US Army Corps of Engineers®
St. Paul District

Appendix A Correspondence and Coordination Pigs Eye Lake Ramsey County, MN Section 204

Feasibility Study Report with Integrated Environmental Assessment

St. Paul District U.S. Army Corps of Engineers

May 2018

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Table of Contents

1 Summary of Comments Received During Public Review

During the 30-day public review and comment period, correspondence was received from the individuals and agencies listed below. Copies of the comment letters received are also included following this summary. Comments are summarized below, along with responses.

1. Telephone call from Mr. Daniel Richardson, Newport; *14 March 2018*
2. Telephone call from BioCleaner company, Monterey Park, CA; *21 March 2018*
3. Email from Minnesota Pollution Control Agency Remediation Division; *2 Apr 2018*
4. Minnesota Pollution Control Agency; *5 April 2018*
5. Friends of the Mississippi River; *5 April 2018*
6. Minnesota Department of Transportation, Metro District; *5 April 2018*
7. Minnesota Department of Natural Resources; *12 April 2018*
8. National Park Service; *12 April 2018*
9. Metropolitan Council; *12 April 2018*
10. City of St. Paul, Minnesota; *12 April 2018*

Comment 1: The commenter indicated that a side channel near Newport, MN may contain sediments suitable for project construction. (*Mr. Daniel Richardson*)

Response: As discussed on the phone with the commenter, this opportunity is acknowledged and would be considered for potential future needs. The purpose of the current project is to utilize material dredged in support of the congressionally-authorized navigation channel for ecosystem restoration and because dredging the identified area near Newport would not support the authorized navigation channel, it cannot not be pursued as part of the proposed project.

Comment 2: The commenter solicited the sale of products and services to clean up organic wastes. (*BioCleaner*)

Response: No comments regarding the project were offered, and therefore, no response is provided.

Comment 3: The commenter indicates support for the project. Commenter notes that there is an area of contamination outside of the project footprint in the northern part of Pig's Eye Lake that will need to be addressed by other entities. (*MPCA Remediation Division*)

Response: Comment acknowledged.

Comment 4: The commenter provided several editorial comments. (*MPCA Remediation Division*)

Response: Comment acknowledged and typographical errors have been fixed in the final document.

Comment 5: In regards to EAW Item 17, commenter encourages project contractors to appropriately manage project construction noise and recommends limiting construction activities to the hours of 7 a.m. to 10 p.m. (*MPCA)*

Response: Comment acknowledged. Contractors will be obligated to comply with local noise regulations.

Comment 6: Commenter suggests partnering with local organizations to develop planting plans for the islands that would allow experimentation or study of responses to climate change and environmental stressors. (*Friends of the Mississippi River*)

Response: Comment acknowledged. Planting plans will be completed during the Design and Implementation phase of the project, and input will be sought at that time.

Comment 7: The Minnesota Department of Transportation has reviewed the project and provides no comments. (*MNDoT*)

Response: Noted.

Comment 8: Commenter requests additional explanation why direct shoreline stabilization was not carried forward in planning analyses and how benefits of creating habitat along the shoreline would compare to the proposed habitat creation. (*MNDNR*)

Response: Direct shoreline stabilization was considered but did not appear to provide as much benefit as the proposed plan. Using rock groins similar to what is proposed for the islands appeared to be technically feasible. However, this measure remained uncompetitive with the currently proposed alternative because it would only provide benefits in the form of protecting existing habitat, rather than enhancing and restoring additional habitat as the proposed project would. Placing a blanket of sand around the perimeter of the lake instead of rock groins was also considered. This would likely have more habitat value than the rock groins, but the cost to benefit ratio would again be higher than the selected alternative which both restores a substantial quantity of habitat and provides some protection for the shoreline. These measures could be considered in the future as additional projects.

Comment 9: Commenter questions how the setting of the proposed project compares with other island building projects completed in the past, and whether additional risks and uncertainties were identified for the proposed project. (*MNDNR*)

Response: The Corps has constructed islands for habitat restoration and enhancement purposes throughout the Upper Mississippi River, under widely varied conditions. Often they are areas of the floodplain that were likely once ephemeral marshes that were permanently inundated following hydrologic alterations. Many of these areas have faced similar problems to Pigs Eye Lake with large expanses of open water and loose, silty sediments. The largest uncertainty identified is the extent of settlement, and these risks have been incorporated into project design through adding contingencies.

Comment 10: Commenter requests quantification of the excavation that may be required to gain access to the lake for island construction, what the disposition of any dredged material would be, and asserts that additional environmental review may be necessary. (*MNDNR*)

Response: The necessity of or amount of dredging for access into Pigs Eye Lake are both uncertainties at this time. The goal of this stage in planning is to verify that the construction would be feasible, with the intent to continue coordination as project designs progress. A variety of construction methods were considered during planning to broadly assess whether they were generally feasible, including methods that would not require access dredging. Preliminary testing of the lake sediments revealed a number of areas that could provide suitable topsoil and would potentially benefit the lake by creating bathymetric

variability. If construction methods are selected which require additional environmental review, reviews would be conducted as needed.

Comment 11: Commenter requests clarification of if and how the project construction schedule may overlap with the sensitive nesting period of April 1 – July 15. (*MNDNR*)

Response: The project schedule is dependent on many unknown factors at this time, including funding. The Corps and Ramsey County will continue coordination on the topic of construction timing and best practices or restrictions to limit disturbance to sensitive wildlife as project design advances.

Comment 12: The commenter has provided editorial comments and supplemental information that is suggested for inclusion within the report related to species present in the project area, project coordination needs, and fish movement studies. (*MNDNR*)

Response: Supplemental information has been incorporated into the report as appropriate.

Comment 13: The commenter states they have no objections to the project and support the proposed work. (*National Park Service – Mississippi National River and Recreation Area*)

Response: Noted.

Comment 14: The commenter would like Pigs Eye Lake to be referenced a wetland throughout the document as they believe the area functions as a wetland and is classified as a wetland on Minnesota state wetland mapping. (*Metropolitan Council*)

Response: The open water area of Pigs Eye Lake does not meet the definition of a wetland. Although the area is inundated at sufficient frequency by surface water to create the hydrologic and soil conditions to meet the legal definition of a wetland, the area does not support "a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR §328.3(b)). As such, the area is referred to as a contiguous, shallow, backwater floodplain lake. The reference in Chapter 6.5 of the report is a typographical error and will be changed to reflect this fact.

Comment 15: The commenter believes that the Corps should collect water quality samples prior to progressing on the project as a means of certifying that improved habitat conditions could be realized following a project. (*Metropolitan Council*)

Response: The Corps goal within the feasibility planning process is to collect the data necessary to make decisions of how to design or whether to proceed with a project. Improving water quality is not an objective of the project, and is not an objective of the CAP authority under which the project is being planned. Therefore, the only reason additional water quality data would be needed is if water quality was identified as a constraining factor. Considering the ability for wetland plants to grow around the edge of the lake and the documented use of the lake by fish, birds, and mammals, there is no apparent reason to collect additional water quality data. The approximate residence time of water in the lake is a little less than 5 days. This relatively short residence time suggests that there is probably not enough time for sediment contaminants diffusing into the water column to concentrate up to levels far exceeding what is seen in Pool 2 of the Mississippi River. No further action or change to the plan is required as a result of this comment.

Comment 16: The commenter expresses concern that the eroding shoreline may be a result of water fluctuation and plants dying due to toxic water quality and thus the project would not improve the habitat conditions of Pigs Eye Lake. (*Metropolitan Council*)

Response: The comment is acknowledged. The Corps and Ramsey County are not aware of any evidence that would suggest contaminants are a cause of vegetation loss in Pigs Eye Lake. Contamination concerns have been closely coordinated with the Minnesota Pollution Control Agency - the state experts and regulatory authority. The plan has been designed to avoid impacting areas where higher levels of contamination are present. Historic sediment studies were collected and substantial additional sediment testing within the lake was conducted with input from the MPCA and Metropolitan Council, as presented in the main feasibility report and Appendix E. Healthy plant communities exist behind the eroding shoreline at similar elevations, suggesting that upon reduction of wind fetch a healthy plant community will reestablish. No further action or change to the plan is required as a result of this comment.

Comment 17: The commenter expresses concerns about the suitability of establishing woody plants on the islands and requests additional study be completed on what species may be more adept at establishing in the project setting. (*Metropolitan Council*)

Response: A detailed planting plan will be developed during the design and implementation phase, which will more closely consider the appropriate species for the site conditions. This will be developed in consultation with applicable resource agencies and the monitoring and adaptive management will provide the ability to adjust as necessary.

Comment 18: The commenter is concerned about the settlement of the islands during construction and wants to know what would occur if settlement in excess of what is expected takes place during and post construction. (*Metropolitan Council*)

Response: The settlement estimate was developed utilizing knowledge obtained from experience constructing islands on the river. The amount of material estimated to be required for construction was developed with large contingencies to account for the uncertainties regarding settlement. The successful completion of the project will hinge on meeting standards outlined in the Plans and Specifications developed in the design phase of the project. The roles and responsibilities of the operation and maintenance of the project post construction will be outline in the Project Partnership Agreement as well as in the operation and maintenance manual that is developed prior to completion of the project. No further action or change to the plan is required as a result of this comment.

Comment 19: The commenter is questioning who will have monitoring and maintenance responsibility following the construction of the project. They also request additional details regarding the monitoring and adaptive management plan, specifically when the project Sponsor would obtain sole responsibility and what that means from a funding perspective. (*Metropolitan Council*)

Response: The monitoring and adaptive management responsibilities will be further detailed during the Project Partnership Agreement development and the design and implementation phase of the project. Additional details are not typical at the feasibility phase of the project. Ultimately the Corps will ensure that the project is completed to design specifications before closing out the project and moving the project to Sponsor responsibility.

Comment 20: The commenter claims that it is unlikely that neither hardstem nor softstem bulrush will spread sufficiently to prevent shoreline erosion due to the "frequency and extent of bounce in the basin". (*Metropolitan Council*)

Response: The comment is acknowledged, and will be considered during planting plan development. Bulrush is present around the perimeter of the lake, growing at similar elevations to what is proposed. No further action or change to the plan is required at this time as a result of this comment.

Comment 21: The commenter is concerned with the use of benthic material from the basin for the purposes of topsoil on the constructed islands. (*Metropolitan Council*)

Response: It is not anticipated at this time that the project would utilize benthic muds for topsoil. If preparation of project plans and specifications leads to a proposal to utilize material from Pigs Eye Lake for topsoil, existing contaminant data would be examined and additional testing may be required to ensure the material is acceptable for this use. MPCA, the regulatory authority and regional experts on contamination have been closely consulted with during the development of the feasibility study. No further action or change to the plan is required as a result of this comment.

Comment 22: The commenter is concerned about the project "promoting unrestricted public access for recreation." Specifically, the commenter is worried about drawing the public into the dump site as well as the lack of a safe public access to the area. (*Metropolitan Council*)

Response: The authority in which this project is proposed is specifically to restore, protect, and create aquatic and wetland habitats. The promotion of recreation is not a project objective. The project area is presently under public ownership; the project would not alter access or land ownership. It is noted that the Regional Park and five-year Capital Improvement Plan will need to be updated by the project Sponsor. No further action or change to the plan is required as a result of this comment.

Comment 23: The commenter is concerned about the likelihood of significant quantities of benthic material discharging into the Mississippi River during construction. The commenter requests the Corps clarify their position on the likelihood of this situation occurring and how it expects the potential mud wave to dissipate without mixing into the water column. (*Metropolitan Council*)

Response: As stated in the feasibility report (pg. 63), construction techniques to reduce the risk of mud waves would be used. Several potential specific measures were discussed during project planning meetings, but were not discussed in detail within the report because: (1) The appropriateness of these measures would be dependent on the construction methods selected by the contractor, and (2) The necessary measures may change as more detailed plans and specifications are developed. Contractors would be required to meet all permit conditions including those identified in the Clean Water Act Section 401 Water Quality Certification provided by the MPCA as well as the Public Waters Work Permit provided by the DNR. Contractors' plans for environmental protection would be reviewed for acceptability by the Corps as part of the contracting process and quality control would be performed by the Corps during construction. This allows for potential innovative construction techniques, while at the same time requiring that unacceptable impacts are avoided.

Comment 24: The commenter questions the presence of reptiles and amphibians in the project area and is concerned about creating habitat that could attract reptiles and amphibians to an area with contaminated benthic material. (*Metropolitan Council*)

Response: The study teams collaborated closely with local wildlife experts from key state and federal agencies. The plan has been designed to avoid impacting areas where high levels of contamination are present. Historical sediment studies were reviewed and substantial additional sediment testing within the lake was conducted with input from the MPCA and Metropolitan Council, as presented in the main feasibility report (Sec. 7.1.6) and Appendix E. No further action or change to the plan is required as a result of this comment.

Comment 25: The commenter suggests that Battle Creek flows be entirely isolated from the rest of the basin with a floating silt curtain during construction to ensure that disturbed contaminated benthic material isn't carried into the Mississippi River. For the same reason the commenter requests that all barge movement also occurs behind a silt curtain. (*Metropolitan Council*)

Response: This comment suggests that benthic material in the construction area is contaminated to a level that would require special precautions take place. It is important to note that Corps projects are required to avoid being constructed on Hazardous, Toxic and Radioactive Waste (HTRW). Therefore, substantial investigation and coordination went into determining if the benthic material did or did not reach the levels of HTRW or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) level material. Analysis and coordination of HTRW testing results indicated that: (1) CERCLA materials in the project area are at acceptable levels for construction of the proposed project features, and (2) Constructing the proposed ecosystem restoration features within the lake would have positive incidental benefits to the lake and surrounding areas. As a result of these facts, no further action or change to the plan is required as a result of this comment. Construction of the project will be required to meet the conditions of the Clean Water Act Section 401 Water Quality certification provided by the MPCA as well as the Public Waters Works permit provided by the DNR. Compliance with these conditions would assure that water quality downstream is not significantly adversely impacted by project construction.

Comment 26: The commenter is concerned about utilizing data obtained from the New Orleans area to estimate consolidation values and suggested that we obtain a local sample to estimate the consolidation value. (*Metropolitan Council*)

Response: In the feasibility phase of the project the estimation utilizing available data was sufficient to determine that the project will be feasible. Additional testing, if required, will occur during the design and implementation phase of the project. No further action or change to the plan is required as a result of this comment.

Comment 27: The commenter recommends that the Monitoring and Adaptive Management plan annually review the number of reported bird strike by month following the construction of the project and prepare a mitigation plan if an observed change occurs. (*Metropolitan Council*)

Response: The project was closely coordinated with the Metropolitan Airport Commission (MAC) and the Federal Aviation Administration (FAA). The results of that coordination were changes to the project plans as outlined in the report that appeased the concerns of the MAC and FAA. The monitoring of bird strikes will not be a responsibility of the Corps or Sponsor.

Comment 28: The commenter has concerns regarding the long-term stability the project. Specifically the commenter is concerned about the success of vegetation establishment as it is a critical aspect of habitat creation and island stability. *(City of St. Paul)*

Response: The concerns of the commenter are noted; however, there is no evidence to suggest that vegetation will not establish. There are strong plant communities throughout the basin and with the reduction of wind-generated wave erosion, vegetation is expected to establish. If problems are discovered during the 10-year monitoring and adaptive management period, measures will be taken to correct the problem. No further action or change to the plan is required as a result of this comment.

Comment 29: The commenter asserts that the proposed maintenance budget is "woefully inadequate" and that there is not enough detail on adaptive management practices that could be utilized to address the problems. *(City of St. Paul)*

Response: The monitoring and adaptive management plan presented as Appendix J in the feasibility study was developed to address the largest uncertainties of project performance identified during project planning. Monitoring commences upon construction completion and is continued up to 10 years, or until ecological restoration success is documented. The budget for monitoring and adaptive management presented in the report was developed based on cost estimates from those who have completed the proposed tasks in the past, and is consistent with congressional authorizations for monitoring and adaptive management. Similar ecosystem restoration projects planned and constructed by the Corps have required very minimal adaptive management to meet similar success criteria. The detail put forth in the study is adequate for feasibility phase purposes; further detail on adaptive management will be developed in the design and implementation phase of the project. No further action or change to the plan is required as a result of this comment.

2 Public Release Documents

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MN 55101-1678

RAMSEY COUNTY
PARKS AND RECREATION DEPARTMENT
2015 VAN DYKE STREET
MAPLEWOOD, MN 55109-3796

March 12, 2018

Dear Interested Parties:

The U.S. Army Corps of Engineers, St. Paul District – in close collaboration with the non-federal project sponsor, Ramsey County, Minnesota – has completed a draft feasibility study for the Pigs Eye Islands Continuing Authorities Program Section 204 project. The project documentation is being released for concurrent public review and comment under applicable Federal and State laws:

Federal:	National Environmental Policy Act (NEPA) Section 404 of the Clean Water Act
State (MN):	Minnesota Environmental Policy Act (MEPA)

Enclosed for your information, review, and comment is the draft Environmental Assessment, Clean Water Act Section 404(b)(1) evaluation, Public Notice, and Minnesota Environmental Assessment Worksheet (EAW) supplement appendix. These documents and all additional appendices are posted at: http://www.mvp.usace.army.mil/Home/PublicNotices.aspx. A 30-day public review and comment period will begin on March 12, 2018

National Environmental Policy Act (NEPA) and Section 404 of the Clean Water Act:
A draft Environmental Assessment has been prepared for the proposed action in accordance with the NEPA. If public review identifies any significant concerns or results in project modifications, a revised NEPA document may be prepared. A Section 404(b)(1) evaluation has been prepared to evaluate the proposed placement of fill in waters of the United States, in accordance with the Clean Water Act of 1977.

Minnesota Environmental Policy Act:
The proposed project exceeds the threshold requiring a Mandatory EAW (*Minnesota Rules, part 4410.4300, subpart 27A, Wetlands and Public Waters*). The Federal Environmental Assessment that was prepared for the project is being circulated in place of the Environmental Assessment Worksheet (EAW) form (*as allowed by Minnesota Rules, part 4410.1300*). For your convenience, a supplemental document has been prepared and is presented as **Appendix H** that identifies where each of the EAW items can be found within the project report. The publication of the notice of availability will be posted in the EQB Monitor on March 12, 2018. This signed cover letter serves as the certification found in the EAW form by the responsible governmental unit (RGU), assuring the document's completeness and accuracy.

Comment Submission:
Comments should be submitted no later than **April 12, 2018 at 4:30 pm**. All comments will become an official part of the administrative record and will be available for public examination.

Comments will be addressed jointly as applicable, unless the commenter specifies that the comment should be directed to a particular environmental review process or agency. In efforts for efficiency, if your agency is reviewing and providing comments for both the Federal NEPA review and the non-federal review, please submit one set of responses to avoid duplication of comments

Questions or comments can be submitted electronically to Aaron McFarlane, project Biologist at (651) 290-5660 or at aaron.m.mcfarlane@usacre.army.mil. If submitting comments electronically, please include your name and U.S. mailing address.

Written comments must be received by Thursday, April 12, 2018, at 4:30 pm, and sent to:

District Commander
St. Paul District, Corps of Engineers
Attention: Regional Planning and Environment Division North
180 Fifth Street East, Suite 700
St. Paul, Minnesota 55101-1678

Sincerely,

Terry J. Birkenstock
Deputy Chief, Regional Planning and Environment Division North

Jon Oyanagi
Director, Ramsey County Parks and Recreation

US Army Corps of Engineers®
St. Paul District

Public Notice

Project: Pigs Eye Lake – CAP Section 204
Ramsey County, Minnesota

Date: 12 March 2018
Expires: 12 April 2018

In Reply Refer to:
Regional Planning and Environment Division North

1. **Project Proponent.** St. Paul District, Corps of Engineers, 180 Fifth Street East, Suite 700, St. Paul, Minnesota 55101-1678, in conjunction with the local sponsor: Ramsey County Parks and Recreation.

2. **Project Authority.** The proposed actions were authorized under Section 204 of the Water Resources Development Act of 1992, as amended.

3. **Project Location.** The proposed actions would be located in Pool 2 of the Mississippi River in Ramsey County, Minnesota, in the Saint Paul metro area.

4. **Summary of the Proposed Project.**

a. The proposed project would enhance and restore backwater habitat by creating island and wetland features within Pigs Eye Lake. Construction of project features would primarily use material dredged from the Mississippi River by the Corps of Engineers during routine maintenance of the navigation channel. A complex of seven islands would be constructed; three of these would incorporate wetland creation and plantings in the centers of the islands. Islands would be planted with a mix of native plants that would be appropriate for floodplain soils. The project would benefit the area by: (1) Serving as wind barriers within the lake to reduce sediment resuspension and shoreline erosion; (2) Improving habitat for migratory birds; (3) Stabilizing the lake bottom; and (4) Providing a positive and productive use of dredged material.

b. The proposed fill action would involve placing clean sand, topsoil, and rock into Pigs Eye Lake with a total footprint of approximately 40 acres. The total estimated fill quantity is estimated to be 413,300 cubic yards.

5. **Construction Schedule.** Construction of the proposed actions is scheduled to be carried out beginning in 2019.

6. **Permits/Coordination.**

a. General. The proposed action has been coordinated with Ramsey County, the U.S. Fish and Wildlife Service, the Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, National Park Service, local airport authorities, and others.

b. State. The filling for the proposed project is subject to regulation by the State of Minnesota in accordance with Section 401 of the Clean Water Act. A request for Water Quality Certification will be made to the Minnesota Pollution Control Agency (MPCA). Any comments relative to the MPCA's Section 401 Certification for the activity proposed in the public notice may be sent to the following address:

Minnesota Pollution Control Agency,
Resource Management and Assistance Division.
Attention 401 Certification
520 Lafayette road North
St. Paul, MN 55155-4194

c. Federal. A Draft Environmental Assessment and Finding of No Significant Impact was prepared and coordinated in accordance with the National Environmental Policy Act. Coordination with the U.S. Fish and Wildlife Service occurred during the planning process. A Section 404(b)(1) evaluation was prepared in accordance with the Clean Water Act of 1977.

7. **Summary of Environmental Impacts.** The project would have temporary minor adverse impacts on noise levels, aesthetic values, recreational opportunities, air quality, terrestrial habitat, aquatic habitat, biological productivity, and surface water quality; the project would have substantial beneficial effects on terrestrial habitat, wetlands, aquatic habitat, and habitat diversity and interspersion; the project would have additional minor beneficial effects on aesthetic values, recreational opportunities, commercial navigation, biological productivity, and surface water quality; and the project would have temporary, minor beneficial effects on employment.

8. **Report.** A Draft Environmental Assessment that describes the project and the environmental impacts in detail is available to the public and can be viewed at http://www.mvp.usace.army.mil/Home/Public-Notices/. The report includes project drawings, a Draft Finding of No Significant Impact, and letters of coordination from regulatory agencies.

9. **Public Hearing Requests**. The Section 404(b)(1) evaluation is being distributed as part of this environmental assessment. Anyone may request a public hearing on this project. The request must be submitted in writing to the District Engineer within 15 working days of the date of this Public Notice. Interested parties are also invited to submit to this office written facts, arguments, or objections to this project prior to the expiration date of this Public Notice. These statements should clearly state the interest the project would affect and how the project would affect that interest. A request for public hearing may be denied if substantive reasons for holding a hearing are not provided or there is otherwise no valid interest to be served. All statements will become an official part of the project file and will be available for public examination.

10. **Review and Comment.** If you have any comments on the environmental assessment they should be provided before the expiration date of this notice. Persons submitting comments are advised that all comments received will be available for public review, to

include the possibility of posting on a public website. Questions on the project or comments on the Environmental Assessment can be directed to Aaron McFarlane, project biologist at (651) 290-5660 or at aaron.m.mcfarlane@usace.army.mil. Please address all formal written correspondence on this project to District Commander, St. Paul District, Corps of Engineers, ATTN: Regional Planning and Environment Division North, 180 Fifth Street East, Suite 700, St. Paul, Minnesota 55101-1600.

Terry J. Birkenstock
Deputy Chief, Regional Planning and
Environment Division North

3 Copies of Comments Received

Comment letters received during the public review period (March 12 – April 12, 2018) are provided in this section.

MINNESOTA POLLUTION CONTROL AGENCY

520 Lafayette Road North | St. Paul, Minnesota 55155-4194 | 651-296-6300
800-657-3864 | Use your preferred relay service | info.pca@state.mn.us | Equal Opportunity Employer

April 5, 2018

District Commander
St. Paul District, Corps of Engineers
ATTN: Regional Planning and Environment Division North
180 Fifth Street East, Suite 700
St. Paul, MN 55101-1600

Re: Pigs Eye Lake Section 204 Environmental Assessment

Dear District Commander:

Thank you for the opportunity to review and comment on the Environmental Assessment (EA) for the Pigs Eye Lake Section 204 project (Project) in Ramsey County, Minnesota. The Project consists of restoration of Pigs Eye Lake via the creation of aquatic and wetland habitats in connection with maintenance dredging. Regarding matters for which the Minnesota Pollution Control Agency (MPCA) has regulatory responsibility or other interests, the MPCA staff has the following comments for your consideration.

Noise (Item 17)
The MPCA agrees with the Army Corps of Engineers, and does not expect that there will be any noise impacts to the area after completion of the Project. The MPCA encourages the contractors to ensure that all construction equipment is fitted with the appropriate mufflers during Project activities, as feasible, and that construction activities take place between 7 a.m. and 10 p.m., during which time the state noise standards are slightly higher.

We appreciate the opportunity to review this Project. Please provide your specific responses to our comments and notice of decision on the need for an Environmental Impact Statement. Please be aware that this letter does not constitute approval by the MPCA of any or all elements of the Project for the purpose of pending or future permit action(s) by the MPCA. Ultimately, it is the responsibility of the Project proposer to secure any required permits and to comply with any requisite permit conditions. If you have any questions concerning our review of this EA, please contact me by email at Karen.kromar@state.mn.us or by telephone at 651-757-2508.

Sincerely,

Karen Kromar

Karen Kromar
Project Manager
Environmental Review Unit
Resource Management and Assistance Division

KK:bt

cc: Dan Card, MPCA, St. Paul
Christine Steinwand, MPCA, St. Paul
Teresa McDill, MPCA, St. Paul

FRIENDS OF THE MISSISSIPPI RIVER

Working to protect the Mississippi River and its watershed in the Twin Cities area.

101 East Fifth Street
Suite 2000
Saint Paul, MN 55101

651-222-2193
www.fmr.org
info@fmr.org

April 12, 2018

District Commander
St. Paul District, U.S. Army Corps of Engineers
ATTN: Regional Planning and Environment Division North
180 Fifth Street East, Suite 700
St. Paul, MN 55101

RE: Environmental assessment of the ACOE Pigs Eye Lake habitat restoration project.

District Commander:

Friends of the Mississippi River (FMR) is a local non-profit community-based organization that works to protect and enhance the natural and cultural assets of the Mississippi River and its watershed in the Twin Cities. We have 2,400 active members, more than 3,000 volunteers and 1,600 advocates who care deeply about the river's unique resources. FMR has long been an active and ongoing participant in environmental review processes occurring in and along the Mississippi River in the Twin Cities.

We are writing today with brief comments on the draft environmental assessment for the proposed Pigs Eye Lake restoration project.

FMR is generally in support of the draft environmental assessment and proposed creation of seven islands in Pig's Eye Lake. The stated project objectives are in line with FMR's mission to protect, restore, and enhance habitat along the Mississippi River. However, we also believe that this project presents an important opportunity to build in experimentation around climate resilience, which is not currently presented in the plan.

Creation of new habitat in any given area must take into account historical, current, and potential future conditions of that area. Facing an uncertain climate future, one in which the state of Minnesota is expected to experience increases in temperature and subsequent range shifts of both plant and animal species, any project creating new habitat would be wise to consider the implications of these changes.

The proposed seven islands in Pig's Eye Lake present an opportunity for a living laboratory of sorts, in which different combinations of plant communities or plant ecotypes on each island could provide important insights into how shoreline and wetland communities will respond to a changing climate. This idea also builds resilience into the overall project itself, preventing a large loss of investment if a particular island or plant community were to fail due to pests, disease, climate change, or other related stressors.

FMR proposes that the Corps consider using this Pig's Eye habitat project as a study site, in partnership with organizations like FMR and the University of Minnesota, to experiment with plant community assembly questions in the face of a changing climate. By monitoring these changes in the long-term, we could gain important insights that could influence how non-profit, local, state, and federal agencies approach the field of habitat restoration.

Thank you for your consideration of these comments. I would be happy to discuss these further – please do not hesitate to contact me at 651-222-2193 x 33, or aroth@fmr.org.

Sincerely,

Alex Roth, PhD
FMR Ecologist

From: Yonke, Scott
To: Mcfarlane, Aaron M CIV USARMY CEMVP (US)
Subject: FW: EAW18-007 Pigs Eye Lake Islands
Date: Thursday, April 05, 2018 10:16:45 AM
Attachments: Undeliverable EAW18-007 Pigs Eye Lake Islands.msg

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FYI

Scott Yonke, PLA | Director of Planning and Development

Ramsey County Parks and Recreation Department
2015 Van Dyke Street

Maplewood, MN 55109-3796

DD: 651-363-3786

Blockedwww.co.ramsey.mn.us <Blockedhttp://www.co.ramsey.mn.us/>

From: Pansch, Joshua (DOT) [mailto:josh.pansch@state.mn.us]
Sent: Thursday, April 05, 2018 8:02 AM
To: Yonke, Scott <scott.yonke@co.ramsey.mn.us>
Subject: FW: EAW18-007 Pigs Eye Lake Islands

Hello Scott,

I attempted to send the following email to Aaron Mcfarlane regarding the Pigs Eye Lake Islands EAW and it was undeliverable (attached). Can you please have this sent on to the appropriate people?

Thank you,

Josh

Josh Pansch, Senior Planner

MnDOT Metro District

1500 W. County Road B-2

Roseville, MN 55113

(651) 234-7795

josh.pansch@state.mn.us <mailto:josh.pansch@state.mn.us>

From: Pansch, Joshua (DOT)
Sent: Thursday, April 5, 2018 7:57 AM
To: Aaron.m.mcfarlane@usacre.army.mil <mailto:Aaron.m.mcfarlane@usacre.army.mil>
Cc: Olson, Nicholas (DOT) <nicholas.olson@state.mn.us <mailto:nicholas.olson@state.mn.us> >; Craig, E (DOT) <buck.craig@state.mn.us <mailto:buck.craig@state.mn.us> >; Coddington, Ryan (DOT) <ryan.coddington@state.mn.us <mailto:ryan.coddington@state.mn.us> >; Straumanis, Sarma (DOT) <sarma.straumanis@state.mn.us <mailto:sarma.straumanis@state.mn.us> >; Tiedeken, Nicklas (DOT) <nick.tiedeken@state.mn.us <mailto:nick.tiedeken@state.mn.us> >; Sherman, Tod (DOT) <tod.sherman@state.mn.us <mailto:tod.sherman@state.mn.us> >; Scheffing, Karen (DOT) <karen.scheffing@state.mn.us <mailto:karen.scheffing@state.mn.us> >; Wiltgen, Jennifer (DOT) <jennifer.wiltgen@state.mn.us <mailto:jennifer.wiltgen@state.mn.us> >; Pansch, Joshua (DOT) <josh.pansch@state.mn.us <mailto:josh.pansch@state.mn.us> >
Subject: EAW18-007 Pigs Eye Lake Islands

Good Morning,

The Minnesota Department of Transportation (MnDOT) has reviewed the above-referenced EAW and has no comments, as the proposed project should have little or no impact on MnDOT's highway system.

If you have any questions please let me know.

Thanks

Josh

Josh Pansch, Senior Planner

MnDOT Metro District

1500 W. County Road B-2

Roseville, MN 55113

(651) 234-7795

josh.pansch@state.mn.us <mailto:josh.pansch@state.mn.us>

DEPARTMENT OF NATURAL RESOURCES

Minnesota Department of Natural Resources
Ecological and Water Resource
1200 Warner Road
St. Paul, MN 55106

April 12, 2018 Transmitted Electronically

Scott Yonke
Director of Planning and Development
2015 Van Dyke St
Maplewood, MN 55109

Re: Pigs Eye Lake Islands EA/EAW

Dear Scott Yonke,

The Minnesota Department of Natural Resources (DNR) has reviewed the Environmental Assessment Worksheet (EAW)/Environmental Assessment for the Pigs Eye Lake Islands project. While staff from the DNR have been involved with project discussions over the course of the last couple of years we have some questions regarding the project, in many cases, our comments below are aimed at better understanding the Project and how it would be carried through. Other comments include areas where DNR has information that could have been included in the EAW as additional information/background. We offer the following comments for your consideration.

Clarification requested:
Section 4.3.6 Shoreline Stabilization (p 39):

- Explain in more detail why stabilization of the existing shoreline was not given greater consideration as a construction design alternative. The narrative describes the use of rock groins and other structures along the shoreline as feasible but not preferable for shoreline stabilization because they would reduce the aesthetic value of the area. However, rock groins are included in the island design to provide shoreline stabilization. How is the impact on the aesthetic value of the area from the rock groins associated with island building different than if groins were constructed on the shoreline of the lake?
- How do the benefits of habitat creation in the middle of the lake compare to habitat creation along the shoreline of the lake, where habitat is currently being lost from erosion? Table 4 (p 43) states that shoreline stabilization would not be efficient in terms of cost. What factor did cost play in removing this management measure from further consideration?

Section 5.4.2 Risk and Uncertainty (p 56):

- Describe in greater detail how the setting of this project (a large riverine wetland) compares with the river settings where island building projects have been constructed in the past. What potential risks and uncertainties were identified for this particular setting, in comparison to other island building locations on the Upper Mississippi River?

Section 6.3.1 Construction Restrictions (p 63):

- In the plan formulation, the feasibility of construction access was mentioned as an engineering constraint for this project, but this issue was not discussed in any detail. From the north end of the Red Rock Barge Terminal to the north end of the area of construction, the depth of Pigs Eye Lake varies from 2 – 4 feet. Provide more detail on how access to the interior of the lake would be obtained for the type of construction that is proposed. For example, if barge access into the lake is required for construction, explain and quantify what excavation would be required to gain access and to build islands. Would

material excavated for construction be incorporated into the islands or disposed of offsite? Additional Environmental Review may be needed, depending on the design and degree/need for dredging.

- Please describe what is meant by "staggered lifts" and the amount of time required for staggering.

Section 6.3.2 Construction Schedule:

- Much of the construction schedule described lies within the sensitive nesting period of April 1 – July 15. It's not clear how long construction of the project is expected to take. It's stated that it is optimum to construct the project under one contract, but, it's not clear the length of time that might be needed (e.g. one month or eight months). Provide information on the expected duration of the project.

Supplemental information from DNR:

- Section 2.1.1 Pigs Eye Lake Heron Rookery. In addition to the information provided within this Section, please note that the SNA is also designated as a Sanctuary during the peak breeding and brooding period for the many birds using the colony. Sanctuaries are sites within Natural Areas that are closed year-round or during specific seasons and help protect rare and sensitive natural features, such as nesting sites. Pigs Eye Island Heron Rookery Scientific and Natural Area Sanctuary is closed April 1 – July 15. Entering a closed sanctuary is in violation of state law. While the closure dates are noted within the EAW, we feel the designation as a "sanctuary" should be noted, and proposers should be aware of this status.
- Section 2.8.1 Fish. Invasive silver carp are also present.
- Section 2.8.4.2 State-listed Species. Paddlefish, a state threatened species, were thought to inhabit Pig's Eye Lake at various times of the year, though they had not actually been documented in the lake. However, in 2017 one paddlefish implanted with a transmitter in the Minnesota River was detected on a passive acoustic receiver in the middle of Pig's Eye Lake on three separate occasions (in June, September, and October). The importance of Pig's Eye Lake to paddlefish is not currently known; islands are not believed to be detrimental to paddlefish in Pig's Eye Lake. This information was not entered into the NHIS database and therefore would not have been discovered in an NHIS inquiry, ~~but should be~~ included within this section.
- 6.7 Project Performance
- Section 7.2.6 Biological Productivity. DNR should be contacted and be involved in evaluating impacts from contractor proposed activities to ensure impacts to nesting birds utilizing the Pigs Eye Island Heron Rookery Scientific and Natural Area Sanctuary do not occur.
- Appendix E: Pages 40-42 of Appendix E Sediment Report highlights fish and PFC concentrations in Pool 2. It states "Ye et al. examined common carp in particular, and noted that because common carp are known to generally stay within a smaller home range, the 27 km distance between Pig's Eye Lake and Lower Pool 2 is likely to limit the movement of carp between these areas, and therefore, the differences in PFC concentrations between the two areas may be a good indicator of significantly different levels of PFC inputs to the system." A fish telemetry study initiated in 2013 (and still ongoing) in the Mississippi and St. Croix rivers has implanted acoustic transmitters in over 230 fish representing 12 species. Specific to common carp, the mean river mile range for 10 common carp implanted with transmitters in Pool 2 was 18.46 miles (29.71 km) in the Mississippi River (one of which routinely travels to Pool 1). All 10 of these common carp were also detected in the Minnesota River ranging from 2.21 miles (3.56 km) to 209.4 miles (337 km) up the Minnesota River. Five of these common carp were detected in Pig's Eye Lake, of which three had over 58% of their detections within the lake. Three of the common carp traveled downstream at least as far as Spring Lake. Transmitters implanted in common carp have a 10 year life expectancy so data collection continues on the travels of these fish, however half have either died, been harvested, expelled their transmitter, or are in a location not within range of a passive

acoustic receiver and their whereabouts are unknown. DNR fisheries staff believe that the movement assumptions by Ye et al. are underestimates and not relevant as they were based on a common carp movement study in Australia (Stuart IG, Jones MJ. Movement of common carp *Cyprinus carpio*, in a regulated lowland Australian river: implications for management. Fish Manag Ecol 2006; 13: 213-9). Stuart and Jones stated less than 20% of tagged common carp moved more than five km from their original capture site over a five year period (based on recaptures of externally tagged fish, not transmitters). However over 7% moved over 100 km. In our current ongoing study, including the missing common carp and travels into the Minnesota River, all 10 have traveled over 3.1 miles (5 km) in a four year period. Based on our preliminary data, there is no reason to conclude that the distance between Pig's Eye Lake and Lower Pool 2 is great enough to limit interchange of common carp. Additional fish contaminant testing was conducted on Pool 2 in 2016 and included fish specifically from Pig's Eye Lake. It does not appear that the Pig's Eye Lake fish were tested for PFC's, but were tested for other contaminants like PCB's and Dioxins (Bruce Monson at MPCA can be contacted regarding this data). It is not believed fish movement data currently being collected by the MNDNR should preclude island construction.

On behalf of the DNR, thank you for consideration of these comments.

Sincerely,

/s/ Rebecca Horton
Region Environmental Assessment Ecologist

CC: Jen Sorenson, Joel Stiras

Minnesota Department of Natural Resources • Ecological and Water Resources
1200 Warner Road, St. Paul, MN 55106

United States Department of the Interior

NATIONAL PARK SERVICE
Mississippi National River and Recreation Area
111 E. Kellogg Blvd., Ste 105
St. Paul, Minnesota 55101-1256

IN REPLY REFER TO
L3033

April 12, 2018

Col. Sam Calkins
District Commander
Corps of Engineers, St. Paul District
Attention: Regional Planning and Environment Division North
180 East Fifth Street, Suite 700
Saint Paul, MN 55101

RE: Comments – Pigs Eye Lake Ramsey County, MN Secton 204 Draft Feasibility Study Report with Integrated Environmental Assessment

Dear Col. Calkins:

This letter is in regards to the draft "Pigs Eye Lake Ramsey County, MN Secton 204 Draft Feasibility Study Report with Integrated Environmental Assessment" recently sent out for comment. The entirety of Pool 2, which includes Pigs Eye Lake, is within the boundaries of the Mississippi National River and Recreation Area (NRRA). In 1988, Congress established the NRRA to protect and enhance the nationally significant historical, recreational, scenic, cultural, natural, economic and scientific resources of the 72-mile Mississippi River corridor through the Twin Cities metropolitan area.

After reviewing this document and the attached appendices, we find the project supports the enabling legislation of the NRRA, as well as the goals and objectives found in our Foundation Document. We, therefore, have no objections to this project and support work done to enhance the Pigs Eye Lake area for the benefit of the river system and its inhabitants.

Thank you for the opportunity to comment on this draft, and we are interested in being part of continuing work on this endeavor. If you have any questions, please contact me at 651-293-8432, or email john_anfinson@nps.gov.

Sincerely,

John O. Anfinson

John O. Anfinson
Superintendent

April 12, 2018

Mr. Aaron McFarlane
Saint Paul District, Corps of Engineers
ATTN: Regional Planning and Environment Division North
180 Fifth Street East, Suite 700
Saint Paul, MN 55101-1678

RE: Pigs Eye Lake Project
CAP Sections 204 – Clean Water Act - Public Notice
City of Saint Paul, Ramsey County, Minnesota
Metropolitan Council District 13, Richard Kramer
Review File No. 21896-1

Dear Mr. McFarlane:

Metropolitan Council (Council) staff have reviewed the Public Notice for this proposed project (Project) to determine its adequacy and accuracy in addressing regional concerns and its potential for significant environmental impacts. The project proposes to construct seven island structures within Pigs Eye Lake primarily out of reclaimed Mississippi River navigation channel dredge material under Section 204 of the Corps' Continuing Authorities Program (Program). This Program provides authority for the Corps of Engineers to restore, protect, and create aquatic and wetland habitats in connection with construction or maintenance dredging of an authorized Federal navigation project (in this case, the Mississippi River). The islands would be constructed to meet the Project objectives of improving aquatic habitat, increase available nesting and resting bird habitat, and maintain or enhance the quantity of shoreline habitat within Pigs Eye Lake.

While Council staff has not made a specific determination that an Environmental Impact Statement needs to be prepared for the Project, we have identified a number of concerns that we believe should receive additional review prior to proceeding with the Project as currently designed. We also have concerns with this project proceeding without a more comprehensive approach or plan to addressing the contamination issues in the area.

The following comments are offered concerning the Public Noticed Project Draft Feasibility Study Report, EA/EAW, and Appendices.

Draft Feasibility Study Report

Section 1.3 – Project Area

The text here and throughout the document identifies the Pigs Eye Lake basin (basin) as a shallow backwater lake. Text in Section 6.5 however, specifically classifies the basin as a "large riverine wetland", which seems more accurate since Section 2.1 and Figure 2 indicate water depths to benthic muds average only 3-4 feet deep in the deepest areas of the 628-acre open-water basin which is surrounded by 131 acres of shallow marsh wetland. We would expect that the basin currently exhibits predominately wetland functions over those of a lake. While the basin may at some point in its life have met the definition and exhibited the functions of a lake – after the creation of Mississippi River Pool 2 in approximately 1930 and before disposal of waste

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began in the upstream dump area in the mid-50s and before the Red Rock (barge) Terminal was dredged from the basin to the main channel of the River, Council staff proposes it should be referred to only as a wetland throughout the Feasibility Study Report (Report) and Appendices, and as a lake in its mapped name only.

Section 2.5 – Water Quality
The text indicates that no water quality samples were taken from within the basin in preparation of the Report, and that the most recent samples of record available were obtained between 1970 and 1988. The only water quality values presented were one mean concentration for total phosphorus of 0.365 mg/l and a mean Secchi disk transparency of 1.3 feet – both of unknown time or location. Council staff believes that this level of water quality information for the 628-acre basin is inadequate to base a $15M+ Project's objective assumptions that the construction of sand bench islands as proposed will lower basin turbidity and result in improved aquatic plant diversity, fishery, and migratory bird habitat in the basin.

Water column turbidity would likely persist after construction of the project as proposed solely due to the anticipated continued dominance of Chironomidae and Oligochaeta in the poor quality benthic muds and their ability to continue to attract a persistent overabundance of rough-fish into the basin. We recommend that water quality and toxicity testing be carried out on water column samples within the basin before progressing with the project to determine if the quality of water in the basin will support a more diverse fishery; enhanced populations of phytoplankton and zooplankton (should turbidity drop); and propagation of the palate of wetland plant species proposed to be planted on the islands. With no DO, BOD/COD, ammonia/nitrogen, phosphorus, pH, heavy metals, or chronic/acute aquatic toxicity test data available on the basin water column to support the Project's many assumptions, we believe it is premature to move the Project forward.

Section 3.2.3 – Shoreline Erosion
The text and Figure 12 document shoreline erosion, observed to have occurred from 1951 to 2015, with an intermediate observation point in 1991. There is no doubt that the basin boundaries have not stabilized, but Council staff is not convinced that they are primarily due to wind fetch, or that the proposed Project will be effective in stabilizing the shorelines if constructed as proposed.

The 1951 aerial depicts a point in time shortly before the upstream dump began its operation and significant level of disturbance in the upstream area. It is possible that the direct runoff containing peat and woody (construction waste) debris during dump excavation and operation and continual seepage of fine silt and clay particles, organics, and toxic materials disposed of in that 300-acre site from the mid-1950s until 1972 are likely responsible for the observed succession of sediment that has accumulated into the 10 to 22 feet thick layer of very soft, highly organic benthic muds in the bottom of the basin. We believe that the degraded quality of the water and accumulated sediment may have contributed to the gradual die-off of more sensitive vegetation species over the observed period of time. And, since neither the extensive accumulation of benthic muds in the basin, nor the upstream 300-acre dump are proposed to be further encapsulated or removed, their negative influence on the basin's health can be expected to continue.

We would expect that wind fetch should have had a similar effect from 1930 to 1951 if it is a current primary cause of the erosion, but aerial photo evaluation of that period of time has not been evaluated in the document. Aerial photos from 1937 and 1947 are included in an unlabeled section between Appendices J and L, but do not show the entire basin so that perimeter landmarks can be compared with later aerials. If toxicity in the water column and basin substrate has, since the mid-1950s been one of the primary reasons for limited aquatic plant germination and diversity, construction of the Project as proposed may have little change in the erosional progression of the basin's shoreline in the future as predicted in Figure 14.

Council staff believes that a primary contributor to erosion of the basin shoreline is water level fluctuation in the basin and extended periods of root crown inundation during periods of high water elevation. The River's stated 'normal summer elevation' is 687.1 feet at the South Saint Paul Gage (Gage) at River Mile 833.7 just downstream from the barge channel outlet of the basin (as shown on Figure 5 in Appendix G). We would expect that the water level within the basin should closely mirror that of the River at the nearby Gage based upon the proximity and size of the interconnecting barge channel. In examining historic daily water level readings at the Gage for 2016 and 2017, obtained from http://rivergages.mvr.usace.army.mil/WaterControl/stationinfo2.cfm?sid=SSPM5&fid=SSPM5&dt=S, the water level exceeded 690 feet (also the approximate maximum elevation of Project constructed sand islands) for approximately 50 days in 2016 and 65 days in 2017, almost exclusively during the growing season. There were five time periods during those two years when there were two to three weeks of continuous water level above elevation 690 – two in 2016 and three in 2017. Few plant species are able to withstand that extent of water level rise and period of inundation. Any degree of wind fetch could be expected to exacerbate shoreland erosion. The study does not provide any shoreline cross-sections or elevations at any locations around its perimeter to adequately determine the full potential negative effects of water surface level fluctuations of this magnitude and frequency.

Section 6 – Recommended Plan

Study Alternative 6m has been recommended based upon aquatic ecosystem enhancements anticipated from 16.3 acres of newly created floodplain forest habitat, reduced wind-wave action and 17.6 acres of new wetland marsh habitat. Council staff is concerned with the assumption that deciduous hardwoods will be able to become established on the sand islands constructed over unconsolidated benthic muds as well as they have historically on the adjacent floodplain soils. Young deciduous trees are more vulnerable to extended periods of inundation than mature trees. It is also unknown if there will be sufficient oxygen available to the tree roots for the trees to thrive. As deciduous trees grow taller in this setting, their root systems may struggle to become established and attain sufficient stability to resist overturning in windy conditions. The only woody species mentioned in the study as planned for planting on the islands at present is 'willow' – presumably sandbar willow, a medium sized shrub and not a hardwood tree.

Additional study of specifically what hardwoods might survive in the shallow contaminated substrate and repeated extended periods of crown inundation without sinking or toppling in periods of sustained winds should be carried out during the planning phase and not following construction. Without some indication of what species of trees are going to be viable on the proposed 16.3 acres of bottomland forest, we are unable to provide an adequate review of the

proposal. The maximum planned depth of the coarse sand islands of approximately five feet will be over poorly consolidated organic muds which exhibit no soil structure for tree roots to gain stable footing. While we are aware of several areas where the Corps has successfully constructed vegetated islands to improve habitat within the River corridor, we are not aware of any which have been undertaken on sediment with exhibits the extent of chemical and physical limitations the basin's benthic muds present.

Section 6.2 – Design Considerations
Settlement of sand islands into the benthic mud is assumed to be 2.5 feet where the sand islands will be 4 to 5 feet thick, and an average of 1.5 feet where shallower. Notes from a meeting held on January 20, 2016 contained in Section 2 of Appendix A indicate it was estimated that sediment consolidation of soft soils over time under the weight of the constructed islands was estimated at 1.5 to 3 feet. Should that estimate fall short of actual settlement by one half foot, and the islands continue to settle to a maximum depth of 3.5 feet during the first few years after construction, they will all be submerged during all but low River flow periods. Would this situation be considered a maintenance issue, and the responsibility of Ramsey County, or might alternatives be considered to either abandon the effort or add further material to the constructed islands and replant all vegetation?

Section 6.4 – Operation and Maintenance Considerations
Critical issues that will have significant implications on the long-term cost for Operations, Maintenance, Repair, Rehabilitation, and Replacement (OMRR&R) will be how quickly the islands reach their stable settlement point, and how long it takes for vegetation to become established on the islands. Annual OMRR&R will only be minimal as anticipated (currently estimated at $2000/year) if full stability is achieved by the Project before its responsibility is turned over to Ramsey County, the identified Project Sponsor. It is unclear from the Study how long monitoring and joint (Corps and County) responsibility for monitoring and replanting will extend and when the County will assume full responsibility for future expenses.

Section 11 in Appendix I states that cost-shared Monitoring and Adaptive Management (MAM) will continue for 10 years following implementation. Does that mean that Ramsey County will not assume sole maintenance responsibilities for the Project until after this 10-year MAM period is completed?

Section 7.1.5.3
The text indicates that softstem and hardstem bulrush are prevalent along much of the basin shoreline. Typically, softstem varieties tend to grow in softer sediment and hardstem varieties in firmer sediment, and both expand rhizomatously. It is unlikely that either plant type have or will spread sufficiently to prevent shoreline recession due to the frequency and extent of bounce in the basin.

Section 7.1.6.2 – Proposed Fill Material
The text indicates the potential for use of benthic muds from the basin for proposed Project island topsoil. Council staff strongly discourages any use of benthic muds sourced from the basin as topsoil for the Project. Heavy metals including copper, cadmium, lead, and zinc; in addition to PAHs, PCBs, and PFCs in particular are reportedly found to be abundantly adsorbed

to benthic sediments throughout the basin. Copper and cadmium in particular have both been reported to inhibit plant growth (including willow), exert negative effects upon both shoot and root growth, and tend to accumulate preferentially in plant roots.

The indicated high organic content (9 to 17%) in benthic muds in the basin would also be expected to increase their heavy metal adsorption capacity over typical clay or silica sediment particles. Copper is specifically reported to interfere with the metabolism of many plant species, inhibiting photosynthesis, nitrogen fixation, and phosphorus uptake in algae, if present in sufficient concentrations. Additionally, continual wetting and drying of the benthic material can be expected to result in the chemical release of heavy metals and other bound pollutants. Choice of plants to be grown on the proposed islands should be made carefully, as some species have a high ability to absorb and accumulate elevated levels of metals in various plant areas (root, crown, stem, seeds, etc.), which if/when consumed by fauna, can become magnified through the food chain. Additionally, acidic water is reported to enhance the uptake of heavy metals by plants, and the pH of water within the basin is presently unknown.

Section 7.4.3.1 – Recreation
At this time the document has provided limited information from which to determine the appropriateness of proposed expanded recreational opportunities for Pigs Eye Lake. The basin is located within the boundaries of Battle Creek – Indian Mounds Regional Park which is jointly operated by Ramsey County and the City of Saint Paul. There are four units within the park master plan – Battle Creek, Fish Hatchery Lake, Indian Mounds Park/Municipal Forest, and Pigs Eye Lake. Saint Paul independently oversees the Indian Mounds and Fish Hatchery Lake portion of the park, and Ramsey County the Battle Creek and Pigs Eye Lake portion. Battle Creek – Indian Mounds Regional Park is a component of the regional parks system and is governed and afforded additional protection by the Metropolitan Council's *2040 Regional Parks Policy Plan*.

While there have been more recent master plan (Plan) amendments to the park boundaries, the Plan for the Battle Creek portion which contains Pigs Eye Lake dates to June 1981. At that time, the Plan indicated that the Pigs Eye Lake unit was not yet in a development stage, so plans and information were extremely limited.

There are several regional trails and a trail search corridor in vicinity of the proposed Project. The Mississippi River Regional Trail is located directly adjacent to the Project site area, on the western bank of the River. The Samuel Morgan Regional Trail, and State and Ramsey County components of the trail pass through the adjacent Indian Mounds Park and Battle Creek Regional Park units across the rail yard and adjacent to CSAH 61 to the east of the Project site. Additionally, the Point Douglas (Bruce Vento-Washington County) Regional Trail Search Corridor, a wide potential siting corridor in which a future trail is planned, passes through the Project site, trending along the River and CSAH 61 in the immediate vicinity of the area. These facilities should be acknowledged in the Report and EA/EAW as current and future regional trail facilities that may be affected by the Project.

As noted in the document text, the Plan for the Battle Creek portion of the Regional Park and five-year Capital Improvement Program (CIP) will need to be updated or amended by Ramsey

County Parks and Recreation to include the proposed project. The Metropolitan Council will need to review the plan amendment for conformance with the Council's *2040 Regional Parks Policy Plan* (Policy Plan). The Policy Plan requires that any regional park that involves more than one implementing agency submit only one master plan for that park. Additionally, that master plan shall be approved by each of the implementing agencies and shall identify the nature of each agency's responsibilities for carrying out compatible development and operation of the park. Funds for regional recreational facilities, made available through the Council, are only available after a master plan and CIP covering those facilities has been reviewed by the Council and found to be in conformance with the Policy Plan.

At this point in time, however, the Council's primary concerns regarding promotion of recreation within the proposed Project site area are two-fold. First, Council staff are concerned that shallow marsh-ringed perimeter of Pigs Eye Lake is already exhibiting significant shoreline erosion, and the construction of islands as currently proposed has the potential for significant environmental effect through long-term displacement and disturbance of toxic benthic muds into the water column over an extended period of time, both during island construction and a subsequent unknown time period of settling and benthic mud disturbance.

The second is the absence of safe access to and within the site which is surrounded by busy CSAH 61, the active BNSR Railway and CP Railway and hump yard; active Aggregate Industries barge terminal within a narrow dredged Lake outlet channel; a Minnesota DNR heron rookery Scientific and Natural Area; the Council's Metropolitan Wastewater Treatment Facility and adjacent retired ash pond area; the 300-acre CERCLIS/MPCA Superfund dump area; and over 130 acres of surrounding shallow marsh wetlands.

Additionally, the sediment in the northern-most portion of the basin adjacent to the mouth of Battle Creek was determined to be too contaminated to subject to disturbance or alteration by this Project. The cumulative effect of these factors, as well as the uniform coverage of the bottom of the 628-acre basin with 10 to 22 feet of unconsolidated organic sediment rich in heavy metals and pollutants that have overflowed or leached out of the dump do not lead Council staff to conclude that Pigs Eye Lake is currently an appropriate site to promote unrestricted public access for recreation.

Appendix A

Section 2 – Initial Interagency Coordination Meeting Notes

During the January 20, 2016 meeting, it was stated that due to the unconsolidated nature of the benthic muds in the basin that it was "likely that mud will displace above the water surface" in response to (sand) material placement. This finding is also discussed in some detail in Section F.1.5 of Appendix F. We have grave concerns relative to the potential for the Project to discharge significant quantities of benthic material into the Mississippi River during its construction if this is still the position of the Corps, as placement is anticipated to be occurring in water that is 3 to 4 feet deep. Council staff requests the Corps clarify their position on the likelihood of this situation occurring and how it expects this mud wave to dissipate without mixing into the water column and being discharged into the River.

Section 7 – Habitat Sub-Group
The sub-group expressed consideration for promoting habitat for reptiles and amphibians. Did existing area habitat surveys give indications that the basin is currently inhabited by observed populations? Council staff question their presence in the basin based upon its limited food supply sources and their general sensitivity to pollutants. Based upon the extent of benthic mud contamination in the basin which will remain following Project construction as proposed, we do not believe the basin to be a healthy or preferred location to attract them to in greater numbers either with a food source or place to overwinter.

Great variation is reported among amphibian species in their sensitivity to heavy metal and organic contaminants, but they generally tend to be more sensitive to pollutants than fish, and water quality criteria established for fish may not be protective of amphibians

Appendix B

Section II. C. – Suspended Particulate/Turbidity Determination – Actions Taken to Minimize Impacts
Council staff suggests that a channel for Battle Creek flows be entirely isolated from the rest of the basin from its entrance into the basin to the barge channel exit with a floating silt curtain during any activities that might disturb the benthic substrate within the basin, to prevent those pollutants from being swept into the River. Additionally, all barge movement during any construction phase in the basin should also take place behind a separate silt curtain to prevent disturbed sediment from being swept out of the basin through either of the interconnecting passages between the basin and River.

Appendix F

Section F.2.5. – Settlement
Text in the Appendix states that it was impossible to obtain an undisturbed sample of the benthic muds in the basin due to the loose, liquid nature of the soft soils. Acquisition of a disturbed sample should be adequate however, if it is to be utilized to calculate the density of the benthic material (and not perform a laboratory consolidation test).

Table 2 in the Appendix indicates that a value of 90 pounds per cubic foot (pcf) for 'very soft silty clay' and 115pcf for 'dredge sand' were utilized to estimate settlement of the constructed islands – data obtained from the New Orleans area. Council staff is concerned that the assumed value of 90pcf assigned to the benthic mud significantly overestimates its actual density by not taking into consideration its indicated 9 to 17 percent (high) organic component, likely resulting in an underestimated degree of settlement. The 115pcf value associated with the New Orleans dredge sand may be close to the actual value for the locally dredged navigation channel material that would be utilized for the Project, but we recommend an actual local sample value be obtained and utilized in the calculations, since it is so readily available. Densities for the additional topsoil and quarry rock material quantities planned for use, while relatively small, should also be factored into the calculations.

We strongly suggest that the Corps take and average a number of actual site samples to obtain more accurate benthic material density values with which to calculate settlement assumptions that would result in a greater degree of confidence in the estimated settlement assumption

range than what is currently provided in the Appendix. We request that this Appendix be updated and expanded to present the revised assumptions, data, and revised settlement estimate calculations.

Appendix I.11 – Monitoring and Adaptive Management
Council staff recommends that the Project MAM plan also annually review the 'number of reported bird strikes by month' data following construction of the Project, as is historically presented in Figure 23 and Section 7.1.5.2 of the text of the Report, in addition to fall waterbird counts, and to prepare a mitigation plan, should there be an observed seasonal change or overall increase in the number of bird strikes with aircraft.

Given the issues described in this letter, Council staff are concerned about this project proceeding at this time. Because of the extent of environmental contamination and the number of stakeholders, including the Metropolitan Council, that might be affected by this project, we strongly encourage the project proposer and project sponsor to convene all stakeholders to develop a shared vision for this area and a comprehensive approach to addressing the environmental issues and reaching those goals. Without that comprehensive approach, we have concerns that individual projects might have unintended impacts or might not be as effective in addressing the environmental concerns.

In addition, Council staff requests that the Corps of Engineers address and respond to the above issues prior to drafting the final Feasibility Report and Environmental Assessment document or making a final determination on the need for preparation of an environmental impact statement for the proposed Project. If you have questions about these comments, please contact Jim Larsen PE, Principal Reviewer, at 651-602-1159.

Sincerely,

LisaBeth Barajas, Manager
Local Planning Assistance

CC: Richard Kramer, Metropolitan Council District 13
Scott Yonke, Ramsey County Parks and Recreation
Emmett Mullin, Council Parks and Natural Resources Manager
Patrick Boylan, Council Sector Representative
Judy Sventek, Water Resources Manager
Raya Esmaeili, Reviews Coordinator

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DEPARTMENT OF PARKS AND RECREATION

CITY OF SAINT PAUL
Mayor Melvin Carter

400 City Hall Annex
25 West 4th Street
Saint Paul, Minnesota 55102
www.stpaul.gov/parks

Telephone: 651-266-6400
Facsimile: 651-292-7311

District Commander

St. Paul District, U.S. Army Corps of Engineers

ATTN: Regional Planning and Environment Division North

180 Fifth Street East, Suite 700
St. Paul, MN 55101

Comments on DRAFT Environmental Assessment and Finding of No Significant Impact developed pursuant to the National Environmental Policy Act

Project:
Pigs Eye lake restoration project

Project proponent and authority:
St. Paul District, U.S. Army Corps of Engineers (USACOE), in conjunction with the local sponsor, Ramsey County Parks and Recreation. The proposed actions were authorized under Section 204 of the Water Resources Development Act of 1992, as amended.

Summary of the proposed project:
The proposed project would create island and wetland features within Pigs Eye Lake. Construction of project features would primarily use material dredged from the Mississippi River by the Corps of Engineers during routine maintenance of the navigation channel. A complex of seven islands would be constructed; three of these would incorporate wetland creation and plantings in the centers of the islands. Islands would be planted with a mix of native plants that would be appropriate for floodplain soils.

Comments:

The proposed project is intended to address ongoing problems in Pigs Eye Lake, primarily ongoing shoreline erosion and sediment resuspension due to long-term hydrological changes and wind fetch.

Title 32 of the Code of Federal Regulations, Volume 4, Sec. 651.29 describes criteria used by the USACOE in determining whether or not an Environmental Assessment (EA) for a proposed action is sufficient and if the preparation of an Environmental Impact Statement (EIS) is required. This section states that an EIS is required if the proposed action has the potential to "significantly affect… public parks and recreation areas, wildlife refuge or wilderness areas". Pigs Eye Lake is part of a regional park, located within the Mississippi National River Recreation Area (MNRRA, a unit of the National Park System), and is located in close proximity to a Minnesota Scientific and Natural Area and important heron rookery.

The proposed action is to use dredge spoils consisting of sand and silt to create islands in Pigs Eye Lake, and to seed the islands with appropriate vegetation. The EA contends that the islands will create water depth variation, stabilize the lake bottom, and act as windbreaks. The EA contends that the result will be to provide new terrestrial habitat, increase terrestrial and aquatic habitat quality, and reduce shoreline erosion.

The City of Saint Paul has concerns regarding the long-term stability of the islands. Success in establishing vegetation on the islands is critical to both creation of habitat and to the stabilization of the dredge materials used to create the islands. However, the EA does little to address how establishment of vegetation will be ensured. While a monitoring plan is proposed, the first monitoring would not occur until 1 year after construction, by which time storms, flooding, and wind may have already severely compromised both the integrity of the islands and the growth prospects of the vegetation. Moreover, the proposed maintenance budget is woefully inadequate, and the EA does not describe any significant adaptive management practices to address these problems, much less evaluate the potential feasibility nor cost of such approaches.

In short, the EA does not adequately evaluate the feasibility of the project, nor the potential impacts should any number of the assumptions used in project design prove to be unreliable.

Sincerely,

Alice J Messer

Alice Messer
Manager Design and Construction

Cc

Mike Hahm, Director Parks and Recreation
Russ Stark, Mayors Office
Mary deLaittre, Manager Great River Passage
Josh Williams, Planning and Economic Development

4 Initial Interagency Coordination Meeting Notes

The following are the meeting notes from the initial feasibility interagency coordination meeting.

Pigs Eye Lake Section 204
Interagency Planning & Coordination Meeting
January 20, 2016
9:00 – 11:00

NOTES

Background: The Corps initiated the feasibility study stage of the CAP 204 Pigs Eye Lake project in summer 2015. The Corps and the local sponsor of the project, Ramsey County Parks and Rec Department, gathered local, state and federal stakeholders together for discussion and coordination during the feasibility study phase of the effort.

Agencies in attendance included US Army Corps of Engineers – St. Paul District (Corps), Ramsey County Parks, Ramsey Washing Metro Watershed District (RWMWD), Minnesota Pollution Control Agency (MPCA), National Parks Service Mississippi National River and Recreation Area (NPS), Minnesota Department of Natural Resources (MNDNR), Metropolitan Council (Met Council) and the City of St. Paul.

Purpose: Interagency team collaboration meeting is to progress through the planning process in the feasibility study phase for Pigs Eye Lake Section 204.

Attendees:

USACE - Nate Campbell (PM), Sierra Keenan & Angela Deen (Planning), Scott Goodfellow (H&H), Jim Noren (H&H), Zach Kimmel (Operations), Susan Taylor (Cost), Greg Wachman (Geotech), Jack Westman (GIS), Brad Perkl (Cultural), Rod Peterson (Real Estate), Nate Wallerstedt (CAP Program Manager)

Ramsey County Parks – Mike Goodnature

MPCA - Hans Neve, Emily Schnick

NPS – Nancy Duncan, Allie Holdhusen

MN DNR – Joel Stiras, Jen Sorensen

Met Council – Jim Larsen, Mary Gail Scott

City of St. Paul – Don Varney

Ramsey-Washington Metro Watershed District – Bill Bartodziej

Discussion Notes

1. Progress since the July kickoff meeting
    a. Measures Considered
        i. Sand Blanket or Sand Benches -
            - Expensive – may require more sand than available.
        ii. High Islands

- Modified to more natural appearance

iii. Low Islands
- Modified to more natural appearance
- Limited low/seasonally wet island benches to reduce material needs

iv. Shoreline material placement
- Limited areas with severe erosion that would benefit from this

v. Drawdown
- Team looked at full and partial drawdown, use of inflatable or temporary dams. Challenge to work with Battle Creek flows.
- Costs would exceed federal cost limit for a Section 204 - Although a drawdown and consolidation of substrate material would benefit the area and improve conditions for construction, it is not feasible within the scope of the Section 204.

vi. Hydraulic Modifications
- Water movement in Pigs Eye highly variable and dependent on Pool dynamic

vii. Carp Exclosures
- Very large system; difficult to remove carp, challenge to maintain exclosures

b. Development of "Base Plan"
   i. CAP Section 204 Authority is for beneficial use of dredged material for ecosystem restoration. Funding covers construction costs that are in excess of the Base Plan (normal dredging costs without the project).
   ii. Sources of sand to build islands:
      - St. Paul Barge Terminal upper Pool 2 dredge cuts - closest source of material, but quantities vary significantly (30,000 yds is an average).
      - Pine Bend and Boulange temporary placement sites - greater certainty on quantities, but added costs to transport material 14 miles.

c. Bathymetry
   i. Shallow lake, only 3' average depth (max depth of 4.5').

d. Soil Borings
   i. Goal of exploration was to characterize the subsurface material and identify depth to 'hard bottom,' or the thickness of the compressible sediment.
   ii. Borings collected at four locations with samples for geotechnical and environmental sampling.
   iii. Very soft soils. 10-22' thick. Soils made of clay, silt, sand, and peat.
   iv. Lateral displacement of soft soils in response to material placement ("mud wave"). Likely to occur, but difficult to quantify the extent. Likely that mud will displace above water surface.
   v. Consolidation settlement of soft soils over time – also difficult to quantify but estimated 1.5-3'

- Soils sampled are too soft to perform full consolidation testing.
- This is an issue because it impacts accuracy of quantities estimate.

vi. Potential environmental issues related to soils
- Construction of access channels within contaminated sediments
- Increased suspension of contaminated soils due to mud wave formation
    a. Contaminated material refers to lake bottom material, not to Mississippi River navigation channel dredged material
- Any construction activities are likely to lead to increased suspension of lake soils.

e. Environmental Samples

i. Existing survey data:
- 1998-2001 survey of 3 sites in Pigs Eye Lake for 2006 MCES report
- The 2007-2008 MPCA sediment chemistry survey of Pigs Eye Lake included 11 locations at multiple depth increments. The sediment samples were tested for metals, PCBs, PAHs and pesticides.
- If there is other ongoing testing or data available, the study team could use it.

ii. 2015 USACE Sediment sampling
- Collected a total of six environmental samples for chemical and physical analyses from three of the four boreholes. For each borehole tested, two composite samples were analyzed. The composite samples were collected at roughly two foot intervals starting a couple feet below the sediment surface.
- Similar to what was seen in previous surveys, the most contaminated site was the northern most borehole, likely as a result of its proximity to the Pigs Eye Landfill.
- Only samples from one borehole showed any SQT or SRV exceedances for organic pollutants. The only exceedances for metals were for cadmium, lead and mercury. Cadmium, however was above the proposed 2015 recreational SRV limit for two boreholes.
- In contrast to the surveys done 9-17 years ago, we did not detect any PCBs or have any SQT exceedances for nickel and zinc.
    a. Discussion:
    b. Cadmium – not a large exceedance. The MPCA is continuing to review the SRV limit, likely to be finalized by fall 2016.
    c. Until SRV limit is finalized, unclear if/to what extent Cadmium will be in exceedance.
    d. The MPCA would like to see the project happen; from the superfund program perspective the project is beneficial.
    e. The contaminated materials may be problematic not only during dredging for access, also with displacement during

construction. Access dredging could be limited if hydraulic dredging is utilized for material placement.

f. Mud wave could expose sediments that are contaminated. Would have to be managed and contained during construction.
g. As materials are disturbed, materials from Pigs Eye Lake would not be allowed to enter the Mississippi River.
h. Mud wave – would it be ongoing/repeat? Or a onetime occurrence? This would depend on construction schedule, if it was built all at once, or constructed in phases.

2. Alternative Plans
    a. Draft Design
        i. Study team presented the latest iteration of the island concept. Last year, the team developed an initial conceptual layout for the Fact Sheet; that has been revised several times through the planning process. At kickoff meeting July, study team got feedback to look for a more natural layout. In September team developed initial crab claw concept and shared with agencies and sponsors. This crab claw concept is based on naturally occurring islands in the upper Mississippi river.
            - Initial crab claw with wide benches would require more material than what is available. Islands were revised to narrow benches and reduced the overall estimate of sand quantities.
            - Alternative planning is an iterative process and will continue to undergo revisions.
    b. Habitat Benefits
        i. Terrestrial Habitat
        ii. Sandbar/Littoral Zone Habitat
        iii. Wind Fetch Reduction
        iv. Substrate Stabilization
            - Comments: River otters also benefit from hardwood, have a den near island C1; 3 bald eagle nests in the area should be considered.
            - How long will the islands last with the soft substrate? The Corps has experience building islands in both backwater and main channel of the Mississippi River. Islands will be built out of sand, and stabilized. Design team has confidence the islands will last.
3. Construction options – it is feasible to build islands.
    a. Hydraulic dredging – the most likely approach
        i. Can be done for large or small jobs, ideal in shallow locations (3-4'), less expensive for large quantities
        ii. Mechanical dredging would require 7' access channel, can be costly, and may be difficult to maintain in soft soil conditions like Pigs Eye Lake.

4. Discussion:
    a. Section 204 authority is not a remediation or water quality authority. It would not be possible to dredge sediments for removal under this authority. Any in-lake dredging would be site prep and construction only.
        i. For dredging and removal of contaminated sediments, another agency would have to take the lead and provide funding, as it is outside authority of Section 204.
    b. Contaminated material issues
        i. Concern that carp are the main source of turbulence in the lake, not wind fetch. This project would not be addressing carp problem.
    c. What is the cost of not doing anything? Is measurable or how is it factored in to the feasibility study?
        i. This would be addressed as part of the "no action" alternative, the consequences of doing nothing.
    d. What are the ecosystem benefits of the project – what species are being targeted (invertebrates, turtles, birds)? Is there any information on benthic invertebrates? How diverse is the assemblage compared to what we would expect in a backwater lake habitat?
        i. Ecosystem enhancement & restoration is the primary objective of this project.
        ii. Not just a dredge material placement effort. The costs of the project must be justified by habitat benefits, this will be quantified in report.
        iii. The Section 204 project will be incorporated to regional park plans as appropriate.
5. Met Council/MPCA – Pigs Eye Dump Study Update
    a. Minnesota's largest unpermitted dump.
    b. Met Council currently sampling 24-28 locations. Data available in 6-8 weeks.
    c. Purpose of MPCA study: to identify where contaminants are located, how much, and what needs to be done.
        i. Interested in partnership and coordination to benefit the area.
        ii. Once MPCA has a proposed action, the Corps can determine if/where within the Section 204 collaboration might be possible.
    d. Could the Section 204 benefit the superfund site?
        i. Depends on final design. Northern islands might slow spread of pollutants?
        ii. Corps/Met Council/MPCA will need to continue close coordination
    e. Joel Stiras: Any fish sampling data concerning bioaccumulation of contaminates? Common carp and buffalo in the lake are currently exported for food.
6. Sponsor input Ramsey County Parks & Recreation
    a. Potential phasing of construction and interest in looking at "test islands" to determine settlement. This is just in discussion at this point.
    b. Possibility for additional testing in footprint of final design.
    c. Floodplain boundary and contaminated areas narrow the scope of what we can consider in Pigs Eye.

7. Path Forward
    a. Schedule
    b. USACE will document meeting notes
    c. Draft notes will be distributed for team review and input
    d. Feasibility Study efforts continue. Draft report available for review fall 2016.
8. Next meetings
    a. Periodic agency planning meetings
    b. Public meeting
9. Adjourn

5 Tribal Coordination – Sample Letter

The following is a letter sent to the Shakopee Mdewakanton Sioux tribe. A similar letter was sent to all tribes with ties to the project area.

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MN 55101-1678

MAR 2 8 2016

Regional Planning and Environment Division North

Honorable Charles Vig, Chairman
Shakopee Mdewakanton Sioux Community of Minnesota
2330 Sioux Trail NW
Prior Lake, Minnesota 55372

Dear Chairman Vig:

The U.S. Army Corps of Engineers, St. Paul District (Corps) is proposing an ecosystem improvement project on Pig's Eye Lake (project). Pig's Eye Lake is located in the Upper Mississippi River Navigation Pool 2 (River Miles 834-836) southeast of Downtown St. Paul in Ramsey County, Minnesota (Figure 1). Habitat and water quality in the lake are poor due to sedimentation, high turbidity, nutrient loading, wind fetch, and rough fish populations.

The potential plan for the project would be to use dredge material from Pool 2 to create a series of islands of various sizes and locations. The islands would reduce wind and wave action while providing a variety of habitat for fish and wildlife. Dredge material would be obtained from active dredge cuts within the main channel or transported from temporary placement sites. The methods of constructing the islands are still being explored and may include a combination of mechanical and hydraulic placement. Staging areas and access routes have not been identified.

The Corps is aware of a variety of cultural resources situated in the area around Pig's Eye Lake, including the village of Kaposia. Several cultural resource investigations have occurred within the area, principally along the natural levee running between the river's main channel and the lake's western shore. The Corps does not anticipate the project will affect historic properties.

If your band has information regarding properties of cultural significance to the band that may be affected by the project, the Corps would appreciate your assistance in identifying those properties. Should you have such information, please notify us within

30 days of your receipt of this letter. Our point of contact on this matter is Dr. Bradley Perkl. Please address correspondence to his attention at 180 5th Street East, St. Paul, MN 55101-1678, or he may be reached by telephone at (651) 290-5370.

Sincerely,

Daniel C. Koprowski
Colonel, Corps of Engineers
District Commander

Figure 1. Project Location, Pool 2 Upper Mississippi River.

6 Airport Correspondence Letter Chain

The following is the correspondence between the Corps and applicable Airport Agencies.

United States Department of Agriculture

Animal and Plant Health Inspection Service

Wildlife Services

St. Paul Downtown Airport
644 Bayfield Street, Suite 215
Saint Paul, MN 55107
Ph: 651-224-6027
Fax: 651-224-4271

October 11, 2016

Nathan Campbell
St. Paul District USACE
Civil Works Project Manager
PAS and IIS Program Manager
Office: 651-290-5544
Cell: 651-219-2963

Subject: Proposed Pigs Eye Lake Habitat Enhancement Project

Mr. Campbell-
Based on a brief review of the single page project proposal you provided, USDA-Wildlife Services offers the following response.

The Federal Aviation Administration addresses the general separation criteria for hazardous wildlife attractants on or near airports in Section 1 of Advisory Circular (AC) 150/5200-33B. This AC recommends a separation distance of 5,000 feet between the Air Operations Area (AOA) and hazardous wildlife attractants for airports serving piston-powered aircraft, and 10,000 feet for airports serving turbine-powered aircraft. The nearby St. Paul Downtown Airport, Holman Field (STP) serves both of these classes of aircraft. The FAA also strongly discourages the creation of any new hazardous wildlife attractants within these separation distances. The center of Pigs Eye Lake (location of the proposed Pigs Eye Lake Habitat Enhancement Project area) is situated approximately 7,300 feet from runways 14/32 and 13/31 of the Downtown St. Paul Airport. As a result, the increased presence of avian species that could result from the Pigs Eye project could pose a significant potential threat to aircraft during the approach and departure phases of flights to and from STP which averages approximately 180 aircraft operations per day.

A review of the FAA Strike Database indicates that there have been 70 reported wildlife strikes by aircraft at STP since 1990 which includes 9 bald eagles, 10+ waterfowl, 5 gulls and a variety of other primarily avian species. Large flocking birds, like American white pelicans, Canada geese, swans, gulls, cormorants, and other waterfowl, generally pose a higher risk to aviation due to their size and flocking tendencies. The Pigs Eye project is likely to increase the presence of a number of avian species which would most likely increase the hazardous wildlife strike threat to air operations at STP.

From a wildlife habitat enhancement and protection perspective this project appears to be a good idea. From an airport hazardous wildlife strike perspective, this project does not appear to be in the best interest of air operations at the nearby downtown St. Paul airport due to the potential of increasing the presence of hazardous wildlife species that are likely to be present in the approach and departure paths of daily aircraft operations at STP.

Based on our review of the limited information provided and the reasons stated above, the USDA WS MN program does not support the proposed Pigs Eye Lake project. We also recommend that the project's approving authorities include the FAA and Metropolitan Airports Commission in any ongoing discussions related to this project. If you have questions, please call me at 651-224-6027.

Sincerely,

Alan K. Schumacher
Wildlife Biologist

cc:
G. Nohrenberg, USDA-WS, St. Paul, MN
J. Fitzpatrick, FAA- Dakota-Minnesota/ADO
A. Fenedick, FAA- Great Lakes Regional Office
J. Harris, MAC- STP Airport
J. Ostrom, MAC-MSP Airport
N. Ralston, MAC-MSP Airport
P. Mosites, MAC-MSP Airport

United States Department of Agriculture

Animal and Plant Health Inspection Service

Wildlife Services

St. Paul Downtown Airport
644 Bayfield Street, Suite 215
Saint Paul, MN 55107
Ph: 651-224-6027
Fax: 651-224-4271

November 10, 2016

Nathan Campbell
St. Paul District USACE
Civil Works Project Manager
PAS and IIS Program Manager
Office: 651-290-5544
Cell: 651-219-2963

Subject: Proposed Pigs Eye Lake Habitat Enhancement Project- Design/Vegetation Recommendations

Mr. Campbell-

Following our recent meeting regarding the proposed improvements to Pigs Eye Lake, USDA Wildlife Services (WS) was asked to provide a design/vegetation preference to help discourage nesting and loafing of large waterfowl on the proposed islands.

WS recommends the proposed islands be covered with thick, woody scrub brush species. The goal would be to minimize open areas, especially near the water's edge, where large waterfowl nesting generally occurs. Some suggested species would include, but are not limited to, willow, dogwood, and alder.

WS also recommends minimizing the amount of shallow water emergent vegetation (i.e. cattails) associated with the project to help prevent muskrats from building huts, simultaneously creating nesting platforms for Canada geese.

WS does not recommend the use of sand benches above or below the water's surface. Due to fluctuating water levels of the lake and river system, the proposed benches may become exposed, creating loafing habitat for large water birds such as Canada geese and American white pelicans.

WS recommends the overall number of proposed islands be reduced to decrease the amount shoreline available to nesting waterfowl. The overall size of islands may be increased to obtain the goals of the project, while limiting shoreline. If possible, islands should be linear and have steep banks.

Implementing the aforementioned recommendations may help reduce the amount of nesting and loafing of large waterfowl that could be hazardous to safe flying operations at nearby STP Downtown Airport.

Sincerely,

Alan K. Schumacher
Wildlife Biologist

cc:
G. Nohrenberg, USDA-WS, St. Paul, MN
J. Fitzpatrick, FAA- Dakota-Minnesota/ADO
N. Nistler, FAA- Dakota-Minnesota/ADO
J. Harris, MAC- STP Airport
J. Ostrom, MAC-MSP Airport
N. Ralston, MAC-MSP Airport
P. Mosites, MAC-MSP Airport

U.S. Department
of Transportation
Federal Aviation Administration

Dakota-Minnesota Airports District Office
Bismarck Office
2301 University Drive, Building 23B
Bismarck, ND 58504

Dakota-Minnesota Airports District Office
Minneapolis Office
6020 28th Avenue South, Suite 102
Minneapolis, MN 55450

December 12, 2016

Nathan Campbell
Civil Works Project Manager
PAS and IIS Program Manager
St. Paul District
U.S. Army Corps of Engineers
180 5th Street East
St. Paul, Minnesota 55101

Re: Proposed U.S. Army Corps of Engineers (USACE) Pigs Eye Lake Habitat Enhancement Project

Dear Mr. Campbell:

The Federal Aviation Administration (FAA) has reviewed the USACE "Project Summary" for the proposed Pigs Eye Lake Habitat Enhancement project located near the St. Paul Downtown Airport (Airport). The goal of the proposal is to increase bird and nesting habitat, increase recreational opportunities, and improve aquatic habitat.

Wildlife hazards to aviation, particularly bird strikes, have been a long-term high priority for the FAA. The FAA is committed to addressing hazardous wildlife issues and is focused on preventing the creation of new hazards while promoting ways to reduce and/or mitigate the potential for wildlife strikes. Each airport setting is unique, as is the potential for wildlife hazards. In addition, there are areas more susceptible to wildlife strikes including the arrival/departure surfaces and the aircraft operating area (AOA). For these reasons the FAA must review each airport individually to identify hazardous wildlife conditions and develop ways to reduce and prevent wildlife strikes.

The FAA's Advisory Circular (AC) 150/5200-33B, Hazardous Wildlife Attractants On or Near Airports (Wildlife AC), provides separation criteria for the placement of potentially hazardous wildlife attractants near airports (Section 1) and includes a description of land uses with the potential to attract hazardous wildlife (Section 2). Airports that receive Federal grant-in-aid assistance are required to follow the recommendations in the AC. For other government agencies, private property owners and businesses, the AC provides guidance to ensure adequate safety for airports.

Based on our review and utilizing the criteria in AC 150/5200-33B, the FAA is concerned with the initial proposed project given the location, and potential to create a wildlife hazard attractant near the Airport. The proposed project is within approximately 5,000 feet of the Airport approach and departure pathways. This location, in conjunction with the type of habitat enhancement being proposed, has a very high probability to become a hazardous

wildlife attractant. Our agency recognizes and understands the value of the ecological benefits that may occur with these types of habitat enhancement opportunities. Nonetheless, we cannot ignore the potential adverse effect this could have on airport safety.

The FAA often defers judgment for hazardous wildlife issues to the U.S. Department of Agriculture Wildlife Services (USDA WS) since their agency is considered a subject matter expert. The FAA supports the design recommendations provided to your office by the USDA WS in a letter dated November 10, 2016. These design recommendations include:

- Planting thick, woody scrub brush species on the proposed islands.
- Minimizing the amount of emergent vegetation in shallow water.
- Eliminating the use of sand benches for the project.
- Reducing the overall number of proposed islands.

Our agency recommends these design considerations be included in the full design of the project and for your agency to continue coordinating with the Airport, USDA WS and the FAA as project planning and design further progresses. We will continue to thoughtfully and carefully review any additional information submitted to us for review by the USACE.

Thank you for the opportunity to review and provide comments and concerns with the initial proposed project. We trust that you will fully utilize our input while making a final decision regarding the proposed project. If you have any questions or comments, please feel free to contact me at (612) 253-4639 or by E-mail at joshua.fitzpatrick@faa.gov.

Sincerely,

Josh Fitzpatrick
Environmental Protection Specialist
FAA Dakota-Minnesota Airport District Office

Cc: Alan Schumacher, USDA Wildlife Services
John Ostrom, Metropolitan Airports Commission
Nancy Nistler, FAA

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MN 55101-1678

REPLY TO
ATTENTION OF

Project Management

January 18, 2017

SUBJECT: Pigs Eye Lake CAP 204 Wildlife Hazard Recommendations

SENT VIA E-MAIL TO:

Alan Schumacher
USDA Wildlife Services
St. Paul Downtown Airport
644 Bayfield Street, Suite 215
Saint Paul, MN 55107

Josh Fitzpatrick
FAA Dakota-Minnesota Airport District Office
Minneapolis Office
6020 28th Avenue South, Suite 102
Minneapolis, MN 55450

Dear Mr. Schumacher and Mr. Fitzpatrick:

Thank you for providing your recommendations in your recent letters to the Corps to help reduce the amount of nesting and loafing of large waterfowl on Pigs Eye Lake as a result of Ramsey County Parks Department and the Army Corps of Engineers potential aquatic restoration project. We understand your concerns regarding wildlife hazards near the airport and appreciate the recommendations to improve our potential project to satisfy your concerns.

Below we have provided responses to your recommendations that include plan changes that can be included to meet your recommendations as well as additional detail on the current plan that we believe would satisfy your recommendation.

1. WS/FAA Recommendation: Recommended that the islands be vegetated in thick, woody scrub brush species to minimize open areas, especially near the water's edge, where large waterfowl nesting generally occurs.

   Corps Response: Plans currently involve willow plantings along the water's edge to stabilize the islands and prevent erosion. Normally, willows would be planted in two rows, with a spacing of between 3-5 feet, and would be planted along the outer edges of the islands that would be exposed to wind and waves. Based on this comment, the Corps will plan to incorporate willows around the perimeters of all islands near the water's edge. Photos are attached of the willows at some islands the Corps has constructed for habitat restoration purposes.

2. WS/FAA Recommendation: Recommended that the Corps minimize the amount of shallow water emergent vegetation (i.e. cattails) associated with the project to help prevent muskrats from building huts, which create nesting platforms for geese.

Corps Response: The focus of the proposed aquatic vegetation plantings within the island centers would be rooted floating-leaf species rather than emergent species. Based on this recommendation, the Corps will avoid incorporating emergents into the project that would lend themselves to muskrat huts. (Although it should be noted that muskrats, beavers, and mink are currently prevalent in Pig's Eye Lake and a number of their huts are observable on the existing shores of Pig's Eye Lake).

3. WS/FAA Recommendation: Recommended against using sand benches above or below the water's surface, due to concerns that fluctuating water levels could lead to exposing the sand and creating nesting areas.

   Corps Response: As it is currently designed, the proposed project does not include any sand benches that would be subject to becoming exposed by changes in water levels. Water levels in Pig's Eye Lake are highly connected with the main stem of the Mississippi River. The Corps of Engineers manages the water surface elevation in the river in this area to stay at or above 686.8 feet above mean sea level (NAVD 88). The project on a whole was designed with consideration to these 'minimum' water levels. The proposed project does include some "sand blankets" for substrate stabilization, but these areas would remain at greater than 18 inches deep, even at the lowest regulated water levels. The only areas expected to be shallower are the transitional areas between the water and the shoreline.

4. WS/FAA Recommendation: Recommended that the overall number of islands be reduced to decrease the amount of shoreline available to nesting waterfowl. Suggest linear islands with steep banks.

   Corps Response: Unfortunately, due to the unconsolidated nature of the substrate in Pig's Eye Lake, the slope of the shoreline from the islands into the water cannot be made significantly steeper without compromising the stability of the islands. Hopefully the willows described in Comment 1 will alleviate this issue.

   We analyzed the shoreline length for each of the island alternatives that we considered (below).

   Analysis of shoreline length
   Alt 4: 15,895 ft
   Alt 2: 19,409 ft
   Alt 5: 24,982 ft ← Tentatively Selected Plan
   Alt 1: 29,768 ft
   Alt 3: 30,912 ft

   The results show that we selected an intermediate alternative. We will consider attempting to reduce this further, but any major changes would be likely to greatly reduce the habitat benefits of the overall project. The alternatives that have less shoreline area are those without the "split" island alternatives, which would not allow for marsh

creation, would not provide heavily sheltered areas from wind and waves, and would greatly reduce the amount of littoral zone habitat created. We would instead propose to incorporate as much dense, brushy vegetation on the islands as possible to deter large waterfowl from nesting there.

We will continue to coordinate with you as project planning progresses. Should you have any immediate questions regarding this letter, or if you would like to discuss the project features further, please contact Nathan Campbell at 651-290-5544 or by email at Nathan.j.campbell@usace.army.mil.

Sincerely,

Nathan Campbell
Project Manager

Enclosures:
1. USDA-WS Letter to the Corps, dated 10 November 2016
2. FAA Letter to the Corps, dated 12 December 2016

Metropolitan Airports Commission
6040 - 28th Avenue South, Minneapolis, MN 55450 • 612-726-8100 • metroairports.org

March 20, 2017

Mr. Nathan Campbell, Project Manager
Department of the Army
St. Paul District, Corps of Engineers
180 Fifth Street East, Suite 700
St. Paul, MN 55101-1678

Mr. Nathan Campbell-

Following the letter dated January 18, 2017 and addressed to the FAA and USDA-Wildlife Services, The Metropolitan Airports Commission (MAC) would like to formally acknowledge our stance as "Not Opposed" to the Pigs Eye Lake Habitat Enhancement Project. The Corps response's to FAA and USDA project construction/design recommendations reasonably address, while still maintaining project goals, the potential wildlife hazards to aviation near the St. Paul Downtown Airport created during and following the project.

Furthermore the MAC requests that stakeholders of the project, work to establish protocols and identify the responsible parties to develop and carryout the following;

1. Post monitoring of the project area for nesting and loafing of large waterfowl
2. A Management Plan to mitigate identified wildlife hazards. Part of the management plan may include but are not limited to;
    a. Habitat modification
    b. Exclusion
    c. Harassment
    d. Nest and egg destruction/addling
    e. Lethal control
3. Identify Action Levels when those wildlife management activities are deployed.

If you have any further questions we would be happy to assist, 651-224-4306.

Thank you,

Joe Harris
Manager St. Paul Downtown Airport

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MN 55101-1678

JULY 27, 2017

Project Management

SUBJECT: Pigs Eye Lake CAP 204 Wildlife Hazard Recommendations

SENT VIA E-MAIL TO:

Alan Schumacher
USDA Wildlife Services
St. Paul Downtown Airport
644 Bayfield Street, Suite 215
St.t Paul, MN 55107

Joe Harris
Manager St. Paul Downtown Airport
St. Paul Downtown Airport
644 Bayfield Street, Suite 215
St. Paul, MN 55107

Dear Mr. Schumacher and Mr. Harris:

This is in regard to the Pigs Eye Lake aquatic habitat restoration project. We wanted to inform you of several changes we have made to the Pigs Eye Lake project design. These include a reduced-size set of islands and revised general vegetation planting plans. We have concluded that these changes would not increase the wildlife hazard risk of the proposed project, for the reasons described under the "Proposed Project Changes" heading below. Further, we would like to offer a response regarding a request made in the Metropolitan Airports Commission (MAC) letter to the U.S. Army Corps of Engineers dated March 20, 2017 (enclosed). This is discussed in the section below titled, "Monitoring and Management Considerations."

Proposed Project Changes

First, we have reformulated alternatives since our last correspondence. The new tentatively selected plan has been reduced in size, with 32 percent less shoreline than the previous plan (approximately 17,000 feet compared to the previous 25,000 feet). This change will further reduce the risk for the project to contribute to wildlife hazards.

Since our last correspondence, the Corps met with members of the U.S. Fish and Wildlife Service, Minnesota Department of Natural Resources, National Park Service and Ramsey County (project sponsor) to discuss project planting goals. It was recognized that one of the potential benefits of the project is providing turtle nesting locations, which are relatively rare in this portion of the river. It was suggested that a desirable project feature would be incorporation of some open, sandy areas for this purpose. Since the willows also serve as a stabilization feature, this would only be

possible in select areas. The vast majority of the shoreline would still be planted with willows as previously described, and we don't anticipate this to significantly increase the potential for waterfowl nesting.

The group also discussed the U.S. Department of Agriculture–Wildlife Services recommendation to discourage the growth of emergent vegetation. It was acknowledged that shallow-water emergent vegetation may indeed lead to muskrat huts and thereby nesting platforms for Canada geese. However, softstem and hardstem bulrush are already prevalent along much of the Pigs Eye Lake shoreline. These species provide important fish habitat for cover and spawning. Those at the meeting discussed how dense emergent vegetation like bulrush would likely discourage birds, like geese, from accessing the land, thereby decreasing the risk of nesting geese. Muskrats, beavers and mink already make use of Pigs Eye Lake and the bulrush, with a number of huts observable along the shoreline, and resource managers that frequent the lake have not observed use of these huts by nesting geese. Therefore, we have incorporated bulrush plantings into areas of the planting plan, but we feel that this change will likely decrease the risk of wildlife hazards.

Monitoring and Management Considerations

In the enclosed letter, the MAC also requested incorporating monitoring and management strategies into the project planning. The Corps concurs that monitoring bird use is important, and the proposed project would incorporate 10 years of post-project bird monitoring, which may be useful in determining if there are significant increases in bird populations utilizing Pigs Eye Lake. Monitoring data would be shared with MAC and other agencies as desired. If a potential issue is identified within the interagency team, the Corps will consider modifications or management actions that might be appropriate.

We will continue to coordinate with you as project planning progresses. Should you have any immediate questions regarding this letter, or if you would like to discuss the project features further, please contact Nathan Campbell at 651-290-5544 or by email at nathan.j.campbell@usace.army.mil.

Sincerely,

CAMPBELL.NATHAN.J.1385613918
2017.07.28 08:11:19 -05'00'

Nathan Campbell
Project Manager

Enclosures

From: Harris, Joe
To: Campbell, Nathan J CIV (US)
Cc: Schumacher, Alan
Subject: [EXTERNAL] Project
Date: Tuesday, September 12, 2017 4:20:41 PM

Hi Nathan,
Sorry for the delayed response. I am okay with the proposed project. I appreciate your willingness to meet with us to listen to our concerns related to aircraft operations.

Regards,
Joe Harris

7 Joint Pool 2 Meeting

As a result of numerous USACE projects occurring in Pool 2. The Corps called a meeting that included all applicable agencies to discuss the projects and address questions and concerns. The following document is the meeting notes from that meeting.

Joint Pool 2 Meeting
October 5, 2016
9:00 – 11:00

NOTES

Background: The Corps is currently leading 4 concurrent projects in Pool 2 of the Upper Mississippi River: the Pool 2 Dredge Material Management Plan, the Lower Pool 2 Channel Management Study, the L/D 2 Embankment study, and the Pigs Eye Lake CAP 204 study. There is an opportunity for the Corps, agencies, and stakeholders to coordinate the upcoming document reviews and team leads to most efficiently complete project report documents.

Purpose: The Joint Pool 2 meeting will review each effort, discuss relationships across studies, and enhance coordination efforts going forward with Pool 2 projects.

Attendees:
USACE – Tom Novak & Nate Campbell (PM), Sierra Keenan & Angela Deen (Planning), Aaron McFarlane & Steve Clark (Environmental), Scott Goodfellow (H&H), Zach Kimmel & Paul Machajewski (Operations),
Ramsey County Parks – Scott Yonke
MPCA – Kurt Schroeder, Emily Schnick
MN DNR – Joel Stiras, Jen Sorensen
Met Council – Mary Gail Scott
Ramsey-Washington Metro Watershed District – Bill Bartodziej
Friends of Pool 2 – John Senglaub
Watershed – Barbara Haake
Dakota County – Kurt Chatfield
Upper Mississippi Watershed Association (UMWA) – Greg Genz

Due 31 October:
- Confirm points of contacts for each effort (see below)
- Submit any additional placement site ideas for the DMMP
- Submit any other comments on Pigs Eye tentatively selected plan

Discussion Notes

1. DMMP – Updating 1995 plan
    a. Identify placement sites for approximately 6.76 million cy of sand over a 40 year period. The Pigs Eye Lake project identifies one location that could take some of the dredged material. Currently working to identify sites in the Upper and Lower parts of the pool that would be the least cost, environmentally acceptable alternative for permanent dredged material placement.
    b. Compared to other pools, Pool 2 limited by flood stage impacts (Limited opportunities to build islands)
    c. Discussion:
        i. Can FEMA re-evaluate flood impacts? (So that islands can be built in Pool 2) Pool 2 has not had island construction or water level drawdowns due to flood

stage impacts. Conditions are not likely to improve – sedimentation has significantly increased, along with higher flows, increased development (bridges/piers being added), etc. Additionally, options to mitigate (e.g., raising a house) are cost prohibitive.

ii. The ash ponds were excavated and used as cover on the dump in the 1970s.

iii. PFCs: Prior to construction of this project, Corps will be testing sand for PFCs for placement in Pigs Eye Lake. 3M and MPCA have tested for PFCs in the sediment, and are found in fish pool-wide. The MPCA has tested Pigs Eye Lake sediments in 2007 and the Corps has tested Pigs Eye Lake sediments in 2016; details are included in the Pigs Eye PFC appendix. Lower Pool 2 high concentrations of PFCs due to plant (also high densities of zebra mussels and sheephead). The Pigs Eye Feasibility Report will include an attachment to the sediment appendix on PFCs.

iv. MPCA's status update on PFC standards:
   - Updated levels just published on MPCA's website.
   - PFC levels last published in June 2016. Final in Feb/March 2017.
   - New numbers have gone down slightly.

2. Lower Pool 2 Channel Management Study
   a. Channel widening with Control Structures – improved dredging and safe navigation
      i. $8M plan Channel Widening & River Training Structures (versus $15M realign channel with Boulanger cut)
      ii. Control structures: 6" above pool with 10' top width. Wider, island-like structures were looked at, however caused flood stage impacts. It is not expected that sediment accretion (islands) will form behind structures. Structures not marked, but may have higher boulders that would be visible when rock line is submerged.
      iii. Navigation aids: The navigation channel will continue to be buoyed. Wing dams and other rock structures are numerous, and if one structure is marked then all structures must be marked for liability purposes. It is cost prohibitive to mark all rock structures on the Upper Mississippi River. The U.S. Coast Guard marks the navigation channel, and incidentally some of the buoys are set at the point of wing dams adjacent the main channel.

3. L/D 2 Embankments – Recon study.
   a. Embankment protection berm.
   b. Approximately 100,000 cy of sand.
   c. L/D 4 example.

4. Pigs Eye Lake – CAP 204 Study

a. Fishery: Good fishing spots on south end of Pigs Eye Lake. Native Americans used wood traps along southwestern shoreline to catch Buffalo. Current commercial fishery exports approximately 10,000 lbs of Buffalo and Carp annually from Pigs Eye Lake.
b. Shoreline Erosion: The stage of the river was considered under the 3 scenarios. Although water surface elevations were not available, other imagery years were examined to ensure the comparison was appropriate. One important indicator is the consistent recession of vegetation, which is unable to re-establish as the consolidated shoreline sediments are eroded and deepened. Comments: Eastern bank is river bulrush, steep, a lot of wave action scouring the bank.
c. Source of material for islands: Some could come from dredge operations in Upper Pool 2, however since close to 1/2M cy would be required in a short period of time for construction, the majority would come from Lower Pool 2 temporary placement sites where there is more sand available. Currently, there is over 600,000 cy on the temporary placement sites of Pine Bend, Upper Boulanger, and Lower Boulanger.
d. Floodway area discussion (below the red line): Currently operating in a constrained environment, as previous projects, development, "used up" flood area.
e. Shallow Depths: Comment: barges once floated up to north side of lake during high water, and then got stuck up there when water went down.
f. RGU (Responsible Governmental Unit) –Project impacts can trigger a state EAW (Environmental Assessment Worksheet). More than 1 acre of fill in river = EAW process. Scott Y, Nate C., and Aaron M. will meet to discuss details. For Pigs Eye, it makes sense for Ramsey County to serve as RGU. Corps' Feasibility report and combined Environmental Assessment will be formatted to include all necessary documentation for the EAW. As the RGU, Ramsey County would determine (based on EAW) if/that an Environmental Impact Statement is not required.
g. O&M of islands: The project sponsor is responsible for operation and maintenance of islands post-construction. Typically, islands do not require maintenance. The Pigs Eye Lake islands would be within Battle Creek Regional Park, and O&M, if any, would primarily entail vegetation monitoring/maintenance.

5. Verify stakeholder team members:

DMMP
MN DNR: Jen Sorenson
MPCA: Kurt Schroeder, Hans Neve, Emily Schnick
Met Council: Mary Gail Scott

Pool 2 CMS
RGU: MNDNR – Ronald Wieland
MN DNR: Ronald Wieland, Richard Baker, Randall Doneen
NPS: Nancy Duncan
Dakota County: Kurt Chatfield, Laura Jester, Jane Vanderpoel
Washington County: Wayne Sandberg

MPCA: Jim Brist, Emily Schnick
USFWS: Phil Delphey
Upper Mississippi Waterway Association

L/D 2 Embankments

Pigs Eye Lake
RGU: Ramsey County – Scott Yonke
MN DNR: Jen Sorenson, Joel Stiras
MPCA: Kurt Schroeder, Hans Neve, Emily Schnick
Met Council: Mary Gail Scott
USFWS: Nick Utrup
NPS: Allie Holdhusen

8 Contaminants Sub-Group

The St. Paul District Pigs Eye Islands CAP 204 PDT (Corps), Minnesota Pollution Control Agency (MPCA) and the Metropolitan Council (Met Council) formed a sub-group to discuss contamination from the Pigs Eye Land Fill, the plan for remediation of that site by the Met Council and MPCA, and the effect the remediation efforts may or may not have on the Pigs Eye Lake CAP 204 project and vice-versa. The following documents the correspondences and shared information meeting notes from that sub-group.

From: Campbell, Nathan J MVP
To: McFarlane, Aaron M MVP; Noren, James B MVP; Wachman, Gregory S MVP
Subject: FW: Pig"s Eye Lake Sediment Contamination Subgroup
Date: Wednesday, February 24, 2016 3:49:07 PM

-----Original Message-----
From: Schroeder, Kurt (MPCA) [mailto:kurt.schroeder@state.mn.us]
Sent: Wednesday, February 24, 2016 3:02 PM
To: Campbell, Nathan J MVP <Nathan.J.Campbell@usace.army.mil>
Cc: Foster, Pamela (MPCA) <Pamela.Foster@state.mn.us>
Subject: [EXTERNAL] FW: Pig's Eye Lake Sediment Contamination Subgroup

HI Nathan,

The MPCA sediment guidance for Managing In-Water Placement of Dredge Material for Habitat Restoration Sites in the St Louis R AOC and Bio-Chemical Physical Approach to habitat restoration is in the appendices in the link below

Thanks

Kurt Schroeder

MPCA

From: Bares, Mike (MPCA)
Sent: Wednesday, February 17, 2016 8:57 AM
To: Schroeder, Kurt (MPCA)
Subject: RE: Pig's Eye Lake Sediment Contamination Subgroup

The MPCA guidance in Appendix 1 & 2 of this QAAP is what I provided you. I will leave it up to you to determine if you want to pass them along to the USACE or others. I only have an MPCA web link for the entire QAPP that includes the two appendices.

Blockedhttps://www.pca.state.mn.us/sites/default/files/p-eao2-20.pdf

Mike Bares P.G

From: Campbell, Nathan J MVP
To: Deen, Angela MVP; Keenan, Sierra MVP; Goodfellow, Scott M MVP; Baker, Scott L MVP; Kimmel, Zachary MVP; Moss, Christine MVP; Perkl, Bradley E MVP; Westman, Jack MVP; Peterson, Rodney MVR @ MVP
Cc: McFarlane, Aaron M MVP; Noren, James B MVP; Wachman, Gregory S MVP; Wallerstedt, Nathan MVP
Subject: RE: Contaminants Sub Group Update
Date: Thursday, February 25, 2016 9:43:31 AM

Sorry I should clarify # 6. It was the initial gut reaction from the group that that contaminant levels won't be an issue for construction but further result analysis will be needed on MPCA's end to confirm that. Additionally, once we have a plan in place it's possible that intensive testing on the construction footprint may be required.

Thanks

Nate

-----Original Message-----
From: Campbell, Nathan J MVP
Sent: Thursday, February 25, 2016 9:20 AM
To: Deen, Angela MVP <Angela.M.Deen@usace.army.mil>; Keenan, Sierra MVP <Sierra.L.Keenan@usace.army.mil>; Goodfellow, Scott M MVP <Scott.M.Goodfellow@usace.army.mil>; Baker, Scott L MVP <Scott.L.Baker@usace.army.mil>; Kimmel, Zachary MVP <Zachary.R.Kimmel@usace.army.mil>; Moss, Christine MVP <Christine.R.Moss@usace.army.mil>; Perkl, Bradley E MVP <Bradley.E.Perkl@usace.army.mil>; Westman, Jack MVP <Jack.F.Westman@usace.army.mil>; Peterson, Rodney MVR @ MVP <Rodney.R.Peterson@usace.army.mil>
Cc: McFarlane, Aaron M MVP <Aaron.M.McFarlane@usace.army.mil>; Noren, James B MVP <James.B.Noren@usace.army.mil>; Wachman, Gregory S MVP <Gregory.S.Wachman@usace.army.mil>; Wallerstedt, Nathan MVP <Nathan.H.Wallerstedt@usace.army.mil>
Subject: Contaminants Sub Group Update

Pigs Eye PDT,

As you know Aaron, Jim, Greg and myself went over to the PCA yesterday and met with a few members of the PCA and Met Council to discuss contaminant issues and testing of contaminants on Pigs Eye Lake. The meeting was very beneficial. I wanted to provide you all with a few key outcomes from the meeting:

1. We decided that PCA would be the clearing house for all available and future data. The PCA will collect and distribute a spreadsheet containing all testing results on that have been done on the lake and the dump perimeter.

2. Mike Bares, a hydrogeologist in the remediation division with the PCA, shared information on projects in the St. Louis River Watershed (Detroit District) that will likely be very beneficial to the Pigs Eye project. For that region they have developed a Quality Assurance Program Plan with the MnDNR and Detroit District that sets testing and data management for numerous actions occurring in the St. Louis River watershed. That document has been shared with us and I have saved it to the pigs eye network folder (X:\PROJECTS\CAP\CAP_204_Pigs_Eye_MN-402178\01FeasibilityFEA\02FeasilityReport_EA\Reports and Documents). Of interest to us is Appendix 1, Managing In-Water Placement of Dredge Material for Habitat Restoration Sites in the St. Louis River Area of Concern and Appendix 2, A Biological, Chemical and Physical Approach to Aquatic Habitat Restoration Decisions in the St. Louis River Area of Concern. I have attached the decision trees from Appendix 1 and 2. I believe that these can be applied pretty readily to the Pigs Eye project. At the very least to provide assurance that our chosen alternative and construction methods are acceptable.

3. Mike Bares also shared construction method info on specific projects where habitat building occurred very soft substrate. We weren't able to get into great detail on this topic but it sounds like they have tackled the mud wave reduction and stabilization to reduce settling issues. We will need to follow up with him. He mentioned the Styrker Bay project as a specific example.

4. Met Council made it clear that PFCs were a concern to them, particularly the level of PFCs in our dredged

material that would be placed in the lake. Currently MPCA does not require us to test our material for PFCs however we may want to consider it to satisfy the agencies.

5. I mentioned our potential measure of emergent wetland creation in the northern portion of the lake (near the battle creek inflow). MPCA was particularly interested in this alternative and asked if we would be willing and able to add a carbon filter soil layer our placed material if we were to go with that measure. The additional cost associated with this would be covered by MPCA and could potentially be added as a betterment (I discussed this with Mr. Wallerstedt and he thought that it could be possible).

6. The overall consensus from the technical folks in the room was that the level of contamination in the areas we have expressed interest in building in was not at a level that would preclude us from constructing.

Let me know if you have questions and if interested please review the QAPP.

Aaron, Jim or Greg do you guys have anything to add?

Thanks

Nate

Nathan Campbell
St. Paul District USACE
Civil Works Project Manager
PAS and IIS Program Manager
Office: 651-290-5544
Cell: 651-219-2963

From: Campbell, Nathan J MVP
To: Noren, James B MVP; Deen, Angela MVP; Wachman, Gregory S MVP; McFarlane, Aaron M MVP
Subject: FW: Emailing - PigsEye_PAHs1.pdf
Date: Tuesday, May 31, 2016 9:08:48 AM
Attachments: PigsEye_PAHs1.pdf

-----Original Message-----
From: Schroeder, Kurt (MPCA) [mailto:kurt.schroeder@state.mn.us]
Sent: Friday, May 27, 2016 4:43 PM
To: Campbell, Nathan J MVP <Nathan.J.Campbell@usace.army.mil>
Cc: Foster, Pamela (MPCA) <Pamela.Foster@state.mn.us>; Monson, Phil (MPCA) <phil.monson@state.mn.us>; Schnick, Emily (MPCA) <Emily.Schnick@state.mn.us>; Bares, Mike (MPCA) <mike.bares@state.mn.us>
Subject: [EXTERNAL] Emailing - PigsEye_PAHs1.pdf

Nathan,

Attached is a map of PAH sampling results in Pig's Eye Lake sediment. Besides the elevated cadmium and PCBs (at PEL Mid, PE-8-2, PE10-2) in the mid-lake area, there is one sampling point toward the western shore (15-2M) that had a total PAHs concentration of 25.12 mg/kg. This exceeds the level II sediment quality target of 23 mg/kg. This sampling location and parameter group should be considered when additional sampling is done in the mid-lake area. Based on current data, we would probably include this point in a best management practices (BMP) area.

I should also note that we likely would redraw the upper lake BMP area boundary another 200 feet south of the line drawn on the maps we provided you on May 25, 2016, at our meeting. The redrawing would account for elevated PAHs in PE-3 and 15-1M.

Let me know if you have questions.

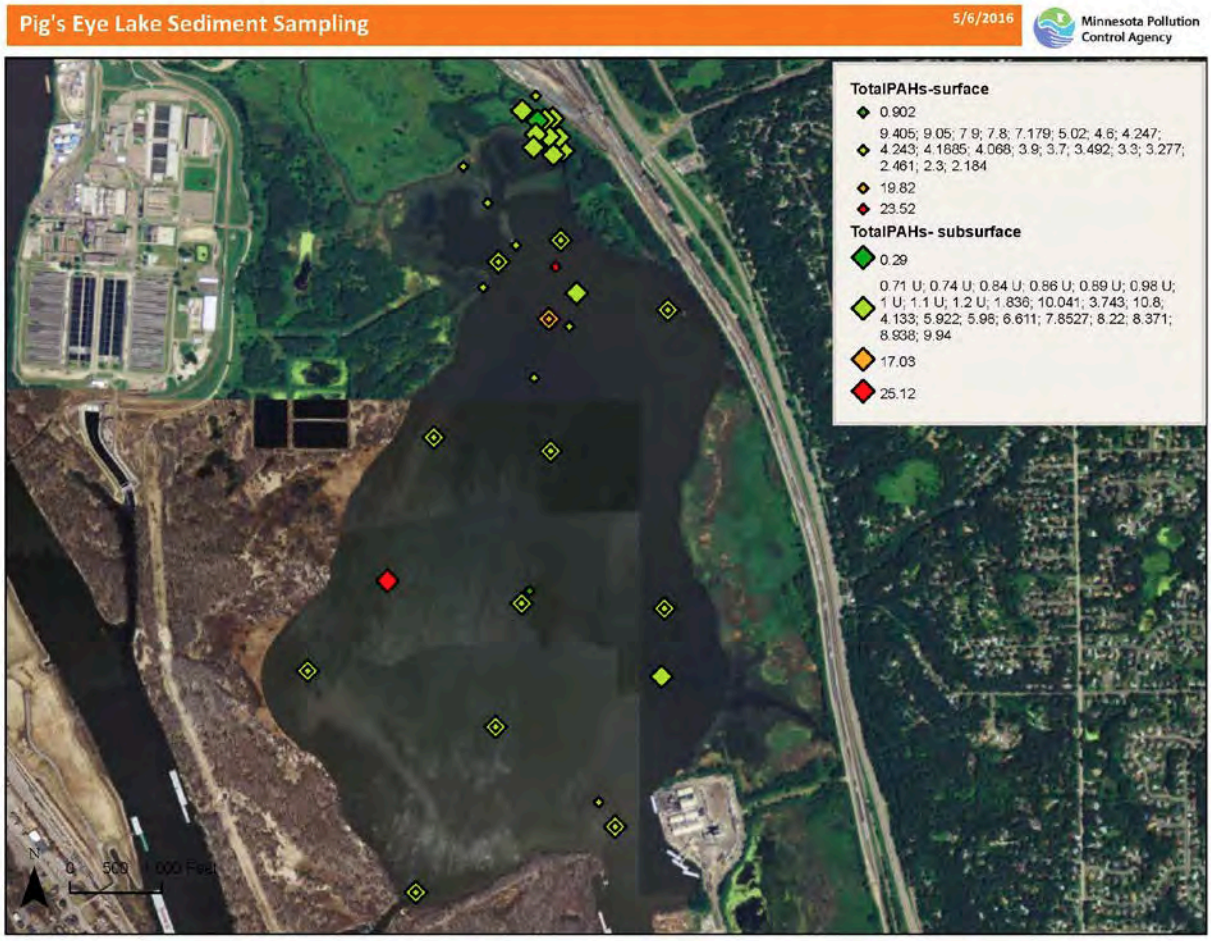
Thanks

Kurt Schroeder

MPCA

Remediation Div

651 757 2703


Pig's Eye Lake Sediment Sampling
5/6/2016
Minnesota Pollution Control Agency
TotalPAHs-surface
0.902
9.405; 9.05; 7.9; 7.8; 7.179; 5.02; 4.6; 4.247; 4.243; 4.1885; 4.068; 3.9; 3.7; 3.492; 3.3; 3.277; 2.461; 2.3; 2.184
19.82
23.52
TotalPAHs- subsurface
0.29
0.71 U; 0.74 U; 0.84 U; 0.86 U; 0.89 U; 0.98 U; 1 U; 1.1 U; 1.2 U; 1.836; 10.041; 3.743; 10.8; 4.133; 5.922; 5.98; 6.611; 7.8527; 8.22; 8.371; 8.938; 9.94
17.03
25.12
N
0
500
000 Feet

-----Original Message-----
From: Schroeder, Kurt (MPCA) [mailto:kurt.schroeder@state.mn.us]
Sent: Tuesday, June 21, 2016 8:20 AM
To: Campbell, Nathan J MVP <Nathan.J.Campbell@usace.army.mil>
Cc: Neve, Hans (MPCA) <hans.neve@state.mn.us>; Foster, Pamela (MPCA) <Pamela.Foster@state.mn.us>; Scott, Mary Gail (MaryGail.Scott@metc.state.mn.us) <MaryGail.Scott@metc.state.mn.us>
Subject: [EXTERNAL] PigsEye_BMPmaplake.pdf

Nathan,

Here is our revised map of Pig's Eye Lake Sediment Management Areas. We have not delineated the area that needs more sampling but it encompasses the three points where PAHs, PCBs and metals were elevated. i.e. PE7, PE8 and PE10.

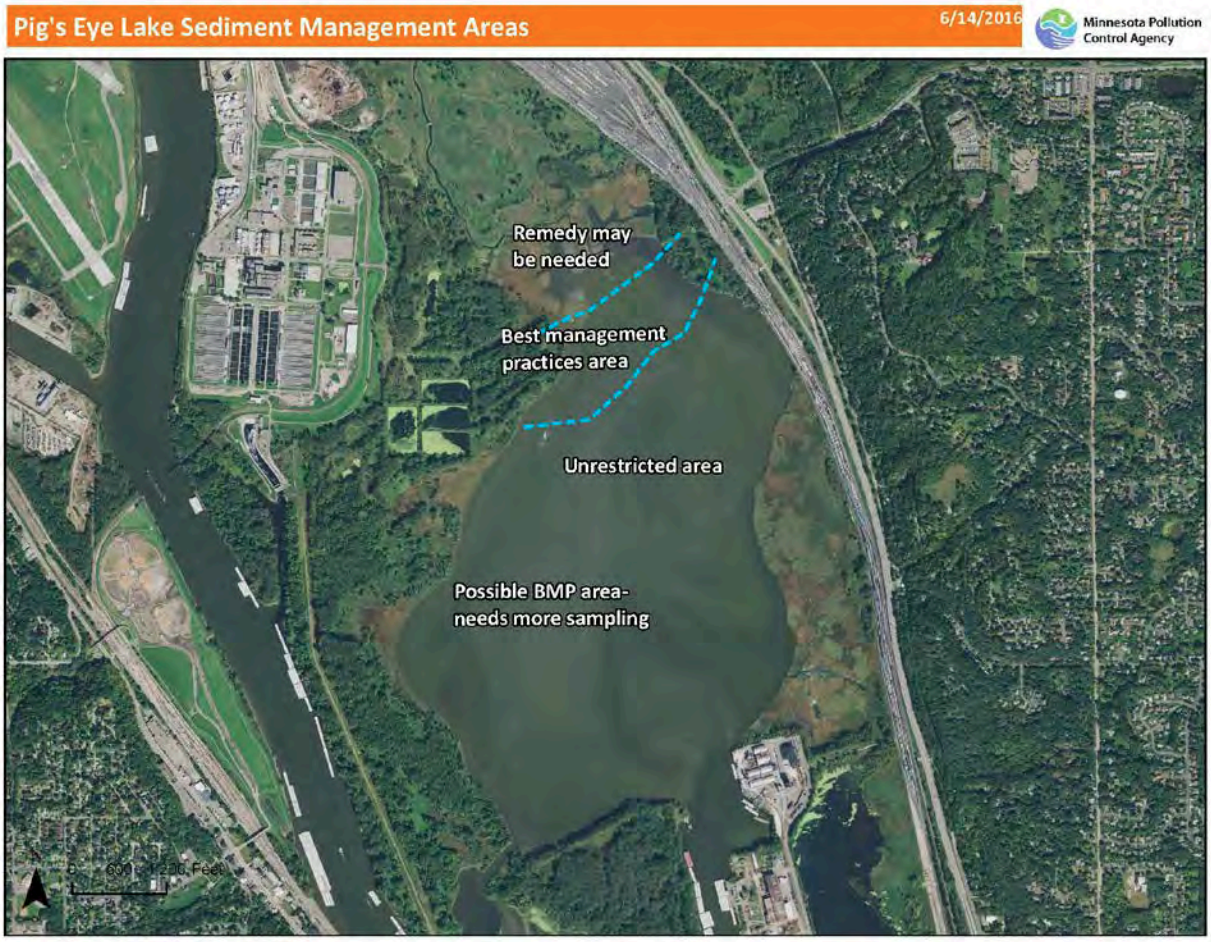
We can discuss more at today's meeting if you like.

Thanks

Kurt Schroeder

MPCA

Remediation Div.


Pig's Eye Lake Sediment Management Areas
6/14/2016
Minnesota Pollution Control Agency
Remedy may be needed
Best management practices area
Unrestricted area
Possible BMP area- needs more sampling
600 0 1200 Feet

From: Schroeder, Kurt (MPCA)
To: Campbell, Nathan J MVP; Schnick, Emily (MPCA); Neve, Hans (MPCA); Scott, Mary Gail (MaryGail.Scott@metc.state.mn.us)
Cc: Deen, Angela MVP; Noren, James B MVP; McFarlane, Aaron M MVP
Subject: [EXTERNAL] RE: Proposed contaminant sampling points
Date: Monday, July 25, 2016 2:34:31 PM

Nathan,

The proposed distribution of sediment sampling locations for PFC analysis looks satisfactory.

Kurt Schroeder
MPCA
Remediation Div.

-----Original Message-----
From: Campbell, Nathan J MVP [mailto:Nathan.J.Campbell@usace.army.mil]
Sent: Thursday, July 21, 2016 8:33 AM
To: Schnick, Emily (MPCA); Neve, Hans (MPCA); Schroeder, Kurt (MPCA); Scott, Mary Gail (MaryGail.Scott@metc.state.mn.us)
Cc: Deen, Angela MVP; Noren, James B MVP; McFarlane, Aaron M MVP
Subject: RE: Proposed contaminant sampling points

Emily, Hans, Kurt, and Mary Gail,

The lab we go through does not do PFC analysis. We found a lab that can do it however we need to take separate samples. Also we have only budgeted for 6 PFC samples. I've attached the same map I sent before but with the proposed locations for PFC testing. Can you take a quick look and let me know if you recommend moving them at all. Please get back to me by Friday if possible.

Thanks

Nate

Nathan Campbell
St. Paul District USACE
Civil Works Project Manager
PAS and IIS Program Manager
Office: 651-290-5544
Cell: 651-219-2963

-----Original Message-----
From: Campbell, Nathan J MVP
Sent: Wednesday, July 06, 2016 3:19 PM
To: Schnick, Emily (MPCA) <Emily.Schnick@state.mn.us>; Hans Neve <hans.neve@state.mn.us>; 'Schroeder, Kurt (MPCA)' <kurt.schroeder@state.mn.us>; Foster, Pamela (MPCA) <Pamela.Foster@state.mn.us>; 'Bares, Mike (MPCA)' <mike.bares@state.mn.us>; Scott, Mary Gail (MaryGail.Scott@metc.state.mn.us) <MaryGail.Scott@metc.state.mn.us>
Cc: Deen, Angela MVP <Angela.M.Deen@usace.army.mil>; Noren, James B MVP <James.B.Noren@usace.army.mil>; McFarlane, Aaron M MVP <Aaron.M.McFarlane@usace.army.mil>
Subject: Proposed contaminant sampling points

MPCA and Mary Gail,

I've attached a map with our proposed sampling locations for Pigs Eye Lake. There are 8 locations that exist in the common locations of the various island footprints that we are considering at this time. The proposal is to take composite samples of 3 foot cores at each location. We will be testing for PCBs, PEST, PAHs, metals, grain size and PFCs.

We will plan on testing the temporary placement piles that we propose to obtain our material from at a later date.

Please provide any comments or concerns with this plan by the end of the week (July 8).

Thanks

Nate

Nathan Campbell
St. Paul District USACE
Civil Works Project Manager
PAS and IIS Program Manager
Office: 651-290-5544
Cell: 651-219-2963

-----Original Message-----
From: McFarlane, Aaron M MVP
Sent: Tuesday, June 21, 2016 11:13 AM
To: Deen, Angela MVP <Angela.M.Deen@usace.army.mil>; Campbell, Nathan J MVP <Nathan.J.Campbell@usace.army.mil>
Subject: Proposed contaminant sampling points

As promised, here's my proposed sampling points. The proposed island outlines are shown in differing colors, and the areas where they all intersect are shown in yellow. Not all islands had good intersects, so I took my best shot at them.

Also shown are the past sampling points, in case that influences decisions.

Aaron

From: Foster, Pamela (MPCA)
To: Campbell, Nathan J CIV (US)
Cc: Neve, Hans (MPCA); Campbell, Fred (MPCA)
Subject: [EXTERNAL] BMP map
Date: Tuesday, September 26, 2017 10:30:22 AM

Hi Nate,

Glad to hear the Pig's Eye Islands FS moving into the final phase! The MPCA Pig's Eye team has reviewed the draft feasibility report you provided and the Appendix E Sediment Report. There will not be any changes to the MPCA's BMP area map (figure 14, pg. 30 of pdf). We are looking forward to seeing the final report.

Please let me know if you have any further questions.

Have a great day!

Pam

Pamela **Foster**
Remediation Division
Minnesota Pollution Control Agency
520 Lafayette Road | Saint Paul, MN | 55155
Office: 651-757-2778| Fax: 651-296-9707 | Email: pamela.foster@state.mn.us

Minnesota Pollution Control Agency

9 Habitat Sub-Group

To improve efficiency of correspondence amongst agencies with an expertise in habitat development and habitats of the Pigs Eye Lake area the Pigs Eye Islands CAP 204 PDT developed an interagency habitat sub-group. The sub-group consisted of staff from the Minnesota DNR, National Park Service, Fish and Wildlife Service and the Corps. The following are the meeting minutes from the Habitat Sub-Group meetings.

PIGS EYE LAKE SECTION 204 28 Mar 2016

Meeting Notes: Habitat Sub Group Meeting #1

Prepared by: Aaron McFarlane

Attendees:
MNDNR – Joel Stiras
NPS – Allison Holdhusen
USFWS – Nick Utrup
USACE – Nate Campbell, Aaron McFarlane

On preferred habitat types and target species...

-Incorporation of structure – log cribs, downed trees, etc. to promote fisheries
-Additional shoreline and interstitial space will add some level of fisheries benefits
-Shad Production (rock habitat?)
-Protection of existing resources a priority. Otter dens, eagle nests, hardwoods on west shore...
-Incorporation of an overwintering area could be helpful with carp problem
-It would be good to consider mussels. Any way to construct habitat for backwater species?
-Crayfish, cricket frogs, or mudpuppies?

On target vegetation types

-River bulrush – possible spread by rhizomes and flood-tolerant
-Arrowhead and lotus likely plantable
-pickerelweed, blueflag iris could be desirable
-prairie cordgrass and willows on lower islands desirable
-Trick will be ensuring substrate will be consolidated enough for plants to hold.
-NPS may be able to provide some assistance with planting – volunteers or funding.
-Willows likely to be targeted by beavers, so recommend ensuring diversity
-Cottonwoods

On surrogate species and habitat benefit calculation

-Dabbling duck and black-capped chickadee most promising at present.
-It was also suggested to consider models of species present nearby, such as herons.
-Turtles could be considered. Currently only snapping turtle model available.

On existing resources

-Several river otter populations
-Beavers prolific in some areas
-Fishery consists primarily of carp and buffalo, but carp have been decreasing to some degree
-Several active bald eagle nests
-Heavy waterfowl/waterbird use on Pigs Eye and Red Rock Lakes.
-Waterfowl composition weighted toward dabblers in Red Rock and divers in Pigs Eye.

On contaminants

-Universal concern for construction techniques and ensuring that construction does not suspend contaminants.
-Corps planning to date has focused on how to construct on thick layer of flocculent sediment while minimizing mud waves, re-suspension, and sinking. Currently developing construction methods based on those used successfully in other areas with similar sediments and contamination present.
-In regards to attracting wildlife to the area with contaminants present, several points were made:
    -Remediation would be preferable and should occur (although it cannot be a goal of this project based on the Corps authority the project is being funded under).
    -Lots of wildlife currently
    -In the absence of remediation, habitat may still be preferable
    -Not likely to attract enough wildlife to have population impacts on species
    -Because the islands would reduce wind fetch, sediment and contaminant re-suspension would hopefully be reduced, perhaps reducing contaminant exposure.
    -Sand features would reduce the exposed area of existing (contaminated) substrate
-Additional Eagle contaminant data to be reviewed by Corps

Ideas for potential related management options

-Closing off upper Battle Creek inlet area with rock or sand structure to keep contaminants out.
-Drawdown still desirable. Potential for coordination with Lassard Sams or Clean Water Legacy Council?

PIGS EYE LAKE SECTION 204

Habitat Sub Group Meeting #2 AGENDA

Date & Time:	Monday, July 11; 1:00-3:00 p.m.
Location:	1200 Warner Road St. Paul, MN 55106-6793
Room:	Willow Brook Room, Downstairs

(1) Array of Alternatives *(Maps Included in read-ahead)*

- 5 Island alternatives to address problems:

- Loss of emergent aquatic vegetation
- Loss of submergent aquatic vegetation
- Lack of island habitat in Pigs Eye Lake and within Pool 2
- Degradation & loss of shoreline habitat
- Lack of depth diversity
- Others?

1. *Improve aquatic habitat.*
2. *Increase terrestrial habitat diversity.*
3. *Maintain or enhance the quantity of shoreline habitat.*

- Additional Formulation Considerations – smaller details, benches, sand blankets, etc.
- Requesting input on alternative designs and finishing touches:
  - Plantings -
  - Structure incorporation -
  - Target species -

(2) Dabbling Duck Model

- Discuss Early Results
- Wind Fetch Model Results

(3) Vegetation Survey Results

- Water was high – performed limited ground survey
- Used to develop very coarse idea of communities present
- Still need survey from water to assess near-shore plants

(4) Contaminants Update

- MPCA discussions summary
- USACE Draft PFC Data/Literature Review *(Draft Report included in read-ahead)*
- Path Forward – proposed sampling etc.