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NSTC GREAT LAKES
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MEETING MINUTES REGARDING SITE 17 PETTIBONE CREEK REMEDIATION AND
RESTORATION NSTC GREAT LAKES IL
1/10/2011
TETRA TECH



NAVAL STATION GREAT LAKES MEETING MINUTES

January 10, 2011

Naval Station Great Lakes, Illinois



Attendees: Tetra Tech
Robert Davis
Robert Mertz
Scott Vasko

NAVFAC Midwest
Howard Hickey
Terese Van Donsel
Benjamin Simes
Shannon Bever

NAVFAC Atlantic
David Barclift
Dawn Hayes
Thomas Spriggs
Jennifer Wright
Jennifer Corack

Illinois EPA
Brian Conrath

Meeting Topic – Pettibone Creek North Branch Remediation and Restoration

1. The stream restoration design limits will extend from the headwall with three culverts located east of the Building 42 parking area to the northerly limits of the Boat Basin. The design will also include a sediment basin near the headwall. Others will be responsible for design elements/sediment removal in the Boat Basin and points downstream. Terese had concerns regarding how performing Pettibone Creek work under ERN/CERCLA would affect the 10-year maintenance dredging permit that was recently obtained. The maintenance dredging permit was very difficult to acquire, and Terese wants to make sure that all correspondence and paperwork regarding the Boat Basin and Pettibone Creek remediation/restoration work is completed in a way that does not jeopardize the permit.

ACTION/DECISION ITEM – No action/decision items for this item.

2. NAVFAC LANT mentioned a goal of the project is to reduce flow velocity within Pettibone Creek using natural stream restoration techniques, including constructing wetlands where feasible, to reduce creek bank erosion. NAVFAC LANT asked those who went on the site walk before the meeting if the profile of the Pettibone Creek ravine was U-shaped or V-shaped. Tetra Tech said that the main channel profile is U-shaped and the tributary is V-shaped. NAVFAC LANT mentioned that creeks in U-shaped valleys are better suited for the construction of wetlands than those in V-shaped valleys. NAVFAC LANT brought up the idea of constructing wetlands to reduce stream flow rates at the confluence of the North and South branches of Pettibone Creek.

Tom mentioned that Pettibone Creek flow information would be needed to determine if and where wetlands could be constructed in Pettibone Creek. One potential concern is the washing away of newly installed wetlands vegetation if stream velocities are too high. A flow study with creek flow measurements and a desktop study using HEC-RAS modeling could be used to determine flow for different storm events. The results of the studies can be used to evaluate various natural stream restoration techniques. It will eventually need to be determined which year storm event (e.g. 100-year-storm) will be used for the design efforts.

ACTION/DECISION ITEM – No action/decision items for this item.

3. NAVFAC LANT mentioned that coir logs could potentially be a good low maintenance erosion control measure in low flow creek bank areas. Coir logs are coconut fiber logs in which vegetation is planted, typically along the bank near the water line. Additionally, sediment will build up behind the coir logs in



NAVAL STATION GREAT LAKES MEETING MINUTES
January 10, 2011
Naval Station Great Lakes, Illinois



sloped areas, and vegetation will then establish itself in the accumulated sediment. The coconut coir logs degrade in approximately 5 years, leaving the vegetation behind.

ACTION/DECISION ITEM – Jennifer will email information about coir logs to the meeting attendees.

4. NAVFAC LANT requested a summary of observations from the site visit. Tetra Tech named a handful of areas where slope stability may be of concern, including areas where banks have eroded and/or are undercut. One particular area of concern is the steep ravine slopes on the west side of the creek near the headwall with three culverts. Additionally, NAVFAC MW indicated that the flow depth in the Creek is currently relatively low. Recent flows were a couple of feet higher than they are currently, and during storm events the flow can reach the road.

ACTION/DECISION ITEM – No action/decision items for this item.

5. NAVFAC MW provided Tetra Tech with copies of the 2000 report *Restoration and Maintenance Plan for Pettibone Creek Ravine* and the 2002 report *Implementation of Slope Stabilization and Repair of Pettibone Creek Ravine* to review. The Public Works Department will likely be performing some of the repairs listed in the 2002 report. NAVFAC MW requested that restoration design efforts in Pettibone Creek do not result in having to redo what is proposed in the reports.

ACTION/DECISION ITEM – Tetra Tech will review the two reports to determine what corrective measures are proposed.

6. Tom suggested that the survey of the site could include performing a video camera inspection of the three culverts that discharge to Pettibone Creek on Navy property to determine if there are any additional tap-ins. Tetra Tech obtained drawings from Illinois DOT of the culverts under Sheridan Road. Bob Davis will review the drawings and send the appropriate drawing to everyone.

ACTION/DECISION ITEM – No action/decision items on the video camera inspection. Bob Davis will try to track down the drawing of the culvert for Pettibone Creek coming onto the Navy property and send the drawing to the meeting attendees.

7. NAVFAC MW wants to review the topographic survey scope of work before the subcontractor is procured. The Navy judged it would be more appropriate to have the survey subcontractor procured by Tetra Tech versus the Navy because Tetra Tech would be responsible for obtaining a usable deliverable. The Navy inquired as to the cost for the survey. Available information needs to be obtained and reviewed first then a survey estimate can be prepared. The low end of the survey is likely \$15,000 to \$20,000 because cross-sections of Pettibone Creek will need to be cut and existing detail such as limits of gabion baskets, limits of reused concrete bank stabilization, concrete piers/structures within the creek, and culverts need to be surveyed as well. It is unknown if any existing topographic data is recent enough and accurate enough to be used for this project.

ACTION/DECISION ITEM – Tetra Tech will let Ben know exactly what topographic data they are looking for so Ben can make an information request to the Navy AutoCAD/GIS/RSIMS departments. Ben will make the information request. If possible, Ben will set up a three-way



NAVAL STATION GREAT LAKES MEETING MINUTES
January 10, 2011
Naval Station Great Lakes, Illinois



call with Tetra Tech and the appropriate party with the Navy to help them know exactly what topographic information is needed. Tetra Tech will also check with its own GIS department to see what topographic data they already have. Tetra Tech will prepare a surveying scope of work for the Navy to review after the existing data is obtained and reviewed.

8. Navy inquired if a geotechnical investigation is required. Tetra Tech stated that existing data needs to be reviewed and a conceptual design prepared to determine the type and location of features that may warrant geotechnical investigation. Available geotechnical information from within or near the site limits can be reviewed to determine if the geotechnical characteristics are consistent. If sufficient geotechnical information is available and consistent, a conceptual design could be prepared based on that information. A geotechnical investigation could then be performed or design prepared based on reasonable assumptions and confirmation of assumptions made by the contractor prior to construction. The Navy indicated that there should be boring information for both the Sampson Street Bridge to be reconstructed and the steam line foundations. Boring information may also be included in the 1988, 2000, and/or 2002 Pettibone Creek reports.

ACTION/DECISION ITEM – Shannon/Ben will contact the appropriate parties to search for the Sampson Street Bridge and steam line foundations borings. Tetra Tech will check for geotechnical information in the 1988, 2000, and 2002 reports.

9. Shannon said that the sediment basin to be constructed near the headwall at the upstream end of Pettibone Creek should be hard bottomed so that facility personnel have a solid surface to which accumulated sediment can be removed. The structure should also be suitable for supporting booms or other spill containment materials in the event of an upstream spill. Tetra Tech stated that a retaining structure may be necessary on the west side of the outlet structure to prevent the slope from impinging on the proposed sediment basin and/or blocking the western-most culvert outfall.

ACTION/DECISION ITEM – No action/decision items for this item.

10. NAVFAC LANT mentioned that the Human Health Risk Assessment performed for native soil indicated no risk to humans, and NAVFAC LANT is still working on the Ecological Risk Assessment.

ACTION/DECISION ITEM – No action/decision items for this item.

Other Action/Decision Items:

ACTION/DECISION ITEM – Tetra Tech is to provide a high-level, draft design schedule to the Navy.

ACTION/DECISION ITEM – Tetra Tech is to provide the concurrence letter to the Navy.



NAVAL STATION GREAT LAKES MEETING MINUTES
January 10, 2011
 Naval Station Great Lakes, Illinois



ACTION ITEMS BY GROUP

Tetra Tech

Action Item	Completed
Review 2 reports related to the Pettibone Creek Ravine	√
Get drawings of the culvert for Pettibone Creek coming onto Navy Property	√
Topography of Pettibone Creek	√
Survey SOW (if needed depending on topography)	
Schedule for design work	
Concurrence letter	

Navy – Naval Station Great Lakes

Action Item	Completed
Shannon/Ben – geotechnical data for Sampson Street Bridge foundation borings	√

NAVFAC LANT

Action Item	Completed
Jennifer to email information about coir logs	√