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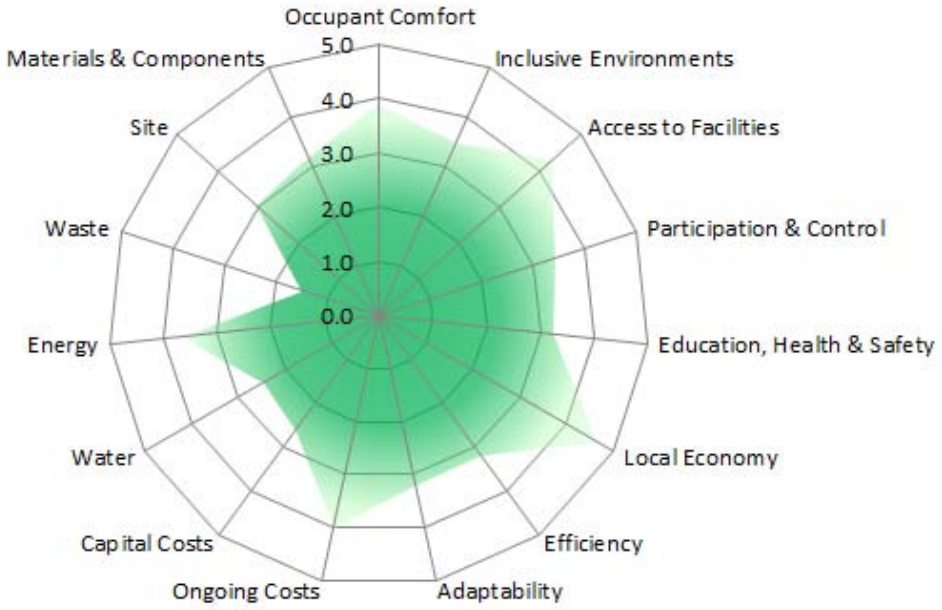
Addendum A - SBAT rating tool

SUSTAINABLE BUILDING ASSESSMENT TOOL (SBAT-P)

Project title: Germinate: Architecture of Growth Date: October 2011
Location: c/o Skietpoort Avenue and Koch Street Undertaken by: Author
Building type: Mixed-use residential



Social	3.7
Economic	3.5
Environmental	2.8
Overall	3.3

Classification: GOOD

Building Performance - Social

	Criteria	Indicative performance measure	Measured	Points
SO 1	**Occupant Comfort**			3.9
SO 1.1	Daylighting	% of occupied spaces that are within distance 2H from window, where H is the height of the window or where there is good daylight from skylights	80	0.8
SO 1.2	Ventilation	% of occupied spaces have equivalent of opening window area equivalent to 10% of floor area or adequate mechanical system, with upolluted air source	100	1.0
SO 1.3	Noise	% of occupied spaces where external/internal/reverberation noise does not impinge on normal conversation (50dbA)	60	0.6
SO 1.5	Thermal comfort	Tempreture of occupied space does not exceed 28 or go below 19oC for less than 5 days per year (100%)	50	0.5
SO 1.5	Views	% of occupied space that is 6m from an external window (not a skylight) with a view	100	1.0
SO 2	**Inclusive Environments**			3.5
SO 2.1	Public Transport	% of building (s) within 400m of disabled accessible public transport	80	0.8
SO 2.2	Information	High contrast, clear print signage in appropriate locations (100%)	70	0.7
SO 2.3	Space	% of occupied spaces that are accessible to ambulant disabled / wheelchair users	40	0.4
SO 2.4	Toilets	% of space with fully accessible toilets within 50m	100	1.0
SO 2.5	Fittings & Furniture	% of commonly used furniture and fittings (reception desk, kitchenette, auditorium) fully accessible	60	0.6
SO 3	**Access to Facilities**			4.3
SO 3.1	Children	All users can walk (100%) / use public transport (50%) to get to their childrens' schools and creches	75	0.8
SO 3.2	Banking	All users can walk (100%) / use public transport (50%) to get to banking facilities	75	0.8
SO 3.3	Retail	All users can walk (100%) / use public transport (50%) to get to food retail	100	1.0
SO 3.4	Communication	All users can walk (100%) / use public transport (50%) to get to communication facilities (post, telephone and internet)	80	0.8
SO 3.5	Exercise	All users can walk (100%) / use public transport (50%) to get to recreation / excersise facilities	100	1.0
SO 4	**Participation & Control**			3.5
SO 4.1	Environmental control	% of occupied spaces able to control their thermal environment (adjacent to openable windows/thermal controls)	85	0.9
SO 4.2	Involvement	% of users actively involved in the design process (workshops / meetings with models / large format drawings)	0	0.0
SO 4.3	Social spaces	Social informal meeting spaces (parks / staff canteens / cafes) provided locally (within 400m) (100%)	100	1.0
SO 4.4	Sharing facilties	5% of facilities shared with other users / organisations on a weekly basis (100%)	100	1.0
SO 4.5	User group	Active representative user group involved in the management of the building / facilities / local environment (100%)	60	0.6
SO 5	**Education, Health & Safety**			3.3
SO 5.1	Education	Two percent or more space/facilities available for education (seminar rooms / reading / libraries) per occupied spaces (75%). Construction training provided on site (25%)	75	0.8
SO 5.2	Safety	All well used routes in and around building well lit (25%), all routes in and around buildings (25%) visually supervised, secure perimeter and access control (50%), No crime (100%)	50	0.5
SO 5.3	Awareness	% of users who can access information on health & safety issues (ie HIV/AIDS), training and employment opportunities easily (posters/personnel)	100	1.0
SO 5.4	Materials	All materials/components used have no negative effects on indoor air quality (100%)	100	1.0
SO 5.5	Accidents	Method in place for recording all occupational accidents and diseases and addressing these	0	0.0

Building Performance - Economic

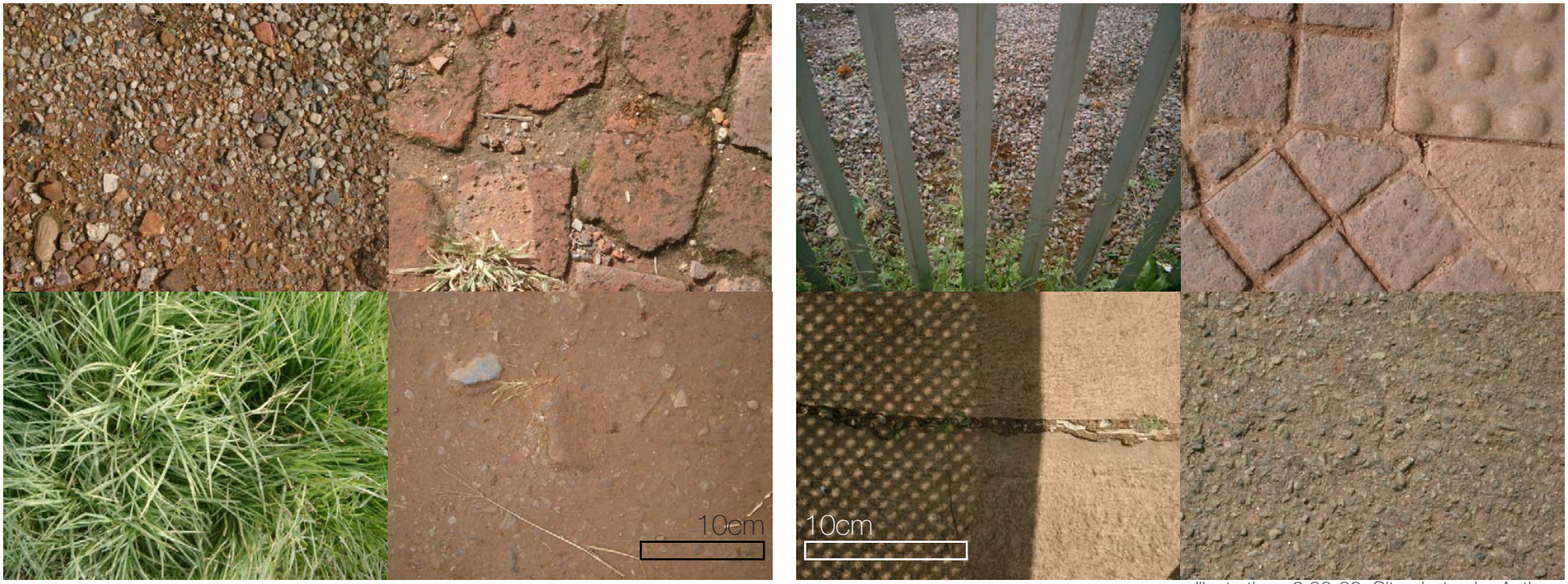
	Criteria	Indicative performance measure	Measured	Points
EC 1	**Local economy**			4.7
EC 1.1	Local contractors	% value of the building constructed by local (within 50km) small (employees<20) contractors	90	0.9
EC 1.2	Local materials	% of materials (sand, bricks, blocks, roofing material) sourced from within 50km	95	1.0
EC 1.3	Local components	% of components (windows, doors etc) made locally (in the country)	100	1.0
EC 1.4	Local furniture/fittings	% of furniture and fittings made locally (in the country)	80	0.8
EC 1.5	Maintenance	% of maintenance and repairs by value that can, and are undertaken, by local contractors (within 50km)	100	1.0
EC 2	**Efficiency**			3.2
EC 2.1	Capacity	% capacity of building used on a daily basis (actual number of users / number of users at full capacity*100)	55	0.6
EC 2.2	Occupancy	% of time building is occupied and used (actual average number of hours used / all potential hours building could be used (24) *100)	50	0.5
EC 2.3	Space per occupant	Space provision per user not more than 10% above national average for building type (100%)	85	0.9
EC 2.4	Communication	Site/building has access to internet and telephone (100%), telephone only (50%)	80	0.8
EC 2.5	Material & Components	Building design coordinated with material / component sizes in order to minimise wastage. Walls (50%), Roof and floors (50%)	50	0.5
EC 3	**Adaptability**			3.8
EC 3.1	Vertical heights	% of spaces that have a floor to ceiling height of 3000mm or more	100	1.0
EC 3.2	External space	Design facilitates flexible external space use (100%)	100	1.0
EC 3.3	Internal partition	Non loadbearing internal partitions that can be easily adapted (loose partioning (100%), studwall (50%), masonary (25%)	25	0.3
EC 3.4	Modular planning	Building with modular stucture, envelope (fenestration) & services allowing easly internal adaptaptation (100%)	100	1.0
EC 3.5	Furniture	Modular, limited variety furniture - can be easily configured for different uses (100%)	50	0.5
EC 4	**Ongoing costs**			4.0
EC 4.1	Induction	All new users receive induction training on building systems (50%), Detailed building user manual (50%)	50	0.5
EC4.2	Consumption & waste	% of users exposed on a monthly basis to building performance figures (water (25%), electricity (25%), waste (25%), accidents (25%)	75	0.8
EC 4.2	Metering	Easily monitored localised metering system for water (25%) and energy (75%)	100	1.0
EC4.3	Maintenance & Cleaning	Building can be cleaned and maintained easily and safely using simple equipment and local non-hazardous materials (100%)	100	1.0
SO 4.5	Procurement	% of value of all materials/equipment used in the building on a daily basis supplied by local (within the country) manufacturers	75	0.8
EC 5	**Capital Costs**			2.6
EC 5.1	Local need	Five percent capital cost allocated to address urgent local issues (employment, training etc) during construction process (100%)	100	1.0
EC5.2	Procurement	Tender / construction packaged to ensure involvement of small local contractors/manufacturers (100%)	50	0.5
EC 5.3	Building costs	Capital cost not more than fifteen % above national average building costs for the building type (100%)	80	0.8
EC5.4	Sustainable	3% or more of capital costs allocated to new sustainable/indigenous technology (100%)	30	0.3
EC 5.5	Existing Buildings	Existing buildings reused (100%)	0	0.0

Building Performance - Environmental

	Criteria	Indicative performance measure	Measured	Points
EN 1	**Water**			2.5
EN 1.1	Rainwater	% of water consumed sourced from rainwater harvested on site	10	0.1
EN 1.2	Water use	% of equipment (taps, washing machines, urinals showerheads) that are water efficient	90	0.9
EN 1.3	Runoff	% of carparking, paths, roads and roofs that have absorbant/permeable surfaces (grassed/thatched/looselaid paving/ absorbant materials)	20	0.2
EN 1.4	Greywater	% of water from washing/relatively clean processes recycled and reused	40	0.4
EN 1.5	Planting	% of planting (other than food gardens) on site with low / appropriate water requirements	85	0.9
EN 2	**Energy**			3.7
EN 2.1	Location	% of users who walk / use public transport to commute to the building	80	0.8
EN 2.2	Ventilation	% of building ventilation requirements met through natural / passive ventilation	95	1.0
EN 2.3	Heating & Cooling	% of occupied space which has passive environmental control (no or minimal energy consumption)	90	0.9
EN 2.4	Appliances & fittings	% of appliances / lighting fixtures that are classed as highly energy efficient (ie energy star rating)	100	1.0
EN 2.5	Renewable energy	% of building energy requirements met from renewable sources	0	0.0
EN 3	**Waste**			1.5
EN 3.1	Toxic waste	% of toxic waste (batteries, ink cartridges, flourescent lamps) recycled	75	0.8
EN 3.2	Organic waste	% of organic waste recycled	0	0.0
EN 3.3	Inorganic waste	% of inorganic waste recycled.	75	0.8
EN 3.4	Sewerage	% of sewerage recycled on site	0	0.0
EN 3.5	Construction waste	% of damaged building materials / waste developed in construction recycled on site	0	0.0
EN 4	**Site**			3.1
EN 4.1	Brownfield site	% of proposed site already disturbed / brownfield (previously developed)	40	0.4
EN 4.2	Neighbouring buildings	No neighbouring buildings negatively affected (access to sunlight, daylight, ventilation) (100%)	100	1.0
EN 4.3	Vegetation	% of area of area covered in vegetation (include green roofs, internal planting) relative to whole site	25	0.3
EN 4.4	Food gardens	Food gardens on site (100%)	100	1.0
EN 4.5	Landscape inputs	% of landscape that does not require mechanical equipment (ie lawn cutting) and or artificial inputs such as weed killers and pesticides	40	0.4
EN 5	**Materials & Components**			3.2
EN 5.1	Embodied energy	Materials with high embodied energy (aluminium,plastics) make up less than 1% of weight of building (100%)	100	1.0
EN 5.2	Material sources	% of materials and components by volume from grown sources (animal/plant)	20	0.2
EN 5.3	Ozone depletion	No materials and components used requiring ozone depleting processes (100%)	100	1.0
EN 5.4	Recyled / reuse	% of materials and components (by weight) reused / from recycled sources	0	0.0
EN 5.5	Construction process	Volume / area of site disturbed during construction less than 2X volume/area of new building (100%)	100	1.0

Addendum B - Horizontal textures

Informal **Formal**



Illustrations 2.32-39: Site photos by Author

Circulation is the fundamental informant for the condition of the vertical surfaces. Along routes where pedestrians are expected wide boulevards equipped with street furniture are empty, whilst the informal paths (often the shortest route available) where people do walk are bustling with activity and small stalls selling fruits and sweets.

The informal surfaces include (clockwise direction) loose gravel, old pavers, compressed sand and unkept grass. These surfaces (wit the exception of the grass) are most frequently used by pedestrians travelling to and from the station. These surfaces are not maintained and evolve over time.

The formalised surfaces include (clockwise direction) gravel for parking, smaller and larger concrete pavers and asphalt for the roadway. These surfaces are considered formal due to their intentional nature. They are preserved through maintenance and the intention is for them not to change over time.

The formal surfaces are generally not appropriately located and are not therefore not used as intended whilst the informal surfaces are created due to the informal circulation of pedestrians.

Any development, as proposed in this dissertation, should respond appropriately to the nature of the vertical surfaces. Informal areas that experience high levels of traffic could be developed and encouraged through the establishment of appropriate paving surfaces. The quality of the experience as seen from the user on a small scale should also be considered.

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