

MINUTES OF SPECIAL MEETING
CASS COUNTY JOINT WATER RESOURCE DISTRICT
CASS COUNTY HIGHWAY DEPARTMENT
WEST FARGO, NORTH DAKOTA
AUGUST 17, 2016

The Cass County Joint Water Resource District met on August 17, 2016, at 1:00 p.m. at the Cass County Highway Department, West Fargo, North Dakota.

Present were Jacob Gust and Dick Sundberg, Rush River Water Resource District; Michelle Anderson, Administrative Assistant; Mike Opat and Josh Hassell, Engineers for the Board; Pat Downs and Chad Engels, Moore Engineering, Inc.; Mike Hargiss, North Dakota Department of Health; Randy Gjestvang, Red River Retention Authority and State Water Commission; Keith Weston and Josh Monson, Natural Resource Conversation Service (NRCS); Bruce Kreft, North Dakota Game and Fish Department; Eric Dahl, Cass County Soil Conservation District; Patsy Crooke, Corps of Engineers; Bailey Elkins, North Dakota Rural Water Systems Association; Jason Benson, Cass County Engineer; and those whose names appear on the attached roster.

Rush River Watershed Project Team Planning Meeting

Pat Downs welcomed the Rush River Watershed Project Team (Team) and introductions were made.

The Team reviewed input and information discussed and presented at the previous Team meetings, the adopted draft *Purpose and Need Statement*, Goals/Objectives for planning outcomes or desired conditions, statistical information on flood damage in the Rush River Watershed and alternatives formulated based on the categories chosen for potential flood damage reduction solutions.

The purpose and goal of the Team meeting was to analyze and narrow the alternatives from the *Alternative Screening Worksheet* to find potential solutions for flood damage reduction projects in the Rush River Watershed.

At the last meeting, maps were provided for the Team detailing problem areas identified. After review of data, each Team member identified the top three areas of concern by placing markers on a map of the Rush River Watershed. Mr. Downs reviewed the areas of concern identified by the Team.

Josh Hassell provided a review of the HED-HMS, 2D-HECRAS modeling results for 10-year, 25-year, 50-year and 100-year, and 24-hour preliminary inundation maps using historical data from 2009-2011 based on depths of .5 inches or greater in the Rush River Watershed.

Chad Engels provided a review of a surface drainage study completed by the Basin Technical and Science Advisory Committee (BTSAC). Briefing paper #3 was sent to the Team prior to the meeting. BTSAC was directed to investigate the relationship between subsurface drainage systems and peak watershed flows and develop management recommendations to mitigate impacts from subsurface drainage systems during flood events. The first study concluded early 2012 and two Briefing Papers describe known effects of subsurface drainage on peak watershed flows outlining a series of subsurface drainage management recommendations for landowners and local water managers in the Red River Basin. The study provided a guidance for engineers and others to design culverts through road and ditch systems. The Department of Transportation and Water Resource Districts also have design guidelines for culverts and ditching. The study analyzes culvert sizing to a 10-year or larger event to distribute water evenly and reduce the flow of water downstream by using the upstream side of the culvert to break out at the road crossings and remain on land for 24 to 48 hours. The project is designed for smaller mitigation and will not solve bigger watershed drainage issues.

Mr. Engels briefly reviewed studies completed on the waffle plan. He stated claims the waffle plan was beneficial were found to be incorrect, which the Office of the State Engineer did investigate and concur. Mr. Engels stated changing a culvert size may help a road routinely washed out by flood events, but will not solve the basin wide drainage issues. David Stand stated he contacted township officials in the Rush River Watershed and they were in agreement with the method. Mike Opat said state law sets out stream crossing standards for roadways.

Each member of the Team identified their top three areas of concern by placing markers on a map of the Rush River Watershed. Mr. Downs reviewed the areas of concern identified by the Team. He explained each part of the process requires written reasons and criteria for keeping or removing a conceptual project site. Mr. Hassell reviewed the alternatives to compare to the problem areas in the Rush River Watershed to identify if the alternatives meet the purpose and need for action.

Discussion was held on downstream impacts, potential mitigation, the Metro Flood Diversion Project, potential retention sites, culvert sizing, permitting requirements, conservation and best management practices, wetland restoration, water quality, Least Environmentally Damaging Practicable Alternative (LEDPA), off channel solutions, and the timeline for the NRCS-RCPP watershed planning process.

Mr. Downs and Mr. Hassell encouraged the Team to evaluate the data to prioritize the primary and secondary alternatives and determine if an alternative or multiple alternatives will meet the purpose and need to provide a potential solution for flood damage reduction in the Rush River Watershed. At the next meeting, the Team will analyze the data to make determinations on the final list of alternatives chosen.

Adjournment

There being no further business to be considered by the Board, the meeting adjourned without objection.

APPROVED:

Mark Brodshaug
Chairman

ATTEST:

Carol Harbeke Lewis
Secretary-Treasurer