

# **Fargo-Moorhead Area Flood Diversion Task Force – Technical Advisory Group**

## **Meeting Minutes**

**Tuesday, Nov. 28, 2017**

**Cass County Highway Department, West Fargo ND**

### **GROUP MEMBERS PRESENT**

- Kent Lokkesmoe – DNR Manager
- Jill Townley – DNR EIS Manager
- Gregg Thielman – Houston Engineering
- Bob Zimmerman – City of Moorhead Engineer
- Nathan Boerboom – City of Fargo Division Engineering
- Suzanne Jiwani – DNR Floodplain Engineering

Meeting was called to order by Mr. Kent Lokkesmoe at 11:03 a.m.

The minutes from the November 14, 2017 meeting were reviewed by the group and approved with the inclusion of two edits by Mr. Lokkesmoe.

### **UPDATE ON ALTERNATIVE/COMPONENT ANALYSIS**

The group reviewed a spreadsheet created after the last meeting that included criteria and components. Mr. Lokkesmoe noted the document was in progress and included a lot of data.

- Mr. Thielman noted the components included a western tie back levee that followed an area of higher elevation to the west of the current project's limited service spillway. Mr. Lokkesmoe said during previous discussions, the western tie back levee seemed like a rational adjustment. There was discussion about the height of the tie back, the probable maximum flood (PMF) and inflow design flood (IDF) and elevation in the area. Mr. Thielman noted the IDF and PMF are used during the design of a dam to ensure safety.
- Ms. Jill Townley noted that the components could be used in combination, creating different alternatives. Ms. Suzanne Jiwani said her understanding was to ask the task force if any components stood out that they wanted to include or exclude.
- Mr. Thielman said the bottom of the spreadsheet included a review of downstream stage changes in various locations. He suggested the group review the data in the spreadsheet using an order of magnitude comparison, rather than specifics. He described the various criteria including the numbers outlining impacts with existing conditions. Existing conditions included accredited levees in place but no emergency measures.
- Maps of the various components were distributed for review. Mr. Thielman noted the project boundary was set using a 0.1' depth difference between with-project and existing conditions so there is a consistent boundary for comparison.
- The group was asked if the number of structures included any depth information. Mr. Thielman noted that any structure that would see 0.1' or more of additional flooding was included but no depth information was included in the spreadsheet. There was discussion about the stage impact and depth of water at other locations and FEMA

standards. Ms. Jiwani noted the DNR requires property rights for areas impacted by more than 0.5' of water.

- The group asked for maps to incorporate different colors to call out changes in impacts between different flows amounts through town. A request was also made to fill out the existing conditions information on the spreadsheet. Creating an additional map that shows the impacts from four different flows through town was suggested. Estimated costs for allowing more flows through town were noted by Mr. Bob Zimmerman and Mr. Nathan Boerboom. Moorhead estimated \$50 Million, \$80 Million and \$100 Million in costs for the respective RS37', RS38', and RS39' flows while Fargo estimated \$100 Million, \$250 Million and \$300 Million. The estimated costs of protection were added later to the PowerPoint presentation. Mr. Boerboom noted the map shown at the first task force meeting showed where gaps in protection exist in the city.
- Ms. Jiwani noted she would be interested in reviewing the analysis by the U.S. Army Corps of Engineers about freeboard, risk and uncertainty. Mr. Zimmerman noted working with FEMA regarding the differences between natural ground and disturbed ground has been a bit of a struggle.
- There was discussion about the flow allowed to pass through aqueduct features as part of the previous plan and components that were identified during the last meeting. Modeling studied passing roughly twice the amount of flow through the Sheyenne and Maple River Aqueducts. In the Maple River below the aqueduct this would require cutting through a ridge to allow water to expand into the floodplain, according to Mr. Thielman. Doubling the flow on the Maple River Aqueduct would allow it to pass 5,000 cfs and the cost would rise to \$140 Million. Making the Sheyenne Aqueduct feature larger would go up to an estimated \$210 Million.

## **REVIEW OF DRAFT TASK FORCE PRESENTATION**

- The group reviewed the slides that will be presented at the next Task Force meeting. They agreed to take out as many acronyms as possible to make it easier to understand.
- There was discussion about distributive storage. Mr. Lokkesmoe noted that distributive storage can add to the factor of safety, but would not be something that could achieve a base level of required protection.
- A graph was included that showed the number of days the Fargo gauge was higher than a certain stage. Mr. Lokkesmoe asked if the graph had a correlation to the number of days a staging area would be operated, for example, if you use a 37-foot through town stage in Fargo, during the last 116 years the staging area would have operated 28 days. Mr. Thielman said there should be a close correlation between the two.
- There was discussion about constraints and mitigation requirements from downstream impacts from the project. Mr. Lokkesmoe questioned the constraint of a stage levels at Drayton. He questioned what level of impact at the Canadian border was acceptable.
- The group noted that there are numerous combinations of components that could be evaluated. Mr. Zimmerman said some options show a clear point of diminishing returns, but it is for the Task Force to decide what an acceptable level is. Ms. Townley asked if there were any items in the PowerPoint tables that were not critical. The group removed some data, but retained much of the information in the tables for the Task Force members to review.
- There was discussion about the levees only component and the various river stages associated with it. It was noted this component could likely get accreditation from FEMA. The logistics of this option were discussed. Ms. Jiwani noted that to build levees at the right locations, more structures in town would need to be purchased and Corps authorization would go away.

- Mr. Thielman noted that they did not run a levees only component with an optimized channel, but it could be done. Ms. Townley suggested task force members could bring various options like this up at their next meeting.
- The group noted the presentation about downstream impacts is more of an operations component.
- The group was asked who would pay for ring levees. Mr. Lokkesmoe said the previous work had been paid for by each community and Fargo and Moorhead have worked together to match elevations. This has avoided a dike war.
- Ms. Jiwani noted that presenters should be able to discuss the component and what is gained, or what issues exist with each. The group discussed the order of the presentation and who would present each slide and what handouts would be given to the task force. Handouts would include a set of the maps discussed at the meeting and a printed version of the PowerPoint slides.
- The group was asked about incorporating development or zoning restrictions as a component. There was also a question about how many combinations of components they could realistically evaluate. The group concluded three was a realistic target. It was also noted that the DNR and the North Dakota State Water Commission should help provide “guidrails” to ensure the combinations being studied would be permissible.

## **SCHEDULE NEXT STEP AND MEETING**

- Mr. Lokkesmoe noted that the next meeting would have to be determined after the Task Force meeting on Nov. 29.

The meeting adjourned at 2:56 p.m.

## **MEMBERS OF THE PUBLIC PRESENT**

- Nathan Berseth, Task Force member
- Tim Fox, Task Force member
- Ken Vein, Task Force member
- Bernie Dardis, Task Force member
- Craig Hertsgaard, Task Force member
- Tami Norgard, Task Force member
- Mark Anderson, Task Force member
- Jason Benson, Cass County Engineer and Task Force member
- Randy Gjestvang, ND State Water Commission
- John Paczkowski, Assistant State Engineer - ND State Water Commission
- Aaron Carranza, North Dakota Office of the State Engineer
- Levi Bachmeier, North Dakota Governor’s Office
- Anna Henderson, Minnesota Governor’s Office
- John T. Shockley, Ohnstad Twitchell
- April Walker, A. Walker Consulting
- Jeff Ebsch, Cass County
- Terry Williams, U.S. Army Corps of Engineers
- Dave Overbo, Clay County
- Cash Aaland, Aaland Law Firm
- Trana Rogne, Richland County landowner
- Sen. Larry Luick, ND Legislature
- Michael Redlinger, Assistant City Administrator - Fargo

- Lyndon Pease, Moore Engineering, Inc
- Rocky Schneider, AE2S
- Eric Dodds, AE2S
- Greg Thompson, Houston Engineering, Inc.
- Tammy Jo A. Taft, AE2S