



Waste Management Committee Meeting Date: October 12, 2011

To: Waste Management Committee

From: Albert van Roodselaar, Division Manager
Utility Policy and Planning Department

Date: October 11, 2011

Subject: **Funding Request for Water Balance Model Partnership**

Recommendation:

That the Waste Management Committee supports the Partnership's request for Water Balance Model co-funding and refers the request to the Board for their consideration.

1. PURPOSE

At their meeting of September 14, 2011, the Committee directed staff to obtain input from the Regional Engineers Advisory Committee (REAC) regarding municipal use of the Water Balance Model (WBM) as part of its consideration regarding whether Metro Vancouver should provide the requested \$50,000 co-funding to further develop the model.

2. CONTEXT

The WBM is an on-line stormwater management tool which can be used to assess different options to manage stormwater on-site. Its users are primarily land development consultants and local governments in British Columbia.

A delegation from The Partnership for Water Sustainability in BC (Partnership), a not-for-profit society, requested at the September 14, 2011 WMC meeting a one-time \$50,000 cash contribution from Metro Vancouver to co-fund the development of the Water Balance Express Module as part of the further development of the WBM. The Partnership is seeking from multiple sources a total of \$315,000 in co-funding. Metro Vancouver has not in the past contributed funding to the Partnership. At the September 14th meeting, Directors asked during the discussion whether or not the WBM is needed or used by municipalities. Staff was asked to report back to the Committee at the October meeting with REAC's input.

The Partnership's funding request was presented to REAC for their input at the October 7, 2011 meeting. At their meeting, REAC moved:

That REAC recommend to the Waste Management Committee:

- a) that REAC believes the requested \$50,000 in Metro Vancouver funding for the further development of the Water Balance Express Module will provide sufficient benefit to member municipalities and recommends that the Committee consider supporting the \$50,000 funding request; and
- b) on the basis of this being a one-time contribution with the expectation that the Partnership will pursue sustainable funding from the model's users.

Considering that the co-funding would not be required in place until 2012, GVS&DD Reserves are identified as a possible funding source.

3. ALTERNATIVES

In considering the input from REAC, the Committee could consider the following alternatives:

Alternative 1)

That the Waste Management Committee supports the Partnership's request for Water Balance Model co-funding and refers the request to the Board for their consideration.

Alternative 2)

That the Waste Management Committee does not support the Partnership's request for Water Balance Model co-funding and does not refer the request to the Board.

4. CONCLUSION

The Partnership's strategy is to obtain WBM improvement co-funding from its supporters; supporters include some Metro Vancouver municipal members. Given the input from REAC, co-funding the WBM provides value and scale of economy to Metro Vancouver municipal members and consideration of its co-funding is recommended.



Meeting Date: October 7, 2011

To: Regional Engineers Advisory Committee

From: Albert van Roodselaar, Division Manager, Utility Planning Department

Date: September 26, 2011

Subject: **Funding Request for Water Balance Model Partnership**

Recommendation:

That REAC provide their input to the Waste Management Committee regarding their use of the Water Balance Model and whether or not REAC supports the funding request to further develop the model.

1. PURPOSE

To obtain input from REAC members regarding their municipal use of the Water Balance Model (WBM), and whether or not they believe there is value if Metro Vancouver were to agree to the \$50,000 request for co-funding to further develop the model. This information will be reported to the Waste Management Committee (WMC) to help them decide on this funding request.

2. CONTEXT

The Water Balance Model is an on-line stormwater management tool which can be used to assess different options to manage stormwater on-site. Its users are primarily in British Columbia.

A delegation to the WMC on September 14, 2011 requested a one-time \$50,000 cash contribution from Metro Vancouver to co-fund further development of the Water Balance Model (WBM). The delegation was from The Partnership for Water Sustainability in BC (Partnership), a not-for-profit society formed as the legal entity for the WBM and the WaterBucket website. The spokesperson was their Executive Director Kim Stephens, M.Eng., P.Eng. With respect to the WBM, the Partnership identified \$315,000 needed to upgrade the WBM. At this time, the Partnership does not have the funding in place to meet this target.

Metro Vancouver has not in the past contributed funding to the Partnership. A key question asked by Directors during the discussion was whether or not the WBM is needed or used by municipalities. Staff were asked to report back to the Committee at their October meeting with input from REAC.

Metro Vancouver and the Stormwater Interagency Liaison Group (SILG) have in the past been involved with the WBM:

- Metro Vancouver and SILG are the originators of the WBM
- SILG supported the WBM's initial development
- Ten member municipalities are identified by the proponent as supporting the WBM

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- Metro Vancouver has not provided any ongoing funding for enhancements as the WBM has since been funded via subscription fees and by other sources
- The Partnership asked SILG on November 4, 2010 for funding, but was subsequently advised by staff that SILG is not a funding agency and cannot provide co-funding.
- On September 14, 2011, the Partnership asked for a grant directly from Metro Vancouver via the Waste Management Committee and Board

Based on the September 21, 2011 questionnaire emailed to REAC, three municipalities responded as currently using or planning to use the WBM, and one municipality responded as not using or planning to use the WBM.

3. ALTERNATIVES

Alternative 1: That REAC believes that the requested \$50,000 in Metro Vancouver funding for the further development of the Water Balance Model will provide sufficient benefit to member municipalities and recommends that the WMC consider supporting the funding request.

Alternative 2: That REAC believes that the requested \$50,000 in Metro Vancouver funding of the further development of the Water Balance Model will *not* provide sufficient benefit to member municipalities and *does not* recommend that the WMC consider supporting the funding request.

4. CONCLUSION

A delegation to the WMC on September 14, 2011 requested a one-time \$50,000 cash contribution from Metro Vancouver to co-fund further development of the Water Balance Model (WBM). A key question asked by Directors during the discussion was whether or not the WBM is needed or used by municipalities. Staff were asked to report back to the Committee at their October meeting with input from REAC.

Attachment: Delegation's Report and Presentation to the Waste Management Committee meeting of September 14, 2011, and list of Partners and Subscribers. (5479026)



**the partnership
for water sustainability in bc**

Water Balance Model for British Columbia



Integrating the Site with Watershed and the Stream

Achieve a Lighter 'Water Footprint' Through Effective Use of Green Infrastructure



In the Metro Vancouver / Fraser Valley Region

PARTNERS		PAYING SUBSCRIBERS
	Name of Local Government	Name of Consultant
1	Metro Vancouver	Aplin & Martin
2	City of Surrey	SNC - Lavalin
3	City of Vancouver	Delcan Corporation
4	District of North Vancouver	InterCAD Services
5	District of West Vancouver	Binnie & Associates
6	City of North Vancouver	Citi-West Consulting
7	City of Coquitlam	
8	Corporation of Delta	
9	District of Maple Ridge	
10	Township of Langley	
11	City of New Westminster	
12	City of Abbotsford	
13	District of Mission	
14	City of Chilliwack	

NOTES:

1. **PARTNERS:** The Water Balance Model Inter-Governmental Partnership was formed in July 2002. Founding members are also Charter Members of the *Partnership for Water Sustainability*.
2. **PAYING SUBSCRIBERS:** Currently, the 30-day Trial Subscription provides unlimited access to anyone who wishes to use the WBM. There is no restriction on repeated renewals. The Partnership has observed that a significant number of consultants have done this in lieu of becoming a Paying Subscriber. With release of "Version 2.1" in November, this practice will no longer be permitted.



the partnership for water sustainability in bc

Water Balance Model for British Columbia

DATE: September 2, 2011
TO: Metro Vancouver Waste Management Committee
FROM: Kim A Stephens, M.Eng., P.Eng., Executive Director
SUBJECT: **INTEGRATED LIQUID WASTE & RESOURCE MANAGEMENT PLAN**
Regional Commitments and Minister's Conditions for ISMPs

Purpose of Presentation:

Request a \$50,000 cash contribution by Metro Vancouver. This is a one-time request.

This financial support will help fund the next phase of evolution and enhancement of the **Water Balance Model**. Note: The not-for-profit Partnership is the legal entity for the model.

In turn, this scenario modelling and decision support tool will help Metro Vancouver and members fulfil your ISMP commitments. Note: ISMP is the acronym for *Integrated Stormwater Management Plans*.

The Region Has Committed to Protecting Watershed Health:

The commitments by Metro Vancouver and member municipalities to develop ISMPs and implement on-site rainwater management are spelled out in Clauses 1.1.12, 1.1.20, 1.1.21, 3.4.7 and 3.5.9 of the region's *Integrated Liquid Waste & Resource Management Plan*.

When he approved the Plan in May, the Minister of Environment imposed additional requirements to protect watershed and stream health, for example: the region is required to develop a coordinated program to monitor, assess and report on implementation and effectiveness of ISMPs.

In November, the Partnership is piloting a 2-day course for local government practitioners on how to implement the '**ISMP Course Correction**' in Metro Vancouver and develop '**Watershed Blueprints**'. Note: The course theme is "*Achieve More With Less*" because municipalities have many competing priorities and everyone is challenged to do more with less, and get it done.

Water Balance Model Links Built and Natural Environments:

Originally developed to meet the ISMP needs of Metro Vancouver municipalities, use of the Water Balance Model informs decisions about a community's 'water footprint'. Launched by an inter-governmental partnership at UBCM in 2003, this web-based tool is unique:

- bridges engineering and planning;
- links development sites to the stream and the watershed; and
- enables science-based performance targets to be established.

The Water Balance Model helps local governments create a vision of the watershed future. It enables planners and engineers to design communities so that they have no net impact on stream environments.



Vision for the Water Balance Model Express:

While it has a Metro Vancouver genesis, the Water Balance Model has become “British Columbia’s tool”. Also, use of the Water Balance Model extends beyond the boundaries of British Columbia.

Ongoing evolution and enhancement of the Water Balance Model is driven by the community of users and funded by government. Since 2002, over \$1.5 million in cash and in-kind contributions have been invested in development to expand the capabilities of the tool, for example: federal financial support provided via the Regional Adaptation Collaboratives program has made it possible to develop “Version 2.1”.

Release of **Version 2.1** on a new platform complete with a rebuilt website in November will provide an operating environment that supports user communities that range from highly experienced experts to enthusiastic newcomers. Three launch buttons will correspond to three common investigation scenarios:

- WBM for the Watershed** – this is the scale where watershed behaviour and stream erosion prevention is analyzed for achievability of performance targets and protection of stream health.
- WBM for the Neighbourhood** – this is the scale where the combined performance of on-lot rainfall capture measures and community detention ponds is analyzed for effectiveness.
- WBM Express for Homeowners** – this is the single family lot scale, and is especially relevant to house replacement scenarios that create opportunities to ‘do it right’ the second time.

The \$50,000 that we are requesting from Metro Vancouver will enable the Partnership to bring the vision for the WBM Express to fruition: homeowners will be able to type in their address, access a version of the WBM that has pre-set values (for climate, land use), select and apply from a suite of source controls for rainfall capture, run scenarios, and print a report. This capability will help municipal front counter staff.

The ultimate target actually audience goes well beyond homeowners. The Partnership sees the WBM Express as a vehicle to connect with builders, developers, consultants, real estate agents and students/educators. This will help municipalities fulfil Clauses 1.1.20/21 for on-site rainwater management.

The WBM Express will open the door to an array of educational opportunities. It will be a resource for developers and others to help the public understand the effect of their choices and decisions on the natural environment. It could be incorporated into the curricula for high school and post-secondary institutions. This will help municipalities fulfil Clause 3.4.7 for ISMPs and Clause 3.5.9 for reporting out.

The total budget for the next phase of work in 2012 is \$315,000.

About the Partnership:

Incorporated as a not-for-profit society, the Partnership had its genesis in a Metro Vancouver technical committee (i.e. SILG). It is the legal entity for the Water Balance Model and the Water Bucket website.

The Partnership is the hub for a provincial ‘convening for action’ network in the local government setting. The majority of Metro Vancouver municipalities are charter members.

The Partnership was responsible for *Beyond the Guidebook 2010: Implementing a New Culture for Urban Watershed Protection and Restoration in British Columbia*. This guidance document tells the stories of the champions in local government who are leading change and implementing green infrastructure.

Links to Online Resources:

- www.waterbucket.ca and www.waterbalance.ca and <http://watersustainabilitybc.blogspot.com/>
- Peer-Based Learning Will Help Local Governments Implement ‘Watershed Blueprints’ in BC <http://www.waterbucket.ca/cfa/sites/wbccfa/documents/media/526.pdf>

'Water Balance Model Express'
- a key tool for the region and members to meet your ISMP regulatory commitments!



Actions required of local government are spelled out in the *Integrated Liquid Waste & Management Plan (ILWRMP)* under these five Action Numbers:

- 1.1.12
- 1.1.20
- 1.1.21
- 3.4.7
- 3.5.9

Additional actions required of local government are spelled out in the Minister of Environment's letter of plan approval dated May 30, 2011

KEY MESSAGES:

The region and members have committed to protecting stream and watershed health. This will be achieved by managing rain **where it falls**.

We have the TOOLS and EXPERIENCE to do this. The region is at a tipping point.

The Partnership is asking Metro Vancouver for a **\$50,000** contribution to further improve the *Water Balance Model* and thereby address a 'missing link'

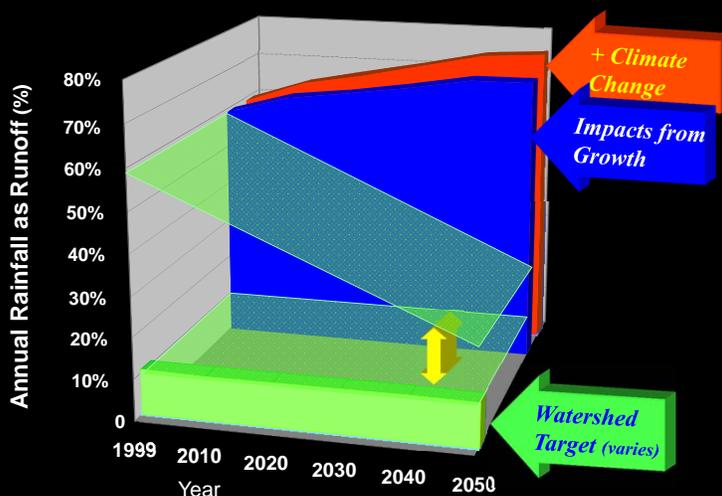
Stream health depends on ALL properties in a watershed



The 'missing link' has been the single family detached dwelling

Genesis for Water Balance Model in 2000:

Demonstrate that we could make a difference at a watershed scale, over time, one property at a time





Returning Users

Username

Password

Is this your first visit to the model?
 You will have to register in order to create model scenarios. There is only one option during our public beta testing period:

1. Register a (free) "trial" account. As a trial account registrant you are free to access all model features, however your account and any scenarios you've created **will be deleted 7 days** from the time you register.

Following the end of the beta period, scenarios created by subscribers or members of subscribing groups will remain in the database permanently.

www.waterbalance.ca

With release of "Version 2.1" in November, we are incorporating all the lessons we have learned to date...



The Water Balance Model integrates the Site with the Watershed and the Stream...

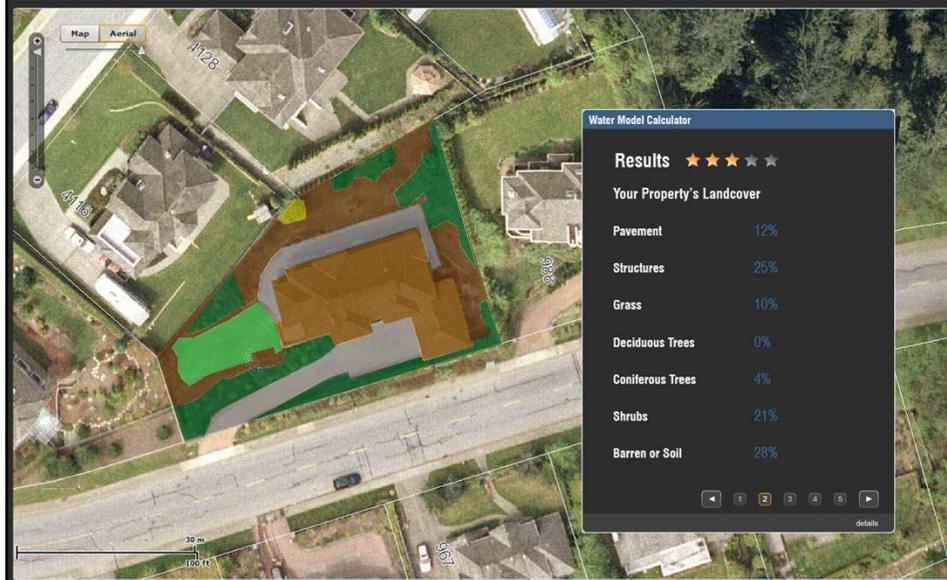
CANADA

User Guide | 1. Getting Started | 2. Background Science

Addition of the *WBM Express* to the toolkit will help municipal front counter staff show homeowners **HOW** to reduce their 'Water Footprint'



The *WBM Express* will help raise awareness and drive behaviour change from the homeowner side



And in conclusion.....

- The Partnership is a not-for-profit legal entity
- The WBM was developed by local governments to:
 - manage rain where it falls
 - protect stream and watershed health
 - help municipalities fulfil senior government requirements
 - drive changes in behaviour
- The WBM is web-based, and unique in the world
- Budget for WBM Express platform is \$315,000
- **Metro Vancouver financial support (\$50,000) will trigger NEW federal funding for next leap forward!**