

From: Elaine Stewart
To: Dennis O'Neil; Maurice Neyman
Date: 1/3/01 8:19AM
Subject: Engineering update on water control structure

I had a productive meeting with my Ducks Unlimited project manager and engineer yesterday afternoon. We discussed erosion concerns regarding the landfill bank along the North Slough, and how to design and operate the new water control structure to minimize any problems.

The DU engineer has seen the Cornforth report and would like to talk with someone at that firm to see how they arrived at their estimated increased velocities. He believes that water velocity should not change in the North Slough under most circumstances, so he wants to resolve the different perspectives. Can you provide a name and number for a contact person for him?

We discussed design and operating considerations to moderate water flow during heavy rain and/or flood events. DU has a lot of good ideas, including self-regulating tidegates that would automatically close when water levels reach a given height. Another possibility is locating the emergency spillway on the southwest corner of Bybee Lake where water would exchange between the Columbia Slough and Bybee lake, bypassing the North Slough (and landfill area) during major flood events. The latter would increase project costs, but I think we should look at the feasibility.

Before he can flesh out the design, the DU engineer needs topographical information that will tell him how high the banks are and the cross-section of the lake and slough. I can provide him with elevations for the lakes, but I don't have anything on the North Slough. Did you obtain survey data for the North Slough when you worked on the bank stabilization project? Can you send him the data electronically, or provide a contact person for a firm that may have done the work for you?

Maurice, I think it would be a good idea for you and Kevin Dragon (the DU engineer) to talk anyway, since you managed the bank stabilization project. Can you give him a call and help get him any information that REM can provide? His contact information is:

Kevin Dragon
Ducks Unlimited
360.885.2011
kdragon@ducks.org

Thanks.

-Elaine

-Elaine

Elaine Stewart
Smith and Bybee Lakes Wildlife Area Manager
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600 NE Grand Avenue
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Fax 503.797.1849
stewarte@metro.dst.or.us

CC: Charlie Ciecko; Dan Kromer; Jim Morgan; Jim Watkins; Kevin Dragon; Paul Vandenberg; Steve Donovan; Terry Petersen

FROM : OGDEN BEEMAN & ASSOCIATES, INC. PHONE NO. :

Mar. 27 2001 11:33AM P2



**Parsons
Brinckerhoff** 421 SW Sixth Avenue
Suite 1350
Portland, OR 97204-1612
503-223-8254
Fax 503-222-0657

March 20, 2001

Mr. Kevin Dragon
Ducks Unlimited, Inc.
1101 S.E. Tech Center Drive
Suite 115
Vancouver, WA 98683

Mr. Dragon

As requested we have prepared a scope of work and cost estimate to evaluate the proposed water control structure dividing Smith and Bybee Lakes and the North Slough. We propose to complete the work in a manner similar to the previously completed models evaluating the North Slough velocities along the St. Johns Landfill. The previous models depicted the existing conditions, dam in place, and the open condition, the dam completely removed.

The proposed model will represent the condition of the existing dam being replaced with the proposed water control structure. The design and operating criteria of the water control structure will be provided by Ducks Unlimited (DU). The new results will be presented along side the results from the previous models to facilitate a direct comparison. Based on the discussions and sketches provided by Ducks Unlimited, the following scope of work is proposed:

Task A) Kickoff Meeting and Information Gathering

Attend one half day meeting with DU to discuss details of the model input and the water control structure design and operations. Following the meeting, we will utilize the results of the previous models to provide DU with criteria to design the water control structure.

Task B) Update CE-QUAL-W2 Model

After DU provides the model parameters, we will coordinate with Scott Wells of Portland State University, currently living in Israel, to modify the source code of the previous models. Run updated model with water control structure design and operating criteria provided by DU.

Task C) Statistical Analysis of Model Results

Post-process raw model output. Determine maximum velocities for each cell in the two-dimensional model including the cross-sections identified in the St. Johns Landfill report. Calculate the 2, 5, and 10 year velocities at similar locations to the previous models.

FROM : OGDEN BEEMAN & ASSOCIAT INC PHONE NO. :

Mar. 27 2001 11:34AM P3

Mr. Kevin Dragon

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March 20, 2001

Task D) Presenting Results

Prepare brief letter report summarizing methodologies and results. The results of the statistical analysis on the velocity data will be presented with the results of the two previous model runs. Attend one half day meeting to discuss the results.

The proposed model will be set up to make additional runs with various operational criteria, this scope only includes one model run with the operating criteria initially provided by DU.

This project is likely to be dynamic, changing and evolving with each task. PB proposes to complete the above scope based on a time a materials basis. Attached is a table showing the estimated number of hours and associated cost of completing the above tasks. Please call with any questions or concerns.

Very truly yours,



Peter D. Dickerson, P.E.
Port and Marine Resource Center
Parsons Brinckerhoff Quade & Douglas, Inc.

FROM : OGDEN BEEMAN & ASSOCIATES, INC PHONE NO. :

Mar. 27 2001 11:34AM P4

Ducks Unlimited
Smith and Bybee Lakes - Water Control Structure
Hydraulic Modeling

		Parsons Brinckerhoff Quade & Douglas, Inc.						
		Project Admin	Engineer I	Supv Engineer			PB	PB
		Susan Buttr	Peter Dickerson	Karl Krzma			Hours	Amount
HOURLY RATE		\$64	\$71	\$122				
A. Kickoff Meeting							41	\$1,034
A.1	Meeting w/ DU, determine model criteria		8	8			13	\$1,178
A.2	Provide DU with design criteria from previous models		32	4			36	\$2,760
A.3	Project Administration	2					2	\$108
A.4							0	\$0
A.5							0	\$0
A.6							0	\$0
A.7							0	\$0
A.8							0	\$0
B. Development of HEC-2 Model							10	\$812
B.1	Coordinate with Scott Wells		8	2			10	\$812
B.2	Complete updated model runs		8	2			10	\$812
B.3	Project Administration	1					1	\$44
B.4							0	\$0
B.5							0	\$0
B.6							0	\$0
B.7							0	\$0
B.8							0	\$0
C. Validation Analysis of Model Results							20	\$1,624
C.1	Post-process data, find max velocities, Determine 2, 5, and 10 year velocities		32	4			20	\$1,624
C.2			16				1	\$54
C.3	Project Administration	1					1	\$54
C.4							0	\$0
C.5							0	\$0
C.6							0	\$0
C.7							0	\$0
C.8							0	\$0
D. Presentation of Results							20	\$1,648
D.1	Prepare letter report		24	2			20	\$1,648
D.2	Meeting with DU to discuss results		8	6			13	\$1,178
D.3	Project Administration	2					2	\$108
D.4							0	\$0
D.5							0	\$0
D.6							0	\$0
D.7							0	\$0
D.8							0	\$0
LEADER								
Hours		8	136	28	0	0	169	\$13,152
Burdened Labor		\$512	\$9,656	\$3,472	\$0	\$0		\$13,152
EXPENSES								
Subconsultant								\$4,000
Film & Processing								\$0
Telephone & Courier								\$100
Mileage		40	miles @	\$0.345				\$14
CADD		0	hrs @	\$12				\$0
Computer		70	hrs @	\$5				\$350
Copies		60	pages @	\$0.03				\$2
FAX		10	pages @	\$0.8				\$8
Expenses								\$4,474
Markup on Direct Expenses								\$447
Total Expenses								\$4,921
Total Cost Estimate for Parsons Brinckerhoff Quade & Douglas, Inc.								\$18,073

From: Elaine Stewart
To: scott@eas.pdx.edu
Date: 3/21/01 2:51PM
Subject: Smith-Bybee water control structure

Hello Scott,

My name is Elaine Stewart and I am the manager at Smith and Bybee Lakes Wildlife Area. Jim Morgan suggested that I contact you with a question.

I am working on replacing the dam at Smith and Bybee, located at the east end of the North Slough, with a water control structure that has more versatility in managing water levels in the lakes. Jim tells me that you served on his technical advisory committee, and I have read some of your reports on your modeling of the slough and lakes, so I won't go into any more detail about the project.

My question is this: given a straw design, do you think your model could be used to evaluate water velocities and prospects for landfill bank erosion (along North Slough), and perhaps also evaluating the best way to manage the new structure? The attached email from Kevin Dragon, one of my partners on the project, describes what we hope to do. You have probably heard about this already from Ogden Beaman.

I would appreciate your advice re the use of your model in this way. It appears that full funding is finally coming our way for the project, and addressing landfill bank erosion concerns is the last issue requiring resolution before we can proceed.

Thanks in advance for your insights. I look forward to meeting you in person some day.

-Elaine Stewart

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stewarte@metro.dst.or.us

Greetings, Elaine.

I thought I would give you a quick update on where we might be at with modeling efforts. As I mentioned, I contacted Karl Krcma, PE of Ogden Beeman and Associates (OBA) regarding hydraulic modeling efforts done in connection with the St Johns Landfill. Together with Conforth Consultants (a geotechnical firm), OBA worked to development the proper means and methods for bank stabilization along the North Slough. Several technical reports have been issued to date of which you are more than familiar with. One such report, entitled "Preliminary Dike Stabilization Study" and dated June 1999, includes a table of channel velocities expected within the North Slough upon the removal of the existing water control structure.

In an attempt to compare apples to apples, I have forwarded our conceptual sketches to OBA. I asked OBA to prepare a scope of services and cost estimate to assist us with hydraulic modeling of the North Slough, given the proposed water control structure and proposed emergency spillway location. OBA indicated they were very much interested in assisting us, and would put together a draft within a week or so. They will provide it to me electronically via email for review and comment. I have asked that to minimize costs that OBA also put together a list of items or information they will need from us in order to complete the model in the most timely manner possible. I expect they will want to meet to discuss the items in depth.

I have also asked them to consider the use of the model in determining the channel velocities given different management alternatives. Hopefully, this could be helpful in alleviating the Landfill folks concerns about bank erosion. In discussions with OBA, they believe there are ways we can operate and maintain the new structure in a manner which will not exacerbate the bank erosion. They will reference the technical assistance in the proposal, but will wait to see what the model has in store before attaching any costs to this task.

Mr. Krcma indicated that Scott Wells of PSU compiled the original model. Scott is currently on a sabbatical in Israel and has been only available via email and internet conversations. That certainly explains the delay in getting back to us.

Once I get an e-copy of the proposed draft, we will give you a call to discuss it with you.

In the meantime, DU has completed the topographic survey work per recent conditions,. We now have available an accurate topo of the project site surrounding the water control structure and emergency spillway. I am continuing to read through the reports and bring myself up to speed on the modeling efforts and reports generated to date.

Do not hesitate to call if you have any questions,

Kevin

PS To all, nice job on the recent OWEB proposal. The prospect is exciting.

From: Elaine Stewart
To: Jo Price
Date: 6/26/01 3:23PM
Subject: Data request

Hi Jo,

Can you send a couple of files to Pete Dickerson for me? He's working on a model of the lakes and slough and needs elevation data. These are the files he needs:

1. Normalized elevations of lake bottom - the bathymetry data, standardized to mean sea level (or NGVD).
2. Two-foot countour elevations of surrounding land - I believe Metro got this from the Port of Portland years ago, and that the elevations are in the Portland datum (can you confirm this?).

Call me if you need further explanation on which files to send. Pete can use Arcview shapefiles just fine, but you could ask him if there is another format he prefers. Pete's email address is: dickersonp@pbworld.com

Thanks, Jo!

-Elaine

p.s. to Pete: on the normalized elevations for the lake bottom, there are many zeroes near the existing dam. Ignore them, they are an artifact of normalizing the data (that is where the guage is).

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CC: dickersonp@pbworld.com; Kevin Dragon

From: "Kevin Dragon" <kdragon@ducks.org>
To: <stewarte@metro.dst.or.us>
Date: 8/24/01 5:49PM
Subject: Metro- Smith/Bybee

Elaine-

I spoke with Pete Dickerson, PB. He has reviewed the preliminary data and the modeling faired better than hoped. I asked him to put together a quick summary of the results to faciliate a meeting with Maurice (Landfill folks). That way, they see the preliminary results offering comments early in the game and are not shocked by the final report, which will state "no problems".

From this point on, John Axford, PE will be handling the engineering. I met with John on Thursday afternoon. John has been working with DU for almost 2 ½ years, so he has a great understanding of what is next.. please give him a call at (360) 885-2011.

Thanks for everything. It's been my pleasure to help you out with your project.

Kevin
(360) 921-4386 (I have retained my mobile number)

CC: "John Axford" <jaxford@ducks.org>