REQUEST FOR DECISION (RFD)

Date: December 14, 2020

To: Her Worship Mayor Qualizza and Members of Council

From: Jenny Weir, Municipal Engineer

Subject: Structural Flood Mitigation Funding Opportunity

RECOMMENDATION

THAT Council direct staff to submit an application to the Investing in Canada Infrastructure Program, COVID-19 Resilience Infrastructure Stream, Adaptation, Resilience & Disaster Mitigation (ARDM) for funding the detailed design and construction of the Annex Dike Upgrades, up to a project value up to $5 Million.

PURPOSE

The purpose of this report is to obtain the required Council resolution in support of the proposed project activities, and to confirm willingness to provide overall grant management support for our proposed project through the ARDM program, closing January 11, 2021.

BACKGROUND

Using provincial grant funding from the Emergency Management BC Disaster Mitigation Program for Non-structural Projects, the City of Fernie retained Northwest Hydraulic Consultants to complete the 2019 Flood Mitigation Plan. The report identified the flood hazards in our community based on the existing flood protection infrastructure and the Floodplain Mapping from 2017. Many of the existing dikes were determined to be too low based on the design flood and applicable standards and need to be raised. The report also identified several gaps in flood protection throughout the community. The recommended mitigation measures throughout the City were prioritized based on the associated risks.

The priority one project identified in the Flood Mitigation Plan was the Northlands Maiden Lake Dike Project. The City of Fernie secured funding through the National Disaster Mitigation Program (NDMP) in the amount of $1.5M for the project which was completed in 2019. Additionally, the City of Fernie received $750,000 of funding under the Structural Flood Mitigation stream of UBCM's Community Emergency Preparedness Fund in 2020 to complete the Mountview Dike Phase 1 Upgrades, a portion of the identified priority three project in the Flood Mitigation Plan.

Reviewed by:			
Chief Administrative Officer	Director of Corporate Administration Services	Director Financial & Computer Services	Other:

Continuing to implement the recommendations of the Flood Mitigation Plan will increase our Community's resiliency to future flood risk. On Tuesday, December 1, 2020 the City of Fernie received notification of the ARDM grant funding opportunity being administered by the Province of British Columbia (the Province) through Emergency Management BC. Due to COVID-19, Infrastructure Canada is amending the Investing in Canada Infrastructure Program (ICIP) to include the creation of a new COVID-19 resilience infrastructure stream (CVRIS) to support pandemic response and economic recovery efforts. The CVRIS stream supports several project categories including disaster mitigation and adaptation infrastructure. The Adaptation, Resilience & Disaster Mitigation (ARDM) program stream will fund 100% of project costs up to $10M for flood mitigation infrastructure projects that will support an increase in structural capacity and/or increased natural capacity to mitigate and adapt to climate change impacts, natural disasters and/or extreme weather events with the intent of reducing, or even negating, the effects of flooding.

The program targets shovel-ready projects that have a construction start date of no later than September 30, 2021, and that can be completed by December 31, 2021. Considering that the program eligibility is based on shovel-ready projects and provides a short timeline for implementation, the following were key considerations for project selection:

- Has been identified as an infrastructure need and supported by Council and the community through adopted master planning documents, engineering studies, endorsed strategies, and the Official Community Plan (OCP).
- Supports Council's strategic priorities such as promoting accessibility, considering resiliency to climate change, and considering sustainable service delivery.
- Meets the eligibility requirements of the funding program. (Attached as an appendix to this report for information.)

Annex Dike Upgrades Project:

The proposed project is to complete Annex Dike Upgrades as recommended in the Flood Mitigation Plan. The Annex Dike is approximately 1,800 m long and extends from the Leo T. Nimsick Bridge to the West Fernie Bridge on the east bank of Elk River. The upstream-most 250m and downstream-most 400 m of dike are located directly along the riverbank, and the middle 1150 m of dike is set back 40 to 140 m from the riverbank. The main issues associated with the Annex Dike identified in the Flood Mitigation Plan pertain to the dike height and the quality of the existing erosion protection.

The Dike Crest Elevation is lower than the Flood Construction Level along the entire length of the dike, with the average departure from FCL being approximately 0.6m and the maximum departure of 1m. The side slopes and crest width of the dike are steeper and narrower than BC Dike Design & Construction Guidelines. Additionally, the furthest north and south ends of the dike located along the riverbank have erosion protection infrastructure that is over steepened and has voids due to disintegrating rock.

An identified complicating factor that will need to be addressed in the detailed design process, is that after accounting for increase in dike height and restoration of top widths and side slopes, the dike footprint would be expected to increase from 1.3 m to 4.0 m on either side. This is an

issue along the setback dike between 7th Street and 9th Street, as well as on the river side dike between 9th Ave and the West Fernie Bridge, where private properties are located directly adjacent to the dike.

This project would complete the flood protection for the Annex subdivision. Should the City be successful in receiving this grant, the new dike surface would provide an improved gravel surfaced multi-use trail, and this trail could be planned to be paved using alternate funding sources the year following completion. The estimated cost to complete this project, as completed by Northwest Hydraulic Consultants is $4,634,000. Through the grant application process staff will work on the more detailed cost estimate that is required as component of the application, and apply for the calculated amount of funding with a maximum application of $5M.

INTERNAL CIRCULATION

This report has been circulated to the Planning Department and CAO.

LEGAL/STATUTORY AUTHORITY

N/A

LEGAL/STATUTORY PROCEDURAL REQUIREMENTS

N/A

COMPLIANCE WITH CORPORATE STRATEGIES & POLICIES

As noted above.

FINANCIAL/BUDGETARY CONSIDERATIONS

N/A

PERSONNEL IMPLICATIONS

The Annex Dike Upgrades funding application and project execution will be led by the Municipal Engineer. Collaboration from all City departments will be required to execute these projects. It is estimated that in order to manage this project, approximately 5 weeks of the municipal engineer's time between grant award and Dec 2021 would need to be allocated to this project, as well as additional time from the Corporate Administration and Communications departments.

EXTERNAL AGENCY/PUBLIC COMMENTS

N/A

COMMUNICATION CONSIDERATIONS

Following receipt of the grant, staff will develop a communications plan to engage the public throughout the project progression.

OPTIONS

1. That Council direct staff to apply for ARDM funding as per staff recommendations.

2. That Council provide staff alternate direction.

CONCLUSION

Given there is no dedicated budget to implement the recommendations of the Flood Mitigation Plan external funding opportunities are critical to the advancement of our Community's resiliency to future flood risk. The ARDM aims to invest in capital projects that will help achieve the province's vision of resilient communities, and therefore the Annex Dike project aligns well with the funding objectives.

Respectfully submitted,

Jenny Weir, P.Eng.
Municipal Engineer

Attachments:

1. ARDM Program Guide