



SPECIAL ASSEMBLY MEETING 2024-23

AGENDA

October 03, 2024 at 12:00 PM

Zoom Webinar Only

This meeting is being conducted via ZOOM WEBINAR ONLY.

<https://juneau.zoom.us/j/91515424903> or call 1-253-215-8782 and enter Webinar ID: 915 1542 4903

Submitted By:

Katie Koester, City Manager

A. CALL TO ORDER

B. LAND ACKNOWLEDGEMENT

We would like to acknowledge that the City & Borough of Juneau is on Tlingit land, and wish to honor the indigenous people of this land. For more than ten thousand years, Alaska Native people have been and continue to be integral to the well-being of our community. We are grateful to be in this place, a part of this community, and to honor the culture, traditions, and resilience of the Tlingit people. Gunalchéesh!

C. ROLL CALL

D. AGENDA TOPICS

1. Flood Mitigation Update

2. Ordinance 2024-34 An Emergency Ordinance Authorizing the Manager to Execute a Cooperative Agreement with the Army Corps of Engineers for Advance Measure Assistance.

Ordinance 2024-34 approves a cooperative agreement with the United States Army Corps of Engineers for advance measure assistance and allows CBJ to indemnify Army Corps of Engineers.

Normally the CBJ is prohibited by Charter section 9.13(a) from contractually agreeing to indemnify another party or waive liability. The Charter carves out a limited exception, however, allowing the assembly, by ordinance, for any federal or state grant, contract, lease, program, etc., without which the municipality would not be able to participate.

The Army Corps of Engineers has been working with CBJ on advance flood fighting measures. This agreement would allow approximately 4 miles of HESCO barriers to be shipped immediately at no charge to the CBJ for placement along the Mendenhall River. Time is of the essence, as the basin continues to fill and the HESCO barrier installation process must begin as soon as possible. This ordinance would allow the Manager to execute an agreement with the Army Corps of Engineers for advance flood measures immediately.

The City Manager recommends the Assembly adopt this ordinance.

E. PUBLIC PARTICIPATION ON NON-AGENDA ITEMS (Limited to no more than 20 minutes, with each speaker limited to a length of time set by the Mayor not to exceed three minutes.)

INSTRUCTIONS FOR PUBLIC PARTICIPATION

The public may participate via Zoom webinar only. Testimony time will be limited by the Mayor based on the number of participants. **Members of the public that want to provide oral testimony must notify the Municipal Clerk by 10:00am the day of the meeting by calling 907-586-5278 and indicating the topic(s)**

upon which they wish to testify. Members of the public are encouraged to send their comments in advance of the meeting to BoroughAssembly@juneau.gov.

F. SUPPLEMENTAL MATERIALS

3. Flood Mitigation Slide Show by Manager Koester

G. ADJOURNMENT

ADA accommodations available upon request: Please contact the Clerk's office 36 hours prior to any meeting so arrangements can be made for closed captioning or sign language interpreter services depending on the meeting format. The Clerk's office telephone number is 586-5278, TDD 586-5351, e-mail: city.clerk@juneau.gov.



155 Heritage Way
Juneau, Alaska 99801
PHONE: (907) 586-5240
FAX: (907) 586-5385
Katie.Koester@juneau.gov

TO: Mayor Weldon and Borough Assembly
DATE: October 3, 2024
FROM: Katie Koester, City Manager
RE: Next steps for immediate GLOF mitigation

The purpose of this memo is to get Assembly direction on next steps to mitigate glacial lake outburst flooding (GLOF) from Suicide Basin.

Where We Are

Governor Dunleavy submitted a request for a Federal disaster declaration on Thursday, September 19. As of drafting this memo, we are still waiting to hear from the President's office. Governor Dunleavy and President Peterson also submitted requests for flood fighting assistance to the United States Army Corps of Engineers (USACE) on this date, which triggered their trip to Juneau.

The Borough Assembly has taken the following actions:

- Appropriated \$400,000 for mitigation planning, hydrological mapping, and an updated inundation map
- Appropriated \$3M local match for a USACE general investigation study to explore long term mitigation
- Approved \$1,375,000 to repair and protect CBJ infrastructure
- Four (4) Assembly level meetings about flood mitigation

CBJ has engaged with partner agencies:

- Interagency technocrat meeting on September 6, 2024
- Hosted USACE Civil Engineering for a site visit on long term solutions
- Traveled to Washington DC with Mayor Weldon and Tlingit and Haida to advocate for GLOF mitigation on Sept 19 and 20
- Hosted USACE Flood Fighting Team week of September 23

Report from USACE Flood Fighting Team:

USACE spent a week in Juneau strategizing on the best way to protect valley residents from a GLOF. Their recommendation is to install HESCO barriers along the length of the river, including Marion Drive to Killewich Drive to Meander Way, eventually installing 4 miles of barriers along the developed side of the river, as well as River Road and View Drive. The rationale for prioritizing Marion Drive to Killewich Drive to Meander Way is that this is where the river jumped the bank and depending on the event, we could redirect the flow to the unpopulated side of the river. Installation on Marion will present challenges as many of those homes do not have sufficient frontage. USACE will provide us the barriers and shipping free of charge as well as training CBJ on how to install the

barriers and some technical assistance. USACE, or their contractors, will not perform the site preparation or install the barriers. HESCO barriers will take three (3) weeks to arrive from the date that we request them. However, we have to use them; if we are not actively working to install barriers, we run the risk of them being redeployed to another area of the country that needs them. They also would like us to place one order instead of requesting in phases.

CBJ has also requested USACE provide technical assistance to homeowners who want advice on how to protect their property. We are waiting to see if there is available funding in the USACE budget. If there is, we would like to schedule a neighborhood meeting around their availability. In addition, USACE can provide 60,000 sandbags. CBJ would manage the distribution of sandbags and provide sand. If each of the 289 homes that flooded requested bags, that would be 200 per household, which would go a long way towards protecting low points, doors, etc. It is common practice in areas prone to flooding for local municipalities to distribute sandbags for homeowners to install.

Things to keep in mind:

- HESCO barriers have a 3-foot square footprint and are 4 feet tall, unless they need to be higher – in which case you build a pyramid, and the footprint is 6 feet wide and 8 feet high or 9 feet wide and 12 feet high.
- HESCO barriers will need to be filled with sand by a loader, which will take up additional square footage in yards. This will be an invasive process that will tear up yards and be disruptive to homeowners.
- In almost all instances, we would be placing barriers on private property. We would be requesting “right of access” to private property. Under the Governor’s disaster declaration, we can legally enter private property to prevent a disaster – however, to the extent we can coordinate with willing homeowners, the better. Attorney Wright has a good analysis of the legal risks that can be found as an endnote.ⁱ
- There are homes along the river without enough property to install a barrier. We may have to ask the homeowner to remove a temporary structure or a deck. We may run into one or more homes that cannot be protected due to the proximity of the home to the bank.
- The soils may not be able to withstand the weight of the HESCO barriers. In this case armoring or site preparation will have to be done to prevent failure. Who is responsible for those costs? This will add extra time to the process.
- At this point we do not know the cost of installing HESCO barriers along four (4) miles of river because we do not know how much site preparation is needed, and who pays for it. This is a huge unknown variable; my best guess at this stage is the entire project is in the \$5M-\$10M range.
- HESCO barriers are designed to stay in place for five (5) years. They will require annual maintenance. A long-term fix could take more than five (5) years which would require significant maintenance and/or replacement of barriers.
- If a homeowner is unwilling to place a barrier in their yard, would CBJ be willing to force the issue?

Options:

1. DO NOTHING. This is the simplest option. The cost is minimal and CBJ avoids liability. However, we do not know how much worse the flooding could be in the future. We could

easily lose a significant portion of our housing stock and population over the next few events.

2. PROVIDE SANDBAGS and sand to residents for individual property protection.
3. INSTALL HESCO BARRIERS just along the areas of the river where it jumped the bank during the August 2024 event (Marion Drive to Killewich Drive to Meander Way). However, we do not know that partial installation will be effective, and the potential for negative downstream impacts is unknown.
4. INSTALL HESCO BARRIERS ALONG THE LENGTH OF THE RIVER, starting with Marion Drive to Killewich Drive to Meander Way. This essentially is an extension of option 3. CBJ would begin installation of barriers and concurrently work with USACE and private contractors to develop a flood fighting plan for the remaining riverfront. The goal would be to have most of this work complete before next GLOF season, though that timeline is tight. This option is the most invasive and the most expensive but has the greatest chance of success.

Timeline:

October 21 regular meeting. Approve Emergency Legislation appropriating funding for Phase 1 (Marion Drive to Killewich Drive to Meander Way)

November, December and early January. Outreach to individual property owners to document their yards and to get permissions for barrier installation. Decide on approach if permission isn't granted. Site preparation. Install as many HESCO barriers as possible along Marion Drive to Killewich Drive to Meander Way. Divert CBJ employees for quick installation.

Develop detailed flood fighting plan for remainder of project to bring accurate cost estimate to Assembly.

December 16 regular meeting. Introduce ordinance for installing barriers on remainder of bank (Phase 2).

February-May. Site work and installation of remaining HESCO barriers.

Funding:

Emergency legislation will need to be introduced at your next meeting to begin installation this year. USACE has requested \$1M in Federal dollars for the general investigation study in FY25. This means in the near-term, we would only need to come up with \$1M in match, understanding we will have to come up with additional dollars as more federal funds become available. Re-directing those funds to emergency work is one option. Regardless, the appropriating ordinance will be from General Fund, and you can debate how to back fill. Current fund balance is \$5.1M in unrestricted and \$17.3M in restricted budget reserve.

CBJ is working with Tlingit and Haida to apply for disaster mitigation grants and solicit support from federal partners. However, timing is very difficult. We need to do this work now, and it is unlikely any grant funding would be available to spend within the next six (6) months. It would be our hope to offset some of the expenditure with grant funds, but unlikely we could make a sizeable dent without waiting till next winter for installation of Phase 2 of the barriers. There are efforts underway to pass disaster assistance legislation this fall and we are engaged with the delegation to be for inclusion in legislation. We will do our best to turn over every funding rock and bring that information to you as part of the Phase 2 appropriation request.

Recommendation:

If CBJ is going to do anything beyond providing sandbags to individual homeowners, I am of the opinion we must protect as much of the bank as possible. While a shorter project (Marion Drive to Killewich Drive to Meander Way) could be enough this year, the volume of water in the basin is unpredictable and likely growing. I propose a holistic approach that allows CBJ staff to get started with the priority spots while we study and formulate a plan for the entire project.

Requested Motions:

- Direct staff to request sandbags from USACE and develop a plan for distribution.
- Approve Emergency Ordinance 2024-34, approving a cooperative agreement with USACE for approximately four (4) miles of HESCO barriers and introduce an emergency appropriation for up to \$2 million dollars at the next regular Assembly meeting for installation of Phase 1 (Marion Drive to Killewich Drive to Meander Way), funding source general fund.

Enclosed:

- HESCO Spec Sheet
- Images of HESCO barriers installed in flood fighting capacity

ⁱ The Governor's declaration allows us to take actions under AS 26.23.020(g). As part of those emergency powers, we have authorization to enter land:

26.23.190 (a) If entry is reasonably necessary to actually alleviate or prevent the disaster, all persons authorized to carry out emergency measures directed under the provisions of AS 26.23.010 - 26.23.220 shall be accorded free access to all public and private land and public buildings within the areas specified, and are authorized to enter them and to perform work and take measures that are appropriate without the consent of the owners of the land or buildings.

We are currently able to enter private property to take action to avert a disaster. That said, it is advisable to work with homeowners to coordinate entry onto their land.

We are not going to get to zero liability, here are the most likely scenarios:

1. Homeowners may argue that the mere placement of the barriers is a "taking" of their land and they are due just compensation for the loss of the land. The cost of this, if we were found to have taken the land, is completely speculative.
2. Given that the barriers would be placed for 5-10 years, we may likely see a push by some homeowners to remove the barriers earlier, and if we don't, they may file claim. The longer the placement, the more likely the courts will see the placement as a taking.
3. We may see a civil trespass claim – which would be an argument that while the initial work to shore up the river was okay under the declaration, the long timeframe of the placement of the barriers converted our legal presence on someone's land to an illegal presence and trespass. The remedy on this would be monetary and removal of the barriers.
4. We may see a lawsuit claiming that CBJ's flood fighting was done in a "negligent" manner. This would be a fact-based analysis and would again result in a monetary award if we are found to have acted negligently. We would certainly argue that our actions were reasonable and supported by the information we have.
5. As pointed out many times before, there may be downstream consequences that trigger a lawsuit.

Historically, the federal government has enjoyed a decent level of immunity for flood response. However, the courts recently have begun to chip away at that immunity. The big cases come out of Hurricane Katrina and the levy system failures. So, while it would be easy to say – let’s just let the feds do this since they are immune, they are no longer as lawsuit-proof as they once were.

In reviewing flood zone response, it appears that, long-term, many communities pursue creation of a flood zone corridor; typically, a narrow easement or a large scale buy out. This would be accomplished through voluntary agreements with individual homeowners or eminent domain/condemnation actions.





Presented by: The Manager
Introduced: 10/03/2024
Drafted by: E. Wright

ORDINANCE OF THE CITY AND BOROUGH OF JUNEAU, ALASKA

Serial No. 2024-34

An Emergency Ordinance Authorizing the Manager to Execute a Cooperative Agreement with the Army Corps of Engineers for Advance Measure Assistance.

WHEREAS, CBJ Charter 5.4(a) provides the Assembly may adopt an emergency ordinance to meet a public emergency by an affirmative vote of at least six assemblymembers; and

WHEREAS, a side basin (Suicide Basin or K'óox Kaadí Basin) of the Mendenhall Glacier above Juneau, Alaska, has released outburst floods (also known as jökulhlaups) since 2011, with record flood events in August 2023 and now August 2024; and

WHEREAS, in August 2024, the Mendenhall Vally was flooded to levels exceeding previous flooding events, damaging over 300 residences in the area; and

WHEREAS, the total damage from the August 2024 glacier outburst flood is still being calculated and is expected to be in the millions of dollars; and

WHEREAS, the basin is refilling and has reached levels seen in June of 2024; and

WHEREAS, the City and Borough is currently responding to the outburst flood under Emergency Declarations at the local and state level; and

WHEREAS, the City and Borough is currently working with the Army Corps of Engineers to obtain HESCO barriers for advance placement along the Mendenhall River; and

WHEREAS, the Cooperative Agreement requires following language:

2b. Hold and save the Government free from damages arising from construction, operation, maintenance, repair, replacement, and rehabilitation of the work, except damages to the fault or negligence of the Government or its contractors;

and

1
2 WHEREAS, pursuant to CBJ Charter 9.13(a) and its prohibition against payment being
3 made or an obligation being incurred without an appropriation, the City and Borough is
4 generally prohibited from agreeing to a indemnify or waive liability; and

5 WHEREAS, CBJ Charter 9.13(c) carves out an exception to that general prohibition:
6 Notwithstanding Section 9.13(a) of this Charter, the assembly by ordinance may
7 require payment of funds from appropriations of a later fiscal year or of more than
8 one year for any contract, lease or note or bond obligation, or federal or state grant,
or any other federal or state program that the municipality may not otherwise
participate in.

9 THEREFORE BE IT ENACTED BY THE ASSEMBLY OF THE CITY AND BOROUGH OF JUNEAU,
10 ALASKA:

11 **Section 1. Classification.** This ordinance is a noncode ordinance.

12 **Section 2.** The City and Borough are currently operating under both local and state
13 Emergency Declarations.

14 **Section 3.** Pursuant to CBJ Charter 9.13(c), the manager is authorized to execute the
15 Cooperative Agreement required by the federal government and agree, on behalf of the City and
Borough, to waive liability and indemnify the federal government to the extent required by law.

16 **Section 4. Effective Date.** This ordinance shall be effective immediately and expire
17 ninety days after adoption.

18
19 Adopted this _____ day of _____, 2024.

20
21 _____
Beth Weldon, Mayor

22 Attest:

23
24 _____
Beth McEwen, Municipal Clerk

COOPERATIVE AGREEMENT
BETWEEN
THE UNITED STATES OF AMERICA
And
City & Borough of Juneau
FOR
ADVANCE MEASURE ASSISTANCE

THIS AGREEMENT, entered into this XX Day of October 2024, by and between THE DEPARTMENT OF THE ARMY (hereinafter referred to as the “Government”) represented by the District Engineer, Alaska District, US Army Corps of Engineers, and City & Borough of Juneau, Alaska (hereinafter referred to as the “Public Sponsor”), representative, Katie Koester, City Manager, City & Borough of Juneau, Alaska.

WITNESSETH THAT:

WHEREAS, 33 U.S.C. section 701n authorizes the Chief of Engineers to provide Advance Measures.

WHEREAS, the Governor of Alaska has requested, in writing, assistance under 33 U.S.C. section 701n and qualifies for such assistance in accordance with the established policies of the U.S. Army Corps of Engineers; and,

WHEREAS, the Public Sponsor hereby represents that it has the authority and legal capability to furnish the non-Federal cooperation hereinafter set forth and is willing to participate in accordance with the terms of this agreement.

NOW, THEREFORE, the parties agree as follows:

1. The Government will perform the work described in its scope of work, which is part of this agreement.
2. The Public Sponsor will:
 - a. Provide without cost to the Government all lands, easements, rights-of-ways, relocations, and borrow and dredged or excavated material disposal areas necessary for the work.

- b. Hold and save the Government free from damages arising from construction, operation, maintenance, repair, replacement, and rehabilitation of the work, except damages to the fault or negligence of the Government or its contractors.
- c. Operate, maintain, repair, replace and rehabilitate the completed work in a manner satisfactory to the Government; and,
- d. Remove all temporary work constructed by the Government, with initiation of removal within 30 days of the conclusion of the flood event.

3. ATTACHMENTS:

- a. Exhibit A – Written request for assistance from Governor of Alaska, dated 19 September 2024.
- b. Exhibit B – Government Scope of Work
- c. Exhibit C – Determination of Imminent Threat of Unusual Flooding, Dated 06 August 2024

4. Public Sponsor technical contact information

Mrs. Denise Koch
Chief, Engineering and DPW
City and Borough of Juneau
CELL: 907-586-5254
Phone: 907-586-0080 ext 4180

IN WITNESS WHEREOF, the parties here to have executed this agreement on the day and year first written above.

THE DEPARTMENT OF THE ARMY CITY and BOROUGH OF JUNEAU

JEFFREY S. PALAZZINI
COL, EN
Commanding

KATIE KOESTER
CITY MANAGER

ADDRESS:
2204 Talley Avenue
JBER, AK 99506

ADDRESS:
155 Heritage Way
Juneau, AK 99801

STATE CAPITOL
P.O. Box 110001
Juneau, AK 99811-0001
907-465-3500



550 West Seventh Avenue, Suite 1700
Anchorage, AK 99501
907-269-7450

Governor Mike Dunleavy
STATE OF ALASKA

September 19, 2024

Colonel Jeff Palazzini
District Commander
Alaska District, U.S. Army Corps of Engineers
P.O. Box 6898
JBER, AK 99506-0898

Dear Colonel Palazzini,

The intent of this letter is to request emergency management planning assistance from the United States Army Corps of Engineers (USACE). The City and Borough of Juneau (CBJ) requests support from the Alaska District to provide technical assistance related to the development and deployment of an Emergency Management Plan for flood fighting in response to glacial outburst flood risk.

The Mendenhall Valley is the primary residential concentration for Alaska's Capital, Juneau, Alaska. The area is currently at significant and ongoing risk of flooding due to annual glacial lake outbursts, also known as Jökulhlaups (pronounced "Yah-cuh-laups"). Jökulhlaups occur when a glacial dammed lake drains rapidly, releasing a surge of water downstream. These outburst floods pose a major threat to people and infrastructure in the region. The first glacial outburst event was observed in 2009, and the surrounding community has been dealing with subsequent Jökulhlaups almost annually. The community has experienced 14 of its top 20 recorded floods from these events since 2011. There was a record (at the time) flood of almost 15 feet flood stage in 2023. The 2024 event broke all previous records again at almost 16 feet flood stage. It resulted in rescues, substantial bank erosion, damage to public facilities, and the flooding of approximately 290 homes. I declared State disasters for both the 2023 and 2024 floods, and recovery is ongoing.

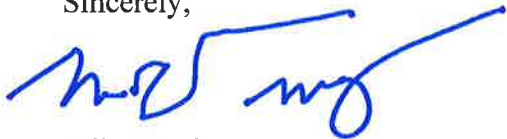
The high-water levels Juneau experienced over the last two years far exceeded what was previously thought to be the 200-year annual flood event. As the Mendenhall Glacier continues to recede, it is likely that the community of Juneau will be facing these events annually.

The CBJ and the State have been working closely with the Central Council of the Tlingit and Haida Indian Tribes of Alaska on response and recovery, as over 30 tribal households were affected by the flooding. We would like the USACE to support Tlingit and Haida and the CBJ in the development of a comprehensive Emergency Management plan that will be used to mitigate

the damage and potential loss of life that may occur because of these glacial lake outburst flood events.

The CBJ contact coordinating this request is City Manager Katie Koester, available at katie.koester@juneau.gov or 907-586-5240.

Sincerely,

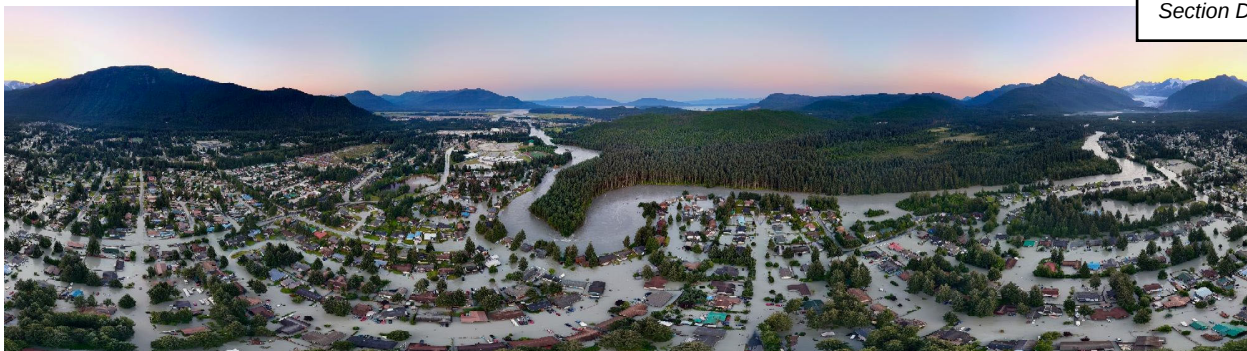


Mike Dunleavy
Governor

cc: The Honorable Lisa Murkowski, United States Senate
The Honorable Dan Sullivan, United States Senate
The Honorable Mary Peltola, United States House of Representatives
Richard Peterson, President, Central Council of Tlingit & Haida Indian Tribes of Alaska
Katie Koester, City Manager, City and Borough of Juneau

STATEMENT OF WORK

Alaska District will provide technical assistance related to the development and deployment of an Emergency Management Plan for flood fighting in response to glacial outburst flood risk. Alaska District will provide assistance through PL84-99, Advance Measures assistance which is limited to those necessary to prevent or reduce impacts of floods that (1) pose a significant threat to life and/or improved property, and, (2) the proposed assistance is beyond the capability of local interests and the State to perform in a timely manner.



Mendenhall Valley Flooding – approx. 1 hour after peak of Glacial Lake Outburst Flooding (GLOF)

City and Borough of Juneau Alaska Flood Fighting Analysis – Sand Filled or Sandbag Equivalent Levees

Background

On August 6, 2024 the Mendenhall Valley in Juneau, Alaska experienced a glacial lake outburst flood (GLOF), also known as a Jokulhlaup, from Suicide Basin. It released 16 billion gallons of water over a short period of time causing an almost 16 foot river stage of the Mendenhall River in the densely populated residential area causing flooding even in neighborhoods further from the river and causing people to flee in the middle of the night. The 2024 GLOF damaged 290 homes. Glacial lake outburst floods (GLOF), where a basin perched above a glacial lake collects water over time and then quickly releases, has occurred in Juneau since 2011 as the Mendenhall Glacier recedes. However, 2023 was the first time the full basin released which caused an almost 15-foot river stage causing (13 billion gallons) extreme riverbank erosion (multiple homes fell into the river) and flooding. This year (2024) the full basin release and flooding was even higher. Scientists who study GLOFs say that based on the behavior of other glaciers in Alaska, full basin releases, and continued catastrophic flooding, are likely. While historically impactful flooding has only occurred once a year, there is the added concern that the basin could have multiple full releases; it is half full as we speak and continuing to fill with rainwater. Furthermore, as ice in the basin melts, the volume of water is likely to continue to increase, causing higher flood waters and potentially impacting more homes.

The magnitude of the flooding from the next GLOF is unknown, and no inundation mapping exists for greater than 16' flood elevation. It is not known how much additional riverbank area would be overtopped once the flood elevation is greater than 16'. The increase in flood elevation could be caused by one of 2 things (or both combined); 1) a glacial release of greater magnitude than the last one; and/or 2) a similar size release coinciding with a rainfall event that has substantially elevated the Mendenhall River.

Flood Fighting

CBJ is considering all available short and long-term solutions to mitigate the potential widespread damage from future releases. The short-term flood fighting solution analyzed by CBJ Engineering staff, working with flood industry vendors, is to construct 4'-6' high levees along the identified riverbanks where overtopping would (or did during the 2024 flood) impact developed properties. The result is 8 miles of levees, roughly estimated to cost \$4.7 Million.

The selection of 4'-6' high temporary levees is based upon the 4' to 6' height range products being more readily available products that could potentially reach Juneau in time for the next flood event. Larger heights up to 16' are available however lead times and costs are going to be greater and would require professional expertise for selection and installation.

The City and Borough of Juneau needs assistance now; with both short-term flood fighting and with planning for longer term mitigation.

Examples of proposed flood fighting levees:



Sand filled Levee System



Water Filled Sandbag Equivalent Levee

Flood Fighting

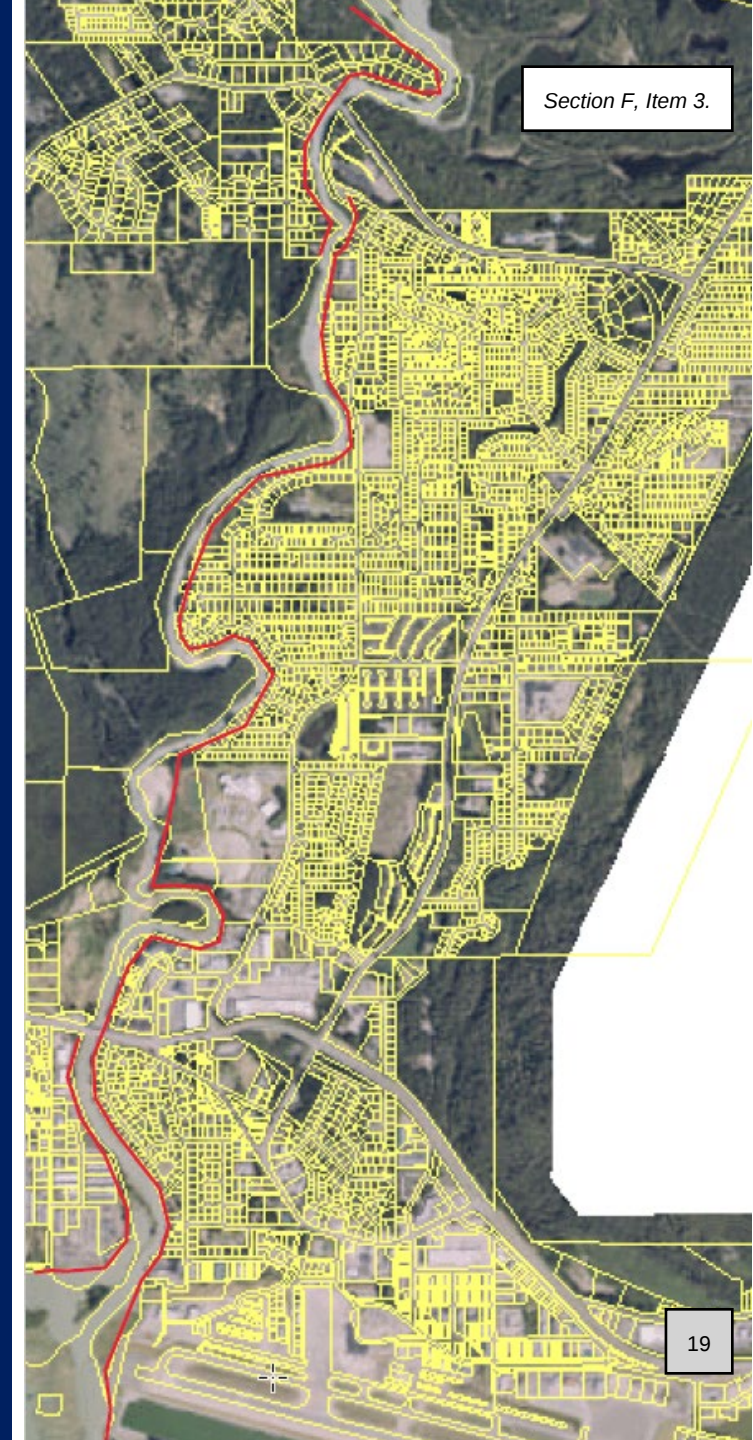
10.03.24 Special Assembly Meeting

Requested Action Today:

- Direct staff to request sandbags from USACE and develop a plan for distribution.
- Approve Emergency Ordinance 2024-34, approving a cooperative agreement with USACE for approximately four (4) miles of HESCO barriers and introduce an emergency appropriation for up to \$2 million dollars at the next regular Assembly meeting for installation of Phase 1 (Marion Drive to Killewich Drive to Meander Way), funding source general fund.



Proposed Levee Locations (red lines)



Assembly Action

- Appropriated \$400,000 for mitigation planning, hydrological mapping, and an updated inundation map
- Appropriated \$3M local match for a USACE general investigation study to explore long term mitigation
- Approved \$1,375,000 to repair and protect CBJ infrastructure
- Four (4) Assembly level meetings about flood mitigation

Engaging with Partners

CBJ has engaged with partner agencies:

- Interagency technocrat meeting on September 6, 2024
- Hosted USACE Civil Engineering for a site visit on long term solutions
- Traveled to Washington DC with Mayor Weldon and Tlingit and Haida to advocate for GLOF mitigation on Sept 19 and 20
- Hosted USACE Flood Fighting Team week of September 23

The Search for Solutions...

Short Term Solution: Flood Fighting

- Deploy sandbags and information to residents to protect individual property
- Temporary levees – HESCO Barriers along the length of the river, starting where the river jumped its bank in 2024 event.
- CBJ implementing recommendations of THE EXPERTS - US Army Corps of Engineers (USACE)

Long Term Solution: In Progress

- US Army Corps of Engineers (ACOE)
 - General Investigation Study (GI) – CBJ has made request and \$3M appropriation for 50% local match
 - If GI identifies viable construction project(s) they could be funded by ACOE with 35% local match

Examples: Temporary Flood Fighting



Sand Filled Levee System



HESCO Barriers Installed Along a Riverfront

Short Term Flood Fighting:

Temporary Levees (HESCO barriers filled with sand)
along developed riverbank

Why HESCO barriers?

- Readily available product, quick shipment, free from USACE and what is recommended by USACE Flood Fighting team
- Less invasive barriers often require flat paved ground
- Larger heights (up to 16') are available at higher cost and longer lead time.

Footprint

- 3' square, 4' height
- Can build larger heights (up to 16'), requires a pyramid - bigger footprint and exponentially more cost

Maintenance/life span:

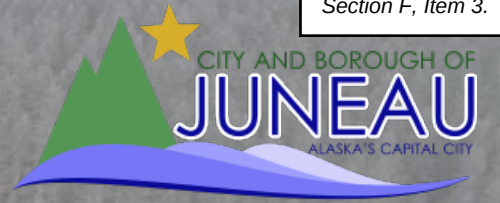
- Will require maintenance (repairing breaches, replacing broken cells, relocating after localized bank failures etc. estimated at \$400,000
- Designed with a lifespan of 5 years



Short Term Flood Fighting:

Proposed temporary levee to protect the Sharon St. and Emily Way neighborhoods





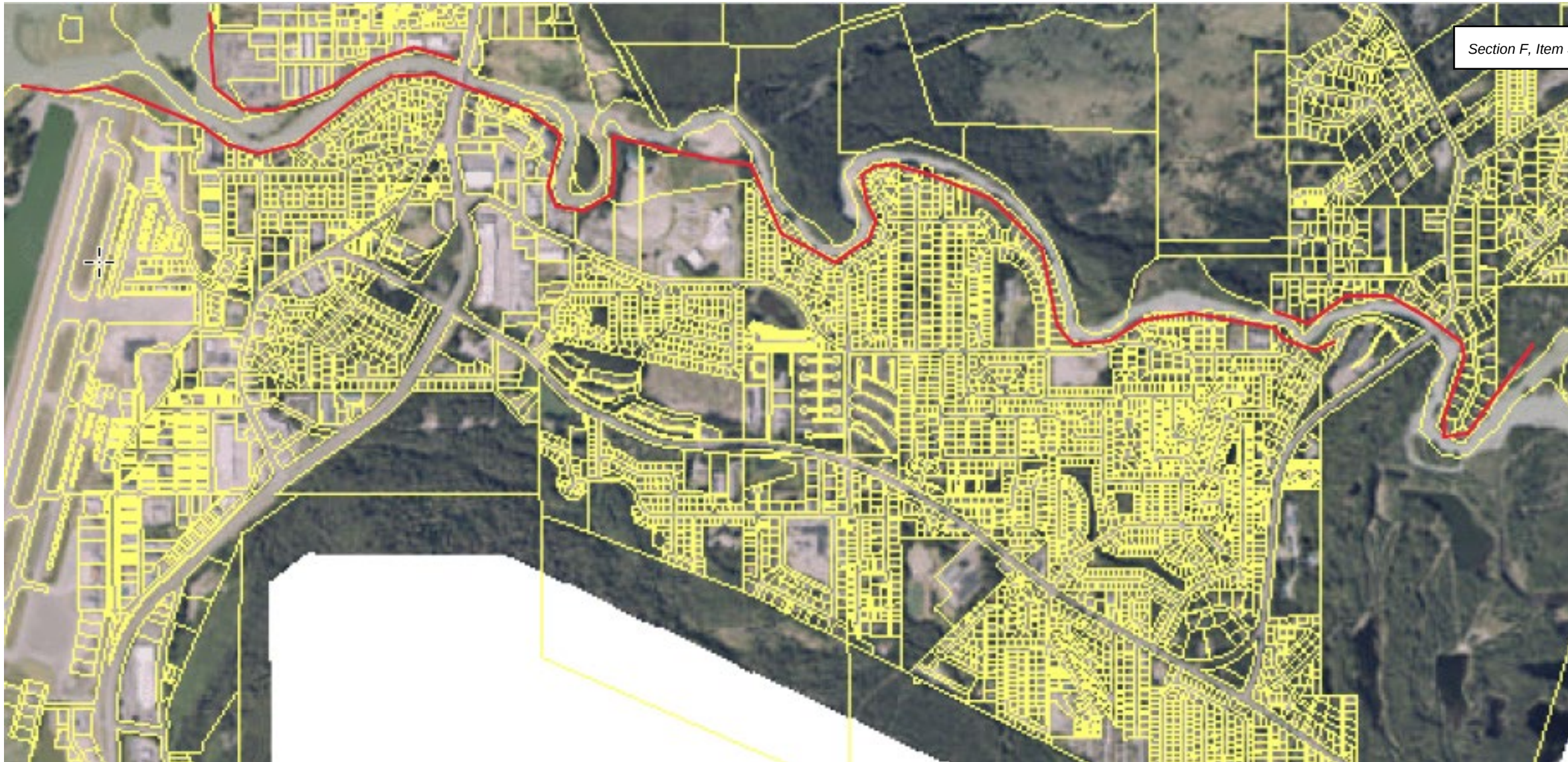
Meander Way

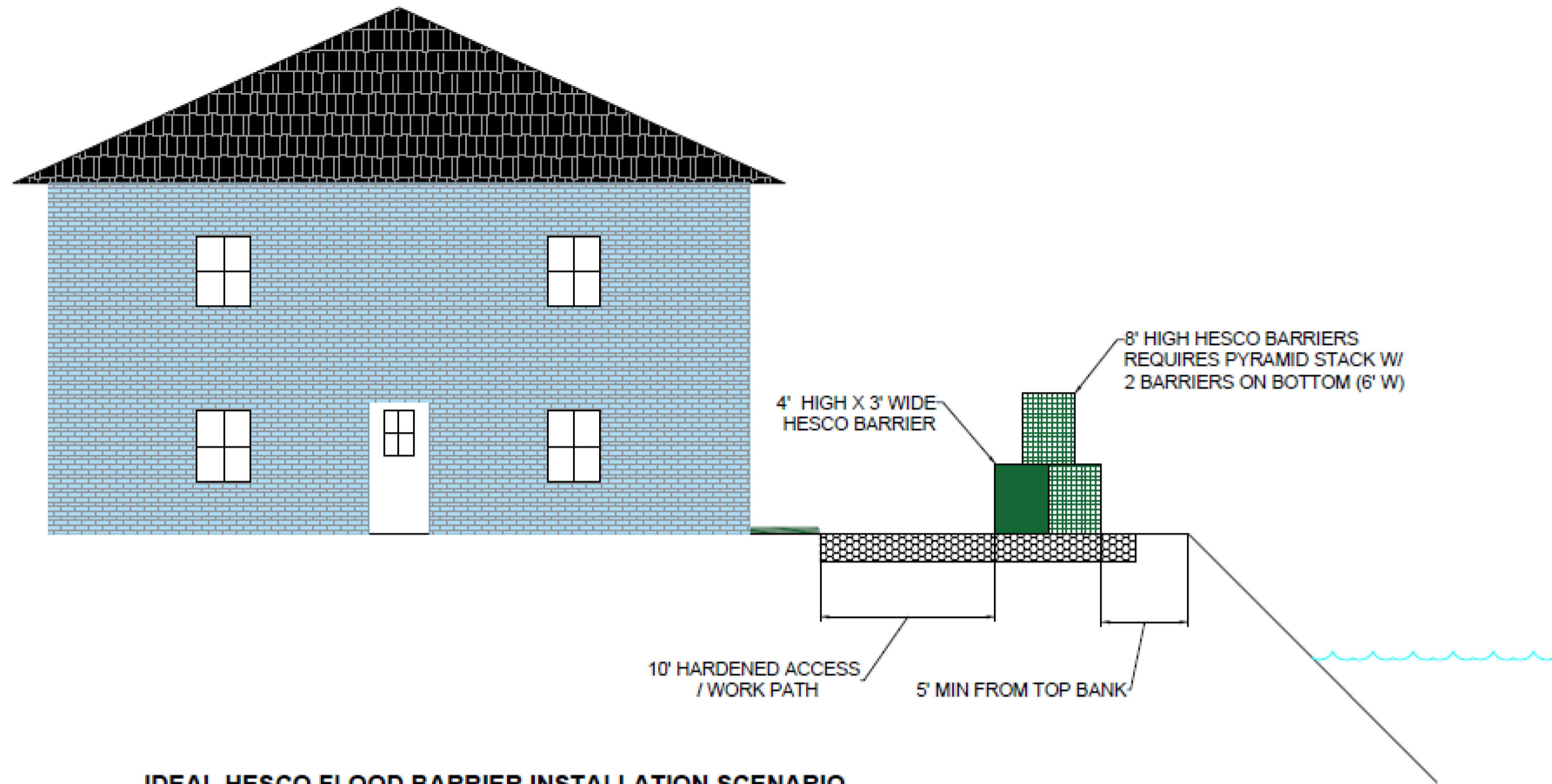
Meander Way

Meander Way

Long Run Dr.

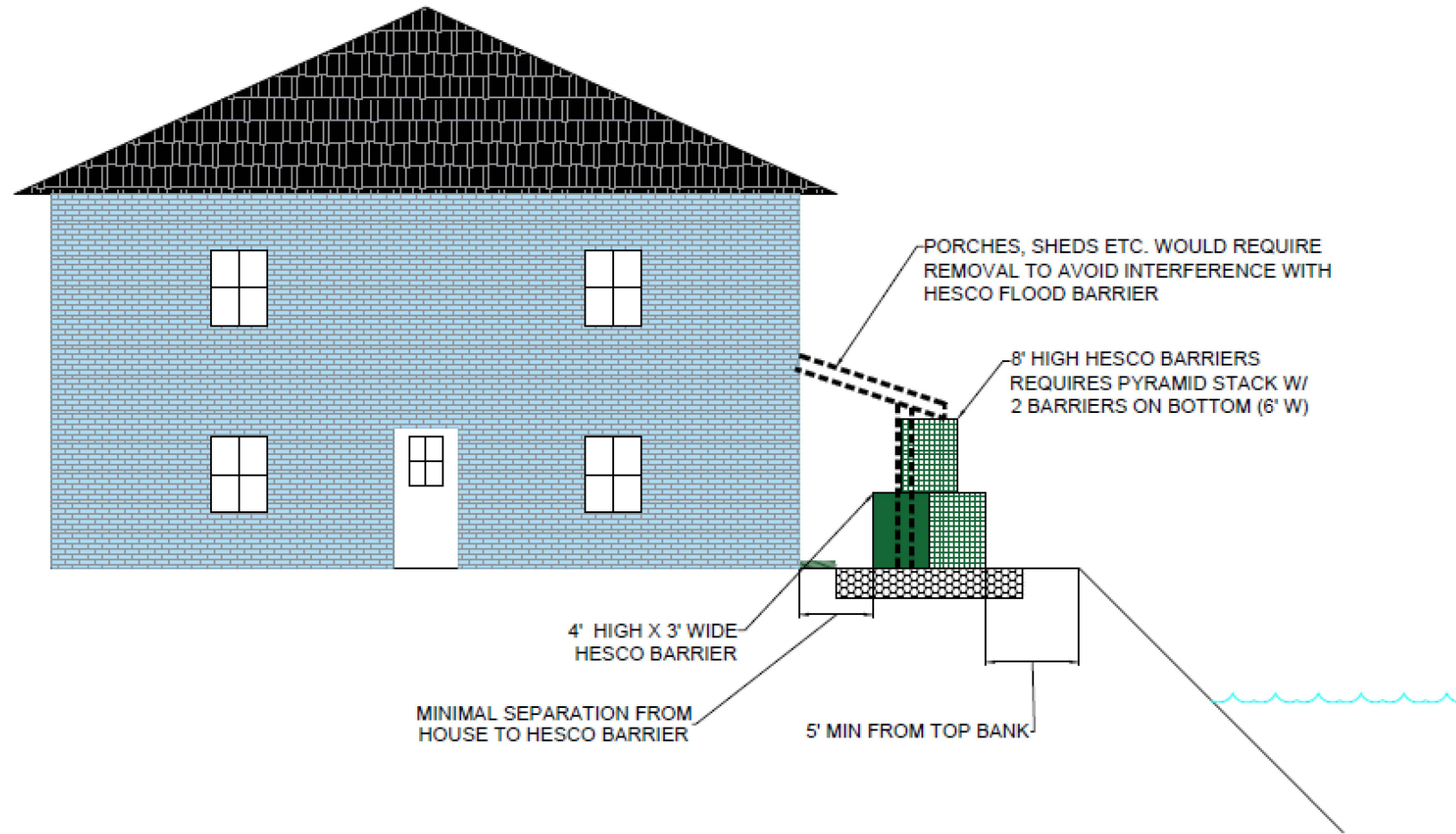
Proposed temporary levee to protect
Meander Way neighborhoods





IDEAL HESCO FLOOD BARRIER INSTALLATION SCENARIO

- Barriers can be installed at least 5' from riverbank and above stable slope. Will require greater distance if slope isn't armored and can be vulnerable to bank erosion
- Room for 10' wide hardened (rock or gravel) access and hardened surface under flood barriers. Access for construction equipment to fill barriers with sand and future maintenance
- No obstructions to be removed from access and barrier route (decks, trees, sheds, fences)



LESS THAN IDEAL SCENARIO - HESCO FLOOD BARRIER INSTALLATION

- Barriers installed at least 5' from riverbank and above stable slope. Will require greater distance if slope isn't armored and can be vulnerable to bank erosion
- Lack of room for equipment access will require grading and ground preparation by hand only.
- Will require filling by labor intensive (manual labor - bucket brigade, wheelbarrows, 5 gallon buckets etc.) and / or specialized equipment (crane or helicopter hoisting a concrete bucket over the properties) to fill barriers with sand
- May require removal of decks, porches, lawn structures (green houses, sheds, gardens, fences, trees etc.) that are in the way of the barrier alignment

Challenges and Unanswered Questions...

Section F, Item 3.

- HESCO barriers are ugly, large and will be there for a while.
 - Barriers will need to be filled with sand by a loader - invasive to homeowners.
 - In almost all instances, we would be placing barriers on private property. We would be requesting “right of access” to private property. What if a homeowner is unwilling to grant that access?
- Homes do not have enough property to install barriers – who pays for that?
 - The soils may not be able to withstand the weight of the HESCO barriers. Who is responsible for those costs?
 - Site preparation will add extensive cost and time to the process.

Options:

1. DO NOTHING
2. PROVIDE SANDBAGS and sand to residents for individual property protection
3. INSTALL HESCO BARRIERS just along the areas of the river where it jumped the bank during the August 2024 event
4. INTALL HESCO BARRIERS ALONG THE LENGTH OF THE RIVER.

Staff Recommendation:

- Direct staff to request sandbags from USACE and develop a plan for distribution.
- Approve a contract with USACE for 4 miles of HESCO barriers
- Introduce emergency legislation at the October 21 meeting for up to \$2M to install first phase of barriers, understanding there will be a request for additional funding once more information is available

Timeline: ambitious

TBD Public Meeting for USACE to provide homeowners advice, talk about sandbag distribution plan

October 21 regular meeting. Approve Emergency Legislation appropriating funding for Phase 1 (Marion Drive to Killewich Drive to Meander Way). Discuss policy decisions around site preparation.

October 4. Begin Outreach to individual property owners to document their yards and to get permissions for barrier installation.

November, December and early January. Decide on approach if permission isn't granted. Site preparation. Install as many HESCO barriers as possible along Marion Drive to Killewich Drive to Meander Way. Divert CBJ employees for quick installation.

Develop detailed flood fighting plan for remainder of project to bring accurate cost estimate to Assembly.

December 16 regular meeting. Introduce ordinance for installing barriers on remainder of bank (Phase 2)

February-May. Site work and installation of remaining HESCO barriers.



Funding: More Unknowns

Current ask is for \$2M for phase 1, but don't know entire project cost until:

- **More data: individual properties are assessed, lidar is flown**
- **Policy decisions are made on site preparation**

Grants:

- **CBJ is working with Tlingit and Haida on potential grants with current fiscal year funds**
- **Most grant programs will not have funding available to spend quickly**

Federal Appropriation

- **Continuing to work with delegation on inclusion in potential continuing resolution for disaster recovery. Have been advised those funds won't be available until 18 months after passage**



“You have to confront the brutal facts that you might not pull it off yet and the same time have unwavering faith, completely unwavering faith. And you have to do both at the same time.”

-John Batiste, *American Symphony*

Flood Fighting

10.03.24 Special Assembly Meeting

Requested Action Today:

- Direct staff to request sandbags from USACE and develop a plan for distribution.
- Approve Emergency Ordinance 2024-34, approving a cooperative agreement with USACE for approximately four (4) miles of HESCO barriers and introduce an emergency appropriation for up to \$2 million dollars at the next regular Assembly meeting for installation of Phase 1 (Marion Drive to Killewich Drive to Meander Way), funding source general fund.



Proposed Levee Locations (red lines)

