

Infrastructure Division Meeting
July 21, 2014 7:00 p.m.
Tim Tyler Boardroom, HSCA

In attendance: Charlie Lund, Kerri Treherne, Paul Galachiuk, Peggi McDougall, Pat Jans, Reg Jans, Brad Larson, Amanda Palmer, David Swan

1. Review of the preliminary results of Phase 2 of the Revision to the Northwest Inner City Drainage Study

- Conveyance Upgrades is Phase 2 of the NWIC study
 - o 1:50 conveyance for entire study area in low river condition
 - o Typical upgrades with low river conditions
- Phase 3 covers pumps, so no discussing pumps today at least with regards to high river events
- To understand map (Appendix A), assume everything in Phase 1 is done – a number of pipes being replaced, some require being upgraded.
- Everything from Phase 1 is base case for Phase 2. That will be the same story from Phase 2 to Phase 3.

- Phase 2 is not cast in stone. As we step through each of the phases we may have to tweak prior phases here and there. Opportunities or roadblocks may come along which change things. Community engagement can also change things. October meeting will also have the opportunity to morph the final report if necessary.

- CDI goal is to provide 1:50 year service (or less due to physical or financial constraints) in low river conditions.
 - o Major (overland) and minor (pipes)
 - Not all pipes may need to be upgraded if overland conveyance is measured to be adequate based on provincial regulation.
 - This has been with the city since early 90s when they started doing drainage studies. In an existing established area there may be constraints that don't allow you to aim for higher conveyance like you would starting fresh.
- Cost of phase 1 has been reduced from \$17M to \$13.9M
 - o Routing stayed the same, sizing is the biggest thing that's changed.
 - o Phase 2 refined this because of dual drainage model.

- Reminder that there are a number of existing constraints in the community (e.g. LRT, utility crossings, general elevation...)

- Proposed pipe upgrades (refer to map in Appendix A):
 - o Orange = upgrades being considered in Phase 2. On west side of Sunnyside the blue isn't necessarily existing, some of it is from phase 1.
 - o Impact on Sunnyside quite minimal. 7th Avenue mainly

- There will be more coming in East Sunnyside, especially near the lift station. For now, these are the only upgrades discussed in phase 2. We've deferred some to phase 3 to not re-do work and save time and money and get back to us more quickly.
- West Sunnyside: reduction in digging opportunities? If we were to do those in phase 1, what is affected in phase 2? How many of those pipes would have been needed to be replaced in Phase 1 for Phase 2 to work?
 - Will discuss in Agenda item 2
- Upper Plateau:
 - 10th and 14th St. have trunk upgrades proposed. Allows what would be uncontrolled overland flow to be controlled in pipes. Better than having it surcharge the pipes and flow into your area.
 - Seems like we're putting more water into the pipe in our area, but from Phase 1's dissection, and using the space that is in the B48 trunk, because it has the capacity, so long as it doesn't spill out during a gate closure or anything like that, it should be good. Doing it this way presented a lot of cost savings, which will be good for everyone on the priority list.
 - Because phase 1 has to go before phase 2, phase 1 now has in terms of its cost benefit, it now benefits a much larger area because it addresses the wider area. Has to be higher up in the priority list because everything else hinges on it?
 - Staging-wise it would have to go first. From an engineering stand point, if it has space and capacity, then is it necessarily fair to say that dissecting Sunnyside would benefit everyone above? Not so black and white?
 - But if you don't do that dissection it wouldn't work. It will just result in overland flooding.
 - Even though it has the capacity (when the gate is completely open), wouldn't recommend this when there remains the risk of overland flooding back into Sunnyside.
 - The volume of water wouldn't change because it is the same serviceable area, but the peak flow would increase. The rain would generate the same amount of water either way.
 - Crescent Road and 11th Ave., immediately above McHugh bluff
 - Pipe upgrade to reduce uncontrolled overland flow and connects to 10th St., which would go into the B48s. This will facilitate a big reduction in flow. This part of Crescent Heights is pretty steep. Wouldn't guarantee it would catch everything, but would reduce the amount coming over.
 - Lower Plateau
 - East Sunnyside: 7th Ave will have a regarding of one portion of the existing 450 pipe from 5th St alley to 5A St. (manhole to manhole) – a

portion is reverse graded to get access to a sanitary line – so that will need to be re-graded. Not sure how it will be done yet, but it needs to get done.

- Would be replacing the 450, if we do it with PVC we gain about an inch there. The sanitary pipe is just a service line, could also be rebuilt with a sanitary pipe giving another inch there. In older construction methods when you had a low sloping pipe, they didn't have laser levels, only Baffle Boards, just a sophisticated way to eyeball... so sometimes the pipe ended up being slightly reverse grade or zero grade. Settling could also potentially be part of the issue.
- New twinned pipe is 750 pipe, which is the entire orange length on 7th Avenue. It will be on the south side because the north side is full of utilities already.
- The existing storm lift station will be upsized in Phase 3. Existing capacity is about 0.9 cms, the 1:50 year design flow is 1.7 cms. The pipe leaving the lift station will also require upgrading. (all gates open scenario)
- Hillhurst
 - 10A St. Diversion: includes upgrades along 5th Ave, upgrades along Kensington Close/Crescent, a new trunk at 10A St., including upgrade to B54 and reduces flow to B51 in West Sunnyside in a gates open scenario
 - Would B54 then have the same problem as us when the gates are closed? No, those are already there, none of it is coming down. It's diverting away from Hillhurst to Sunnyside.
 - When B54 is closed, overland flow goes north to the alley between 10th and 10A. The water doesn't seem to go along Memorial, it wants to go north to the low spot there, and then along 2nd Avenue and breach that point, and then into Sunnyside.
 - Will have to tear up Kensington Road; from 10A Street to 11 Street. Sidewalks are looking to get done, if the road is included, could perhaps join in on that. If they just skim off an inch and pave it back, it isn't entirely a missed opportunity. Need to look into their timeline and the work that they are doing.
- Does Phase 2 have an A and a B? Do these other things have to be done, considering that Hillhurst didn't get flooded in a 1:100 high water event.
 - Seems like we (FTF) only care about Phase 1 and Phase 3
 - Would it be fair that each of these pieces of Phase 2 would be broken up into different projects and triple bottom line

prioritized separately? Yes, we'll definitely be piecing them apart, we don't have to do it all at once.

- MacLeod Trail (from about 25th Ave down to Glenmore Trail and about MacLeod Trail to the Bow River in about a T) is the other CDI study happening now. About 25 projects already in the list to get done. Right now we don't have an increase in money until Council approves budget in November.
 - o 2014 in May or June there was a Council meeting to discuss all things budget that will come up in November. Things given a yay or nay to move forward with in November. This got a nod ahead.
 - o Interest in increasing utility fee so that more money to work with for these types of project.

- Costing
 - o Phase 1: \$13.9M
 - o Phase 2: the original upgrades came in at \$43.7M, but they've changed a little bit, so they're now about \$42.1M, and the new projects that weren't previously included amounts to \$10.3M (e.g. 7th St., a small piece in Hillhurst, and a few others that have come up since 2009)
 - o Total for Phase 2 & 3: \$66.3 M

 - o Sunnyside has been earmarked at \$115M for all of this. That's what Brad applied to the province for a few months ago. So we're looking okay so far.

2. Follow up discussion/questions on Phase 1 from last meeting

- Concerns about the amount of digging required in Phase 1, are there ways of avoiding it, and what are the implications on Phase 2 of alternative options in Phase 1?

- a. Connections to Hillhurst storm sewer line to reduce disruption in Sunnyside?**

- Answer is no for two reasons. Inverts (elevations of pipes) don't fully work out, and when you first cross at the location you need to, you get into a thin alley (7m road), there are 4 different utilities already in there, and a fifth one just wouldn't fit. Also apparently a lot of heavy cables for LRT there now too.
- One option discussed in Phase 1 memo was we could not do anything north of the area we'd need to purchase. We could put a second back up valve just to make sure we've got the redundancy.
 - o No streets would have to get dug up, still maintain the essence of the upper plateau separation. Much cheaper.
 - o They would remain connected to B48 trunks, gates permanently open.
 - o A high river and 1:50 year rainfall will still flush through, just need to make sure it stays below ground or have back flow valves to push it back. Potential for some flow under the streets. How often and for how long would those

work in a high river, rainfall event? Major system overflow that would keep the water standing in the streets but not flooding property?

- Most of the area in question here is pretty steep, especially for Sunnyside. Mostly straight grade. Would pool behind the property in question.
- As a neighbourhood we don't have an emergency escape route for that catchment. We either have one behind those properties, or we have a different level of service for that catchment we put a surface swale construction to have an easement.
 - Is there going to be enough water under the scenarios to require an escape route?
 - If a 1:20 or 1:50 rainfall volume to need that, the joint probability is that you need the river to be high and that rainfall to happen in the lower basin. Very low probability occurrence.
 - Would this make them part of Phase 3 for emergency pumps? Have a pump on the street and run a hose through the part of Sunnyside potentially affected? Have them in place when the river is higher.
- This new approach of relying on back up flow valves and having emergency pumps in place at high river events would save significant amounts of money as nothing would need to be torn up.
- This option only on a few streets. Wouldn't work everywhere because some parts would overcharge not into low-lying areas. There will still be a lot of disconnects going on

b. Can we eliminate re-tilting' of the lines in Sunnyside and expect water in those lines to 'run uphill'?

- One of those pipes might be able to, but a lot of those pipes will be dug up because they need disconnection from B48 and upsizing.
 - Do we need to have re-grading for areas that don't need upsizing?
 - New conveyancing provides a way for the water to get out instead of just having pumps everywhere. Catch basins along 7th have to connect somewhere, and back flow valves won't stop that.
 - In the original NW Inner City Study, this part was considered, a pipe upgrade 2nd Ave., 3rd Ave and 8th St.. Replaced with the method you see here.
 - Without re-grading the water would stand in the streets until the river went down. You could then pump it out.
 - Don't want to engineer ourselves back into the problem we have now. The best serviceability is to be able to rely on gravity 100%, it will always be reliable. Un-serviced infrastructure isn't always reliable (i.e. backflow valves).
- Nobody wants to see roads dug up, but it is a temporary thing.
 - A question of money and probability based on modeling.
 - Currently a hole known to cause problems... Some areas we might get away without re-grading, others we don't.

- We only get money once, so if we go with a 90% solution, we won't get the money to do the 10%... Haven't considered high river levels do to ice – will this system result in flooding and damming during the winter when the pipes start freezing. Backflow valves are prone to freezing, and will probably fail during melt-freeze scenarios during Chinooks.
 - If we could reduce permanently some of the routine maintenance in this area will only benefit our prioritization.
- Is it possible to get back to us with which pipes are brand new, which need to be upgrading, etc.? This could make this whole discussion mute.
 - A lot would need upgrading because of the change of servicing by trunks which means new/different catch basins serviced.
 - Get Associated Engineering to value out the middle section and get back to us.
- c. Would it be feasible and cheaper to dedicate the west '48' trunk to Sunnyside when the gates are closed?**

- Discussed during the course of the other items.

3. Discuss possible eligibility for these projects under the Alberta Community Resilience Program

- Guidelines published in the first week of July. First the City has to publish a statement of municipal priorities, and then they can apply under that.
 - What is the process of the statement of municipal priorities, and can we have input?
 - Brand new as of today to Brad. Not sure who fills it out, not sure if its those who are involved in the actual project, or who.
 - City's Recovery Operations Centre Task Force will be prioritizing
 - A lot of the Flood Expert Panel's work is done. They are arms reach and look at all this and made their recommendations to the City and Province. They've done that and are now done. Wolf is gone, Rick is still there but moving back to his pre-flood position.
 - How do we ensure that the projects of interest to us (Phase 1 and Phase 3 mainly) are on the municipal approved list? It will be easier to get money if we can jump in quickly, before everyone else gets their act together.
 - In the three years that the province spends money, they will be allocating new funds every six months. The first projects ready have a better chance of getting money.
 - Need small enough projects that the province can fund 90% of it and still fit into the \$325M over 3 years for the entire province.
 - The City of Calgary had \$900M in projects, across the province it was \$1.6B.... We should probably hope for \$40M a year for the entire City.
 - Need to find a project in a relatively low amount that would be high up in the municipal priorities that it would be perfect

- Charlie things Phase 3 pumping might be perfect. Worries asking for both pumping and disconnection would be too expensive for them to fund.
 - Funding only for long-term solutions, not interim solutions.
- Need to talk to someone who does know more about that. Should we meet with Francois when he is available? Or maybe we need to meet with Rick Valdarchi during the day in order to figure out the process.
 - Brad thinks Rick has also returned back to his former position.
 - Kerri will ask Druh who are contact would be for the ROC Task Force.
- Is the city acting on this money, how can we lobby for our stuff? If they aren't, how can we lobby to get them to act on this? We'd like to take advantage of this money as a community, so we'd like to make sure someone from the city is acting on this and using the information that Water Services has been putting together. Also need to know if the city can commit to that other 10%
 - Any project on CDI list, could do any one given project's 10% contribution. A lot of these decisions is Francois or above (Director level)
- Brad will find out if anyone he knows is aware of this funding.
- Brad recommends lobbying to the Upper Plateau diversion (\$14M) and the pumps piece (which would be hopefully less than \$50M?).
 - If you feel the berms are of value, go for that. Brad doesn't know much about it because it is the Riparian Study, which isn't scheduled to be done until mid-Fall. Probably won't be ready for that for September 14th deadline.

ACTION: Both Kerri and Brad will talk to their channels to try and find out who in the City will be the one to fill out the forms for this application, and can our Task Force look at and contribute to this prioritization.

4. Confirm the date for the community meeting to review the Northwest Inner City Drainage Study

- Thursday, October 23, 2014 at 7:00 p.m.
 - No objections to date.
 - Brad wants to run this the same way they do CDI engagements in other communities, so that would be a one agenda meeting without tables, etc.
 - Joint effort for promoting is preferred.
 - Preference to use us the Task Force as a resource
- How do you define engagement? What does that look like?
 - More of a Town Hall approach.
 - Not very effective because people can't talk with the experts. Haven't given people enough time for questions.
 - No booths, pure presentation and a large question period.
 - Nothing to the public before the meeting.

ACTION: Amanda will promote this in the Voice, the mailing list and a bold sign.

ACTION: In August Brad will inform us whether or not the City will be taking over the organization of this event.

5. Other business

Next meeting:

- Will discuss Phase 3.
- Also need to discuss provincial funding, as well as revisiting Phase 1 with value engineering. Format for the October meeting and pre-reading.
- May need to break this up into two meetings – both Aug 18 and Aug 25?
 - o Brad will check his personal calendar to confirm.
 - o May need to have Francois at some of these meetings as well to address the policy piece.

ACTION: Amanda will book the rooms, Charlie will send out the meeting notice.

Appendix A:

Map of Sunnyside for the Phase 2 of the Northwest Inner City Drainage Study

Note: Orange lines are the upgrades for Phase 2. Phase 1 upgrades are not shown here. Please ignore the red dots for now, they are not upgrades.

