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MINUTES AND AGENDA REGARDING THE FINAL JUNE 2015 RESTORATION ADVISORY BOARD (RAB) MEETING HELD ON 16 JUNE 2015 AT KITTERY TOWN HALL NSY PORTSMOUTH ME (PUBLIC DOCUMENT)

06/16/2015

RESOLUTION CONSULTANTS

Portsmouth Naval Shipyard
Restoration Advisory Board Meeting
Kittery Town Hall, Kittery, Maine
June 16, 2015

Attendees

Restoration Advisory Board (RAB) members at the meeting included the following:

- RAB Community Members:
  - Doug Bogen
  - Mary Marshall
  - Peter Britz

- Navy Representatives:
  - Lisa Joy, Portsmouth Naval Shipyard (PNSY)
  - Linda Cole, Naval Facilities Engineering Command (NAVFAC) Mid-Atlantic Remedial Project Manager (RPM)

- Regulatory Representatives:
  - Iver McLeod, Maine Department of Environmental Protection (MEDEP)

- Other Participants:
  - Paul Dombrowski, Resolution Consultants
  - Sandy Amborn, Resolution Consultants
  - Deborah Cohen, Tetra Tech
  - William Hughes, AGVIQ Environmental
  - Jason Crosby, NAVFAC MIDLANT, Public Works Department Maine

The following RAB members were not in attendance:

- RAB Community Members:
  - Jack McKenna
  - Roger Wells
  - Diana McNabb

- Regulatory Representatives:
  - Matt Audet, United States Environmental Protection Agency (USEPA)

- Natural Resource Trustees:
  - Doug Grout, New Hampshire Fish and Game Department
  - Denis-Marc Nault, Maine Department of Marine Resources
  - Ken Finkelstein, National Oceanic and Atmospheric Administration
  - Ken Munney, United States Fish and Wildlife Service

Opening Statements:

Doug Bogen, Community RAB Co-Chair, opened the meeting by welcoming all attendees and led introductions.

Lisa Joy, Navy RAB Co-Chair, also extended a welcome to attendees and stated that the Navy was looking forward to providing updates on the work that has been accomplished at the Portsmouth Naval Shipyard (PNSY) since the last meeting in December. Ms. Joy welcomed everyone to participate in an open dialogue during the meeting.

Environmental Restoration Program Status and Updates:

Linda Cole, Navy RPM, presented the status and updates on the Environmental Restoration (ER) program at PNSY for each Operable Unit (OU), with the following update highlights:

- OU1 (Site 10: Former Battery Acid Tank No. 24): Remedial Action (RA) is complete, and this OU is in Long Term Management (LTMgt) phase. The Final Remedial Action Closeout Report (RACR) was signed by the PNSY commanding officer in December 2014. A RACR formally documents the achievement of cleanup objectives, and is a comprehensive document that provides information about the OU, applicable decision document, and cleanup activities carried out to achieve Remedial Action Objectives (RAO). The annual Land Use Control (LUC) inspection was conducted on June 16, 2015, and these inspections will continue on an annual basis until the OU is released for Unrestricted Use/Unlimited Exposure (UU/UE).

- OU2 (Site 6: Defense Reutilization and Marketing Office (DRMO) Storage Yard, Site 29: Former Teepee Incinerator Site, and DRMO Impact Area): Remedial Action construction at OU2 was completed in Summer 2014. Construction Completion Reports (CCR) summarizing construction activities for the DRMO Area and the Waste Disposal Area were finalized in March 2015 and May 2015, respectively. LUC inspection was performed in October 2014 with no issues noted. The Draft Long-Term Management (LTMgt) Plan was submitted to the regulatory agencies in June 2015 and includes details for groundwater monitoring, sediment accumulation monitoring, and inspections.

- OU3 (Site 8: Jamaica Island Landfill (JILF), Site 9: Former Mercury Burial Sites, and Site 11: Former Waste Oil Tanks Nos. 6 and 7): This OU is in LTMgt phase with an engineered cap in place. Gas probes were abandoned in July 2014 as methane gas generation was not observed. The Gas Probe Abandonment Closure Report was finalized in February 2015. The Final RACR for OU3 was signed by the Navy in January 2015. The landfill and LUC inspections (Round 14) were conducted in May 2015. A LUC violation was reported by the Navy in May 2015, due to digging for the placement of snow markers along the perimeter of the parking lot without proper notification. The snow markers extended approximately three to six inches into the ground, but did not penetrate the landfill cover. The NAVFAC MIDLANT Public Works Department is

coordinating training materials and notifications regarding digging practices and LUCs at OU3 and other ER sites at PNSY. The snow markers will be removed in June 2015, with Matt Thyng of the NAVFAC MIDLANT Public Works Department to provide oversight to ensure that no damage to the cover occurs during removal.

- OU4 (Site 5: Former Industrial Waste Outfalls and Off-shore Areas Potentially Impacted by PNSY Onshore ER Program Sites): The selected remedy for OU4 is sediment removal with off-site disposal. Additional sampling was conducted in Fall 2013 and September 2014 to further delineate areas for removal. A technical memorandum was finalized in March 2015 that summarized the sampling results of the 2014 sampling. The Remedial Action Work Plan (RAWP) was finalized in September 2014. RA began in September 2014 with an eelgrass survey at MS-04 and MS-12A. Dredging was conducted December 20, 2014 through April 20, 2015. During dredging at one area (MS-01), timbers coated with some form of petroleum-based material were observed along the shoreline in the intertidal zone. Additional excavation along the MS-01 shoreline will be conducted in to remove these timbers when funding is secured for this work.

- OU7 (Site 32: Topeka Pier Site): The selected remedy for OU7 is excavation with LUCs. The RAWP was finalized in April 2015. RA began in May 2015 with pre-excavation confirmation and in-situ waste characterization soil sampling. The excavation component of RA is anticipated to begin Summer 2015. Following the Remedial Action, OU7 will transition to LTMgt with annual LUC inspections. The Final Land Use Control Remedial Design (LUCRD) was submitted in September 2014, and a LUC inspection was conducted in October 2014. The next annual LUC inspection will be conducted in 2015 after RA excavation is completed. The Draft LTMgt Plan was submitted in August 2014, and no comments were issued by the regulatory agencies. The Draft Final LTMgt Plan will be submitted in 2015 following completion of the RA.

- OU8 (Site 31) Former West Timber Basin: OU8 is currently in the Remedial Investigation (RI) phase. The Sampling and Analysis Plan (SAP) was finalized in May 2015. RI activities were completed in early June 2015, which included soil sampling, groundwater monitoring well installation, and groundwater sampling. The Draft Remedial Investigation Report will be submitted Fall 2015, and results of the sampling at OU8 can be presented at the next RAB meeting. This area is within the Controlled Industrial Area (CIA), and the entire site is covered in asphalt, concrete, or buildings. The soils below OU8 are comprised of mostly fill material that was placed in the early 1900s. An earlier Site Screening Investigation indicated limited lead and polycyclic aromatic hydrocarbon (PAH) impacts in the fill that are generally shallow in depth. An old quay wall is located in this area that may serve as a boundary between impacted fill material and clean material based on the preliminary analytical results and historical records. Some of the contaminated fill material was removed during construction of a utility trench across the area. OU8 is the last site to be investigated at PNSY under CERCLA. Once a remedy is in place at OU8, the Navy can move forward with having the Shipyard delisted from the National Priorities List (NPL).

- OU9 (Site 34: Former Oil Gasification Plant, Building 62): OU9 is in the LTMgt phase. The Final LUCRD was submitted in September 2014. A LUC inspection was conducted in June 2015 with no issues noted. The Draft RACR was submitted in August 2014, and the Navy has resolved all regulatory comments. The Final RACR will be submitted in 2015 following completion of all RA activities at OU4, as a portion of OU4 (MS-01) is located offshore of OU9.

Regulator Updates:

Iver McLeod provided a summary of recent regulatory activities. MEDEP continues to participate in weekly conference calls with the Navy and USEPA and noted that the Navy has communicated well regarding ER activities at the PNSY. MEDEP provided oversight of some of the RI sampling activities at OU8. It was also noted that MEDEP has been involved in reviewing OU2 documents and OU7 activities including recent detections of elevated polychlorinated biphenyl (PCB) concentrations in soil samples collected from OU7 that were unexpected. Mr. McLeod stated that his department is in the process of reviewing the Draft Site Management Plan and the LTMgt Plan for OU2.

OU4 Remedial Action Updates (AGVIQ):

William Hughes of AGVIQ Environmental presented on the RA activities at OU4. The Remedial Action Objectives (RAOs) for OU4 are to reduce risks to benthic invertebrates from exposure to bioavailable contaminants of concern in sediment at Monitoring Stations (MS) where contaminants were measured in excess of acceptable levels. Contaminants of concern in sediment at OU4 include PAHs (MS-01, MS-03, MS-04, MS-12A), copper (MS-03, MS-04), and lead (MS-12A, MS-12B). Areas MS-01, MS-03, and MS-04 are located in the back channel of PNSY. MS-12A is located by the shipways on the south side of the island. MS-12B is located near Berth 4 where the water depth drops steeply.

Dredging at OU4 began on December 20, 2015 and continued through April 20, 2015. An overview was presented on the equipment set-up for dredging submerged sediment, including a constructed barge with a mounted excavator, a barge to transport dredged sediment that used jersey barriers and filter fabric to keep sediment in and allow water to drain out, and spud posts that extend into the sediment to keep the barges in place. GPS technology mounted to the dredge bucket was used to ensure accuracy of the vertical and horizontal limits of the dredge areas. Prior to and during dredging activities, water quality buoys surrounding the dredge areas monitored turbidity, temperature and dissolved oxygen. No turbidity issues were observed throughout the duration of the project, with one exception when a turbidity spike was observed as a result of a tug boat that was helping to mobilize the dredge barge.

Numerous challenges were encountered during dredging. MS-01, MS-03, MS-04 were exposed at low tide, which made it difficult for the barge to reach these areas. Due to the strong currents barges could only be moved during slack tide, which made coordination of field activities difficult. There is limited height clearance under the bridge to the Shipyard, equipment had to be moved through at low tide, and it required two tug boats to move the barge under

the bridge. Movement of equipment was also limited to one direction by construction on the Gate 1 Bridge. The heavy snow fall and very cold conditions added an additional level of challenge. Work was delayed in order to remove snow on a somewhat regular basis. Ice buildup, cloudy weather, and short daylight hours caused problems with the solar powered battery chargers on the water quality buoys. Due to the strong currents in the river, turbidity curtains were not deployed during dredging in some areas where unsafe conditions were created, and only water quality monitoring was performed as discussed with USEPA and MEDEP.

Dredging was conducted to pre-determined depths based on historical sampling results. Bathymetric surveys of the all dredged areas were conducted prior to and following dredging to determine if the vertical and horizontal limits had been reached. Additional dredging was required at MS-01 and MS-04 based on the results of the first bathymetric survey, which indicated the dredge limits had not been reached in the first effort. Portland cement or kiln dried sawdust was used as an amendment to sediment to reduce free water content and allow the material to be transported and disposed of offsite. Portland cement was used as a stabilizer in sediment dredged from MS-12A due to the high lead concentrations in that material. All sediments were transported to Waste Management's Turnkey facility in Rochester, New Hampshire. Observations of note were discussed in more detail by Mr. Hughes.

During dredging at MS-01, timbers coated with petroleum hydrocarbons (possibly creosote) were observed protruding from rip rap along approximately 35 feet of the shoreline of MS-01. Oil sheens were observed during the removal of approximately 670 tons of petroleum-contaminated sediment at MS-01, and absorbent booms were deployed to contain the sheen at the surface.

At MS-12B, a crane was used to remove sediment in the deeper water depths (approximately 55 feet). During dredging at MS-12B, a four-inch artillery shell was recovered that was dated 1910. Work was stopped following discovery of the artillery shell, the proper notifications were issued, and work resumed following appropriate approvals. The shell was transported to Fort Devens in Massachusetts for proper disposal. A large amount of debris was recovered from the dredging at MS-12B, including bricks, tires, lobster pots, wire, cable, hoses, timbers, rope, dishes and utensils. Debris was inspected by the NAVFAC MIDLANT PWD Maine Cultural Resources Manager to determine if items were of archeological interest before being disposed. Some bricks of historical interest were retained.

For portions of MS-12B, the remedial target was to dredge sediment to the depth of rocky substrate. It was anticipated that the depth of the rocky substrate at MS-12B was approximately two feet based on prior sediment sampling activities, and remedial plans assumed dredging in this area would be conducted to a depth of 2.5 feet. The actual depth of rocky substrate in MS-12B was approximately six feet. Due to the deeper depths of removal it was agreed the dredging would terminate at 2.5 feet and 15 post-dredge samples would be collected from a grid for analysis of lead. Post-dredge sampling results indicated lead concentrations remained in some locations above the remediation criteria. The Navy is currently preparing of post-dredging evaluation of risk, which will be reviewed by USEPA and MEDEP. In

addition, dredging was not performed at MS-12B in an area adjacent to the bulk head to prevent undermining the quay wall.

Eelgrass beds that were observed at MS-12A during the eelgrass survey conducted in September 2014 were dormant and therefore were not visible during dredging. Dredging around the eelgrass beds at MS-12A was accomplished with the assistance of GPS technology and with oversight by a biologist who ensured that no eelgrass was removed during dredging.

OU7 Remedial Action Updates (AGVIQ): William Hughes of AGVIQ Environmental presented on the RA at OU7. The RAOs for OU7 are to prevent residential exposure to surface soil containing lead, and subsurface soil containing antimony, copper, dioxins/furans, iron, lead, carcinogenic PAHs, and PCBs and to prevent industrial worker exposure to subsurface soil containing dioxin/furan and PCBs. An additional RAO is the protection of the offshore environment from erosion of contaminated soil from the OU7 shoreline. The selected remedy for OU7 includes LUCs and excavation and offsite disposal of soil in Areas 1 and 2 in the southeastern portion of the Site to meet industrial cleanup levels and LUCs. The primary contaminant for the Area 1 excavation is dioxin/furans; excavation in Area 2 will address total PCBs.

Pre-excavation soil sampling to confirm the limits of excavation and waste characterization was completed in May 2015. The excavation areas in both Area 1 and Area 2 have been delineated. Excavation in Area 1 will be completed in a 10 x 10 foot area to a depth of five feet. Excavation in Area 2 will be completed in three separate areas to a depth of eight feet. Two samples collected within Area 2 contained PCBs greater than 50 parts per million (ppm) and will require disposal at a facility certified to receive TSCA (Toxic Substances Control Act) waste. All other material excavated from Areas 1 and 2 will be disposed of as non-hazardous waste. During sampling in May 2015, borings extended to a depth of eight feet, and groundwater was not encountered to this depth. The Navy will present the results of the pre-excavation confirmation sampling and in-situ waste characterization sampling to the regulatory agencies when the data is received. Mobilization for excavation is anticipated to begin in July 2015. Permits to dig and to take parking spaces at PNSY have been submitted. Numerous subsurface utilities are located within or near the excavation areas, including storm drain, sanitary sewer, water, and steam. Utilities will be protected and/or temporarily re-routed.

RAB Charter:

Navy RPM Linda Cole led a discussion of attendees on the RAB Charter. Possible revisions to the RAB Charter were discussed at prior RAB meetings, including discussion in December 2014 about adding language to the Charter about disestablishing the RAB as nearly all OUs will have a remedy in place soon. Attendees acknowledged that some aspects of how the RAB operated in recent years have not been as stated in the Charter. The Navy RPM recommended that the RAB, consisting of a small group of engaged members, not undertake the effort of revising the Charter and continue to operate as it has recently. Requirements of RABs are codified in the Code of Federal Regulations (CFR), which states a RAB is only required if sufficient community interest exists. It was agreed by all RAB members present to not revise the Charter and

continue to operate as it has been. It was noted that if the Charter were to be revised, one uncertainty would be to obtain the number of required signatures to ratify the revised document. One community member noted that it will be helpful to have public involvement when delisting PNSY from the NPL. Additionally, it was discussed after all OUs have a remedy selected for the RAB continue to meet annually to discuss monitoring data and observations from inspections.

Community Remarks and Open Discussions and Questions:

The PNSY has been awarded the 2015 Chief of Naval Operations (CNO) Award in both the Environmental Restoration and Cultural Resources Management categories. Lisa Joy will be presented with the award on June 23, 2015 on behalf of the Shipyard. PNSY has also been awarded the Secretary of the Navy Award in the Environmental Restoration category. Ms. Joy and the PNSY environmental restoration team will travel to Washington, DC on July 23, 2015 to receive the award. This is the third year that PNSY has received the CNO Award and the second year that that it has won the Secretary of the Navy Award. The Navy stated that these awards belong to all of the RAB members for their hard work and dedication over the years.

Future Meetings:

The next RAB meeting was proposed to be held on October 27, 2015. Invitations will be sent by Resolution Consultants with more details including the meeting location.

Portsmouth Naval Shipyard
Restoration Advisory Board Meeting
June 16, 2015

Agenda

- Introductions
- Opening Statements
  - Community Co-Chair (Doug Bogen)
  - Navy Co-Chair (Lisa Joy, NAVFAC)
- Environmental Restoration Program Status and Updates (Linda Cole, NAVFAC)
- Regulator Updates (USEPA and MEDEP)
- OU4 Remedial Action Updates (AGVIQ)
- OU7 Remedial Action Updates (AGVIQ)
- Revisions to the RAB Charter (Linda Cole, NAVFAC)
- Community Remarks
- Open Discussion and Questions

NAVFAC Naval Facilities Engineering Command

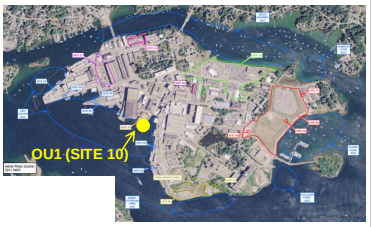
NAVFAC MID-ATLANTIC

Portsmouth Naval Shipyard
Environmental Restoration
Program Status and Updates

June 2015

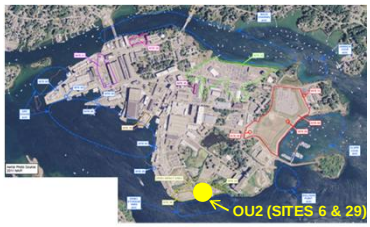
OPERABLE UNIT 1
Site 10 (Former Battery Acid Tank No. 24)

- **Remedial Action Completion Report (RACR)**
  - **Draft submitted June 2014**
  - **Navy signed Final RACR in December 2014**
- **Land Use Controls**
  - **LUC inspection to be conducted in 2015**



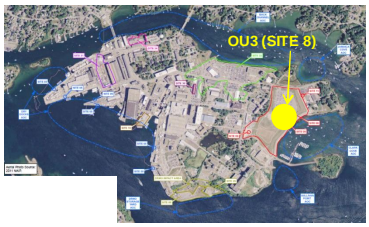
OPERABLE UNIT 2
Site 6 (DRMO Storage Yard) & Site 29 (Former Teepee Incinerator Site)

- **Remedial Action**
  - Construction completed in Summer 2014
- **Construction Completion Report (CCR)**
  - Draft CCR for Waste Disposal Area submitted in October 2014 and finalized in May 2015
  - Draft CCR for DRMO Area submitted in December 2014 and finalized in March 2015
- **Long Term Management (LTMgt) Plan**
  - LUC Inspection conducted in October 2014
  - Draft LTMgt Plan to be submitted in Summer 2015
  - LUC Inspection and LTMgt groundwater sampling to be conducted in 2015



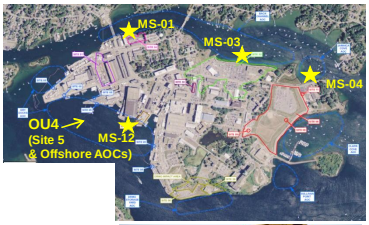
OPERABLE UNIT 3
Site 8 (Jamaica Island Landfill)

- **Removal of landfill gas sampling points**
  - Gas probes abandoned in July 2014
  - Finalized OU3 Gas Probe Abandonment Closure Report in February 2015
- **Remedial Action Completion Report (RACR)**
  - Draft submitted November 2014
  - Navy signed Final RACR in January 2015
- **Land Use Controls**
  - Landfill and LUC inspection (Round 14) conducted in May 2015
  - LUC Violation reported by the Navy on May 4, 2015
    - Snow markers were placed around perimeter of parking lot
    - PWD-ME coordinating training materials and notifications regarding JILF



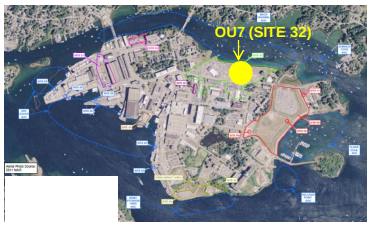
OPERABLE UNIT 4
Site 5 (Former Industrial Waste Outfalls) and Offshore Areas of Concern

- **Selected Remedy = Sediment Removal with Off-Yard Disposal at 4 monitoring stations**
- **Sampling to further delineate areas for removal conducted Fall 2013 & September 2014**
  - **Technical memo summarizing 2014 sampling finalized in March 2015**
- **Remedial Action Work Plan (RAWP) finalized in September 2014**
- **Remedial Action commenced in September 2014**
  - **Eel grass survey at MS-04 and MS-12A completed in September 2014**
  - **Dredging performed December 20, 2014 through April 20, 2015**
  - **Additional excavation to be performed at MS-01 shoreline in 2015**



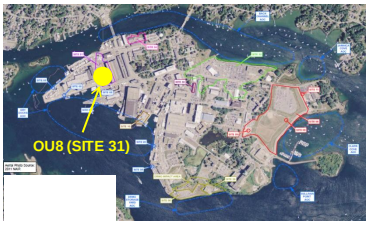
OPERABLE UNIT 7
Site 32 (Topeka Pier Site)

- **Selected Remedy = Excavation with Land Use Controls**
- **Remedial Action**
  - **Draft RAWP submitted in September 2014 and finalized in April 2015**
  - **Remedial Action commenced in May 2015**
    - Pre-excavation confirmation and in-situ waste characterization soil sampling
  - **Excavation to commence in Summer 2015**
- **Land Use Control Remedial Design (LUCRD)**
  - **LUCRD finalized in September 2014**
  - **LUC inspection completed in October 2014**
  - **LUC inspection to be conducted in 2015**
- **Long Term Management Plan (LTMgt)**
  - **Draft LTMgt Plan submitted in August 2014**
  - **Regulatory review completed: no comments received**
  - **Final LTMgt Plan to be submitted in 2015 after Remedial Action Completion**



OPERABLE UNIT 8
Site 31 (Former West Timber Basin)

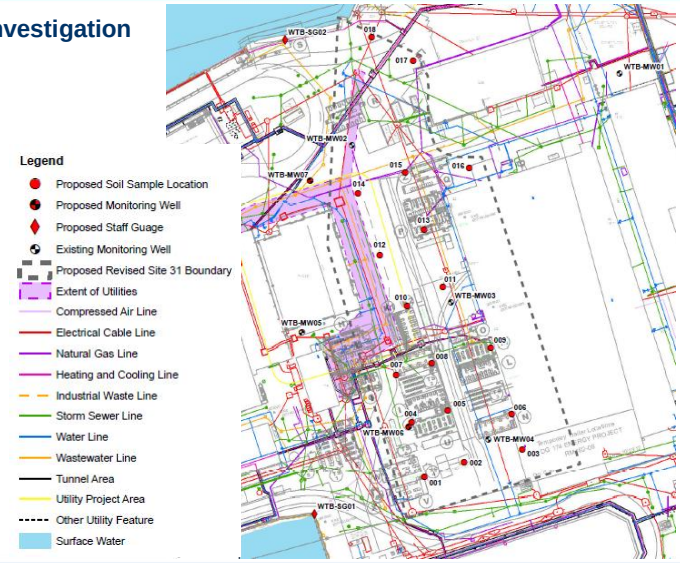
- **Remedial Investigation**
  - **Final Sampling and Analysis Plan (SAP) submitted in May 2015**
  - **Remedial Investigation field activities began in June 2015**
    - Soil borings
    - Groundwater monitoring well installation
    - Groundwater sampling
  - **Draft Remedial Investigation Report to be submitted Fall 2015**



http://seacoastnh.com/postcards/yard1/ph1.html

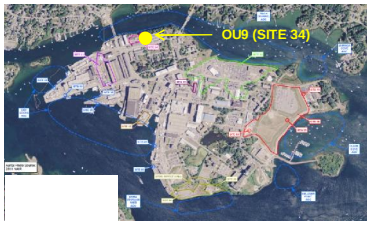
OPERABLE UNIT 8
Site 31 (Former West Timber Basin)

- **Remedial Investigation**



OPERABLE UNIT 9
Site 34 (Former Oil Gasification Plant, Building 62)

- **Land Use Control Remedial Design (LUC RD)**
  - LUC RD finalized in September 2014
  - LUC inspection conducted in October 2014
  - LUC inspection to be conducted 2015
- **Remedial Action Completion Report (RACR)**
  - Draft submitted in August 2014
  - All regulatory comments on Draft RACR have been resolved
  - Final to be submitted following completion of Remedial Action at OU4 MS-01



Portsmouth Naval Shipyard Restoration Advisory Board

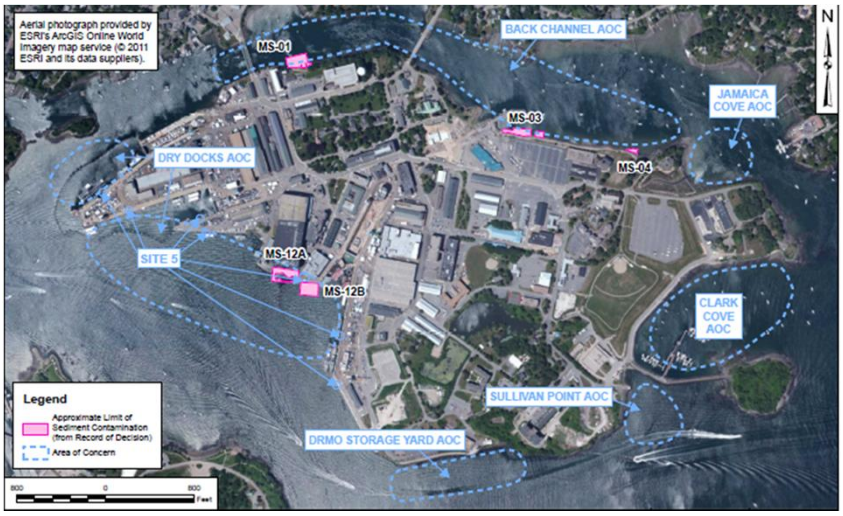
- **Public website link:**
  http://go.usa.gov/DyRH

Operable Unit (OU) #4
Status Update
Portsmouth Naval Shipyard
Restoration Advisory Board
June 16, 2015

Outline

- Site Location and Overview
- Background
- Dredge Preparation
- Remedial Action Activities
- Status
- Questions and Comments

Site Location Map



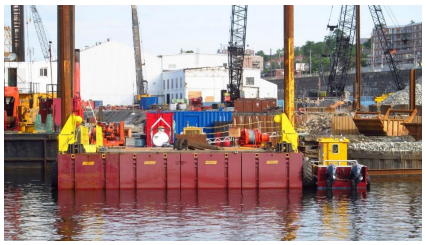
Background

- **Remedial Action Objectives**
  - **Eliminate unacceptable risk to ecological benthic receptors exposed to site-related COCs in suitable sediment habitats.**
- **Chemicals of concern at the sites consisted of:**
  - **Polyaromatic hydrocarbons (MS-01, MS-03, MS-04 and MS-12A)**
  - **Copper (MS-03 and MS-04)**
  - **Lead (MS-12A and MS-12B)**
- **Selected Remedy**
  - **Dredge sediments from each monitoring station to depths ranging from 1 to 4-feet below the surface bottom (MS-01, MS-03, MS-04 and MS-12B) or a rocky substrate (MS-12A and MS-12B)**
  - **Dredge depths were determined through pre-confirmation sampling**
  - **Dredged sediments were dewatered and solidified for transport to a licensed disposal facility**

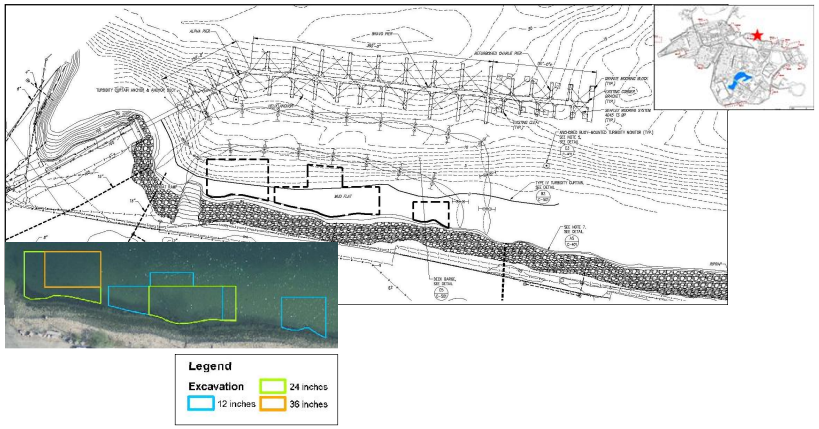
Dredge Preparation

- **Deployed water monitoring buoys to measure water quality to determine the background**
- **Set up turbidity curtains around the dredge area**
- **Collected sediment samples for waste characterization**

Dredging Assembly

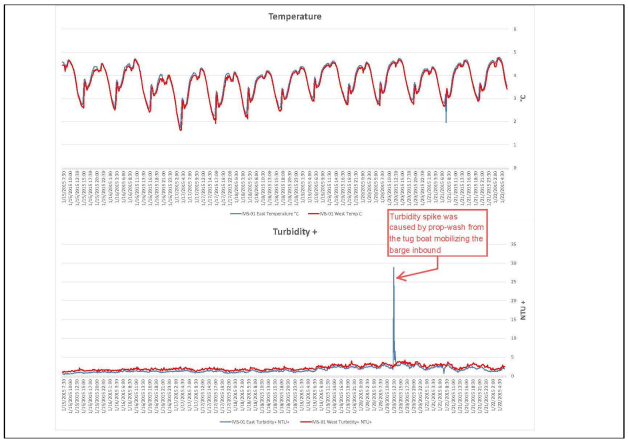


Monitoring Station MS-03 Layout



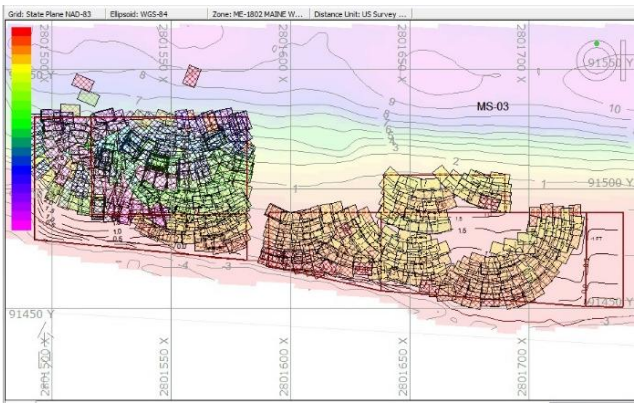
Water Quality Monitoring

- **Two water quality buoys were deployed to monitor water quality**
- **Temperature, turbidity, dissolved oxygen, battery power and oxygen saturation were measured**
- **No turbidity issues were encountered during dredging at all of the areas**

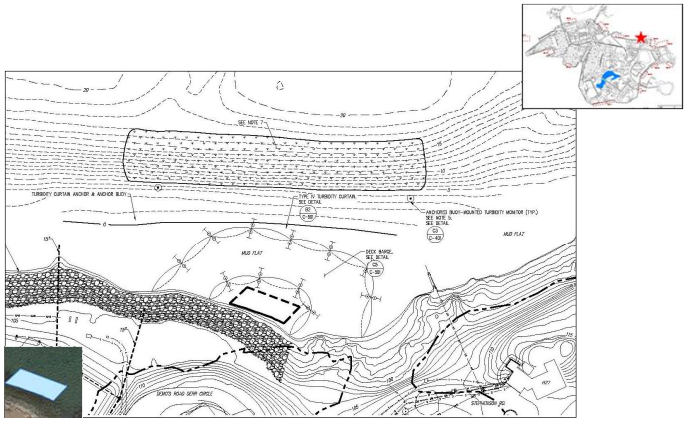


Tracking Progress of Dredging

- **The location of the dredge bucket was tracked using GPS**
- **A record of the where the bucket had dredged was recorded to track the progress made and ensure that the entire area was covered.**



Monitoring Station MS-04 Layout



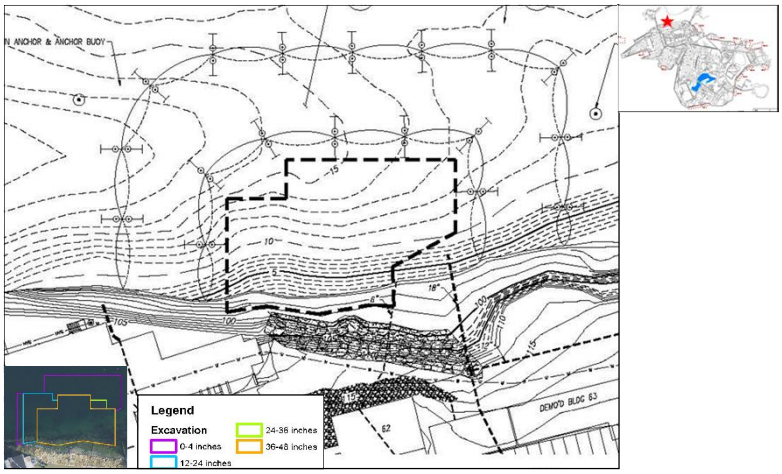
Challenges Encountered

- **Tides and currents**
  - Low tides denied access to the dredging equipment.
  - Barges could only be moved during slack tide
- **Weather**
  - Record snows required removal from docks, boats, barges and waste load out area
  - Ice buildup on water monitoring buoys prevented batteries from recharging
  - Ice created unsafe conditions

Challenges Encountered at MS-01

- **MS-01 Access**
  - Gate 1 bridge construction blocked access from the west
  - Low bridge limits access to only low tide
  - Strong currents limit movement of barges
- **Currents prohibited the safe use of the turbidity curtain**
  - When partially deployed the curtain moved the dredge barge with the spuds set

Monitoring Station MS-01 Layout



13

Shoreline Along Monitoring Station MS-01

- **Following the dredging of the sediments at MS-01 a layer of wood soaked with petroleum hydrocarbons was found protruding from the shoreline**
- **This layer of wood lies beneath the armor stone and rip rap that protect the shoreline**
- **The layer is approximately 2 to 3 feet thick and exposed along 35 feet of shoreline**
- **The Navy is working to obtain funding to remove and dispose of the wood layer**

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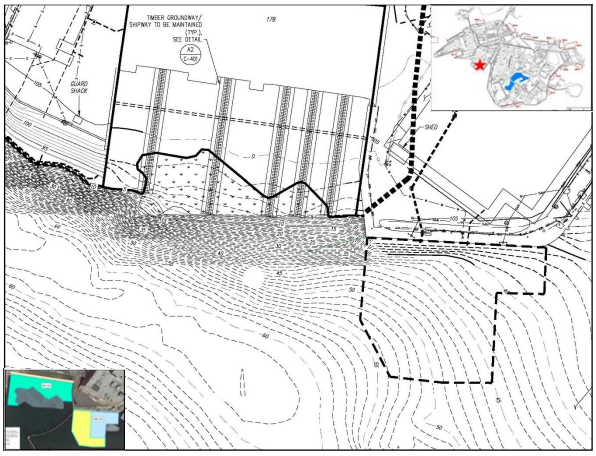
Monitoring Areas 12A and 12B Areas

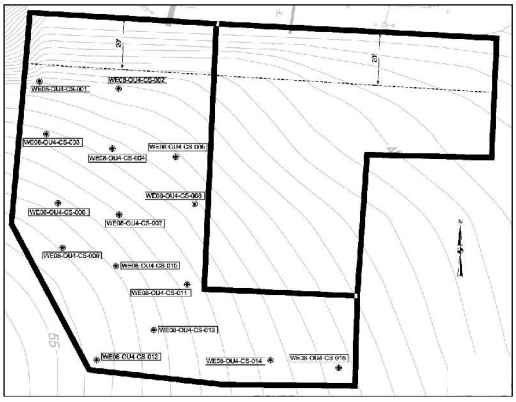


Challenges Encountered at MS-12B

- **4-inch artillery shell recovered**
  - **Not fuzed, removed by EODDET and disposed**
  - **Classified as Discarded Military Munitions**
  - **Work was stopped until approval was by obtained from Naval Ordnance Safety and Security**
- **High percentage of debris was dredged and disposed**
  - **Metal, bricks, tires, lobster pots, wire, cable, hoses, timbers, rope, dishes and utensils**
  - **Debris was inspected to determine if it was of archeological significance before being disposed**

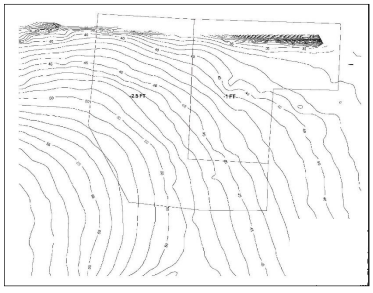
Monitoring Station MS-12B Sediment Sampling

- The remedial goals at MS-12B were to dredge sediment to a depth of 1-foot and a rocky substrate
  - Previous sediment sampling at the site refusal was encountered at approximately 2-feet lt
  - It was assumed that a rocky substrate would be encountered at 2.5-feet
- It was discovered that a rocky substrate was a depth of 6-feet during dredging
- The 2.5 foot dredge cut was maintained and 15 post-dredge sediment samples were collected from a grid across the site analyzed for total lead.
- Total lead concentrations ranged from 80.3 milligrams/kilogram (mg/kg) to 3,610 mg/kg



Bathymetric Surveys

- A bathymetric survey was performed prior to and following dredging
- The surveys were compared to determine if the target depths reached and remedial action goals were met
- If the target depths were not reached then additional sediment was dredged
- The remedial goals were met at all areas.



Waste Disposal

- All dredged sediment was disposed as a non-hazardous waste.
- Waste characterization sampling showed that all sediment was non-hazardous with the exception of 90 cubic yards of sediment at MS-12A. The lead in sediment was stabilized during solidification with Portland cement and the waste was reanalyzed to determine if it could be disposed as a non-hazardous waste.
- Following waste solidification with Portland cement or kiln dried sawdust, a paint filter test was performed on each 50 cubic yard batch of waste to verify that no free liquids were present
- The following quantities of waste was disposed from each of the areas:
  - Monitoring Station MS-01 1,779.9 tons
  - Monitoring Station MS-03 1,222.7 tons
  - Monitoring Station MS-04 192 tons
  - Monitoring Station MS-12A 520.2 tons
  - Monitoring Station MS-12B 2,037.2 tons
- During the decontamination of the barges 30.2 tons of waste (filter fabric, straw wattles and sediment residue) was generated.

Remedial Action Status

- Eel Grass Survey of MS-04 and MS-12A (Completed September 25, 2014)
- Collect In Situ Waste Characterization Samples from MS-01, MS-03 MS-04, and MS-12A (Completed October 2, 2014)
- Site Mobilization & Setup (Completed December 2014)
- Collected In Situ Waste Characterization Samples from MS-01 and MS-12B (Completed December 2014)
- Dredge and Dewater Sediments (Completed April 2015)
- Perform Bathymetric Survey to Verify Dredge Depths Achieved (Completed April 2015)
- Solidify Sediments for Transport (Completed April 2015)
- Load and Disposed of Sediments (Completed April 2015)
- Demobilized from Site (Completed May 1, 2015)
- Submit a Construction Completion Report documenting the work performed (Ongoing)

Questions and Comments

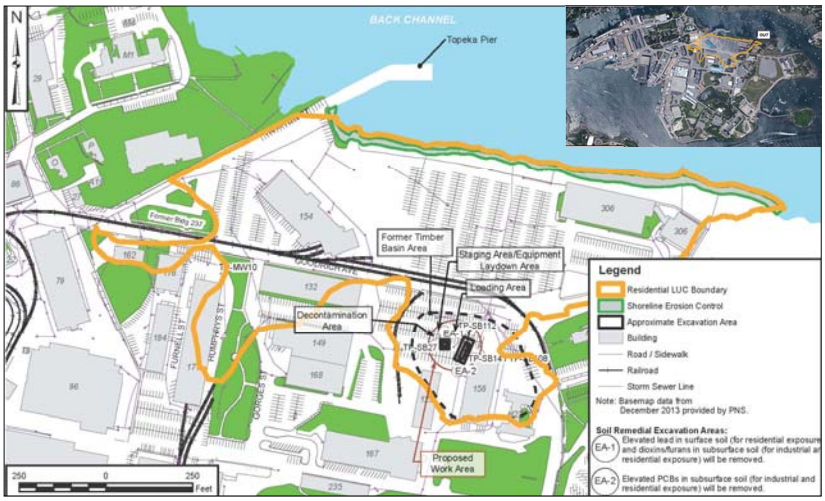
Questions?

Operable Unit (OU) #7
Site 32
Status Update
Portsmouth Naval Shipyard
Restoration Advisory Board
June 16, 2014

Outline

- **Site Location and Overview**
- **Remedial Action Objectives**
- **Selected Remedy**
- **Scope of Work**
- **Remedial Action Status**
- **Questions and Comments**

Site Location & Site Map



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Site Plan

4

Remedial Action Objectives

- **Prevent residential exposure through ingestion of, dust inhalation of, and dermal contact with surface soil containing lead, and subsurface soil containing antimony, copper, dioxins/furans, iron, lead, carcinogenic polycyclic aromatic hydrocarbons (PAH), and polycyclic biphenyl (PCB) concentrations exceeding residential cleanup levels/preliminary remediation goals (PRGs).**
- **Prevent industrial worker (construction and occupational) exposure through ingestion of, dust inhalation of, and dermal contact with subsurface soil containing dioxin/furan and PCB concentrations exceeding industrial cleanup levels/PRGs.**
- **Protect the offshore environment from erosion of contaminated soil from the OU7 shoreline.**

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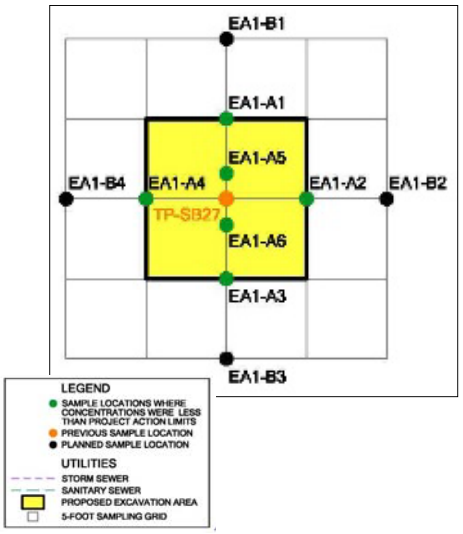
Selected Remedy

- **Excavation of soil associated with potentially unacceptable risks to industrial workers. Excavation in the Areas 1 and 2 in the southeastern portion of the site will be conducted to meet industrial cleanup levels.**
  - **Area 1 Cleanup Level - 0.0006 milligrams per kilogram (mg/kg) for dioxins/furans, evaluated based on 2, 3, 7, 8-TCDD Toxic Equivalents (TEQ)**
  - **Area 2 Cleanup Level - 7.4 mg/kg for total PCBs, evaluated based on total Aroclors.**
- **Disposal of excavated soil in an offsite landfill and restoration of the excavated areas to pre-existing construction conditions.**
- **Institute land use controls**

6

Area 1 Excavation

- Completed the soil sampling to confirm the limits of the proposed excavation and to characterize the waste on May 15, 2015.
- Samples were analyzed sequentially to determine the horizontal and vertical depths of contamination.
- The limits of the excavation were determined through sampling.
- All waste will be classified as non-hazardous.



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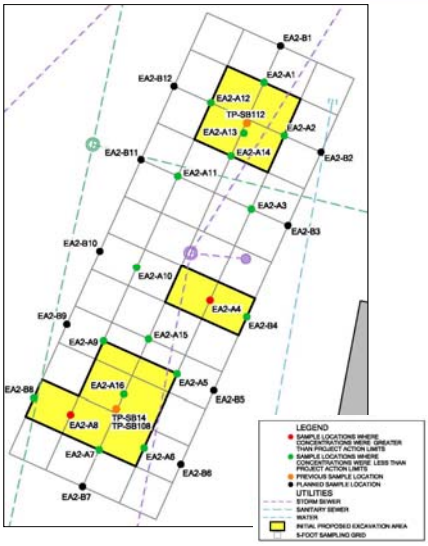
Area 2 Excavation

- Completed soil sampling confirm limits of the proposed excavation and to characterize the waste on May 15, 2015.
- Samples were analyzed sequentially to determine the horizontal and vertical depths of contamination.
- Total PCB concentrations in 2 samples exceeded the cleanup criteria so the outside and deeper interval samples were analyzed.
- The vertical and horizontal limits were determined.
- Waste from the northern excavation is non-hazardous and waste from the central and southern excavation will be classified as a TSCA waste.



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Remedial Action Status

- **Finalize Remedial Action Work Plan** (May 2015)
- **Collect In situ Waste Characterization & Confirmation Samples** (Completed May 2015)
- **Present Analytical Results in a Technical Memorandum** (Est. June 2015)
- **Site Mobilization & Setup** (Est. July 2015)
- **Survey Site and Mark Underground Utilities**
- **Strip Asphalt, Expose & Protect Sanitary Sewer/Steam Lines**
- **Temporarily Reroute Storm Sewer Line & Demolish Line**
- **Excavate Areas 1 and 2**
- **T&D of Contaminated Soil**
- **Backfill, Replace Storm Sewer Line, Replace Pavement**
- **Demobilize from Site** (Est. Early August 2015)
- **Prepare Construction Completion Report**

Questions and Comments

Questions?