

Flood Mitigation and Community Resiliency Update

Draper

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Title: Director, Engineering
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Council Direction

On September 15, 2020, Council directed Administration to:

- Conduct one-on-one engagements with property owners in Draper under 250.9 M to gather information including property elevation, relating to whether funding to raise properties to 250.9 m elevation (main floor) or other forms of flood mitigation will be most amenable to property owners; and that this information, including full costing of all available options, be brought forward to Council;
- provide progress updates to Council every 90 days; and
- advocate on behalf of Draper property owners to the Government of Alberta and the Insurance Bureau of Canada on the availability of overland flood insurance.

Public Engagement Update

- Residents were engaged via multiple means, including online and virtual, by phone, registered mail, and in-person
- Connected with owners of 31 out of 46 properties
 - 7 indicated that funding to raise property would be most amenable
- Only 9 people responded to the follow-up question, what other form of mitigation would be amenable:
 - 4 indicated buyout
 - 5 indicated structural mitigation

Insurance Advocacy Update

- Letters sent to
 - Premier Kenney
 - Deputy Prime Minister and Minister of Finance, Hon. Chrystia Freeland (in her capacity as Minister of Finance)
 - Lloyd's of London
 - Insurance Bureau of Canada (IBC)
- Received response from Premier Kenney
- Met with Insurance Bureau of Canada

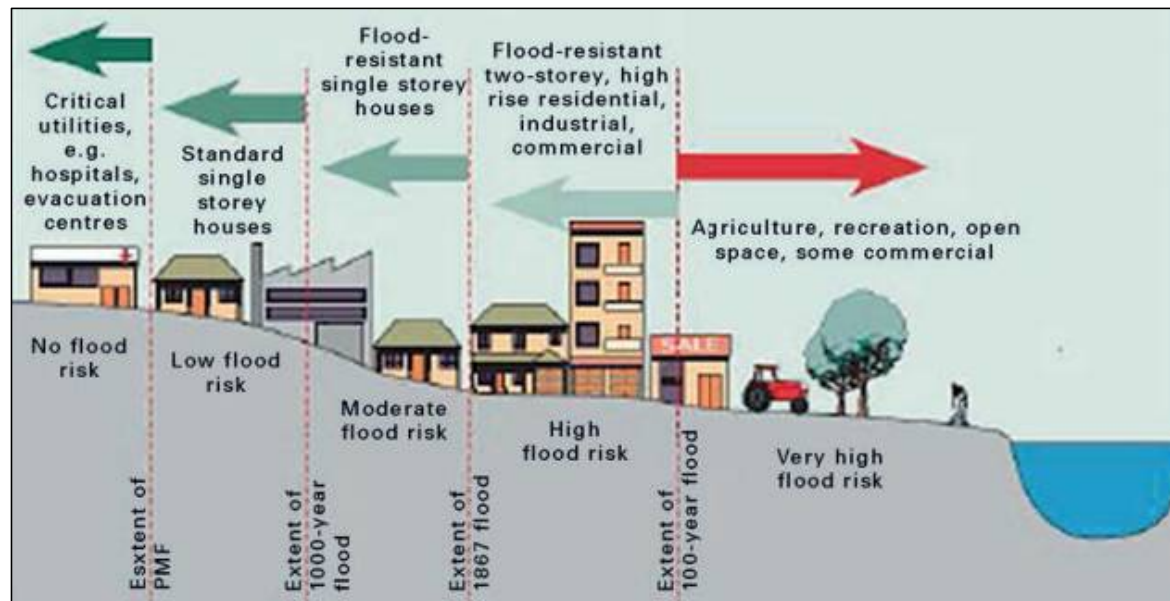
Land Use Bylaw (LUB) Provisions Update

- Applies across the flood hazard area, not just Draper
- Not proposed to be retroactive, would apply to new development only
- Will not come forward as part of the new LUB re-write and engagement with property owners must occur

Approach to Flood Provisions

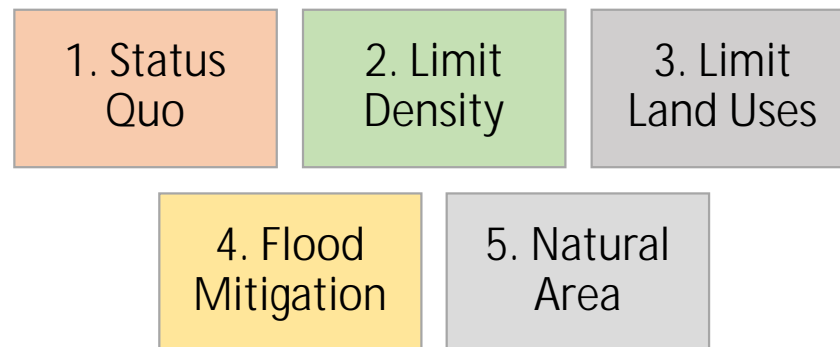
- Establish *categories* based on flood impact and severity.
- For each *category*, develop *policy statements* which can then be applied to each area or neighbourhood as decisions are made.
- For each *category* and *policy statement*, develop a suite of Land Use Bylaw provisions.
- *Categories, policies, and provisions* can be combined as necessary

Approach to Flood Provisions



Approach to Flood Provisions

- A group of provisions can be developed based on the categories below:



- There may be overlap between categories.

Category Descriptions

- Status quo: no provisions for areas within the flood plain determined to be above the impacted area.
- Limit Density: limiting number of people impacted by future flood by placing maximums on number of units or building size.
- Limit land use: limiting presence of sensitive uses like basement suites and storage of hazardous materials.
- Flood mitigation: require special structural elements and water-resistant materials.
- Natural area: leave un-protected undeveloped areas in a natural state or allow passive uses.

Temporary Flood Mitigation Update

Administration is investigating temporary mitigation options:

- Inflatable dams or bulk-sized aggregate-filled bags could be placed by residents themselves, up to a height of 1.07 m
 - Depending on structure footprint, this could cost between \$20,000 and \$80,000 for material supply only
- Providing protection above 1.07 m would involve different products, require larger equipment and more labour
- Residents would likely still have to evacuate in event of a flood

Mitigation Options

1. Buyout
2. Land swap
3. Raise main floor elevation
4. Provide elevation report and grade
5. Temporary mitigation

Option 1: Buyout

- A possible option for increasing community resiliency, owing to the impracticality of providing structural flood mitigation
- Geotechnical issues on the hillside a point of concern for residents

Option 2: Land Swap

- Working with the Province to acquire land
- At this time no commitments with respect to:
 - whether land may be provided
 - how much may be transferred
 - what the approximate timeline might be
- Land in the communities of Parsons Creek and Saline Creek has been the primary focus of conversation

Option 3: Raise Main Floor Elevation

- Involves raising residential structures by cranes, jacking or other means
- Utilities would have to be raised as well
- Does not necessarily eliminate the need to evacuate during a flood

Option 4: Provide Elevation Report and Grade

- For properties that are at least partially above 250.9 m, or close to 250.9 m, site grading may be a viable option
- Would be evaluated on a lot-by-lot basis
- Does not necessarily eliminate the need to evacuate during a flood

Option 5: Temporary Mitigation

- Inflatable dams or aggregate-filled bags could potentially be used for temporary mitigation for individual properties
 - Not recommended as a substitute for permanent mitigation or residual risk reduction
- Does not necessarily eliminate the need to evacuate during a flood

Administrative Recommendation

- Explore the feasibility of a grant program for lot-by-lot individual flood mitigation solutions for properties in Draper at and below 250.9 m.

Questions