

**City of Edmonton Drainage Services
Summary Notes of Cloverdale Flood Mitigation Meeting
Held May 13, 2015 at Cloverdale Hall**

Presenters

Miressa Fola, Project Manager, Drainage Planning
Maxime Belanger, Project Manager, Sameng Inc.

In attendance were approximately 40 residents.

River Valley Neighbourhoods Flood Risk Study

Please note: a copy of the presentation is available on the City's website under the name Cloverdale Flood Risk Study at:

http://www.edmonton.ca/residential_neighbourhoods/flooding_prevention/flood-proofing-public-consultations.aspx

The presentation began with the review of the floodplain map and the existing drainage system in Cloverdale. The results of a detailed study by Sameng, which included a survey of residents, were then shared. Main issues for the neighbourhood when rainfall is intense are:

- There is too much storm runoff in the eastern part of Cloverdale flowing into combined sewers. This could cause widespread sewer backup.
- Large combined sewer flows from upstream neighbourhoods during rainfall events could also cause widespread sewer backup.
- There is insufficient capacity in the storm sewer system in West Cloverdale. This increases the risk of surface flooding in southwest Cloverdale.

Flood mitigation improvement options for intense rainfalls include:

- Provide additional sewer separation (catchbasin reconnections, new storm sewers)
- Control combined sewer flows from upstream neighbourhoods to the pump station.
- Provide storm sewer improvements in west Cloverdale (e.g. new sewers, swale, dry pond in Gallagher Park)

Main issues for the neighbourhood when the river level is high are:

- The river backflows into combined sewers via outfalls and interconnections, causing a risk of widespread sewer backup.
- There is no dedicated Combined Sewer Overflow outfall or emergency storage at the Cloverdale pump station, causing a risk of widespread sewer backup, especially if an intense rainfall happens simultaneously.
- Water levels in the River which have 2% chance of exceedance (or higher) in any given year can spill into the floodplain and may cause widespread flooding.

Flood mitigation improvement options for high river levels include:

- Prevent river water from entering the sewer system via the outfalls and several interconnections (e.g. flap gates at outfalls/interconnections, remove interconnections, remove or replace manual backflow gates).
- Provide emergency storage and dedicated sewer overflow at the Cloverdale Pump Station.
- An additional, alternative solution is to look at the feasibility of permanent or temporary flood barrier along the river.

The Alberta Government is conducting a study on the North Saskatchewan River Basin, which includes Edmonton river valley neighbourhoods and other upstream and downstream communities. The study will investigate the risks of floods and identify alternative solutions for mitigation or defences for all at risk communities in the basin. Drainage Services will integrate the findings of that study (expected to be completed in the fall of 2015), and action the provincial government might take, into its own future planning for Cloverdale and other floodplain neighbourhoods.

While prioritizing, financing, designing and constructing flood mitigation improvements in the neighbourhood will take some time, Drainage Services will as next steps:

- Modify the protocols for the flood gates so they are closed for a shorter duration.
- Improve communication to residents should there be a potential flooding threat from high river levels.
- Take community input, further validate the options and prioritize recommended improvements.
- Look at how high priority projects can be advanced as quickly as possible.
- Follow up with provincial North Saskatchewan River Basin Study and integrate provincial plans into City planning where feasible and appropriate.
- Continue to support homeowners via Drainage Services' Flood Prevention Home Check-up, flood proofing subsidies, and responsive drainage repair and maintenance.

Comments and Feedback

Q. Because so much water comes in to our system from outside neighbourhoods, is the separation of the combined sewer systems a priority in this area?

A. Yes, it is a priority to minimize the combined sewer flow from outside areas from flowing through Cloverdale, and to minimize storm runoff flows into the combined sewers.

Q. Would it be possible to add another pump house to serve as a backup during high water events?

A. There are two pumps in that pump house plus a recently added backup generator. It is very difficult to add more pumping capacity because of capacity restrictions downstream. The risk of failure of that pump station is very low.

Q. Have there been discussions about containing the runoff from the ski hill? They need to upgrade their storm sewer capacity.

A. We haven't had any discussions at this time, but it is something we will do. A dry pond would keep much of the runoff from the ski hill away from the street. We also know there is a lack of catchbasins in that area. We could add catchbasins and a storm water pipe to that area, but there is a cost benefit consideration.

Q. Why is drainage not part of the ski club's master plan for the land?

A. We will be engaging the ski club to discuss the matter of drainage. They may be required to create their own solutions for storage of excess water.

Resident Comment: Putting a dry pond in Gallagher Park isn't really an option. It will ruin the park.

Q. Why has it taken the City so long to revise the backflow gate closure elevations for the local river outfalls?

A. The last protocol was set in 1990. We've done more studies since then and we have a better understanding of the conditions, leading us to increase the closure elevations.

Q. But why did it take so long to change. When did the studies start?

A. When you don't see an obvious problem there is no impetus to start a re-evaluation. Our studies started after the 2013 floods.

Q. There is no dedicated Combined Sewer Overflow (CSO) for the pump station in Cloverdale...isn't it an option?

A. Yes, it is an option. We are looking for the best way to do it, possibly by using an existing part of the sewer system.

Q. Is the City still advocating on behalf of residents for improved rates from insurance companies?

A. Yes, we are communicating to insurance groups and underwriters the flood prevention work we are doing city wide.

Q. But is there a focus on this area, specifically the increased closure elevations on the river gates? This is the reason we can't get insurance.

A. Yes, we are communicating improvements we are making in areas like this one that have chronic flooding problems.

Q. What impact will the LRT have on our sewer system?

A. The LRT won't have a major impact on our plan, however, they may want us to move or remove pipes. We will work with them to make sure we do not cause too much disruption to the neighbourhood.

Q. I'm concerned that it took substantial flooding for the City to get this far in the study and planning phase. I want to know that it won't take another flood before we see these plans implemented. I think not separating the sewer systems is asking for another flood, particularly with increased development.

A. Separating the system is important. Most pipes in this area are from 1926 and are very small, 200mm to 300mm. That's enough to convey the sanitary flow, but not the storm flows. By separating the storm runoff component from the sanitary system we could double the population in this area and the sanitary system would be able to handle it.

Resident Comment: The ski club is leasing their land from the City and some of the responsibility for the drainage falls to the City because of that. Also, the 1926 pipes in our sewers did not take into account the artificial snow that the ski hill produces and I would like to see a dry pond at the bottom of the hill.

Councillor Henderson: Part of what's happening here is storm events are becoming more frequent and the sewer system was designed for different weather patterns. The city is upping its game in order to bring our neighbourhoods up to the level where they can handle a storm event which has a 1% chance of exceeding system capacity in any given year.

Q. Could you give more information on separating the storm sewers draining from outside neighbourhoods into the Cloverdale area?

A. Separating the storm sewers draining from other neighbourhoods is a potential solution to area flooding. However, we feel the concepts we presented today provide more benefit and can be done in a shorter timeframe.

Resident Comment: Separating our storm sewers from the outside neighbourhoods should be the priority.

Q. Do the dams on the North Saskatchewan River have an obligation to regulate the river levels?

A. The dams were constructed to help regulate the river flow during the winter to generate electricity. They can't provide much river level control regarding flooding as much of the river's catchment basin for rainfall is below the dams.

Q. Would re-establishing Mill Creek help our drainage situation?

A. There might be a benefit. We would have to look at it and it is worth exploring. Re-establishing the creek would have more benefit if it was located on the other side of the neighbourhood though.

Q. What is the new construction behind the Muttart?

A. That is the new generator for the pump house.