

Living on a Flood Plain
City of Edmonton Information Session Summary
Held June 9, 2014 at Riverdale School

Presentations

1. Developing within a Flood Plain
Marty Vasquez, Planner; Roger Clemens, Chief Building Safety Codes Officer; and Craig Thomas, Senior Planner – Sustainable Development
2. Drainage Services Roles, Responsibilities and Practices
Frank Fechner, General Supervisor, Preventative Maintenance, Drainage Services
3. City of Edmonton Insurance Advocacy Efforts
Todd Wyman, Director of Planning, Drainage Services

Developing within a Flood Plain

- The Government of Alberta sets the building codes; the City of Edmonton enforces the codes.
- The City uses planning tools to guide development. This includes but is not limited to Edmonton Zoning Bylaws and Neighbourhood Area Redevelopment Plans (ARPs).
- Building Permit and Inspection Services monitor all development.
- The Government of Alberta provides information on water hazards and flood mapping to municipalities.
- The 1:25 Floodway is defined as the area that has a four per cent chance of flooding any given year. The 1:100 Flood Fringe is defined as the area that has a one per cent chance of flooding any given year.
- Development and Construction Phases are:
 1. Zoning/ARPs: Zoning Bylaws – for building and development today; ARP – for future development in the area
 2. Development Permits: Authorizes development; Balances rights of builders and neighbourhood
 3. Building Permits
 4. Construction
 5. Inspection
- Zoning Bylaws divides the city into zones. Additional regulations found within other sections of the Bylaw are called Overlays. Overlays deal with area specific issues including the Flood Protection Overlay. Overlays are available online.
- Flood Protection Overlays ensure safe and efficient use of lands within the defined floodplain
 - ✓ Building heights
 - ✓ Openings into buildings
 - ✓ Proposed use of portions of buildings
 - ✓ Grades and Landscaping details
 - ✓ Basement/Site drainage details
 - ✓ Flood mitigation methods
- Area Redevelopment Plans for Rosedale, Cloverdale and Riverdale provide adequate flood protection for all new development. This is achieved by requiring all development in the general flood risk area taking into account measures to minimize the potential for flood damage.
- In 1:25 flood plain: no development prohibited. In 1:100 flood plain: certain development types are subject to the Flood Protection Overlay. Within the Overlay:

- Will be required to submit a certificate from a professional engineer or architect indicating specific factors have been considered in the design of the building.
- May be required to provide information regarding grade elevation and building openings from an Alberta Land Surveyor.
- The following examples would be considered for Overlay requirements:
 - Ground floor additions that increase the liveable floor space by 14 square meters (150 square feet)
 - Finishing a basement for a secondary suite or additional bedroom(s)
 - Rebuilding or redeveloping a structure with a larger flood vulnerable area than the original structure.
- The following examples would not be considered for Overlay requirements:
 - Insulation
 - Upgrade to services (electrical/wiring)
 - New roofing
 - Finishing a basement for recreation areas
 - Ground floor additions of less than 14 square meters (150 square feet)

Building Permits and Inspection Services

- City of Edmonton regulates the Alberta Building Code. Current edition is from 2006. Code only applies to new buildings. Code does not apply to existing buildings unless they are being renovated, and then only the renovations must meet the existing code.
- Code does not regulate the location of buildings. 2013 Building Code Bulletins only apply to persons applying for Disaster Recovery Funding.
- If a structure is being (re)developed one or more permits may be required:
 - Building permit – structural repairs, weeping tile, sump pumps
 - HVAC changes to heating or ducts
 - Plumbing and Gas changes to water heater and supply or drain piping, back flow prevention.
 - Electrical – changes to panel or wiring
- The two stages to permit and inspections are progress inspections and final inspection

Drainage Services Roles, Responsibilities and Practices

- Three types of sewer system exist in Edmonton:
 1. Sanitary – takes household sewage to treatment plants.
 2. Storm – takes stormwater to storm outfalls.
 3. Combined – both sanitary and storm. It's the oldest system in the city.
- The Dales all have combined services however some separation has taken place. Heavy rain can lead to combined system overflows. Over time Edmonton would like to eliminate the combined system.
- The stormwater outfalls are closed by floodgates when the river level rises to a certain height, but this also keeps the stormwater trapped in the system.
- New neighbourhoods are connected to separate sanitary and storm systems. Older neighbourhoods are slowly being converted to this standard as opportunity arises.
- Drainage is constantly inspecting, repairing and upgrading the systems.
- Drainage Operations is on call 24/7 – 365. Contact 311 to report drainage issues.

- Flood mitigation is not prevention. There will always be a risk and the city needs to determine what is acceptable for its neighbourhoods.

Flooding in Edmonton

- River flooding:
 - Worst river flood occurred in 1915. 1972 and 1986 also saw bad river floods.
 - These are caused by upstream snowmelt and aggravated by intense rain.
 - Upstream dams have reduced river flooding risks since the early 1970s. A river basin of 80,000 square kilometres collects rain and transports it through Edmonton.
 - When the outflow floodgates are shut due to storm activities it can trap stormwater in low laying areas. Six river gates can be closed in Edmonton.
 - Drainage Services will sandbag at risk properties but they cannot sandbag entire communities.
- Storm flooding:
 - Widespread storms impact the entire city. Localized storms impact certain communities.
 - When the storm system reaches capacity flooding can occur. Hail can plug catch basins.
 - Safety issues can arise from flooded overpasses and rising stormwater lakes.
 - Best way to report flood issues is through 311. Drainage Services also tracks social media, news media and other city departments for information.
- The City prioritizes its flood response during an event:
 1. Keep roads clear for Emergency Services.
 2. Clear clogged catch basins and replace manhole covers
 3. Monitor 311 to attend the most critical areas
 4. Bring in extra staff as needed.
- The Floodproof Program is a city program enacted after 2004 floods. We will inspect your property and suggest best ways to protect your property.
- The Backflow Valve subsidy is for dwellings built before 1989. The valve helps prevent sewage/stormwater from backing up into basements. The subsidy is for up to \$1,200 including GST. Access to the valve is essential for regular inspection and maintenance.

City of Edmonton Insurance Advocacy Efforts

- The City is advocating on behalf of homeowners with the Insurance Bureau of Canada, informing them of the special circumstances faced by homeowners in Edmonton and the flood mitigation measures underway.
- The City is doing a city-wide examination of its flooding risks and investing in reducing those risks.
- The Insurance Bureau of Canada is looking at how it assesses flood risks. It has a **consumer hotline 780-423-2212** that can provide assistance to property owners having trouble getting insurance due to flooding. They also provide advice and will advocate on your behalf.

Comments and Feedback

Q. I'm a long-time resident, is there is any chance of installing dikes or berms in our area as a preventive measure?

A. There is nothing in the Area Renewal Plan that speaks to dikes or berms. There are some public mitigation projects, but not this.

Q. Who would be the right person with the city to speak to about the possibility of adding dikes or berms to the plan?

A. That would involve multiple city departments. Drainage will have some internal discussions and provide an update to the community.

Q. Who would we speak to about the public pathway that runs behind the homes along 99th? There are several areas of the path that are sinking.

A. That is a transportation issue and we will make sure their operations group check the paths near 99th Avenue and 88th Street.

Q. My home was built in 2000 and it passed inspection. However my basement floor drain is the highest point in the floor and when flooded it will only drain to that point. Also, a back flow valve was not installed even though that is part of the code. Can I qualify for the back flow valve subsidy and what are my other options?

A. Please see us after the meeting and we will arrange to come out to look at your property.

Q. I live in the 1:100 flood risk area and I've heard that the flood plain maps may not be accurate. Who has that information and what more can be done to mitigate flooding in Riverdale?

A. The maps come from Alberta Environment and Sustainable Resource Development. The City has not had discussions on the subject of doing structural mitigation in Riverdale and the other Dales but we can start having those conversations with our partner departments.

Q. What is the process to get those discussions started?

A. The Area Redevelopment Plan deals with planning for the future. Area stakeholders would need to spearhead the effort to get structural mitigation added to the plan and speaking with your Councillor would be a good place to start.

Community League President:

The Edmonton Police Service is doing an Emergency Preparedness presentation on October 6 that will include some information on floods. I would encourage everyone to attend and we can begin the conversation on dikes.

Q. Why are there no flood gates on the river outfalls in the Riverdale area?

A. Those outfalls do not serve a combined sewer system, so if the river causes a back-up it would only flood streets with stormwater...not sewage.

Q. Could you please advocate on our behalf to get the floodplain maps for this area updated?

A. It is our understanding that the maps for the Edmonton region were last updated in 2013 and so are very current. Each municipality has independent studies that contribute to their flood plain maps, so the information used for the High River maps is not from the same study that informed the Edmonton maps. That said, we will continue to work with the various provincial entities on behalf of the citizens of Edmonton.