

Greenbuildingindex:  
Practice Notes for the  
Quantity Surveyors

Greenbuildingindex(GBI)  
Certification Submissions  
Documentation  
&  
Verifying and Certifying GBI Green  
Incremental Cost for Tax Incentives

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# Practice Notes for the Quantity Surveyors: A Guideline

## Introduction

The purpose of the **greenbuildingindex (GBI) Certification : Practice Notes for Quantity Surveyors** is to establish a guidance document to assist Quantity Surveyors (QS) in their submissions for GBI certification and Verifying and Certifying greenbuildingindex (GBI) Green Incremental Cost for Tax Incentives.

This document is however only indicative and is neither an exhaustive nor definitive reference to the GBI rating tool.

Part I of this guide will cover the role of the project QS the submission for GBI certification. The guidance document covers only those GBI Assessment Criteria where the QS is directly involved with as per the GBI Design Reference Guides.

Part II of this guide will cover the role of the project QS in verifying and certifying the GBI Green Incremental Cost for Tax Incentives and a sample submission is provided as a guide.

In the overall GBI Implementation process, often the QS's involvement is not only limited to the Assessment Criteria highlighted in the GBI Design Reference Guides. The QS is often indirectly involved in matters related to cost and tender/contract documentation relating to green requirements.

For instance the QS is, to provide the parameter of the approved conceptual design in terms of quantities, rates and budget allocated so as to allow the greenbuildingindex Facilitator (GBIF) to work out the cost premium to achieve the different rating grades; providing alternative costing for the suggested green items; in cost administration adopting the green requirements in the tender/contract documents; and etc.

### Abbreviations:-

GBI – greenbuildingindex

GBIF – greenbuildingindex Facilitator

DA – Design Assessment

CVA – Completion & Verification Assessment

MEP Engineer – Mechanical, Electrical & Plumbing Engineer

QS – Quantity Surveyor

## PART I: GBI Certification: Requirements & Roles

*Note: The guidance document covers only those GBI Assessment Criteria where the QS is directly involved with as per the GBI Design Reference Guides.*

### Criteria: **Materials and Resources (MR)**

Category	Materials Re-use and Selection	
<b>General requirements</b>	<p>To encourage designers to specify the usage of reused building materials in new buildings.</p> <p>Reuse building materials and products to reduce demand for virgin materials and reduce creation of waste. This serves to reduce environmental impact associated with extraction and processing of virgin resources. Integrate building design and its buildability with selection of reused building materials, taking into account their embodied energy, durability, carbon content and life cycle costs.</p>	
<b>Stage: Design Assessment</b>		
Submission Requirements	Role and Responsibilities	Documentations
Provide a narrative describing the materials reuse strategy for the project.	Generally, the designers (Architects, Engineers, Landscape Architects, Interior Designers, etc) will decide on incorporating the reused & salvaged materials into their design and provide the write up or listing.	The concept and listing from designers for GBIF to compile.
List of anticipated reused or salvaged materials for the project.		
Cost of each proposed reused or salvaged materials.	QS to establish a cost for the items selected by designers.	Cost advice from QS/ MEP engineers/ Landscape Architect. Sample as attached in Appendix "AA".
Cost of each reused or salvaged materials either based on actual cost paid or replacement value of the material.	MEP engineers & Landscape Architect to establish their respective cost for the items selected.  The GBIF to compile complete costing from all consultants and tally up the total cost.	
Establish the estimated Total Cost of the materials in the project.	QS to provide the total project construction cost [Cost Plan (prior to Award)/Contract Sum (if Awarded)] to the GBIF.  The GBIF will then apply the default value for materials cost to derive at the Total Cost of the materials for the project.	Statement of the total project construction cost from QS.
Establish the estimated Total Cost of the materials for the project excluding MEP items (or use the 45% default value for materials costs; i.e. Total Materials Cost may be derived by multiplying the total construction cost by 0.45) for the project.		

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**Criteria: Materials and Resources (MR)**

Category	Materials Re-use and Selection	
Stage: Completion & Verification Assessment		
Submission Requirements	Role and Responsibilities	Documentations
Documentation during the construction stage including photographs of the reused materials.	The designers/GBIF to compile and notify the Contractors/ Resident staff to provide the photographs while working with the reused/salvage materials.	Photographs to be collated by GBIF for submission.
As built drawings or as built specifications confirming that the building has been constructed in accordance with the design stage drawings/specifications.	The designers to compile the as built drawings or as built specifications from the Contractors.	GBIF to submit .
List of reused or salvaged materials used in the project after completion and their locations in the building.	The GBIF to compile.	A list from the contractors for GBIF to compile.
Cost of each reused or salvaged materials either based on actual cost paid or replacement value of the material.	<p>QS to provide the cost for the items selected based on Contract Document/ Receipt.</p> <p>MEP engineers &amp; Landscape Architect to provide their respective cost for the items selected.</p> <p>The GBIF will compile from all consultants and tally up the total cost.</p>	<p>Cost advice from QS/ MEP engineers/ Landscape Architect. Sample as attached in Appendix "AA".</p> <p>Final computation by GBIF.</p>
Provide the Actual Total Cost of the materials in the project.	<p>QS to provide the total project construction cost (Contract Sum/Variations Statement/Statement of Final Account) to the GBIF.</p> <p>The GBIF will then apply the default value for materials cost to derive at the Total Cost of the materials for the project.</p>	Letter of Award / Statement of Final Account from the QS.
Describe any deviations or additions to the DA submission.	The designers/GBIF to comment.	By GBIF.

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**Criteria: Materials and Resources (MR)**

Category	Recycled Content Materials	
<b>General requirements</b>	<p>To encourage designers to specify the usage of recycled content materials in new buildings.</p> <p>Increase demand for building products that incorporate recycled content materials in their production (Recycled content shall be defined in accordance with the ISO 14021 document).</p>	
<b>Stage: Design Assessment</b>		
Submission Requirements	Role and Responsibilities	Documentations
List all recycled content materials and products and their costs.	<p>The designers/contractors to incorporate recycled materials into their design and construction during specification and material selection.</p> <p>The GBIF to advise the designers on the options.</p> <p>The designers to assist GBIF to compile the list of recycled content materials.</p>	<p>A list and Information (certificates/ supplier specifications) from the sources/ suppliers compiled by GBIF.</p>
Information on the sources/suppliers on the materials with recycled content must be provided.	The designers/ GBIF/ contractors to request information from the sources/ suppliers.	
Calculation on the recycled content value of each material must be provided.	<p>QS to provide the quantities and cost for the items selected based on Contract Document/ Cost Plan.</p> <p>MEP Engineers &amp; Landscape Architect to provide their respective quantities and cost for the items selected.</p> <p>GBIF to compile the quantities, costing and using the recycled contents provided by sources/suppliers to calculate the percentage of recycled content and calculate the value of material cost using the default value.</p>	<p>Cost advice from QS/ MEP engineers/ Landscape Architect. Sample as attached in Appendix "AA".</p> <p>Final computation by GBIF.</p>
The percentage of post-consumer and/or pre-consumer recycled content can be established by cost: or by weight (converted to cost).		
The percentage of post-consumer and/or pre-consumer recycled content must be established by weight.		
Calculate the total percentage (based on cost) value of the materials with recycled content of the estimated total value of the materials in the project.		
Submit estimated value of the materials with recycled content against the estimated total value of the materials for the project.		

Next >>

**Criteria: Materials and Resources (MR)**

Category	Recycled Content Materials	
Stage: Completion & Verification Assessment		
Submission Requirements	Role and Responsibilities	Documentations
As built drawings or as built specifications confirming that the building has been constructed in accordance with the design stage drawings/specifications.	The designers to compile the as built drawings or as built specifications from the Contractors.	GBIF to submit.
List all recycled content materials and products and their costs used in the project after completion.	The designers/contractors (Architects, Engineers, Landscape Architects, Interior Designers, etc) to compile.	A list and Information (certificates/ supplier specifications) from the sources/suppliers compiled by GBIF.
Information on the sources/suppliers on the materials with recycled content must be provided.	The designers/ GBIF/ contractors to request information from the sources/suppliers.	
Calculation of the recycled content value of each material must be provided.	<p>QS to provide the quantities and cost for the items selected based on Contract Document/ Variations Statement/ Final Account/ Proof of Expenditure.</p> <p>MEP Engineers &amp; Landscape Architect to provide their respective quantities and cost for the items selected.</p> <p>The GBIF to compile the quantities, costing and using the recycled contents provided by sources/suppliers to calculate the percentage of recycled content and calculate the value of material cost using the default value.</p>	<p>Cost advice from QS/ MEP engineers/ Landscape Architect. Sample as attached in Appendix "AA".</p> <p>Final computation by GBIF/.</p>
The percentage of post-consumer and/or pre-consumer recycled content must be established by weight.		
Calculate the total percentage (based on cost) value of the materials with recycled content against the actual total value of the materials for the project. The percentage of post-consumer and/or pre-consumer recycled content must be established by cost.		
Calculate the total percentage (based on cost) value of the materials with recycled content of the actual total value of the materials in the project.		
Establish the estimated Total Cost of the materials excluding MEP items (or use the 45% default value for materials costs; i.e. Total Materials Cost may be derived by multiplying the total construction cost by 0.45) for the project.		
Describe any deviation or addition to the DA submission.	The designers/GBIF to comment.	By GBIF.

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**Criteria: Materials and Resources (MR)**

Category	Regional Materials	
<b>General requirements</b>	<p>To encourage sourcing of regional materials to reduce environmental impacts due to transportation.</p> <p>Use building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.</p>	
<b>Stage: Design Assessment</b>		
Submission Requirements	Role and Responsibilities	Documentations
<p>List of products that are extracted/harvested/recovered and manufactured within 500 km of the project site.</p>	<p>The designers/ GBIF/ contractors to compile the list and request information from the sources/ suppliers.</p>	<p>A list and Information (certificates/ supplier specifications) from the sources/ suppliers compiled by GBIF</p>
<p>Provide the following:</p> <ul style="list-style-type: none"> <li>• Name of the manufacturer</li> <li>• Product cost</li> <li>• The distance between the project site and the manufacturer</li> <li>• The distance between the project site and the extraction site for each raw material contained within each product</li> </ul>		
<p>Provide the following:</p> <ul style="list-style-type: none"> <li>• Name of the manufacturer,</li> <li>• Product cost, AND</li> <li>• The distance between the project site and the manufacturer.</li> </ul>		
<p>Determine the estimated total Material Cost.</p>	<p>QS to provide the quantities and cost for the items selected based on Contract Document/ Cost Plan.</p> <p>MEP Engineers &amp; Landscape Architect to provide their respective quantities and cost for the items selected.</p> <p>The GBIF to compile the quantities, costing and using the recycled contents provided by sources/suppliers to calculate the percentage of recycled content and calculate the value of material cost using the default value.</p>	<p>Cost advice from QS/ MEP engineers/ Landscape Architect. Sample as attached in Appendix "AA".</p> <p>Final computation by GBIF.</p>
<p>Determine the Total Material Cost</p>		
<p>If only part of the raw materials for a particular product or assembly originates within 500 km of the project site, provide the percentage (by weight) that these materials is comprised of in the complete product</p>		
<p>Calculate the percent local materials = Total Cost of Local Materials (RM)/Total Material Cost (RM)</p>		
<p>Calculate the percentage of regional materials used = Total Cost of Regional Materials (RM) /Total Material Cost (RM)</p>		

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**Criteria: Materials and Resources (MR)**

Category	Regional Materials	
Stage: Completion & Verification Assessment		
Submission Requirements	Role and Responsibilities	Documentations
As built drawings or as built specifications confirming that the building has been constructed in accordance with the design stage drawings/specifications.	The designers to compile the as built drawings or as built specifications from the Contractors.	GBIF to submit.
List of products that are extracted/ harvested/ recovered and manufactured within 500km of the project site after completion.	The designers/ GBIF/ contractors to compile the list and request information from the sources/ suppliers.	A list and Information from the sources/ suppliers compiled by GBIF
Provide the following: <ul style="list-style-type: none"> <li>• Name of the manufacturer</li> <li>• Product cost</li> <li>• The distance between the project site and the manufacturer</li> <li>• The distance between the project site and the extraction site for each raw material contained within each product</li> </ul>		
Provide the following: <ul style="list-style-type: none"> <li>• Name of the manufacturer,</li> <li>• Product cost, AND</li> <li>• The distance between the project site and the manufacturer.</li> </ul>		
Determine the Actual Total Material Cost.	<p>QS to provide the quantities and cost for the items selected based on Contract Document/ Variations Statement/ Final Account/ Proof of Expenditure..</p> <p>MEP Engineers &amp; Landscape Architect to provide their respective quantities and cost for the items selected.</p> <p>The GBIF to compile the quantities, costing and using the recycled contents provided by sources/suppliers to calculate the percentage of recycled content and calculate the value of material cost using the default value.</p>	<p>Cost advice from QS/ MEP engineers/ Landscape Architect. Sample as attached in Appendix "AA".</p> <p>Final computation by GBIF.</p>
Determine the Actual Total Material Cost. If only part of the raw materials for a particular product or assembly originates within 500 km of the project site, provide the percentage (by weight) that these materials is comprised of in the complete product		
Calculate the percentage of regional materials used = Total Cost of Regional Materials (RM)/ Total Material Cost (RM).		
Calculate the percent local materials = Total Cost of Local Materials (RM)/Actual Total Material Cost (RM).		
Calculation on the recycled content value of each material must be provided.		
Describe any deviation or addition to the DA submission.	The designers/GBIF to comment.	By GBIF.

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**Criteria: Materials and Resources (MR)**

<b>Category</b>	<b>Sustainable Timber</b>	
<b>General requirements</b>	To promote responsible forest management. To encourage environmentally responsible forest management.	
<b>Stage: Design Assessment</b>		
<b>Submission Requirements</b>	<b>Role and Responsibilities</b>	<b>Documentations</b>
List all new wood products specified in the project and identify which components are at least FSC and MTCC certified timber source.	The designers/ GBIF/ contractors to compile the list and request information from the sources/ suppliers.	A list and Information (certificates/ supplier specifications) from the sources/ suppliers compiled by GBIF
List all new wood products specified in the project and identify which components are FSC and MTCC certified.		
Provide a list of vendors/suppliers capable of providing FSC and MTCC certified wood products or equivalent for the project.		
The FSC and MTCC certified wood must be identified as "Pure", "Mixed" or "Mixed (NN)%".		
Indicate the estimated volume of each wood product.	QS to provide the quantities and cost for the items selected based on Contract Document/ Variations Statement/ Final Account/ Proof of Expenditure.  MEP Engineers & Landscape Architect to provide their respective quantities and cost for the items selected.  The GBIF to compile the quantities, costing and using the recycled contents provided by sources/suppliers to calculate the percentage of recycled content and calculate the value of material cost using the default value.	Cost advice from QS/ MEP engineers/ Landscape Architect. Sample as attached in Appendix "AA".  Final computation by GBIF.
The volume of each wood products must be shown.		

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**Criteria: Materials and Resources (MR)**

Category	Sustainable Timber	
Stage: Completion & Verification Assessment		
Submission Requirements	QS Role and Responsibilities	Documentations
As built drawings or as built specifications confirming that the building has been constructed in accordance with the design stage drawings/specifications.	The designers to compile the as built drawings or as built specifications from the Contractors.	GBIF to submit.
List all new wood products used in the project and identify which components are FSC and MTCC certified.	The designers/ GBIF/ contractors to compile the list and request information from the sources/ suppliers.	A list and Information (certificates/ supplier specifications) from the sources/ suppliers compiled by GBIF
The FSC and MTCC certified wood must be identified as "Pure", "Mixed" or "Mixed (NN)%".		
The vendor's chain-of-custody (COC) number must be shown in the invoice to verify FSC and MTCC certifications.		
The volume of each wood product must be shown.		
Describe any deviation or addition to the DA submission.	The designers/GBIF to comment.	By GBIF.

Next >>

**Criteria: Materials and Resources (MR)**

<b>Category</b>	<b>Storage &amp; Collection of Recyclables / Storage, Collection &amp; Disposal of Recyclables</b>	
<b>General requirements</b>	<p>To provide dedicated areas and storage bins for non-hazardous materials for recycling during BOTH construction and building occupancy.</p> <p>Facilitate reduction of waste generated during construction and during building occupancy that is hauled and disposed off in landfills.</p>	
<b>Stage: Design Assessment</b>		
<b>Submission Requirements</b>	<b>Role and Responsibilities</b>	<b>Documentations</b>
Floor plans showing the proposed locations of the storage areas for recyclables and their proximity to the building entrance and vehicular access point/s.	The designers/ GBIF/ contractors to compile proposals and drawings	Proposal and drawings compiled by GBIF
A copy of floor plan showing the planned location of the storage area for recyclables and its proximity to the building entrance and vehicular access point/s.		
A copy of site plan indicating the designated area of storage and collection of construction waste to be recycled.		
Ensure that the space provided for recyclables is in addition to the storage allocated for general waste.		
Describe proposed promotional activities to encourage recycling within the building.		
Describe proposed promotional activities to encourage recycling within the building/plant.		
The drawings should ensure that the vehicular access provides adequate space for manoeuvring and sufficient size for loading bays for vehicles collecting the recyclables.		
A description of the labelling of recyclables should be also provided.		

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**Criteria: Materials and Resources (MR)**

Category	Storage, Collection & Disposal of Recyclables	
Stage: Completion & Verification Assessment		
Submission Requirements	Role and Responsibilities	Documentations
As-Built plans showing the locations of the storage area for recyclables. The plans should indicate the proximity of the storage from the building entrance.	<p>The designers to compile the as built drawings or as built specifications, and photographs from the Contractors.</p> <p>The designers/GBIF to do a write-up on recycling strategy and promotional activities adopted.</p>	<p>GBIF to submit.</p> <p>Write-up on recycling strategy and promotional activities by GBIF.</p>
A copy of marked as-built drawing plan/s showing the location/s of the storage area for recyclables. The plan should indicate the proximity of the storage from the building entrance and mark where vehicular access is.		
The drawings should ensure that the vehicular access provides adequate space for maneuvering and sufficient size for loading bays for vehicles collecting the recyclables.		
Photographs showing the location, size, storage provision and labeling of dedicated facilities during retrofit construction.		
Photographs showing the location, size, storage provision and labeling of dedicated facilities during construction.		
Photographs showing the location, size, the storage provision and labeling of dedicated facilities.		
Write up of promotional activities to encourage recycling within the building/plant including evidence of such promotional activities carried out.		
Write up of promotional activities to encourage recycling within the building including evidence of such promotional activities carried out.		
Description of how the recyclables are to be handled.		
A waste recycling strategy and plan that identifies types of recyclable materials diverted from landfills as well as recycling facilities that have been signed up to handle the recyclable waste		
Describe any deviation or addition to the DA submission.	The designers/GBIF to comment.	By GBIF.

Next >>

**Criteria: Materials and Resources (MR)**

Category	Construction Waste Management			
<b>General requirements</b>	<p>Reduce and recycle construction waste materials and divert from disposal to landfills and incinerator.</p> <p>Develop and implement a construction waste management plan that, as a minimum identifies the materials to be diverted from disposal regardless of whether the materials will be sorted on site or co-mingled.</p> <p>Quantify by measuring total truck loads of waste sent for disposal.</p>			
<b>Stage: Design Assessment</b>				
Submission Requirements	Role and Responsibilities	Documentations		
<p>Tabulate the anticipated diverted/ recycled/ landfill waste and the estimated quantity of the diverted/ recycled/ landfill waste.</p> <p>To calculate the percentage, convert all waste materials to either weight (tons) or volume (cubic meter).</p> <p>For comingled recycled wastes, summaries of diversion rates is required from the recyclers.</p> <p>Provide a table with a list of diverted/ recycled/ landfill waste and the quantity of the diverted/ recycled/ landfill waste.</p>	<p>The contractors to provide the waste management plan.</p>	<p>Waste management plan from contractors.</p>		
<p>A copy of the specification clause that requires the main/ principal contractor to produce the required waste management plan and waste audit.</p>			<p>GBIF to provide the specification to be included in the Tender Document.</p>	<p>Specification from GBIF for QS to incorporate.</p>

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**Criteria: Materials and Resources (MR)**

Category	Construction Waste Management	
Stage: Completion & Verification Assessment		
Submission Requirements	Role and Responsibilities	Documentations
A detailed project construction waste management plan produced by the contractor must be submitted along with evidence supporting the waste recycling programme such as Photographs, waste receipts from recycling facilities, authorized documents from the receiving sites/plants/recycling facilities, tabulation of waste disposed and recycled, etc.	The contractors to provide the waste management plan.	Waste management plan, calculation, verified records, proof, receipts, photographs from contractors. GBIF to monitor, collate and submit.
A copy of the construction waste management plan from the main/principal contractor and a table with a list of diverted/recycled waste/landfill waste, diverted/recycled/landfill waste destination or location and the quantity of the diverted/recycled/landfill waste.		
To calculate the percentage, convert all waste materials to either weight or volume.		
For comingled recycled wastes, summaries of diversion rates is required from the recyclers.		
Submit verified record of truck loads of diverted/recycled/landfill waste against total truck loads, supported by copy of the construction waste management plan.		
Describe any deviations or additions to the DA submission.	The designers/GBIF to comment.	By GBIF.

Next >>

**Criteria: Water Efficiency (WE)**

<b>Category</b>	<b>Water Efficiency Fittings</b>	
<b>General requirements</b>	To encourage reduction in potable water consumption through use of efficient devices.	
<b>Stage: Design Assessment</b>		
<b>Submission Requirements</b>	<b>Role and Responsibilities</b>	<b>Documentations</b>
A brief description of the system and an explanation of how the system meets the requirement for the credit.	The designers/GBIF to do a write-up, drawings and calculation on water efficiency fittings to be adopted and specifications from the manufacturer on the flow rates and test reports.	Write-up, drawings and calculation on water efficiency fittings to be adopted and specifications from the manufacturer on the flow rates and test reports by GBIF.
Listing of each type of consuming fixture, flows and frequency of use to determine the amount of potable water usage for base condition.		
Submit proposed makes of the intended fittings.		
Listings similar to the above but based on water efficient fittings selected and demonstrate the water saving through calculations.		

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Category	Water Efficiency Fittings	
Stage: Completion & Verification Assessment		
Submission Requirements	Role and Responsibilities	Documentations
Inventory of all water efficient fittings incorporated in final building.	The designers/GBIF to do a write-up, drawings, photographs and calculation on water efficiency fittings adopted and specification from the manufacturer on the flow rates and test reports.	Write-up, photographs and calculation on water efficiency fittings adopted and specification from the manufacturer on the flow rates and test reports by the GBIF.
Submit manufacturer's details of the installed fittings.		
Furnish photographs of each type of water efficient fittings as installed.		
Tabulation of all as-installed water efficient fittings and calculations to verify percentage of water saved to meet the requirement for the credit.		
Submit final water consumption calculator of selected water efficient fixtures.		
Actual verified water consumption for the building	The owner to provide the water bill as proof.	Water bill as proof by the owner
Describe any deviations or additions to the DA submission.	The designers/GBIF to comment.	By GBIF.

### Quantity Surveyor endorsement as the submitting professional in the GBI submittal

The QS shall assist in providing all the relevant green costing for items advised by the GBIF based on contract pricing.

The final calculations for all the criteria shall be based on GBIF assessment and compiled by GBIF.

The QS contract pricing cost advice for the relevant green items can either be in letter format or extract of all relevant pages from the contract documents.

As for the QS endorsement on the GBI submittal where the QS is named as the required signatories in the respective criteria, the QS will endorse on the submittal **AFTER** the GBIF's endorsement.

End

## Appendix : Sample Cost Statement

### QS Letter to GBI

Ref:

GBI

Date

Dear Sirs,

#### ASCI Serviced Apartments

#### Statement of Cost for GBI Materials: \*Design Assessment/\*Completion & Verification Assessment

Enclosed is the Material Costing related to GBI assessment in accordance to the listing provided by the Architect/Engineer/GBI Facilitator.

The Total Project Construction Cost:

1. Piling - RM2,000,000.00 (Refer to Letter of Award attached (Appendix A1))
2. Main Building Works - RM100,000,000.00 (Refer to Letter of Award attached (Appendix A1))
3. Total Construction Cost - RM102,000,000.00

Total Project Mechanical and Electrical Cost : RM26,500,000.00 (Refer to Contract Document Bill 2: Prime Cost Sum and Final Summary attached (Appendix A1))

Total Preliminaries, Contingencies and Profit and Attendance : RM10,000,000.00 (Refer to Contract Document Bill 1: General Conditions and Preliminaries and Bill 2: Prime Cost Sum and Provisional Sum and Final Summary attached (Appendix A1))

The following material costings are extracted from Contract Document and Quotations based on Supply and Install rates.

#### Materials Re-use and Selection

Items	List of reused or salvaged materials	Location	Method	Actual Cost Incurred					Replacement Value of the Material						
				Items	Qty	Unit	Rate (RM)	Total (RM)	Proof	Items	Qty	Unit	Rate	Total (RM)	Proof
<b>1 Roof &amp; Hoarding</b>															
A	Steel Trusses	Part Hall Roof Structure	Salvage from old factory	Dismantling and transporting to site	1	Item	2,000.00	2,000.00	Labour Only Contract Rate BQ Ref:4.1/A +5.2/D "B1"	Steel Trusses	2,000	kg	7.00	14,000.00	Supply & Install Fair Market Rate Quotation "B1"
B	Metal Roof Covering	Hoarding		Installation	1	Item	5,000.00	5,000.00		Hoarding	50	m	250.00	12,500.00	Supply & Install Fair Market Rate Quotation "B1"
Sub-total							7,000.00						26,500.00		
<b>2 Crusher Run</b>															
A	Crusher Run	Road	Salvage from existing road	Excavating & stockpile on site	300	m3	10.00	3,000.00	Supply & Install Contract Rate BQ Ref: 4.1/B & 4.1/C "B2"	Filling & compaction of new crusher run	250	m3	65.00	16,250.00	Supply & Install Contract Rate BQ Ref: 6.1/A "B2"
B				Filling & compaction from existing stockpile	250	m3	20.00	5,000.00							
Sub-total							8,000.00						16,250.00		

...2/

Ref:

**Recycled Content Materials**

Items	List of Recycled Content Materials	Cost Incurred				
		Qty	Unit	Rate (RM)	Total (RM)	Proof
1	Re-inforcement	300,000	kg	3.50	1,050,000.00	Supply & Install Contract Rate BQ Ref: 4.2/A-G, 4.3/B-K "C1"
2	Timber Deck	400	M2	600.00	240,000.00	Supply & Install Contract Rate BQ Ref: 6.2/1 "C2"
	<b>Total</b>				<b>1,290,000.00</b>	

**Regional Materials**

Items	List of Regional Materials	Cost Incurred				
		Qty	Unit	Rate (RM)	Total (RM)	Proof
1	Re-inforcement	3,000,000	kg	3.50	10,500,000.00	Supply & Install Rate BQ Ref: 4.2/2/A-G, 4.3/2/B-K "D1"
2	Concrete Grade C30, C35, C40	30,000	m3	300.00	9,000,000.00	Supply & Install Rate BQ Ref: 4.1/1/A-G, 4.3/1/B-K "D1"
3	System Formwork	80,000	m2	32.00	2,560,000.00	Supply & Install Rate BQ Ref: 4.1/3/A-D, 4.3/3/A-F "D1"
4	Metal Door Frame	60	nr	100.00	6,000.00	Supply & Install Rate BQ Ref: 4.6/1/A-D, 4.8/1/A-F "D2"
5	Timber Door Leaf	60	nr	300.00	18,000.00	Supply & Install Rate BQ Ref: 4.6/2/A-D, 4.8/2/A-F "D2"
6	Tiles	30,000	m2	140.00	4,200,000.00	Supply & Install Rate BQ Ref: 4.11/1/A-D, 4.13/1/A-C "D3"
	<b>Total</b>				<b>26,284,000.00</b>	

**Sustainable Timber**

Items	List of Sustainable Timber	Cost Incurred				
		Qty	Unit	Rate (RM)	Total (RM)	Proof
1	Timber Door Frame	3,000	m	65.00	195,000.00	Supply & Install Rate BQ Ref: 4.6/1/E-H, 4.8/1/L-M "E1"
2	Engineering Timber Flooring	15,000	M2	230.00	3,450,000.00	Supply & Install Rate BQ Ref: 4.7/3/C "E2"
3	Timber Deck - Eco-deck	400	M2	600.00	240,000.00	Supply & Install Rate BQ Ref: 4.9/2/A "E3"
	<b>Total</b>				<b>3,885,000.00</b>	

Yours faithfully,

For and on behalf of  
XXX QS Sdn Bhd

\*Documents to attach\*

APPENDIX "A1"

- Piling Letter of Award
- Main Building Works Letter of Award
- Contract Document Bill 1: General Conditions and Preliminaries Summary and Bill 2: Prime Cost Sum and Provisional Sum and Final Summary

APPENDIX "B1", "B2", "C1", "C2", "D1", "D2", "D3", "E1", "E2", "E3", etc\

- Extract pages of the respective Bills of Quantities
- Quotations
- Invoices
- Purchase Orders
- Any other document used to justify the rates & qty applied

- End of Part 1 -

## **PART II: Verifying and Certifying greenbuildingindex (GBI) Green**

### **Incremental Cost for Tax Incentives**

#### **Objectives**

To provide a general guide on the documentation required in submitting the green incremental cost for tax incentives.

#### **Introduction**

In recent years, the Malaysian Government has introduced a series of tax incentives to encourage Malaysians to embrace green technology.

Tax incentives\* that are related to GBI certification are (at the time of writing):-

- Income Tax Act 1967 – Income (Exemption) (No.5) Order 2011 .  
(The previous Income Tax Act 1967 – Income Tax (Exemption) (No. 8) Order 2009 has been revoked)
- Stamp Act 1949 - Stamp Duty (Exemption) Order 2009

\*Note:- GBIF or the building owner’s tax advisor/ appointed tax agent to advise on the latest tax incentives and applicable Act.

In order to realise the tax incentives for embracing green technology, the qualified building owners need to submit the green incremental cost to GBI for certification during Completion & Verification Assessment (CVA).

The qualifying expenditures in the Green Cost Sum Certificate will include all the green items commissioned in the building but it does not mean that it is appropriate for the building owner to apply the whole amount when applying for the exemptions. The building owners must seek the advice of their tax advisor/ appointed tax agent for further assessment on the “Non-application” criteria.

#### **Green Incremental Cost**

Studies on the “going green” cost premiums to achieve the GBI ratings is commonly conducted by the GBIF and the project team at the inception of the GBI Certification process prior to the submission of Development Assessment (DA) to provide an indicative cost thus allowing the client to decide the level of rating they commit to achieve. However, these cost studies are usually based on ballpark figures.

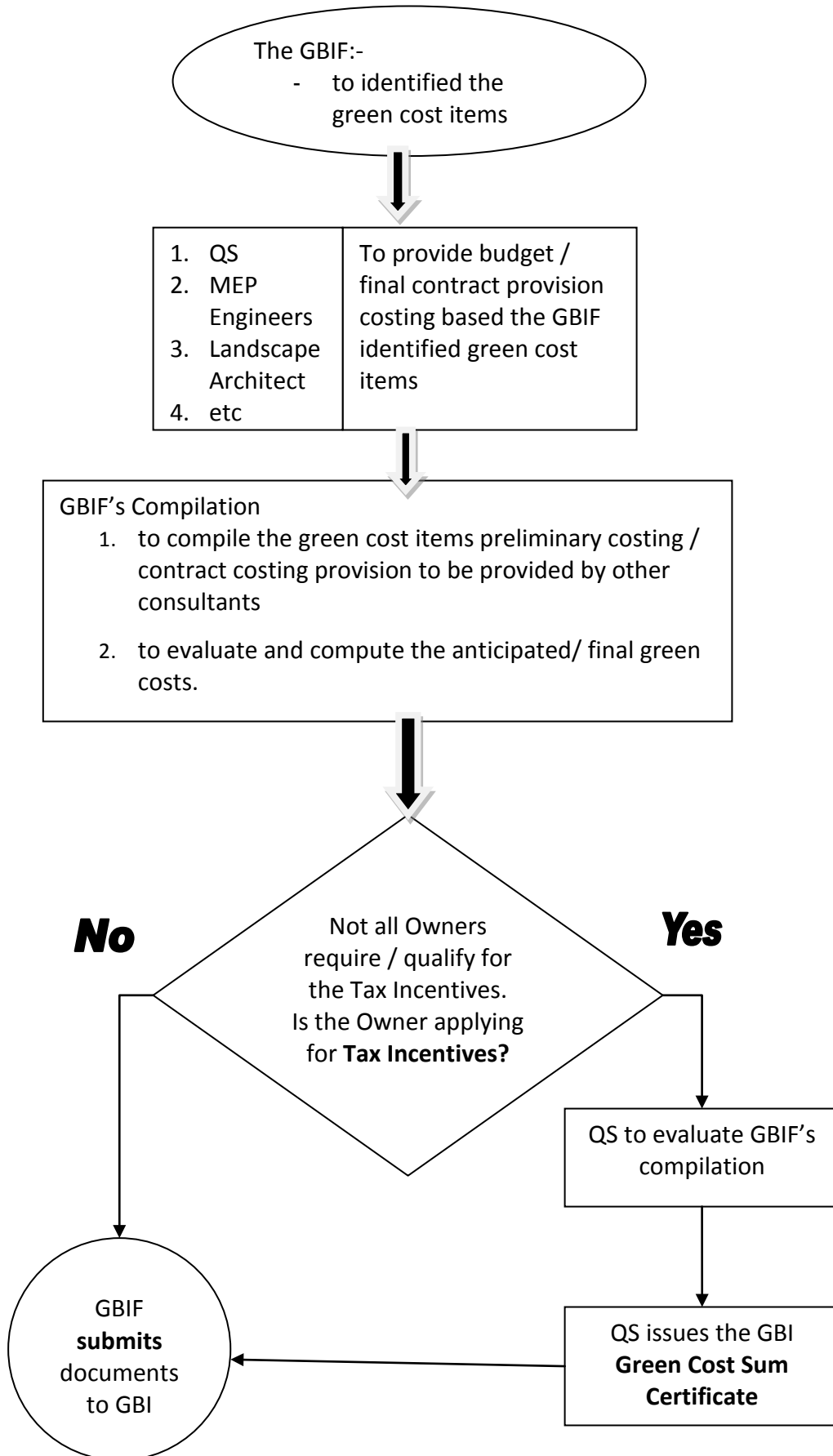
To translate this indicative cost into real green incremental costs incurred, the project team would then work towards achieving the client’s selected rating by implementing the green concept and requirement into design, tender and construction.

The real green incremental cost incurred can then be established using the awarded cost and final account/ variations approved cost against the base building cost in compliance to Uniform Building Bylaws and Malaysian Standard 1525. The items considered for the assessment shall be based on additional green costs incurred to achieve GBI rating.

For projects, where the building owners do not qualify for the tax incentives, the green incremental cost will be compiled and submitted by the GBIF as part of the executive summary as indication of cost incurred to go green.

However, if the building owners qualify for the tax incentives, proper documentation with proof of expenditure has to be compiled, verified and certified by the relevant project team professionals to be included in the submission during the CVA to allow GBI to issue the green incremental cost in a certificate. The Inland Revenue Board would only recognise the GBI certificate which is certified by the Board of Architects Malaysia.

In order to produce proper documentation with proof of expenditure for the green incremental cost for tax incentives, the QS will evaluate the green items based on GBIF's green cost compilation and to collate the other green cost documentation by other consultants (e.g. MEP Engineers and Landscape Architect) into one document to be certified by the Architect/Superintending Officer for submission to GBI. Refer to the flowchart 1.



Flowchart 1 – Green cost items costing compilation

The following criteria are considered in evaluating green incremental cost:-

1. The green item scored GBI points.
2. The base specification and cost used for calculating shall be of reasonable and comparable specification when compare with the revised specification.
3. The revised specification should be comparable and within the equivalent range, quality, and grade of the base specification except it is a greener selection.
4. If there's an upgrade to the final product while incorporating green due to building owner's own requirement, then the base specification shall be upgraded as well when calculating the incremental cost.
5. Lifestyle upgrades is not acceptable as green incremental cost.
6. The actual cost incurred will only be calculated based on qualified items that have an impact towards achieving a more sustainable building.

Examples of green items evaluated as green incremental cost:-

	Type of Building	Green Item	Reasonable and Comparable Base Specification	Unacceptable Base Specification
Example 1	Grade A Office Building	Mid range low VOC Carpet	Mid range carpet	1. Cement Render 2. Low grade carpet
Example 2	Gymnasium	FSC engineered timber floorboard, Burmese Teak 90mm wide x 18mm thick	1. Solid Timber Burmese Teak 90mm wide x 18mm thick	1. Tiles 2. Cement Render
Example 3	Lift lobby wall	Recycled stone cladding	1. Stone Cladding 2. Plaster and spray painted wall 3. Skim coat and wall paper	1. Plaster and paint
Example 4	Internal Paint	Low VOC texture paint	Texture Paint	Emulsion Paint
Example 5	Sanitary Wares & Fittings	Duravit wall hung wc "mid range, square design"+ Geberit dual flush cistern	1. Duravit wall hung wc "mid range, square design"+ Geberit cistern	1. Claytan wall hung wc + cistern 2. Claytan Close coupled WC 3. Duravit wall hung wc "low range, square design"+ Geberit cistern
Example 6	External Façade Louvres	Feature Louvres that do not serves as sunshading	Invalid Item	Invalid Item
Example 7	Lobby	Recycled material Artworks	Invalid Item	Invalid Item

## **Documentation for Green Incremental Cost for Tax Incentives.**

The relevant documents to be submitted for GBI verification and certification are:

- The total Green Cost Sum Certificate as valued by the Quantity Surveyor, MEP Engineers, Landscape Architect, etc and certified by the Architect/Supervising Officer.
- Breakdown of the Green Cost Sum (base vs current adopted design) complete with quantities, rates, Bill of Quantities (BoQ) references, compliance to relevant GBI criteria, nett saleable areas (Stamp Duty Exemptions) and others.
- Supporting documents:-
  - Actual cost incurred - extract from Bill of Quantities, Final Accounts, Variations approval, invoices, Purchase Order and any other documents that can prove the expenditure
  - Base cost - extract from Bill of Quantities , quotations and any other documents that can prove the assumed cost.
  - References - Drawings, Plans, Photographs, etc.



## A Sample Submission Guide for Green Incremental Cost for Tax Incentives.

### 1. During Development Assessment (DA)

- Based on GBIF incremental cost compilation or
- The preliminary certification assessed and compiled by Consultants and certified by Architect with assumptions if not awarded yet. (Refer table 1 and table 2)

<b>PRELIMINARY greenbuildingindex COST SUM CERTIFICATE</b>							Serial No.
DATE OF ASSESSMENT:							
PROJECT NAME :		ASCII Serviced Apartments					
OWNER'S NAME :		ASCII Properties Sdn Bhd					
GBI REGISTRATION NO.:							
PROVISIONAL GBI RATING :							
CONSTRUCTION TYPE :		Residential New Construction					
ESTIMATED COMPLETION DATE :							
ESTIMATED TOTAL CONSTRUCTION COST :							
GFA (COST/m2) :							
PRELIMINARY GBI INCREMENTAL GREEN COST SUM :		RM3,031,933.76					Sample
Items	Description	GBI RNC Clause	Capital Expenditure Without Green Cost Sum RM	Capital Expenditure With Green Cost Sum RM	Qualifying Expenditure RM	Qualifying Expenditure Unit Rate NSA: 52,000m2 RM/NSAm2	Appendix
<b>1 ENERGY EFFICIENCY (EE)</b>							
1.1	Horizontal Sunshading	EE1, EE3	-	1,344,000.00	1,344,000.00	25.85	A1
1.2	Balcony Sliding Louvres + Fixed Sunshading Louvres	EE1, EE3	-	1,497,897.70	1,497,897.70	28.81	A1
1.3	Low-e to Windows and Glass Sliding Door	EE1, EE3	215,543.94	350,250.00	134,706.06	2.59	A1
<b>2 MATERIALS &amp; RESOURCES (MR)</b>							
2.1	Emulsion paint with Green Cert to all internal walls	EQ5	513,300.00	568,630.00	55,330.00	1.06	A1
<b>TOTAL :</b>			<b>728,843.94</b>	<b>3,760,777.70</b>	<b>3,031,933.76</b>	<b>58.31</b>	
We Certify that this Preliminary Assessment is in accordance with the terms of the GBI Rating as laid out in GBI document ref:							
<div style="border-top: 1px solid black; width: 100%; margin: 0 auto;"></div> <b>REGISTERED QUANTITY SURVEYOR</b>							
I/We recommend that the qualifying expenditure sums stated above are a preliminary assessment and the items are eligible for tax incentives under Income Tax (Exemption) (No.5) Order 2011 and Stamp Duty (Exemption) Order 2009. The qualifying exemptions is subject to further assessment by the building owner's appointed tax agent.							
<div style="border-top: 1px solid black; width: 100%; margin: 0 auto;"></div> <b>PROFESSIONAL ENGINEER (MECHANICAL&amp;ELECTRICAL)</b>				<div style="border-top: 1px solid black; width: 100%; margin: 0 auto;"></div> <b>REGISTERED ARCHITECT</b>			

Table 1: Preliminary greenbuildingindex Green Cost Sum Certificate

Sample

Architectural & Structural Items

Items	Base Non-Green Items Description	Green Items Description	GBI RNC Clause	Base - Non Green Feature Capital Expenditure Cost					Capital Expenditure With Green Cost					Qualifying Expenditure RM	Qualifying Expenditure Unit Rate  NSA: 52,000m2 RM/NSAm2
				Unit	Qty	Rate RM	Amount RM	Cost Justification	Unit	Qty	Rate RM	Amount RM	Cost Justification		
<b>1 ENERGY EFFICIENCY (EE)</b>															
1.1	NIL	Horizontal Sunshading	EE1, EE3	-	-	-	-	-	m2	2,400.00	560.00	1,344,000.00	Allow Fair market rate	1,344,000.00	25.85
1.2	NIL	Balcony Sliding Louvres & Fixed Sunshading Louvres	EE1, EE3	-	-	-	-	-	m2	2,455.57	610.00	1,497,897.70	Allow Fair market rate	1,497,897.70	28.81
1.3	10mm/12mm float glass	Low-e to Windows and Glass Sliding Door	EE1, EE3	m2	1,401.00	153.85	215,543.94	Fair market rate	m2	1,401.00	250.00	350,250.00	Allow Fair market rate	134,706.06	2.59
<b>2 INDOOR ENVIRONMENTAL QUALITY (EQ) &amp; MATERIALS &amp; RESOURCES (MR)</b>															
2.1	'ICI' Pentelite & Maxilite paint to all internal walls	'ICI' Pentelite & Maxilite Ecoguard paint to all internal walls	EQ5	m2	110,660.00	4.64	513,300.00	Contract	m2	110,660.00	5.14	568,630.00	Variation negotiated rate	55,330.00	1.06
<b>TOTAL :</b>							<b>728,843.94</b>					<b>3,760,777.70</b>		<b>3,031,933.76</b>	<b>58.31</b>

Table 2: Preliminary greenbuildingindex Green Cost Sum Summary

2. During Completion & Verification Assessment (CVA)

- The final certification valued and compiled by Consultants and certified by Architect with the proof of expenditures. (Refer table 3 to table 16)

FINAL greenbuildingindex GREEN COST SUM CERTIFICATE							
DATE OF ASSESSMENT:						Serial No.	
PROJECT NAME :		ASCII Serviced Apartments					
OWNER'S NAME :		ASCII Properties Sdn Bhd					
GBI REGISTRATION NO.:							
AWARDED GBI RATING :							
CONSTRUCTION TYPE :		Residential New Construction				Sample	
COMPLETION DATE :							
TOTAL CONSTRUCTION COST :							
GFA (COST/m2) :							
FINAL GBI INCREMENTAL GREEN COST SUM :		RM3,020,956.06					
Items	Description	GBI RNC Clause	Capital Expenditure Without Green Cost Sum RM	Capital Expenditure With Green Cost Sum RM	Qualifying Expenditure RM	Qualifying Expenditure Unit Rate NSA: 52,000m2 RM/NSAm2	Appendix
1	ENERGY EFFICIENCY (EE)						
1.1	Horizontal Sunshading	EE1, EE3	-	1,320,000.00	1,320,000.00	25.38	A1
1.2	Balcony Sliding Louvres + Fixed Sunshading Louvres	EE1, EE3	-	1,497,000.00	1,497,000.00	28.79	A1
1.3	Low-e to Windows and Glass Sliding Door	EE1, EE3	215,543.94	364,170.00	148,626.06	2.86	A1
	INDOOR ENVIRONMENTAL QUALITY (EQ) & MATERIALS & RESOURCES (MR)						
2.1	Emulsion paint with Green Cert to all internal walls	EQ5	513,300.00	568,630.00	55,330.00	1.06	A1
TOTAL :			728,843.94	3,749,800.00	3,020,956.06	58.10	
We Certify that this Final Assessment is in accordance with the terms of the GBI Rating as laid out in GBI document ref:							
<hr/> REGISTERED QUANTITY SURVEYOR							
I/We recommend that the qualifying expenditure sums stated above are eligible for tax incentives under Income Tax (Exemption) (No.5) Order 2011 and Stamp Duty (Exemption) Order 2009. The qualifying exemptions is subject to further assessment by the building owner's appointed tax agent.							
PROFESSIONAL ENGINEER (MECHANICAL&ELECTRICAL)				REGISTERED ARCHITECT			

Table 3: Final greenbuildingindex Green Cost Sum Certificate

GBI GREEN COST SUM SUMMARY -FINAL (Completion & Verification Assessment (CVA))																
Project : ASCII Serviced Apartments																
NETT FLOOR AREA/ NETT SALEABLE AREA : <u>52,000.00</u> m2																
<b>Sample</b>																
Architectural & Structural Items																
Items	Base Non-Green Items Description	Green Items Description	GBI RNC Clause	Base - Non Green Feature Capital Expenditure Cost					Capital Expenditure With Green Cost					Qualifying Expenditure RM	Qualifying Expenditure Unit Rate NSA: 52,000m2 RM/NSAm2	Remark
				Unit	Qty	Rate RM	Amount RM	Cost Justification	Unit	Qty	Rate RM	Amount RM	Cost Justification			
<b>1 ENERGY EFFICIENCY (EE)</b>																
1.1	NIL	Horizontal Sunshading	EE1, EE3	-	-	-	-	-	m2	2,400.00	550.00	1,320,000.00	Contract	1,320,000.00	25.38	App B1
1.2	NIL	Balcony Sliding Louvres & Fixed Sunshading Louvres	EE1, EE3	-	-	-	-	-	m2	2,455.57	609.63	1,497,000.00	Contract	1,497,000.00	28.79	App B2
1.3	10mm/12mm float glass	Low-e to Windows and Glass Sliding Door	EE1, EE3	m2	1,401.00	153.85	215,543.94	Fair market rate	m2	1,401.00	259.94	364,170.00	Contract	148,626.06	2.86	App B3
<b>INDOOR ENVIRONMENTAL QUALITY (EQ) &amp; MATERIALS 2 &amp; RESOURCES (MR)</b>																
2.1	'ICI' Pentallite & Maxilite to all internal walls	'ICI' Pentallite & Maxilite Ecoguard paint to all internal walls	EQ5	m2	110,660.00	4.64	513,300.00	Contract	m2	110,660.00	5.14	568,630.00	Final Account	55,330.00	1.06	App B4
<b>TOTAL :</b>							<b>728,843.94</b>					<b>3,749,800.00</b>		<b>3,020,956.06</b>	<b>58.10</b>	

Table 4: Final greenbuildingindex Green Cost Sum Summary

GBI Incremental Cost																
Project : ASCII Serviced Apartments																
Architectural & Structural Items																
Green Item - Horizontal Sunshading																
<b>Sample</b>																
Incremental Cost <u>1,320,000.00</u>																
Base - Capital Expenditure Without Green Cost																
Item	Description	Cost Justification	Reference	Qty	Unit	Rate	Amount RM									
1	NIL															
<b>Sub-total :</b>			<b>NIL</b>		<b>m2</b>	<b>-</b>	<b>-</b>									
Capital Expenditure With Green Cost																
Item	Description	Cost Justification	Reference	Qty	Unit	Rate	Amount RM									
1	<b>Horizontal Sunshading</b>	<b>Contract Rate</b>	<b>AGW NSC Contract Document</b>													
	(Contract drawing ref: XYZ/1, XYZ/2, XYZ/3, XYZ/4, XYZ/5)															
a	to balcony	Contract Item	BQ ref: 7.1/1/B	2400	m2	550.00	1,320,000.00									
<b>Sub-total :</b>				<b>2400</b>	<b>m2</b>	<b>550.00</b>	<b>1,320,000.00</b>									

Table 5: Green Cost Sum Supporting Document

Item	Description	Qty	Unit	Rate	Amount RM
	<b>Schedule of Works No. 7</b>				
	<b>EXTERNAL FINISHES</b>				
	<b>CONTRACTOR DESIGNED ALUMINIUM SUN SHADING</b>				
	<b>Powder coated aluminium</b>				
	Supply and fix in position the following perforated aluminium panel screwed; vertical; complete with hot dipped galvanised brackets, hollow sections, angles, plates, bolts and nuts, cast-in plates and bolts, butly tape and all necessary accessories and supports for the complete installation; including building in or cutting and pinning lugs and fixing to masonry works or metalworks; pattern subject to architect's approval; ref to drawings no. XYZ				
	3600mm wide; vertically				
A	Rear elevation; staircase	532	m2	500.00	266,000.00
	Supply and fix in position the following perforated aluminium sheet sun shading; 3mm thick perforated aluminium sheet screwed to flange at 1200mm centres; curved and cantilevered; complete with brackets; hot dipped galvanised 6mm thick T-section angle support brackets, plates, bolts and nuts, cast in-plates and bolts and all necessary accesories and supports for the complete installation; fixing to soffits of slab or aluminium louvres structure; including building in or cutting and pinning lugs and fixing to brickworks, concrete or metalworks; refer to drawings no. XYZ				
	Wide varies approximately 600mm to 1000mm; horizontally				
B	Balcony	2400	m2	550.00	1,320,000.00
	To Collection				1,586,000.00

Table 6: Green Cost Sum Supporting Document

## GBI Incremental Cost

Project : ASCII Serviced Apartments

Sample

Architectural &amp; Structural Items

**Green Item - Balcony Sliding Louvres & Fixed Sunshading Louvres****Incremental Cost 1,497,000.00**

Base - Capital Expenditure Without Green Cost							
Item	Description	Cost Justification	Reference	Qty	Unit	Rate	Amount RM
1	NIL						
	<b>Total</b>		<b>NIL</b>		<b>m2</b>	<b>-</b>	<b>-</b>
Capital Expenditure With Green Cost							
Item	Description	Cost Justification	Reference	Qty	Unit	Rate	Amount RM
1	<b>Balcony Sliding Louvres</b>  (Contract drawing ref: XYZ/10, XYZ/12, XYZ/13, XYZ/14, XYZ/15)	<b>Contract Rate</b>	<b>AGW NSC Contract Document</b>				
a	Type SL1	Contract Item	BQ ref: 6.1/2/A	20 343.2	Nr m2	10,000.00	200,000.00
b	Type SL1a	Contract Item	BQ ref: 6.1/2/B	2 43.92	Nr m2	15,000.00	30,000.00
c	Type SL2	Contract Item	BQ ref: 6.1/2/C	60 772.2	Nr m2	8,000.00	480,000.00
d	Type SL2a	Contract Item	BQ ref: 6.1/2/D	15 247.05	Nr m2	12,000.00	180,000.00
e	Type SL4	Contract Item	BQ ref: 6.1/2/E	15 321.75	Nr m2	13,000.00	195,000.00
f	Type SL4a	Contract Item	BQ ref: 6.1/2/F	1 27.45	Nr m2	20,000.00	20,000.00
2	<b>Fixed Sunshading Louvres</b>  (Contract drawing ref: XYZ/10, XYZ/12, XYZ/13, XYZ/14, XYZ/15)	<b>Contract Rate</b>	<b>AGW NSC Contract Document</b>				
a	350mm wide overall; vertically	Contract Item	BQ ref: 6.1/2/G	700	m2	560.00	392,000.00
	<b>Total</b>			<b>2455.57</b>	<b>m2</b>	<b>609.63</b>	<b>1,497,000.00</b>

Table 7: Green Cost Sum Supporting Document

Item	Description	Qty	Unit	Rate	Amount RM
	<b>Schedule of Works No. 6</b>				
	<b>EXTERNAL FINISHES</b>				
	<b>CONTRACTOR DESIGNED ALUMINIUM LOUVRES</b>				
	<b>Powder coated aluminium</b>				
	Supply and fix in position the following white powder coated aluminium louvres sliding panels; double sided "DML 85L" or approved equivalent; complete with heads, jambs, mullions, gaskets, brackets, stainless steel T-section angle support bracket, stainless steel expansion bolts, sliding track, plates, bolts and nuts, cast-in plates and bolts and all necessary ironmongeries accessories and mechanism and supports for the complete installation; fixing to top and soffit of slabs and bolting to slab; including building in or cutting and pinning lugs, and fixing to brickwork, concrete or metalwork				
	Type SL1				
A	Overall size; 4800mm x 3575mm	20	Nr	10,000.00	200,000.00
	Type SL1a				
B	Overall size; 4800mm x 4575mm	2	Nr	15,000.00	30,000.00
	Type SL2				
C	Overall size; 3600mm x 3575mm	60	Nr	8,000.00	480,000.00
	Type SL2a				
D	Overall size; 3600mm x 4575mm	15	Nr	12,000.00	180,000.00
	Type SL4				
E	Overall size; 6000mm x 3575mm	15	Nr	13,000.00	195,000.00
	Type SL4a				
F	Overall size; 6000mm x 4575mm	1	Nr	20,000.00	20,000.00
	Supply and fix in position the following vertical aluminium louvres; curved; 300mm diameter x 75mm eclipsed shape extruded aluminium vertical louvres section; capping to both ends; complete with brackets, stainless steel fascia cladding, plates, bolts and nuts, cast in-plates and bolts, and all necessary accessories and supports for the complete installation; including building in or cutting and pinning lugs, and and fixing to glass balustrade fascia, brickwork, concrete or metalwork				
G	350mm wide overall; vertically	700	m2	560.00	392,000.00
	To Collection				1,497,000.00

Table 8: Green Cost Sum Supporting Document

## GBI Incremental Cost

Project : ASCII Serviced Apartments

## Architectural &amp; Structural Items

**Green Item - Low-e to Windows and Glass Sliding Door**

Sample

**Incremental Cost** 148,626.06

Base - Capital Expenditure Without Green Cost							
Item	Description	Cost Justification	Reference	Qty	Unit	Rate	Amount RM
1	10mm float glass	Fair Market Rate	<b>Supplier's quotation + labour</b>	473	m2	139.94	66,191.62
2	12mm float glass	Fair Market Rate		<b>Supplier's quotation + labour</b>	928	m2	160.94
	<b>Total</b>			<b>1401</b>	<b>m2</b>	<b>153.85</b>	<b>215,543.94</b>
Capital Expenditure With Green Cost							
Item	Description	Cost Justification	Reference	Qty	Unit	Rate	Amount RM
1	<b>Low-e to Windows and Glass Sliding Door</b>	<b>Contract Rate</b>	<b>AGW NSC Contract Document</b>				
	<b>(Contract drawing ref: XYZ/5, XYZ/6, XYZ/7, XYZ/8)</b>						
	<b>Laminated low-e glass; 10.38mm thick</b>						
a	Sliding Door Type SD25	Contract Item	BQ ref: 3.1/8/A	60	m2	250.00	15,000.00
b	Sliding Door Type SD26	Contract Item	BQ ref: 3.1/8/B	20	m2	250.00	5,000.00
c	Sliding Door Type SD9a	Contract Item	BQ ref: 3.1/8/C	100	m2	250.00	25,000.00
d	Sliding Door Type SD10	Contract Item	BQ ref: 3.1/8/D	200	m2	250.00	50,000.00
e	Sliding Door Type SD11	Contract Item	BQ ref: 3.1/8/E	40	m2	250.00	10,000.00
f	Sliding Door Type SD18	Contract Item	BQ ref: 3.1/8/F	33	m2	250.00	8,250.00
g	Sliding Door Type SD20	Contract Item	BQ ref: 3.1/8/G	20	m2	250.00	5,000.00
	<b>Laminated low-e glass; 12.38mm thick</b>						
h	Window Type W17	Contract Item	BQ ref: 4.1/10/A	60	m2	265.00	15,900.00
i	Window Type W18	Contract Item	BQ ref: 4.1/10/B	300	m2	265.00	79,500.00
j	Window Type W19a	Contract Item	BQ ref: 4.1/10/C	320	m2	265.00	84,800.00
k	Window Type W20	Contract Item	BQ ref: 4.1/10/D	130	m2	265.00	34,450.00
l	Window Type W24	Contract Item	BQ ref: 4.1/10/E	40	m2	265.00	10,600.00
m	Window Type W27	Contract Item	BQ ref: 4.1/10/F	40	m2	265.00	10,600.00
n	Window Type W29	Contract Item	BQ ref: 4.1/10/G	38	m2	265.00	10,070.00
	<b>Total</b>			<b>1401</b>	<b>m2</b>	<b>259.94</b>	<b>364,170.00</b>

Table 9: Green Cost Sum Supporting Document



## SAMPLE LETTER FROM SUPPLIER

### XYZ Glass Sdn Bhd

Ref:

Date:

Architect/QS/Contractor Sdn Bhd  
Kuala Lumpur

Dear Sir,

**ASCI Serviced Apartments**

Sample

**Quotation**

**We are pleased to quote based for the following:-**

**Description**

1. 10mm float glass; clear
2. 12mm float glass; clear
3. 10.38mm laminated low-e glass; clear
4. 12.38mm laminated low-e glass; clear

**Supply Only**

RM10-11/ft2  
RM11.50-12.50/ft2  
RM19-20/ft2  
RM22-23/ft2

QS Cost Assumptions for Supply and Install

<u>Installation</u>	<u>Supply &amp; Install</u>
30%	
RM3/ft2	RM13/ft2
RM3.45/ft2	RM14.95/ft2

Thank you.

Yours faithfully,

For and on behalf of  
**XYZ Glass Sdn Bhd**

Table 10: Green Cost Sum Supporting Document

Item	Description	Qty	Unit	Rate	Amount RM
<b><u>CONTRACTOR DESIGNED ALUMINIUM WINDOWS AND DOORS (Cont'd)</u></b>					
<b><u>Glazing (Cont'd)</u></b>					
Laminated low-e glass; 10.38mm thick; clear; including all necessary sealant and fixing accessories					
A	Sliding Door Type SD25 Composite sliding glass door panels and fixed glass panel Overall size; 3600mm x 2600mm high + 5650mm x 2600mm high	60	m2	250.00	15,000.00
B	Sliding Door Type SD26 Composite sliding glass door panels and fixed glass panel Overall size; 5010mm x 2600mm high	20	m2	250.00	5,000.00
C	Sliding Door Type SD9a Sliding (bothways) glass door panels Overall size; 2000mm x 3500mm high	100	m2	250.00	25,000.00
D	Sliding Door Type SD10 Composite sliding glass door panels and fixed glass panels Overall size; 4760mm x 3500mm high	200	m2	250.00	50,000.00
E	Sliding Door Type SD11 Composite sliding glass door panels and fixed glass panels Overall size; 4700mm x 3500mm high	40	m2	250.00	10,000.00
F	Sliding Door Type SD18 Composite sliding glass door panels and fixed glass panel Overall size; 3900mm x 3500mm high	33	m2	250.00	8,250.00
G	Sliding Door Type SD20 Composite sliding glass door panels and fixed glass panels Overall size; 10470mm x 3500mm high	20	m2	250.00	5,000.00
To Collection					118,250.00

Sample

Table 11: Green Cost Sum Supporting Document

Item	Description	Qty	Unit	Rate	Amount RM
<b>CONTRACTOR DESIGNED ALUMINIUM WINDOWS AND DOORS (Cont'd)</b>					
<b>Glazing (Cont'd)</b>					
Laminated low-e glass; 12.38mm thick; clear; including all necessary sealant and fixing accessories					
Window Type W17					
A	Composite fixed glass panel, sliding glass panels and Overall size; 5300mm x 3500mm high	60	m2	265.00	15,900.00
Window Type W18					
B	Composite fixed glass panel, sliding glass panels Overall size; 2000mm x 3500mm high			265.00	79,500.00
Window Type W19a					
C	Composite fixed glass panel, sliding glass panels Overall size; 1500mm x 3500mm high	320	m2	265.00	84,800.00
Window Type W20					
D	Composite fixed glass panel, sliding glass panels Overall size; 5600mm x 3500mm high	130	m2	265.00	34,450.00
Window Type W24					
E	Fixed glass panels Overall size; 3360mm x 3500mm high	40	m2	265.00	10,600.00
Window Type W27					
F	Fixed glass panels Overall size; 3900mm x 3600mm high	40	m2	265.00	10,600.00
Window Type W29					
G	Fixed glass panels Overall size; 4760mm x 3600mm high	38	m2	265.00	10,070.00
To Collection					245,920.00

Table 12: Green Cost Sum Supporting Document

## GBI Incremental Cost

Project : ASCII Serviced Apartments

Architectural &amp; Structural Items

Sample

**Green Item - "ICI' Pentalite Ecoguard and "ICI' Maxilite Ecoguard paint to all internal walls** **Incremental Cost** **55,330.00**

Base - Capital Expenditure Without Green Cost							
Item	Description	Cost Justification	Reference	Qty	Unit	Rate	Amount RM
1.5.1	ICI' Pentalite paint to all internal walls, "ICI' Maxilite Ecoguard paint to all internal walls  (Contract Specification ref: Spec/1-Spec/3)	Contract Rate	Painting NSC Contract Document				
a	internal wall painting - Pentalite	Contract Item	BQ ref: 3.1/1/A	90660	m2	5.00	453,300.00
b	internal wall painting - Maxilite	Contract Item	BQ ref: 3.1/1/B	20000	m2	3.00	60,000.00
	<b>Total</b>			<b>110660</b>	<b>m2</b>	<b>4.64</b>	<b>513,300.00</b>

Capital Expenditure With Green Cost							
Item	Description	Cost Justification	Reference	Qty	Unit	Rate	Amount RM
1.5.1	'ICI' Pentalite Ecoguard paint to all internal walls, "ICI' Maxilite Ecoguard paint to all internal walls (Architect's Instruction No.1)	Final Account/ Variations Approval	Painting NSC Variations Approval				
a	internal wall painting - Pentalite Ecoguard	Final Account Item	VO1	90660	m2	5.50	498,630.00
b	internal wall painting - Maxilite Ecoguard	Final Account Item	VO1	20000	m2	3.50	70,000.00
	<b>Total</b>			<b>110660</b>	<b>m2</b>	<b>5.14</b>	<b>568,630.00</b>

Table 13: Green Cost Sum Supporting Document

## INTERNAL WALL FINISHES

Item	Description	Qty	Unit	Rate	Amount RM
	<b><u>INTERNAL WALL FINISHES</u></b>				
	<b><u>INTERNAL PAINTING</u></b>				
	<b><u>Emulsion paint; "ICI Dulux" or approved equivalent; preparing and applying 1 coat of "ICI Dulux" Adhesion Promoting Wall Sealer and 2 coats of "ICI Dulux" Pentalite emulsion paint; on plastered surfaces; colour to Architect's selection; all specification and application to Manufacturer's instruction</u></b>				
A	Walls and columns on plastered surfaces	90660	m2	5.00	453,300.00
	<b><u>Emulsion paint; "ICI Dulux" or approved equivalent; preparing and applying 1 coat of "ICI Dulux" Adhesion Promoting Wall Sealer and 2 coats of "ICI Dulux" Maxilite plus emulsion paint; on plastered surfaces; colour to Architect's selection; all specification and application to Manufacturer's instruction</u></b>				
B	Walls and columns on plastered surfaces	20000	m2	3.00	60,000.00
	To Collection				513,300.00


Sample

Table 14: Green Cost Sum Supporting Document

Job title and no.: ASCII Serviced Apartments

To [Main Contractor]: XXX Construction Sdn Bhd

Under the Conditions of our Standard Form of Contract, I/we hereby instruct you to make the following variations from the contract drawings and contract bills or specification, and shall be glad if you will acknowledge the receipt of this instruction.

Contract clause no.	Bill of quantities or specification item no.:	Variations	For office use:	
			Omit RM	Add RM
11.5(vi)		Change "ICI' Pentalite and "ICI' Maxilite paint to "ICI' Pentalite Ecoguard and "ICI' Maxilite Ecoguard paint to all internal walls	513,300.00	568,630.00
				
			RM	<hr/> 55,330.00 <hr/>

Signature: _____	Client	Date: _____
Signature: _____	Architect	Date: _____
Signature: _____	Quantity Surveyor	Date: _____
Signature: _____	Contractor	Date: _____

Original to: Main Contractor <input type="checkbox"/>	Copies to: Client <input type="checkbox"/>	Quantity Surveyor <input type="checkbox"/>	Architect <input type="checkbox"/>	Civil and Structural Engineer <input type="checkbox"/>
	M&E Engineer <input type="checkbox"/>	Resident Engineer <input type="checkbox"/>	others <input type="checkbox"/>	<input type="checkbox"/>

Table 15: Green Cost Sum Supporting Document

		Appendix "B4" B4/4			
No.		Qty	Unit	Rate	Amount (RM)
	<b>ASCII Serviced Apartments</b>				
1	<u>VARIATIONS NO. 1</u> Change 'ICI' Pentalite and 'ICI' Maxilite paint to 'ICI' Pentalite Ecoguard and 'ICI' Maxilite Ecoguard paint to all internal walls  (Refer to A.I. Approval No.MBW/01 dated 1 Dec 10)				
	<b><u>OMISSION</u></b>				
A	Internal wall painting - Pentalite (BQ ref: BQ ref: 3.1/1/A)	(90,660)	m2	5.00	(453,300.00)
B	Internal wall painting - Maxilite (BQ ref: 3.1/1/B)	(20,000)	m2	3.00	(60,000.00)
	<b>Sample</b>				
	<b><u>ADDITION</u></b>				
C	Internal wall painting - Pentalite Ecoguard (new rate)	90,660	m2	5.50	498,630.00
D	Internal wall painting - Maxilite Ecoguard (new rate)	20,000	m2	3.50	70,000.00
	Nett Addition				55,330.00

Table 16: Green Cost Sum Supporting Document

## Samples of Incorrect Submission for the Green Incremental Cost for Tax Incentives.

### SAMPLE 1 –ENERGY EFFICIENT (EE)

Item	Description	Unit	Qty	Rate (RM)	Amount (RM)
	<b><u>Original Specification</u></b>				
	<u>Glazing to aluminium door &amp; window</u>				
1	6mm thick clear float glass	m2	5,098.43	33.00	168,248.19
<b>Sample</b>					
<b>TOTAL TO SUMMARY :-</b>					<b>168,248.19</b>

Item	Description	Unit	Qty	Rate (RM)	Amount (RM)
	<b><u>Revised Specification</u></b>				
	<u>Glazing to aluminium door &amp; window</u>				
1	8.38mm thick Low-E laminated glass	m2	5,098.43	242.00	1,233,820.06
					<b>1,233,820.06</b>

<b>Total Incremental Cost Carried To Summary :-</b>		<b>RM</b>			<b>1,065,571.87</b>
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Incorrect Submission due to:-

1. Original rate used for glass is too low. To provide proof for the rate.
2. To provide proof for original specification and final cost incurred for this item. (i.e. Quotations, Contract Document reference, Approved Variations, etc.)



**SAMPLE 2 – WATER EFFICIENCY (WE)**

Original Specification					
Item	Description	Unit	Qty	Rate (RM)	Amount (RM)
<b>Original Specification :-</b>					
(i)	<u>Basin Mixer</u>				
A	TOTO EGO II series TX115LESN single lever basin mixer	No	100	907.50	90,750.00
B	TOTO EGO II series TX115LESN single lever basin mixer	No	122	907.50	110,715.00
<b>(ii) Shower mixer &amp; shower head :-</b>					
A	TOTO EGO II Series TX492SELM shower mixer c/w shower head (rainfall)	No	55	2,125.00	116,875.00
B	TOTO EGO II Series TX446SESM shower mixer c/w shower head	No	119	907.50	107,992.50
C	TOTO EGO II Series TX446SELM shower mixer c/w shower head	No	36	975.00	35,100.00
<b>(iii) Bath tub mixers</b>					
A	TOTO EGO II range of bathtub mixer	No	55	587.50	32,312.50
<b>(iv) Bidet</b>					
A	"Doe" chrome plated bib tap with handle	No	257	46.00	11,822.00
<b>(v) Water Closet &amp; hand bidet</b>					
A	"TOTO" water closet	No	4	1,191.00	4,764.00
B	Hand bidet	No	4	173.00	692.00
<b>Total Amount Carried To Summary :-</b>					<b>511,023.00</b>
<b>Revised Specification :-</b>					
(i)	<u>Basin Mixer</u>				
A	Dornbracht "Lulu" (Code No. 33 505 710 00)	No	100	4,337.00	433,700.00
B	Dornbracht "Meta 02" (Code No. 33 500 625 00)	No	122	911.00	111,142.00
<b>(ii) Shower mixer &amp; shower head :-</b>					
A	Dornbracht "Lulu" (rainfall) (Code No. 28 568 710 00)	No	55	5,681.00	312,455.00
B	Dornbracht "Meta 02" (Code No. 33 300 625 00)	No	119	1,748.00	208,012.00
C	"TOTO" shower set (Code No. : 27 312 710 00)	No	36	4,337.00	156,132.00
<b>(iii) Bath tub mixers</b>					
A	Bathtub mixers - Dornbracht Lulu (Code No. 27 312 710 00)	No	55	5,385.00	296,175.00
<b>(iv) Bidet</b>					
A	"TOTO" washer rear cleansing	No	127	444.00	56,388.00
	"TOTO" washer rear cleansing	No	130	875.00	113,750.00
<b>(v) Water Closet</b>					
A	"TOTO NEOREST" water closet c/w washer rear cleansing	No	4	21,900.00	87,600.00
<b>Total Amount Carried To Summary :-</b>					<b>1,775,354.00</b>
<b>Total Incremental Cost Carried To Summary :-</b>					<b>1,264,331.00</b>

Incorrect Submission due to:-

1. The Original Specification and the Revised Specification are not of comparable range. To compare with another range from the same maker or similar grade.

To provide proof for original specification and final cost incurred for this item. (i.e. Quotations, Contract Document reference, Approved Variations, etc.)

**SAMPLE 3 – INDOOR ENVIRONMENT QUALITY (IEQ)**

Item	Description	Qty	Unit	Rate (RM)	Amount (RM)
A	<u>Original Specification</u>  300mm x 300mm approved ceramic tiles bedded in cement and sand (1:3), pointed in matching coloured cement and laid on screeded backing (measured separately) to required pattern :-  <div style="text-align: center; border: 1px solid black; background-color: #92d050; padding: 5px; width: fit-content; margin: 0 auto;">Sample</div>	56	m2	63.00	3,528.00
<b>Total Amount Carried To Summary :-</b>					<b>3,528.00</b>

B	<u>Revised Specification</u>  <b>FLOOR FINISHES</b>  <b>RECYCLE ROLL NATURAL FLOORING</b>  Supply and lay 4mm thick "Regupol Everroll - Nome series VISION" rubberised tiles laid on trowelled bed (by others) with and including PU adhesive strictly in accordance with the manufacturer's instructions:	56	m2	212.00	11,872.00
<b>Total Amount Carried To Summary :-</b>					<b>11,872.00</b>

<b>Total Incremental Cost Carried To Summary :-</b>					<b>8,344.00</b>
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Incorrect Submission due to:-

1. The Original Specification used, tiling, is inappropriate to be used in gym. To assume an acceptable material to be used for gym flooring. (e.g. timber flooring, carpet, etc)
2. To provide proof for original specification and final cost incurred for this item. (i.e. Quotations, Contract Document reference, Approved Variations, etc.)

**SAMPLE 4– INDOOR ENVIRONMENT QUALITY (IEQ)**

Item	Description	Unit	Qty	Rate (RM)	Amount (RM)
	<u>Original Specification</u> <u>Normal range of paint</u>  <u>PAINTING AND DECORATION</u>  <u>WALL AND CEILING</u>				
A	Prepare and paint one coat of sealer and two coats of weathershield paint externally	LS	}		220,225.00
B	Prepare and paint one coat of sealer and two coats of emulsion paint internally				
<b>Sample</b>					
<b>Total Amount Carried To Summary :-</b>					<b>220,225.00</b>
	<u>Revised Specification</u> <u>Low VOC Paint certified under SGLS</u>  <u>PAINTING AND DECORATION</u>  <u>WALL AND CEILING</u>				
A	Prepare and paint one coat of sealer and two coats of "SKK Biofine" or other approved equivalent paint externally	LS	}		543,185.00
B	Prepare and paint one coat of sealer and two coats of "SKK Acristar Fine" or approved equivalent emulsion paint internally				
<b>Total Amount Carried To Summary :-</b>					<b>543,185.00</b>
<b>Total incremental Cost Carried To Summary :-</b>					<b>322,960.00</b>

Incorrect Submission due to:-

1. Inadequate information. To provide quantities, rates and specification for both original specification and revised specification.
2. To provide proof for original specification and final cost incurred for this item. (i.e. Quotations, Contract Document reference, Approved Variations, etc.)

**SAMPLE 5 – INDOOR ENVIRONMENT QUALITY (IEQ)**

Item	Description	Unit	Qty	Rate (RM)	Amount (RM)
	<p><b><u>Original Specification</u></b></p> <p><b><u>CONCRETE ROAD HUMP</u></b></p> <p><u>Supply and install 350mm(W) x 50mm(H) concrete road hump including formwork and reinforcement</u></p> <p><b><u>Location : Basement Car Park</u></b></p>				
A	Size approximately <u>6050mm</u> long	no	1	115.00	115.00
B	Size approximately <u>6024mm</u> long	no	1	115.00	115.00
C	Size approximately <u>6500mm</u> long	no	2	124.00	248.00
D	Size approximately <u>6858mm</u> long	no	2	131.00	262.00
<b>Sample</b>					
<b>Total Amount Carried To Summary :-</b>					<b>740.00</b>
	<p><b><u>Revised Specification</u></b></p> <p><b><u>RUBBERISED ROAD HUMP</u></b></p> <p><u>Supply, deliver and install rubberrised road hump with all necessary fixing accesories as shown in drawings all in accordance with manufacturer's instruction:-</u></p> <p><b><u>Location : Basement Car Park</u></b></p>				
A	Size approximately <u>6050mm</u> long	no	1	1,310.00	1,310.00
B	Size approximately <u>6024mm</u> long	no	1	1,310.00	1,310.00
C	Size approximately <u>6500mm</u> long	no	2	1,420.00	2,840.00
D	Size approximately <u>6858mm</u> long	no	2	1,530.00	3,060.00
<b>Total Amount Carried To Summary :-</b>					<b>8,520.00</b>
<b>Total Incremental Cost Carried To Summary :-</b>					<b>7,780.00</b>

Incorrect Submission due to:-

1. Invalid item if no GBI points awarded for this item.
2. Original rate used for concrete road hump is too low. To provide proof for the rate.
3. To provide proof for original specification and final cost incurred for this item. (i.e. Quotations, Contract Document reference, Approved Variations, etc.)

**SAMPLE 6 – INDOOR ENVIRONMENT QUALITY (IEQ)**

Item	Description	Qty	Unit	Rate (RM)	Amount (RM)
<b>Original Specification :-</b>					
<b>ROOF</b>					
<b>ROOF COVERING</b>					
<u>Clean colourbond profile metal roofing sheet or other approved equivalent .0.48mm thick and fixing in accordance with the manufacturer's instructions :-</u>					
A	roofing sheet laid to slope at 3 degree pitch and fixed to purlin (measured nett - no allowance made for laps)	337	m2	63.00	21,231.00
B	50mm thick (uncompressed) rockwool insulation blanket (10kg/m3) laid on and including layer of galvanised steel chicken wire mesh (measured nett - no allowance made for laps)	337	m2	11.00	3,707.00
C	One layer of double sided aluminium foil laid over purlin (measured nett - no allowance made for laps)	337	m2	8.00	2,696.00
<b>Total Amount Carried To Summary :-</b>					<b>27,634.00</b>

Item	Description	Qty	Unit	Rate (RM)	Amount (RM)
<b>Sample</b>					
<b>Revised Specification :-</b>					
<b>ROOF</b>					
<b>ROOF COVERING</b>					
<u>Clean colourbond profile metal roofing sheet or other approved equivalent .0.48mm thick and fixing in accordance with the manufacturer's instructions :-</u>					
A	roofing sheet laid to slope at 3 degree pitch and fixed to purlin (measured nett - no allowance made for laps)	337	m2	63.00	21,231.00
B	One layer of double sided aluminium foil laid over purlin (measured nett - no allowance made for laps)	337	m2	8.00	2,696.00
C	50mm thick (uncompressed) rockwool insulation blanket (10kg/m3) laid on and including layer of galvanised steel chicken wire mesh (measured nett - no allowance made for laps)	337	m2	11.00	3,707.00
D	One layer of "Z" spacer / batten	337	m2	9.00	3,033.00
E	One layer of 50mm thick styrofoam	337	m2	50.00	16,850.00
F	roofing sheet laid to slope at 3 degree pitch as bottom deck (measured nett - no allowance made for laps)	337	m2	76.00	25,612.00
<b>PAINTING AND DECORATION</b>					
<u>Prepare and apply "COOL TIGHT" heat reflective paint comprising of one (1) coat of primer and two (2) coats of finishing coat including preparation of surface prior to applying, all in accordance with manufacturer's instruction:-</u>					
G	To surface of metal roof covering	337	m2	21.80	7,346.60
<b>Total Amount Carried To Summary :-</b>					<b>80,475.60</b>
<b>Total Incremental Cost Carried To Summary :-</b>					<b>52,841.60</b>

Incorrect Submission due to:-

1. To provide proof for original specification and final cost incurred for this item. (i.e. Quotations, Contract Document reference, Approved Variations, etc.)

**SAMPLE 7 – INDOOR ENVIRONMENT QUALITY (IEQ)**

Item	Description	Qty	Unit	Rate (RM)	Amount (RM)
	<p><b><u>Original Specification</u></b></p> <p><b><u>FLOOR FINISHES</u></b></p> <p><b><u>CARPET - Normal range</u></b></p> <p><u>Carpet sheet as described comprising of field and border capet laid on trowelled bed (measured separately), complete with aluminium edge trimmer install strictly in accordance with the manufacturer's instructions:-</u></p>				
A	<p>flooring</p> <div style="border: 1px solid black; background-color: #92d050; padding: 5px; display: inline-block; margin: 10px 0;">Sample</div>	19	m2	33.00	627.00
<b>Total Amount Carried To Summary :-</b>					<b>627.00</b>
	<p><b><u>Revised Specification</u></b></p> <p><b><u>FLOOR FINISHES</u></b></p> <p><b><u>CARPET - Recycled Carpet with certificate</u></b></p> <p><u>Carpet sheet as described comprising of field and border capet laid on trowelled bed (measured separately), complete with aluminium edge trimmer install strictly in accordance with the manufacturer's instructions:-</u></p>				
A	<p>flooring</p>	19	m2	145.00	2,755.00
<b>Total Amount Carried To Summary :-</b>					<b>2,755.00</b>
<b>Total Incremental Cost Carried To Summary :-</b>					<b>2,128.00</b>

Incorrect Submission due to:-

1. Original rate used for carpet is too low. To assume comparable range (e.g. by weight of the carpet) and to provide proof for the rate.
2. To provide proof for original specification and final cost incurred for this item. (i.e. Quotations, Contract Document reference, Approved Variations, etc.)

**SAMPLE 8– INDOOR ENVIRONMENT QUALITY (IEQ)**

Item	Description	Unit	Qty	Rate (RM)	Amount (RM)
	<u>Original Specification</u>				N/A
A	Plastering and painting to wall and column <u>(Swimming Pool Features Wall-Penthouse)</u>  300mm x 600mm x 20mm thick flamed & wirebrushed finished granite "G654" bedded in cement and sand (1:3), pointed in matching coloured cement and laid on screeded backing to required pattern :- <u>(Features wall - Changing room &amp; New foyer)</u>	m2	113	7.00	791.00
B	finish to wall <span style="border: 1px solid black; padding: 2px; display: inline-block;">Sample</span>	m2	52	94.30	4,903.60
C	Plastering and painting to wall and column <u>(Ground floor column, New Foyer Features wall )</u>	m2	72	7.00	504.00
D	Plastering and painting to wall and column <u>(Ground floor column, New Foyer Features wall )</u>	m2	39	7.00	273.00
E	Plastering and painting to wall and column <u>(Refuse chamber &amp; swimming pool wall)</u>	m2	129	7.00	903.00
F	Plastering and painting to wall and column <u>(Unit Entrance Door)</u>	m2	146	7.00	1,022.00
G	Plastering and painting to wall and column <u>(Retaining wall at water tank)</u>	m2	93	7.00	651.00
<b>Total Amount Carried To Summary :-</b>					<b>9,047.60</b>

**SAMPLE 8 (Cont'd) – INDOOR ENVIRONMENT QUALITY (IEQ)**

Item	Description	Unit	Qty	Rate (RM)	Amount (RM)
	<b>Revised Specification</b>				
	300mm x 600mm x 20mm thick flammed and wirebrushed finished granite "G654A" bedded in cement and sand (1:3), pointed in matching coloured cement and laid on screeded backing to required pattern :- <b>(Swimming Pool Features Wall-Penthouse)</b>				
A	finish to wall	m2	113	94.30	10,655.90
	50mm x 600mm x 20mm thick, 100mm x 600mm x 20mm thick and 150mm x 600mm x 20mm thick polished finished marble "Zion Beige" bedded in cement and sand (1:3) in random size pattern, pointed in matching coloured cement and laid on screeded backing to required pattern :- <b>(Features wall - Changing room &amp; New foyer)</b>				
B	finish to wall	m2	52	94.30	4,903.60
	50mm x 600, 100mm x 600 and 150mm x 600mm x 15mm thick polish finished marble "Black Maquinine" bedded in cement and sand (1:3), in random size pattern, pointed in matching coloured cement and laid on screeded backing to required pattern :- <b>(Ground floor column, New Foyer Features w</b>				
C	finish to wall	m2	72	94.30	6,789.60
	100mm x 600mm x 15mm thick polish finished marble "Zion Beige" bedded in cement and sand (1:3) in random size pattern, pointed in matching coloured cement and laid on screeded backing (by others) to required pattern :- <b>(Ground floor next to cafeteria &amp; Changing room fatures wall)</b>				
D	finish to wall	m2	39	94.30	3,677.70
	100mm x 600mm x 20mm thick polished and flamed finished granite "G603" bedded in cement and sand (1:3) in random size pattern, pointed in matching coloured cement and laid on screeded backing (by others) to required pattern :- <b>(Refuse chamber &amp; swimming pool wall)</b>				
E	finish to wall	m2	129	94.30	12,164.70
	Marble "C4" bedded in cement and sand (1:3), pointed in matching coloured cement and laid on screeded backing (by others) to required pattern:- <b>(Unit Entrance Door)</b>				
F	finish to wall	m2	146	94.30	13,767.80
	300mm x 600mm x 20mm thick flamed, 100mm x 600mm x 20mm thick polished and 150mm x 600mm x 20mm thick flamed finished granite "G603" bedded in cement and sand (1:3) in random size pattern, pointed in matching coloured cement and laid on screeded backing (by others) to required pattern :- <b>(Retaining wall at water tank)</b>				
G	finish to wall	m2	93	94.30	8,769.90
	<b>Total Amount :-</b>				60,729.20
	Add Workers to collect reuse marble :- 4workers / day x 10months	Manday	1200	50.00	60,000.00
	<b>Total Amount Carried To Summary :-</b>				120,729.20
	<b>Total Incremental Cost Carried To Summary :-</b>				111,681.60

Incorrect Submission due to:-

1. Original rate used for plaster and paint is too low. To provide proof for the rate.
2. To provide proof for original specification and final cost incurred for this item. (i.e. Quotations, Contract Document reference, Approved Variations, etc.)



**SAMPLE 8– INDOOR ENVIRONMENT QUALITY (IEQ)**

Item	Description	Qty	Unit	Rate (RM)	Amount (RM)
A	<u>Original Specification</u> Existing Floor hardener				<b>N/A</b>
<b>Total Amount Carried To Summary :-</b>					-
	<u>Revised Specification</u>  <b>EPOXY FLOOR COATING</b>  <u>Epoxy flooring coating system consisting of one (1) coat of SK Arkiprimer and two (2) coats of Arkifloor EHG to floor slab including roughening and cleaning of concrete surfaces prior to applying, all in accordance with manufacturer's</u>				
A	to floor	2833	m2	57.00	161,481.00
B	to ramp slab	118	m2	57.00	6,726.00
C	Extra over for finishing t scupper drain	322	m	22.00	7,084.00
	<u>Epoxy flooring coating system consisting of one (1) coat of SK Arkiprimer and two (2) coats of Arkifloor EH to floor slab including roughening and cleaning of concrete surfaces prior to applying, all in accordance with manufacturer's</u>				
D	to floor (Car park lots only)	2252	m2	35.00	78,820.00
	<u>Prepare and apply one (1) coat SK Arkifloor TR5 and one (1) coat of Arkiseal to floor slab including cleaning and preparation of concrete surfaces prior to applying SK Arkiprimer and Arkifloor EHG/EH, all in accordance with manufacturer's instruction:-</u>				
E	To floor slab and car park bays (floor B3A only)	694	m2	65.00	45,110.00
<b>Total Amount Carried To Summary :-</b>					<b>299,221.00</b>
<b>Total Incremental Cost Carried To Summary :-</b>					<b>299,221.00</b>

Incorrect Submission due to:-

1. No original rate used. To assume comparable finishes and provide proof for the rate. (e.g. epoxy without green certification as base)
2. To provide proof for original specification and final cost incurred for this item. (i.e. Quotations, Contract Document reference, Approved Variations, etc.)

- End of Part 2 -

## **PART III: Frequently Asked Questions (FAQs)**

*The FAQ is a simplified summary on the requirements under the application for GBI Certification for both (Stage 2) Design Assessment and (Stage 3) Completion & Verification Assessment where the QS role is noted in the GBI Design Guides.*

*The FAQ is neither comprehensive nor exhaustive and is to be read together with the Practice Notes for QS and the relevant GBI Design Guides.*

### **Submissions & Requirements**

#### **General Info**

Q1: Is the QS a “Submitting Professional” as named in the GBI submissions forms?

A1: No. The responsibility for the overall submission of the application for Green certification for both Stage 2 (DA) and Stage 3 (CVA) is under the GBI Facilitator (GBIF) and it is his/her duty to guide the project team including the QS.

The objective in having the various identified professionals to sign the forms is to ensure the relevant consultants are aware of the GBI credit points that the GBI Facilitator has targeted for the particular project and hence will design and/or allow for likewise. It is not meant to denote responsibility or liability of the Submitting Professionals.

#### **Criteria: Material Reused and Selection**

Q2: Who decides on the materials reuse strategy as well as the materials to be reused or salvage for the project?

A2: Generally, the designers (Architects, Engineers, Landscape Architects, Interior Designers, etc) will decide on incorporating the reused & salvaged materials into their design and provide the write up or listing. The greenbuildingindex Facilitator (GBIF) will collate the information on the above for submissions.

Q3: Who establishes the cost of each proposed reused or salvaged materials?

A3: The QS will provide the costs on the items selected by the MEP engineers & Landscape Architect for the GBIF, who will compile the complete costing from all consultants for a total cost tally.

### **Criteria: Material Reused and Selection (Cont'd)**

- Q4: Who establishes the estimated Total Cost of the materials for the project?
- A4: The QS will provide the total project construction cost [Cost Plan (prior to Award)/Contract Sum (if Awarded)] to the GBIF, e.g. Statement of the Total project construction cost.
- The GBIF will then apply the default value for materials cost to derive at the Total Cost of the materials for the project.
- Q5: Who ensures the waste management plan for the project is implemented to achieve the allocated points?
- A5: The QS will ensure that specification of this work scope is within the Main Contractor's tender document while the GBIF is responsible to collate and submit the relevant portion of the specifications.
- Q6: Who provides for the documentation needed during the construction stage including photographs of the reused materials?
- A6: The designers/GBIF to compile and notify the Contractors/ Resident staff to provide the photographs while working with the reused/salvage materials.
- Q7: Who provides the as built drawings or as built specifications confirming that the building has been constructed in accordance with the design stage drawings/specifications?
- A7: The designers will compile the as built drawings or as built specifications from the Contractors
- Q8: Who provides the Actual Total Cost of the materials in the project?
- A8: The QS will provide the total project construction cost (Contract Sum/Variations Statement / Statement of Final Account) via the Letter of Award / Statement of Final Account to the GBIF who will then apply the default value for materials cost to derive at the Total Cost of the materials for the project.

## **Criteria: Recycled Content Materials**

- Q9: Who will provide the list of all recycled content materials and products, their costs and the information on their respective source and supplier?
- A9: The designers/contractors will provide the list of recycled materials incorporated in their design and construction during specification and material selection (as advised by the GBI), their cost and information on the source and supplier for the GBIF to compile.
- Q10: Who provides the:
- calculation of the recycled content value of each material,
  - the percentage of post-consumer and/or pre-consumer recycled content by cost: or by weight (converted to cost).
  - Calculation of the total percentage (based on cost) value of the materials with recycled content of the estimated total value of the materials in the project
- A10: QS will provide the quantities and cost for the items selected based on Contract Document/ Cost Plan as provided by the MEP Engineers & Landscape Architect.
- GBIF will compile the quantities, costing and using the recycled contents provided by sources/suppliers to calculate the percentage of recycled content and calculate the value of material cost using the default value.
- Q11: Who provides the documentation during the construction stage including photographs of the installed reused materials?
- A11: The Contractors/ Resident staff will provide the photographs while working with the recycled materials as specified for the designers and /or GBIF to collate.
- Q12: Who provides the as built drawings or as built specifications confirming that the building has been constructed in accordance with the design stage drawings/specifications?
- A12: The designers will compile the as built drawings or as built specifications from the Contractors.
- Q13: Who provides the list all recycled content materials and products and their costs used in the project after its completion? What about information on the sources/suppliers on the materials with recycled content?
- A13: The designers/contractors (Architects, Engineers, Landscape Architects, Interior Designers, etc) will compile the list all recycled content materials and products and their costs used in the project together with the information on the items' sources/ suppliers.

## **Criteria: Regional Materials**

- Q14: Who provides the list of products that are extracted/harvested/recovered and manufactured within 500 km. of the project site and information on their manufacturer?
- A14: The designers / contractors will compile the list and request information (certificates/ supplier specifications) from the sources/ suppliers for the GBIF to collate.
- Q15: Who calculates:
- the estimated total Material Cost and
  - the percentage on local materials  
the percentage (by weight) for materials as comprised of in the complete product, if only part of the raw materials for a particular product or assembly originates within 500 km of the project site
  - the percentage of local materials = Total Cost of Local Materials (RM)/Total Material Cost (RM)
  - the percentage of regional materials used = Total Cost of Regional Materials (RM) /Total Material Cost (RM).
- A15: The QS will provide the quantities and cost for the items selected based on Contract Document/ Cost Plan as provided by the MEP Engineers & Landscape Architect.
- The GBIF will then compile the quantities, costing and using the recycled contents provided by sources/suppliers to calculate the percentage of recycled content and calculate the value of material cost using the default value.
- Q16: Who provides the as built drawings or as built specifications confirming that the building has been constructed in accordance with the design stage drawings/specifications?
- A16: The designers to compile the as built drawings or as built specifications from the Contractors.

### **Criteria: Regional Materials (Cont'd)**

- Q17: Who determines the Actual Total Material Cost? Who calculates:
- the percentage of regional materials used = Total Cost of Regional Materials (RM)/ Total Material Cost (RM).
  - the percent local materials = Total Cost of Local Materials (RM)/Actual Total Material Cost (RM).
  - the recycled content value of each material.

A17: The QS will provide the quantities and cost for the items selected based on the Contract Document/ Variations Statement/ Final Account/ Proof of Expenditure as provided by the MEP Engineers & Landscape Architect.

The GBIF will then compile the quantities, costing and using the recycled contents provided by sources/suppliers to calculate the percentage of recycled content and calculate the value of material cost using the default value.

### **Criteria: Sustainable Timber**

- Q18: Who provides:
- the list all new wood products specified in the project and identify which components are at least FSC and MTCC certified timber source?
  - the list all new wood products specified in the project and identify which components are FSC and MTCC certified.
  - the list of vendors/suppliers capable of providing FSC and MTCC certified wood products or equivalent for the project.
  - the list of vendors/suppliers capable of providing FSC and MTCC certified wood products or equivalent for the project.

A18: The designers/ GBIF/ contractors will provide the list and request information from the sources/ suppliers (certificates/ supplier specifications) from the sources/ suppliers for the GBIF to compile.

Q19: Who provides the estimated volume of each wood product?

A19: The QS will provide the quantities and cost for the items selected based on the Contract Document/ Variations Statement/ Final Account/ Proof of Expenditure as provided by the MEP Engineers & Landscape Architect.

Q20: Who provides the as built drawings or as built specifications confirming that the building has been constructed in accordance with the design stage drawings/specifications?

A20: The designers will request from the Contractors to provide the as built drawings or as built specifications for the designers for the GBIF to compile for submission.

### **Criteria: Sustainable Timber (Cont'd)**

Q21: Who will provide the list of all new wood products used in the project and identify which components are FSC and MTCC certified and the volume of each wood product?

A21: The designers/ GBIF/ contractors will compile the list and request information (certificates/ supplier specifications) from the sources/ suppliers to be collated by the GBIF.

### **Criteria: Storage & Collection of Recyclables**

(Note: QS to incorporate the specifications (from the GBIF/designers) for this item for the Contractors to comply in the tender document)

### **Criteria: Construction Waste Management**

Q22: Who provides:

- the anticipated diverted/recycled/landfill waste and the estimated quantity of the diverted / recycled / landfill waste?
- the percentage, convert all waste materials to either weight (tons) or volume (cubic meter).
- the summaries of diversion rates from the recyclers for comingled recycled wastes
- the table with a list of diverted/ recycled/ landfill waste and the quantity of the diverted/ recycled/ landfill waste.

A22: Prior to awarding the construction contract and during the DA, GBIF to identify and calculate the possible items to be included in the waste management plan.

During tender and construction, the contractors to provide and adopt the waste management plan to comply with the Specifications and the allocated/committed points.

Q23: Who provides the copy of the specification clause that requires the main/ principal contractor to produce the required waste management plan and waste audit?

A23: The QS will incorporate the specifics as provided by the GBIF to be included in the Tender Document.

### **Criteria: Construction Waste Management (Cont'd)**

Q24: Who provides:

- the detailed project construction waste management plan with evidence supporting the waste recycling programme such as Photographs, waste receipts from recycling facilities, authorized documents from the receiving sites/plants/recycling facilities, tabulation of waste disposed and recycled, etc.
- a copy of the construction waste management plan from the main/principal contractor and a table with a list of diverted/recycled waste/landfill waste, diverted/recycled/landfill waste destination or location and the quantity of the diverted/recycled/landfill waste.
- the percentage, convert all waste materials to either weight or volume
- the summaries of diversion rates from the recyclers for comingled recycled wastes,.
- the verified record of truck loads of diverted/recycled/landfill waste against total truck loads, supported by copy of the construction waste management plan

A24: The contractors to provide the waste management plan to comply with the Specifications complete with calculations, the verified records, proofs, receipts, photographs from all sub-contractors for the GBIF to monitor, collate and submit.

### **Criteria: Water Efficiency Fittings**

(Note: QS to provide the cost incurred in the greener selection selected by designers as compared to similar range which do not comply to the green certification)

- End of Part 3 -