



RICE CREEK WATERSHED DISTRICT

4325 Pheasant Ridge Dr. NE #611 • Blaine, MN 55449-4539
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www.ricecreek.org

FEBRUARY							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
		1	2	3	4	5		1	2	3	4	5	
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27	28						27	28	29	30	31		

RCWD BOARD OF MANAGERS WORKSHOP

Monday, February 7, 2011, 2:30-4:30 p.m.

Rice Creek Watershed District Office
4325 Pheasant Ridge Dr NE, Suite 611, Blaine, Minnesota

****Note time change****

Agenda

CALL TO ORDER

ITEMS FOR DISCUSSION

- Follow-up discussion on 1/10/11 policymaker and stakeholder meeting
- Potential Houle property acquisition and ACD 15 / JD 4 (pending receipt of additional information)
- Lange Parcel discussion
- Litigation update Lee Stevens
- Century Farms drainage issue discussion
- Resolving historic permit files discussion
- Staff report (as requested at 1/26/11 Board meeting) – Dawn Pape, Environmental Education Coordinator
- Discussion on Woodland Rd. drainage problem inter-governmental agreement to complete feasibility study (pending receipt of information from partner Cities)



- Follow-up discussion on 1/10/11 policymaker and stakeholder meeting

Discussion Outline: February 7, 2011 Board Workshop

Follow-up discussion on 1/10 Legislative meeting

1. Historical Context
2. Development of Current Drainage System Policy
3. Current Experience with Drainage System Repair Under Policy
 - a. Restoration of Predictable Drainage Efficiency
 - b. Restoration/Preservation of Ecological Functions
 - c. Payment of Damages for Impaired Rights
 - d. Allocation of Costs
4. Reaction to Cost of Implementation of Drainage System Policy
5. Re-evaluation of Current Policy
6. Operational “Pause” to Current Activities
7. Development of Courses of Action
 - a. Current Actions
 - b. Range of Additional Alternatives
 - c. Hard vs. Soft Approach
 - d. Likelihood of Success
 - e. Credibility
8. Re-statement of District Policy
9. Guidance to Staff
10. Communication with Public
11. Discussion on subcommittee appointment and possible dates for meeting with Ray Bohn (March 15th at 3 p.m. or 10 a.m. on March 16th or 17th at the Kelly Inn.)

- Potential Houle property acquisition and ACD 15 / JD 4 (pending receipt of additional information)

Technical Responses to the Board of Water and Soil Resources Comments on the Houle Wetland Bank Part A Application

January 27, 2011

Comment No.	BWSR Agency Comments (Lynda Peterson Email dated 12/22/2010)	Response
BWSR-1	First and foremost the DNR Division of Waters and Rice Creek WD need to come to a conclusion on whether areas within the project are DNR Protected Wetlands. If this is resolved then RCWD may want to continue with this project.	We understand there is an interpretation from BWSR staff, supported by the Attorney General, which does not allow credit for the restoration of wetlands located within the boundary of a public water (PW) or public water wetland (PWW). Our understanding of the rationale for this is that PW's and PWW's because of their regulation by DNR, are not considered wetlands eligible for credit. According to the DNR, reclassifying the Public Water Wetland is a possibility, but an uncommon occurrence. Should the original classification as a PWW be in error, this may be one reason for re-classifying the Public Water. The RCWD would have to formally request that the DNR proceed with reclassification. Attachment 1 shows the PWW boundary relative to the boundary of the former Houle WMA. The area of the PWW is 24 acres. The portion of the project area downstream of the current sediment blockage is believed to be partially drained. There are 34.2 acres of degraded wetland below (i.e., downstream from) and 23.2 acres above (i.e., upstream from) the current blockage. The PWW classification seems tenuous and RCWD will be requesting assistance from the DNR to re-evaluate their 1979 determination. Attachment 1 shows no open water on those aerial images nearest in time to the 1979 determination date. None of the wetlands shown on the National Wetland Inventory were types 3, 4 or 5. This provides some evidence of the need to revisit the PWW determination.
BWSR - 2	The Anoka County Highway Department needs to approve moving JD4 along their county road on the east side of the project. They may not want a ditch there for safety reasons.	Elm Crest Ave N is a city street located on the boundary between the City of Columbus and Forest Lake and so dually owned by the communities. The re-aligned open channel will not be within the road right of way. Both communities have been involved in developing the restoration project concept and the location and design of the realigned open channel has not been an issue. The communities will continue to be consulted as the project proceeds. Expectations are that design of the re-aligned channel will be completed in a context-sensitive manner, which enhances the restoration of the project area. The open channel is expected to be located beyond the roadway recovery zone.

BWSR - 3	If JD4 is to be moved along the road, more information on the design and cross section of the proposed clay liner needs to be submitted. The entire ditch may need to be lined to protect any lateral effect from the ditch. Calculations of scope and effect will need to be reviewed by BWSR technical staff to ensure that minimal drainage will occur.	The current design concept and Opinion of Probable Construction Cost (as presented in the Addendum to the Repair Report) assumes the entire bottom and western side slope of the new JD-4 branch will be lined with clay, along the entire length of the branch that extends through the Houle Wetland Bank Site, to an extent that will prevent inadvertent drainage effects on the adjacent wetlands. Detailed cross-sections and design information will be submitted as part of the Part B application. A technical specification for permeability will be included in the construction documents.
BWSR - 4	Elevations of culverts upstream will need to be submitted for review.	The elevation of the culvert at 145 th Street is 889.11, and the Main Trunk Tile upstream from this culvert is 891.77. Please note that extensive hydraulic analysis has been completed of the existing and proposed structures and tile systems for both the current and future land uses. These analyses are included in the repair report and addendum to the repair report, which can be found in drainage system page on the District's (website http://ricecreek.org/index.asp?Type=B_BASIC&SEC={FFBA6E9B-055A-4DE2-A1AC-2601F98AF31B}). Additional relevant culvert elevations can be included in the Part B Wetland Banking Plan. However, extensive hydrologic and hydraulic analysis of the public drainage system has been completed, sufficient for final design purposes.

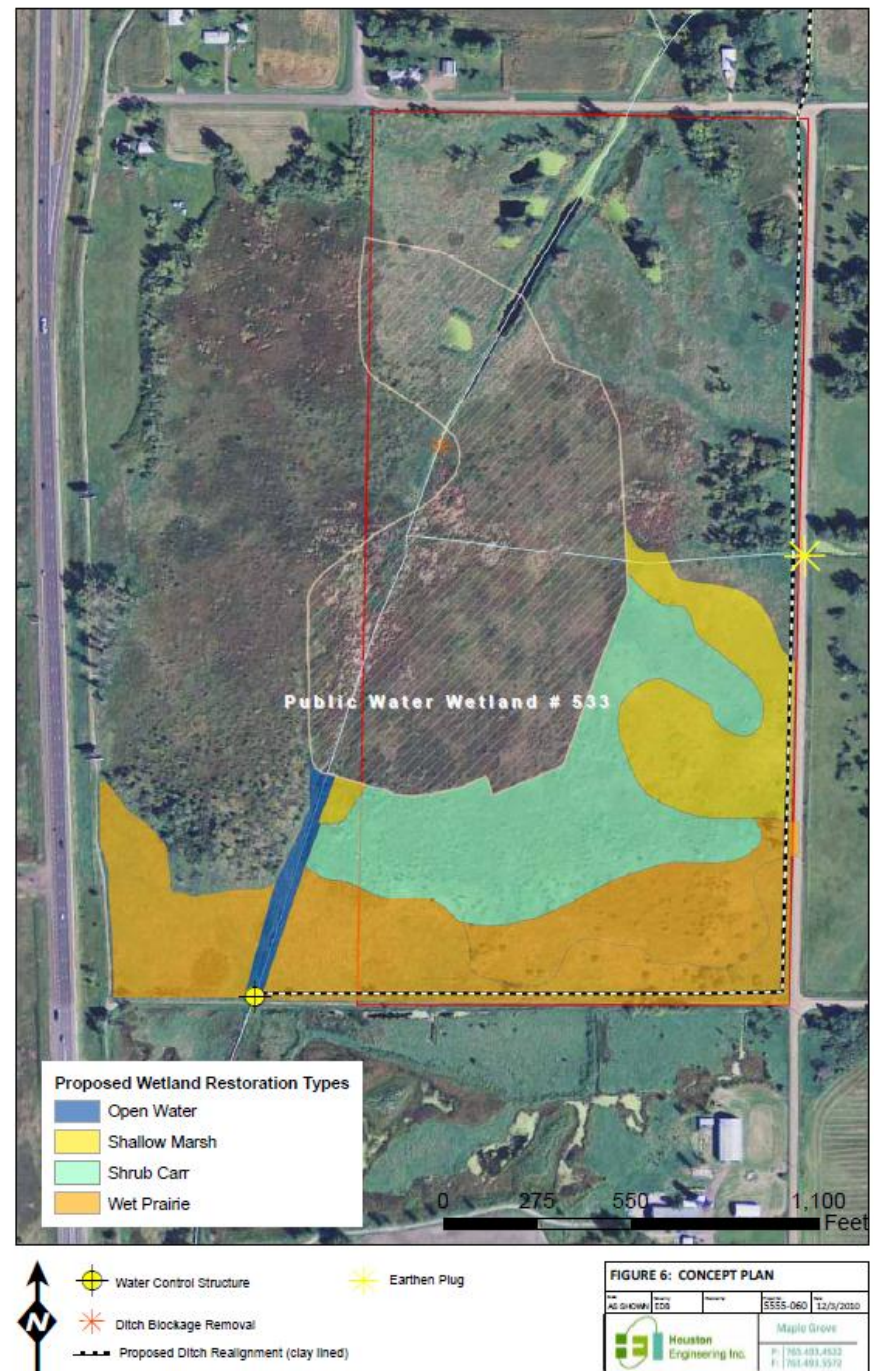
BWSR - 5	What is the proposed watershed ratio (pre and post construction)? By removing the watershed from JD4 from the site, will this have an effect on the wetland and its restoration abilities?	The current drainage area to the Houle property is 2,445 acres and includes both the ACD 15 and main trunk of JD 4. Following the repair of the ACD 15 / JD 4 public drainage system, only the ACD 15 portion of the drainage area will contribute runoff to the wetlands within the Houle property. Following repair of the public drainage system the drainage area to the Houle property will be 530 acres (21.7 percent of the current contributing drainage area). The repair project has included the idea of restoring wetlands within the former Houle WMA since inception. Because of a concern about the potential hydrologic effects of a smaller contributing drainage area and the desire to restore wetlands within the Houle property extensive hydrologic and hydraulic analyses for both existing and future land uses were completed. The results of these analyses are presented within both the Repair Report and the Addendum to the Repair Report. The analyses included the use of the Storm Water Management Model operated in continuous simulation mode (reporting results at 10-minute increments) to estimate daily water levels and flow rates throughout the system. The model results were used to compare mid-April through mid-October daily mean water elevations for existing and proposed conditions. Attachment 2 shows the model estimated mean daily water levels using notched box plots for two locations within the Houle WMA; i.e., 1) upstream of the proposed weir and downstream of the current channel blockage; and 2) upstream of the current channel block and downstream of 145th street. These locations are representative of the potential hydrologic change as a result of the project. The model results (blockage removed) show that the mean daily water level will be increased downstream of the blockage by ~ 0.33-feet and reduced slightly by 0.25-feet upstream of the blockage. These results suggest sufficient post-project wetland hydrology to restore wetlands downstream from the current blockage. The modeling results also show that the daily water levels will be more “stable” as the post-project condition shows considerably less range between the 25th and 75th percentile values. The minimum water level will be increased and the maximum water level reduced, based on the modeling results; i.e., the water levels will be more “predictable”. (It should be noted that the present model does not incorporate evapotranspiration from the wetland surface – only surface water runoff.) The weir structure, when installed to restore wetlands within the project area, represents greater “certainty” compared to the current channel blockage. The current channel blockage is primarily comprised of accumulated sediment, which is subject to erosion and washout-out during high flow events or changing environmental conditions. Demonstration of restored hydrology will be confirmed through monitoring. However, these results suggest that not only is the drainage area for the project sufficient to provide sufficient runoff, but that water levels will be increased across a good portion of the project area, and more stable water levels realized.
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BWSR - 6	Well information?? The installation of monitoring wells was suggested a year ago and no wells have been placed within the site. This information is crucial to assist in confirming existing hydrology and the success of the restoration. They should be placed now to capture the spring hydrology on the site prior to construction.	We have previously submitted our hydrologic monitoring plan for agency review and it was approved for implementation. The installation of the wells is currently pending land acquisition. When land acquisition is finalized, the hydrology monitoring plan will be implemented (several TEP members suggested we resend this document out, which we can do upon land acquisition) and the wells will be installed, prior to spring thaw by accepted methods.
BWSR - 7	What is the reality of the ditch alignment on the NE corner of the property? The elevations don't seem to correlate with an easy alignment. This area will need to be assessed as to what the "new" route of JD4 should be.	There is an approximate 10 foot ridge located in the northeastern corner of the property. The area to the north of the ridge is approximately the same elevation as the area south of the ridge. A minor amount of grading will be necessary to construct the ditch through this small ridge. A detailed profile of the open channel is included in previous engineering documents.
BWSR – 8	It is suggested to remove the spoil piles within the corridor of the existing ditch. This may help in vegetative control of invasives.	Yes, this will be included as part of the overall restoration plan as was noted in the Part A Application.
BWSR - 9	There is concern over the need for an easement on the Hair property. Will it be a flowage easement or part of the wetland bank application for credit? If credit is proposed for this area, then Mr. Hair will need to be a co-applicant on this plan. Mr. Hair's property will need to be part of the application for banking with vegetation management and what type of restoration credit will occur. It is not clear in Part A as to what the intent of this property will be.	The Part A application and the project will include the property owned by Mr. Dan Hair. After formal discussions have been finalized with Mr. Hair, he will be added as a co-applicant on this plan. As initial discussions with Mr. Hair have been positive, it is intended at this time that a portion of Mr. Hair's property will be restored and included in the Wetland Bank, should the site characteristics allow for this. Mr. Hair's property is now included in the conceptual plan, in Attachment 3. The intent is to restore the wetland through restoration of the natural hydrology regime and native vegetation to degraded wetland. The proposed weir would restore hydrology consistent with the surrounding ground elevation. There are 34.2 acres of degraded wetland downstream of the blockage shown on Attachment 3. Of these 34.2 acres, 12.3 acres are considered severely degraded and 21.9 acres are considered moderately degraded based on the current functions and services information. The credit is available in demonstrating a quality shift in the pre and post function and services evaluation (MnRAM); specifically in hydrology (outlet condition) and vegetation.

Attachment 1

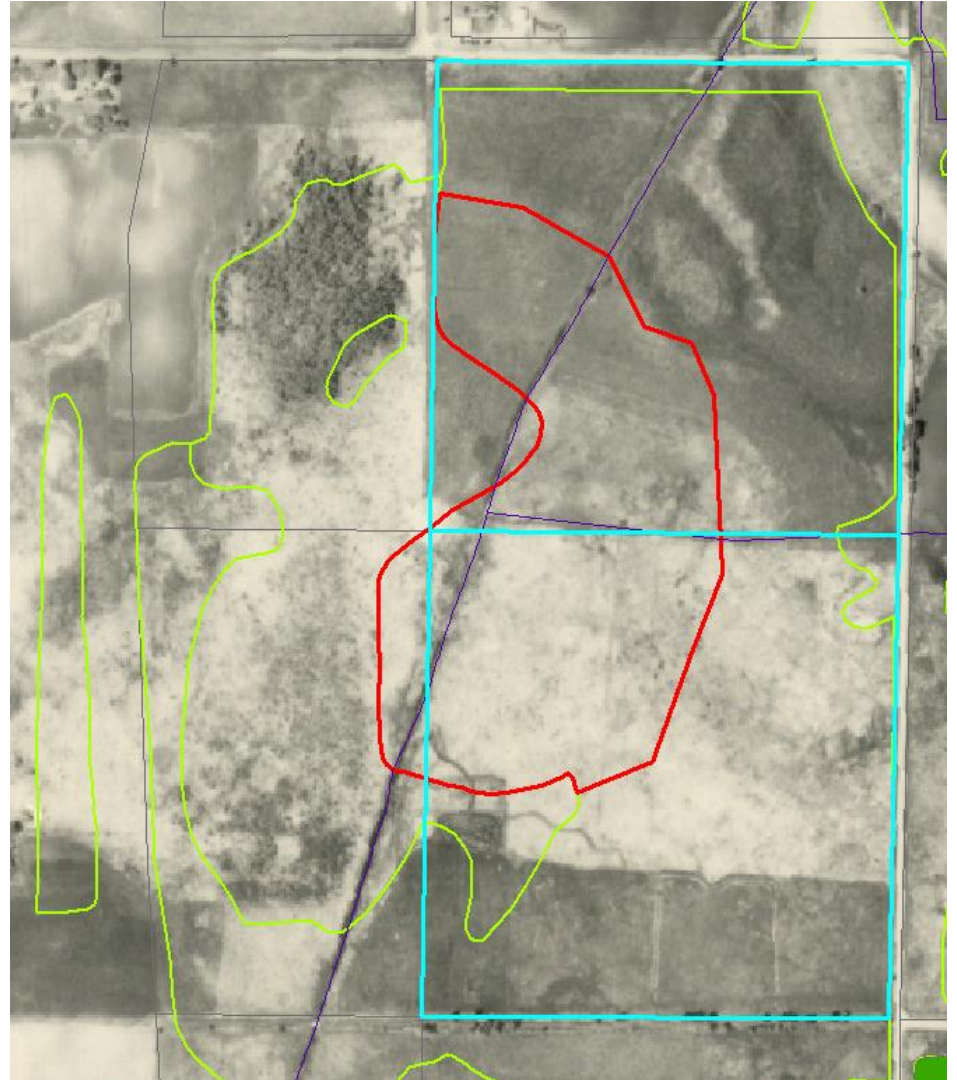
Public Water Wetland

- PWW area is 24 acres
- Ditch blockage is accumulated sediment and subject to washout
- At a minimum, wetlands downstream of blockage are partially drained
- Area with restored hydrology (colored) outside of the PWW boundary is ~ 5 acres



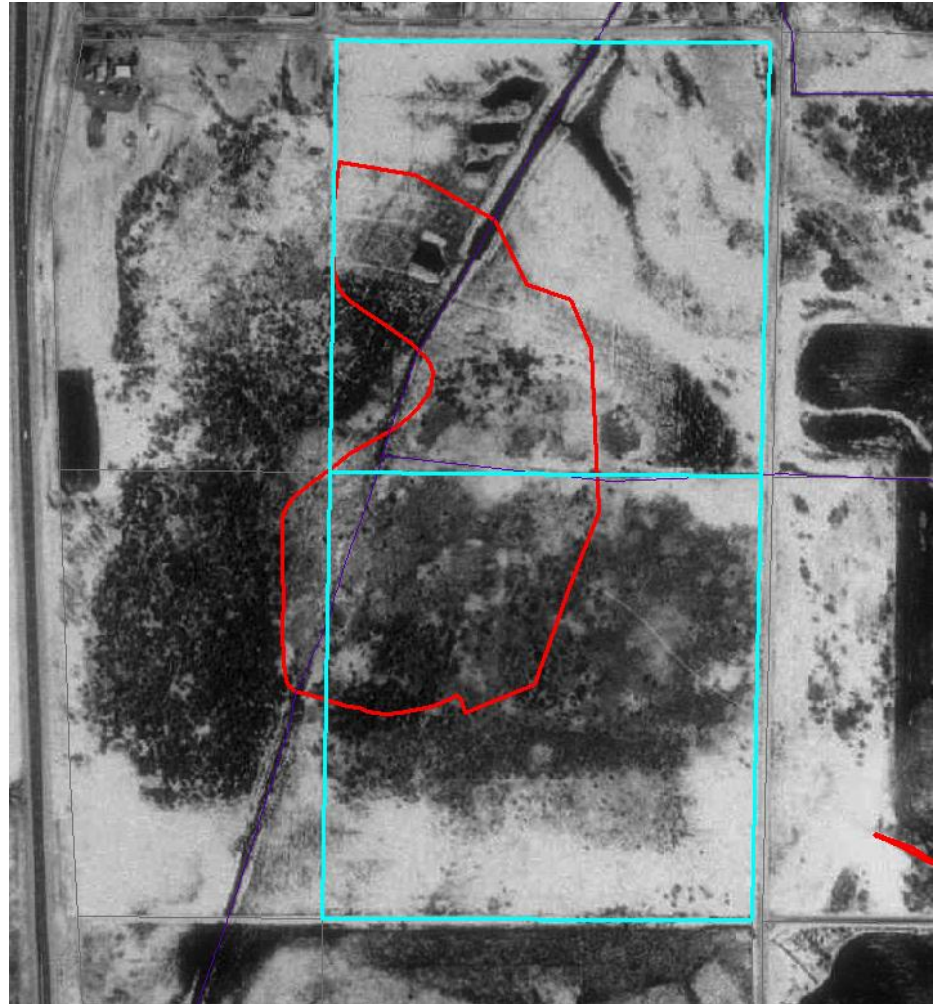
1964 Aerial photo

- PWI extents in red (24 acres)
- Houle parcel in blue
- NWI boundary in green
- No Type 3 wetlands identified in NWI on site (all wetlands listed as Type 2)
- No open water to be seen on site in 1964 photo



1991 Aerial photo

- PWI extents in red
- Houle parcel in blue
- Water in channel and in isolated pool but still not across majority of parcel



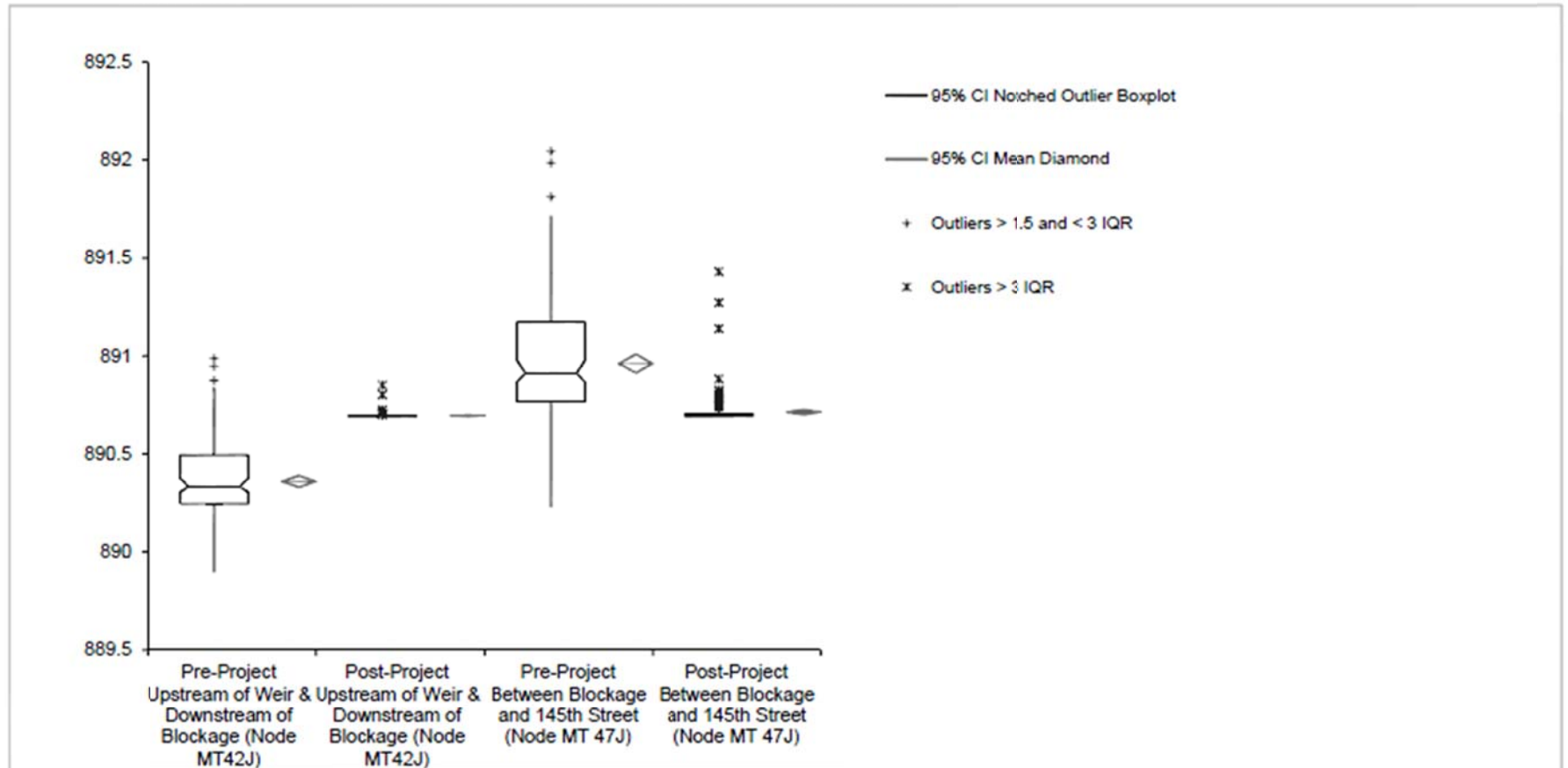
Current Aerial photo (Bing Map)

- PWI extents in red
- Houle parcel in blue



Attachment 2

Test	Describe - Comparative		
Performed by	Pre-Project Upstream of Weir & Downstream of Blockage (Node MT42J), Post-Project Upstream of Weir & Downstream of Blockage (Node MT42J), Pre-Project Between Blockage and 145th Street (Node MT 47J), Post-Project Between Blockage and 145th Street (Node MT 47J)		Date
	Mark Deutschman		11 January 2011

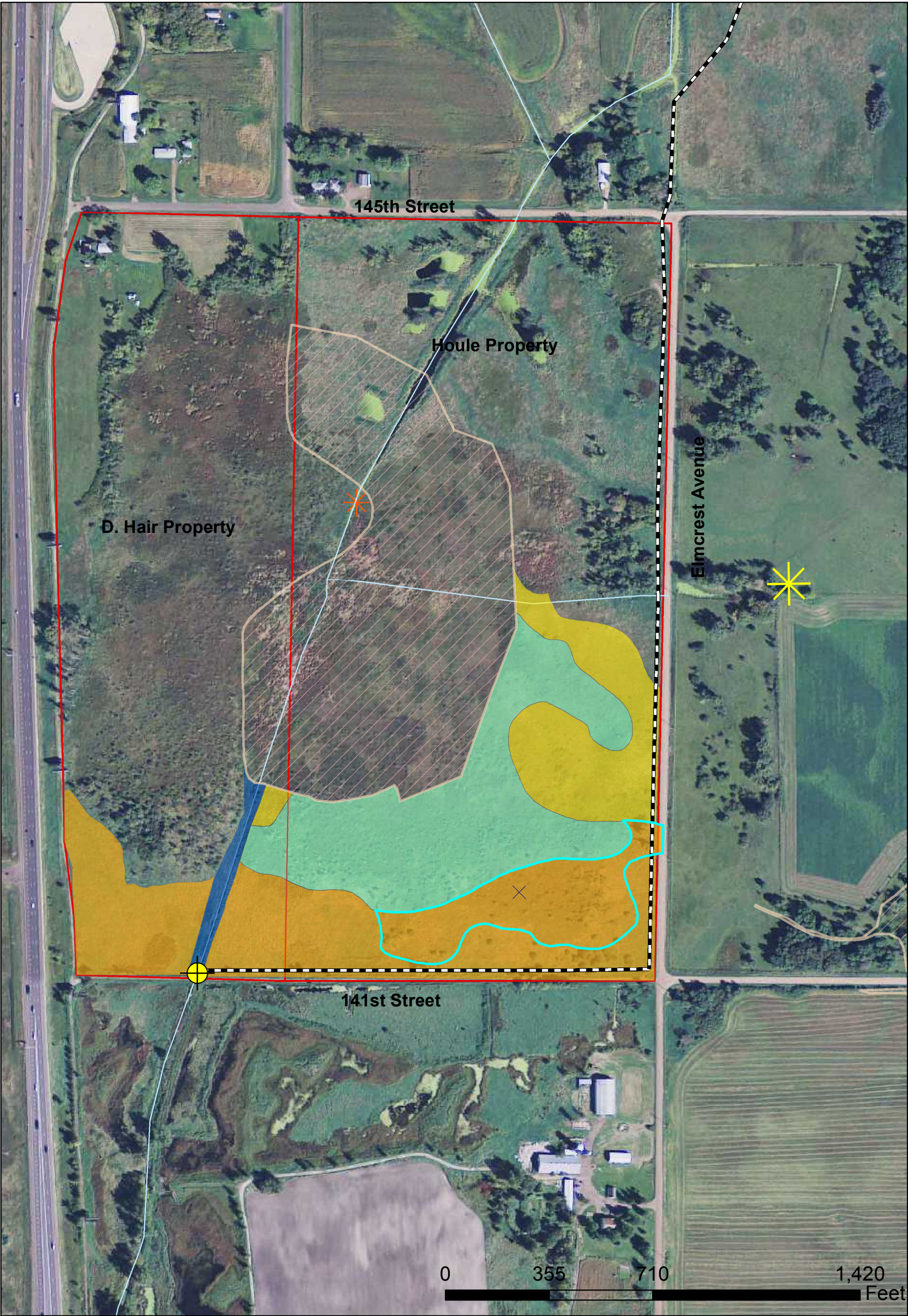


Attachment 2 (cont.)

Test	Describe - Comparative		
Performed by	Pre-Project Upstream of Weir & Downstream of Blockage (Node MT42J), Post-Project Upstream of Weir & Downstream of Blockage (Node MT42J), Pre-Proj Mark Deutschman		Date 11 January 2011

	n	Mean	95% CI	SE	SD
Upstream of Blockage (Node MT42J)	181	890.359	890.329 to 890.389	0.0152	0.2051
Downstream of Blockage (Node MT42J)	181	890.693	890.691 to 890.696	0.0011	0.0147
145th Street (Node MT 47J)	181	890.960	890.911 to 891.008	0.0247	0.3321
145th Street (Node MT 47J)	181	890.712	890.700 to 890.723	0.0060	0.0807

	n	Min	1st Quartile	Median	95% CI	3rd Quartile	Max	IQR
Upstream of Blockage (Node MT42J)	181	889.90	890.244	890.331	890.303 to 890.376	890.493	890.99	0.250
Downstream of Blockage (Node MT42J)	181	890.69	890.690	890.690	890.690 to 890.690	890.692	890.85	0.002
145th Street (Node MT 47J)	181	890.23	890.765	890.909	890.866 to 890.976	891.173	892.04	0.408
145th Street (Node MT 47J)	181	890.69	890.690	890.690	890.690 to 890.691	890.702	891.43	0.012



Water Control Structure

Ditch Blockage Removal

Proposed Ditch Realignment (clay lined)

 Earthen Plug

Attachment 3

FIGURE 6: CONCEPT PLAN				
Scale:	Drawn by:	Checked by:	Project No.:	Date:
AS SHOWN	EDB		5555-060	12/3/2010
 Houston Engineering Inc.			Maple Grove	
			P: 763.493.4522 F: 763.493.5572	

- Lange Parcel discussion

MEMORANDUM

Rice Creek Watershed District

To: Board of Managers **Date:** February 2, 2011
From: Phil Belfiori
Subject: Request from City of Shoreview regarding Louis Lange Property, Shoreview MN

Introduction

Purpose of this memo is to provide an update on the Lange Property as related to the attached letter from the City of Shoreview staff dated January 3, 2011 making a formal request to RCWD for partnership.

Background / Discussion

At their December workshop, the Shoreview City Council unanimously supported the joint purchase of the Lange Property and directed staff to make a formal request to RCWD (see attached letter from the City of Shoreview dated January 3, 2011) for partnership. The attached letter from the City Shoreview requests that RCWD pursue the development of an inter-governmental joint powers agreement for a 3-way partnership arrangement where RCWD would pay approximately 1/3rd of the proposed purchase price (\$105,500) via easement acquisition from Ramsey County and then the County would purchase the property from Mr. Lange for the total estimated market value of \$316,500.

Options for Board Consideration

Option #1. Board agrees to participate as requested by the City in the attached letter. If pursued it is recommended that the Board consider funding this acquisition by utilizing the fund balance for the district Lakes and Streams fund.

- o **Potential benefits:** Would result in resolution of long-standing and complex intergovernmental issue through a shared partnership project. Provides a location to pursue the potential development of a wetland enhancement or water quality BMP project upstream of Valentine Lake (which in an impaired waterbody) and within a completely urbanized /“built-out” portion of the District where finding the available undeveloped and open land area for a treatment or wetland project is not likely to present itself again.
- o **Potential drawbacks:** Perceived high cost of establishing a project

Option #2. Board agrees to participate as requested by the City in the attached letter, but at a proposed purchase price of less than 1/3rd of the proposed purchase price (Less than \$105,500). If the Board prefers this approach, one consideration could be to base the amount of participation commensurate with the water quality or wetland enhancement benefits from a project if funding is ever made available.

MEMORANDUM

Rice Creek Watershed District

- o **Potential benefits:** Provides for RCWD funding level based on the likelihood of receiving less than optimal water quality/quantity benefits if and when project on site is developed.
- o **Potential drawbacks:** Would not be consistent with attached request from City and may eliminate future ability to create a partnership approach to addressing situation and access to site future a future project in this subwatershed.

Options #3. Choose to not participate at this time as requested by the City in attached letter.

- o **Potential benefits:** Would allow Board additional time to consider status of issue and options to address.
- o **Potential drawbacks:** Would not be consistent with attached request from City and may eliminate future ability to create a partnership approach to addressing situation.

At this time staff is requesting that the Board of Managers discuss this item in light of the attached request from the City of Shoreview. This issue was tabled by the Board at the January 12, 2011 Board Meeting and was directed to placed on the February 9, 2011 Board meeting agenda for Board Action.

Attachment: January 3, 2011 letter from City of Shoreview

City Council:
Sandy Martin, *Mayor*
Blake Huffman
Terry Quigley
Ady Wickstrom
Ben Withhart



City of Shoreview
4600 Victoria Street North
Shoreview, MN 55126
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651-490-4699 fax
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January 3, 2011

Mr. Phil Belfiori
Administrator
Rice Creek Watershed District
4325 Pheasant Ridge Drive
Suite 611
Blaine, MN 55449-4539

Re: Potential Joint Agency Purchase of Lange Property

Dear Administrator Belfiori:

The City of Shoreview is seeking further consideration by the Rice Creek Watershed District Board of Managers to partner with the City and Ramsey County in the joint purchase of vacant land owned by Mr. Louis Lange.

The subject property is located on Lexington Avenue, north of County Road E and the CP Rail/Soo Line railroad tracks, and south of the Island Lake single-family residential neighborhood. The property is also just west of the Ramsey County open space area of Island Lake and the County owns a thirty-foot wide strip of land immediately north of the site that includes an improved trail. The property is 4.5 acres in size and has about 550 feet of frontage on Lexington Avenue. The property has always been undeveloped and includes a 2.4 acre wetland that potentially limits maximum private development.

As you know, officials from the City of Shoreview, Ramsey County and Rice Creek Watershed District have had considerable discussions about the history and potential development of the property for a number of years and within the past six months have outlined the framework of a potential three-agency agreement that could lead to the purchase of the property for the public interest.

The City, County and RCWD were approached by Mr. Lange and a representative about his interest in selling the property to the three agencies. The Ramsey County Parks and Recreation Director Greg Mack, former RCWD Administrator Doug Thomas and myself met several times to discuss the property and concluded there was interest in preserving the property for the public benefit by incorporating the parcel into the adjacent County parkland/open space of Island Lake, if a fair purchase price could be established. Mr. Lange was informed of this interest and asked to present an "offer of

sale" in an amount not to exceed the Taxable Market Value of \$276,000 established by the County Assessor.

Subsequent to this communication, Mr. Lange by letter submitted an "offer of sale" in the amount of \$613,300 based on the 2005 Taxable Market Value. After further discussions with both the County and RCWD staff, the City informed Mr. Lange that based on this higher sale price there was no purpose or support for engaging in further negotiations.

More recently, Mr. Lange informed the City that he reconsidered his offer of sale and tendered a new sale price of \$316,500. This value is consistent with Ramsey County's established full Estimated Market Value of the property as they gave a property tax exemption of \$40,500 in recognition of the wetlands (Taxable Value of \$276,000).

The revised offer of sale at \$316,500 was discussed in a joint meeting of the respective lead staff of the three agencies and we concluded it was a more reasonable offer that could be presented to our respective boards for consideration, based upon previous discussions of the parties.

Staff from the three agencies has outlined general terms of a three-party agreement that would be executed stipulating the interests and requirements of the County, City and RCWD. The concept would be for Ramsey County to actually acquire and own the Lange property, with the Rice Creek Watershed District being conveyed an easement for the wetland areas, and all three entities maintaining certain rights for future stormwater and trail improvements. It was also noted there may be potential value of wetland credits that could be shared among the three units of government.

In reviewing the proposal at their December workshop meeting, the Shoreview City Council unanimously supported the joint purchase of the Lange property, noting the benefits of securing the property for public ownership, park and trail use, and potential for environmental improvements that could be initiated similar to other recent partnerships between the City of Shoreview and the Rice Creek Watershed District. Furthermore, the City Council also believes the purchase would eliminate any potential legal claims or exposure risks towards the three public agencies that have been alleged by the property owner.

On behalf of the City Council, the City of Shoreview is respectfully requesting the Rice Creek Watershed District Board of Managers agree to participate in the joint purchase of the Lange property as has been outlined.

Sincerely,



Tom Simonson
Assistant City Manager
and Community Development Director

MEMORANDUM

Rice Creek Watershed District

To: Board of Managers
From: Doug Thomas
Subject: Louis Lange Property, Shoreview MN

Date: July 6, 2010

Background / Discussion

Purpose of this memo is to provide some basic information regarding the Lange parcel in the City of Shoreview and recent history in relation to a recent offer made on Mr. Lange's behalf by Mr. Todd Sharkey to sell the property to the County, City and RCWD. In discussing this offer with Board President Preiner it was agree to put this on the July 12th Board Workshop for discussion.

At the December 9, 2009 Board meeting during the open microphone time Mr. Louis Lange spoke to the Board about property he owns in the City of Shoreview and the history of unfair treatment by various local governments with his attempts to sell and/or develop the property. A Ms. Linda Sharkey also spoke briefly in support of Mr. Lange's situation. Mr. Lange provided a handout which included various pieces of information relating to his property.

On December 15, 2009 a Mr. Todd Sharkey requested that he be placed on the January 13, 2010 RCWD agenda. In his e-mail he stated that he had a few issues that he would like to bring to the attention of the Board followed by a request for action by Mr. Lange.

On January 13, 2010 Mr. Sharkey and Mr. Lange were on the agenda and presented information on why they felt that the District was liable for flooding of the property as a result of a permit issued by the District to Ramsey County in the mid 70's. Afterwards the District issued a letter to Mr. Lange stating the Districts position its position on the consequences and liability of the District associated with the old permit and offered its assistance to Mr. Lange to look into the any possible remedy under the Wetland Conservation Act.

On June 22, 2010 Mr. Sharkey contacted the District and explained that Mr. Lange would be willing to sell his property to the County, City and District. He mentioned a price of \$320,000 and felt that the three parties should split the cost. Mr. Sharkey also mentioned that he had contacted both the City and County regarding Mr. Lange's offer. I did talk to Greg Mack, Ramsey County Parks Director, on July 2nd regarding their position on the offer. Mr. Mack acknowledged that he had spoken with Mr. Sharkey. Our discussion can be summarized as follows.

- The property abuts existing Ramsey County park property and would make sense for them to the owner if a sale took place.
- Ramsey County does have an interest due to proximity and trail access off of Lexington.
- Ramsey County does not have money in the budget but would consider making a special request to the County Board.
- The property would need to be appraised as the value has fluctuated all over the place in the last ten years.

MEMORANDUM

Rice Creek Watershed District

- County agrees that 3-way partnership makes sense as the property has features that all parties have an interest in.
- Expectation is that Mr. Lange/Mr. Sharkey would need to coordinate the parties, i.e. the County, City or District would not take the lead on getting the parties together.

The question at hand is does the District agree that there are aspects of the property that if it was acquired would enhance and facilitate the management of water resources in the District that support the goals and objectives of its Watershed Management Plan. If so then the Board would need to give some direction as to moving forward with a communication back to Mr. Lange and Mr. Sharkey that it would be willing to participate in discussions with the County and City.

RCWD history with Lange Property, compiled 12/23/2009

August 3, 1976: RCWD issues a permit to Ramsey County to reconstruct Lexington Avenue and states, “the outlet from the pond will be limited to 3 cfs and will be set at 931.00.”

October 27, 1976: RCWD denies permit for Louis Lange to fill marsh on property because “by application of the District’s marsh filling guidelines, it was determined that the subject marsh does not have sufficient nutrient assimilative capacity to absorb the expected nutrient load generated in its watershed after development.”

January, 1978: Lange property is identified in 1978 Engineers Report for the Upstream Improvements, Long Lake Chain of Lakes Improvements. On pages 19-20, the site is identified as a potential project site to reduce stormwater runoff in Bethel Ditch (formerly RC Ditch 12). A structure would be built by RCWD to retain stormwater when Ramsey County reconstructs Lexington Avenue. On page 39, the need for a structure is dropped because Ramsey County’s plans would reduce flooding as well. On page 51-52, easements were noted as being necessary for flooding projects.

September 5, 1978: CAC issues comments on the Chain of Lakes Improvements, including a comment “For all of these projects where damming of marsh outlet is proposed, the height of the new water level has to be looked at closely to insure that we aren’t causing flooding someplace.”

February 9, 1979: In the Long Lake Chain of Lakes Improvements Project Status Report, the proposed project on the Lange parcel was dropped because recent construction in the area accomplished the same function as the proposed structure.

January 2, 2007: Micheal Jordon begins discussing with RCWD staff (Powell) about the possibility of building a 30-unit condominium on the upland portion of the Lange parcel.

January 9, 2007: RCWD staff (Powell) comment on proposed project, including identifying Lange Pond as DNR wetland 62-193W.

May 25, 2007: RCWD staff (Powell) approves the wetland delineation for the Lange Pond submitted by Mendota Homes and Earth Science Associates.

July 10, 2007: Michael Jordon of Mendota Homes emails staff (Powell) about the possibility of a 1260 square foot impact of the wetland due to the addition of a city required “hammer head” turn around for emergency vehicles.

July 11, 2007: RCWD receives a letter of concern about development of the land around Lange Pond from Merrill Morse of the Friends of Island Lake, a group seeking Lange Pond’s parcel to be preserved as natural area.

July 16, 2007: RCWD receives a project update from Rob Warwick, City of Shoreview, which includes reference to a determination by DNR field staff that the OHW of 62-193W is 933.5 and that any work below that level will require a DNR permit.

July 16, 2008: Todd Sharkey contacts RCWD Staff (Bauer) on behalf of Louis Lange and asked about reasons for large tax increase on the Lange Pond parcel. Staff directs Todd to speak to Ramsey County.

October 14, 2008: Louis Lange invokes the Minnesota Data Practices Act and requests any information about the Lange Pond parcel.

November 3, 2008: RCWD staff (Bauer, Stasica) comply with request turning over 179 copies, scans of a couple of large format plans, a list of search keywords, aerial photos of his property over time, and an invoice for \$100.27 (copies, scans, and 3 hours of staff time)

December 8, 2008: RCWD receives copy of letter from Dale Homuth, Minnesota DNR to Louis Lange which identifies the current outlet (bee hive) of Lange Pond as 931.6 (1912 sea level) and indicates that a previous mistake including Lange Pond as part of 62-193W was

corrected. The only basin considered 62-193W is on the parcel to the east which is owned by Ramsey County. In short, Lange Pond is not a DNR wetland.

October, 2008 – December, 2008: Todd Sharkey exchanges numerous emails with RCWD Staff (Tomczik) regarding the Lange parcel, including discovery of much of the history listed above.

April 4, 2009: Todd Sharkey, on behalf of Louis Lange, invokes the Minnesota Data Practices Act and requests any information about RCWD 76-059, which is the Lexington Reconstruction by Ramsey County. *This project was missed responding to the Oct 14, 2008 data request because Lexington Avenue shows over 10,000 hits as a search term in our electronic files.*

April 13, 2009: Contents of RCWD 76-059, 10 pages, are mailed to Louis Lange and emailed to Todd Sharkey.

April 30, 2009: Meeting at RCWD office with Louis Lange and Todd Sharkey (Thomas & Tomczik). Discussed request to revoke 1976 Ramsey Co. permit, and suggested that RCWD accept responsibility and pay Mr. Lange. Staff offered one possible remedy which would be for Mr. Lange to seek an incidental wetland exemption.

May 11, 2009: Letter from RCWD attorney to Louis Lange stating that RCWD cannot revoke RCWD 76-059 because RCWD did not have procedures to revoke a permit in 1976.

May 14, 2009: Louis Lange sends letter requesting more information from RCWD staff (Thomas).

June 1, 2009: RCWD Staff (Thomas) sends a letter to Louis Lange with portions of 6 more documents (totally 36 pages) that staff (Bauer) were able to find after being given the 76-059 permit number on April 4, 2009.

June 9, 2009: Todd Sharkey and Louis Lange examine reports from the Long Lake Chain of Lakes Improvement Project and copy an additional 15 pages. RCWD staff (Bauer and Thomas) answers some questions regarding the documents.

- Century Farms drainage issue discussion

MEMORANDUM

Rice Creek Watershed District

To: Board of Managers **Date:** February 2, 2011
From: Phil Belfiori
Elizabeth Hosch
Nick Tomczik
Subject: Drainage for Century Farms North development in Lino Lakes (#02-129)

Introduction

Purpose of this memo is to provide an update on the drainage issue associated with the Century Farms development and provide the Board with options for resolution.

The drainage issue is that of the poorly-functioning E2 infiltration basin located just southwest of the Arabian Circle cul-de-sac and west of the Lino Airpark runway. The basin is holding water for longer than the 48-hour required drawdown time, acting more like a holding pond than an infiltration feature. Adjacent property owners have expressed concern over this feature, citing the expectation that it be mainly a dry feature that could be mowed on a regular basis.

Background / History

Permit #02-129 (Century Farms North) was issued on December 3, 2009 following a Board Compliance Order requiring compliance with outstanding CAPROC items. Requirements of the order specifically included re-grading infiltration basin E2 to conform to design plans, incorporating placement of suitable soil mixtures and soil treatment, vegetative restoration and work methods that do not impair the infiltration function of the basin. Activities leading up to the December 3, 2009 issuance include a meeting onsite with involved parties, applicant submitting plans for corrective action and an engineering/permit review of submitted plans. The repair activities were unsuccessful in getting the basin to draw down and the basin remains poorly-functioning.

Permit File #99-097 (Behm's Century Farm, 4th and 5th Additions) was given TWAFAA status on September 17, 1999 and was never issued. An inverted outlet pipe under Palomino was reviewed and approved as a part of this project, which is the control point in the drainage profile downstream of the infiltration basin. This control point appears to be at an elevation higher than the upstream normal water level /outlet elevation of the upstream stormwater features of permit #02-129, including basin E2 under discussion here.

In discussion at the workshop on December 6, 2010, the RCWD Board directed staff to explore possibilities for fixing this possible downstream control point and/or providing alternative drainage to the area to address the lack of infiltration in E2. The attached memoranda from HEI are the result of this investigation.

On December 28, 2010, District staff met with the permit holder, Gary Uhde, and his engineer, John Johnson to inform them that E2 is still out of compliance with District Rules. While, Uhde

MEMORANDUM

Rice Creek Watershed District

expressed general cooperation, he also indicated a general difficulty to spend additional money on this project and made no specific commitment.

On January 14, 2011, staff met with City of Lino Lakes staff to discuss the issue and future maintenance of existing conditions and proposed changes. City staff expressed reluctance to spend much, if any, of their limited budget on this situation, given the limited nature of the complaint and the lack of concrete flooding or drainage concern.

On December 2, 2010, Gary Uhde submitted a request to amend his current permit #02-129, replatting 5 lots from townhomes to single family homes. The District has not yet made decision on this application while awaiting resolution of the downstream E2 issue. It is also likely that the application will be revised in the near future to include only 4 of these lots.

Technical Findings

Houston Engineering (HEI) was tasked with putting together a technical feasibility memorandum for two possible solutions to the situation. These options were to directionally bore a new pipe south of Palomino to effectively remove the recently identified control point or re-route E2 drainage to the east while installing draintile in the basin itself to aid with drawdown. In this memo, it was also noted that although the 10-22-32 profile is higher at the Palomino manhole, the current system is sufficient to serve current and future upstream drainage needs.

In a second memorandum, HEI also explored the possibility of accepting the E2 basin as it currently exists without any additional improvement work. In this memo, it was concluded that there would be little to no negative impact to water quality in this scenario and would also have little to no impacts to downstream water bodies.

Options for Board Consideration

Option #1. Directional boring of a parallel stormwater outlet for Pond D below the petroleum pipeline at Palomino Lane.

- Potential benefits:
 - Removing control point in the drainage profile for future ditch function
 - Potentially resolves E2 ponding problem
- Potential drawbacks:
 - High cost (\$90,000 for which the funding source is yet undetermined)
 - Complications with working around the petroleum pipeline
 - Requires work through private residential property within existing utility easements
 - Significant future RCWD maintenance likely necessary due to unique design

Option #2. Construction of a stormsewer (open trench construction) extending from Basin E2 east between the air park runway and taxiway outletting into the Main Trunk of ACD 10-22-32.

- Potential benefits:
 - Provides best water quality improvement of proposed options
 - Potentially resolves E2 ponding problem
- Potential drawbacks:

MEMORANDUM

Rice Creek Watershed District

- o High cost (a middle cost option at \$65,000, for which the source of funding is yet undetermined)
- o Additional operation and maintenance required by the City
- o Additional runoff into Main Trunk of 10-22-32 (little to no increase in peak flows)
- o Possible maintenance and capacity concerns with such a flat system, requiring additional infrastructure (manhole cleanout points, etc.)

Options #3. Accept feature as currently constructed.

- o Potential benefits:
 - o No/minimal cost
 - o Resolves issue within #02-129 permit
- o Potential drawbacks:
 - o Does not resolve initial complaint (haven't discussed with complainant)
 - o Neighbors may still be unhappy with vegetation and/or standing water

Request for Discussion:

At this time, staff is requesting that the Board of Managers provide discussion and general comments on the District's continued involvement in this project. If necessary, this item would be brought forward as an action item at a future Board Meeting.

Attachments:

1. HEI Feasibility Memo: Drainage Alternatives for Century Farms
2. HEI Water Quality Memo: Effects on Water Quality and Volume, Century Farms North

MEMO



External Correspondence

To: Phil Belfiori
District Administrator, RCWD

Date: January 11, 2010

Cc: File R105555-080.003
Tom Schmidt, RCWD

From: Chris Otterness, P.E.

Through: Mark Deutschman, P.E., Ph.D.

Subject: Drainage Alternatives for Century Farms
HEI Project No. R105555-080.003 Task 001
RCWD Account No. 80-03-4500

Introduction

The purpose of this memorandum is to provide the Rice Creek Watershed District (RCWD) with options and costs to rectify a flooding problem by providing functional drainage for an infiltration basin (referred to as "Basin E2") located in the Century Farms North development, adjacent to the Lino Air Park runway. This basin, shown in **Figure 1**, was designed to infiltrate stormwater runoff from the adjacent grass-strip runway runoff, as well overflow stormwater runoff from an adjacent wet pond, per the RCWD infiltration requirements at the time of its construction (2002 – RCWD permit #02-129). However, the basin is currently inundated with water or ice nearly year-round, resulting in little or no infiltration and increasing the difficulty of vegetation maintenance. The non-functioning infiltration basin led residents adjacent to Basin E2, in particular a resident along Arabian Circle, to begin expressing frustration to the City of Lino Lakes and later to the RCWD regarding the standing water in this infiltration basin and their inability to maintain desirable vegetation (invasives including reed canary grass began growing in the basin). Representatives from the Lino Air Park also have stated concerns regarding safety issues caused by waterfowl attracted to the standing water in the pond. Due to these concerns, the City of Lino Lakes approached the District for help on solving these issues. The RCWD requested Houston Engineering to examine the feasibility of two alternatives for providing a lower outlet for this basin or adjacent basins, which would serve to lower water levels and enable the basin to become dry in between rainfall events.

Background

The residential development Century Farms North was built in several phases beginning in 2002, north of and adjacent to the Lino Air Park, under RCWD permit #02-129. The southern end of this development (adjacent to the air park) drains into a series of stormwater ponds and infiltration basins that are interconnected by either culverts or emergency overflows, eventually draining west into a large stormwater pond (referred to as "Pond D") in the Behm's Century Farms development (constructed under RCWD permit #99-097). This large stormwater pond, constructed over a portion of Branch 1 of Anoka County Ditch (ACD) 10-22-32, is drained south via a stormsewer under Palomino Lane into a series of stormwater basins that are eventually drained by the Branch 1 stormsewer into the Main Trunk of ACD 10-22-32.

Pond D has a design normal water elevation of 895.2, governed by the as-designed elevation of the pipe inverts in the manhole located about 20 feet south of Palomino Street (the actual invert of this manhole as determined by RCWD staff is approximately 895.0). (Note: all elevations in this report are provided in

NAVD'88 datum.) This is significantly higher than the normal water elevation of the stormwater pond immediately downstream (893.6) and of the Functional Profile of ACD 10-22-32 Branch 1 at this location (893.6). The reason for this higher outlet elevation is likely to avoid conflict with and provide sufficient cover over a petroleum pipeline running parallel to Palomino Lane (approximately 15 feet south of the curb in the boulevard). The depth of this pipeline is unknown, but is likely less than two feet below the stormsewer at this location (based on as-built drawings of Palomino Lane and locater readings provided by a representative of Magellan Pipeline Company).

Due to the normal water level of Pond D, Pond E1 in the Century Farms North development was also designed with a normal water level of 895.2 (permit #02-129). These two ponds are connected by a culvert with an outlet elevation of 894.62 (the inlet elevation is unknown – the pipe is currently inverted and submerged with water). Infiltration basin E2 drains into Pond E1 via an overflow weir at an elevation of 894.3. Because the design base grade of Basin E2 is 895, this infiltration feature was (perhaps inadvertently) designed to be lower than the normal water level of the adjacent connected stormwater ponds. This prevented the basin from functioning as an infiltration by design, and ensured that the basin would be semi-permanently inundated with water. The problem was further exacerbated by the overexcavation of the basin during construction. A cross-section survey of the basin on November 23, 2010 indicated base elevations in the basin ranging from 894.2 to 894.8 – up to 10 inches lower than the design grades. The permit for this development is still open, as conditions of the permit remain unresolved. RCWD permit and inspection staff can provide further information on the status of these issues, which are beyond the scope of this report.

Proposed Alternatives

HEI staff evaluated two potential alternatives to create an outlet enabling the lowering of water levels in Basin E2: 1) directional boring of a parallel stormwater outlet for Pond D below the petroleum pipeline at Palomino Lane; and 2) construction of a stormsewer (open trench construction) extending from Basin E2 east between the air park runway and taxiway outletting into the Main Trunk of ACD 10-22-32. A detailed description of each alternative follows. Benefits and risks of each alternative are generally discussed. However, a full hydrologic analysis of the alternatives was not completed for this report.

Alternative 1: Directional boring under Palomino Lane

This alternative consists of a secondary stormsewer outlet installed parallel to the existing stormsewer under Palomino Lane, using directional boring methods. This stormsewer would be installed below the existing petroleum pipeline and below the normal water level of the downstream pond, acting as an equalizer between the two ponds. Because of the depth of the petroleum line, the storm sewer equalizing pipe could not be placed at a continuous grade, but instead would be installed with a “dip” in the line near the petroleum pipeline crossing, and would be permanently filled with water. The inlet and outlet ends of the equalizing pipe would be connected to the existing stormsewer manholes north and south of Palomino Lane, respectively. A second component of this alternative is the lowering of the culvert between Pond E1 and Pond D (currently at an elevation of 894.6) to an elevation of 893.6, providing the maximum lowering of normal water levels in Pond E1 (which is connected to Basin E2 and contributing to its high water levels).

Figure 2 shows a conceptual drawing of Alternative 1.

Potential Benefits of Alternative 1

The effect of the equalizing pipe would be a lowering of the normal water elevation in Pond D and Pond E1 from an elevation of 895.0 to 893.6. This would reduce the tailwater effect occurring in Basin E2, enabling the surface to dry out between rainfall events.

Potential risks and consequences of Alternative 1

Because Alternative 1 lowers the normal water elevation of Ponds D and E1 by nearly 1.4 feet, the functionality of these stormwater ponds may be reduced. Per NURP standards, stormwater ponds are typically designed with a shallow bench for the first foot of depth around the perimeter of the pond, for the purposes of promoting a ring of wetland vegetation and also as a safety feature for children, pets, and adults who accidentally enter the pond. The lowering of the normal water surface in the ponds would expose these benches, reducing or eliminating their intended function. In addition, the dead pool volume of these ponds would be decreased, potentially reducing their sedimentation and water quality functions.

The petroleum pipeline along Palomino Lane adds a level of uncertainty to this alternative, because the depth of the pipeline at this location is currently unknown. Although it is estimated that this pipeline is approximately 10 feet deep at the location of the stormsewer crossing, the actual depth could be several feet higher or lower. A lower pipeline depth would result in a lower installation of the equalization pipe, making future maintenance more difficult. However, it is likely that the pipeline depth will only minimally affect the cost of this alternative. This pipeline would need to be exposed prior to the start of the directional boring and would require disruption to the front yards of the adjacent homes.

Alternative 2: Stormsewer outlet to Main Trunk north of air park runway

This alternative would reroute the outlet for Basin E2 to the Main Trunk of ACD 10-22-32, using a HDPE stormsewer installed (using open trench construction) parallel to the air park runway. Although this route also crosses the Magellan petroleum pipeline, the pipeline at this location is relatively shallow (surveyed at approximately 18" below the ground surface), and the stormsewer when placed with the minimum required spacing to the pipeline will maintain a positive grade to its outlet at the Main Trunk. To reduce the contributing drainage area to Basin E2, the existing culvert between Basin E2 and Pond E3 will be abandoned, and a branch stormsewer to Pond E3 will be provided. This will enable Pond E3 and Basin E2 to operate independently of each other. This alternative will not alter or affect the public drainage system.

Alternative 2 also requires earthwork to block the flow of water from Pond E1 into Basin E2, and to grade the bottom of the basin to drain from west to east (to the direction of the new outlet). This will require excavation of soils from a rise southwest of the air park runway, and placement into Basin E2, raising the bottom elevation of the basin by nearly a foot. A final optional item of this alternative consists of the placement of drain tile along the bottom of Basin E2. This drain tile may not be necessary to eliminate standing water in the basin, but it would reduce the saturation of the subsoils and enable filtration to occur. **Figure 3** shows a conceptual drawing of Alternative 2.

Potential Benefits of Alternative 2

As with Alternative 1, Alternative 2 will enable the complete drainage of surface waters in Basin E2 between rainfall events. When combined with the optional drain tile, this alternative also will enable

runoff to filtrate through soils at the bottom of the basin and into the drain tile. Because the hydraulic connection between Basin E2 and Pond E1 is eliminated, this alternative does not reduce the function of any of the stormwater ponds. The estimated construction cost of Alternative 2 is lower than Alternative 1 (see *Preliminary Opinion of Probable Construction Cost*).

Potential risks and consequences of Alternative 2

This alternative will contribute additional runoff volume to the portion of the Main Trunk open channel near the air park. However, because of the attenuation in runoff flow peaks at this location, the new stormsewer will provided little or no increase in peak flows in the Main Trunk.

Preliminary Opinion of Probable Construction Cost

A Preliminary Opinion of Probable Construction Cost for the two alternatives has been provided and is detailed below.

Alternative 1: Directional boring under Palomino Lane

Construction Costs (includes mobilization).....	\$ <u>63,100</u>
Temporary Easements.....	\$ <u>500</u>
Engineering Design / Construction Management.....	\$ <u>15,000</u>
Contingency (15%).....	\$ <u>11,790</u>
TOTAL OPINION OF PROBABLE COST.....	\$ <u>90,390</u>

Alternative 2: Stormsewer outlet to Main Trunk north of air park runway

Construction Costs (includes mobilization).....	\$ <u>47,700</u>
Engineering Design / Construction Management.....	\$ <u>8,000</u>
Contingency (15%).....	\$ <u>8,350</u>
TOTAL OPINION OF PROBABLE COST.....	\$ <u>64,050</u>

Additional Issues

Water Quality

Downstream water quality may be somewhat diminished for Alternative 1 compared to existing conditions, due to the reduction in dead storage volume in Pond D and Pond E1. The intended function of Basin E2 will not be restored by Alternative 1, since the water table will remain within a foot or two of the surface in this basin, rendering infiltration ineffective.

Though the intended infiltration function of Basin E2 will not be restored by Alternative 2, this alternative will result in an improvement of water quality leaving this basin, compared to existing conditions, through the filtration facilitated by the new underdrain tile. In addition, a smaller volume of water will reach Pond E1, enabling more effective treatment of the runoff at this location.

Impact to the Public Drainage System

Branch 1 of ACD 10-22-32 currently bisects Ponds C and D as its alignment continues north through the greater Century Farms development. The “functional profile,” as detailed in the Historical Review Memo dated February 9, 2010 and ordered by Resolution 2010-09 on March 24, 2010, indicates an elevation of 893.5 for Ponds C and D and the portion of its alignment between these ponds. Although the normal water level and overflow for Pond D is approximately 1.5 feet higher than the functional profile, the current dimension and profile of the public drainage system is sufficient to serve current and future drainage needs upstream of Pond D.

Alternative 1 (directional boring under Palomino Lane) will lower the normal water surface profile for that portion of Branch 1 between Palomino Lane and Century Trail. Upstream of Century Trail, normal water surface elevations in the public drainage system will be unaffected. Alternative 1 may marginally increase flow rates downstream from Pond D for small rainfall events, but will have no discernable impact on larger rainfall events. Alternative 2 (stormsewer outlet along air park runway) will not modify the water surface profile of any portion of the public drainage system. Flow rates in the public drainage system will not be affected by this alternative. Alternative 2 is not to become part of the ACD 10-22-32 public drainage system.

Neither alternative will alter the alignment of the public drainage system.

Easements and Ownership

All new structures for Alternative 1 will be placed within existing drainage and utility easements. However, construction limits will extend beyond the current easement corridor. Temporary construction easements will need to be from adjacent landowners prior to construction (the cost of temporary easements is included in the POPCC). The new equalization pipe would be considered part of the Public Drainage System and thus would be owned and maintained by the District.

Construction of Alternative 2 will largely occur outside existing drainage and utility easements and would be located entirely on the property of the Lino Air Park. If the City of Lino Lakes would wish to own and maintain the storm sewer, then they would need to acquire easement (20 feet in width) along the entire alignment of the storm sewer. Otherwise, the Air Park will own and be responsible for maintenance of the

newly installed storm sewer system. Costs for acquiring drainage and utility easements are not included in the POPCC. Since this alternative does not propose placement of structures within a public drainage system, the RCWD will not have maintenance responsibilities for any of the new structures proposed Alternative 2.

Long term maintenance issues

Because it is predicated on a traditional, gravity flow design, Alternative 2 should not require a substantial long-term maintenance effort. However, the equalization pipe of Alternative 1 may cause challenges for future maintenance due to its inverted siphon design. Similar to a trap used in traditional indoor plumbing, the inverted siphon will have a tendency to collect larger sediments in the lowest portion of the pipe. Velocities in this pipe will be relatively low, which will further exacerbate the problem. Depending on the size and density of the solids entering the pipe, sediment removal may need to be performed relatively frequently, using a vacuum truck.

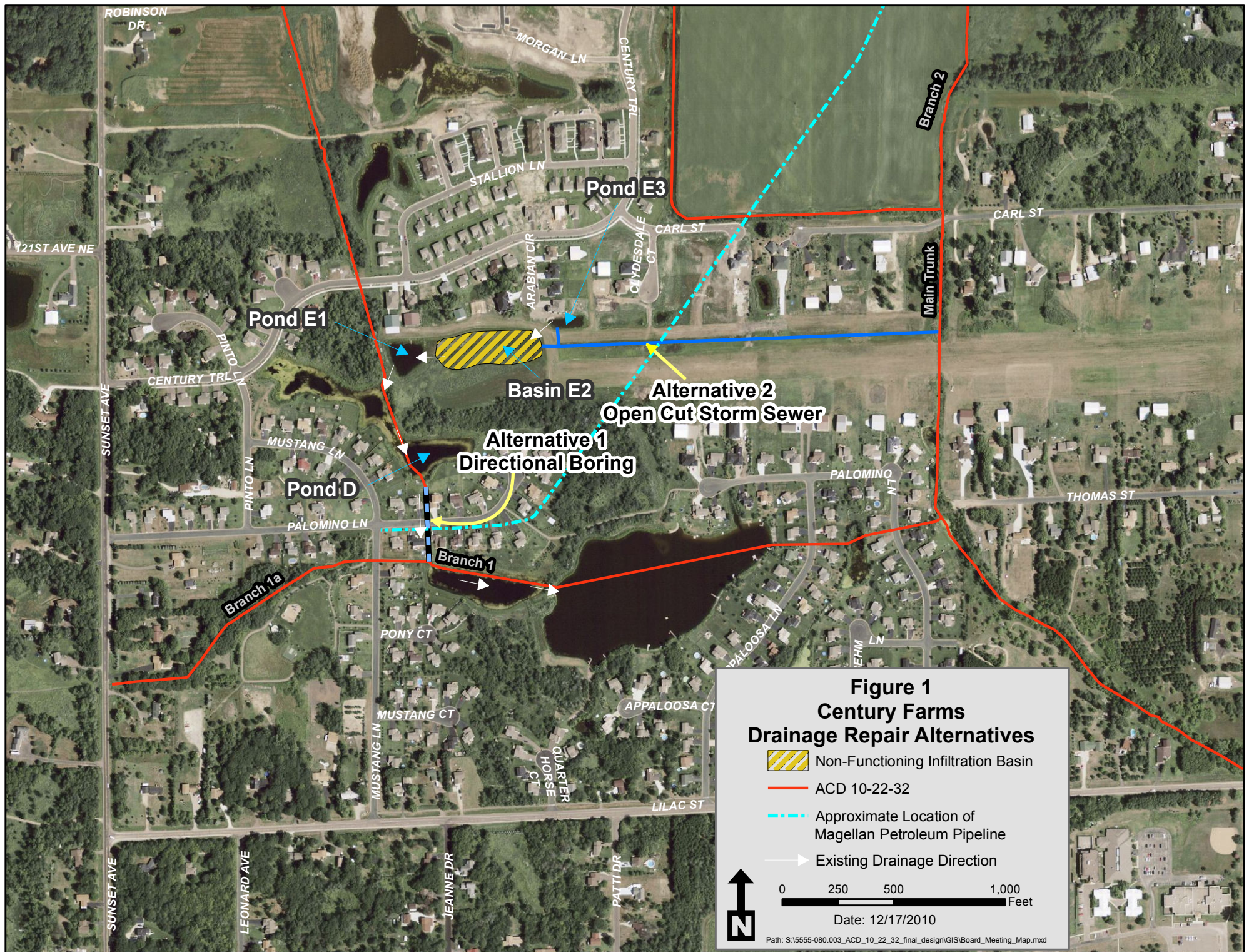
100 Year Flood, Emergency Overflow

The existing flood elevation of Pond E1 and Basin E2 for the 100-year, 24-hour rainfall event is approximately 897.0. Although neither of the alternatives was explicitly modeled, it is anticipated that both alternatives will provide a marginal, if any, lowering of the 100-year flood elevation in these basins. Neither alternative will modify the emergency overflow for these basins (elevation 898.0 at the west end of Pond E1).

Recommendations

Because of its lower cost, lower risk, and greater likelihood of success, the Stormsewer Outlet to the Main Trunk (Alternative 2) is the most feasible and preferable of the two alternatives examined. This alternative will remove all surface water between rainfall events yet maintain the function of the surround stormwater basins. To restore the intended function of this basin and maximize its infiltration, the installation of tiling under the basin should be added as a component of the alternative.

Prior to completion of final plans and commencement of construction, a Gopher One-call utility locate should be initiated for the project alignment (this was not completed as part of this memorandum).



APPENDIX

PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST DETAIL

**ACD 10-22-32 Century Farms Drainage Relief
Preliminary Opinion of Probable Construction Cost Details**

Description	Units	Unit Price	Alternative 1 Directional Boring under Palomino Lane		Alternative 2 Open cut excavation along air park	
			Est'd Quantity	Extension	Est'd Quantity	Extension
Construction Costs						
Mobilization	Lump Sum	\$1.00	8000	\$8,000.00	2000	\$2,000.00
Pumping/Dewatering pond	Lump Sum	\$10,000.00	1	\$10,000.00	0	\$0.00
Abandon Culvert Inplace	Each	\$250.00	0	\$0.00	1	\$250.00
Lower 15"x50' culvert	Each	\$500.00	1	\$500.00	0	\$0.00
Common Excavation (CV)	Cubic Yard	\$3.00	0	\$0.00	980	\$2,940.00
12" GS Apron	Each	\$150.00	0	\$0.00	2	\$300.00
4" HDPE Perforated Drain Tile	Linear Foot	\$10.00	0	\$0.00	400	\$4,000.00
12" HDPE Storm Sewer (Open trench)	Linear Foot	\$18.00	0	\$0.00	1834	\$33,012.00
12" HDPE Elbow and Riser (Hickenbottom)	Each	\$100.00	0	\$0.00	1	\$100.00
12" HDPE Storm Sewer (Directional Bore)	Linear Foot	\$110.00	340	\$37,400.00	0	\$0.00
Connect to Existing Storm Sewer	Each	\$2,000.00	2	\$4,000.00	0	\$0.00
PVC Manhole	Each	\$1,000.00	0	\$0.00	3	\$3,000.00
Seeding	Acre	\$750.00	0	\$0.00	2	\$1,500.00
Sodding	Square Yard	\$4.00	200	\$800.00	0	\$0.00
Silt Fence	Linear Foot	\$3.00	0	\$0.00	200	\$600.00
Relocate and reinstall chain link fencing	Linear Foot	\$20.00	120	\$2,400.00	0	\$0.00
Construction Costs Subtotal				\$63,100.00		\$47,702.00
Other Costs						
Temporary Easement Costs	Acre	\$5,000.00	0.1	\$500.00	0	\$0.00
Engineering/Project Management	Lump sum	\$15,000.00	1	\$15,000.00	1	\$8,000.00
Contingency	Percent	15%	78600	\$11,790.00	55702	\$8,355.30
Other Costs Subtotal				\$27,290.00		\$16,355.30
Grand Total				\$90,390.00		\$64,057.30

1. Engineering/Project Management costs assume that District Inspector will provide the majority of project observation
2. Chain link fence relocation item will not be needed if owner is required to move fencing
3. Required easement widths are assumed at a 50 foot width along public road rights of way, and 100 foot width elsewhere

MEMO

External Correspondence



To: Phil Belfiori
District Administrator, RCWD

Date: January 26, 2011

Cc: File R105555-080.003
Tom Schmidt, RCWD
Elizabeth Hosch, RCWD

From: Chris Otterness, P.E.

Through: Mark Deutschman, P.E., Ph.D.

Subject: Effects on Water Quality and Volume
Century Farms North – Permit 02-0129
HEI Project No. R105555-080.003 Task 001
RCWD Account No. 80-03-4500

Introduction

The purpose of this memorandum is to provide the Rice Creek Watershed District (RCWD) with a qualitative assessment of impacts to water quality and runoff volumes resulting from alternatives for restoring function to an infiltration basin (hereafter referred to as “Basin E2”) in the Century Farms North development. A memorandum entitled *Drainage Alternatives for Century Farms* and dated January 11, 2011 detailed the history and cause of the non-functioning infiltration basin and outlined two potential alternatives as corrective measures. In a subsequent meeting with City of Lino Lakes staff, a third option of accepting the E2 infiltration basin as-is (i.e. a “no-action” alternative) was discussed and considered. This memorandum is intended to qualitatively address the water quality and volume consequences of a “no-action” alternative compared to the “design” conditions and the other two alternatives capable of correcting the basin’s function.

Impacts on Peak Flow Rates and Runoff Volumes

Per RCWD rule C (effective August 1998 to February 2008), Basin E2 was designed with the intent to provide some infiltration of stormwater runoff and reduction of downstream runoff volumes from its contributing drainage area of 22-acres. Specifically, the design standard under the permit was a requirement to infiltrate runoff from a 0.34 -inch precipitation event for the contributing impervious surface area; i.e., 255-cubic feet for Basin E-2. Even though borings were submitted and reviewed as part of the permit review process, due to tailwater and elevated ground water levels this basin currently provides little or no infiltration for the design volume. Because of constraints provided by the existing elevations and structures at this location, we are not aware of a feasible alternative to retrofit the basin or the development as a whole to achieve the infiltration required by District rules as they existed at the time of the permit.

The two main issues relative to stormwater runoff are maintaining the pre-development peak rate of runoff and achieving the volume control standard. The contributing drainage area to Basin E2 is less than one fifth of the total project area of approximately 122 acres for the entire Century Farms North development and is a small fraction of the overall Century Farms development (which is approximately 280 acres). Because of the considerable storage provided by four open water (i.e., wet) ponds immediately downstream of Basin E2, the storage volume provided by Basin E2 (or lack thereof), has no quantifiable impact on water surface elevations or peak flow rates downstream of the basin. The E2 infiltration basin was intended to intercept

and infiltrate 2% of the total runoff volume from a two-year event for the project. The loss of this function is also relatively small.

Impacts on Water Quality

One purpose of RCWD infiltration requirements, besides control of downstream runoff volumes, is to maintain water quality by reducing downstream loads. Although Basin E2 does not currently provide an infiltration function, it does provide some treatment of stormwater runoff settlement of particulates. However, this water quality treatment is likely less than what would have been provided if the basin functioned as it was designed. Because the contributing drainage area of Basin E2 is so small compared to the total project area and the receiving waters immediately downstream from the site, any improvement to water quality leaving the basin would provide no measurable change in the water quality of its receiving waters (including the downstream ponds, Anoka County Ditch 10-22-32, and eventually Marshan Lake). Alternative 2 proposed in the January 11 memorandum would result in improved water quality leaving the site due to its filtration function.

Conclusions

From purely a technical perspective, the no-action approach fails to comply with the original permit conditions. The current poor function of Basin E2 does result in an incrementally small decrease in water quality and volume control function compared to its intended design. However, from a practical perspective, the no-action approach is expected to have little or no impacts to downstream water bodies. Should the Board decide as a matter of Principal that absolute permit compliance is necessary, then one of the corrective alternatives at a cost ranging from \$64,000 to \$90,000 can be implemented.

- Resolving historic permit files discussion

MEMORANDUM

Rice Creek Watershed District

To: RCWD Board of Managers **Date:** February 2, 2011
From: Dave Bauer, Inspector
Elizabeth Hosch, Inspector
Nick Tomczik, Permit Coordinator/Wetland Specialist
Subject: Resolving Historic RCWD Permit Files

In March 2010, District staff brought forward a proposal to the Board for delegation of Administrative authority to resolve older permits with outstanding compliance issues. These are older permits have been irresolvable through the usual methods of gaining compliance for a variety of reasons. Staff was in need of further direction from the Board in order to keep making progress on managing the outstanding permit/surety load. The resulting Board consensus was that staff should bring each permit to the Board for individual decision.

Based on this direction, staff has developed a minimum set of standards and information that will be considered when bringing one of these permits to the Board for decision. The following pages outline this minimum process and provide a standard template for presenting each permit.

Additionally, two examples have been included to provide a better idea of how the template will be used. These two particular permits will be brought forward for decision at a future Board meeting and are only included now to illustrate how a real permit might be presented. Discussion should focus on format of the memo rather than the content of the examples.

February 2, 2011

Rice Creek Watershed District Internal Operating Procedure for Resolving Historic Permit Files

For purposes of this process, historic permit files are defined as those with permit numbers from 2007 or earlier.

Prep Work: Exhaust efforts to gain voluntarily compliance with outstanding permit issues.

This will ALWAYS happen. Unfortunately, some RCWD permit files cannot be brought into compliance using these typical methods of enforcement (inspection, coordination with applicant and site personnel, MPCA involvement, etc.). Should staff be unable to get voluntary compliance, the following operating procedure outlines additional steps towards resolution.

Step 1: Verify attempts to contact the responsible party.

(Sometimes informal communication has taken place in the Prep Work stage and after a certain point progress stops being made. Formal communication efforts will need to be solidified at that time following these specific criteria.)

At a minimum, efforts to contact the responsible party shall include:

- One (1) letter through U.S. mail, certified and return receipt;
(no letter shall be sent if prior information has revealed an incorrect address)
- One (1) email, with high importance and read-receipt received; OR
- One (1) telephone call with documented conversation.

Additional notice efforts may include courier service with delivery log, staff delivery with documenting memo, faxes, multiple letters, emails or telephone calls, notice by publication, or any other appropriate methods.

The most up-to-date contact information will be researched through these same means as well as internet searches, search of the Secretary of State website and inquiries with contractors, engineers, City staff, or anyone else that has been involved with the project and might provide information.

Case specific efforts will be listed in the "Contact Efforts" section of the attached summary memo template.

Step 2: Compile the minimum project information, including but not limited to:

A. Outstanding items inconsistent with the approved plan. These outstanding items include such categories as:

- Wetlands: all projects with wetland deficiencies will be referred to the DNR for enforcement. Non-wetland portions of these projects will be handled by RCWD and the following procedure.
- Incomplete site work (example: undersized stormwater pond, outlet structure missing skimmer structure, etc.)
- Absent site work (example: raingarden or pond has not been constructed, etc.)
- Ongoing construction, or other erosion/stabilization needs
- Administrative (example: Operation and Maintenance Declaration not recorded, etc.)

B. Available surety: Surety is frequently limited with older projects, the letters of credit having expired some years ago and not getting renewed. Additionally, the available surety is frequently insufficient to address all of the deficiencies on site.

C. Downstream or adjacent property impacts: This information will help determine the severity of the deficiency and any opportunities for alternative resolution that may exist.

D. Any current construction onsite: If there is current construction onsite, then this increases the chance that someone will address the deficiencies, or at least could be hired to address them at a lower cost because someone is already mobilized and onsite.

E. Current ownership and/or occupancy: The current occupant and owner may have opinions and/or perspectives that may help or hinder permit closure. These parties may be different from previous responsible parties if the property has changed hands.

F. Public or private project: Public projects usually have the ability to accumulate deficiencies and compensate for the required treatment through future projects. They can also combine outstanding construction needs for an old permit into a current construction project, which reduces mobilization costs. RCWD usually has a working relationship with members of City/County/State staff and can use those more informal channels to spur action.

G. Status of permit holder: Old permit holders are sometimes hard to locate because their contact information changes. Sometimes companies also change hands or cease to exist.

H. Additional information from consultants, contractors, engineers, Cities: Those closely involved with the project may be able to provide insights and information not otherwise available.

This case specific information will be listed in the general information and “Summary” sections of the attached summary memo template.

Step 3: Staff, in consultation with counsel as appropriate, will present a recommendation to the Board to address outstanding compliance when a proposed course of action requires Board authorization or before closing a file that is not in compliance. The recommendation could include, but is not limited to, the following:

- Close permit and return surety, accepting the project in its current state.
- Use surety money to complete all or part of planned work.
- Pursue compliance order to complete outstanding work.
- Other.

The attached summary template will be used to distill the important information for each of the historic permits in question. RCWD inspectors will present these summary documents to the Board for decision at regularly scheduled Board Meetings.

Historic Permit File Closure Memo

Some RCWD permit files cannot be brought into compliance using the usual methods of enforcement. This memo outlines the current state of affairs for one such permit file and the most realistic solution considering the extenuating circumstances.

Permit File Name: _____ Permit Holder: _____ Permit File Number: _____
City: _____ Type of Development: _____ Public, Private, etc. : _____
State of Application/Other: _____ Available Surety: _____
RCWD Inspector: _____

Downstream/Adjacent Property Impacts: _____ | _____
Current Construction: _____ | _____
Occupancy: _____ | _____

Summary:

Contact Efforts:

-

Options:

1. Close permit and return surety, accepting the project in its current state.
2. Use surety money to complete all or part of planned work.
3. Pursue compliance order to complete outstanding work.
4. Other.

Recommendation:

Board Action: _____, RCWD Board Date: _____

Location map/photo page (optional):

Historic Permit File Closure Memo

Some RCWD permit files cannot be brought into compliance using the usual methods of enforcement. This memo outlines the current state of affairs for one such permit file and the most realistic solution considering the extenuating circumstances.

Permit File Name: Norton Manor 1st Addition Permit Holder: Michael Juaire, PMJ Group, Inc Permit File #: 03-018

City: Fridley Type of Development: 8 townhouses Public, Private, etc. : Private

State of Application/Other: Expired Permit Available Surety: \$1500 Unavailable Surety: none

RCWD Inspector: David Bauer

Downstream/Adjacent Property Impacts: _____ | Flows directly into Norton Creek which flows 1,000 feet to Rice Creek

Current Construction: _____ | Townhouses, landscaping, and stormwater feature constructed

Occupancy: _____ | Full occupancy, common areas managed by Norton Manor Association

Summary:

This 2003 project was to construct 8 townhouses along Norton Creek in Fridley. The planned stormwater treatment was a retention pond with an adjacent infiltration bench. The bench was never constructed; instead the pond was enlarged to include the site of the infiltration bench. However, inspections have determined that the pond functions like a rain garden and water quickly infiltrates, leaving the pond dry after most rain events. The slope from the pond outlet to Norton Creek is not stabilized, as was required by the permit. Erosion is not occurring at this time, but would quickly create a gully if the pond were to discharge. After being unresponsive for 3 years, Mr. Juaire recently informed me that PMJ Group is not in a position to spend money on compliance and may be facing bankruptcy. RCWD staff estimate the cost of stabilization to be \$500.

Contact Efforts:

- Letter sent on Feb 8, 2007
- Phone call on Feb 28, 2007 (no answer at land line, left message on cell)
- Letter sent on July 11, 2007 (returned, address not valid)
- Email sent to address listed on PMJ Homes web site on Sep 23, 2010
- Email sent to address listed on PMJ Homes web site on Dec 30, 2010
- Letter sent on Dec 30, 2010 to PMJ Group, Inc to address obtained at MN Sec of State Office.
- Traded Phone messages on January 11, 2011.

Options:

1. Accept as is and return surety to PMJ Group, Inc.
2. Use surety to complete critical work.
3. Schedule compliance hearing to force installation of infiltration bench.

Recommendation: Accept pond without the infiltration bench. Use surety to install erosion control at the outlet, in this case scour stop mats which will be more stable than riprap and cheaper to install. Return remaining surety to PMJ Group, Inc.

Board Action: _____, RCWD Board

Date: _____

Location map/photo page (optional):

Sites 1 and 2 are associated with 03-050 while three and four are associated with 03-018.



1. Raingarden one (03-050)
2. Raingarden two (03-050)
3. Pond / Infiltration Basin (03-018)
4. Outlet to Pond / Infiltration Basin (03-018)



Top: Pond/infiltration basin

Bottom: Outlet to pond lacking riprap stabilization



Historic Permit File Closure Memo

Some RCWD permit files cannot be brought into compliance using the usual methods of enforcement. This memo outlines the current state of affairs for one such permit file and the most realistic solution considering the extenuating circumstances.

Permit File Name: Norton Manor 3rd Addition Permit Holder: Michael Juaire , PMJ Group, Inc. Permit File #: 03-050

City: Fridley Type of Development: Six Townhouses Public, Private, etc. : Private
State of Application/Other: Expired Permit Available Surety: \$1500 Unavailable Surety: none
RCWD Inspector: David Bauer

Downstream/Adjacent Property Impacts: Flows directly into Norton Creek which flows 1,000 feet to Rice Creek

Current Construction: _____ | Townhomes built and landscaped, stormwater BMPs not built

Occupancy: _____ | Full, Common areas managed by Norton Manor Association

Summary:

This 2003 project was to construct 6 townhouses along Norton Creek in Fridley. The stormwater treatment was to be two shallow rain gardens and were not constructed. Raingarden 2 was to be constructed in a place that was not practical and would likely have needed to be moved by permit amendment. After being unresponsive for 3 years, Mr. Juaire recently informed me that PMJ Group is not in a position to spend money on compliance and may be facing bankruptcy. RCWD staff estimate the cost to comply with permit is \$3,000.

Contact Efforts:

- Letter sent on Feb 8, 2007
- Phone call on Feb 28, 2007 (no answer at land line, left message on cell)
- Letter sent on July 11, 2007 (returned, address not valid)
- Email sent to address listed on PMJ Homes web site on Sep 23, 2010
- Email sent to address listed on PMJ Homes web site on Dec 30, 2010
- Letter sent on Dec 30, 2010 to PMJ Group, Inc to address obtained at MN Sec of State Office
- Traded Phone messages on January 11, 2011

Options:

1. Accept as is and return surety to PMJ Group, Inc.
2. Use surety to create one rain garden providing partial planned treatment.
3. Schedule compliance hearing to force construction of one raingarden with the same treatment capacity as the two that are planned.

Recommendation: Accept as is and return surety to PMJ Group, Inc.

Board Action: _____, RCWD Board

Date: _____

Location map/photo page (optional):

Sites 1 and 2 are associated with 03-050 while three and four are associated with 03-018.



1. Raingarden one (03-050)
2. Raingarden two (03-050)
3. Pond / Infiltration Basin (03-018)
4. Outlet to Pond / Infiltration Basin (03-018)



Top: Site of Raingarden 1 (vegetation has changed to turf grass since photo)

Bottom: Site of Raingarden 2



- Staff report (as requested at 1/26/11 Board meeting) – Dawn Pape, Environmental Education Coordinator

Summary of Dawn Pape 2011 Workplan

I. RCWD Goals

- A. Develop a 10-Year Education Plan for the RCWD that Compliments the 2010 Watershed Management Plan

By the end of 2011, I would like to develop a meaningful, usable, engaging 10-year education plan that is easy for the general public to read, understand and become involved with. It is my goal that this plan will be a road map to help achieve the education goals of the District for the next 10 years and will help with TMDL implementation. I do not want to help create a philosophical education plan, but rather an implementation-based one.

- B. Help District Staff Communicate Their Messages to Their Audiences
- C. Compile Annual Report
- D. Monthly newsletters/website articles to all cities
- E. Monthly press releases to local papers
- F. Volunteer coordination – stormdrain marking
- G. Spring fairs and expos (typically 6 each year)
- H. Exploring possibilities for developing and delivering segmented eNewsletter for RCWD to more efficiently and economically deliver timely information into interested parties' hands

II. Resource Teachers – In 2011, Resource Teachers will be in schools 87 days. This is approximately 700 contact hours reaching about 4,300 kids.

This program is very efficient and RCWD is not paying benefits, mileage and capitalizing off of these teachers' talents and is not paying the RTs for the time it takes to put together lessons.

- A. Fridley Middle School & Rice Lake Elementary School - have Resource Teachers do education about the BMPs on the grounds
- B. Continually improve program to better serve the schools based on the feedback provided in the survey that is automatically sent to the classroom teachers the day after they had a Resource Teacher in their classroom.
- C. Continually improve program to better teach the messages the RCWD identifies

III. Blue Thumb – In 2010 had record partner contributions totaling over 5000 hours (up about 600 hours from 2009 year) and over \$79,000 in in-kind contributions (up about \$30,000 from the previous year). The time the partners contribute is equivalent to about 2.5 full-time employees. In 2010, I put in about 1.5 hrs./wk. in overseeing the program (compared to 3 hrs/week the year prior). I am always seeking to reduce my staff time in coordinating this program.

- A. Highlight from 2010 - National Geographic's Blue Legacy Tour featured Blue Thumb as their first stop
- B. Developing eNewsletter – “segmented” – put together by partners
- C. Coordinating Five Workshops in Feb. (social media, raingarden maintenance)