1/ Strategy

- three dimensions of approach
- temporal aspects
- circulation & intersections
- integration & embeddedness
GROWING plant out
harvesting PROCESSING & COOKING
seeding
brown/red seaweeds
green seaweeds
january
february
march
april
may
june
july
august
september
october
november
dec
emb

Longevity | seasonal flexibility
prefab timber modules installed in high season
permanent concrete structure accommodates path & underwater habitat
Timber roof structure distinct - easy to replace/repair
Circulation | intersecting consumer & producer
2/ Articulation
- plans
- sections
- elevations
storage depot
fertiliser production
packaging commercial kitchen grinding & purification
derhydration
refrigeration
mineral extraction
plant room

Plan | water scale 1:200
Section D | connection to tea house
scale 1:200
3/ Construction

- energy & climate strategy
- structural strategy | processing
- details | processing
- structural strategy | teahouse
- details | teahouse
1. Seaweed cultivation
2. Bioethanol converter
3. CHP boiler
4. Individual heat and ventilation systems, run via central bioethanol supply
5. Double pass solar drying collector
6. Water extract pump system
7. Off season bioethanol storage

Intervention Overview: Climate Strategy
1. Precast concrete foundations pile to bedrock below.
2. Precast concrete wall units precast to form stairs to make step and schematic tower.
3. Hollow core floor slabs, key grout sealed precast one set floor slab for mixing zone.
4. Treated hardwood primary structure.
5. Corrugated steel roof sheeting.
1. corrugated steel roofing
2. 50mm x 100mm timber battens
3. galvanised steel fixings @ 400 centres
4. treated hardwood timber roof structure with exposed bolted connections
5. precast concrete wall panel, exposed on both faces
6. precast concrete floor slabs, exposed on both sides
7. concrete screed laid to falls
8. bituminous roof membrane
9. loose pebble bed drainage layer
10. 10mm galvanised steel walkway on timber bedded supports
11. precast hollow core floor build up
12. precast concrete foundation pile, driven to bedrock below
13. foldable timber shutter
14. overhead sliding door
15. prefab CLT timber unit
16. exposed CLT wall panel
17. 150mm rigid wood fibre insulation layer
18. damp proof membrane
19. 2 layers 25mm x 32mm battens
20. 75mm x 45mm timber batten vertical cladding
21. prefab CLT raised floor
22. 5mm black rubber finish
23. 75mm CLT structural floor panel
24. 150mm rigid insulation
25. 75mm screed finish
1. 10mm brushed brass sheet angle
2. Loose pebble drainage layer
3. Timber fillet angle
4. Overhead rail for sliding door, stainless steel
5. Timber substructure spans between precast concrete walls
6. Rubber bearing strip
7. 10mm galvanised steel sheet walkway
8. 25mm x 50mm timber walkway support on cement bedding
9. Bituminous roof felt water proofing layer
10. Screed layer laid at falls, 1:40
11. Exposed precast hollow core ceiling slab
Processing | Detail B - roof parapet drainage detail
scale 1:5

1. stainless steel gravel stop
2. bituminous roof membrane to lap drainage joint
3. screed layer laid to fall, 1:40
4. rubber bearing strip
5. precast hollow core floor slab
6. rubber bearing strip
7. MVHR intake duct
8. MVHR outtake duct
9. precast concrete drainage chute
10. precast concrete wall unit
1. precast concrete wall unit
2. wire loop connection, cast into concrete wall with 12mm rebar connection
3. rubber bearing strip at joint
4. shear key grout joint
Teahouse | Detail A - roof window
scale 1:5

1. grey shetland stone paver
2. coarse sand drainage layer
3. bituminous waterproof roof membrane
4. 200mm rigid insulation, laid to falls
5. steel C section with rigid insulation
6. ceramic fibre bedding around window perimeter
7. silicone seal with black painted band to conceal
8. 37mm triple layered structural glass
9. heat activated exposed concrete ceiling
10. vapour control layer
11. angled white plasterboard finish
12. double glazed glass
1. Reinforced concrete external walls cast off site acts as retaining wall.

2. External walls waterproofed 200mm rigid insulation lining.

3. Second pour concrete internal walls and roof structure heating pipes cast into walls for heat active structure.

4. 200mm rigid insulation laid on roof.

5. Roof finish laid on site.
1. production reef substrate
2. handrail cast into wall
3. drainage gutter set into rigid insulation
4. roof build up
   - grey shetland stone paver
   - coarse sand drainage layer
   - bituminous roof membrane
   - 200mm rigid insulation, laid to falls
   - vapour control layer
   - heat activated exposed concrete ceiling
5. floor build up
   - reinforced concrete structural floor, bolted to substrate modules
   - 200mm rigid insulation
   - 75mm concrete screed floor with underfloor heating. Laid to falls to allow drainage to pump
6. structural glass rooflight
7. 150mm insulating foamglas block
8. cast in situ concrete terraces
Teahouse | Detail B - window base
scale 1:5

1. triple layer laminated safety glass
2. silicone compressive seal
3. stainless steel underwater window frame bolt anchored to concrete
4. waterproof membrane to lap around window frame
5. heat activated exposed concrete inner leaf
6. 150mm rigid insulation
7. removable concrete tile, sloped to drain
8. bearing strip
9. cast in situ concrete terrace
1. 10mm brushed brass sheet angle
2. Loose pebble drainage layer
3. Timber fillet angle
4. Overhead rail for sliding door, stainless steel
5. Timber substructure spans between precast concrete walls
6. Rubber bearing strip
7. 10mm galvanised steel sheet walkway
8. 25mm x 50mm timber walkway support on cement bedding
9. Bituminous roof felt water proofing layer
10. Screed layer laid to falls, 1:40
11. Exposed precast hollow core ceiling slab
Processing | Detail D - wall-foundation pile connection
scale 1:5

1 75mm concrete topping
2 precast concrete hollow core floor slab
3 rubber levelling strip
4 bituminous waterproof seal applied to precast concrete connections
5 stainless steel anchor bolt cast into foundation pile head
6 precast concrete foundation pile