequency: Annually

PBM above SD: 14.124 m
MSL above SD: 9.203 m

1. Install two new 1 1/4" conduit clamps on conduit from the well to the enclosure; concrete anchors will be needed to mount the clamps.
2. Replace door handle of the tide house.
3. Repair the conduit at the glue joint below the sweep into the tide house.
4. Replace the GOES antenna.
5. Record the serial numbers for the Xpert modem, power supply, Satlink, Xpert Dark modem and power supply.
6. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9457804 Alitak, AK

Primary Bench Mark: 945 7804 TIDAL 6 (NO PID ASSIGN.)

PBM above SD: 7.521 m

Station GPS Bench Mark: 945 7804 B (NO PID ASSIGN.)

MSL above SD: 3.613 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Verify the elevation difference between the digibub staff stop and the digibub orifices zero on an annual basis.
2. Install covers on serial ports of Xpert and Xpert Dark DCP
3. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9459450 Sand Point, AK

Primary Bench Mark: 945 9450 R (NO PID ASSIGN.)

PBM above SD: 13.894 m

Station GPS Bench Mark: 945 9450 TIDAL 1293-1 (NO PID ASS.)

MSL above SD: 10.482 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Investigate the availability of power and phone service since the harbor improvements have been completed. If available, work with PRO to establish the service. If the power is not available, then install a (GFE) 12 VDC switch, if and as supplied by PRO, for the phone since there will be no AC power. CO-OPS will be conducting tests and if tests are finished, then only 12 V DC switch will be provided for the installation.
3. Report the condition of the fiberglass beams which support the Aquatrak well.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9459881 King Cove, AK

Primary Bench Mark: 945 9881 D (NO PID ASSIGN.)

PBM above SD: 6.672 m

Station GPS Bench Mark: KCH-1 1998 (NO PID ASSIGN.)

MSL above SD: 2.362 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Verify the elevation difference between the digibub staff stop and the digibub orifices zero on an annual basis.
3. Install a phone headset so that outgoing call could be made from the tide house.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9461380 Adak, AK

Primary Bench Mark: 946 1380 TIDAL 18 (UW7919)

PBM above SD: 6.700 m

Station GPS Bench Mark: 946 1380 TIDAL 18 (UW7919)

MSL above SD: 1.553 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Establish, describe, and connect a 3D rod mark , designation/stamping as follows: 946 1380 H/1380 H 2007.
2. Update the bench mark sketch with the new mark.
3. Install a power box for the pump.
4. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9461710 Atka, Nazan Bay, AK

Primary Bench Mark: 946 1710 B (NO PID ASSIGN.)

PBM above SD: 15.000 m

Station GPS Bench Mark: 946 1710 G (NO PID ASSIGN.)

MSL above SD: Undetermined

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Verify the elevation difference between the digibub staff stop and the digibub orifices zero on an annual basis.
3. Install a second pump and Paros sensor for the upper orifice to convert station to dual Paros configuration.
4. Install more stainless steel banding on both pilings to secure the tubing.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.
6. Investigate the availability and cost of phone service to the instrument enclosure. If the hardware (GFE) and programming are available, then only install satellite phone or IP modem to gauges.

9462450 Nikolski, Mueller Cove, AK

Primary Bench Mark: 945 2450 F (NO PID ASSIGN.)

PBM above SD: 7.782 m

Station GPS Bench Mark: 945 2450 F (NO PID ASSIGN.)

MSL above SD: 1.910 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Perform a recon to assess the feasibility of installing a met sensor package in FY08. Provide a report with digital photos, measurements, and notes on any possible obstructions to the wind sensor.
2. Verify the elevation difference between the digibub staff stop and the digibub orifices zero on an annual basis.
3. Replace the power board and the solar regulator in the Xpert dark, or replace the entire Xpert dark.
4. Eliminate the tee in the orifice line by connecting the Paros to the H355 pump with ¼” clear tubing.
5. Leave a spare set of wind generator blades in enclosure, and install the missing nose cone for the wind generator.
6. Replace the key lock with a standard tide station combo lock.
7. Replace the dead bolt on the door.
8. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.
9. Investigate the availability and cost of phone service to the instrument enclosure. If the hardware (GFE) and programming are available, then only install satellite phone or IP modem to gauges.

9462620 Unalaska, AK

Primary Bench Mark: 946 2620 TIDAL 7 (NO PID ASSIGN.) PBM above SD: 3.597 m
Station GPS Bench Mark: 946 2620 TIDAL 19 (NO PID ASSIGN.) MSL above SD: 1.427 m
GPS Observation Frequency: Every five years (not required this year)
Dive Inspection Frequency: Annually

1. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9468756 Nome, AK

Primary Bench Mark: 946 8756 SHEET PILE C (NO PID ASSIGN.) PBM above SD: 5.611 m
Station GPS Bench Mark: 946 8756 G (NO PID ASSIGN.) MSL above SD: 1.345 m
GPS Observation Frequency: Every five years (not required this year)
Dive Inspection Frequency: Annually

1. Verify the elevation difference between the digibub staff stop and the digibub orifices zero on an annual basis.
2. Inspect, and replace if necessary, sacrificial zinc plates on the orifice channel.
3. Redrill lower right hole on upper access cover larger to make rethreading bolt into channel easier.
4. Replace 3/8" x 1 1/2" inspection plate bolts annually. Also bring extra 3/8" bolts, washer and nuts for zincs which are mounted on access covers.
5. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.

9491094 Red Dog, AK

Primary Bench Mark: 949 1094 A TIDAL (NO PID ASSIGN.)

PBM above SD: 4.696 m

Station GPS Bench Mark: 949 1094 B (NO PID ASSIGN.)

MSL above SD: 1.682 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Verify the elevation difference between the digibub staff stop and the digibub orifices zero on an annual basis.
2. A dive inspection **MUST** be performed during this visit; last dive was done in 07/05.
3. Install satellite phone or IP modem to gauges, if hardware (GFE) and programming are available.
4. Move wind sensor to a location that allows for better fall protection and is higher in order to be farther above the beams supporting the conveyor.
5. Install full length SDI-12 communication cables for the pumps to the Xpert.
6. Add 20w solar panel for pump power box.
7. Provide a garbage can, bags, and paper towels for the tide house.
8. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.
9. Investigate the availability and cost of phone service to the instrument enclosure. If the hardware (GFE) and programming are available, then only install satellite phone or IP modem to gauges.

9497645 Prudhoe Bay, AK

Primary Bench Mark: 949 7645 CELL 4B (NO PID ASSIGN.)

PBM above SD: 16.389 m

Station GPS Bench Mark: 949 7645 WINDSOCK (NO PID ASSIGN.)

MSL above SD: 11.018 m

GPS Observation Frequency: Every five years (not required this year)

Dive Inspection Frequency: Annually

1. Verify the elevation difference between the digibub staff stop and the digibub orifice zero on an annual basis.
2. Install a water temperature sensor as discussed in the CO-OPS and DEA/JOA meeting on March 7th regarding the Alaska FY 07 season. CO-OPS (PRO) will provide you the details in writing.
3. Install the Paros sensor on the Xpert DCP and the Aquatrak sensor on Xpert Dark DCP.
4. Remove the backup IMO pressure sensor after the above step is completed.
5. Install a new battery for the air pump.
6. Record the pump serial number.
7. Take one general location photo showing the water level station in relationship to its supporting structure and the local body of water. Take face, setting, and location photos for any newly established marks.