5th International Conference on Natural Channel Systems
Regulatory Approvals for Stream Restoration – Two Approaches to DFO Authorization

Presented by:

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Forwell Creek Restoration and Trail Reconstruction – King Street to Blue Springs Drive

- Environmental Assessment
- Detailed Design/Creek Restoration
- DFO Authorization
- Letter of Credit
- Post Construction Monitoring
- Lessons Learned

Environmental Assessment

- Functional Drainage Study Class EA completed in 2000
- EA needed to develop a remediation plan for flooding and erosion concerns

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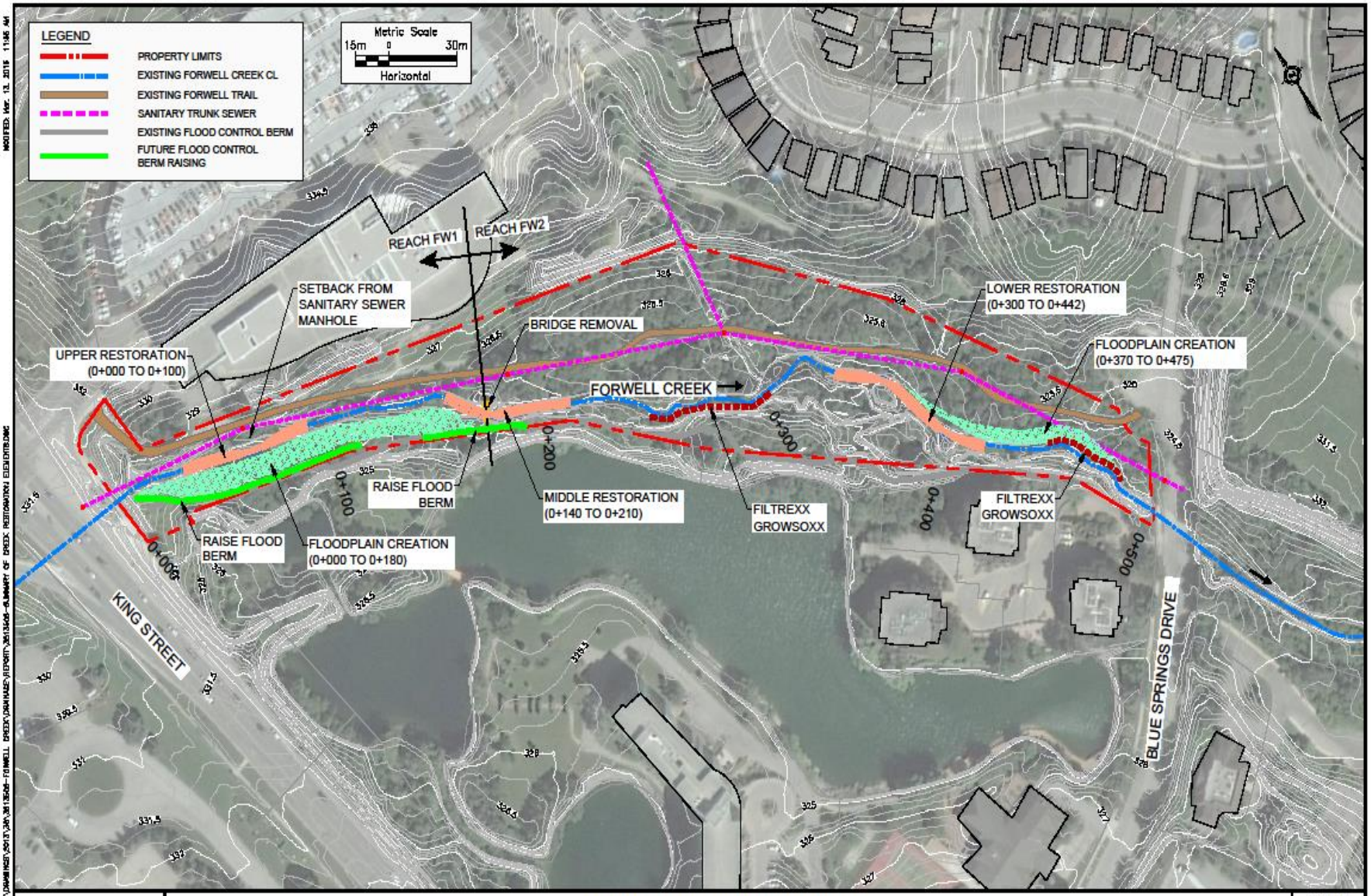
Detailed Design/Creek Restoration

Creek Restoration – Upper, Middle, Lower, Bridge Removal



MMM GROUP

SUMMARY OF RESTORATION ELEMENTS

FORWELL CREEK REHABILITATION

EXHIBIT 6

DFO Authorization

- Submitted for Review in April
- Received notice of required authorization in May (project viewed as destruction of 1500m2 of existing fish habitat)
- Application Form for Paragraph 35(2)(b) Fisheries Act Authorization (Normal Circumstances)
- Letter of Credit required from municipality for all offsetting works (re-alignment with enhanced habitat) for one year
- Reporting and multi-year post construction monitoring requirement

Letter of Credit

- Considered a debt – Required council approval
- Council in June
- Lots of planning with management, finance and bank
- Letter of Credit approved for offsetting works ($379,680)
- Monthly interest charges to project account ($300)
- Letter of Credit amendment February 2016 (project substantially completed)
- Amendment March 2016 ($227,808)
- Discharge of LOC in July 2016

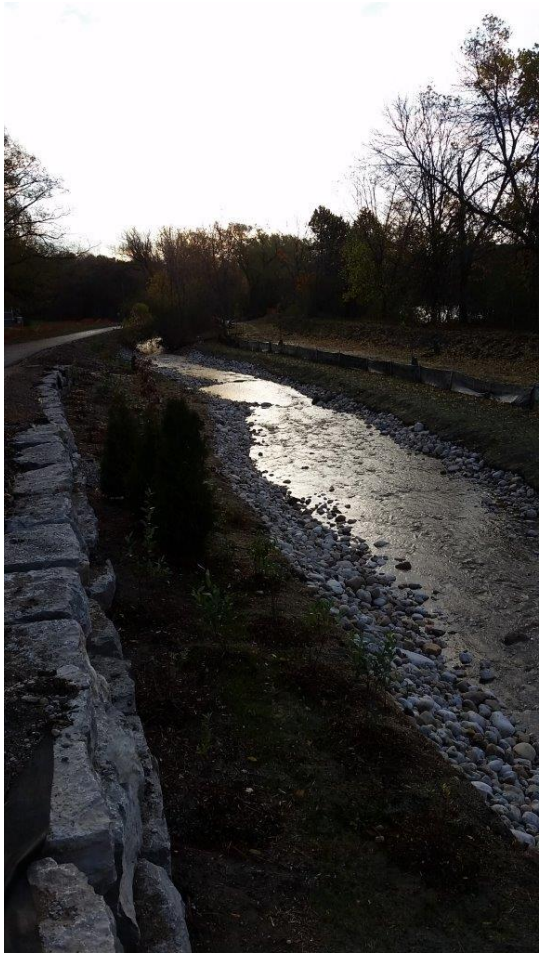
Post Construction Monitoring

- Post construction monitoring required through GRCA and DFO
- Combine programs and find efficiencies
- Program includes;
  - Assess stability of constructed works (visual assessment)
  - MNRF scientific collection permit (fish collection)
  - Fish collection survey and summary documentation
  - Visual fish survey and summary documentation
  - Annual reporting (Jan 2016, Dec 2016, Dec 2017)

Lessons Learned

- Be prepared!
  - Have reports ready
  - Give yourself plenty of time
  - Communicate with finance
  - Plan for post construction monitoring – budget!

- DFO may stop by



THANK YOU!

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Regulatory Approvals for Stream Restoration – Two Approaches to DFO Authorization

Natural Channels Conference – Linking Processes to Practice
September 26th & 27th, 2016

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Presentation Agenda

1. Filsinger Park Stream Naturalization Project
2. Kitchener's Habitat Bank
3. Benefits of a Habitat Bank
4. How the Habitat Bank impacts Prioritization of Creek Works
5. Long term Vision of the Habitat Bank

Filsinger Park Project (2013 – 2016)

Remove concrete:

- Improve water quality
- Reduce sediment loading
- Enhance natural habitat

Filsinger Park – Before (2015)

Filsinger park Stream Reach 1 – Completed

Filsinger Park Stream Reach 2 – Completed

DFO Authorization Requirements

- Municipal projects may pose a threat to fish habitat
- Under the *Fisheries Act*, projects that require an Authorization also require a suitable “offset” plan
- Proponents are required to provide a letter of credit ($) to DFO in the amount required to complete the offset work

Filsinger Park - Opportunity

- Concrete channels provide no Fish Habitat
- 1.8 km of warm water fish habitat was created during the Filsinger Park stream restoration project
- Our consultants (Stantec) recommended the City pursue a habitat bank agreement to receive credit for creating fish habitat.

Habitat Bank - Defined

- Arrangement between the Department of Fisheries and Oceans Canada and the City of Kitchener to:
  - Outline the positive enhancements and/or creation of fish habitat during municipal projects
  - Translate the benefits into credits, that can be used on future municipal projects
- DFO has a policy for proponent led Habitat Banks

Kitchener's Habitat Bank

- Kitchener's Habitat Bank 'arrangement' has received Approval from City Council and from the DFO (July, 2016)
- First municipal fish habitat bank in Canada
- 17th fish habitat bank in Canada.

Benefits of a Habitat Bank

- Fish habitat “credits” represent an approved offsetting plan and thus help speed up the approval time
- When banked credits are debited a Letter of Credit ($) is not required to be paid to DFO
- All but eliminates regulatory risk of the offsetting plan failing
- No ‘lag time’ between destruction of fish habitat and offset works to recreate that habitat elsewhere

Master Plan

- The City of Kitchener anticipates Council approval of a Storm Water Master Plan (SWMP) in 2016
- The SWMP prioritizes stream restoration works for specific erosion sites and where necessary for entire stream reaches
- Some stream restoration sites have existing fish habitat and could be subject to DFO Authorization requirements

Streams & Erosion

Issues: Examples in Kitchener

Financial

Recommended Approach Element	Capital Cost Estimate ($ millions)*
1) Pollution Prevention, Municipal Management & Operational Practices a. OGS Maintenance (High, Moderate & Low Priority) b. Sediment Removal for CB in uncontrolled watershed	 $0.2 $0.3
1) Market Based Strategies for Private Property (source controls): 5 year program costs	$3.5
1) Stormwater for the Capital Roads Program (conveyance controls) a. Roadways b. Laneways	 $1.9 to $11.1 $-0.3 to $1.7
1) Stormwater Management (SWM) Facilities a. Sediment Removals (High, Moderate & Low Priority) b. Planned Retrofits c. Park Rehabilitation and SWM Enhancements (new SWM Facilities including park rehabilitation)	 $3.2 $6.0 $32.1 to $41.2
1) Watercourse and Erosion Restoration	$14.0 to $20.0
1) Urban Flood Management & Stormwater Infrastructure (includes estimated costs for pipes smaller than 600mm which were not modelled)	$40.0
TOTAL	**$100.9M to $127.2M**

†Class 'C' cost estimate. Note: all values in 2016 CDN dollars
* Rounded to the nearest $100,000

Implications for Prioritization of Stream Projects

- Determine which Stream projects might be eligible to be banked
  - Habitat banking works best in situations where no (or little) fish habitat currently exists
- Consider sequencing of projects to ensure credits are available when required

Long term Vision of the Habitat Bank

- When other City Departments (e.g. Transportation, Development) complete projects that require DFO Authorization consider internal ‘sale’ of credits
- Revenue stream for the SW Utility to fund more stream restoration projects
- Future Opportunities: Awaiting DFO’s 3rd Party Banking Policy

Summary

- Fish Habitat Banking is here.
- Advantages:
  - No need for Letter of Credit
  - Speeds permitting.
  - Cost effective.
- Future opportunities

Questions?

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