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NSTC GREAT LAKES
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MEETING MINUTES REGARDING SITE 17 PETTIBONE CREEK AND BOAT BASIN
REMEDICATION AND RESTORATION NSTC GREAT LAKES IL
12/8/2010
TETRA TECH



NAVAL STATION GREAT LAKES MEETING MINUTES
December 8 & 9, 2010
Naval Station Great Lakes, Illinois



Attendees: Tetra Tech
Robert Davis
John Galler

NAVFAC Midwest
Howard Hickey
Terese Van Donsel
Benjamin Simes
Bob Van Bendegom
Matthew Wollert
Katy Lemanski

NAVFAC Atlantic
David Barclift
Dawn Hayes
Thomas Spriggs

Illinois EPA
Brian Conrath

Meeting Topic – Site 17 Pettibone Creek & Boat Basin Remediation and Restoration

1. Introduction and Background: Introductions and sign in of attendees (see last page) started the meeting. A brief description of the site and the activities/investigations that have been conducted was provided. The FS was completed and a Proposed Plan was completed but pulled back. A Watershed Contamination Source Document (a Navy internal document) was also prepared in 2003). The last time the Boat Basin was dredged was in the early 70s so the sediment load from Pettibone Creek is pushed directly into the harbor now.

There are concerns about the risk reduction from the removal remedy (remove contaminated sediment from Pettibone Creek and the Boat Basin) since there is a fish advisory for the Great Lakes – is the removal remedy worth the amount of risk reduction and the site will still have the fish advisory. The risk for the fish pathway will not be reduced or impacted by the remedial action.

Bankrupt upstream PRPs were sued and some money was awarded (split between Navy/NOAA/EPA). One of the facilities (R Lavin) had 3 NPDES outfalls that had very high limits and historical releases of high concentration of metals. The Navy is considering reopening this case. There are concerns that the offsite source is not controlled – these former PRP areas are being redeveloped by the City of North Chicago after EPA Region 5 completed some remedial actions at the site. The redevelopment is a mall with stormwater controls.

ACTION ITEM – The Navy (Katie) will check with Perry at OGC to see if the recovery files are available.

Highest concentrations of PAHs and metals where Pettibone Creek discharges from the culvert onto Naval Station Great Lakes. There is AVSEM data and the contamination may have some impact on the benthics but this will need to be looked at. USEPA has done some remedial actions on several of the upstream properties, including the PRP properties. The Navy has talked with USEPA Region 5 regarding what has been done, what they are going to do, and the cleanup goals for these upstream properties.

ACTION ITEM – Tetra Tech (Bob/Aaron/Preston) will review AVSEM data from the RI.

ACTION ITEM – Tetra Tech (Bob) and the Navy (Terese) will load files related to the off-site contamination (EPA documents) and load it into the NIRIS site file.



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There is an operating facility upstream, EMCO, which has spills (such as diesel fuel) and fires that discharges contamination into Pettibone Creek upstream of Naval Station Great Lakes on occasion.

There are areas of the Pettibone Creek ravine that are unstable. There are also erosional and stormwater issues. The Pettibone Creek sediment loading significantly impacts the inner harbor – requires dredging near the Naval Reserve Landing Craft docking area since the Boat Basin is filled with sediment.

2. Purpose of the Meeting: The Navy and Illinois EPA have discussed on integrated project approach for Pettibone Creek and the Boat Basin. From this meeting we will walk away with a Plan of Action and Milestones and Roles and Responsibility to track this project. The metric of meeting the Remedy in Place by FY14 will not be met and HQ concurs since some funding has been shifted to fund must need things.
3. Current Activities: The Navy received the 404 Maintenance Dredging permit. They have started the maintenance dredging of harbor system (through 3 contracts) – this past summer the Inner and Outer Harbors were dredged. Sediment from Inner Harbor contaminated with metals and was disposed. Sediment from the dredging the Outer Harbor is stockpiled (~3,000 CY) at this time. Illinois EPA considers this sediment a waste (God and glacier approach) and it cannot be used in the state as fill or reused as a beneficial material. It must be shipped to Wisconsin but Wisconsin public relation is opposed to receiving the waste. The transportation and disposal cost will be significant. There are issues with disposal of the dredged sediments at this time – the dredging contracts are not complete. Other reuses are being considered and discussions with congressional personnel is occurring to put political pressure on the state for reuse.

The City of North Chicago is working on the redevelopment. Martin Luther King Road was dug up and repaved this past summer also. Contamination was seen and smelled during this reconstruction.

4. Roundtable: Everyone at the table expressed their needs/desires/information.

PWC – They get calls when upstream contamination (sheens) are identified and they put in booms and do cleanups but there is no setup to handle these events. They would like a system that would contain and intercept spills (have a tie riser and continuous monitoring system to speed the response) and a sediment collection basin. They use the dam at the Boat Basin for spill response but the salmon cannot get up the stream past the dam – they suggest a fish ladder also. The 2 tributaries that flow into Pettibone Creek would be strategic locations for monitoring

They have a stormwater plan in place now (there is no NPDES monitoring or permits on the base) but there are erosional issues that are natural to the ravine that need to be addressed. They have some funding available to look at and repair cross connections in the stormwater system. They are doing some initial work related to the erosional issues along Pettibone Creek. Along with the erosional issues there are slope stability issues adjacent to the creek. There are several slope failures and repairs have included the use of gabion baskets.

Ecologically, salmon have been seen the full length of the creek but there are no amphibians or macroinvertebrates and very little plant growth or algae. They suspect this is related to water quality



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and sediment. They would like to keep this area as an exercise area (jog/walk along the trail/road), natural resource habitat, and recreational area.

Environmental – Capital improvement projects (Bridges/buildings – SHPO also, Power House and steam pipes – how will pipes be abandoned, etc.) and demolitions (Red Cross building, bunkers, etc.) being completed around the base that effect Pettibone Creek. These capital improvement projects will impact sediment loading on the creek. A basis of design and the study for the remedial action within Pettibone Creek are part of the current Tetra Tech task order. There is some funding for this year (\$500K to \$1.5M) and out years (several million) for sediment removal actions

IPT – They have a database of chemicals used/stored by EMCO. FEAD oversight needs to be improved on the capital improvement projects. Historically PWC enforces sediment and erosion control but this has been a challenge. It is recommended that PCAS support be provided during the remedial action of Pettibone Creek. Need a master plan with the right people at the table.

The harbor dredging project has some flexibility that can be used to reduce the sediment loading rate into the harbor – funding for dredge related work and long term budget. It is currently targeted for outer harbor dredging – partially for the Great Lakes Yacht Club located in the harbor. A 1903 USGS photograph of Pettibone Creek entering into Lake Michigan before Naval Station Great Lakes was constructed shows a delta – this shows that sediment loading has been an issue for a long time and will required long term maintenance.

In the FS for the Boat Basin it was assumed that the first 5 feet of sediment removal would be non-ERN funded and the next 5 feet would be ERN funded. An EE/CA with the design/dredging of the Boat Basin is required in order to get this action completed.

ACTION ITEM – Core sample from the Boat Basin should be obtained before dredging. Determine if concrete floor is located at bottom of Boat Basin (not indicated in MWR construction drawings – shows sloped into middle – deepest part of Boat Basin) but a concrete floor is located at the maintenance location of the Inner Harbor.

ACTION/DECISION ITEM – May not have enough information to determine the sediment reloading rate – what do we need to integrate this information.

For Pettibone Creek there is a lot of debris (large stone/gravel, concrete slabs, etc.) that can be used for stabilization of the stream banks. Need to create low energy areas for the PWD – small project maintenance. These low energy areas should be considered where the stream enters the base and strategic places throughout the creek. Some utilities are available adjacent to Pettibone Creek. The FS, Proposed Plan, and Remedial Design discussed screen levels as part of the remedial action related to clean up goals. The IPT suggest using other comparison values that are less conservative. The native sediment (blue/gray clay) compared to the contaminated sediment (brown/tan silty sand) is not as contaminated (some exceedance shown on table).

ACTION/DECISION ITEM – Navy and Tetra Tech will prepare a risk assessment using the native sediment data and include this in the remedial design. This should be used as rationale to remove contaminated sediment (brown/tan silty sand) to the native sediment (blue/gray



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clay) instead of using screen values and collecting additional samples for analysis. Review Table 2-4 for comparison to background, ecological, and human health risks.

Illinois EPA – Put monitoring at locations where water (tributaries/creeks, stormwater, etc.) enters the base and at strategic locations towards the Boat Basin and harbor. There will be a lot of coordination with other parts of the Naval Station. Illinois EPA will coordinate with Illinois DNR and the Bureau of Water for the stormwater. Illinois EPA can review documents quickly but if other departments need to review the documents Illinois EPA cannot control their review time. Illinois EPA can approve the EE/CA but the Director would need to review and sign the ROD.

5. Other Items to Consider: Off base sedimentation basin – ask for property off base to build a sedimentation basin to site a stormwater management system. There are some liabilities related to this. Navy provides the money, City of North Chicago builds and maintains the basin.

NPL for Waukegan Harbor – this is an EPA Region 5 lead and they have a permit exemption for harbor filling

For the Boat Basin it originally had an operational use. The MWR and Great Lakes Yacht Club feel that if it is dredged that it will be used again (if you build it they will come). If the harbor was better the Navy and others would have more opportunities for operational use. Operation and Maintenance (O&M) is needed in the Boat Basin to improve its use (0 to 5 feet is O&M, 5 to 10 is ERN). The Dredge Material Management Plan includes the Boat Basin in Phase 5.

ACTION ITEM – Navy (Howard) - Identify decision maker and people to coordinate with for operational needs.

ACTION ITEM – Navy (Howard and Terese) – Identify requirements from base based on operational need (PWO). Also determine funding distribution from ERN and O&M, N for dredging.

- 1) streambed for fish
- 2) maintenance sedimentation loading issues
- 3) wetland restoration.

Navy has 30 stormwater outfalls into Pettibone Creek and the Boat Basin. These outfalls are shown on Figure 1-2 of the remedial design. There may be some discrepancies. The Navy has a SPCC plan that was recently updated.

ACTION ITEM – Navy (Ben) and Tetra Tech (Bob) will compare the figure to the SPCC plan to determine if there are discrepancies in the stormwater outfalls.

There is little hydrology and hydraulic (H&H) data for Pettibone Creek. There are pieces in several studies – the slope stability analysis has some data using simplistic models at specific locations along Pettibone Creek where there are slope failures. The USGS proposal recommends doing a H&H study to determine design information (flows, elevation of water level for different storms, etc.). The Navy has some flow data from 2002 from PWC.



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ACTION ITEM – Navy (Howard) will provide flow data and stream bank failures to Tetra Tech.
ACTION ITEM – Navy (Dawn and Tom) will prepare an Optimization letter (point paper/memo to file) to Great Lakes to justify the use of ERN funds to retain permit exemptions.

Explore creating a sediment containment area from the bridge to the boat house to removed sediment from Pettibone Creek. Place them in a cell and lock the under a geomembrane and restore the top as a wetland. Pettibone Creek would flow over this cell. This is similar to Alternative 3 - Partial Excavation and Disposal of North Branch of Pettibone Creek Sediment, Excavation of Lower Boat Basin Sediment, In-Situ Capping of the Upper Boat Basin, Surface Water Controls, Institutional Controls, and MNR - in the FS.

ACTION ITEM – Tetra Tech will get a design/erosion control and geotechnical engineer to walk Pettibone Creek for slope and bank stability issues.

ACTION ITEM – Tetra Tech will look at cost for Alternative 3 (capping) vs. dredging.

ACTION ITEM – Navy (Matt) will provide stream sampling data needs and what data is available at this time. Can the PWC purchase the monitoring equipment? Provide information on instrumentation.

6. Site walk of Pettibone Creek and the Boat Basin was conducted. Photographs were taken and observations were discussed. Site walk was attended by Bob Davis, John Galler, Howard Hickey, Ben Simes, Dawn Hayes, Tom Spriggs, and Matt Wollert.

ACTION ITEM – Tetra Tech will send photographs (current and historical – non-winter) to NAVFAC LANT.

7. Funding: Pettibone Creek should be a CERCLA lead project using ERN funds. Exclude stormwater issues (broken pipes, erosion around outfalls, etc.) and major erosion areas for the Pettibone Creek project. This construction/remedial action work would be conducted by others using ERN funds.

The Boat Basin should be an O&M dredging project using O&M Navigational OP funding to supplement OP land use. This construction/remedial action work would be conducted under the upcoming EMAC contract.

8. Schedule: Prepared the design for Pettibone Creek and the Boat Basin in 2011 and follow up with the EE/CA. Award the Boat Basin dredging in FY11 but conduct the work in the spring 2012. The Proposed Plan and ROD for both Pettibone Creek and Boat Basin would be prepared in late 2012 (September to December time frame). The ROD would indicate that future maintenance would be conducted by the PWC. Phased approach with
 - Modeling/design – stormwater/flow modeling, slope stability related to restoration only, wetland/floodplain design
 - Inlet/Upstream plunge pool basin (Illinois EPA suggests that inlet controls and repairs to stormwater system is not remediation, just corrective actions/maintenance
 - Boat Basin Dredging as a Time Critical Removal Action (include plunge pool/clean out near bridge)
 - Pettibone Creek sediment removal using the ROD



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9. Goals: Clean up the North Branch of Pettibone Creek and the Boat Basin once. When done, not going back even though off-site source(s) remain. Illinois EPA agrees with this. The goal is no further action. The base PWC would take on the day-to-day responsibility of keeping Pettibone Creek and Boat Basin clean and any required follow up actions.

ACTION ITEM – Take a look at the existing data to begin discussion of excavation to native sediment/soil (blue/gray clay).

ACTION ITEM – Navy (Ben/Terese) – EMAC contracting timeline or other contracting options.

ACTION ITEM – Navy (Ben) - Get the INRAMP.

10. Roles & Responsibilities and Stakeholders:

1) Roles & Responsibilities

- a) Lead – Ben Simes (PM)
- b) ERN – Howard Hickey
 - i) LANT – Dave Barclift (lead), Tom Spriggs, Dawn Hayes
 - ii) TT – Bob Davis, John Galler (erosion), ?? (stability & flow engineers), Bob (wetland)
- c) O&M – Terese Van Donsel
- d) PW – Matt
- e) Illinois EPA – Brian Conrath

2) Stakeholders

- a) Command Suite (Admiral/Fire/Police)
- b) Illinois EPA – Brian Conrath
- c) USACE – Mike Murphy
- d) Lake County SMC
- e) Illinois DNR
- f) USFW/NOAA
- g) Public Relations/Notifications
 - i) Waukegan Community Action Group
 - ii) USEPA (FYSA)
 - iii) City of North Chicago
- h) MWR – Doug (Harbor Master)
- i) Yacht Club



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ATTENDEES

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ACTION ITEMS BY GROUP

Tetra Tech

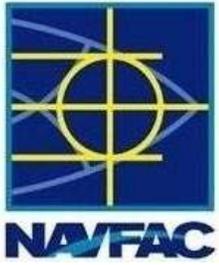
Action Item	Completed
Review existing data for discussion of excavation to native sediment/soil (blue/gray clay)	partial
Review AVSEM data from RI	
Load files related to project and off-site contamination into NIRIS (work with Navy)	partial
Prepare risk assessment using native sediment data to include in remedial design – rationale to remove contaminated sediment (brown/tan silty sand) to native sediment instead of using screening values and collecting confirmation samples for analysis. Review Table 2-4 for comparison to background, Eco, HH (work with Navy)	partial
Compare figure with Navy stormwater outfalls to SPCC plan to determine if there are discrepancies (work with Navy)	
Site visit with design/erosion control and geotechnical engineer for slope and bank stability issues	√
Look at cost for Alternative 3 (capping) vs. dredging	
Send photographs (current and historical – non-winter) to NAVFAC LANT	√

Navy – Naval Station Great Lakes

Action Item	Completed
Katie - Check with Perry at OGC to see if the recovery files are available	
Howard - Identify decision maker and people to coordinate with for operational needs	
Howard and Terese – Identify requirements from base based on operational need (PWO). Also determine funding distribution from ERN and O&M, N for dredging. streambed for fish maintenance sedimentation loading issues wetland restoration.	
Matt - Provide stream sampling data needs and what data is available at this time. Can the PWC purchase the monitoring equipment? Provide information on instrumentation.	
Ben and Terese – EMAC contracting timeline or other contracting options	
Get the INRAMP	√

NAVFAC LANT

Action Item	Completed
Prepare risk assessment using native sediment data to include in remedial design – rationale to remove contaminated sediment (brown/tan silty sand) to native sediment instead of using screening values and collecting confirmation samples for analysis. Review Table 2-4 for comparison to background, Eco, HH (work with Navy)	partial



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Not Assigned

Action Item	Completed
Core sample from the Boat Basin should be obtained before dredging. Determine if concrete floor is located at bottom of Boat Basin (not indicated in MWR construction drawings – shows sloped into middle – deepest part of Boat Basin) but a concrete floor is located at the maintenance location of the Inner Harbor.	
Identify information to determine the sediment reloading rate – what do we need to integrate this information	