



**To:** Planning Committee  
**From:** Gavin Woo, P. Eng.  
 Acting Director, Building Approvals  
**Re:** Solar Hot Water Ready Regulation

**Date:** July 5, 2010  
**File:**

**Staff Recommendation**

That the BC Ministry of Housing and Social Development be advised that the City of Richmond wishes to be included in the Solar Hot Water Ready Regulation, thereby requiring all new single-family dwellings in Richmond to be constructed "Solar Hot Water Ready".

Gavin Woo, P. Eng.  
 Acting Director, Building Approvals

FOR ORIGINATING DEPARTMENT USE ONLY			
<b>ROUTED TO:</b>		<b>CONCURRENCE</b>	<b>CONCURRENCE OF GENERAL MANAGER</b>
Sustainability Unit		Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
Development Applications		Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
<b>REVIEWED BY TAG</b>	YES	NO	<b>REVIEWED BY CAO</b>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

## Staff Report

### Origin

The Building and Safety Standards, Ministry of Housing and Social Development is proposing a “Solar Hot Water Ready Regulation”. This regulation will allow local government to require new single-family homes to be constructed “Solar Hot Water Ready”. The original deadline for inclusion was June 1, 2010. The Province has extended this deadline to August 1, 2010.

A letter from the Province requesting a response from local government is provided as **Attachment 1**.

### Background

The Province of BC has developed a new “Solar Hot Water Ready Regulation” in partnership with Solar BC and through consultation with the development industry. This new regulation will only apply in local government jurisdictions that request inclusion. The regulation requires that all new construction of residential occupancy buildings containing not more than one dwelling unit, and excluding secondary suites be constructed with provisions in place to accommodate the future installation of a solar hot water system for water heating.

As a typical single family dwelling can be in use for half a century or more, some allowances for the adoption of future technologies is prudent. It is expected that solar hot water systems will be undergoing widespread adoption in the coming years in the form of hot water systems roof mounted systems designed to preheat the dwelling’s hot water. In order to facilitate the simple addition of such systems to a dwelling at a future date, the Province’s “Solar Hot Water Ready Regulation” would require that a conduit(s) be provided, extending from the dwelling’s service room to the attic space and that the roof load be designed to accommodate an additional 0.2kpa of dead load. When desired in the future, homeowners would be able to utilize the already-in-place conduit to easily install the additional piping and cabling required by the systems they choose to install in conjunction with the solar collectors on the roof. This new regulation recognizes that the infrastructure for this system must be put in place at the time of construction in order to mitigate future cost barriers and ease the adoption of emerging technologies by the homeowner at a later date.

### Analysis

The Building and Safety Policy Branch created the “Solar Hot Water Ready Regulation” with the input of solar industry experts, building officials, and Natural Resources Canada. Consideration was given to create a regulation that is initially cost-effective, while still maximizing the potential to realize future potential cost savings. However, there is still the initial cost that will be added to the construction of all single family dwellings. Studies have indicated that the additional costs would be in the range of \$200 to \$300 per home.

Staff have consulted with two local builder representatives who then discussed this issue amongst their broader small-builder group. They in general, are in favour of this regulation as the costs are minimal, and they see it as an opportunity for an additional selling feature in their homes as well as promoting future sustainability.

The Builders also acknowledged that the City has continued to streamline the building permit process, which has provided them with cost savings that will offset their cost of the “Solar Hot Water Ready Regulation”.

There are three options available:

Option 1 – Status quo.

Option 2 – Await Provincial Government adoption of the regulation and making it mandatory in the BC Building Code.

Option 3 – Advise the Province that the City of Richmond be included in the municipalities adopting the “Solar Hot Water Ready Regulation”.

Staff recommend Option 3. The regulation provides for all new single-family dwellings to be constructed with “Solar Hot Water Ready” infrastructure in place to adopt future technologies working towards reducing greenhouse gases and increasing use of local renewable energy sources

#### **Financial Impact**

None.

#### **Conclusion**

The application of the “Solar Hot Water Ready Regulation” in Richmond is relatively low-cost initiative that will help support achieving the City’s community wide greenhouse gas reduction targets. The regulation will provide residents with homes that are ready to have a system installed that reduces the use of non-renewable energy sources, reduces greenhouse gas emissions and generates renewable energy locally.



Gavin Woo, P. Eng.  
Acting Director, Building Approvals  
(604-276-4113)

attach.(1)



Ref: 161011

To: All Local Governments

April 12, 2010

RE: SOLAR HOT WATER READY REGULATION

Dear Local Government Official:

The Province of BC has developed a new 'Solar Hot Water Ready Regulation' in partnership with Solar BC and in consultation with the development industry. This new regulation will only apply in local government jurisdictions that request inclusion. Where the regulation is applicable, all new single family homes will be built to accommodate future installation of a solar hot water system for water heating.

If your local government wishes to be included in the Solar Hot Water Ready Regulation, please **respond no later than June 1, 2010** with a resolution from your Council or Board stating your wish to be included in the list of local government jurisdictions that will be 'Solar Hot Water Ready'.

Once all local governments have responded, the new regulation will become effective in Summer/Fall of 2010. The resolution may be sent to:

Building and Safety Standards Branch  
Ministry of Housing and Social Development  
PO Box 9844 STN PROV GOVT  
Victoria BC V8W 9T2  
Email: [Building.Safety@gov.bc.ca](mailto:Building.Safety@gov.bc.ca)  
Tel: 250 387 3133 // Fax: 250 387-8164

Thank you for your interest in this important issue. For further information, please feel free to contact Jun'ichi Jensen at 250 356-1928.

Yours truly,

A handwritten signature in black ink, appearing to read "Jeff Vasey".

Jeff Vasey  
Executive Director  
Building and Safety Policy Branch

Attachment

## SOLAR HOT WATER READY REGULATION DRAFT

### Definitions

- 1 In this regulation, the terms in *italics* have the same meaning as in the 2006 British Columbia Building Code.

### Application

- 2 This regulation is applicable in the following local government jurisdictions:
  - (a)
  - (b)

### Solar collectors for a solar domestic hot water system

- 3 (1) Subject to subsection (2), a conduit run and an area of not less than 7.29 square metres designated for future installation of solar collectors for a solar domestic hot water system must be incorporated in new construction of *buildings of residential occupancy* containing not more than one *dwelling unit*, excluding *secondary suites*.
  - (2) Subsection (1) does not apply where it can be shown that conditions exist that do not accommodate effective use of solar hot water heating.

### Structural Requirements

- 4 (1) Structural members of areas referred to in Section 3 (1) must be designed to accommodate the anticipated load, but no less than an additional load of 0.2 kpa in addition to design loads required by the British Columbia Building Code.

### Conduit runs

- 5 (1) At least one straight, continuous, conduit run must be provided that extends from the area directly adjacent to the *building's primary service water heater* to
  - (a) an accessible attic space adjacent to the roof area designated for installation of solar collectors for a solar domestic hot water system,
  - (b) the roof area designated for installation of solar collectors for a solar domestic hot water system, or
  - (c) the exterior wall surface directly adjacent to the area designated for installation of solar collectors for a solar domestic hot water system.
- (2) A conduit described in subsection (1) must
  - (a) be accessible at both ends,
  - (b) be capped or sealed at both ends to prevent water ingress and air leakage,
  - (c) be identified by markings that are permanent, distinct and easily recognized, and
  - (d) have a minimum inside diameter of 50mm if two conduit runs are provided, or 100mm if only one conduit run is provided.