

Community Advisory Committee - Engagement Report

For the Period Ending Mar 31, 2022

Prepared for: Resiliency and Flood Mitigation Program Office, Mayor and Council and the CAO

Community Advisory Committee: Purpose

- Work with the Flood Mitigation Office to learn and understand the reasons for the Flood Mitigation Program and the scope of the project to guide engagement with the public.
- Connect with the community affected by the Resiliency and Flood Mitigation Program, and report back to the Resiliency and Flood Mitigation Office on the concerns of the community.

In our last Community Advisory Committee report to the community, we stated that we “Support Flood Mitigation”. Some people have interpreted this to mean that we ‘toe the line’ and ‘accept everything the Drumheller Resiliency and Flood Mitigation Office (FMO) tells us. This could not be further from the truth. In fact, on behalf of members of our community, we have asked a lot of difficult questions, and have received responses to most of them. We, as citizens, may not personally like the answers being provided, but as the CAC we try to ensure obvious alternatives are not being overlooked, and the position of the Flood Office can be justified. We try to reflect the position of the community as best we can, but our Terms of Reference give us no special powers to impose changes on the FMO.

Operations

Current Reporting Period - (Feb 1/22 - Mar 31/22)

- Continue to meet weekly in person.
- Conduct research on topics most relevant to current project.
 - We have attended reviews and provided feedback on 3 drafts of public presentations (Traffic Impact Assessment, North Drumheller- Michichi Creek, Grove Plaza and Willow Estates Dykes)
- Review input from residents.
 - We have received 14 communications from concerned citizens.
- Formulate questions, refine and further clarify to ensure answers meet the needs of those asking them and others who may come to us in the future.
- Submit questions to FMO via the Communications Team; review answers and communicate back to those asking the questions.

Major Deliverables To Date

We've had a number of people ask us about what the Community Advisory Committee (CAC) has done to date and what impact we have made. Here is a brief summary of our involvement to date followed by the recent research and projects we have undertaken;

- We have participated in 8 pre-reviews of public presentations and provided feedback on shortfalls and opportunities for improvement. As the CAC is composed of citizens of Drumheller, we bring a local perspective, vision, and expectations. The FMO have been very open to our suggestions and incorporated many of our ideas into the public presentations that you see.
- We have attended 7 Public Information Sessions (combination of in-person and virtual)
- We have researched and made ourselves familiar with the subject of Managed Retreat, which is the purposeful, coordinated movement of people and buildings away from risk.
- We continue to educate ourselves on the effects of climate change and the response of Gov't in areas like Drumheller.
- We have submitted questions on behalf of the public. We generally try to anonymize these questions to preserve the identification of the person(s) submitting them to us, and to obtain answers that are more applicable to both the requestor and the general public. The questions we ask and the answers to them generally find their way to the Flood Mitigation's FAQ on the website. To date, the questions we have asked have generated 27 questions and answers in the Resiliency and Flood Mitigation website FAQ and can be found at <https://floodreadiness.drumheller.ca/be-informed/faq>

Examples of the types of questions we have asked can be found in the addendum at the conclusion of this report.

Current Research Topics and Projects

Traffic Impact Assessment Review

- Subsequent to the Public Information draft presentation, the CAC has undertaken an in-depth review of the findings of the Traffic Impact Assessment provided by SWEETTECH. Our feedback was presented to Eric Sweet and Fire Chief Bruce Wade prior to the public information session.

Environmental Review

- CAC members have reviewed the Environmental and Wildlife studies. It is our intent to coordinate regular updates with the Environmental Engineer for the project. We are waiting on confirmation of a meeting from the FMO.

Tree Project

- Three members of the CAC have spearheaded a project along with the Mayor to reuse and honor the trees that must be removed for berm construction. A Tree Carving Festival is being planned. It will be a public event that should generate art for display and semi-permanent installations. The Town's Event planner will be setting up dates and activities. These activities should help rejuvenate an appreciation for the Flood Mitigation Office's Urban Forest Strategy.

Key Observations

1. A majority of community members still appear to be disengaged and have not yet come forward with questions or comments for the CAC and to participate in overall public engagement process. There seems to be a tendency to respond to misinformation and/or rumour rather than pursue the resources available from the FMO. As a result, the CAC are generating questions based on our conversations with the citizens more often than having the citizens formally reaching out to us asking for our help to have their questions answered. This is not how our role was originally perceived, so we have adjusted our methodology to fit the situation.
2. Although there is a perception by some community members that we are not independent (we've even been called puppets by some) because we don't publicly speak out or dispute the decisions of the FMO, we feel strongly that we are continuously and effectively representing the concerns of the community behind the scenes. We are committed to keeping strong communication channels with our community and finding even more ways to do this.
3. We find that at pre-public session presentations we have provided significant value as a Focus Group to identify potential concerns and make recommendations to improve the message and communication with the public.
4. The CAC has had the advantage of receiving a significant level of education and information from training sessions provided by the FMO, not generally available to the public. It has resulted in a committee that is forward thinking and proactive in identifying issues (and potential solutions) relating to the flood mitigation project that may impact our community in the future.

Respectfully Submitted,
Community Advisory Committee

Addendum

Samples of questions asked by the CAC that have been added to the Flood Readiness website as FAQ's.

What is the 1:100 flow rate for the Rosebud River for inundation? What is the likelihood for flooding due to non-regulated flooding and ice jams?

As per Northwest Hydraulics' recent hydrology study for the Red Deer Basin, the 1:100 year flood flow rate for the Rosebud River is 292m³/s. It should be noted that the Rosebud River is strongly influenced by the Red Deer River flood level for the first few km near the mouth, so design flood levels based on floods on both rivers need to be considered for selecting design elevations. Northwest Hydraulics also looked at ice jam flooding on the Rosebud River but found that based on historic flood events, the open water (no-ice) flood event would govern. The question around the probability of flooding is a bit more complex here as it depends on what the Red Deer River levels are at. Considering the Rosebud River alone, the 11 Bridges Campground is flooded at a 1:10 year flood (10% chance annually of occurring) and Rosedale starts to be flooded at a 1:20 year flood (5% annual chance of occurring).

Will the town (Flood Mitigation Office) be coming to tell me I must move and will they purchase my land at appraised value?

The Flood Office will be speaking with landowners impacted by dike construction in the coming months as we continue work on delivering the program. We will try to mitigate impacts to individual landowners, and in most cases will just be looking to purchase a portion of an individual property to facilitate dike construction; however, there are some cases where we will need to buyout entire parcels. The partial acquisitions will be done on a percentage basis based on the assessed value for the land. The full buyouts will be done at fair market value, the greater of assessed or appraised value for the full lot. More details are available in the Town's Land Policy Document - <https://floodreadiness.drumheller.ca/public/download/files/201056>, which has been approved for use by our funding partners at The Province.

If the Town runs out of dollars building to 1850 m³/s plus 0.75 m freeboard and there are remaining dikes yet to construct, how will the Town be protected from possible high-water events?

There is no expectation that we will run out of money for the dikes that have been funded. The province of Alberta has recommended that the Drumheller Valley build flood mitigation up to the 1850 m³/s Red Deer River flow rate. If Drumheller only built the dikes to the 1640 m³/s level, we would not be in accordance with that requirement and could impact future provincial funding.

Were any alternates considered to closing Riverside Drive?

The design team considered a number of options, including a partial road closure (one-way traffic), and leaving the road fully open but constructing a full-height retaining wall. The

selected option (full road closure for one block) was deemed the best alternative in terms of cost, constructability, leaving room for the river and limiting fisheries impacts.

Will the 2-block road closure of Riverside Drive to accommodate the Downtown Dike impact emergency services response times?

The Downtown Dike Design team and Drumheller Emergency Services have been working together over the past several months to better understand impacts from the Downtown Dike project and the potential impacts from the Riverside Drive Road closure.

To date, the design has been adjusted in the following ways:

- Better accommodation for Fire response vehicles
- Commitment to providing traffic light pre-emption equipment
- Additional fire hydrants

This information and recommendations along with an assessment of emergency service travel times will be included in the upcoming Traffic Implications Assessment (TIA) that the Downtown Dike engineering team is currently working on.

Why don't we just put Riverside Drive on top of the Downtown Dike?

To place the road on top of the dike would require that it be built to a much higher standard in terms of the fill, dike side slopes, roadway geometry, guardrails, etc. to meet roadway standards for vehicle loading, which would significantly increase the cost of the dike, so this option was discounted.

Has a Traffic Impact Assessment been considered to evaluate the potential outcomes or consequences of traffic flow changes resulting from proposed flood mitigation development? Will remaining transportation infrastructure be adequate to accommodate?

Thus far, we have done a preliminary assessment on the traffic impacts directly adjacent to Riverside Dr to evaluate the 4 options being considered for the dike. This preliminary assessment was used in the selection of the preferred option (2-block closure of Riverside Drive). The formal Traffic Impact Assessment (TIA) will be completed in Q1 of 2022 and will drive the formal assessment of traffic impacts and flow changes that the closure of Riverside Drive will have on residential traffic and emergency vehicles and the implementation of potential mitigations.

If you raise the existing road elevation to the equivalent height as the 1850 m3/s level and leave both lanes open, should additional fill be later required to protect to the 3000 m3/s level?

Many options were considered early on for the dike along Riverside Drive; however, it was narrowed down to the 4 preferred options based on cost, environmental impacts, and regulatory acceptance. The option for designing the roadway on top of the dike is significantly more costly and was not evaluated further as a viable alternative. To give an actual cost for this option would run the Flood Office around \$10,000 to investigate and then provide an answer. As this option has been deemed not viable, the Flood Office will not be undertaking this additional study. A few items that drive up the cost for this option are acquiring properties to accommodate the horizontal and vertical curvature design, additional safety requirements such

as guardrails and other measures as traffic would now be adjacent to a steep and high drop off to the water. Furthermore, there could be significant additional costs for the highway specification road fill materials and construction.

Could the existing road be re-aligned to fit between the dike and the houses by encroaching on 2 or 3 lots? We are accepting encroachment in other places, why not here?

Encroachment along 5th Street would require full acquisition of these properties, not just encroachment (as the houses are fairly close to the road), and ultimately that’s more expensive. It would also likely require acquisition of 5 properties, rather than the 3 mentioned. The additional 2 properties that would need to be acquired are 475 3rd Ave and 349 5th Street. To acquire these 5 properties would cost between \$750,000 and \$1,000,000. Furthermore, it would also result in incurring the cost of fully reconstructing this section of Riverside Drive. Since this portion of Riverside Drive is 300m and the cost of reconstructing 1 km of roadway is approx. \$1,500,000, that’s another ~\$450,000 in road construction cost.

If minor changes were made to the top of the existing dike (where the pathway currently is) to create a wider platform, would a temporary dike using the water filled tubes be sufficient to place on the dike top?

Unfortunately, we have no funds available for temporary mitigation measures for the Downtown Dike or any of the flood mitigation projects. Additionally, the footprint area required for temporary flood tubes is nearly the same as for the full height permanent dike (about 5.8m of space would be required for a 3m dike raise with temporary flood tubes, with room to move needed on either side. Additionally, flood tubes require indoor warehouse storage over the long term, and specialized training and equipment to deploy so can be costly to maintain, especially given that there is no Provincial or Federal funding for these.

For each of the alternatives that were considered, please provide more detailed information and cost estimates on what was considered and why they were rejected.

Option	Retaining structure required	Preliminary Cost Estimate for Phase 1	Preliminary Cost Estimate for Phase 2	Preliminary Total Cost Estimate for Downtown Dike
Closure of Riverside Dr & <u>5th St</u> E (from <u>3rd St.</u> to 4th Ave) cul-de-sac at end of 3rd Ave	No	\$1.4M	\$1.9M	\$3.3M
Closure of Riverside Dr (from <u>3rd St.</u> to 3rd Ave) maintain 3rd Ave	Yes	\$1.4M	\$2.3M	\$3.7M
Reconfiguration of Riverside Dr and 3rd Ave intersection	Yes	\$1.4M	\$3.1M	\$4.5M
Maintain Riverside Dr and <u>5th St</u> E as one-lane, one-way	Yes	\$1.4M	\$2.2M	\$3.6M
Maintain Riverside Dr and <u>5th St</u> E as-is	Yes	\$1.4M	\$3.2M	\$4.6M

Were there any previous studies done before the decision was made to close Riverside Drive?

A preliminary traffic study was completed. A more comprehensive study is in process which will take into account traffic flow year-round throughout the downtown area. Emergency response times will be reviewed in the traffic study

Why can't we widen or straighten the river to protect Lehigh?

Widening or straightening the river does not reduce the flood depth at Lehigh by very much (~ 10cm), and it is not permitted by the regulators. The cost of straightening is significant.

Why can't Lehigh residents just stay and take their chances?

We understand that buyouts are not the ideal solution for Lehigh residents; however, the level of risk to Lehigh residents and their property is not acceptable to the Town nor to the Province of Alberta. Residents remaining in Lehigh is not an option as they will be putting themselves and others (emergency services) at risk. Funding is available now to remove the risk, so the Flood Mitigation Program is undertaking buyouts.

Is it possible for the Michichi Creek Dike to have public access and a pathway on top?

No. The FMO does not have available funding for new pathways. Furthermore, this dike overlooks the campground and some adjacent landowners. The privacy of commercial and residential property is of great importance to the Flood Mitigation Office, so the only pathways undertaken will be for the dikes that already have an existing pathway.

Will Alberta Transportation be raising their dikes as well?

The Town of Drumheller has shared the proposed flood mitigation plans with Alberta Transportation. Further discussions with Alberta Transportation will be held to determine what, if any, changes need to be made to their timber wall and dike to accommodate the flood plans. We expect they will raise their dikes and need to have our dikes built to the standard design levels to be ready.

Why is there no increase in travel times on the alternate routes with the 2-block closure of Riverside Drive?

The travel times post-closure considers the three intersection improvements. Without these improvements, there would be greater travel time delays. The TIA modelling shows how the intersection improvements will reduce delay at key intersections within the network and so reduce the travel times post-closure along the diversion routes. Travel times were only modelled for Emergency Vehicles. Regular traffic would have slightly longer travel times, as compared to Emergency Vehicles, however, they would likely result in similar trends in traffic travel times.