



GBI ASSESSMENT CRITERIA
FOR
TOWNSHIP

VERSION 1.01 | SEPTEMBER 2011

www.greenbuildingindex.org | info@greenbuildingindex.org

GREENBUILDINGINDEX SDN BHD (845666-V) 4 & 6 Jalan Tangsi, 50480 Kuala Lumpur, Malaysia Tel 603 2694 4182 Fax 603 2697 4182

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INTRODUCTION

WHAT IS THE GREEN BUILDING INDEX (GBI)?

The Green Building Index is an environmental rating system for buildings developed by PAM (Pertubuhan Arkitek Malaysia / Malaysian Institute of Architects) and ACEM (the Association of Consulting Engineers Malaysia). The Green Building Index is Malaysia's first comprehensive rating system for evaluating the environmental design and performance of Malaysian buildings based on the six (6) main criterias of Energy Efficiency, Indoor Environment Quality, Sustainable Site Planning & Management, Materials & Resources, Water Efficiency, and Innovation.

The Green Building Index is developed specifically for the Malaysian tropical weather, environmental and developmental context, cultural and social needs.

The GBI initiative aims to assist the building industry in its march towards sustainable development. The GBI environmental rating system is created to:

- **Define green buildings by establishing a common language and standard of measurement;**
- **Promote integrated, whole-building design;**
- **Recognise and reward environmental leadership;**
- **Transform the built environment to reduce its environmental impact; and**
- **Ensure new buildings remain relevant in the future and existing buildings are refurbished and upgraded properly to remain relevant.**

WHO CAN USE THE GREEN BUILDING INDEX?

GSB encourages all members of Project Teams, Building owners, Developers and other interested parties (including Contractors, Government and Design & Build Contractors) to use the Green Building Index to validate environmental initiatives at the design phase of new construction or base building refurbishment; or construction and procurement phase of buildings. Use of the Green Building Index is encouraged on all such projects to assess and improve their environmental attributes.

Use of the Green Building Index tool without formal certification by an independent accredited GBI Certifier does not entitle the user or any other party to promote the Green Building Index rating achieved. No fee is payable to GSB for such use, however formal recognition of the Green Building Index rating – and the right to promote same – requires undertaking the formal certification process offered by GSB.

All Green Building Index rating tools are reviewed annually; please forward any feedback to info@greenbuildingindex.org.

HOW TO USE THE GREEN BUILDING INDEX?

- Complete the Building Input worksheet as the building's type and location may affect the predicted rating.
- Complete the remaining worksheets by reviewing each credit in each category and entering the number of points you predict the building will achieve in the 'No. of Points Achieved' column. Calculators are provided for a number of the tool's credits.
- Enter any points that may be achieved but need to be confirmed in the 'Points to be Confirmed' column.
- Enter any comments required in the 'Comments' column.
- The predicted rating is shown in the Summary worksheet. More detail on point scores (both achieved and those to be confirmed) are shown in the Credit Summary and Graphical Summary worksheets at the end of the tool.

INTRODUCTION

WHAT IS A SUSTAINABLE TOWNSHIP?

A Township is a development of substantial size that contains a community or small neighbourhood. A sustainable townships are livable places that meet the diverse needs of the community, both now and in the future. They are places that are well planned and designed, safe and secure, and enhance the surrounding environment, thus providing a high quality of life for the residents.

The Basis on the concept of sustainable development is the balanced approached to addressing the environmental, social and economic issues.

SUSTAINABLE TOWNSHIP RATING TOOL

The preliminary stage of preparing a planning for the design of zoning and parcellation of a development, many issues that should be addressed at the site, community and environmental planning, infrastructure and transportation integration needs to be more effectively addressed.

The Township Rating Tool is created with the objective to:

- **Consider Sustainable Townships that are balanced in their ongoing production and consumption of energy and water**
- **Promote Protection of the Natural Environment**
- **Planned and designed for the benefit of the Community**
- **Optimising and lowering the impact on our Resources**
- **Recognise connectivity of the community within and externally**
- **Tailored to meet the contextual requirements and incorporating innovative solutions for now and the future**

Six core categories have been developed to address the delivery of a more sustainable township. The categories are Climate, Energy & Water, Ecology & Environment, Community Planning & Design, Transportation & Connectivity, Building & Resources and Business & Innovation.

The GBI Township Assessment process follows through four key stages. Stage 1 Application & Registration, Stage 2 Planning Assessment (PA), Stage 3 Final Planning Assessment (FPA) and Stage 4 Completion & Verification Assessment.

PROJECT INFORMATION

PROJECT NAME	
PROJECT ADDRESS	
POSTCODE	
STATE	

APPLICANT	
CONTACT PERSON	

TOWN PLANNER	
ARCHITECT	
LANDSCAPE ARCHITECTS	
CIVIL ENGINEER	
STRUCTURAL ENGINEER	
MECHANICAL ENGINEER	
ELECTRICAL ENGINEER	
EIA CONSULTANT	
BIODIVERSITY CONSULTANT	
TRANSPORT PLANNER	
QUANTITY SURVEYOR	
LAND SURVEYOR	
OTHER SPECIALIST CONSULTANT(S)	
LOCAL AUTHORITY	

DESCRIPTION OF PROPOSED DEVELOPMENT	ACREAGE	PERCENTAGE OF AREA ON OVERALL AREA
(A) GROSS TOTAL DEVELOPMENT AREA	acres	%
(B) RESIDENTIAL AREA	acres	%
(C) COMMERCIAL AREA	acres	%
(D) INDUSTRIAL AREA	acres	%
(E) AMENITIES & PUBLIC FACILITIES	acres	%
(F) OPEN SPACE (GREENSPACE & RECREATIONAL)	acres	%
(G) UTILITIES & INFRASTRUCTURE	acres	%

PROJECT DESCRIPTION	

DETAIL ASSESSMENT CRITERIA SUMMARY OF FINAL SCORE

PART		ITEM	MAXIMUM POINTS	SCORE
1	CEW	Climate, Energy & Water	20	
2	EEC	Environmental & Ecology	15	
3	CPD	Community Planning & Design	26	
4	TRC	Transportation & Connectivity	14	
5	BDR	Building & Resources	15	
6	BSI	Business & Innovation	10	
TOTAL SCORE			100	

GREEN BUILDING INDEX CLASSIFICATION

POINTS	GBI RATING
86 to 100 points	Platinum
76 to 85 points	Gold
66 to 75 points	Silver
50 to 65 points	Certified

DETAIL ASSESSMENT CRITERIA SUMMARY OF CONTENTS

PART	CRITERIA	ITEM	POINTS	TOTAL
1	CEW	CLIMATE, ENERGY & WATER		
	CEW1	HEAT ISLAND DESIGN PRINCIPLES	4	20
	CEW2	EFFICIENT STREET AND PARK LIGHTING	2	
	CEW3	ON-SITE ENERGY GENERATION	2	
	CEW4	RENEWABLE ENERGY	4	
	CEW5	REDUCED WATER USE	4	
	CEW6	REDUCTION IN WATER USE BY WASTE WATER TREATMENT	4	
2	EEC	ENVIRONMENTAL & ECOLOGY		
	EEC1	BIODIVERSITY CONSERVATION	2	15
	EEC2	LAND REUSE	1	
	EEC3	ECOLOGY	3	
	EEC4	FLOOD MANAGEMENT AND AVOIDANCE	1	
	EEC5	WETLAND AND WATER BODY CONSERVATION	1	
	EEC6	AGRICULTURAL LAND PRESERVE	1	
	EEC7	HILL SLOPE DEVELOPMENT	1	
	EEC8	SUSTAINABLE STORMWATER DESIGN & MANAGEMENT	2	
	EEC9	PROXIMITY TO EXISTING INFRASTRUCTURE	1	
	EEC10	SERVICES INFRASTRUCTURE PROVISION	1	
EEC11	LIGHT POLLUTION	1		
3	CPD	COMMUNITY PLANNING & DESIGN		
	CPD1	GREENSPACES	3	26
	CPD2	COMPACT DEVELOPMENT	1	
	CPD3	AMENITIES FOR COMMUNITIES	3	
	CPD4	PROVISION FOR UNIVERSAL ACCESSIBILITY	3	
	CPD5	SECURE DESIGN	2	
	CPD6	HEALTH IN DESIGN	2	
	CPD7	RECYCLING FACILITIES	2	
	CPD8	COMMUNITY DIVERSITY	1	
	CPD9	AFFORDABLE HOUSING	1	
	CPD10	COMMUNITY THRUST	4	
CPD11	GOVERNANCE	4		
4	TRC	TRANSPORTATION & CONNECTIVITY		
	TRC1	GREEN TRANSPORT MASTERPLAN	8	14
	TRC2	AVAILABILITY AND FREQUENCY OF PUBLIC TRANSPORT	1	
	TRC3	FACILITIES FOR PUBLIC TRANSPORTATION	1	
	TRC4	PEDESTRIAN NETWORKS	1	
	TRC5	CYCLING NETWORKS	2	
TRC6	ALTERNATIVE TRANSPORT OPTIONS	1		
5	BDR	BUILDING & RESOURCES		
	BDR1	LOW IMPACT MATERIAL (INFRASTRUCTURE)	1	15
	BDR2	LOW IMPACT MATERIAL (BUILDINGS OR STRUCTURES)	1	
	BDR3	REGIONAL MATERIAL	1	
	BDR4	QUALITY IN CONSTRUCTION	2	
	BDR5	CONSTRUCTION WASTE MANAGEMENT	1	
	BDR6	SITE SEDIMENTATION AND POLLUTION CONTROL	1	
	BDR7	SUSTAINABLE CONSTRUCTION PRACTICE	2	
BDR8	GBI CERTIFIED BUILDING	6		
6	BSI	BUSINESS & INNOVATION		
	BSI1	BUSINESS	3	10
	BSI2	INNOVATION	6	
BSI3	GBI FACILITATOR	1		
			TOTAL POINTS	100

1 CLIMATE, ENERGY & WATER (CEW) – 20 POINTS
 To Minimise Impact on the Environment by Adopting Best Practice on Energy Efficiency, Water Efficiency and Sustainable Development.

CEW1	HEAT ISLAND DESIGN PRINCIPLES	4 POINTS
	INTENT	Reduce Heat Island effect and lower ambient temperatures to the surrounding environment.

ASSESSMENT CRITERIA	POINTS	SCORE
A maximum of Four (4) points are awarded for compliance to the following criteria:		
A) Basic Compliance One (1) point for compliance to basic criteria. Provision of Open spaces including greenspaces shall be 15% of the total development area or 50% more than the local authority’s requirements whichever greater.	1	
B) Advanced Compliance Maximum of three (3) points for advanced compliance. In addition to the basic compliance in (A) above, one point will be awarded for compliance to ANY TWO of the following criteria up to a maximum of three points: <ol style="list-style-type: none"> 50% of all public spaces (hardscape plaza’s) and footpaths on the development are shaded. Provision of shaded green space or and tree cover to at least 20% of development foot print. At least 10% of public spaces to be provided with open water/or water features At least 50% of hardscape in public spaces and road within the development to use Solar Reflectance Index (SRI) value of 29 and above for the final surface finishes to mitigate heat absorption. Demonstrate provision of cross ventilation air-flow throughout development to mitigate stagnant / hotspots (use of computer simulation with building and landscape modelling) Any other measure which can be proven to promote, reduce or minimise heat island effect or lower ambient temperature 	3	
DESCRIPTION Open space describes land that is enclosed or open that is specified or reserved to be wholly or in part as a public botanical park, public park, public sports and recreation field, pedestrian walkway, dedicated cycleway or as a public plaza. The open space is a combination of hardscape and softscape. Greenspace is defined as open space that is having predominantly softscape landscaping in nature. The softscape can be defined as Greenspace and is referenced under CPD1. Tree preservation Order (TPO), Green Space Index and any other local statutory requirements should be referenced. The creation and erection of hard surfaces or structures within the built-environment promote the formation of ‘heat islands’ as these hardscapes create thermal mass that absorbs heat during the day and releases during the night to the surrounding areas. Mitigating ‘heat island’ effect at its basic level includes shading of public spaces, the provision of tree covers and shaded green, water bodies and features and use of materials of high SRI (Solar Reflective Index).		

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)	SUBMITTER	GBI
1. Site Plan of the total development Area or Layout Plan indicating all Open Spaces both hardscape & softscape with the percentage breakdown of all components to the total area. (All drawings recommended scale 1:500 or 1:1000)	<input type="radio"/>	<input type="radio"/>
2. Summary Report on Strategies to ensure compliance with intent on all Open space strategies employed to reduce Heat Island.	<input type="radio"/>	<input type="radio"/>
3. All drawings calculations and reports to be endorsed by the planner or architect responsible.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)	SUBMITTER	GBI
1. Approved landscape Masterplan layout indicating all compliance to criteria intent.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)	SUBMITTER	GBI
1. Summary Report describing compliance to measures (both Basic and Advanced) listed in the reports and highlight all criteria compliance.	<input type="radio"/>	<input type="radio"/>
2. As-Built drawings (colour coded) showing Open Spaces, pedestrian footpaths, shaded green spaces and free cover, open water features natural and man-made, buildings incorporating green roof if accessible to public.	<input type="radio"/>	<input type="radio"/>
3. For compliance to SRI values, submit materials listing within the summary report describing permeability and Solar Reflectance Index of materials used site-wide.	<input type="radio"/>	<input type="radio"/>
4. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

1

CLIMATE, ENERGY & WATER (CEW) – 20 POINTS

To Minimise Impact on the Environment by Adopting Best Practice on Energy Efficiency, Water Efficiency and Sustainable Development.

CEW2	EFFICIENT STREET & PARK LIGHTING	2 POINTS
	INTENT	Reduce energy use by good lighting design practice for street and park lightings.

ASSESSMENT CRITERIA	POINTS	SCORE
A maximum of Two (2) points are awarded for compliance to the following criteria:		
A) One (1) point is awarded for compliance with the “lumen-caps per acre” listed in Table CEW2-1.	1	
B) Additional one (1) point is awarded for implementing energy saving lamps in over 90% of the development. Energy saving lamps (whether LED, discharge lamps, induction lamps, electronic simulated discharge lamps or whatever cutting edge technology) shall only qualify if lamps comply with the following criteria: 1. Lamp efficiencies is 120 lumens/W or better; 2. Certified low or zero mercury (< 3mg /100W) 3. Lamp life is 15,000 hours or more.	1	

DESCRIPTION

Sustainable Lighting Design

Sustainable lighting starts with the application of best practice in design of Luminance or Illuminance level and the selection of light fittings in the right context and for the relevant task application. Lighting for external application generally specify illuminance (candela/m²) rather than luminance (lumen/m² or lux). Issues to consider include:

1. Colour rendering index (CRI) or colour temperature depending on the task application (pedestrian or vehicular) and development area classification etc.
2. Uniformity and luminance and/or illuminance level (depending on whether application is vehicular or pedestrian or mixed traffic.
3. In facade and landscape lighting, the ‘creative aspect’ of lighting design is an important factor creating moods, or enhancing themes or features. In such application, “technical lighting” which is principally about uniformity, lighting level and colour may be over shadowed by ‘creative’ issues such as shadows, focus, ‘surface washing’, ‘highlighting’ etc. The use of ‘colour’ and ‘colour rendering’ will also be an important aspect of ‘creative lighting’.
4. Generally, the ‘technical aspect’ of lighting are covered under the following Malaysian Standards:
 - i. MS 825 : Part 1 Code of Practice for the Design of Road Lighting; Part 1 Lighting of Roads and Public Amenity Areas.
 - ii. MS 825 : Part 2 Code of Practice for the Design of Road Lighting; Part 2 Lighting of Tunnels.

TABLE CEW2-1: LUMENS CAP PER ACRE

Lumens Caps (Initial Lamp Lumen Per Acre)	Lighting Zones				
	E4	E3	E2	E1	E1A
1. Commercial & Industrial Zone (1)					
Total (shielded + unshielded)	200,000	100,000	50,000	25,000	12,500
Unshielded only	10,000	10,000	4,000	2,000	1,000
2. Residential Zone (2)					
Total (shielded + unshielded)	20,000	10,000	10,000	10,000	5,000
Unshielded only	5,000	5,000	1,000	1,000	0

Notes for Table CEW2-1:

1. Commercial & Industrial Zone refers to all land use zoning classifications for high rise residential, commercial and industrial use.
2. Residential Zone refers to all low rise residential land use zoning including single family terraces, duplex, detached units etc.
3. Total (shielded + unshielded) refers to lamps certified semi-cut-off (examples define in EECII)
4. Unshielded means no-cut-off (examples as defined in EEC II)
5. Calculation of ‘lumens cap’ exclude signage lights, internally lit signs, internal building lights, neon lights, temporary lights, festive occasion lights and lights which provide ‘sparkle’.
6. Seasonal variations (festive occasions etc) to the above are permitted.
7. Parcels of less than one acre are allowed lumens proportionate to one acre limitation (e.g. 0.8 acres, 0.8 x 20,000)
8. For definitions of Lighting Zones, refer to Table CEW2-2.

Continued on next page >>

1

CLIMATE, ENERGY & WATER (CEW) – 20 POINTS

To Minimise Impact on the Environment by Adopting Best Practice on Energy Efficiency, Water Efficiency and Sustainable Development.

CEW2	EFFICIENT STREET & PARK LIGHTING (Continued)		2 POINTS
	INTENT	Reduce energy use by good lighting design practice for street and park lightings.	

TABLE CEW2-2: LIGHT ZONE CLASSIFICATION AND RELATED LAND USE

IDA Light Zones		Land Use Zones	
Zone	Description	Code	Description
E1	Intrinsic Dark Sky Zones Areas with intrinsically dark landscapes. These Zones include all areas within 50km of astronomical observatories and within 10km of local or national park boundaries, as well as the parks themselves. In these areas the preservation of a naturally-dark environment, both in the sky and in the viable landscape, is considered of paramount concern. These Zones may also include rural areas, including rural residential areas, that have identified preservation of natural darkness as a high priority or other areas where the preservation of a naturally dark landscape is of utmost priority.	T1 T2	Natural Zone Rural
E2	Low Ambient Lighting Zones These Zones generally include rural residential and agricultural areas but may also include small outlying neighbourhood commercial and industrial areas surrounded by rural residential areas.	T2 T3	Rural Sub Urban
E3	Medium Ambient Lighting Zones These Zones generally include urban areas with primary land uses for commercial, business and industrial activities including highway and downtown districts.	T3 T4 T5	Sub Urban General Urban Urban Centre
E4	High Ambient Lighting Zones These Zones generally include urban areas with primary land uses for commercial, business and industrial activities including highway and downtown districts.	T5 T6 SD	Urban Centre Urban Core Special District

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Layout Plan clearly indicating lighting zones and street lighting layout (Recommended 1:500 scale or 1:1000)	<input type="radio"/>	<input type="radio"/>
2. Summary Report on the lumens per acre calculation prepared by a professional engineer on the lighting strategies to be employed for the development.	<input type="radio"/>	<input type="radio"/>
3. Confirmation from Developer to comply with the proposed criteria.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Final approved Masterplan layout indicating lighting zones and street lighting layout	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Summary report confirming compliance to the original design intent. All reports, plans and sections to be endorsed by professional engineer.	<input type="radio"/>	<input type="radio"/>
2. Luminance or Illuminance measurements to be carried out on site to confirm compliance to design intent.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

1

CLIMATE, ENERGY & WATER (CEW) – 20 POINTS

To Minimise Impact on the Environment by Adopting Best Practice on Energy Efficiency, Water Efficiency and Sustainable Development.

CEW3	ON-SITE ENERGY GENERATION	2 POINTS
	INTENT	Reduce carbon emissions by on-site generation.

ASSESSMENT CRITERIA	POINTS	SCORE																		
On site energy generation (micro-generation or distributed generation) is the generation of energy via community run generation (e.g. district cooling plant, co-generation plant) OR in-building micro-generators such as BIPV, building solar-air conditioning etc). The intent of 'on-site' generation is to take advantage of reduction in transmission losses which therefore requires that on-site generation should be efficient, e.g. an inefficient district cooling plant may 'on-the-balance' be more "CO2 emissive" compared to direct grid-electrically run in-building chillers.																				
1 point : if the total source energy equivalent is reduced by at least 5%, OR	1																			
2 points : if the total source energy equivalent is reduced by at least 10%.	2																			
<p>TABLE CEW3-1: SITE-SOURCE RATIOS FOR ENERGY TYPES</p> <table border="1"> <thead> <tr> <th>Fuel Type</th> <th>Source-Site Ratio</th> </tr> </thead> <tbody> <tr> <td>1 Electricity (Grid-Connected) a. Peninsular Malaysia b. Sarawak c. Sabah</td> <td>3.20 3.10 3.10</td> </tr> <tr> <td>2 Electricity (On-Site Solar, Wind etc.)</td> <td>1.00</td> </tr> <tr> <td>3 Fuel Oil (Diesel, LPG)</td> <td>1.05</td> </tr> <tr> <td>4 Fuel Oil (Natural Gas)</td> <td>1.05</td> </tr> <tr> <td>5 Chilled Water</td> <td>1.05</td> </tr> <tr> <td>6 Coal / Coke</td> <td>1.00</td> </tr> <tr> <td>7 Biomass (Renewables)</td> <td>1.00</td> </tr> <tr> <td>8 Others</td> <td>1.00</td> </tr> </tbody> </table> <p>Notes for Table CEW3-1:</p> <ul style="list-style-type: none"> Data is subject to update on availability of statistics. Conversion; 1,000 BTU_h = 293 kWe; 1 ton refrigeration = 3.517 kWe The actual source-site ratio of specific community run DCS, solar-generation etc. can be calculated if their primary fuel source, plant efficiency and average transmission losses are known. <p>SOURCE-SITE RATIO CALCULATORS CAN BE DOWNLOADED FROM THE GBI WEBSITE</p>			Fuel Type	Source-Site Ratio	1 Electricity (Grid-Connected) a. Peninsular Malaysia b. Sarawak c. Sabah	3.20 3.10 3.10	2 Electricity (On-Site Solar, Wind etc.)	1.00	3 Fuel Oil (Diesel, LPG)	1.05	4 Fuel Oil (Natural Gas)	1.05	5 Chilled Water	1.05	6 Coal / Coke	1.00	7 Biomass (Renewables)	1.00	8 Others	1.00
Fuel Type	Source-Site Ratio																			
1 Electricity (Grid-Connected) a. Peninsular Malaysia b. Sarawak c. Sabah	3.20 3.10 3.10																			
2 Electricity (On-Site Solar, Wind etc.)	1.00																			
3 Fuel Oil (Diesel, LPG)	1.05																			
4 Fuel Oil (Natural Gas)	1.05																			
5 Chilled Water	1.05																			
6 Coal / Coke	1.00																			
7 Biomass (Renewables)	1.00																			
8 Others	1.00																			

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

SUBMITTER GBI

1. Report describing on-site-generation strategy adopted. The following information shall be included:	<input type="radio"/>	<input type="radio"/>
a. Calculation of bare energy converted to source energy equivalent.		
b. Calculation of energy converted to source energy equivalent after on site generation measures are adopted.		
c. If community-wide energy plant (e.g. DCS) is adopted, a brief report of its commercial sustainability and is operating model should be included OR a letter from the District Cooling plant operator confirming supply of chilled water for the project and relevant information e.g. CoP.		
d. Confirm provision of Energy for the development or Phase of development should the project be phased.		

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

SUBMITTER GBI

1. Location of Community - wide energy plant on Approved Masterplan.	<input type="radio"/>	<input type="radio"/>
2. Summary Brief on the target on-site energy generation for the Approved Masterplan.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

SUBMITTER GBI

1. Final Report on the on-site energy generation strategy employed.	<input type="radio"/>	<input type="radio"/>
2. Final calculations of energy converted to Source energy.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

1

CLIMATE, ENERGY & WATER (CEW) – 20 POINTS

To Minimise Impact on the Environment by Adopting Best Practice on Energy Efficiency, Water Efficiency and Sustainable Development.

CEW4	RENEWABLE ENERGY	4 POINTS
	INTENT	Reduce carbon emissions by promoting Renewable Energy.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>The reduction of carbon emission by renewable energy generation can be implemented by ‘in-building’ or township-based effort.</p> <p>Renewable Energy includes wind, solar thermal, solar PV, biomass etc.</p> <p>Community run on-site generation or district energy plant (e.g. district cooling) can be eligible for RE point provided the amount of RE used in their generation can be ascertained and certified. The percentage of RE used in such township run energy plant will be used in ascertaining compliance. Energy calculated can be in kWh or BTU_h or KJoule equivalent.</p> <p>A maximum of four (4) points are awarded based on the target achieved:</p>		
1 point if total energy demand supplied by RE is at least 5%	1	
2 points if total energy demand supplied by RE is at least 10%	2	
3 points if total energy demand supplied by RE is at least 15%	3	
4 points if total energy demand supplied by RE is at least 20%.	4	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)	SUBMITTER	GBI
1. For community / district energy plant (e.g. DCS), a brief report on its commercial sustainability OR a letter from the District plant operator confirming supply of energy for the project and relevant information e.g. % of RE used in generation.	<input type="radio"/>	<input type="radio"/>
2. Report showing total demand and demand fulfilled by RE.	<input type="radio"/>	<input type="radio"/>
3. For ‘within-building’ submit the following statement of compliance:	<input type="radio"/>	<input type="radio"/>
i. Site Plan with buildings and zones identified for in-building RE System(s).		

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)	SUBMITTER	GBI
1. Area location of RE on Approved Development Plan.	<input type="radio"/>	<input type="radio"/>
2. Submit Summary Report showing total demand and demand fulfilled by RE.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)	SUBMITTER	GBI
1. As-Built plans and photographs marking out installation location of Renewable Energy System(s).	<input type="radio"/>	<input type="radio"/>
2. As measured kWp or equivalent energy generated.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

1

CLIMATE, ENERGY & WATER (CEW) – 20 POINTS

To Minimise Impact on the Environment by Adopting Best Practice on Energy Efficiency, Water Efficiency and Sustainable Development.

CEW5	REDUCED WATER USE		4 POINTS
	INTENT	Minimise water use for the whole development.	

ASSESSMENT CRITERIA	POINTS	SCORE
Achieve the following percentage in reduction of potable water consumption:		
1 point : For 5% or more reduction	1	
2 points : For 10% or more reduction	2	
3 points : For 15% or more reduction	3	
4 points : For 20% or more reduction	4	

Submit calculation demonstrating reduction in water consumption compared to the development base requirement for landscape irrigation of greenspaces.

Water reduction for irrigation must be reduced by at least 20%.

i. Use recycled water from stormwater retention for irrigation, parkland or other non-building use (including public facilities), **OR**

ii. If (i) above is NOT supported by the local authority, install landscape that does not require permanent irrigation system. Temporary irrigation for plant establishment will be allowed if removed within one (1) year from installation.

Water Requirement for Landscape Irrigation

The following table is a sample calculation to determine the water required for landscape irrigation.

The water requirement for each plant type are figures used in Putrajaya which were determined using the Food and Agriculture Organisation of the United Nations (FAO) calculation method based on soil type, soil available water, rooting depth, and the local/site evapotranspiration rate.

Example of Irrigation Requirements for Greenspace (or softscape):

TABLE CEW5-1: INITIAL PLANTING

Landscape Type	Qty	Units	Watering Requirement (L/unit/day)	IE		TPWA (L)	Remarks
Trees	200	Nos	24	Drip	0.9	5,333	Watering requirement during early establishment stage
Palms	150	Nos	7.1	Drip	0.9	1,183	Watering requirement during early establishment stage
Shrubs	3,000	m ²	6.3	Drip	0.9	21,000	
Ground Cover & Lawn	12,000	m ²	3.1	Sprinkler	0.625	59,520	
						87,036	

TABLE CEW5-2: ESTABLISHED LANDSCAPE

Landscape Type	Qty	Units	Watering Requirement (L/unit/day)	IE		TPWA (L)	Remarks
Trees	200	Nos	0	Drip	0.9	0	Assumed that no watering required upon reaching established stage after 3 years
Palms	150	Nos	0	Drip	0.9	0	Assumed that no watering required upon reaching established stage after 3 years
Shrubs	3,000	m ²	6.3	Drip	0.9	21,000	
Ground Cover & Lawn	12,000	m ²	3.1	Sprinkler	0.625	59,520	Watering demand may be reduced if browning during period of drought is acceptable
						80,520	

Eto = Evapotranspiration rate, IE = Irrigation Efficiency, TPWA = Total Plant Water Applied

Continued on next page >>

1

CLIMATE, ENERGY & WATER (CEW) – 20 POINTS

To Minimise Impact on the Environment by Adopting Best Practice on Energy Efficiency, Water Efficiency and Sustainable Development.

CEW5	REDUCED WATER USE (Continued)	4 POINTS
	INTENT	Minimise water use for the whole development.

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. A calculation of the Base water consumption for irrigation to Greenspaces for development and / or each phase of development.	<input type="radio"/>	<input type="radio"/>
2. A technical report describing the retention or collection of rainwater storage capacity facility and distribution site wide. Location of retention or water collection should be indicated on the Landscape plan.	<input type="radio"/>	<input type="radio"/>
3. Confirmation by developer on the percentage of water harvesting or retention for irrigation purposes.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Approved Masterplan with updated location of rainwater harvesting storage for site wide.	<input type="radio"/>	<input type="radio"/>
2. Summary Report on Base Water consumption and water harvesting strategies to comply for this criteria.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Final Report on Base water consumption and water provision for irrigation for development and / or each phase of development.	<input type="radio"/>	<input type="radio"/>
2. Final as installed calculation of rainwater harvested, storage tank capacity and distribution system.	<input type="radio"/>	<input type="radio"/>
3. Furnish photographs of as installed system.	<input type="radio"/>	<input type="radio"/>
4. Describe any deviation or addition to the FPA Submission.	<input type="radio"/>	<input type="radio"/>

1

CLIMATE, ENERGY & WATER (CEW) – 20 POINTS

To Minimise Impact on the Environment by Adopting Best Practice on Energy Efficiency, Water Efficiency and Sustainable Development.

CEW6	REDUCTION IN WATER USE BY WASTE WATER TREATMENT	4 POINTS
	INTENT	Minimise water use for the whole development.

ASSESSMENT CRITERIA	POINTS	SCORE
Encourage recycling of greywater and/or blackwater for entire township, thereby reducing the loading on the sewage treatment system. Points are awarded for percentage greywater and/or blackwater recycled:		
1 point : For achieving total potable water reduction by 10%	1	
2 points : For achieving total potable water reduction by 15%	2	
3 points : For achieving total potable water reduction by 30%	3	
4 points : For achieving total potable water reduction by 50% or more.	4	
DESCRIPTION Recycled waste water can be used for irrigation and street cleaning. Infrastructure and sustainable design to 'whole site' approach to recycling of grey water and / or black water is encouraged. Use of bio systems e.g. membrane bioreactor (MBR) technology to treat black water or any other systems is encouraged.		

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)	SUBMITTER	GBI
1. A technical report describing the concept to waste water, recycling 'whole site' approach. Includes estimated calculations from parcels for site wide and facility provision to cater to the targeted volume.	<input type="radio"/>	<input type="radio"/>
2. Technical report shall include schematics showing outline strategy on plan for grey water and or black water recycling.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)	SUBMITTER	GBI
1. Final approved plan location of Facility on site.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)	SUBMITTER	GBI
1. Final as-installed calculation of grey water and/or black water recycling system and facility.	<input type="radio"/>	<input type="radio"/>
2. As-Built drawings for the above including photographs of installed system & facility.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the FPA Submission.	<input type="radio"/>	<input type="radio"/>

2

ENVIRONMENTAL & ECOLOGY (EEC) – 15 POINTS

To minimise impact on the environment by adopting best practice and preserving site ecology and biodiversity.

EEC1	BIODIVERSITY CONSERVATION	2 POINTS
	INTENT	Maintain areas important for biodiversity conservation and maintenance of ecosystem services.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>Two (2) points are awarded if the development does not build or infringe on ALL of the following:</p> <ol style="list-style-type: none"> 1. Forest Reserves, Wildlife Reserves, River Reserves or other forms of Protected Areas gazetted under various legislation; or Environmentally Sensitive Areas (ESA) identified in the National Physical Plan, State Structure Plan or District Local Plan; AND 2. Previously undeveloped land within 30 meters of a water body, defined as lakes, rivers, streams and wetlands which support or could support aquatic and terrestrial biodiversity (as a habitat or corridor) as well as provide ecosystem services such as water supply, flood mitigation, recreation or religious/spiritual use; AND 3. Land which prior to acquisition for the project was public parkland, unless land of equal or greater value as parkland OVER AND ABOVE what would be required by the local authority is included in the development master plan. 	2	
<p>DESCRIPTION</p> <p>Forest Reserve is as described under the National Land Code and includes forest ecosystem in the coastal zones. Water bodies includes rivers, streams, tributaries, reservoirs and ponds.</p>		

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)	SUBMITTER	GBI
1. Survey plan of site indicating current land reserves with existing natural features such as lakes, rivers, streams, tributaries and beaches etc. on the development site. Recommended scale 1:500 or 1:1000	<input type="radio"/>	<input type="radio"/>
2. Report on the status of the original land and proposed conservation or protection plan.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)	SUBMITTER	GBI
1. Final masterplan of site indicating the approved planning layout and any reserves.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the PA Submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)	SUBMITTER	GBI
1. As-Built development plan indicating all the natural features.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

2

ENVIRONMENTAL & ECOLOGY (EEC) – 15 POINTS

To minimise impact on the environment by adopting best practice and preserving site ecology and biodiversity.

EEC2	LAND REUSE	1 POINT
	INTENT	Reduce pressure on land use and conserve green field sites.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>One (1) point is awarded if ANY of the conditions are met:</p> <ol style="list-style-type: none"> 1. Site is classified as a BROWNFIELD site with the following measures taken: <ol style="list-style-type: none"> a. Hazmat survey of site; AND b. Rehabilitation and decontamination plan for Brownfield site. 2. Site is classified as an infill site. <ol style="list-style-type: none"> a. Complies with the zoning requirement of the infill site. 	1	
<p>DESCRIPTION</p> <p>Brownfield sites are existing or contaminated sites, where the site was contaminated at the time of purchase and full remedial steps will be taken to decontaminate the site prior to construction. This extends to former mining and rubbish tip.</p> <p>Analysis of the soil, ground water and surface water through testing for hazardous compounds ensures that appropriate measures of remediation are taken. Brownfield or infill redevelopment is recognised as a catalyst for community regeneration.</p>		

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)	SUBMITTER	GBI
1. Submit a brief historical report on the usage of the land and prepare a report certified by approved testing laboratory determining the level of contamination.	<input type="radio"/>	<input type="radio"/>
2. Submit an EIA report containing assessment of the level of contamination and proposed remediation or decontamination to be taken and any other measures deemed appropriate.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)	SUBMITTER	GBI
1. No submission required as the certification will be carried out at the Completion & Verification Assessment (CVA).	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)	SUBMITTER	GBI
1. Submit report and photographs of works carried out during the remediation of decontamination process.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

2

ENVIRONMENTAL & ECOLOGY (EEC) – 15 POINTS

To minimise impact on the environment by adopting best practice and preserving site ecology and biodiversity.

EEC3	ECOLOGY	3 POINTS
	INTENT	To minimise the impact of development on existing ecological diversity and balance.

ASSESSMENT CRITERIA	POINTS	SCORE
A maximum of Three (3) points are awarded for compliance with ALL OR ANY of the following criteria:		
<p>A) Basic Compliance - Two (2) points for meeting the following:</p> <ol style="list-style-type: none"> 1. Conduct a biodiversity survey to identify habitats, species (including migratory species), ecosystem services of the site and adjacent area and indicators through literature and field surveys and consultation with local stakeholders as well as identifying existing threats to biodiversity and predicted impacts from the development; AND 2. Commission a Biodiversity Action Plan describing strategies to avoid negative impact on identified ecological features and mitigation measures where necessary to maintain or safeguard existing biodiversity and ecosystem services; AND 3. Commitment by developer to implement biodiversity action plan in (A2) above. 	2	
<p>B) Advanced Compliance - One (1) point</p> <p>In addition to the basic compliance in (A) above, advanced compliance requires that trees and shrubs specified contribute to the ecological value of the site as described below:</p> <ol style="list-style-type: none"> 1. That 75% of plants and shrubs specified for planting on site will be indigenous or native; AND 2. A site management plan will be (or is already in place) established to manage the maintenance of the specified flora. <p>The above percentage is based on any replanting areas within the development.</p>	1	
<p>DESCRIPTION</p> <p>Biodiversity Survey, Impact & Action Plan</p> <p>A) General Identify available knowledge and also gaps on species, habitats, protected areas and ecosystems that exist within, overlapping with or are adjacent to the site. Review existing national and local laws, policies, strategies and action plans relevant to the conservation of biodiversity at the site.</p> <p>B) Biodiversity Baseline Survey</p> <ol style="list-style-type: none"> 1. Field work to fill in gaps on information identified in the literature review. 2. Engage and consult with local stakeholders. 3. Identify priority species (including their population density and distribution) which include those which are <ul style="list-style-type: none"> • endangered and/or threatened, • protected by law, • of economic, social or cultural importance, OR • indicators of ecosystem health. 4. Identify ecosystem services, key ecological processes and ecosystem sensitivities. 5. Identify existing factors that impact on biodiversity negatively. <p>C) Biodiversity Impact Assessment</p> <ol style="list-style-type: none"> 1. Determine both direct and indirect predicted, pre-existing or observed impacts on biodiversity including socio-economic and cumulative impacts. 2. Assess the importance and significance of those impacts after expert review of data and in consultation with local stakeholders. 3. Identify appropriate targets, objectives or biodiversity standards in order to assess those impacts. 4. Prioritisation of significant impacts. 5. Develop criteria or indicators to monitor the effect of these impacts. <p>D) Action Plan</p> <ol style="list-style-type: none"> 1. Make recommendations for actions to reduce or eliminate identified impacts from the site activity. 2. Make recommendations for actions that will improve the biodiversity situation. 3. Develop and implement a plan for carrying out the recommended actions. 4. Develop and implement a long-term biodiversity monitoring programme. 5. Develop and implement a programme for dissemination of biodiversity information to local community and stakeholders. 6. Develop and implement a biodiversity reporting system accessible to local community and stakeholders. 		

Continued on next page >>

2

ENVIRONMENTAL & ECOLOGY (EEC) – 15 POINTS

To minimise impact on the environment by adopting best practice and preserving site ecology and biodiversity.

EEC3	ECOLOGY (Continued)	3 POINTS
	INTENT	To minimise the impact of development on existing ecological diversity and balance.

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Submit a Biodiversity Baseline Survey and Biodiversity Impact Assessment for the development site.	<input type="radio"/>	<input type="radio"/>
2. Confirmation on the Biodiversity Action Plan for the site.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Summary of Biodiversity Action Plan indicating any changes to the original intent.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Submit report on the measures taken during construction to mitigate Biodiversity Impact.	<input type="radio"/>	<input type="radio"/>
2. Provide Implementation programme for long term biodiversity monitoring.	<input type="radio"/>	<input type="radio"/>
3. Confirm and provide programme to disseminate Biodiversity to the local community.	<input type="radio"/>	<input type="radio"/>
4. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

2

ENVIRONMENTAL & ECOLOGY (EEC) – 15 POINTS

To minimise impact on the environment by adopting best practice and preserving site ecology and biodiversity.

EEC4	FLOOD MANAGEMENT AND AVOIDANCE	1 POINT
	INTENT	Conserve natural hydrological systems and protect life and property by assessing and mitigating flood risk.

ASSESSMENT CRITERIA	POINTS	SCORE
One (1) point is awarded for compliance with the following criteria. The Development site is assessed as having flood risk based on 50 years flood data:		
A) For site classified a Flood Risk, the following measure must be employed, 1. Flood mitigating measures are adopted in accordance with JPS guidelines; AND 2. Flood risk response plan included in planning guide e.g. evacuation route etc.	1	
B) Site is assessed as low or NO flood risk. No further action is necessary.		

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Report on Flood Risk Assessment & Mitigation.	<input type="radio"/>	<input type="radio"/>
2. Plan showing flood risk safety zones identified in distinct colour codes.	<input type="radio"/>	<input type="radio"/>
3. Plan showing flood risk safety zones, escape routes, etc.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Final report flood risk mitigation measures undertaken on site.	<input type="radio"/>	<input type="radio"/>
2. As-Built drawings and photographs of the flood mitigation systems carried out within the development.	<input type="radio"/>	<input type="radio"/>
3. Plan showing Risk safety or evacuation points within the development.	<input type="radio"/>	<input type="radio"/>
4. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

2

ENVIRONMENTAL & ECOLOGY (EEC) – 15 POINTS

To minimise impact on the environment by adopting best practice and preserving site ecology and biodiversity.

EEC5	WETLAND AND WATER BODY CONSERVATION		1 POINT
	INTENT	Conserve natural hydrological systems and preserve biodiversity through conservation of wetlands or water bodies.	

ASSESSMENT CRITERIA	POINTS	SCORE
One (1) point is awarded for compliance with whichever is the more stringent criteria:		
1. Maintain a buffer zone of 30m to any wetlands or water bodies defined by the Structure Plan; OR 2. Development to be within setback distances from wetlands or water bodies prescribed in State or local regulations.	1	
DESCRIPTION Development within the Wetland buffer zone is limited to grading work, pedestrian or bicycle pathways (no wider than 4m) and single storey structures for the purpose of enhancing public access, recreation, environmental conservation and environmental education. Such developments should further be limited to 15% of the total buffer zone area for pathways and another 15% of the total buffer zone area for all other permitted structures.		

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)	SUBMITTER	GBI
1. Survey Plan of site indicating Wetland and water bodies clearly marked on the development site. Recommended scale a:500 or 1:1000 (drawing reference to EEC1 submission).	<input type="radio"/>	<input type="radio"/>
2. Development Plan of proposed site planning indicating setback or encroachment into the Wetland and water bodies.	<input type="radio"/>	<input type="radio"/>
3. Report on the development approach to the natural site.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)	SUBMITTER	GBI
1. As-Built plans showing original Wetland and water bodies, indicate any built structure and pathways within the buffer zone.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

2

ENVIRONMENTAL & ECOLOGY (EEC) – 15 POINTS

To minimise impact on the environment by adopting best practice and preserving site ecology and biodiversity.

EEC6	AGRICULTURAL LAND PRESERVE	1 POINT
	INTENT	Conserve agricultural land and promote the the local production of food.

ASSESSMENT CRITERIA	POINTS	SCORE
One (1) point is awarded for compliance with the following:		
<ol style="list-style-type: none"> 1. Site is not located on prime agricultural preserve for food production as defined by the Structure Plan of the area or the National Physical Plan, AND 2. If prime agricultural land is converted for use in the development in question, the following mitigation measures are adopted in planning for the development: <ol style="list-style-type: none"> a. primary food production equal to 5 % or greater than the original agricultural preserve is included in the final development plan of the township; 	1	
<p>DESCRIPTION</p> <p>Agricultural areas surrounding urban area and under threat. Minimising development impact on Prime Agricultural Land is encouraged.</p> <p>Prime Agricultural Land can be defined as:</p> <ol style="list-style-type: none"> 1. Strategic Granary Area 2. Paddy land outside Granary area 3. Agricultural Land designated as 'Permanent Food Production Park (PFPP)' Which may include areas for crop production, animal husbandry, aquaculture and agriculture. 4. Agricultural areas without dry season and with short dry season. 5. Agriculture areas on Class 1, Class 2, Class 3 and peat/organic soils. 		

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Survey plan indicating the Prime Agricultural land (if any) and land status.	<input type="radio"/>	<input type="radio"/>
2. Confirmation that the land was not previously converted from prime agricultural preserve.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Submit Approved Masterplan demarcating the prime agricultural preserve.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Submit Final Masterplan with clear demarcation of prime agricultural preserve. With converted land, define area demarcated for primary food production.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation and addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

2

ENVIRONMENTAL & ECOLOGY (EEC) – 15 POINTS

To minimise impact on the environment by adopting best practice and preserving site ecology and biodiversity.

EEC7	HILL SLOPE DEVELOPMENT	1 POINT
	INTENT	Reduce the potential impact arising from hill slope development.

ASSESSMENT CRITERIA	POINTS	SCORE
One (1) point is awarded for compliance with ANY of the following:		
1. The development is NOT located within any OR include any hill slope categorised as Class I, II or III hill; OR 2. If the development is located within OR include sites with hill slope categorised as Class I; then proof is shown that the development will leave the said Class I hill slope undisturbed and/or preserved within the total masterplan of the development; OR 3. If the development is located within OR include sites with hill slope categorised as Class II or III; then proof is shown that the development comply with Guidelines on hill slope development for the relevant Class. Note: Class I gradient < 15°; Class II gradient > 15°, < 25°; Class III gradient > 35° Guidelines above shall refer to BOTH planning guidelines for hillslope and highland area issued by the Ministry of Housing and Local Government AND the “Highland Area Development Guidelines” issued by the Ministry of Natural Resources and Environment.	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Site plan and sections showing land current hill slopes with category descrification.	<input type="radio"/>	<input type="radio"/>
2. Submit preliminary report on in relation to hill slope and statement of compliance under hill slope guidelines.	<input type="radio"/>	<input type="radio"/>
3. Proposed new platform and infrastructure levels for site development.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Confirmation on Original design intent of PA maintained.	<input type="radio"/>	<input type="radio"/>
2. Submit final approved platform and infrastructure levels of development.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. As-Built Plans and section of hill slopes or cut slopes carried out on development site.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

2 ENVIRONMENTAL & ECOLOGY (EEC) – 15 POINTS
 To minimise impact on the environment by adopting best practice and preserving site ecology and biodiversity.

EEC8	SUSTAINABLE STORMWATER DESIGN & MANAGEMENT	2 POINTS
	INTENT	Limit disruption to natural hydrology by reducing water pollutants and source contaminants.

ASSESSMENT CRITERIA	POINTS	SCORE
Achieving the intent by reducing impervious cover, increase on-site infiltration, eliminating source pollutants and removing pollutants from storm water run-off.		
<p>A) One (1) point awarded for basic compliance to MSMA:</p> <p>1. If existing imperviousness of site is < 50% (infill site etc.):</p> <ul style="list-style-type: none"> Implement a stormwater management plan that prevents the post development peak discharge from exceeding the pre-development peak discharge rate and quantity in conformance to MSMA. <p>OR</p> <p>2. If existing imperviousness of site is > 50%:</p> <ul style="list-style-type: none"> Implement a storm water management plan that results in a 25% decrease in the volume of storm water runoff required under MSMA. <p>For either Condition, implement a storm water management plan that reduces impervious cover, promotes infiltration, and captures and treats the storm water runoff from 90% of the average annual rainfall using acceptable best management practices (BMPs).</p>	1	
<p>B) Additional one (1) point awarded for eliminating and/or removing source pollutants from storm water run-off so as to attain a Water Quality Index of Class II(b) water discharge from development drainage systems.</p>	1	
<p>DESCRIPTION</p> <p>Demonstrate Sustainable Drainage system and Best Management Practice (BMP) stormwater drainage by attenuation locally. Encourage alternative method of traditional hard engineering based drainage system with application of swale, sub-surface or wading stream, drainage modules, dry ponds/wet pond or constructed wetland.</p>		

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)	SUBMITTER	GBI
1. Submit preliminary study report complying with MSMA requirements.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)	SUBMITTER	GBI
1. Submit confirmation on study report complying with MSMA requirements and on final stormwater design and management approach.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)	SUBMITTER	GBI
1. Report, complete with photographic evidence and site reports signed off by qualified person on final stormwater design and management.	<input type="radio"/>	<input type="radio"/>
2. Describe deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

2

ENVIRONMENTAL & ECOLOGY (EEC) – 15 POINTS

To minimise impact on the environment by adopting best practice and preserving site ecology and biodiversity.

EEC9	PROXIMITY TO EXISTING INFRASTRUCTURE	1 POINT
	INTENT	Reduce the impact arising from the need to develop NEW water, sewage and electrical infrastructure to support the development.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>One (1) point is awarded for compliance with ANY of the following criteria:</p> <ol style="list-style-type: none"> Existing infrastructure for sewage treatment located off-site is sufficient without the necessity to “plant-up” NEW treatment plant at the site or off-site. Existing infrastructure for potable water supply is sufficient without the necessity to lay NEW mains water supply pipes and establishment of reservoirs off-site. Existing infrastructure for electrical supply is sufficient without the necessity to lay NEW mains 33kV cables and/or build NEW mains distribution station (defined as any electrical distribution stations 33kV and above) off-site. Existing infrastructure for telephone off-site is sufficient without the necessity to lay new telecom ducts. 	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Submit preliminary study report on utilities and services availability.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Confirmation of sufficiency of existing infrastructure facilities.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Report complete with photographic signed off by qualified person on existing infrastructure utilities and services to site.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

2

ENVIRONMENTAL & ECOLOGY (EEC) – 15 POINTS

To minimise impact on the environment by adopting best practice and preserving site ecology and biodiversity.

EEC10	SERVICES INFRASTRUCTURE PROVISION	1 POINT
	INTENT	Reduce the impact and disruption arising from future reconstruction of infrastructure by provision of easy access.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>One (1) point is awarded for compliance with the following criteria:</p> <ol style="list-style-type: none"> 1. Basic Compliance Services reserve (or accessible services tunnels) are provided in public spaces for all services (water, telecoms, sewage, chilled water pipes, electric cables). Services reserves take full cognisance of pedestrian paths & networks, cycle ways, AND 2. In addition to basic compliance under (1) above, provision of a complete coordinated plan showing all above ground and below ground services including provision for future expansion or addition of services or where future services are expected to cross road ways or highway reserves. 	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Submit Development Plan indicating for all services mapped on the proposed Open Space (pedestrian paths and networks), cycle routes and roads submitted by qualified person.	<input type="radio"/>	<input type="radio"/>
2. Describe the Services Reserve strategy site wide.	<input type="radio"/>	<input type="radio"/>
3. Confirmation on intent to provide the services reserve as outlined in (1).	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Submit final approved plan layout of Services reserve in respect to the open space, including pedestrian paths or network, cycle routes and road, Coordinate information with drainage routes.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Submit As-Built drawings indicating the services reserve, both plans & sections signed off by qualified person.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the PFA submission.	<input type="radio"/>	<input type="radio"/>

2

ENVIRONMENTAL & ECOLOGY (EEC) – 15 POINTS

To minimise impact on the environment by adopting best practice and preserving site ecology and biodiversity.

EEC11	LIGHT POLLUTION	1 POINT
	INTENT	Maintain environmental quality by reducing light trespass, glare and night-time sky glow.

ASSESSMENT CRITERIA	POINTS	SCORE
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One (1) point is awarded for compliance with lamp shielding, light trespass, glare and sky-glow limitations:

TABLE EEC11-1: LAMP TYPE AND SHIELDING STANDARDS (IDA PATTERN CODE)

Class and Lamp Type	Lighting Zones				
	E4	E3	E2	E1	E1A
Class 1 Lighting (Colour Rendition)					
i. Output ≥ 2,000 lumens	F	F	F	F	F
ii. Output < 2,000 lumens	A	A	A	F	F
Class 2 Lighting (General Illumination)					
i. Output ≥ 2,000 lumens	F	F	X	X	X
ii. Output < 2,000 lumens	A	A	A	F	F
Class 3 Lighting (Decorative)					
i. Output ≥ 2,000 lumens	F	F	F	F	F
ii. Output < 2,000 lumens	A	A	A	A	F

1

Notes for TABLE EEC11-1:

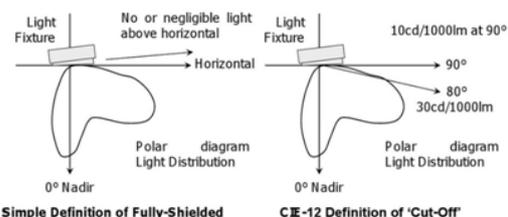
- A** =all types of lighting fixtures allowed; shielding not required but highly recommended, except any spot or flood light must be aimed no higher than 45 degrees above straight down.
F =only fully shielded fixtures allowed.
X =not allowed.
- Classes of lighting are as define by IDA (International Dark Sky Association) as follows:
 - Class 1 Lighting** - All outdoor lighting used for, but not limited to, outdoor sales or eating areas, assembly or repair areas, advertising and other signs, recreational facilities and other similar applications where COLOR RENDITION IS IMPORTANT to preserve the effectiveness of the activity. Recognized Class 1 uses are outdoor eating and retail food or beverage service areas; outdoor maintenance areas; display lots; assembly areas such as concert or theater amphitheaters.
 - Class 2 Lighting** - All outdoor lighting used for, but not limited to, illumination for walkways, roadways, equipment yards, parking lots and outdoor security where GENERAL ILLUMINATION for safety or security of the grounds is the primary concern.
 - Class 3 Lighting** - Any outdoor lighting used for DECORATIVE effects including, but not limited to, architectural illumination, flag and monument lighting, and illumination of trees, bushes, etc.
- Classification of lighting zones are in Table WE2-2.

Definitions of lamp cut-off and shielding applicable for both Tables WE2-1 and EI9-1 are as follows:

TABLE EEC11-2 : DEFINITION OF CUT-OFF (CIE 12:1995)

Type of Luminaire	Direction of Max Intensity	Maximum Permissible Value at Intensity Emitted at	
		90°	80°
1	Full Cut-Off	0 – 68°	*10cd/1,000lm *30cd/1,000lm
2	Semi Cut-Off	0 – 75°	*500cd/1,000lm *100cd/lm
3	No Cut-Off	-	*1,000cd -

FIGURE EEC11-3 : DEFINITIONS SHIELDING AND CUT-OFF



Continued on next page >>

2

ENVIRONMENTAL & ECOLOGY (EEC) – 15 POINTS

To minimise impact on the environment by adopting best practice and preserving site ecology and biodiversity.

EEC11	LIGHT POLLUTION (Continued)		1 POINT
	INTENT	Maintain environmental quality by reducing light trespass, glare and night-time sky glow.	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Summary report outlining strategies and procedures to be taken to meet credit requirements.	<input type="radio"/>	<input type="radio"/>
2. Commitment to meet requirement of night sky light pollution reduction.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Approved plan showing zone classification (coloured).	<input type="radio"/>	<input type="radio"/>
2. Commitment to meet requirements of night sky light pollution reduction.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. As-Built drawing and specification demonstrating that the lighting system and fixture selected has been constructed according to the zone classification.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to FPA submission.	<input type="radio"/>	<input type="radio"/>

3

COMMUNITY PLANNING & DESIGN (CPD) – 26 POINTS

To minimise impact on the environment and promote community connectivity and participation by adopting good practice on site selection and space planning.

CPD1	GREENSPACES	3 POINTS
	INTENT	Environmental quality by moderating the impact of micro climate on surrounding public space.

ASSESSMENT CRITERIA	POINTS	SCORE
A maximum of Three (3) points are awarded for compliance with ALL OR ANY of the following criteria:		
A) Basic Compliance - One (1) point The provision of green spaces which are over and above mandatory requirement specified by the local authority by at least 25%.	1	
B) Advanced Compliance - Two (2) points for provision of green spaces which can be classified as recreational space accessible to residents. One point up to a maximum of two points for provision of any of the following 'recreational green space' which are within 800m from any residential lot within the development: <ol style="list-style-type: none"> 1. Public park 2. Playground 3. Community run herb garden 4. Recreational lakes 	2	
DESCRIPTION Greenspaces are categorised as follows : Parks & Gardens, Natural & semi natural landscape, green corridors, outdoor green recreational fields, allotments & community gardens, amenity Greenspaces & cemeteries. Category of Park will reference to Planning standards local or national in terms of Playlots, Play field, Neighbourhood Park, Local Park, Urban Park, Regional Park or National Park. For water bodies within parks, calculation will be subject to local authority standards acceptance.		

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Development and Landscape plan indicating greenspace area and summary data.	<input type="radio"/>	<input type="radio"/>
2. Submit commitment on greenspace provision.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Submit final as-built landscape plan indicating greenspaces area and detail data.	<input type="radio"/>	<input type="radio"/>
2. Described any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

3

COMMUNITY PLANNING & DESIGN (CPD) – 26 POINTS

To minimise impact on the environment and promote community connectivity and participation by adopting good practice on site selection and space planning.

CPD2	COMPACT DEVELOPMENT		1 POINT
	INTENT	Environmental quality by moderating the impact of micro climate on surrounding public space.	

ASSESSMENT CRITERIA	POINTS	SCORE
<p>One (1) point awarded if the development meets the minimum CPD1 requirement and the average gross density of the development complies with the local development intensity guideline OR meets the following:</p> <ol style="list-style-type: none"> For Low Density (Detached House) 10.0% higher than the local development intensity guideline. For Medium Density (Semi-detached/ Terrace / Townhouse / Cluster House) 7.5% higher than the local development intensity guideline For High Density (Apartment / Condominium) 5.0% higher than the local development intensity guideline 	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Submit Gross Floor Area and Density Calculation for Residential components of the Development Plan.	<input type="checkbox"/>	<input type="checkbox"/>
2. Submit Site Plan with legend colours to differentiate the type of development.	<input type="checkbox"/>	<input type="checkbox"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Submit Final Gross Floor Area and Density Calculation.	<input type="checkbox"/>	<input type="checkbox"/>
2. Submit Site Plan with legend colours to differentiate the final type of development.	<input type="checkbox"/>	<input type="checkbox"/>
3. Describe any deviation or addition to the PA submission.	<input type="checkbox"/>	<input type="checkbox"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Submit As-Built density calculation.	<input type="checkbox"/>	<input type="checkbox"/>
2. Submit Site Plan with legend colours to differentiate the As-Built type of development.	<input type="checkbox"/>	<input type="checkbox"/>
3. Describe any deviation or addition to the FPA submission.	<input type="checkbox"/>	<input type="checkbox"/>

3

COMMUNITY PLANNING & DESIGN (CPD) – 26 POINTS

To minimise impact on the environment and promote community connectivity and participation by adopting good practice on site selection and space planning.

CPD3	AMENITIES FOR COMMUNITIES		3 POINTS
	INTENT	To reduce the need for travel by car to essential facilities by physically locating said facilities within a reasonable walking distance.	

ASSESSMENT CRITERIA	POINTS	SCORE
<p>Up to three (3) points are awarded for location of planned essential facilities within 500m of each residential unit on the development AND location of facilities (where applicable) are linked by walkable pedestrian network which are also coordinated with public transport nodes for easy access:</p> <p>One (1) point is awarded for the presence of any TWO of the following essential services up to a maximum of three (3) points for at least six amenities:</p> <ul style="list-style-type: none"> a. Bank (Commercial) b. Place of Worship c. Convenience/Grocery (Commercial) d. Day Care (Commercial) e. Police Station f. Fire Station g. Beauty (Commercial) h. Hardware (Commercial) i. Laundry (Commercial) j. Library k. Medical/Dental (Commercial) l. Senior Care Facility m. Pharmacy n. Post Office (Commercial) o. Restaurant (Commercial) p. School q. Supermarket (Commercial) r. Theatre s. Community Centre t. Fitness Centre (Commercial) 	3	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Submit plan identifying location of Commercial and Institutional areas with planned essential services within 500m of any residential.	<input type="radio"/>	<input type="radio"/>
2. Commitment by developer to position the selected essential facilities within the development plan.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Submit Final Approved Plan Layout of all selected essential facilities mapped in relation to the residential areas of the development .	<input type="radio"/>	<input type="radio"/>
2. Provide legend to differentiate the types of services	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Submit Final Location Plan of all essential facilities mapped in relation to the residential areas of the development.	<input type="radio"/>	<input type="radio"/>
2. Indicate Pedestrian network access to the essential facilities.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the PFA submission.	<input type="radio"/>	<input type="radio"/>

3

COMMUNITY PLANNING & DESIGN (CPD) – 26 POINTS

To minimise impact on the environment and promote community connectivity and participation by adopting good practice on site selection and space planning.

CPD4	PROVISION FOR UNIVERSAL ACCESSIBILITY	3 POINTS
	INTENT	To promote an all-inclusive society by providing infrastructure that is 'handicapped-friendly'.

ASSESSMENT CRITERIA	POINTS	SCORE
1 point : If at least 25% of the pedestrian network, linkages, transit points & open spaces is of Universal Design, OR	1	
2 points : If at least 50% of the pedestrian network, linkages, transit points & open spaces is of Universal Design, OR	2	
3 points : If 75% or more of the pedestrian network, linkages, transit points & open spaces is of Universal Design.	3	
DESCRIPTION Universal Design is the term used internationally for OKU (Orang Kurang Upaya) or design friendly to cater to both abled and disabled persons. Environment accessible to people with disabilities often benefits others and includes sidewalk curb cuts, designed to make sidewalks and streets accessible to those using wheelchairs, benefitting kids on skateboards, parents with baby strollers, and delivery staff with rolling trolleys.		

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Summary report identifying the key features and site wide applications of Universal Design that will be adopted in the design including target percentage coverage.	<input type="radio"/>	<input type="radio"/>
2. Commitment by Developer to undertake the Universal Design strategies.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Confirmation from the principal submitting person and developer for Universal Design strategies.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Layout Plan of Universal Design features linked to the pedestrian route and public realm.	<input type="radio"/>	<input type="radio"/>
2. As-Built plans & Photographic evidence on Universal Design accessibility features within the public realm.	<input type="radio"/>	<input type="radio"/>
3. Summary Report identifying the key features and site-wide applications of Universal Design.	<input type="radio"/>	<input type="radio"/>
4. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

3

COMMUNITY PLANNING & DESIGN (CPD) – 26 POINTS

To minimise impact on the environment and promote community connectivity and participation by adopting good practice on site selection and space planning.

CPD5	SECURE DESIGN	2 POINTS
	INTENT	Enhancing the built-environment by providing security in design.

ASSESSMENT CRITERIA	POINTS	SCORE
Maximum of Two (2) points are awarded if the whole development is designed to comply with guidelines for 'security-in-planning'. Security for town planning include the following measures for compliance:		
1. Compliance to CPTED (Crime Prevention Through Environmental Design) principles in site wide application within the community.	1	
2. Lighting in compliance with ISO 8995-3 and CIE S016 "Lighting of work places - Part 3: Lighting Requirements for Safety and Security of Outdoor Work Places".	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Submit summary report on adopted CPTED principles for the development site wide.	<input type="radio"/>	<input type="radio"/>
2. Confirmation letter from the developer that the development will be designed and constructed to CPTED principles.	<input type="radio"/>	<input type="radio"/>
3. Confirmation letter from the developer that the development will be designed and constructed to ISO 8995-3 and CIRE SD016.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Planning layout indicating key CPTED features adopted in the development.	<input type="radio"/>	<input type="radio"/>
2. Final report on designed and constructed features to CPTED principles (including the external safety lighting features).	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

3

COMMUNITY PLANNING & DESIGN (CPD) – 26 POINTS

To minimise impact on the environment and promote community connectivity and participation by adopting good practice on site selection and space planning.

CPD6	HEALTH IN DESIGN	2 POINTS
	INTENT	Enhancing the built-environment by including public health through environmental planning.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>One (1) point is awarded for compliance with to ALL of the following:</p> <ol style="list-style-type: none"> 1. Zoning to ensure polluting industries (including industrial facilities, markets and motor workshops) are located on sites that have adequate wastewater collection & treatment facility. 2. Ensure that all drainage system and water features will not be a source for water-borne disease and vectors. 3. Where waste are hazardous and listed in DoE schedule, a plan for disposal through licensed waste disposal OR on-site treatment to DoE requirement shall be included. 	1	
<p>Additional One (1) point awarded for eliminating and/or removing source pollutants from storm water run-off, in compliance with ALL of the following:</p> <ol style="list-style-type: none"> 1. Provision of appropriate sillage collection treatment systems. Oil and grease traps must be installed in all wet markets, school canteens, food courts and shopping complexes. 2. In all cases where restaurant discharge kitchen waste and workshops discharge industrial grease or waste (not under (1) above), proper grease traps or waste treatment plan shall be included in the planning, design and construction of such facilities. 3. At least 50% of source pollutants are removed. 	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Layout plan indicating zoning or parcelling within the development, indicating industries, petrol station & wet markets.	<input type="radio"/>	<input type="radio"/>
2. EIA or Environmental Impact Assessment Engineer report on the strategy for mitigating and controlling hazardous waste & pollutants from within site of development.	<input type="radio"/>	<input type="radio"/>
3. Confirmation Letter from developer to undertake measures to meet target credits.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Summary report and evidence of Governance programmes adopted.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

3

COMMUNITY PLANNING & DESIGN (CPD) – 26 POINTS

To minimise impact on the environment and promote community connectivity and participation by adopting good practice on site selection and space planning.

CPD7	RECYCLING FACILITIES	2 POINTS
	INTENT	To promote separation of waste at source.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>A) One (1) point for provision of facilities for recycling within the development. Amenities to be provided include the following:</p> <ol style="list-style-type: none"> Community recycling centre with bins located at centralised location with truck access; AND Support from the local waste disposal company appointed by the local authority supporting local recycling initiatives. 	1	
<p>B) Additional One (1) point for the provision of the following:</p> <ol style="list-style-type: none"> Compactor station for paper and plastics if capacity can be shown to make such facility feasible; AND Support from a private waste disposal company supporting community based recycling OR any other active measures undertaken by the community. 	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Summary Report on strategies to be adopted for addressing Recycling.	<input type="radio"/>	<input type="radio"/>
2. Investigation report on local waste disposal companies to service the development and existing or infrastructure facilities to support recycling.	<input type="radio"/>	<input type="radio"/>
3. Confirmed letter of commitment by the developer to implement the selected recycling strategy.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. As-Built drawings and photographs of Recycling strategies adopted site wide for the development.	<input type="radio"/>	<input type="radio"/>
2. Final report on the amount of recycling capacity collection and disposal and location for community recycling centre.	<input type="radio"/>	<input type="radio"/>
3. Describe any community based programme for Recycling initiated for the development by the Resident Association.	<input type="radio"/>	<input type="radio"/>
4. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

3

COMMUNITY PLANNING & DESIGN (CPD) – 26 POINTS

To minimise impact on the environment and promote community connectivity and participation by adopting good practice on site selection and space planning.

CPD8	COMMUNITY DIVERSITY	1 POINT
	INTENT	To promote a socially equitable and diverse community by diversity in housing and mixed-use neighbourhood.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>Encouraging the reasonable percentage of diversity in housing, diversity being measured as follows:</p> <p>2 Types of Housing Diversity for sites between 20 acres to 40 acres, OR 3 Types of Housing Diversity for sites between 41 acres to 100 acres, OR 4 Types of Housing Diversity for sites between 101 acres to 150 acres, OR 5 Types of Housing Diversity for sites between 151 acres to 250 acres, OR 6 Types of Housing Diversity for sites between 251 acres to 350 acres, OR 7 Types of Housing Diversity for sites above 351 acres.</p> <p>Diversity Types can be as follows:</p> <p>a. Detached House b. Semi-detached House c. Terrace House d. Townhouse e. Cluster (e.g. Quart) House f. Low-rise Apartment / Condominium (< 4 storey) g. High-rise Apartment / Condominium (> 4 storey) h. Others</p> <p>Note: Affordable Housing is excluded in this assessment.</p>	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Submit Diversity Percentage Calculation.	<input type="checkbox"/>	<input type="checkbox"/>
2. Submit Site Plan with legend colours to differentiate the type of Diversity.	<input type="checkbox"/>	<input type="checkbox"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Submit Final Diversity Percentage Calculation.	<input type="checkbox"/>	<input type="checkbox"/>
2. Submit Site Plan with legend colours to differentiate the final type of Diversity.	<input type="checkbox"/>	<input type="checkbox"/>
3. Describe any deviation or addition to the PA submission.	<input type="checkbox"/>	<input type="checkbox"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Submit As-Built Diversity Percentage Calculation.	<input type="checkbox"/>	<input type="checkbox"/>
2. Submit Site Plan with legend colours to differentiate the As-Built type of Diversity.	<input type="checkbox"/>	<input type="checkbox"/>
3. Describe any deviation or addition to the FPA submission.	<input type="checkbox"/>	<input type="checkbox"/>

3

COMMUNITY PLANNING & DESIGN (CPD) – 26 POINTS

To minimise impact on the environment and promote community connectivity and participation by adopting good practice on site selection and space planning.

CPD9	AFFORDABLE HOUSING	1 POINT
	INTENT	To promote socially equitable and diverse community by diversity in housing for wide range of economic levels.

ASSESSMENT CRITERIA	POINTS	SCORE
Encouraging the diversity of affordable housing to comply with the local authority guideline. Affordable Housing Types can be described as follows: a. Low Cost Flat / House (Selling Price < RM42K) b. Medium Low Cost Apartment / House (RM42K < Selling Price < RM100K) c. Medium Cost Apartment / House (Selling Price > RM100K)	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)	SUBMITTER	GBI
1. Submit Affordable Housing Percentage Calculation.	<input type="radio"/>	<input type="radio"/>
2. Submit Site Plan with legend colours to differentiate the type of Affordable Housing.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)	SUBMITTER	GBI
1. Submit Final Affordable Housing Percentage Calculation.	<input type="radio"/>	<input type="radio"/>
2. Submit Site Plan with legend colours to differentiate the final type of Affordable Housing.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)	SUBMITTER	GBI
1. Submit As-Built Affordable Housing Percentage Calculation.	<input type="radio"/>	<input type="radio"/>
2. Submit Site Plan with legend colours to differentiate the As-Built type of Affordable Housing.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

3

COMMUNITY PLANNING & DESIGN (CPD) – 26 POINTS

To minimise impact on the environment and promote community connectivity and participation by adopting good practice on site selection and space planning.

CPD10	COMMUNITY THRUST	4 POINTS
	INTENT	Encourage Community participation and maintenance of sustainable practice.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>A) The first point is awarded for compliance with the basic requirements:</p> <ol style="list-style-type: none"> Developer to establish active dialogue with existing community within the vicinity of the development. Developer must show that active measures to address issues of existing community will be taken into account in the new development, OR Developer to provide evidence that active dialogue with purchasers on features on sustainable practice of proposed development is maintained in the duration of the development and construction period leading to handing over. 	1	
<p>B) The second point is awarded for the provision of the following:</p> <ol style="list-style-type: none"> A community centre of sufficient size to cater for the community, OR A Sports center/club with sufficient sporting facilities to cater for the community. 	1	
<p>C) The third point is awarded when:</p> <ol style="list-style-type: none"> Evidence is provided that an active Resident Association is being established or is already established. 	1	
<p>D) The fourth point is awarded for compliance with ANY THREE of the activities listed below will be implemented by the Resident Association (or included in the charter of the Resident Association):</p> <ol style="list-style-type: none"> Community based recycling programme with at least separation at source of paper, glass, metal, plastic and toxic material. Community based waste management system. Community based food gardening initiative. Community based car pool system. Any other community based activities which will promote sustainability. 	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Summary Report on Existing Community Feedback and proposed actions.	<input type="radio"/>	<input type="radio"/>
2. Submit proposed community facilities or provisions for the development and commitment.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Description, As-Built Drawings and photographs of Community Facilities.	<input type="radio"/>	<input type="radio"/>
2. Evidence of active Resident Association/s.	<input type="radio"/>	<input type="radio"/>
3. Describe the sustainable programs implemented by the Resident Association/s.	<input type="radio"/>	<input type="radio"/>

3

COMMUNITY PLANNING & DESIGN (CPD) – 26 POINTS

To minimise impact on the environment and promote community connectivity and participation by adopting good practice on site selection and space planning.

CPD11	GOVERNANCE	4 POINTS
	INTENT	Encourage Community participation and maintenance of sustainable practice.

ASSESSMENT CRITERIA	POINTS	SCORE
A total of four (4) points are awarded if the local government concerned has in place the following measures or practices:		
A) Basic requirement; to have in place the following measures: <ol style="list-style-type: none"> e-Submission for planning and refurbishment of buildings An active OSC (One Stop Centre) procedure in accordance with Ministry of Housing and Local Government Guidelines. 	1	
B) Additional one (1) point for compliance to ANY TWO of the following measures up to a maximum of three (3) points for compliance of up to six programmes. <ol style="list-style-type: none"> An active complaints bureau which addresses local issues. Adopt guidelines on CPTED in development. An active crime prevention programme implemented in cooperation with the police and resident association. An active procedure which engages the community for public review and consultation for development projects. Implementing a recycling programme with separation of waste at source at the local level. An active programme of having regular dialogue sessions with local resident associations. An active Local Agenda 21 programme with participation from at least 50% of the resident associations. Other GBI approved programmes on sustainability initiated by the local authority. 	3	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Confirmation on availability on e-Submission and active OSC procedures.	<input type="radio"/>	<input type="radio"/>
2. Brief summary on proposed adoption of Governance programmes within development.	<input type="radio"/>	<input type="radio"/>
3. Confirmation letter by developer to undertake programmes identified under (B).	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Summary report and evidence of Governance programmes adopted.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the FPA.	<input type="radio"/>	<input type="radio"/>

4

TRANSPORTATION & CONNECTIVITY (TRC) – 14 POINTS

To reduce impact from Transportation by providing affordable and sustainable Transportation network both within the development and linkages outside the development.

TRC1	GREEN TRANSPORT MASTERPLAN	8 POINTS
	INTENT	Provide an assessment and action plan for transportation linkages both within the development and linkages to outside centers.

ASSESSMENT CRITERIA	POINTS	SCORE
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A Green Transport Masterplan which shall be adopted, designed and constructed in the development with these primary considerations.

Reducing travel by car by promoting efficient linkages, shorter travel distances to essential services and sustainable patterns of development (such as pedestrian walkways, bicycle lanes, mixed-use development and alternative forms of sustainable transportation system).

Promoting the use of public transportation system by integrating or upgrading of existing public transportation system or the creation of new public transportation system.

Accessibility of the location including accessibility by non car mode by providing or integrating or upgrading to existing public transportation system and vehicular access networks.

DESCRIPTION

Green Transport Masterplan is a traffic planning that promotes transit oriented development integrated with pedestrian and cycling network and the linkages of the development. Trip generation is a sequential process of transportation modelling which establishes the relationship between land use, socioeconomic and demographic data also described as Trip Production and Trip Attraction. The enclosed calculation for Trip Production and Trip Attraction has been included to determine the generated movement within the development site.

Model demand is aggregated into zones. Trips originate and terminate at zone centroids. A trip has two ends, Trip Production and Trip Attraction. A trip also has an origin and a destination. This will depend on trip purpose. For example, because we generate work trips in two parts (the production end and the attraction end), assign the production end to the home zone. Departure from Work for a destination is captured as Trip Production.

Points are awarded for compliance to the following:

1 point : for overall assessment score of 5	1	
2 points : for overall assessment score of 10	2	
3 points : for overall assessment score of 20	3	
4 points : for overall assessment score of 25	4	
5 points : for overall assessment score of 30	5	
6 points : for overall assessment score of 35	6	
7 points : for overall assessment score of 40	7	
8 points : for overall assessment score of 50	8	

TRIP PRODUCTIONS : MAXIMUM POINT SCORE 33
TABLE TRC1-1: DEVELOPMENT TYPE - RESIDENTIAL

Travel Mode	Travel Purpose		
	Work	School, Educational Centre	Shopping, Amenities, Recreation
Walk	1 job/household within 500m walking distance 5 points	2 student places / household within 500m walking distance 5 points	Full range of everyday amenities within 500m walking distance 5 points
	1 job/ 2 households within 500m walking distance 2 points	1 student place/household within 500m walking distance 2 points	Specialist amenities within 500m walking distance 2 points
Cycle	1 job/ household within 5km cycling distance 2 points	1 student place/household within 3km cycling distance 2 points	-
Public Transport	2 jobs/household within 20 minutes journey time by existing or committed public transport system (includes walk times at trip ends) 5 points	2 student places within 15 minutes journey time by existing or committed public transport system (includes walk times at trip ends) 5 points	Full range of amenities within 15 minutes journey time by existing or committed public transport system (includes walk times at trip ends) 4 points

Continued on next page >>

4

TRANSPORTATION & CONNECTIVITY (TRC) – 14 POINTS

To reduce impact from Transportation by providing affordable and sustainable Transportation network both within the development and linkages outside the development.

TRC1	GREEN TRANSPORT MASTERPLAN (Continued)		8 POINTS
	INTENT	Provide an assessment and action plan for transportation linkages both within the development and linkages to outside centers.	

TRIP ATTRACTIONS : MAXIMUM POINT SCORE 32

TABLE TRC1-2 : DEVELOPMENT TYPE - FACTORY, OFFICE, WORKPLACE, EDUCATIONAL CENTRE, RETAIL, PUBLIC FACILITY, ETC.

Travel Mode	Travel Purpose		
	Work	School, Educational Centre	Shopping, Amenities, Recreation
Walk	1 household/job within 500m walking distance 4 points	1 household/student place within 500m walking distance 5 points	1 household/500 sq.ft. of retail GFA, 1 household/15 venue places within 500m walking distance 5 points
	1 household/2 jobs within 500m walking distance 2 points	1 household/2 student places within 500m walking distance 2 points	1 household/1,000 sq.ft. of retail GFA, 1 household/15 venue places within 500m walking distance 2 points
Cycle	1 household/job within 5km cycling distance 2 points	1 household/student place within 3km cycling distance 2 points	1 household/1,000 sq.ft. of retail GFA, 1 household/15 venue places within 3km cycling distance 2 points
Public Transport	2 households/jobs within 20 minutes journey time by existing or committed public transport system (includes walk times at trip ends) 5 points	1 household/2 student places within 15 minutes journey time by existing or committed public transport system (includes walk times at trip ends) 5 points	4 households/1,000 sq.ft. of retail GFA, 1 household/15 venue places within 20 minutes journey time by existing or committed public transport system (including walk times at trip ends) 2 points

Notes:

The points values allocated in the tables are specific to the transport assessment to achieve a differential effect between alternatives. To fit the overall environmental standards assessment, scheme points achieved in the transport assessment should be set against the total points available and scaled down pro rata to the points allocated to transport in the overall assessment. E.g. if a development proposal scores 48 points out of a possible 65 in the transport assessment the overall environmental transport assessment transport shall be 7 points.

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

SUBMITTER GBI

- | | | |
|---|-----------------------|-----------------------|
| 1. Summary Report on Green Transport Masterplan (includes TIA) covering proposed development framework, surrounding catarments, surveys, existing conditions. | <input type="radio"/> | <input type="radio"/> |
| 2. Forecast of future traffic shall be at against the Trip Production & Trip Attraction TRC-1 Matrix as part of the strategic Green Transport Plan. | <input type="radio"/> | <input type="radio"/> |
| 3. All linkages both pedestrian and vehicular from surrounding developments shall be included. | <input type="radio"/> | <input type="radio"/> |
| 4. Confirmation from the developer to adopt Green transport strategies to meet development requirements. | <input type="radio"/> | <input type="radio"/> |

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

SUBMITTER GBI

- | | | |
|--|-----------------------|-----------------------|
| 1. Summary update on Green Transport Masterplan to confirm compliance to criteria. | <input type="radio"/> | <input type="radio"/> |
| 2. Describe any deviation or addition to the PA submission. | <input type="radio"/> | <input type="radio"/> |

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

SUBMITTER GBI

- | | | |
|--|-----------------------|-----------------------|
| 1. Submit final Green Transport Report indicating all road upgrades, new roads, pedestrian networks, transit points or hubs completed by qualified Engineer for the development. | <input type="radio"/> | <input type="radio"/> |
| 2. As-Built Site Plan indicating all road upgrades, roads, pedestrian networks, public amenities and facilities, transit points as an Integrated Green Masterplan with photographs of key element. | <input type="radio"/> | <input type="radio"/> |
| 3. Describe any deviation or addition to the FPA submission. | <input type="radio"/> | <input type="radio"/> |

4

TRANSPORTATION & CONNECTIVITY (TRC) – 14 POINTS

To reduce impact from Transportation by providing affordable and sustainable Transportation network both within the development and linkages outside the development.

TRC2	AVAILABILITY AND FREQUENCY OF PUBLIC TRANSPORT		1 POINT
	INTENT	Reduce car use by increasing the availability of public transport both within the community and linkage to external hubs.	

ASSESSMENT CRITERIA	POINTS	SCORE
<p>One (1) point is awarded for compliance to the following (compliance statement submitted in conjunction with the traffic assessment impact report submitted under TRC2):</p> <ol style="list-style-type: none"> Inter community accessibility via public transportation catering for more than 30% of its estimated traffic generation to external hubs (Note 1), AND Intra-community travel via car is decreased by at least 40% via internal public transportation network OR it can be shown that an integrated pedestrian walkway and/or bicycle network systems are viable alternatives (Note 2). <p>DEFINITION</p> <p>Note 1: Traffic generators within development including restaurant, schools, retail outlets, supermarkets, commercial centres and office etc shall be included within the calculation. External traffic generators include “hubs” such as city central business district, large retail outlets etc.</p> <p>Note 2: Intra-community travel can be identified by travel generated between different usage zones within a development. In a ‘small neighbourhood development’, intra-community travel may be mitigated by network of pedestrian and bicycle routes. Larger development may require an integrated public or alternative transportation network such as trams, mini-bus routes, park-and-ride etc.</p>	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)	SUBMITTER	GBI
1. Summary Report on the Intra and later community targets and strategies for the reduction of travel in the planning of the development.	<input type="radio"/>	<input type="radio"/>
2. Confirmation on the target Intra and Inter community travel for the development.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)	SUBMITTER	GBI
1. Summary report confirming the achieved Inter and Intra community travel for the completed project by qualified person. Include same data to meet criteria and completion studies qualification to meet the design intent.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

4

TRANSPORTATION & CONNECTIVITY (TRC) – 14 POINTS

To reduce impact from Transportation by providing affordable and sustainable Transportation network both within the development and linkages outside the development.

TRC3	FACILITIES FOR PUBLIC TRANSPORTATION		1 POINT
	INTENT	Promote sustainable public transportation network by the provision of facilities.	

ASSESSMENT CRITERIA	POINTS	SCORE
One (1) point is awarded for compliance with the following: 1. Provision of covered or sheltered bus stops and/or any light or mass rapid transit station within 500m of every housing unit or non-residential unit, AND 2. Provision of covered or shaded walkway linking to sheltered bus stops and/or stations (under (1) above) to the nearest residential or commercial centres.	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA) SUBMITTER GBI

- | | | |
|--|-----------------------|-----------------------|
| 1. Location of all covered or sheltered bus or transit points in relation to the furthest residential within the masterplan. Label the different types of bus stops. | <input type="radio"/> | <input type="radio"/> |
| 2. Confirmation from developer for the provision of covered or sheltered bus or other transit stops. | <input type="radio"/> | <input type="radio"/> |

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA) SUBMITTER GBI

- | | | |
|---|-----------------------|-----------------------|
| 1. Describe any deviation or addition to the PA submission. | <input type="radio"/> | <input type="radio"/> |
|---|-----------------------|-----------------------|

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA) SUBMITTER GBI

- | | | |
|--|-----------------------|-----------------------|
| 1. As-Built Site plan indicating all transport facilities accessible within 500m radii of every housing unit or non-residential unit, AND | <input type="radio"/> | <input type="radio"/> |
| 2. Submit report and photographs of the transport facilities and covered or shaded pedestrian linkages. | <input type="radio"/> | <input type="radio"/> |
| 3. Describe any deviation or addition to the FPA submission. | <input type="radio"/> | <input type="radio"/> |

4

TRANSPORTATION & CONNECTIVITY (TRC) – 14 POINTS

To reduce impact from Transportation by providing affordable and sustainable Transportation network both within the development and linkages outside the development.

TRC4	PEDESTRIAN NETWORKS		1 POINT
	INTENT	To reduce travel by car by promoting walkable streets.	

ASSESSMENT CRITERIA	POINTS	SCORE
<p>One (1) point is awarded for the provision of pedestrian network (existing or planned) serving the development AND evidence that the said pedestrian network comply with the following basic requirements:</p> <ol style="list-style-type: none"> The pedestrian network is planned as a link from hubs within neighbourhood zones (residential zones, commercial zones etc) to all other units within said zones including key public amenities within the zone. The pedestrian network links to transitory hubs (cycling, public network, bus routes etc) within a walkability zone. At least 75% of the pedestrian routes are covered or shaded. Proper signages are provided for the safe and proper usage of pedestrian network by the residents. 	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Submit site plan, if different to TRC1, indicating the pedestrian networks in and around the site.	<input type="radio"/>	<input type="radio"/>
2. Submit proposal for the pedestrian links, to land parcels, open spaces and significant features and the adopted special features site wide.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Submit As-Built Site Plan drawings and sections on the pedestrian networks, types adopted into the final development.	<input type="radio"/>	<input type="radio"/>
2. Submit photographs and report on the pedestrian network.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

4

TRANSPORTATION & CONNECTIVITY (TRC) – 14 POINTS

To reduce impact from Transportation by providing affordable and sustainable Transportation network both within the development and linkages outside the development.

TRC5	CYCLING NETWORKS	2 POINTS
	INTENT	To reduce travel by car by promoting cycling as an alternative transportation mode.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>A) The first point for EITHER an existing cycle network OR a new planned cycle network serving the development AND evidence that the said cycle network complies with the following basic requirements:</p> <ol style="list-style-type: none"> 1. The cycling network is planned to link to ALL amenities provided (if relevant) under CPD3 (Local Amenities), CPD11 (Amenities for Community Thrust), CPD1 (Recreational Green Spaces) and any other key public facilities relevant. 2. The cycling network provide an easy accessible linkage from ALL residential units to commercial zones and other zones. 3. Cycling networks are dedicated lanes. 4. Proper signages are provided for the safe and proper usage of cycling network by the residents. 	1	
<p>B) The second point is awarded ONLY AFTER COMPLIANCE with the first point above AND if at least ANY TWO of the following amenities are provided to promote a cycling network:</p> <ol style="list-style-type: none"> 1. Provision of bicycle storage space at focal points of development (focal point is defined as key public facilities which are possible focus of human traffic (e.g. markets, schools, restaurants etc.). The capacity of storage space shall be based on an estimate of population traffic projections. 2. Provision of tree-line shaded cycle lanes for at least 75% of the cycling network. 3. Provision of “rest-stop” facilities at every 750m intervals of cycle lanes, said rest-stops shall be shaded with suitable amenities (bicycle parking yard, refreshment booth and others to be proposed etc). 	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

SUBMITTER GBI

- | | | |
|---|-----------------------|-----------------------|
| 1. Submit Brief summary on the cycling network and facilities strategy site wide for the development. | <input type="radio"/> | <input type="radio"/> |
| 2. Confirmation from developer to provide the cycling networks and facilities for the site. | <input type="radio"/> | <input type="radio"/> |

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

SUBMITTER GBI

- | | | |
|---|-----------------------|-----------------------|
| 1. Describe any deviation or addition to the PA submission. | <input type="radio"/> | <input type="radio"/> |
|---|-----------------------|-----------------------|

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

SUBMITTER GBI

- | | | |
|---|-----------------------|-----------------------|
| 1. Submit As-Built cycling route plans and sections for the development. Locate all facilities provided for cyclists. | <input type="radio"/> | <input type="radio"/> |
| 2. Submit report and photographs of all facilities. | <input type="radio"/> | <input type="radio"/> |
| 3. Describe and deviation or addition to the FPA submission. | <input type="radio"/> | <input type="radio"/> |

4

TRANSPORTATION & CONNECTIVITY (TRC) – 14 POINTS

To reduce impact from Transportation by providing affordable and sustainable Transportation network both within the development and linkages outside the development.

TRC6	ALTERNATIVE TRANSPORT OPTIONS		1 POINT
	INTENT	Promotion of alternative mode of sustainable transportation.	

ASSESSMENT CRITERIA	POINTS	SCORE
One (1) point awarded for compliance with ANY of the following “Green Initiatives”: <ul style="list-style-type: none"> a. Provision of charging station for electric cars at ALL strategic locations such as hubs for essential public amenities or commercial centres or neighbourhood focal point. b. Park and Ride depot with parking facilities and public transport for commercial centres; c. Management of car pool system for residents. d. Community Bicycle Rental managed by the local authority or resident association or community centre. e. “Green Public Vehicle” for transportation within neighbourhood hubs (“green vehicle” to include vehicles operating on electric or biofuel). f. Central Travel Information Centre created by for the development for the community. g. “Other Sustainable Transportation Mode” approved by GBI. 	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Submit a brief on the Green Initiatives that will be adopted for the development site.	<input type="radio"/>	<input type="radio"/>
2. Confirmation from the developer that these initiatives will be implemented during final development stage.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Submit report and photographs of the Green Initiatives completed for the development.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

5

BUILDING & RESOURCES (BDR) – 15 POINTS

To reduce impact consumption of primary resources and the practice of sustainable construction.

BDR1	LOW IMPACT MATERIAL (INFRASTRUCTURE)	1 POINT
	INTENT	To reduce the impact of material use by promoting the use of recycled and reclaimed materials for infrastructure works

ASSESSMENT CRITERIA	POINTS	SCORE
<p>The use of materials for new infrastructure such that the sum of post consumer and/or pre-consumer recycled content can be established by cost; or by weight converted to cost.</p> <p>1. One (1) point given where use of materials with recycled content is such that the sum of post consumer recycled plus one-half of pre-consumer content constitutes more than 10% (based on cost) of total value of materials in the project.</p> <p>Infrastructure items include roadways, base and sub base materials, drains, curbs, water and sewage infrastructure, electrical and telephone infrastructure and street furniture.</p>	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Identify on-site materials (e.g. earth or rocks) or off site recycled material for construction of the infrastructure.	<input type="radio"/>	<input type="radio"/>
2. Confirmation on commitment for recycled content in construction of infrastructure.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Documentation during construction stage including photographs of installed reused materials.	<input type="radio"/>	<input type="radio"/>
2. Calculation of recycled content value of each material must be provided.	<input type="radio"/>	<input type="radio"/>
3. Information on the sources/suppliers of the materials with recycled content must be provided.	<input type="radio"/>	<input type="radio"/>
4. 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 the post consumer and/or pre-consumer recycled content must be established by cost. Submission to be verified by qualified quantity surveyor.	<input type="radio"/>	<input type="radio"/>
5. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

5

BUILDING & RESOURCES (BDR) – 15 POINTS

To reduce impact consumption of primary resources and the practice of sustainable construction.

BDR2	LOW IMPACT MATERIAL (BUILDINGS AND STRUCTURES)	1 POINT
	INTENT	To reduce the impact of material use by promoting the use of recycled and reclaimed materials for building works.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>The use of materials for new buildings and structures such that the sum of post consumer and/or pre-consumer recycled content can be established by cost; or by weight converted to cost.</p> <p>1. One (1) point given where use of materials with recycled content is such that the sum of post consumer recycled plus one-half of pre-consumer content constitutes more than 10% (based on cost) of total value of materials in the project.</p> <p>Building & Structures items include bridges, structures in the Open Space and any other buildings fall within the site wide development.</p>	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Identify on-site materials (e.g. earth or rocks) or off site recycled material for construction of the buildings & structures.	<input type="radio"/>	<input type="radio"/>
2. Confirmation on commitment for recycled content in construction for the buildings & structures.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Documentation during construction stage including photographs of installed reused materials.	<input type="radio"/>	<input type="radio"/>
2. Calculation of recycled content value of each material must be provided.	<input type="radio"/>	<input type="radio"/>
3. Information on the sources/suppliers of the materials with recycled content must be provided.	<input type="radio"/>	<input type="radio"/>
4. 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 the post consumer and /or pre-consumer recycled content must be established by cost.	<input type="radio"/>	<input type="radio"/>
5. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

5

BUILDING & RESOURCES (BDR) – 15 POINTS

To reduce impact consumption of primary resources and the practice of sustainable construction.

BDR3	REGIONAL MATERIAL	1 POINT
	INTENT	To reduce the impact of carbon emissions from transportation of regional materials.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>Use building/construction materials that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation:</p> <p>1. Use building/construction materials that have been extracted, harvested or recovered, as well as manufactured, within 500km of the project site for $\geq 70\%$ (based on cost) of the total material value.</p> <p>Mechanical, electrical and plumbing components shall not be included. Only include materials permanently installed in the project.</p>	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

SUBMITTER GBI

- | | | |
|--|-----------------------|-----------------------|
| 1. Confirmation by developer to extract/harvest/recover/or manufacture within 500km of project site. | <input type="radio"/> | <input type="radio"/> |
|--|-----------------------|-----------------------|

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

SUBMITTER GBI

- | | | |
|---|-----------------------|-----------------------|
| 1. Describe any deviation or addition to the PA submission. | <input type="radio"/> | <input type="radio"/> |
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REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

SUBMITTER GBI

- | | | |
|---|-----------------------|-----------------------|
| 1. List of products that were extracted/harvested/recovered and manufactured within 500km of the project site after completion for the 70% of the total material value. | <input type="radio"/> | <input type="radio"/> |
| 2. Provide Name & manufacturer, product cost, AND the distance between the project site and manufacturer. | <input type="radio"/> | <input type="radio"/> |
| 3. Determine the Actual Material cost. | <input type="radio"/> | <input type="radio"/> |
| 4. Calculate the percentage of Regional materials used + Total Cost of Regional Materials/Total Material Cost. | <input type="radio"/> | <input type="radio"/> |
| 5. Describe any deviation or addition to the FPA submission. | <input type="radio"/> | <input type="radio"/> |

5

BUILDING & RESOURCES (BDR) – 15 POINTS

To reduce impact consumption of primary resources and the practice of sustainable construction.

BDR4	QUALITY IN CONSTRUCTION	2 POINTS
	INTENT	Promote efficiency and quality in construction thereby conserving resources.

ASSESSMENT CRITERIA	POINTS	SCORE
One (1) point is awarded for compliance with ANY of the following:		
1. QLASSIC score of at least 70% for infrastructure works.	1	
2. QLASSIC score of at least 70% for building works as follows: <ul style="list-style-type: none"> achieved by at least 50% of built structures Note: Achievement for building based on GFA achieving QLASSIC score.	1	
DESCRIPTION External works cover the general external work elements in building construction such as the link-ways/shelters, drains, roadworks, car parks footpaths, turfings, playgrounds, gates and fences, swimming pools, hardscapes and electrical substations.		

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Submit preliminary Project Quality Plan, QLASSIC is to be understood by all consultants and owner early in the design stage captured in the tender works: OR	<input type="radio"/>	<input type="radio"/>
2. Confirmation by developer to adopt QLASSIC for the construction phase of the development.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Certification from CIDB of score achieved.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

5

BUILDING & RESOURCES (BDR) – 15 POINTS

To reduce impact consumption of primary resources and the practice of sustainable construction.

BDR5	CONSTRUCTION WASTE MANAGEMENT	1 POINT
	INTENT	To reduce the environmental impact from construction activities by construction waste management and recycling.

ASSESSMENT CRITERIA	POINTS	SCORE
Evidence that a comprehensive construction waste management and recycling scheme is implemented for the whole site (building and infrastructure): <ol style="list-style-type: none"> 1. CWM plan for whole site; AND 2. Recycling plan; AND 3. Proper disposal off site; AND 4. Provision for recycling bins and recycling centre. AND 5. Measures for monitoring and training of site staff and sub contractors on CWM plan. 	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

SUBMITTER GBI

- | | | |
|---|-----------------------|-----------------------|
| 1. Submit Preliminary report on construction waste management plan for development; OR | <input type="radio"/> | <input type="radio"/> |
| 2. Confirm commitment to provide a construction waste management plan for the Development. | <input type="radio"/> | <input type="radio"/> |

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

SUBMITTER GBI

- | | | |
|---|-----------------------|-----------------------|
| 1. Describe any deviation or addition to the PA submission. | <input type="radio"/> | <input type="radio"/> |
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REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

SUBMITTER GBI

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|---|-----------------------|-----------------------|
| 1. Submit final construction waste management monthly report for the entire construction period, complete with photographic evidence and site reports verified by qualified person. | <input type="radio"/> | <input type="radio"/> |
| 2. Describe any deviation or addition to the FPA submission. | <input type="radio"/> | <input type="radio"/> |

5

BUILDING & RESOURCES (BDR) – 15 POINTS

To reduce impact consumption of primary resources and the practice of sustainable construction.

BDR6	SITE SEDIMENTATION AND POLLUTION CONTROL	1 POINT
	INTENT	To reduce the environmental impact from construction activities by implementation site sedimentation and pollution control.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>Provide evidence that a comprehensive Erosion and Sedimentation Control Plan (ESC) is implemented for the whole site (for building, structures, and for infrastructure works). The plan should include the following elements:</p> <ol style="list-style-type: none"> 1. Drainage of site 2. Sedimentation Control Plan. 3. Prevent loss of soil during construction by stormwater runoff and/or wind erosion, including protecting top soil by stockpiling for reuse; AND 4. Prevent sedimentation of storm sewer or receiving stream; AND 5. Prevent polluting the air with dust and particulate matter 6. Monitoring compliance to CSPP during construction 7. Ensuring compliance to CSPP during construction 	1	
<p>DESCRIPTION</p> <p>Site construction activities have a large impact on the local environment. A direct result of construction activities is a disturbance of the natural terrain and earth formation which results in sedimentation to existing drainage and hydrological system. Construction activities also introduce pollution to the local environment. In Malaysia, site sedimentation and pollution control of construction site is mandatory under the control of local authorities. This criteria aims to reinforce the mandatory requirement of site sedimentation and pollution control by introducing a clearer and (in some case, a higher standard) of practice for site sedimentation and pollution control. A Construction (Site) Sedimentation & Pollution Control Plan (CSCP) forms the basis for reporting on measures for construction activities.</p>		

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. A proper CSPP Plan should be adopted and understood by all consultants and the developer early during design stage and captured in the tender specifications. Submit Preliminary CSPP Report Plan for the construction works.	<input type="radio"/>	<input type="radio"/>
2. Confirmation to proceed and comply with CSPP for the whole site during construction.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Submit CSPP Report to confirm compliance with the intent of this criteria.	<input type="radio"/>	<input type="radio"/>
2. Submit plan showing CSPP measures for construction.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Submit final CSPP report, complete with photographic evidence and site reports verified by qualified person confirming that CSPP plan has been complied with during constructions.	<input type="radio"/>	<input type="radio"/>
2. Sample report and QC checklist of CSPP plan to be included in report.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

5

BUILDING & RESOURCES (BDR) – 15 POINTS

To reduce impact consumption of primary resources and the practice of sustainable construction.

BDR7	SUSTAINABLE CONSTRUCTION PRACTICE	2 POINTS
	INTENT	Encourage practice of sustainable construction.

ASSESSMENT CRITERIA	POINTS	SCORE
Minimum 2 measures for one (1) point are awarded up to a maximum of two (2) points. <ol style="list-style-type: none"> 1. Implement rainwater harvesting for site use. 2. Install workers amenities over and above statutory requirement (e.g. provision of rest and recreation facilities). 3. Preserve existing greenery. 4. IBS system is implemented up to a minimum score of 30%. 5. Any other sustainable 'green-construction measures approved by the GBIAP. 	2	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Submit selected criteria or list any other GBI approved sustainable green construction measures to be adopted for the Development.	<input type="radio"/>	<input type="radio"/>
2. Provide summary report on strategies describing the adoption and future implementation.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Submit Summary report on sustainable construction strategies to be adopted for the development by Qualified person.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. As-Built drawings and photographs demonstrating the selected sustainable construction measures undertaken during construction.	<input type="radio"/>	<input type="radio"/>
2. Submit final report on sustainable construction measures complied with during construction.	<input type="radio"/>	<input type="radio"/>
3. Sample report and QC checklist of sustainable construction practices on site.	<input type="radio"/>	<input type="radio"/>
4. Describe any deviation or addition to the FPA submission	<input type="radio"/>	<input type="radio"/>

5

BUILDING & RESOURCES (BDR) – 15 POINTS

To reduce impact consumption of primary resources and the practice of sustainable construction.

BDR8	GBI CERTIFIED BUILDING	6 POINTS
	INTENT	Adopt best practice for energy and water efficiency and sustainable development for each individual building by achieving GBI Certification.

ASSESSMENT CRITERIA	POINTS	SCORE
1 point: Minimum 50 % of the total development GFA to achieve GBI certification.	1	
2 points: 55% of the total development GFA to achieve GBI certification.	2	
3 points: 60% of the total development GFA to achieve GBI certification.	3	
4 points: 65% of the total development GFA to achieve GBI certification.	4	
5 points: 70% of the total development GFA to achieve GBI certification.	5	
6 points: 75% of the total development GFA to achieve GBI certification.	6	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Determine the total Development plan GFA and indicate the GFA of building parcels that will be built to achieve GBI Certification	<input type="radio"/>	<input type="radio"/>
2. Confirmation from developer for the building parcels achieving GBI certification for each Phase of the development.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Submit parcels or buildings selected for GBI certification and total development GFA for these selected projects.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Confirm the total development GFA for buildings built achieving GBI certification.	<input type="radio"/>	<input type="radio"/>
2. Submit evidence of buildings and GFA achieving GBI certification.	<input type="radio"/>	<input type="radio"/>
3. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

6

BUSINESS & INNOVATION (BSI) – 10 POINTS

To reduce impact consumption of primary resources and the practice of sustainable construction.

BSI1	BUSINESS	3 POINTS
	INTENT	Promote business activities thereby creating business opportunities at the local level and reducing commuting time for the resident.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>A) First point is awarded for the following: Identify Business and Services opportunities for the development based on Feasibility Study of the context and surrounding developments.</p>	1	
<p>B) The second point is awarded for the following:</p> <ol style="list-style-type: none"> 1. An assessment of proposed commercial or industrial development and type of residential to support such businesses within the development, and vice versa. 2. An assessment of services, business types and sectors likely generated from the proposed development. 3. Recommendations on commercial units required to fulfil the needs of the resident within this development based on this report. 4. Show that the development mixed is in accordance with the commercial/industrial-to-residential ratio recommended in the report. If the commercial development is higher in ratio, identify key locations of employment catchment. 	1	
<p>C) The third point is awarded when:</p> <ol style="list-style-type: none"> 1. With at least one priority or focused business or educational sector will be included in the plan; AND 2. Recommendations on commercial units and infrastructure required to fulfil the needs of (1). 	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Feasibility study addressing the following:	<input type="radio"/>	<input type="radio"/>
a. Local context opportunities and considerations		
b. Identify Residential & Business opportunities		
c. Considerations for Services and facilities required for to support the development		
d. Location of commercial centers		
2. Submit summary of feasibility report.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Review on completed Masterplan on the feasibility study described in at the FPA submission.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation and addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

6

BUSINESS & INNOVATION (BSI) – 10 POINTS

To reduce impact consumption of primary resources and the practice of sustainable construction.

BSI2	INNOVATION	6 POINTS
	INTENT	Promote innovative solutions which are sustainable and reduce carbon emissions.

ASSESSMENT CRITERIA	POINTS	SCORE
<p>Up to Six (6) points are awarded for implementing any of the listed innovations (one point per innovation up to a maximum of 6 points):</p> <ol style="list-style-type: none"> 1. Active Design strategies <ol style="list-style-type: none"> a. Innovative on-site generation (solar cooling, biomass, biodigester, etc) b. Innovative green energy supplied by certified “green-energy” supplier c. Community grey water recycling d. Community black water recycling scheme e. Community food production f. Community food garden g. Community recycling scheme h. Central ‘micro’ chiller plant i. Biomass generation plant (chilled water, electricity generation). j. Automatic leak detection system is incorporated for the water reticulation system (implemented by the local utility company). 2. Unique Community Planning, Ecological or Environmental features that contribute to better Neighbourhoods 3. REGIONALITY - To encourage strategies that address local specific environmental, social and cultural needs this includes responding to Conservation issues. Developments next to ecological sites, heritage sites, rivers, islands will need to respond to the context with best practice solutions. 4. Other Innovative solution approved by GBI. 	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Summary report on each innovation, sustainable features and benefits or in the case of (2) and (3) cultural, social or economic benefit to the community.	<input type="radio"/>	<input type="radio"/>
2. Commitment by developer to adopt these innovations for the development site.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. Describe any deviation or addition to the PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. Full documentation, drawings and/or photographs describing each innovation. Documentation should describe the unique features.	<input type="radio"/>	<input type="radio"/>
2. Describe any deviation or addition to the FPA submission.	<input type="radio"/>	<input type="radio"/>

6

BUSINESS & INNOVATION (BSI) – 10 POINTS

To reduce impact consumption of primary resources and the practice of sustainable construction.

BSI3	GBI FACILITATOR	1 POINT
	INTENT	Promote best practice in sustainability in design by appointment of GBI Facilitator and specialist sustainability consultants.

ASSESSMENT CRITERIA	POINTS	SCORE
One (1) point to be awarded on appointment of a GBI Facilitator.	1	

REQUIRED SUBMISSION FOR PLANNING ASSESSMENT (PA)

	SUBMITTER	GBI
1. Proof of appointment of the named GBI Facilitator.	<input type="radio"/>	<input type="radio"/>
2. GBI Facilitator to submit PA submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR FINAL PLANNING ASSESSMENT (FPA)

	SUBMITTER	GBI
1. GBI Facilitator to submit FPA Submission.	<input type="radio"/>	<input type="radio"/>

REQUIRED SUBMISSION FOR COMPLETION & VERIFICATION ASSESSMENT (CVA)

	SUBMITTER	GBI
1. GBI Facilitator to present CVA submission to GBI Certifier (if required).	<input type="radio"/>	<input type="radio"/>