

Integrating the Site with the Watershed and the Stream

A Watershed Blueprint for Hastings Creek: Creating the Future in the District of North Vancouver

9. Reflect and Look Ahead

The District's approach has been systematic. Five blocks of major work provide the technical foundation and the Hastings Creek Watershed Blueprint is progressing to completion. The stage is now set for synthesis of relevant information and actions in a concise, colourful and reader-friendly Executive Summary.

Hastings Blueprint: A Demonstration Application of At-Risk Methodology

In Chapter 5 of the Stormwater Guidebook, the *At-Risk Methodology* (ARM) is presented. The Guidebook Steering Committee developed and tested a common-sense approach that will help local governments establish priorities at both the municipality-wide and watershed scales (e.g. decide which watershed to do first; and select the priority tributaries within the priority watershed).

"A decade ago, the District was a case study contributor to the Guidebook. Now, we have applied the ARM way-of-thinking in first selecting Hastings Creek as our demonstration ISMP; and then undertaking the Opportunities Assessment to identify likely priorities," notes Richard Boase.

"The At-Risk Methodology creates an early focus on areas that need priority attention to avoid pending impacts," states Peter Law, Guidebook Chair. Formerly with the Ministry of Environment, he is a founding Director of the Partnership for Water Sustainability.



"In the Guidebook, we emphasized the need to focus priority action on at-risk drainage catchments where there is both high pressure for land use change and a driver for action. The Guidebook states that the latter can be either a high-value resource that is threatened, or an unacceptable drainage problem. The Guidebook further states that it is important to focus on areas of land use change because this is where problems can be turned into opportunities."

Implementation: Internal Conversations Have Started

The District has arrived at a 'watershed moment' in terms of determining how best to inform and educate all the players (Council, staff, developers and community) about the Hastings Creek Vision. The objective is to springboard from awareness to implementation over time. Figure 22 brings forward the paradigm-shift graphic once more to highlight the essence of what is meant by the phrase *'Blueprint to a new watershed'*. "Internal conversations about the Blueprint have started. There is excitement," reports Ariel Estrada.

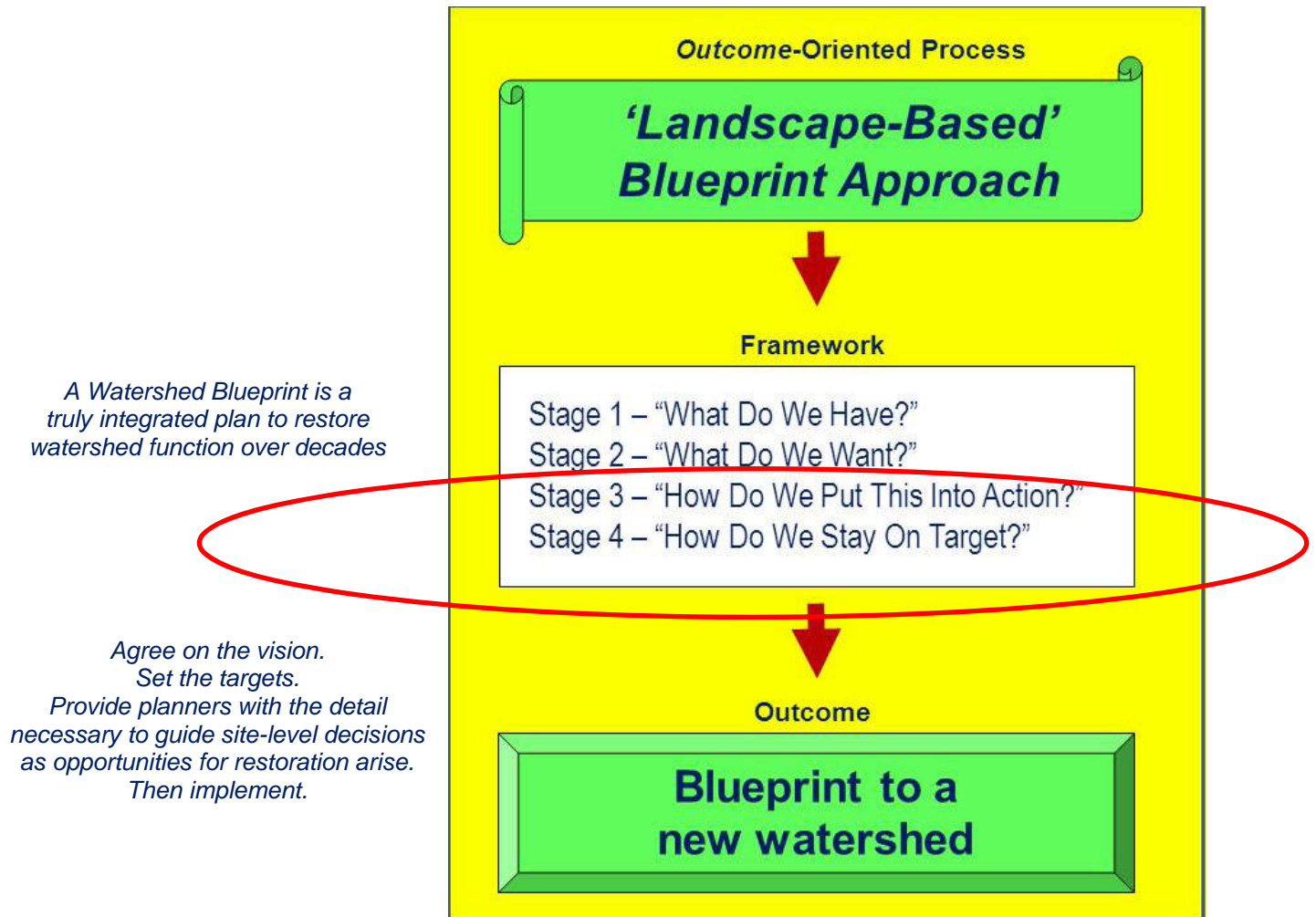
Infrastructure Screening Tool: "Hastings Creek experience has demonstrated the payback and effectiveness of the *Level-of-Service* approach that is embedded in the *Drainage Infrastructure Screening Tool*. It is about treating all users of the system equitably. Now that we have an in-house capability, we are carrying on with GIS database processing so that we will be ready to apply the screening tool to other areas of the District as the need for analysis arises," adds Ariel Estrada.

Opportunities Assessment: "Similarly, we have demonstrated the payback in collaborating with the stewardship community," continues Richard Boase. "We know what to look for and we have a clear picture of where ecological values can be restored. Also, the *Opportunities Assessment* has been the catalyst for inter-municipal collaboration with North Van City on common watersheds. We have a standard methodology for assessment. Each of us can follow-up in our own way."

WBM Express for Landowners: "There is now a regulatory requirement that connects lands use and stream health. How the District implements the *WBM Express* to achieve performance targets for rainfall capture in single family areas needs to be a joint effort of engineering and planning. We are now poised to have the internal conversation about how to do this," concludes Richard Boase.

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Implementation of 'Landscape-Based' Blueprint Approach

Figure 22

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Integration of Engineering, Planning and Environmental Perspectives

“When the Ministry of Environment released the Guidebook in 2002, the objective was to broaden the traditional drainage engineering approach to one that fully integrates hydrologic, planning and environmental concerns,” reflects Peter Law. “By 2010, however, the consistent lack of integration in ISMPs was a catalyst for the ‘ISMP Course Correction’.”

“The ‘course correction’ was initially informed by the Bowker Creek Blueprint and by City of Surrey experience. Now, the regional importance of the Hastings Creek precedent is that we anticipate that it too will influence other local governments in the Georgia Basin and beyond. Those who wish to develop truly integrated solutions can learn from the District’s *outcome-oriented* approach.”

Things Changed with the Hastings Blueprint:

“Before Hastings Creek, the notion of ISMPs seemed too big to tackle; as well, it was disconnected from the District’s priorities,” reflects Susan Haid, Manager of Sustainable Community Development. “Despite our awareness and support for integration, there was still a disconnect between engineers and planners on this initiative, largely due to us having different priorities. We did not realize it at first, but our thinking began to change after we completed the *Official Community Plan Update* and commenced development of implementation plans for five Town Centres.”



“Richard Boase, Ariel Estrada and Karen Rendek are the three individuals in the trenches who drove our change in thinking. Their collaboration on the Lynn Valley Town Centre demonstrates what integration of environmental, engineering and planning perspectives looks like in practice. They showed us that the pathway to an ISMP is through an *integrated project*.”

Land Ethic Drives ‘New Business As Usual’: “As I reflect on my career in local government, there has been a lot of learning that has raised awareness and driven changes in land planning practice. A defining moment for me was the *Salmon in the City Conference* in 1998. It was a memorable event.”

“Salmon in the City changed our understanding of the relationship between land use planning and the consequences for stream health. Fifteen years later, what were new ideas in 1998 are now embedded in how we do business in the District in 2013. We have to reflect that Salmon in the City ‘land ethic’ in going forward with the planning for all five Town Centres.”

We Have the Information to Make Decisions:

“The Hastings Creek Blueprint has helped us figure out the context for the Lynn Valley Town Centre. In the process, we have demonstrated how to move back and forth between scales. We have also learned how to work with imperfect information and work towards a solution. We have enough information to make decisions,” states Susan Haid.

“As I reflect on why the Hastings Creek process is proving successful, it reinforces in my mind the value of *charrettes* to solve problems. You bring together the right people with the right knowledge. You share what you know. You identify what you don’t know. You try things because it is all about getting the right puzzle pieces. You start to fit the pieces together and build integrated solutions.”

Transferability to Other Town Centre Projects:

“Integrated community design is very much about a *sense of place* and, in the case of Lynn Valley Town Centre, weaving nature into the urban fabric. The Hastings Creek tributaries are the skeleton of the system. They are affected and influenced by everything that we do on the land. Hence, it boils down to focussing on areas of change and issues related to ecological threats.”

“The Hastings Blueprint is enabling us to develop principles. These will be transferable to integrated planning for the other town centres. Furthermore, our watershed-based approach means the District can demonstrate that we are fulfilling our ISMP commitments,” concludes Susan Haid.

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View the Watershed through a 'Sustainable Service Delivery' Lens

"Linkages between the Water Balance, watershed and stream health, and infrastructure liability have emerged as important pieces in ensuring 'sustainable drainage infrastructure' in BC, both fiscally and ecologically. The Province's branding for this holistic approach is *Sustainable Service*



Delivery," states Glen Brown, Deputy Inspector of Municipalities.

"Asset management usually commences after something is built. The challenge is to think about what asset management entails BEFORE the asset is built. Cost-avoidance is a driver for this 'new business as usual'. This paradigm-shift starts with land use and watershed-based planning, to determine what services can be provided affordably over time."

An Incentive to Do Business Differently: "Local governments are faced with a financial challenge: the initial capital cost of infrastructure is about 20% of the life-cycle cost; the other 80% largely represents a future unfunded liability. Each year, the funding shortfall grows as infrastructure ages. This fiscal reality creates the incentive to prevent



additional financial impacts," continues Gavin Joyce, the District's General Manager for Engineering, Parks and Facilities.

"While developers and new home purchasers pay the initial capital cost of municipal infrastructure, it is local government that assumes responsibility for the long-term cost associated with operation, maintenance and replacement of infrastructure assets. In addition, local governments bear the entire financial burden to stabilize and restore watercourses impacted by increased rainwater runoff volume AFTER land is developed or redeveloped."

Effective, Affordable and Timely: "The District has ten major watersheds. In fulfilling the regulatory requirement for ISMPs, we must be strategic in how we invest our limited resources. Whatever work we undertake must be completed in an effective, affordable and timely manner. The process cannot be an extended or drawn out one. This means we are stressing the need for, and value of, innovative approaches that lead to integrated solutions and thereby achieve multiple objectives," continues Gavin Joyce.

Re-Building of Core Technical Capability: "The District is a mature municipality, and is facing two types of challenges: an aging infrastructure and redevelopment. Our ability to respond effectively depends on having a core technical capability. In recent years, it has been a District priority to rebuild this capability. We are fortunate that our staff include long-term professionals like Ariel Estrada and Richard Boase to provide leadership."

"These individuals have a long-term corporate history and memory. Furthermore, they have valuable local knowledge. They have lived through changes and events. This provides them with an informed perspective: they know what works and what does not," emphasizes Gavin Joyce.

Implementation of Hastings Creek Blueprint: "The Blueprint work has resulted in a balance of science-based understanding and practicality at the watershed scale. Next, engineering and planning will drill down to the individual site scale to implement changes in land development and infrastructure servicing practices."

"Integration of the Lynn Valley Town Centre and Watershed Blueprint processes has yielded invaluable understanding. We now have the opportunity to put in place the right tools to restore watershed health. The process starts with good policies that cascade down in order to produce action on the ground. We have a plan; there is agreement about the goals; we are developing tools for use by staff, developers and homeowners; and we have a schedule of opportunities. Everything that we need is in play," concludes Gavin Joyce.

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Outreach is a Powerful Tool

The Bowker Creek Initiative has identified seven distinguishing characteristics that capture the essence of lessons learned and experience gained in developing the Bowker Creek Blueprint between 2004 and 2010. This experience can inform implementation of the Hastings Blueprint.

Transferability of Bowker Creek Experience:

“There is a story behind each ‘learning’, and the Bowker Steering Committee is interested in sharing these stories,” states Jody Watson, Chair. She is with the Capital Regional District, the coordinating agency. “These stories are central to the founding of the Bowker Creek Initiative and development of the Blueprint.”



“The top three are: 1) community values drive the Initiative and Blueprint; 2) the coordinator role is crucial; and 3) outreach is a powerful tool.”

“For the first four years, outreach was our focus because we recognized that community buy-in would ultimately engender political and staff support for restoration of the watershed. Community groups and individuals have taken ownership and responsibility for ‘telling the story’ of the Bowker Creek Initiative.”

Generate Awareness of Watershed Vision:

“Currently, we face a communications challenge. The public is unaware that there is a regulatory requirement to develop ISMPs. And the Hastings Creek Streamkeepers is the only community group that is proactively involved and contributing to Blueprint development,” states Susan Haid.

“The consultation process around ‘form options’ for the Lynn Valley Town Centre therefore provides the District with a timely opportunity to connect dots. We have a magic moment when we can generate awareness of how all the puzzle pieces in the Watershed Vision fit together.”

Capture Attention & Engage the Community:

“The Hastings Creek Blueprint provides the tools to tell a story and share information with our residents. This is important because there are so many items competing for people’s time which is a finite resource. We want to be able to share information and engage the community”, continues Julie Pavey, Section Manager for Environmental Sustainability.



“One of the ways to foster more sustainable behavior and the protection of watersheds such as Hastings Creek is to engage residents so that they feel connected personally to their watershed. It is not a matter of only saying what the District can do for the watershed. Rather, it must be all the stakeholders. We have started the process with collaboration with the Streamkeepers who are already engaged.”

“Looking forward, the District has established policies which will enable development review and approval processes to play a key role in implementing the Water Balance Model Express. If we get the big picture right, we can all work together through a series of smaller actions that over time will make the vision for Hastings Creek watershed a reality,” concludes Julie Pavey.

Tell the Story of the Hastings Creek Blueprint:

“It is important that we seize opportunities to tell the Hastings Creek story,” notes Gavin Joyce. “It is also essential that we communicate why and how we are being successful. Then others will leverage what has been accomplished to date by Ariel Estrada, Richard Boase and Karen Rendek. If we all tell the story, then people will become energized in the re-telling.”

“In telling the Hastings Creek story, a key message is that redevelopment of the watershed represents an opportunity to make things better and restore hydrological and ecological functions. Through our commitment to a landscape-based approach, the District can show how to mimic the water balance; improve watershed health; and comply with regulatory requirements (Figure 23),” concludes Susan Haid.

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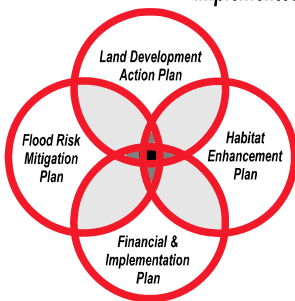
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A Truly Integrated Plan of Action

The Planning PROCESS

Produces a SHARED VISION

Implemented by...



an ACTION PLAN with Four Components

Mimic the WATER BALANCE to Reduce Risk, Improve Watershed Health and Comply with Regulatory Requirements



Water Balance METHODOLOGY integrates Sites with the Watershed and the Stream

Source:

Stormwater Planning: A Guidebook for British Columbia, 2002
(Chapter 3)

Hastings Creek Watershed Blueprint:
A Starting Point for A Truly Integrated Plan of Action

Figure 23