Circular Letter No.: 2024.193

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Effective Date: 22 March 2024

WU 5 Design for Water Supply Management

1. The Water Supplies Department (WSD) has launched "Quality Water Supply Scheme for Buildings – Fresh Water (Management System)" (QMS) and promoted the property owners and property management agents in developing and implementing a set of risk-management based guidelines and templates for the Water Safety Plan for Buildings (WSPB).

2. To promote design considerations on the long-term operation and maintenance needs of the plumbing system and facilitate the formulation and implementation of WSPB by future owners' organisations and management agents, the Technical Circular Letter hereby announces an update to the credit content for **WU 5 Design for Water Supply Management** under BEAM Plus NB v2.0.

3. The aim of the update is to introduce water safety control measures in the design and construction of potable water supply system to the BONUS credit requirements of WU 5 and rename the credit title of WU 5 as **Design for Water Supply Management**.

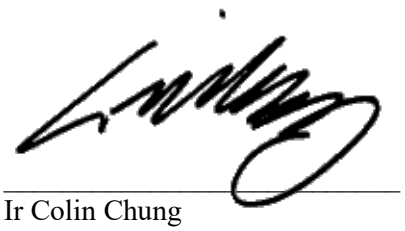
4. The requirements given in Section 1.3 and Section 6.1 of the BEAM Plus NB v2.0 Manual (2023 Edition) are hereby updated with the enclosures in Annex A and Annex B of this Technical Circular Letter respectively.

    - Pages Annex A-1 to A-4 shall replace all contents in Section 1.3 Summary of Credits specified in Pages 32 to 35 of the Manual; and

    - Pages Annex B-1 to B-5 shall replace all contents in Section 6.1 on WU 5 specified in Pages 317 to 318 of the Manual.

5. This Technical Circular Letter is in effect for all projects submitted on or after the effective date.

6. For the ease of reading, the credit content in Pages Annex B-1 to B-5 of this Technical Circular Letter has incorporated the published FAQ #209 for WU 5. The Applicant shall observe the respective FAQ for the issue date.



Ir Colin Chung
Chairperson of Standards Sub-committee

Annex A:
Updated Credit Content for Section 1.3 under BEAM Plus NB v2.0

	Section	Credit Requirement	Extent of Application	Credit
WU 5	Design for Water Supply Management	(a) Twin Tank System 1 credit for providing twin tank for potable water supply system and flushing water supply system. (b) Water Safety Control Measures 1 BONUS credit for demonstrating the application of water safety control measures in the potable water supply system.	All buildings (including buildings with centralised/ shared tank that is outside the assessment boundary) for part (a). All buildings for part (b)	1 + 1 BONUS
WU 6	Cooling Tower Water	1 credit for achieving 7 or more cycles of concentration with acceptable water quality.	All buildings equipped with cooling tower using potable water as makeup water	1
WU 7	Effluent Discharge to Foul Sewers	1 credit for demonstrating a reduction in annual sewage volumes by 20% or more.	All buildings	1
WU 8	Water Harvesting and Recycling	(a) Harvested Rainwater 1 credit for harvesting of rainwater that achieve a reduction of 5% or more in the consumption of potable water. (b) Recycled Grey Water 1 credit for recycled grey water that achieve a reduction of 5% or more in the consumption of potable water. (c) Exemplary Water Recycling 1 BONUS credit where harvested rainwater, recycled grey water or a combination of both leads to a reduction of 10% or more in the consumption of potable water.	All buildings	2 + 1 BONUS
7	**Health and Wellbeing (HWB)**			**19 + 10 BONUS**
HWB P1	Minimum Ventilation Performance	(a) Measure outdoor air pollutants on- site prior to building design to understand the site conditions.	All buildings	Required

	Section	Credit Requirement	Extent of Application	Credit
		(b) Demonstrate the project is in compliance with the minimum ventilation quantity with respective to its designed ventilation mode.		
HWB 1	Healthy and Active Living	1 BONUS credit for scoring at least 3 items of all applicable design measures for healthy and active living.	All buildings	1 BONUS
HWB 2	Biophilic Design	1 BONUS credit for demonstrating visual connection with nature and/ or biophilic design features at an assessment space with Visual Quality Score of 2 or above. 1 additional BONUS credit for demonstrating visual connection with nature and/ or biophilic design features at an assessment space with Visual Quality Score of 3 or above.	All Buildings	1 BONUS + 1 additional BONUS
HWB 3	Inclusive Design	(a) Universal Accessibility 1 credit for providing at least ten (10) applicable enhanced provisions as stipulated in the "Recommended Design Requirements" of BFA 2008. (b) Weather protection and family friendly facilities 1 BONUS credit for providing prescribed weather protection and at least two (2) family friendly facilities.	All Buildings	1 + 1 BONUS
HWB 4	Enhanced Ventilation	(a) Fresh Air Provision **1.1. <u>Fresh air provision in normally occupied spaces</u>** 1 credit for demonstrating that all normally occupied spaces in the building are provided with increased ventilation. **1.2. <u>Fresh air provision in not normally occupied spaces</u>** 1 credit for demonstrating that all not normally occupied spaces in the building are provided with adequate ventilation. **1.3. <u>On-site measurements</u>** 1 additional BONUS credit for conducting on-site measurements to verify the ventilation performance for all normally occupied spaces.	All buildings	3 + 1 additional BONUS

	Section	Credit Requirement	Extent of Application	Credit
		(b) Exhaust air 1 credit for the provision of an effective ventilation system for spaces where significant indoor pollution sources are generated.		
HWB 5	Waste Odour Control	1 credit for installing odour sensor at all discharge points from enclosed waste disposal and recycling spaces.	All buildings with RS&MRC(s) and/or RS&MRR(s)	1
HWB 6	Acoustics and Noise	(a) Room Acoustics 1. 1 credit for demonstrating that mid- frequency reverberation time in applicable spaces of landlord's-controlled area meets the prescribed criteria of different types of premises. 2. 1 credit for demonstrating that mid- frequency reverberation time in applicable rooms of non-landlord meets the prescribed criteria of different types of premises (b) Noise Isolation 1. 1 credit for demonstrating airborne noise isolation between, spaces fulfills the prescribed criteria. 2. 1 BONUS credit for demonstrating impact noise isolation between floors fulfills the prescribed criteria. (c) Background Noise 1 credit for demonstrating background noise levels within the prescribed criteria (including traffic noise and external building services equipment that are within the project boundary).	All buildings with the spaces specified in the assessment criteria, with spaces where speech intelligibility is important, and without rooms of a special acoustical nature for parts (a) (1), (b) (1) and (c) All buildings with tenanted spaces of the type(s) of premises specified in the assessment criteria, with spaces where speech intelligibility is important, and without rooms of a special acoustical nature for part (a) (2) Residential buildings for part (b) (2)	4 + 1 BONUS

	Section	Credit Requirement	Extent of Application	Credit
HWB 7	Indoor Vibration	1 credit for demonstrating vibration levels not exceeding the prescribed criteria.	All buildings with normally occupied spaces	1
HWB 8	Indoor Air Quality	(a) Indoor air quality in occupied spaces **Path 1** 2 credits for demonstrating compliance with the prescribed limits for Carbon monoxide (CO), Nitrogen dioxide (NO_2), Ozone (O_3), Carbon dioxide (CO_2), Respirable suspended particulates (PM_{10}), Total volatile organic compounds (TVOCs), Formaldehyde (HCHO) and Radon (Rn) in the sampled occupied spaces. 1 credit for demonstrating compliance with the prescribed limits for Airborne bacteria and conduct the Mould assessment in the sampled occupied spaces. **Path 2** 3 credits for submitting a valid IAQ Certification Scheme (Good Class) certificate issued by the Environmental Protection Department (EPD) covering the whole building. 3 credits and 1 additional BONUS credit for submitting a valid IAQ Certification Scheme (Excellent Class) certificate issued by the Environmental Protection Department (EPD) covering the whole building. (b) Air Quality in Car Park 1 credit for demonstrating compliance with the pollutant concentration limits specified in ProPECC PN 2/96.	All buildings for part (a) All buildings with enclosed and/ or semi-enclosed car park of areas more than 10% of Construction Floor Area for part (b)	4 + 1 additional BONUS
HWB 9	Thermal Comfort	(a) Thermal Comfort Analysis 2 credits for conducting thermal comfort analysis and demonstrate that normally occupied spaces can fulfill the thermal comfort requirements. (b) Thermal Comfort Measurement 1 additional BONUS credit for conducting on-site measurements to verify the thermal comfort performance.	All buildings	2 + 1 additional BONUS

Annex B:
Updated Credit Content for Section 6.1 under BEAM Plus NB v2.0

6 Water Use **6.1 Water Quality and Conservation**

WU 5 Design for Water Supply Management

Extent of Application

All buildings (including buildings with centralised/ shared tank that is outside the assessment boundary) for part (a)

All buildings for part (b)

Objective

To reduce the water wastage during the maintenance or cleaning of the plumbing system (e.g. water tanks) and promote design considerations on the long-term operation and maintenance needs of the plumbing system, providing an uninterrupted potable and flushing water supply to building users and facilitating the formulation and implementation of Water Safety Plan for Buildings (WSPB) by future owners' organizations and management agents.

Credits Attainable

1 + 1 BONUS

Credit Requirement

(a) Twin Tank System

1 credit for providing twin tank for potable water supply system and flushing water supply system.

(b) Water Safety Control Measures

1 BONUS credit for demonstrating the application of water safety control measures in the potable water supply system.

Assessment

(a) Twin Tank System

1. Twin tank shall be installed for potable and flushing supply water systems, which shall include:
   - All main storage tanks (regardless of capacity); and
   - Other tanks that directly supply potable/ flushing water to the points of use (e.g. transfer tanks and intermediate tanks) with capacity of 5,000 litres or above.
2. Two-compartment tank and two separate identical tanks are accepted as twin tank.
3. Each compartment/ tank of the twin tank shall be equipped with:
   3.1. A duplicated set of inlet, outlet and associated overflow and drainage pipeworks;
   3.2. A stop valve at the inlet of each tank compartment to ensure that water will not get into the compartment when it is being cleaned; and
   3.3. An automatic pump control switch at the downstream side of each sump pump to protect the up-feed system particularly when the stop valve for the tank compartment is closed.
4. For item 3.3, if other alternatives such as pressure switch and manual approach are adopted, the following supporting information shall be provided:
   4.1. Justification of the difficulty/ constraint for the project to provide an automatic pump control switch;

4.2. Details of an alternative proposal; and

4.3. Evidence such as design drawings, undertaking letter from the project owner/ developer, operation manual of the project, etc.

to demonstrate how the proposed alternative could serve the same function as an automatic pump control switch to protect the up-feed system (i.e. up-feed pumps) when the stop valve for the tank compartment is closed during cleansing.

(b) Water Safety Control Measures

1. Provide a compliance summary with explanations and supporting documents (e.g. contract specification, drawings, material approval record with information, etc.) demonstrating the application of all the applicable water safety control measures and providing justifications on all the achieved or not applicable sub-items of the following:

1.1. Prevent all dead-legs in the potable plumbing system and stagnation of water leading to stale water affecting the water quality. For the unavoidable dead-legs, justification should be given with measures for draining the dead ends.

1.2. Use of low metal leaching plumbing material [1] to avoid excessive leaching of hazardous metals (e.g. lead) to the potable water plumbing system.

1.3. Clearly differentiate potable water pipes and tanks using labels/ colours (e.g. blue).

1.4. Extra measures for enhancing drinking water safety:

(a) For indoor water tank, suitable measures and safe access should be provided to facilitate easy inspection and cleansing of potable water tank(s), by providing either:

(i) Water tank with side access with hinges;

(ii) Water tank with the cover using lightweight material(s) such as Glass Reinforced Plastic (GRP), aluminium, and stainless steel; or

(iii) Headroom of 2m for top access of water tank if the cover exceeding 10kg in weight.

For outdoor water tank(s), fixed permanent maintenance ladder with safety hoop (for ladder height> 3m) should be provided. If the difference between 2 adjacent levels at the outdoor water tank(s) exceeds 600mm, a protective barrier must be provided at the higher level.

(b) Drainage pipe and other water piping system shall not be placed above any potable water tanks to avoid unnecessary contamination.

1.5. Suitable drainage system should be designed and constructed for draining the effluent during cleansing of sump and roof potable water tank.

In addition, for the outdoor water tank(s), rainwater drain should be provided at the top of exposed roof tank to drain surface runoff.

1 Water Supplies Department. 'General Acceptance*' ('GA*') Scheme (Voluntary) promotes the adoption of low metal leaching rate metallic plumbing products in fresh water inside service system. GA plumbing products (excluding products for the non-potable fresh water system, flushing water system and fire service system) that fulfil the requirements of low metal leaching rate on the metallic surfaces in direct contact with fresh water can be applied for classification as low metal leaching rate metallic plumbing products under the GA* Scheme. Those include pipes and pipe fittings (stainless steel, copper or copper alloy), valves, strainers, and expansion / settlement / flexible. http://www.wsd.gov.hk/filemanager/common/licensed_plumbers/ga_star_scheme_e.pdf. [Accessed February 2024].

After acceptance of the application by the WSD, the GA* information of the GA product (considered as low metal leaching plumbing material) will be updated to the Directory Search of the WSD website for GA products. [ONLINE]. Available at: http://ga.wsd.gov.hk/en. [Accessed February 2024].

1.6. Incorporate in the operation and maintenance manual for the potable water plumbing system with:

(a) Enclosure of the "Guidelines for Drinking Water Safety Plans for Buildings in Hong Kong" and "Drinking Water Safety Plan Template for General Buildings in Hong Kong" [2] to encourage future property management agent (PMA) and owners' organization to adopt WSPB to maintain the potable water plumbing system and join WSD's "Quality Water Supply Scheme for Buildings – Fresh Water (Management System)" (QMS);

(b) Frequency for inspection and cleansing of potable water tanks with reference to the WSD guidelines [3, 4, 5] taking into consideration of the occupancy status and proposed schedule for regular inspection and maintenance of different components of potable water plumbing system; and

(c) Labelling/ colour system for the potable water plumbing system.

Submittals

(a) Twin Tank System

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*		**PA**	**CA**	**FA/ RFA**
WU_05a_00	BEAM Plus NB submission template for WU 5	✓	✓	✓
WU_05a_01	Plumbing schematic drawing(s) and plumbing layout drawings, highlighting the provisions of the twin tank system for potable water and flushing water systems, and the associated installations as stated in items 3.1 to 3.3 in the assessment criteria	✓	✓	✓
WU_05a_02	Supporting information for the adopted alternative other than the automatic pump control switch as stated in items 4.1 to 4.3 in the assessment criteria (if applicable)	✓	✓	✓

2 Water Supplies Department. Water Safety Plan for Buildings [ONLINE]. Available at: https://www.wsd.gov.hk/en/water-safety/water-safety-in-buildings/index.html. [Accessed February 2024].

3 Water Supplies Department. Guidelines for Cleansing of Fresh Water Tanks [ONLINE]. Available at: https://www.wsd.gov.hk/filemanager/en/share/pdf/wwo497.pdf. [Accessed February 2024].

4 Water Supplies Department. Inspection and Flushing of Inside Service in New Buildings and Flats [ONLINE]. Available at: https://www.wsd.gov.hk/filemanager/common/pdf/Statistics/PR_Publications/WSD%20Leaflet%20Flushing%20inspection_EN.pdf. [Accessed February 2024].

5 Water Supplies Department. Fresh Water Plumbing Maintenance Guide (April 2023) [ONLINE]. Available at: https://www.wsd.gov.hk/filemanager/en/share/pdf/FWPMGe.pdf. [Accessed February 2024].

(b) Water Safety Control Measures

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*		**PA**	**CA**	**FA/ RFA**
WU_05b_00	BEAM Plus NB submission template for WU 5	✓	✓	✓
WU_05b_01	A compliance summary with explanations demonstrating the application of all the prescribed water safety control measures and providing justifications on all the achieved or not applicable sub-items	✓	✓	✓
WU_05b_02	Supporting information for items 1.1, 1.4(a) & 1.5: Contract specification, and drawings with indications, etc. [or] Shop drawings with indications, and supporting information showing the adopted material for tank cover (if item 1.4(a)(ii)/ (iii) is attempted), etc. [or] As-fitted drawings with indications, and supporting information showing the installed material for tank cover (if item 1.4(a)(ii)/ (iii) is attempted), etc.	✓ - -	- ✓ -	- - ✓
WU_05b_03	Supporting information for item 1.2: Contract specification specifying the relevant requirement [or] Material approval record with plumbing materials' information showing the adopted plumbing materials are classified as low metal leaching rate metallic plumbing products under the WSD's GA* Scheme, etc. [or] Material approval record with plumbing materials' information showing the installed plumbing materials are classified as low metal leaching rate metallic plumbing products under the WSD's GA* Scheme, etc.	✓ - -	- ✓ -	- - ✓

WU_05b_04	Supporting information for items 1.3 & 1.4(b): Contract specification, and drawings (e.g. general notes, installation details) with indications, etc. [or] Shop drawings (e.g. general notes, installation details) with indications, etc. [or] As-fitted drawings (e.g. general notes, installation details) with indications, etc.	✓ -	- ✓	- -
WU_05b_05	Supporting information for item 1.6: Contract specification specifying the relevant requirement [or] Undertaking letter confirming the provisions of Operation and Maintenance Manual with the required items (a) to (c)	✓ -	- ✓	- ✓

Remarks

(a) Additional Information

Quality Water Supply Scheme for Buildings – Fresh Water (Management System) [ONLINE]. Available at: https://www.wsd.gov.hk/en/water-safety/fresh-water-management-system-/index.html [Accessed February 2024].

The Water Supplies Department (WSD) has launched “Quality Water Supply Scheme for Buildings – Fresh Water (Management System)” (QMS) and promoted the property owners and property management agents in developing and implementing a set of risk-management based guidelines and templates for the Water Safety Plan for Buildings (WSPB).

Property owners and property management agents who have engaged a Qualified Persons trained in WSPB and passed assessments to develop and implement WSPB according to “Guidelines for Drinking Water Safety Plans for Buildings in Hong Kong” and WSP templates can apply QMS.

(b) Related Credit

None

