



City of Surrey

Environmental Advisory Committee

Minutes

Executive Boardroom
City Hall
14245 - 56 Avenue
Surrey, B.C.
WEDNESDAY, MAY 21, 2008
Time: 6:40 p.m.
File: 0540-20

Present:

B. Stilwell - Chair
M. Deo
C. Dragomir
M. Harcourt
A. Keshvani
H. Locke
D. Maher
A. Schulze
W. Stewart
Councillor Bose

Absent:

G. Sangha

Staff Present:

C. Baron, Drainage & Environment Manager
R. Dubé, Drainage Planning Manager
L. Anderson, Legislative Services

Agricultural Advisory Committee
Representative

S. VanKeulen

A. ADOPTION OF MINUTES

The Committee was asked to adopt the minutes of the April 16, 2008 meeting.

It was

Moved by C. Bose

Seconded by D. Maher

That the minutes of the Environmental

Advisory Committee meeting of April 16, 2008 be adopted.

Carried

B. DELEGATIONS

C. BUSINESS ARISING FROM THE MINUTES

1. EAC 2008 Priority Items & Work Plan

– **3(a) Monitor Status of Selected Environmental Projects**

– *Integrated Stormwater Management Plans (ISMPs)*

The EAC 2008 Priority Items & Work Plan includes staff delegation requests to periodically speak to the Committee regarding how various areas are developing.

R. Dubé, Drainage Planning Manager, was in attendance to provide an update on the Fergus Creek and Hyland Creek ISMPs. A PowerPoint presentation was given as a summary of the two ISMPs and comments were as follows:

- Under Metro Vancouver's (GVRD) Liquid Waste Management Plan, member municipalities have committed to undertake ISMPs for all their watersheds by 2014.
- Over the past few years, Surrey has already been gradually moving toward an integrated strategy and did a lot of planning and infrastructure prior to the requirement from the Region.

- An ISMP is a comprehensive plan to balance land use planning, stormwater engineering, flood and erosion protection and environmental protection.
- An ISMP recognizes stormwater as a resource to be protected and establishes a framework that would allow the environmental features of the watershed to be maintained, or improved, while allowing for human uses within the watershed.
- In terms of the shift in storm water engineering, traditionally it would be sizing pipes based on peak flows. That has moved now to looking more at the full spectrum of the hydraulic system and the eco systems.

Traditional

Integrated

Drainage Systems	→	Ecosystems
Reactive (Solve Problems)	→	Proactive (Prevent Problems)
Engineer-Driven	→	Interdisciplinary Team-Driven
Protect Property	→	Protect Property and Habitat
Pipe and Convey	→	Mimic Natural Processes
Unilateral Decisions	→	Consensus-Based Decisions
Local Government Ownership	→	Partnerships with Others
Extreme Storm Focus	→	Rainwater Integrated with Land Use
Peak Flow Thinking!	→	Volume-Based Thinking!

- An ISMP provides a process in which to balance land use planning, stormwater engineering, flood and erosion protection and environmental protection.
- The cycle for an overall ISMP process is to understand the watershed, identify the issues, develop options, test options, implement the plan and monitor.
- A comprehensive plan should be done every 14 years.

Fergus Creek ISMP

Various slides were shown to provide an overview of the area.

- The Fergus Creek watershed is approximately bounded by 152 Street, 24 Avenue, 172 Street, and the Campbell River. Highway 99 separates the developed urban portion west of the highway from the largely rural portion east of the highway. This ISMP’s goals are to:
 - reduce peak flows in the Fergus Creek system;
 - reduce erosion of the creek channels;
 - reduce downstream flooding;
 - improve quality of urban runoff entering the creek system;
 - lessen impact of development on Fergus Creek, a fish-bearing creek; and
 - provide a unique appearance with more greenery and “feature” streetscapes.
- As part of the NCP process, many layers were looked at to provide a “wish list” of where to preserve green space.
- The Highway Corridor NCP was adopted in 2003 with ISMP goals in consideration. Commercial developments are underway, a large habitat

preservation area was secured, a creek diversion was proposed (because of some of the erosion that occurred) and there are low impact designs.

- The targets for the developments in this area were quite specific and are being monitored quite frequently.
- A couple of green corridors as set back areas and further areas to deal with drainage are being proposed for the Land Use Plan.
- At the land use planning stage, the Planning Department is now trying to integrate and look at where to fit the drainage within the land use and then how to fit the drainage around the land use requirements.
- The Fergus ISMP had a number of analyses:
 - balance growth, recreation, environmental values, infrastructure requirements;
 - continuous hydrologic simulations;
 - integrating solutions into land use; and
 - phasing.
- Further slides were given to show the new water balance model, the exceedance curve, a graph of the potential stream erosion and a further graph on the water quality.
- One of the tools used to evaluate Fergus Creek was the exceedance curve to show the duration during which a certain flow is exceeded over a long period of record (e.g. 30 years). Pre-development conditions were compared to post-development conditions. In some cases the post development curve is bumped up making it three times greater than it was under pre-development conditions.
- When looking at the peak flows and the increase of up to three times more than when plotted, it is the results at the end that are most important (creek erosion).
- The watershed was modelled using partial implementation of Best Management Practices (BMP) and results indicated substantial reduction in total flow and some reduction in peak flows.
- Continuous modelling was used to evaluate stream erosion as well. Pre-development indications could be met with partial BMPs.
- The recommendations that came out of the Fergus Creek ISMP were fairly simple and made a difference:
 - roof leader disconnection for single family homes;
 - top soil augmentation - minimum 150 mm depth over the entire pervious area;
 - provide volume reduction through infiltration, peak flow reduction through detention, and slow release of stored water to augment stream base flow; and
 - continuous greenways to provide opportunities for stormwater treatment and infiltration in a distributed manner within the watershed as well as recreational connectivity and unique neighbourhood character.
- This is being done to:
 - reduce peak flows in the Fergus Creek system;
 - reduce erosion of the creek channels;
 - reduce downstream flooding;

- improve quality of urban runoff entering the creek system;
 - lessen impact of development on Fergus Creek, a fish-bearing creek; and
 - provides a unique appearance with more greenery and “feature” streetscapes.
- Enhanced infiltration facilities are on both public and private lands.
- A big shift in this catchment is that it moves away from detention ponds. In this specific case, it was found that the ponds did not provide enough benefit. In place of stormwater ponds, the combination of BMP Streets and/or Green Streets to increase infiltration and improve water quality of road runoff and drainage corridors with swales and/or infiltration structures to decrease urban runoff entering Fergus Creek, to provide water quality treatment and a public greenway amenity, were used.
- Drainage corridors gives this neighbourhood a different feel.
- Some of the identified stakeholders:
 - Semiahmoo Fish & Game Club
 - Little Campbell Watershed Society
 - Peace Portal Golf Club
 - Fergus Creek Pocket Taxpayers
 - Semiahmoo First Nations
- Completion is expected in the summer of 2008.

Hyland Creek ISMP

Various slides were shown to provide an overview of the area.

- The Hyland Creek watershed is approximately bounded by 128 - 156 Streets and 72 – 58 Avenue and has an area of 1,387 Hectares. This ISMP’s goals are to:
 - balance development and environmental protection;
 - identify Habitat value for wildlife and fisheries;
 - identify and quantify impacts of drainage discharge points;
 - determine quantity and quality targets for future development;
 - identify mitigation strategies for future development to protect the creek; and
 - identify long term monitoring of effectiveness of mitigation.
- The Hyland Creek catchment is predominantly developed. Future development will occur in the South Newton NCP area located south of 64 Avenue and east of King George.
- A detailed review of existing studies was undertaken within the scope of the Hyland Creek ISMP. These included the previous Master Drainage plans and the Hyland Creek Functional plan as well as NCPs. Findings from these previous studies were confirmed although additional measures were identified to improve quality of runoff and to minimize impacts due to changes in hydrology.
- Also within the scope of the ISMP more detailed reviews of riparian habitat, benthic populations and groundwater were undertaken compared

to previous studies. The recommendations provide better protection for these watershed features.

- The riparian assessment (30 m from the existing top of bank) and benthics evaluation suggest that the creek is currently significantly impacted. Creek setbacks and stormwater BMPs will play a significant role in the preservation and restoration of the creek.
- Water quality baselines identified in the ISMP will be used for future evaluation of the mitigation measures.
- The main recommendations of the ISMP are:
 - retrofit existing areas with detention to reduce peak flows (specifically west of King George Highway);
 - require new developments to include sustainable drainage features that provide
 - infiltration
 - water quality treatment;
 - encourage continued use of enhanced topsoil depth;
 - preserve and increase riparian setbacks to Hyland Creek and its tributaries; and
 - increase water quality monitoring and long-term review to confirm the effectiveness of the proposed measures.
- There have been more NCPs happening recently with different land uses. For each of these there are infrastructure requirements.
- The integration of the watershed provided new considerations to deal with:
 - aquatic habitat;
 - wildlife and terrestrial habitat; and
 - hydrogeology.
- The four existing land forms consist of:
 - Zone 1 – Residential
 - Zone 2 – Residential & Commercial
 - Zone 3 – Active Urban Development
 - Zone 4 – Agricultural Land Reserve (ALR)
- Zone 3 is where there is a real opportunity to reduce the impact of development.
- Zone 1, after analysing the system, there was a need for ponds shown.
- Zone 1 is going to be a problem, looking at detention in that area is difficult.
- In terms of the targets for stormwater management, stormwater volumes can be reduced and quality maintained through:
 - existing BMPs for roof leader disconnection;
 - enhanced topsoil requirements for all new development;
 - linear infiltration / groundwater recharge systems; and
 - use of porous pavements.
- In terms of the ISMP schedule, Hyland Creek is essentially completed.

Other ISMP Projects

- The City is currently undertaking a number of ISMPs, which are at various stages of completion.

- Cougar Creek ISMP (in cooperation with Corporation of Delta);
- Erickson Creek ISMP (scheduled to be presented at the May 2008 ERC); and
- Little Campbell River ISMP scoping study (too big to do an ISMP, breaking it down into sub catchments to study further). The Township of Langley is involved with this as well.
- A couple of the things being done in Surrey that are quite a bit different than other municipalities is water quality and, for the environment, bringing in the terrestrial wildlife whereas most municipalities bring only fish. Surrey continues to be more rigorous than the requirements of the region's suggestions.
- The following was discussed:
 - From time to time we talk about the siltation of river systems (particularly familiar with the Nicomekl River). We have engineered our watercourses. At one time the deltas with the runoff of soils were replenished, there was flooding going on. Now for the last 100 years, we've been channelling the rivers and now the silt has nowhere else to go but out to sea. So we are trying to compensate by raising dykes. Is anybody thinking about what we might do over the next 20 - 30 years to retrieve some of that silt and get it back into the farmlands which are subsiding? Do we have a pilot project looking into this?
 - In response to these questions, it was noted that river sand deposits are graded depending on where they are deposited in the system. The deposits are generally not conducive to farming. Deposits in the tidal delta cannot be used for farming because of salt water. River sand needs to be mixed for use in other applications; it tends not to compact easily otherwise. Engineering have test plots in the lowlands to see if the land is subsiding faster to see if there is a change. It has only been five years now, too short of time. In terms of moving the silt from the channels, aside from the big DFO issue, it is not certain if it has ever been done. Have never seen river sand used in the fields.
 - According to some farmers, even our ditch dredging takes 10 years to be worked into the fields for good production.
 - Ultimately, the whole economics might simply not make any sense.
- Upon completion of the first four ISMPs a new group of plans will be initiated in an attempt to meet the 2014 schedule.
- EAC will be kept informed of any future open houses.

2. Semiahmoo Fish and Game Club Public Meeting

At the April 16, 2008 EAC meeting, the EAC received an update from the March 6, 2008 Semiahmoo Fish and Game Club public meeting. There was a subsequent meeting held on May 1, 2008 to which a further update was provided by A. Schulze. Comments were as follows:

- The first meeting, with approximately 25 in attendance, was to organize stakeholders in order to prepare for the open house for the Campbell

development that was happening on April 22nd. The result was the formation of the Save the Little Campbell River Watershed Coalition, consisting of individuals from the Green Party, biologists, etc., and their purpose was to get as many people as possible to pose as many important questions to the presenters at the open house.

- The second meeting, held on May 1st, was attended by approximately 50, including C. Baron, Drainage & Environment Manager.
- A PowerPoint presentation was provided addressing the information from the earlier meeting (as noted in the EAC minutes of April 16, 2008) and there was further discussion regarding the fixing of Phase I and a response to Phase II and Phase III regarding:
 - water issues and fixing them;
 - fish hatchery - salmon habitat;
 - Brookwood aquifer;
 - stormwater impact;
 - environmental issues; and
 - endangered wildlife and the lack of wildlife corridors (Phase II).
- Economic and social issues and the various alternatives were discussed.
- The group would really like the area to be retained as a natural recreation area, with the watershed area saved.
- The four recommendations, as noted at their March 6, 2008 meeting, were reiterated again:
 - Stop further development immediately (Phase II).
 - Fix Phase I damage.
 - Re-evaluate and re-draw (with public input) Phases II and III to reflect the real economic, environmental and recreational needs and desires of Surrey residents.
 - “Leave it Natural, make it Recreational.”

3. Surrey City Development Corporation Open House - Campbell Heights Phase II

At the April 16, 2008 EAC meeting the Committee was informed of the proposed open house on April 22, 2008 (Earth Day), being hosted by the Surrey City Development Corporation, to inform the public of the Corporation's development intentions for Phase II. Those EAC members that were in attendance provided an update as follows:

- The meeting was very well attended, although there didn't appear to be any supporters of Phase II and the Surrey Environmental Partners (SEP) were outside showing their lack of support.
- The plan is to develop an additional 200 acres, 17 of which is to be kept in an environmentally friendly state with one area with a corridor as a landscape buffer.
- There was concern raised pertaining to the extension of 24 Avenue into Langley. The residents on the Langley side have a very quiet neighbourhood.

- The information provided was not very comprehensive and queries were directed at the consultants. It looks like a repeat of what is there now with a slight improvement and a little landscape.
- Instead of narrow ribbons of greenspace, they have concentrated it all in one area. Members felt 17 acres was not enough.
- Much of the motivation behind Campbell Heights is to get some “redress to the lack of employment base”, the whole Campbell Heights development was motivated out of economics. To some degree Phase II will be marketed with some of that same motivation to expand the industrial base and provide incentives for industry. City Development Corporation has been tasked with developing the City owned lands in the Campbell Heights area. They are to act like an independent development corporation and be given the same requirements as a typical developer in Surrey. The City will require that the corporation set aside the amount that would normally be required for any normal development.

C. Dragomir left the meeting at 8:05 p.m.

- There are some places that are simply gravel, while other parts have been reclaimed by nature and look good, so why not limit development to already disturbed areas that have yet to naturalize again.
- There is construction debris at the bottom of the south pile; removing it is part of the work needed to be done, work that is parallel to other work to be done.
- Many of the attendees were filling out comment cards before leaving.

D. NEW BUSINESS

1. Campbell Heights Phase I Channel Rehabilitation

C. Baron provided information as follows:

- Information regarding this can be found on the City’s website at:
www.surrey.ca
 - Living in surrey
 - Environment
 - Protecting our Environment
 - Campbell Heights Phase I Habitat and Construction.
- Groups are being asked for comment as it is not the City of Surrey staff that are reviewing this, it is a group of experts who do this type of work all the time that will be reviewing.
- It was noted that A. Schulze and B. Stewart will review, on behalf of the EAC, and provide their comments to C. Baron as soon as possible.

E. ITEMS REFERRED BY COUNCIL

F. INFORMATION ITEMS**G. CORRESPONDENCE****1. Peter Thompson**

The e-correspondence, dated April 30, 2008, regarding oyster production in Mud Bay, was reviewed by the Committee. Comments were as follows:

- The article that was referenced was about Drayton Harbour, Washington. There is a big difference in how Canada manages oyster harvesting versus the U.S.
- A great source of information can be found at www.sharedwaters.net. The City is working with this group to pinpoint water quality areas to look at further. The group is made up of representatives from Environment Canada, Ministry of Environment, Metro Vancouver, local streamkeepers, Semiahmoo First Nation and various organizations from the U.S.
- The oyster beds along the Semiahmoo Peninsula have been closed since the 1980's, and haven't been tested since. Environment Canada does not plan to reopen the area.

K. Keshvani left the meeting at 8:27 p.m.

- Water quality dictates oyster harvesting. Oysters bioaccumulate pollutants so stricter water quality is required than even swimming areas.
- When the circulation study was done, it was found that the Little Campbell has the biggest impact on the bay from a variety of sources other than development.
- It all has to do with the water quality that is coming out of Little Campbell, the Serpentine and the Nicomekl.
- The way Environment Canada works, once they close a shellfish area, they never reopen them. The difference also in the U.S. is when a shellfish area is closed, the U.S. government brings in support and financial commitment to work on opening the areas again.
- An explanation of the concerns should be provided to Mr. Thompson. He should be apprised of the Committee's understanding of what is taking place and the reasons why there is nothing happening. It should further be expressed to Mr. Thompson, the Committee's appreciation of his vigilance moving forward with this matter.

It was

Moved by S. Van Keulen

Seconded by Councillor Bose

That the Environmental Advisory

Committee draft a letter of response to Mr. Thompson outlining the various points raised in the discussion of this matter, noting the EAC's encouragement to Mr. Thompson to continue pursuit of this matter.

Carried

- It was noted that, as part of the Liquid Management Waste Plan, Metro Vancouver will be doing ambient water quality testing.

H. OTHER COMPETENT BUSINESS

1. Crescent Beach Stormwater Management Study

C. Baron provided information on the new Crescent Beach Stormwater Management Study underway which has climate change adaption components. Comments were as follows:

- Dealing with the flood plain adaptation concerns.
- The study is an engineering study, not an environmental study. Looking at the impacts from rising tides, winter storms and groundwater.
- A questionnaire has been sent and the response from the community has been phenomenal.
- With regard to the Flood Plain Policy, Crescent Beach is the first area that is being looked at and worked on in relation to the impact of Climate change on a floodplain. The study is intended to look at future servicing needs for the community.
- With the winter tides rising, local rock pits are not draining, potential changes in groundwater and some natural subsidence in this area drainage is becoming more of a challenge for the area.
- The Consultant working on the project is putting in some ground water monitoring wells to look at the changes in the water and how it is changing with the tide, etc.
- Looking at how to service the dykes behind the area and how to service the neighbourhood.
- The drainage pump station currently servicing the area is the oldest one in Surrey.
- There will be a Public Open House in the fall to go over some of the findings.

2. Fraser River Flood Protection Study

C. Baron provided information on the new Fraser River Flood Protection Study underway which has climate change adaption components. The floodplain and dyke location of the South Fraser and Bridgeview area was shown, as well as the variety of infrastructure. The following was noted:

- Old dyking systems and the current situations were looked at.
- Soil conditions are the biggest concern.
- Looking at the existing pump stations, both short term and long term as not all areas flood-proofed for a freshette event.
- The provincial government recently committed \$90 million, along with the federal government \$60 million, to address what is needed the most and the upgrades required over the next three years.

- To build a new dike for the whole frontage area would cost between \$20 and \$30 million.

3. EAC 2008 Priority Items & Work Plan

The 2008 Priority Items & Work Plan was provided as an on-going item as a guideline, for review and updates as necessary. It was noted that a presentation from the Transportation Section on the Draft Transportation Plan will be given at the June meeting.

It was further noted that a copy of the summary of the Organizational Planning Retreat, held in 2006, should be included in the Agenda for June for discussion purposes and as background information for the newer EAC members.

I. NEXT MEETING

The next meeting of the EAC will be held on June 18, 2008 at 6:30 p.m. in the Executive Board Room.

J. ADJOURNMENT

It was

Moved by D. Maher
Seconded by Councillor Bose
That the Environmental Advisory

Committee meeting do now adjourn.

Carried

The Environmental Advisory Committee adjourned at 9:12 p.m.

Margaret Jones, City Clerk

Bill Stilwell, Chair
Environmental Advisory Committee