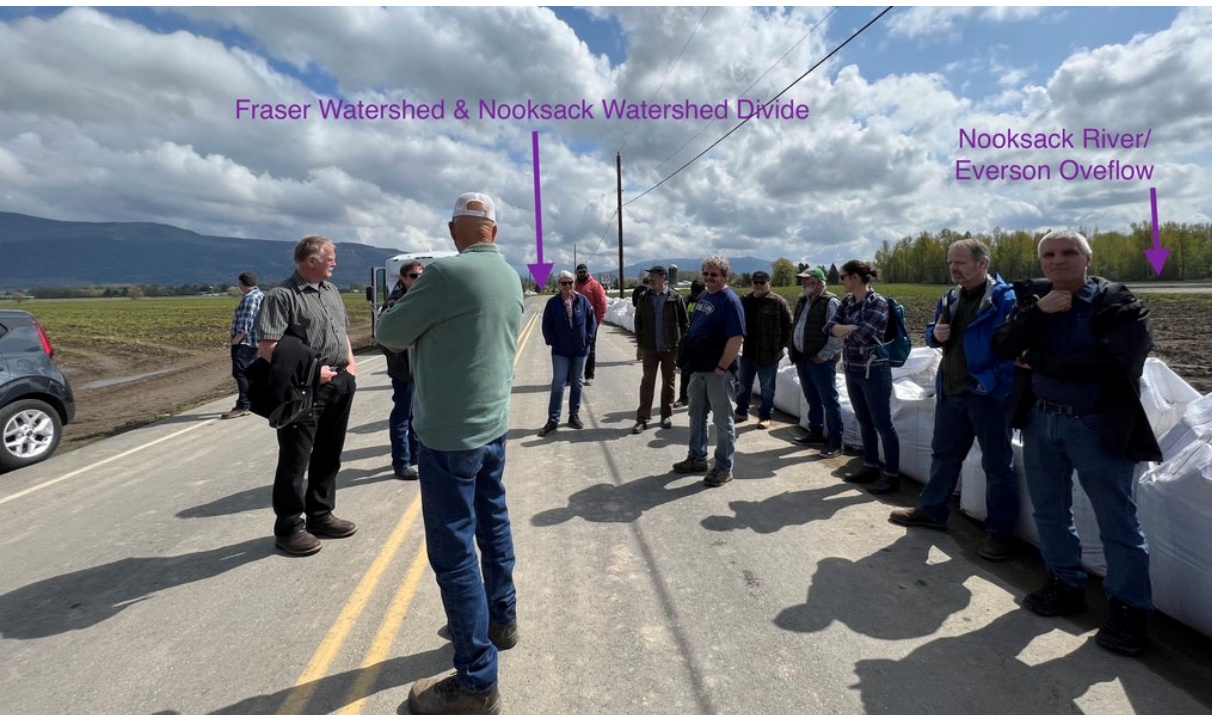




Flow Split Charrette Tradeoffs & Implementation Workshop Update

**Water Work Session
November 15, 2022**



Flow Split Charrette Agenda

- Field Trip
- Shared values and givens
- Sharing on cultural importance, hydrology and geomorphology of system
- Values as success measures
- Idea generation
- Develop project concepts
- Present table concepts

The Need is Magnitudes Greater than Staff or Funding Capacity

Teamwork, Sequencing and Focus Critical



Flow Split Values

- Safety
- Long-term durable
- Equity
- Ecosystem Health
- Collaboration
- Structures that Serve
- Balance actions/ planning/ science/practicality
- People/home/community/ family
- Nimble and adaptable
- Agriculture



IDEAS SENT TO CHARRETTE TABLES:

- Water Storage
- Education and Learning
- Overflow Corridors
- Funding/Financial Assistance/Buyouts
- Land Use Planning
- Habitat Restoration
- New Levees
- Infrastructure Relocation
- Emergency Response and Access
- Sediment Management/Levee setbacks/ Side channels
- Immediate Actions

Flood Hazard Reduction Concepts Generated at Tables

Ring dikes around
Everson and Nooksack
and Sumas

Acquisition and
elevation program

Raise E-W overflow
corridor roads to store
more water (Everson
Main St to Clearbrook
Rd, Badger)

Sumas River storage
(upstream or in
corridor)

Raise Emerson Road –
evaluate impacts in
both corridors and
feasibility

Dry bridge expansion at
Everson bridge
(WSDOT)

Twin View levee
setback/lowering

Widen corridor near
pipeline upstream of
Everson (pipeline
needs deeper burial)

Controlled overflow
near church to head of
Scott Ditch

Channel reconnections
– near Lagerway
dike/Everson area and
Scott Ditch

ELJ's upstream of
Everson to increase
sediment storage and
improve habitat

Sediment management



Post-Charrette Work

- Reviewed table concepts from the Flow Split charrette and other related activities given the system-wide nature of the flow split issue
- Synthesized into draft strategies that establish overall direction/guidance resulting from design charrette
- Developed buckets of actions to implement that direction/guidance

Draft Overarching Strategies

(to Achieve FLIP Goals and Flow Split Values)

- A. Reduce flood risk in the Everson - Sumas overflow corridor without increasing risk downstream of Everson
- B. Reduce flood risk throughout the Nooksack floodplain and improve habitat in the mainstem
- C. Improve overall communication, engagement and education
- D. Increase amount and stability of funding and strengthen cross-border collaboration

Draft Buckets of Actions

(to Achieve Strategies)

#1 Improvements to emergency response, coordination and communication

#2 Early action projects – side channel enhancement pilot project

#3 Acquisition and elevation assistance program

#4 Technical work and flood risk reduction alternatives analysis

#5 Implement components of preferred suite of actions

#6 Land use planning/rezoning/regulation

#7 Increase amount and stability of funding and strengthen cross-border collaboration

#8 Communication, education and public engagement



Draft Overarching Strategies

(to Achieve FLIP Goals and Flow Split Values)

- A. Reduce flood risk in the Everson - Sumas overflow corridor without transferring risk
- B. Reduce flood risk and improve habitat throughout the mainstem floodplain

Draft Action Buckets

(to Achieve Strategies)

#1 Improve emergency response, coordination and communication

#2 Early action projects – side channel enhancement pilot project

#3 Acquisition and elevation assistance program

#4 Technical work and flood risk reduction alternatives analysis

#5 Implement components of preferred suite of actions

#6 Land use planning/rezoning/regulation improvements

Draft Overarching Strategies

(to Achieve FLIP Goals and Flow Split Values)

- C. Increase amount and stability of funding and strengthen cross-border collaboration
- D. Improve overall communication, engagement and education

Draft Action Buckets

(to Achieve Strategies)

#7 Increase amount and stability of funding and strengthen cross-border collaboration

#8 Communication, education and public engagement

#1 Improve Emergency Response, Coordination and Communication

Install	Install road closure gates at 3 roadways subject to high velocity flow (Emerson, Halverstick, and Main St – <u>Complete by November 30th, 2022</u>
Improve	Improve Search and Rescue capabilities (capacity and swift water rescue) - <u>COMPLETE</u>
Preplan	Preplan emergency shelter locations and logistics - <u>COMPLETE</u>
Strengthen	Strengthen interagency (EMD/WC/Small Cities) communication and public messaging during floods – <u>Complete by October 12, 2022</u> <ul style="list-style-type: none">• Standardize briefing format for key leaders and response agencies• Consistent public messaging across jurisdictions
Develop	Develop protocols for evacuations (3 levels – Ready, Set, Go) – <u>Complete by October 31, 2022</u>
Formalize	Formalize coordination with Canadian agencies during floods – <u>Complete by November 1, 2022</u>

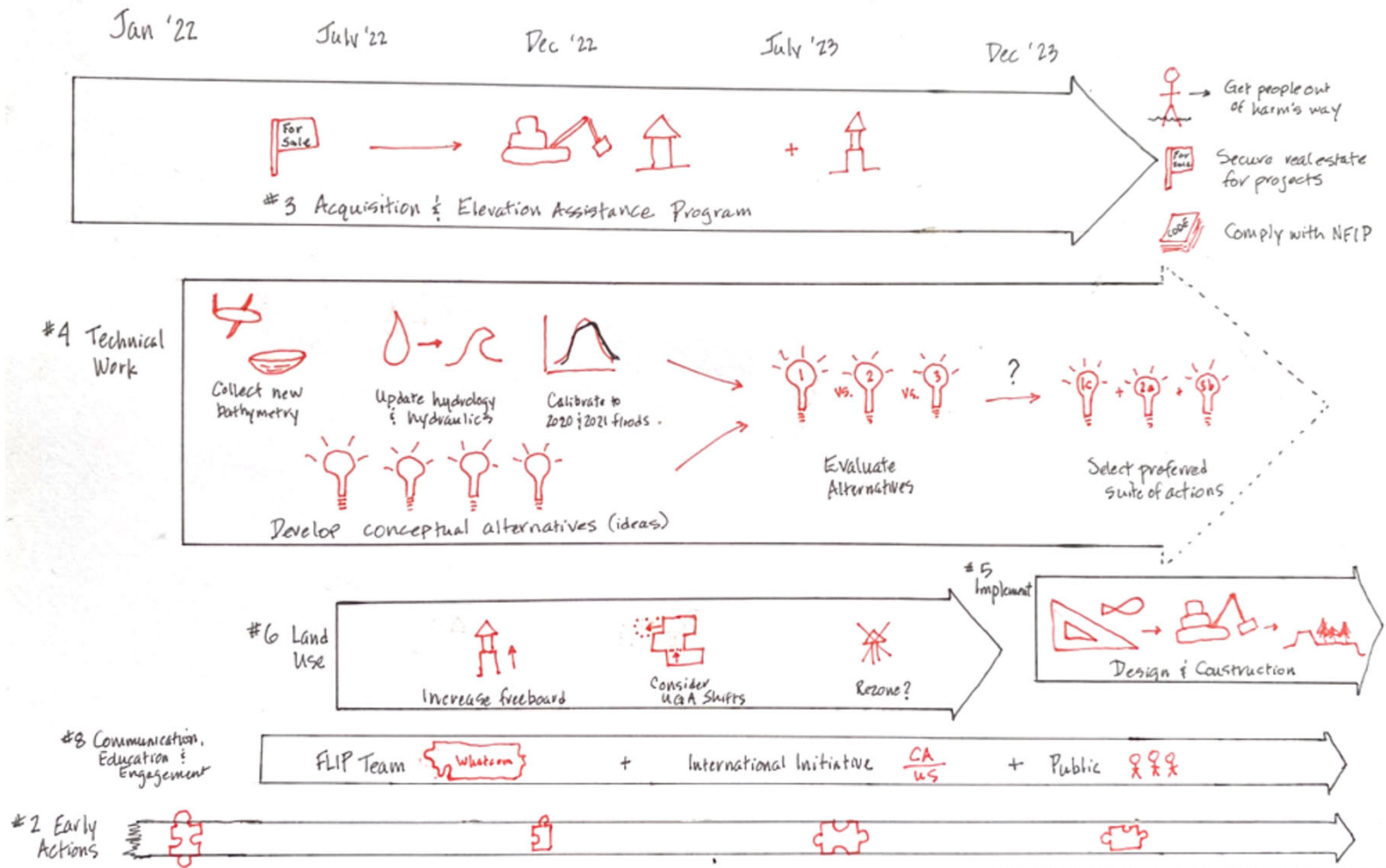
#2: Early Action Projects – Side Channel Enhancement



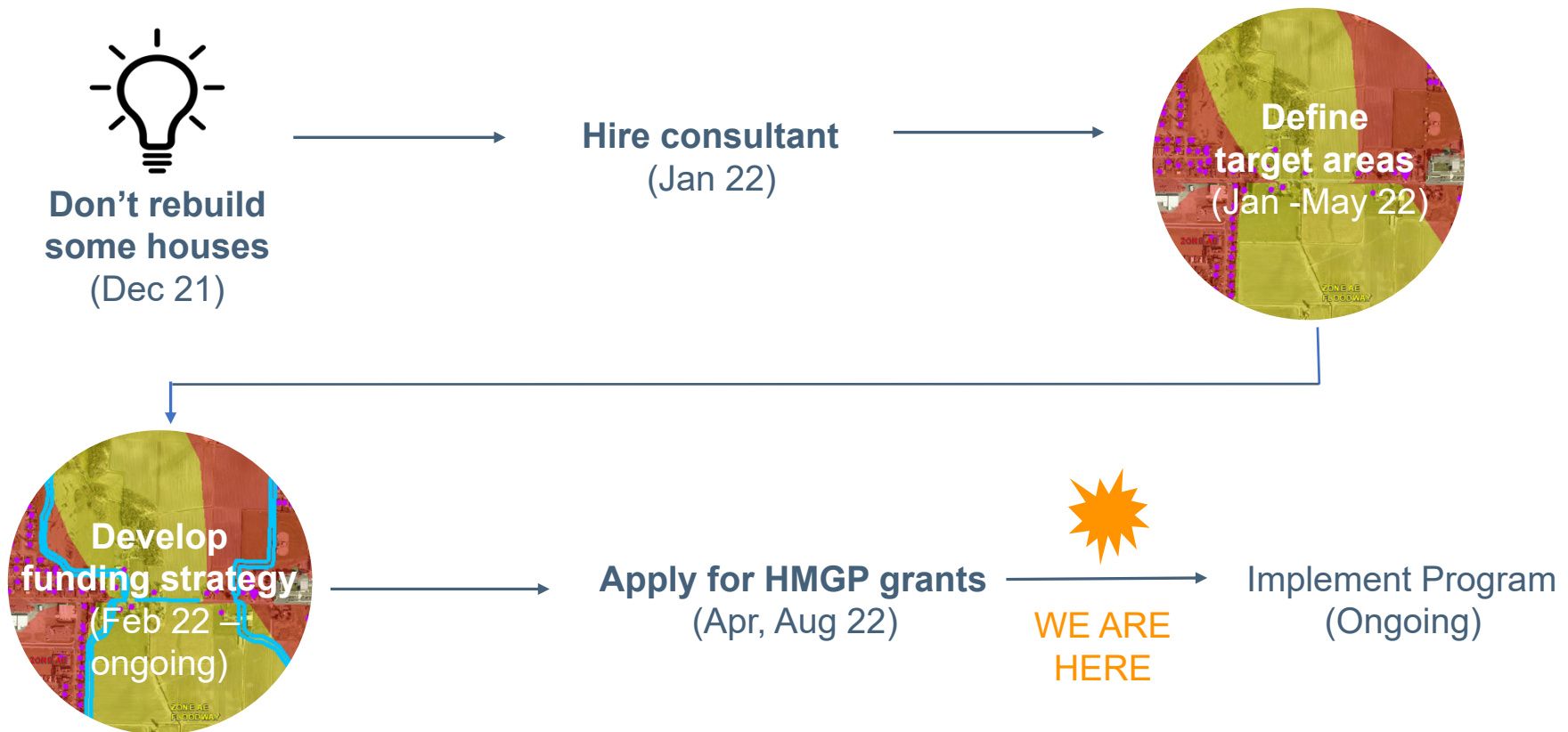


TLC200 PRO 2022/11/03 09:25:02

How It All Fits Together



#3 Acquisition and Elevation Assistance Program



Flood Hazard Reduction Concepts Generated at Tables

Ring dikes around
Everson and Nooksack
and Sumas

Acquisition and
elevation program

Raise E-W overflow
corridor roads to store
more water (Everson
Main St to Clearbrook
Rd, Badger)

Sumas River storage
(upstream or in
corridor)

Raise Emerson Road –
evaluate impacts in both
corridors and feasibility

Dry bridge expansion at
Everson bridge (WSDOT)

Twin View levee
setback/lowering

Widen corridor near
pipeline upstream of
Everson (pipeline needs
deeper burial)

Controlled overflow
near church to head of
Scott Ditch

Channel reconnections
– near Lagerway
dike/Everson area and
Scott Ditch

ELJ's upstream of
Everson to increase
sediment storage and
improve habitat

Sediment management

#4 Technical Work and Alternatives Analysis



TASK	STATUS
Increase County flood staff capacity	UNDERWAY – market dependent
Update hydraulic model with new bathymetry and roughness values	UNDERWAY
Update hydrology for Sumas River and lower Nooksack tributaries	Complete by December 2022
Calibrate model to 2020 and 2021 floods	Complete by December 2022
Concept design of potential flood risk reduction and habitat improvement projects	Initial Work Complete by December 2022
Hydraulic modeling and evaluation of alternatives	Initial Work Complete by April 2023
Ongoing coordination with FLIP Teams and Canadians	ONGOING
Selection of preferred suite of project actions	Dependent on International Initiative process

#5 Implement Components of Preferred Suite of Actions



TASK (leading)

Select Preferred Suite of Actions (Decision-makers)

Advance concept design to inform total cost (funding needed), regulatory requirements, and additional information needs (FCZD and partners)

Acquire lands/easements needed to construct capital projects (Cities, FCZD and other partners)

Develop detailed design plans and phased approach for construction (FCZD)

Implement phased construction of component projects (FCZD and partners?)

#6 Land Use Planning/Rezoning/Regulation

1

Comprehensive Planning: Review Urban Growth Areas (UGA) for Small Cities in light of new floodplain mapping and preferred alternatives

2

Development Code: Consider requiring additional freeboard for residential structures in the 100 year floodplain

3

Work with property owners to comply with National Flood Insurance Program (NFIP) requirements

4

Develop Substantial Damage Determination plan for future floods – Whatcom County in process

#7 Increase Amount and Stability of Funding and Strengthen Cross-Border Ties

Brought Ecology staff and small Cities onto FLIPSC - COMPLETED

Ecology and the Governor's office are leading coordination with officials in British Columbia on a cross-border Nooksack initiative focused on building shared solutions – IN PROCESS

Ecology is proposing a direct allocation for the Nooksack basin in the 2023-25 biennium to ensure seamless continuation and improved robustness of FLIP work – IN PROCESS

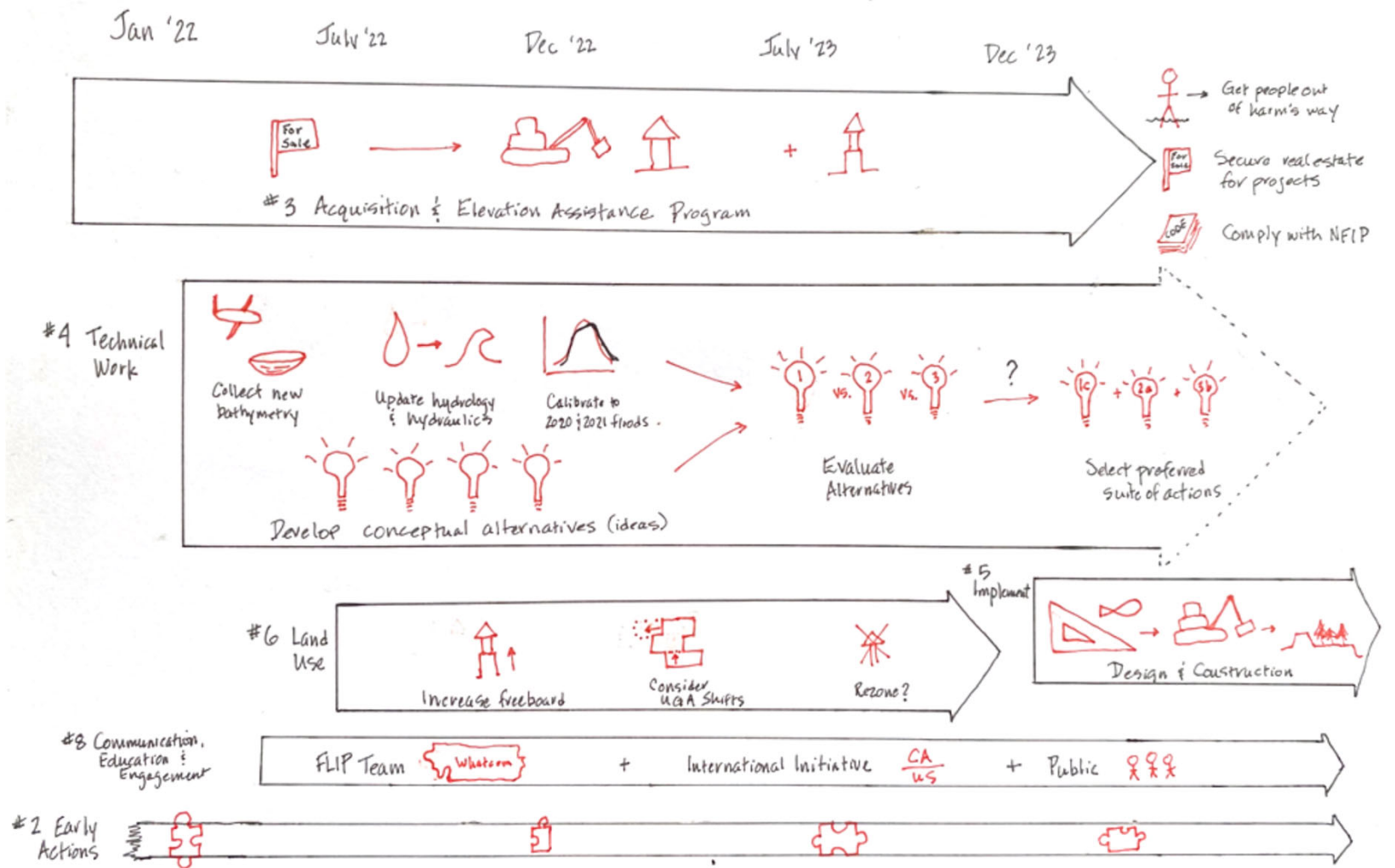
Once a preferred suite of actions is selected, the scale of the capital investment need can better be determined (2023?)

#8

Communication, Education & Public Engagement

- Emergency communications – response agencies and general public
 - Coordination between County, Cities, Tribes, Canadian entities and other first responders
 - Public messaging
- Enhance existing public outreach and education – Whatcom County and Cities
 - Newsletters, mailings, website, social media, etc.
- FLIP public engagement and education
 - FLIP Team and Reach Teams meetings
 - StoryMap
 - Quarterly FLIP Team updates
 - Strategic public outreach and engagement plan
 - Public forums

How It All Fits Together



Next Steps

- Regular email updates to **Flow Split Team** on technical work progress
- Late Spring Flow Split Team meeting to update group on progress
- Bring results of technical analyses of alternatives and proposed evaluation criteria based on values back to Flow Split Team
- Summarize feedback and ideas received from Flow Split Team
- Conduct public forum to present alternatives analysis and feedback from Flow Split Team and receive community feedback
- Technical team to incorporate feedback and develop revised 'community-preferred suite of actions'
- Coordinate with international initiative