LARIMER COUNTY | ENGINEERING DEPARTMENT

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# FLOOD REVIEW BOARD

**Date: April 24, 2025**

**Time: 8:30 AM, MDT**

**Location: Lake Estes Conference Room, 3rd Floor, 200 W Oak St., Fort Collins and via Zoom webinar**

**Contact: Tina Kurtz, Larimer County Engineering Department**

# MEETING MINUTES

**Staff Present:** Tina Kurtz, Traci Shambo

**Staff Online:** None

**Board Members Present:** Chad Morris, Daniel Richardson, John Hunt, Dr. Chris Thornton, Travis Rounsaville, Jamis Darrow, Matthew Hickox

**Board Members Online:**

**Call to Order:** Dr. Thornton opened the meeting at 8:31 a.m., MDT

**Introductions**

**Item 1: Approval of March 27, 2025, Board meeting minutes**

**Motion:**
Mr. Rounsaville motioned to approve the March 27, 2025, Board meeting minutes.

Mr. Morris seconded the motion.

**Further Discussion:**
None

**Vote:**
Mr. Hunt – Yes
Dr. Thornton – Yes
Mr. Morris – Yes
Mr. Darrow – Yes
Mr. Rounsaville – Yes
Mr. Richardson – Yes
Mr. Hickox – Abstain

**Motion passed [6-0], 1 abstention.**

**Discussion Items:**

**1. A petition filed by the Town of Estes Park for a 12-inch water main crossing underneath the Big Thompson River within the Big Thompson River Zone AE (Floodway) Floodplain Overlay District at the following location to wit: Section 29, Township 5 North, Range 72 West, Larimer County, CO, also known as 2220 Mall Road, parcel number 2529100945**

**Applicants present:** Roger Berg, Brenna Wood, Frans Lambrechtsen, Kimley Horn; Jacqui Westley, Town of Estes Park

The Town of Estes Park is seeking to install a 12-inch water main under the Big Thompson River near Mall Road. The post-construction surfaces will be restored to pre-construction surfaces as will be shown through survey. The waterline will be buried below the calculated scour depth of six feet. The line will be encased within a joint utility duct bank.

Ms. Westley explained why the project was needed, which was partially due a damaged line that occurred 3 years ago and the failed line emphasized the Town's need for a looped line and redundancy. This line will connect existing lines between Hwy 36 and Hwy 34.

Kimley Horn representatives discussed the proposed 12-inch water line alignment crossing the Big Thompson River immediately downstream of Lake Estes. They found that the chosen location is the most feasible alignment after considering several other options. Kimley Horn explained the scour analysis that was done using the power point provided, which was pages from the report. She said they are using the Henderson Formula because of the large grain size and felt that this was an appropriate method since they do not believe there is much sediment transport at this location due to Olympus Dam upstream. She went on to talk about the basis and assumptions for the calculated equilibrium slope and general scour factor for the channel and concluded by noting that the line will be encased in concrete and at least 6 feet below the channel bottom, which is below the computed scour depth.

The Board asked about the discharge used in the report compared to that in the Flood Insurance Study (FIS). Kimley Horn said they did not use the FEMA FIS flows and instead used annual data from a gauge located immediately downstream of Lake Estes along with the actual daily release rates from the dam that were given by the Reservoir Management Team. The Kimley Horn team noted the complication of analyzing flows using traditional methods when just downstream of a reservoir and they decided the best approach was to use the actual peak release rates from the dam. Ultimately, the flow used was 2,150 cfs, which is several thousand cfs lower than the FIS discharge and less than the flows in the September 2013 flood, which was 3,520 cfs. It was noted that the flow rate used did not account for any additional inflows from Dry Gulch, which has its confluence with the Big Thompson River downstream of the dam. The Board discussed the different flow rates and ultimately noted that using a higher flow rate would have a negligible impact on the results.

The bore logs and depth and quality of bedrock was discussed. The Board noted that if they hit bedrock shallower than expected it seemed reasonable that they could place the pipe at the shallower location considering that their design includes concrete encasement. Kimley Horn followed the suggestion with the fact that the pipe must be at least 5 feet below the channel to account for freeze protection.

The Board asked how the excavation would be replaced and asked what materials will be used on the channel bed. They noted that the plan is to salvage the cobbles and put back to the existing condition as much as possible. The armoring layer will be preserved and placed back into stream bottom.

Mr. Hunt asked if Kimley Horn considered contraction scour analysis and they confirmed that they did consider contraction scour and the overtopping of the road using a 2-D hydraulic analysis. The result was that the potential contraction from bridge was negligible by the time flows get to the location of the water line.

The Board asked if Kimley Horn considered channel migration and they said that they did look at historical imagery and found that there was no evidence that the channel has been prone to migrate, likely due to the large size of the aggregate and stable vegetated areas.

Mr. Morris said that the left side of water line, where the line is coming back up from the lowered section, may be a little more at risk, but other Board members noted that location still has 5 feet of cover so the Board agreed that this is likely not an issue.

The Board asked if the design includes any above ground valves and appurtenances, and the Town said that there are not.

Mr. Hunt noted that the granite in this area might be decomposed granite, as it is in the rest of the Big Thompson Canyon, and not as stable as often expected but, even with that consideration, the Board did not see a concern with the design.

The Board concluded that even using a higher flow rate would likely not change the design or scour results, especially since the design is keying into the bedrock. The Board noted that they could have used the higher flow to be more conservative, but the Board again noted that using higher flows would create only a negligible change to the scour analysis results.

**Motion:**

Mr. Hunt moved to recommend approval of the Town of Estes Park's 12-inch water main crossing underneath the Big Thompson River to the County Engineer.

Mr. Darrow seconded the motion.

**Further Discussion:**
None

**Vote:**
Mr. Hunt – Yes
Dr. Thornton – Yes
Mr. Morris – Yes
Mr. Darrow – Yes
Mr. Rounsaville – Yes
Mr. Richardson – Yes
Mr. Hickox – Yes

**Motion passed [7-0].**

**Item 3: Other Business:**

Discussed upcoming agendas
Miller Fork
Lundeen property

Meeting adjourned at 9:15 a.m., MDT.