

FLOOD REVIEW BOARD

Date: August 24, 2023

Time: 8:30 AM, MDT

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

Contact: Tina Kurtz, Larimer County Engineering Department

MEETING MINUTES

Staff Present: Tina Kurtz, Caryn Nezat, Alan Kee

Staff Online:

Board Members Present: Mike Oberlander, Dr. Chris Thornton, Chad Morris, Jamis Darrow, Travis Rounsaville

Board Members Online: John Hunt

Call to Order: Dr. Thornton opened the meeting at 8:32 a.m., MDT

Introductions

Dr. Thornton motioned to untable the June 22, 2023, Board meeting minutes.

Mr. Oberlander seconded the motion.

Dr. Thornton motioned to approve the June 22, 2023, Board meeting minutes.

Mr. Oberlander seconded the motion.

Vote:

Mr. Hunt – Abstain

Dr. Thornton – Yes

Mr. Morris – Abstain

Dr. Ervin-Blankenheim – Absent

Mr. Oberlander – Yes

Mr. Darrow – Yes

Mr. Rounsaville - Abstain

Motion passed [3-0], with 3 abstentions.



Item 1: Approval of July 27, 2023, Board meeting minutes

Motion:

Mr. Oberlander motioned to approve the July 27, 2023, Board meeting minutes.

Mr. Morris seconded the motion.

Further Discussion:

None

Vote:

Mr. Hunt –Abstain

Dr. Thornton – Yes

Mr. Morris – Yes

Dr. Ervin-Blankenheim – Absent

Mr. Oberlander – Yes

Mr. Darrow – Abstain

Mr. Rounsaville - Yes

Motion passed [4-0], with 2 abstentions.

Item 2: A petition filed by Devin Staniar for a Variance Request under Section 12.1.6.E of the Larimer County Land Use Code for a deck addition in the FEMA Zone AE (Floodway) Floodplain Overlay District at the following location to wit: Section 34, Township 6 North, Range 72 West, Larimer County, CO, otherwise known as 6781 County Road 43, Glen Haven, CO

Applicants present: Aaron Cvar, Front Range Stormwater and Floodplain Consulting, LLC; Devin Staniar, applicant.

Ms. Kurtz introduced the project to the Flood Review Board and stated that this is a Variance request for a deck addition. The project is located within the FEMA North Fork Big Thompson River Floodway. The applicable Larimer County Land Use Code (LCLUC) for the Variance request is LCLUC 12.1.6.E.

The request is for the addition of a deck to the existing structure. The structure is within the FEMA floodway but not within the Best Available floodway (it will be within the Best Available flood fringe). The deck will be 30 feet by 8 feet along the west side of the structure. The project engineer found a no-rise condition from the deck. Also, the elevation difference between the bottom of the supporting beam and the base flood elevation is 1.23 feet.

Mr. Cvar introduced the project and gave a presentation of the project. The subject property is in the FEMA current effective floodway and is shown in the Colorado Hazard Mapping Program (CHAMP) flood fringe. This is in a transition period until CHAMP is formally adopted. The effective FEMA model was



unable to be tracked down. Mr. Cvar tracked back some of the differences and found approximately 4 ft of difference in the water surface elevation (WSE) between the effective FEMA model and the CHAMP model.

The CHAMP floodway and Mr. Cvar's modeled floodway are significantly lower on the property than the effective FEMA model. The modeled floodplain provided shows the deck is barely touched by the flood fringe in this area. Looking at the Elevation Certificate and elevations we see the CHAMP WSE is about 1.2 feet below the lowest member above the deck. The floor of the deck is an additional foot above the lowest horizontal member.

The model was double checked by comparing the LiDAR based model created by Mr. Cvar to the CHAMP model and found the elevations were consistent with the CHAMP model and data. The main difference seems to be mainly due to the LiDAR. The effective FEMA model topography is very outdated and doesn't reflect the natural grades on the property.

The deck piers are included in the model to show the effect of the obstructions in the conveyance areas. There was no increase in elevations and a small decrease in the WSE due to decreased conveyance.

Mr. Rounsaville asked what LiDAR was used for the model. The LiDAR in the model was from 2017. There was discussion on whether the hydrology had changed. There does seem to be differences in the LiDAR and hydrology. Mr. Cvar chose to create the simple stand alone model due to the preliminary nature of the model. The hydrology dropped for this area and the CHAMP hydrology is approved by FEMA and the State. The hydraulic studies are currently under review.

There was discussion on the federal regulation to regulate to most restrictive. The variance would address the requirement of using the most restrictive and allow the modeled scenario to be acceptable and best available. Mr. Darrow asked about the location and details of the construction of the deck. This brought up the question of the scour around the piers. The discussion pointed out the need to obtain the building permit and scour should be addressed. There will be at least 30-inches below grade in concrete footers.

Motion:

Mr. Darrow moved to recommend approval of the deck addition variance for 6781 County Road 43 to the County Engineer.

Mr. Rounsaville seconded the motion.

Further Discussion:

The scour discussion was continued and resolved.

Vote:

Mr. Hunt – Yes



Dr. Thornton – Yes
Mr. Morris – Yes
Dr. Ervin-Blankenheim – Absent
Mr. Oberlander – Yes
Mr. Darrow – Yes
Mr. Rounsaville - Yes

Motion passed [6-0], with 0 abstentions

Item 3: A petition filed by the Coalition for the Poudre River Watershed for a Floodplain Project Review under Section 12.1.6.H of the Larimer County Land Use Code for stream restoration actions in the South Fork of the Poudre, a FEMA Zone A Floodplain Overlay District at the following location to wit: Section 36, Township 8 North, Range 73 West, Larimer County, CO

Applicants Present: Colin Barry, Ayers Associates; Cory Dick, Coalition for the Poudre Watershed (CPRW)

Ms. Kurtz introduced the project to the Flood Review Board and stated that this is a Floodplain Project Review for stream restoration projects in the South Fork Cache la Poudre River Zone A floodplain. The applicable Larimer County Land Use Code (LCLUC) Section for a Floodplain Project Review is LCLUC Section 12.1.6.H.

The request is for a project located downstream of high severity burn areas. The location is experiencing incision and bank erosion along with ecological impacts. The project is employing multiple mitigation strategies for stream restoration which will improve water quality and ecological functioning.

Mr. Dick, Watershed Project Manager for CPRW, introduced the background of the project. He went into the background and mission of CPRW. Mr. Barry introduced the technical background for the restoration project. Approximately 48% of the watershed was burned in the Cameron Peak fire. The watershed that is tributary to the South Fork of the Cache la Poudre River has had very little mitigation after the fire. More details on project challenges and goals are provided in the PowerPoint.

The area has been degraded over a long period and has resulted in disconnection of the floodplain. There are multiple process-based restoration projects across the County and in multiple watersheds. The area lacks natural wood transportation in the system. Mitigation of the post-fire impacts are designed to help speed up the recovery process by increasing the availability of the natural ecological components necessary for recovery.

Mr. Barry shared a video of the project area. Further explanation of the ecological benefits was shared. They are available in the PowerPoint. This project will be a collaboration between Colorado State University and CPRW. The model is in a Zone A floodplain without a model or base flood elevations. This allows for a little flexibility with rises and decreases in the water surface elevations (WSE). Many of the benefits are focused on the smaller return interval storms.



The hydrology was discussed. Mr. Barry further discussed the process of illustrating the mitigation activities in the model and the various ways that are possible with changing the geometry or the manning's roughness values. The manning's roughness selection process was explained. The overall impact is represented by the composite roughness value within the channel. Mr. Barry shared the WSE comparison tables. The expectation is that the mitigation activities will potentially mobilize in the 100-year storm. The approach taken is conservative and allows for the field fitting in the implementation of installing mitigation activities.

Mr. Barry addressed the impacts and relative Code sections that need to be addressed. Mr. Rounsaville asked for clarification on the channel stability and erosion impacts. This project is going to be continuously monitored in the area, and that will allow them to address any adverse issues that may arise as the area recovers. Mr. Morris asked about potential assets and infrastructure that would be at risk should mobilized wood be increased downstream. There is little development in the area and the road is approximately 10 feet above the 100-year WSE. There are no road crossings immediately downstream from the project site.

Discussion on the 0.5 ft or 0.3 ft rise or fall of the WSE was brought up. The federal, state and county regulations were clarified. Dr. Thornton asked about the risks if the modeling approach is not accurate. The question of whether the modeling approach is appropriate from a regulatory perspective was discussed. The lower return period should not have an adverse effect on assets that are downstream. Dr. Thornton questioned whether the smaller storms were modeled and analyzed for impacts.

Should there be changes in the project design the project would be reviewed again to ensure there is continued compliance. Remapping of the Poudre River Canyon was discussed as a solution to keeping the communities in the canyon safe. The elevation difference between the road and the WSE were examined. Mr. Morris asked for more clarification of how the manning's n values were weighted. Using the geometry modification would not allow for the field fitting of the structures due to the hard coded location of the structures.

Methods in the manning's n value selection and modeling were discussed. The discussion considered whether the existing conditions should account for the vertical variation of the roughness. The concern about the methodology of varying the manning's n values needs to be further documented. Potential for Conditional Letter of Map Revision/Letter of Map Revision requirements were discussed. Mr. Hunt further discussed some background for the methodology of the modeling approach. This is new territory for these types of projects.

The process used for existing and proposed manning's n value should be consistent between models. The approach is not an invalid method however it is not consistent with the existing conditions model. Mr. Darrow pointed out the conservative nature of the methodology should account for the differences in the roughness where structures will not be placed.

Potential conditions of approval were discussed. The risks due to the project being incorrectly modeled are minimal and we will have an opportunity to reevaluate the methodology with the as-built condition.



Further discussion of the lower return intervals was discussed. The elevation difference between the road and the WSE is great enough to not be a concern.

Further discussion on the introduction of wood from upstream was discussed. The Fish Creek bridge will be the limiting factor. The discussion to table the project addressed the clients' expected timelines. It is better to ensure that the methodology is dialed in before construction verses after construction.

Motion:

Mr. Oberlander motioned to recommend tabling the stream restoration activities in the South Fork Cache la Poudre River Floodplain Project Review for up to 120 days.

Mr. Darrow seconded the motion.

Further Discussion:

None

Vote:

Mr. Hunt – Abstain

Dr. Thornton – Yes

Mr. Morris – Yes

Dr. Ervin-Blankenheim – Absent

Mr. Oberlander – Yes

Mr. Darrow – Yes

Mr. Rounsaville - Yes

Motion passed [5-0], with 1 abstentions.

Item 4: A petition filed by Sheri C. Welch for a Map Amendment under Section 12.1.6.G of the Larimer County Land Use Code for a Letter of Map Revision (LOMR) for the Ladera Development LOMR Number 2 in the Cache la Poudre FEMA and Best Available Zone AE (Floodway) Floodplain Overlay Districts at the following location to wit: Section 3, Township 6 North, Range 68 West, Larimer County, CO

Applicants Present: Caitlin Link, Galloway; Chris Pauley, Galloway; William Welch, representing applicant.

Ms. Kurtz introduced the project to the Flood Review Board and stated that this is a Map Amendment Floodplain Project Review for a Letter of Map Revision (LOMR) for the Ladera Development #2. The applicable Larimer County Land Use Code (LCLUC) Section for a Map Amendment is LCLUC Section 12.1.6.G.

This LOMR application is for the approved Conditional Letter of Map Revision (CLOMR) for this area. The CLOMR was done relative to RiskMAP by direction of FEMA. The LOMR is also using RiskMAP data. This



is an addition to LOMR #1 which is currently being reviewed by FEMA and incorporates their comments on LOMR #1 into this report.

Ms. Link started her presentation with some background of the project development. The history and status of the CLOMR and first LOMR were shared. LOMR No. 1 is expected to receive the Letter of Final Determination by October or November 2023. Ms. Link discussed the details of the hydrology and FEMA direction to use the Best Available floodplain information. Further details of the modeling parameters were shared. Ms. Link described the changes that were made from the additional data request from FEMA during the review of LOMR No. 1. She went over the different modifications that were made as a result of comments received from FEMA.

The existing condition model incorporates the Colorado Water Conservation Board comments from LOMR No. 1. FEMA provided guidance to use the as-built condition of LOMR No. 1 as the existing condition of LOMR No. 2. The surfaces for the LOMR No. 1 and LOMR No. 2 were compared. The floodway does not change between the Corrective Effective model and the proposed conditions.

Mr. Darrow asked about the direction provided for the model to be truncated. There were questions about floodway encroachment and bank station placement direction from FEMA. Mr. Rounsaville asked about the Corrective Effective model versions. The report may have a different version listed incorrectly. It was verified that the versions are the same for all models.

Motion:

Mr. Morris moved to recommend approval to sign the MT-2 form for the Ladera Number 2 Letter of Map Revision Map Amendment to the County Engineer.

Mr. Darrow seconded the motion.

Further Discussion:

None

Vote:

Mr. Hunt – Yes
Dr. Thornton – Yes
Mr. Morris – Yes
Dr. Ervin-Blankenheim – Absent
Mr. Oberlander – Yes
Mr. Darrow – Yes
Mr. Rounsaville - Yes

Motion passed [6-0], with 0 abstentions

Other items:



- Discussed upcoming agendas

Meeting adjourned at 10:55 a.m., MDT.