



MEMORANDUM

DATE: November 6, 2023

TO: Chair Bryson and Public Works and Facilities Committee

FROM: Denise Koch, Engineering and Public Works Director

SUBJECT: Long-term Follow-up to 08-05-2023 Jökulhlaup and Mendenhall River Flood Event

This memo provides an update on post-event actions and long-term recovery and mitigation after the Jökulhlaup and subsequent flooding of the Mendenhall River on August 5, 2023.

Flood Statistics. The August 5th event released 14 billion gallons of water (21,300 Olympic-size swimming pools or roughly 1 foot deep water covering all of Douglas Island) in approximately 48-72 hours (start to finish). The peak flow of this flooding event was 1.6 times the previous record flooding event that occurred in 2016. The August 5th peak flow was over 5 times greater than the typical summertime river flow. The event timeline is reported in the National Weather Service event [summary document](#).

Monitoring and Forecasting Science. The Assembly heard a presentation from a scientific panel at the [8.28.23 COW](#). The panel educated the community on the sheer enormity and unpredictability of Suicide Basin and the need for more funding and research to better understand the Jökulhlaup and ultimately to predict it more accurately. They also explained the difficulty in mitigating a future event with the dynamic nature of the change with the receding glacier and the sheer size of the basin. Eran Hood, University of Alaska (UAS) Professor and Chair of the Environmental Science Department, and Aaron Jacobs, Senior Hydrologist and Meteorologist for the National Weather Service, gave an additional [presentation](#) on monitoring the Suicide Glacier outburst flood at an Evening at Egan presentation on October 27.

Advocate for Long-term Research. Much of what we know about Suicide Basin is due to a grant UAS had to study the phenomenon that has expired. CBJ is in the process of increasing US Geological Survey (USGS) funding for monitoring. Ordinance 2023-14 appropriating an additional \$28,000 was introduced at the [Assembly meeting](#) on October 23. In the long term, the University is advocating for a Congressionally Directed Spending (CDS) request to support a 3-year research project. CBJ submitted a letter of support for this CDS on October 4, 2023.

Mapping. One week after the flood, the Alaska Department of Transportation & Public Facilities (ADOT&PF) flew LIDAR (Light Detection and Ranging) which gave us a good snapshot of the original bank loss. An initial map comparing the river in 2013 and September of 2023 can be found [here](#). However, so much has changed since then that we are working on collecting additional LIDAR data with the bank stabilization work that has been done. Therefore, CBJ asked ADOT&PF in October if they could fly LIDAR again. ADOT&PF is evaluating our request.

Understand the New Mendenhall. National Resource Conservation Service (NRCS) was in town the week of September 11 to perform an initial river survey. They will consider the entire river and discuss changes, concerns, potential areas of mitigation, and provide input on whether there are projects that would be eligible for NRCS programs. Their work will also result in a paper that will give CBJ and the public a better understanding of the behavior and path of the river. We expect a draft by mid-November 2023. In October 2023, CBJ also submitted a letter to request that the U.S. Army Corps of Engineers study the river and the feasibility of different mitigation projects. These requests for federal assistance are of the utmost importance since large-scale projects on the Mendenhall River could cost up to ~\$100 million dollars and

are well beyond the means of CBJ. In addition, federal support through financing and grants typically come with local match requirements and commitments for life cycle maintenance.

Technical Experts on Flood Mitigation. At the last PWFC meeting, staff were asked to provide the Assembly with a list of technical experts who could advise on various aspects of flood mitigation and funding. Those technical experts are:

Alan Cavallo, DMVA, Emergency Program Manager

Bruce Sexauer, USACOE, Chief, Civil Works Project Management in the Alaska District Office

Brett Nelson, NRCS, Alaska Office, State Conservation Engineer

Backflow Prevention. Engineering has begun evaluation of the outfall culverts into the Mendenhall River to determine if they: a) do not have backflow prevention devices and could convey high river flows back into neighborhoods, b) have a form of backflow prevention devices on them, or c) do not have an effect on adjacent storm drain systems and therefore do not require backflow prevention devices. The information gathered to date is preliminary and still under research. (See attached memo from Chief Engineer Bohan.)

Protect CBJ infrastructure. When CBJ infrastructure is under threat (storm drains or the Mendenhall Wastewater Treatment Plant, for example), we must protect the public investment. CBJ worked with a contractor and has completed the armoring of the banks of the Mendenhall Wastewater Treatment Plant. CBJ must still replace the sewer outfall and needs to re-install fencing. We will seek reimbursement for this work from the Alaska Department of Military and Veteran's Affairs (DMVA), while also investigating additional funding opportunities to mitigate future flood damage.

Direct Assistance for Affected Private Property Owners.

DMVA Individual Assistance. Once the Governor declared a State Disaster, affected residents were eligible to apply for up to \$21,000 of private assistance for housing assistance and other needs assistance. (More information on the eligible items [here](#).) DMVA was in Juneau on August 21 – August 23, 2023, to answer questions and help individuals to apply for assistance. There were 120 applicants to this State program. As of October 30, there were 8 withdrawals, 27 payments, 47 denials, and the other 38 are still in process. The trend in the denials is that the State program does not cover a condominium owner's cost share. The application period closed on October 9.

SBA Low Interest Loans. The U.S. Small Business Administration (SBA) offered disaster assistance to Alaska businesses, nonprofits, homeowners, and renters affected by the flood in the form of low-interest federal loans. SBA was in Juneau at the Dimond Park Aquatic Center to offer drop in application assistance from October 10 through October 24. Disaster loans up to \$500,000 are available to homeowners to repair or replace damaged or destroyed real estate. Homeowners and renters are eligible for up to \$100,000 to repair or replace damaged or destroyed personal property, including personal vehicles. Businesses of all sizes and private nonprofit organizations may borrow up to \$2 million to repair or replace damaged or destroyed real estate, machinery and equipment, inventory, and other business assets. Importantly, SBA can also lend additional funds to help with the cost of improvements to protect, prevent, or minimize disaster damage from occurring in the future. The deadline to apply for property damage is December 5, 2023. The deadline to apply for economic injury is July 8, 2024. People can apply online using the Electronic Loan Application (ELA) via the SBA's secure website at <http://disasterloanassistance.sba.gov/ela/s>. There are other loan applications that are still in process, several of which are for condo unit owners. If each of the loans for the unit owners would be approved for the approximately \$16,000 Condo association assessment to date. The unit owners can request an increase should the Board declare and require owners to pay additional assessments for the damages. Borrowers have up to two years to request an increase on SBA disaster loans. The total number of low-interest loans granted as of November 1, 2023, is as follows.

Applications	Loans Approved	Dollars Approved	
Homeowners/Renters	16	\$1,759,300	!
Business/EIDL	1	\$117,400	!
TOTAL	17	\$1,876,700	! !

Grants that Could Benefit Affected Property Owners

CBJ is evaluating a number of grants that could benefit private property owners. A fuller list of those opportunities will be presented at the November 6, 2023, Committee of the Whole Meeting. Information on an upcoming grant that will be submitted in the next few weeks and could assist both CBJ and private property is summarized below.

Southeast Alaska Watershed Council (SAWC). SAWC is applying for a \$5.5 million NOAA Transformational Habitat Restoration and Coastal Resilience grant, which is due November 17, 2023. SAWC is pulling together partners including CBJ, Central Council of Tlingit and Haida Indian Tribes of Alaska, Alaska Department of Fish and Game (ADF&G), and Alaska Department of Natural Resources (ADNR) to work together on projects that will both improve fish habitat and build resistance to flooding. If awarded, there will be extensive stakeholder engagement and the creation of hydrologic model, and an action plan. The implementation projects proposed include items such as engineered log jams, bioengineered bank stabilization, heat pump incentives for residents on the river, as well as the voluntary purchase of properties. If awarded, this grant would benefit private property owners and protect CBJ properties (most likely the Dimond Park Fieldhouse and approach to the Mendenhall pedestrian bridge). We request approval of the attached letter of support.

Recommendation:

- 1) Approve the attached letter of support for the SAWC NOAA grant application.

Enclosures:

SAWC Letter of Support

Mendenhall river Drainage Outfall Culverts – August 2023 Glacier Outburst Flood Memo