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MINUTES

Henderson Flood Feasibility Study - PMT #2
Monday, January 30, 2017
1:00 p.m.
Henderson City Offices

Meeting Chair: Mark Benson

Minutes by: Bob Rogers

Present: See attached PMT meeting roster

Meeting Attendees: See attached meeting roster

I. Welcome / Introductions
- **Matt provided a brief introduction and background for the study. Matt indicated that due to staff changes at MnDOT that he would now be serving as the Project Manager for the study.**

II. Clarification of Study Alternatives
- **The PMT discussed the "10-ton route" alternative in and out of Henderson. It was decided that all improvements associated with the roadways within the study limits would be built to 10 ton structural capacity, but that completing a continuous 10-ton network outside of the study area would not be considered in the analysis. One exception to this was extending the 10-ton route along TH 19 from Henderson up the eastern river bluff to approximately US Highway 169. A second TH 19 alternative will be considered in the assessment that will upgrade the section of TH 19 between US 169 and Henderson to a 10-ton capacity. The cost for this alternative will be based on a previous study completed by MnDOT and SEH will inflate the cost into current dollars for the benefit/cost analysis.**
- **The TH 19 alternative of a low-head dam will be dropped for the analysis since it has been determined that most of the improvements associated with this alternative have already been implemented with past repairs and improvements.**
- **The PMT discussed the "Better Detour" alternative and determined that the study shall consider the cost of improvements along the following routes: TH 19 to Sibley CSAH 9 north to TH 5 (northbound detour route) and TH 19 to Sibley CSAH 9 to Sibley CSAH 8. SEH will calculate a cost for upgrading these routes to 10-ton capacity as well as other potential improvements that would be needed for the roadways to serve as a viable detour route.**

III. Review Study Analysis Assumptions (see attachment)
A. Flooding
- **Rachel presented the historic MN River flood levels through Henderson. This information was generated through the use of gauge data from Jordan, Mankato, and Henderson. The data is being used to define flood frequency and duration of road closures. In addition to the gauge data, roadway elevation data was utilized to estimate the number of historic closures and average number of days the roadways are closed per event. Closure data**

provided by MnDOT was used to further refine the analysis and confirm estimated closure durations.

- **Rachel indicated that the 2010 river crest elevations are being used as the "study design flood" for the base elevations as opposed to the FEMA 100-year flood elevations. This is because the FEMA 100-year flood elevations are based on discharges that have been superseded by DNR and USACE analysis. When the revised discharges are used, the 100-year flood elevations are lower than the 2010 event.**
- **The PMT clarified that the closure events and duration only represent closures directly associated with water elevations of the MN River and are not tied to other activities that could cause closures (e.g. Rush River flooding along TH 93, slope failures, etc.).**
- **In determining future flood events and roadway closures, only the past 25-year flood history is being used in the study analysis because the more recent data indicates flood events are occurring on a more frequent basis. Based on the past 25 years of data, the frequency for flooding and the resultant closure of TH 93 and Sibley CSAH 6 was determined to be once every 3.57 years, while TH 19 was once every 2.78 years. The average number of days the roadways are closed under a major flood event was approximately 20 days for TH 93 and Sibley CSAH 6 and approximately 25 days for TH 19.**

B. Traffic

- **Graham presented traffic analysis information associated with the travel demand model and forecasting activities that have been conducted for the study area and surrounding traffic analysis zones (TAZs). The MnDOT Collar County regional traffic model (which includes twelve counties surrounding the metropolitan area) was used to assess regional traffic impacts associated with roadway closures. Le Sueur, Sibley, and Scott counties are included in the regional model while Nicollet County is outside the limits of the model.**
- **A year 2040 traffic forecast was generated based on historic average daily traffic volumes that were projected out to the year 2040 under a linear growth rate of approximately 1 percent annual growth.**
- **Graham indicated that six scenarios were evaluated as part of the traffic analysis. These traffic scenarios included: Scenario #1: 2040 No-Build where no roadway improvements are made to the study roadways; Scenario #2: Closure of TH 19, TH 93, and CSAH 6; Scenario #3: TH 19 closed, but TH 93 and CSAH 6 remain open; Scenario #4: CSAH 6 improved and remains open while TH 19 and TH 93 are closed; Scenario #5: TH 19 improved and remains open wile TH 93 and CSAH 6 are closed; Scenario #6: TH 93 improved and remains open while TH 19 and CSAH 6 are closed. The regional travel demand model outputs will indicate where trips are routed under each scenario and the model outputs the changes in daily vehicle miles traveled on the system and the vehicle hours traveled by drivers. This data will be utilized in the benefit-cost analysis.**

C. Benefit-Cost

- **Graham explained the process used for assessing the benefits and costs of each scenario/alternative.**
- **The daily cost of full closure was calculated to be approximately $68,000/day when all three routes (TH 19, TH 93, and CSAH 6) are closed due to a flood event.**
- **Graham indicated that each build scenario/alternative will have different benefits and user costs based on the rerouting of trips and the miles traveled and time traveled.**
- **The PMT discussed the extent of the traffic model and determined that a modification to the TH 93 connection into Le Sueur needs to be modified as this roadway closes at generally the same elevation as TH 93 north of US Hwy 169. Graham indicated that this change will have some effect on the redistribution of trips across the regional network.**
- **The PMT also suggested that the report will need to clarify the limits of the model and that it does not include river crossing closures south of the study area (e.g. TH 99 in St. Peter).**
- **Graham summarized the benefit/cost assumptions and input values that will be used in conjunction with the build conditions for the design concepts being developed.**
- **Tim will provide an average cost for CSAH 6 when the roadway is closed due to flooding. The costs will include set-up and takedown for detour routes, removal of silt from the roadway and other standard maintenance costs associated with MN River flood events.**

D. Design
- **Mark present the roadway design assumptions that will be used in developing the conceptual design of each of the build alternative. He indicated that the conceptual designs will have the shoulder PI a minimum of 1' above the 2010 peak water levels. The PMT noted that the TH19 bridge low member will be a minimum of 1' above the 2010 peak water levels.**
- **Tim indicated that the Sibley CSAH 6 right of way is generally a 100' wide corridor.**
- **Outside of the Henderson city limits, the Sibley County land value will for potential right of way costs will be assumed at a consistent $9,000/acres for residential and agricultural lands.**

IV. Update on the Sibley County project at CR 5/CR 6 intersection
- **Early coordination with the MNDNR has occurred and further review of the flood data is underway.**

V. Public Involvement
- **The group discussed the public involvement efforts including the distribution of an electronic newsletter. The first public open house meeting and the agency stakeholder meeting will be held following the development of the preliminary roadway concepts.**

VI. Next Steps
- **At the next meeting in February, SEH will present preliminary design concepts, preliminary costs, and benefit/costs scenarios.**

VII. Next PMT Meeting
A. Monday, February 27th; 1:00 p.m. at Henderson City Hall

SEH believes that this document accurately reflects the business transacted during the meeting. If any attendee believes that there are any inconsistencies, omissions or errors in the minutes, they should notify the writer at once. Unless objections are raised within seven (7) days, we will consider this account accurate and acceptable to all.

If there are errors contained in this document, or if relevant information has been omitted, please contact Mark Benson, SEH Project Manager at 651-490-2194.

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ATTENDANCE ROSTER – PROJECT MANAGEMENT TEAM

Re: Henderson
Flood Mitigation Study

Project Manager: Mark Benson

Date of Meeting: January 30, 2017
Time of Meeting: 1:00 p.m.

Location: Henderson City Hall
SEH No.: MNT07 135877

Present	Name	Representing	E-mail	Phone
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	Gordan Regenscheid	MnDOT		
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