

3rd prize, Topic 2 Open Category

The Stride @ Changi

WY-TO:

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Participants' Write Up:

Committed to making targeted and minimal interventions, “The Stride” is the pilot plan that will be guided by Ecological Transition principles for the rejuvenation of Old Changi Hospital. It will serve as an urban eco-centre testbed that repurposes building into various distinct functions that is flexible to serve evolved community needs through learning, work and play. Developed to deliver a continuous breath of life within the invaluable historical site, the master plan is strategized through the set-up of circular systems in self-sustainable food cycle and responsible energy circulation. By retaining the overall existing architectural structure, the project envisions energy usage offsets by tapping on the natural ventilation and lighting to integrate Mother Nature’s presence in the refreshed purpose of the hospital. As a representative of the beacon for a resilient tomorrow, “The Stride” will lead this new “transition” of fundamentally changing our design philosophy to consider the building in relation to its surrounding environment and structures, past, present and future.

Jury Citation:

The jury commended the eco-centric concept of the proposal and the relatively organic form of intervention that respected the rusticity of the site, such as a green facade for the middle block of Old Changi Hospital. The proposed hi-tech farming was also an interesting and popular idea that could provide local produce for the community. The jury felt that many ideas in this proposal would work well in many contexts, and would benefit from a deeper relation to the unique milieu of Changi Point.

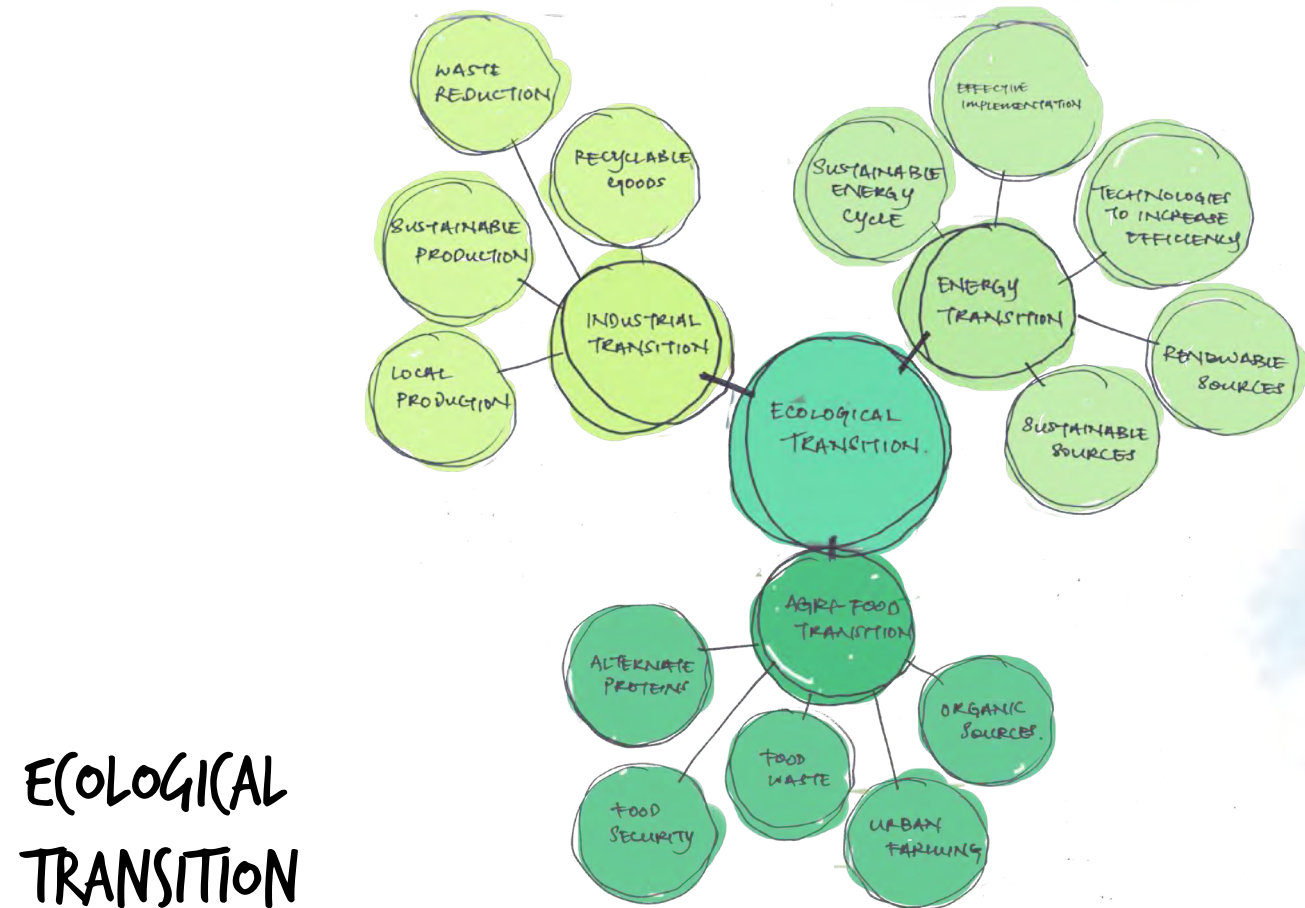
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Old Changi Hospital possess a rich history as a military barracks when it was first built, conversion to various other military uses throughout history, to its eventual function as a hospital before it was vacated in 1997. Unfortunately, its legacy has been stained by rumours of ghost hauntings in the building as it was briefly used as a prisoner-of-war (POW) camp by the Japanese during WWII and the alleged torture and mistreatment of the POWs there. There is a need for drastic change to the look of the buildings to rejuvenate and change the current perceptions of the buildings.

The Old Changi Hospital is envisioned to be a testbed as an urban eco-centre that repurposes the buildings into various distinct functions and creates an ecosystem for learning, work, and play. We envision 'The Stride' to be a place driven by its community of students, operators, users, and visitors, dedicated to upholding the values and ideals of the Ecological Transition.



WELCOMING PIAZZA



ECOLOGICAL TRANSITION

In the face of ecological crisis, climate change, and the depletion of natural resources around the globe, there is an urgent need to rethink about how our society operates and to build resiliency to these issues. The transition provides a framework for changes to be made to our industrial, agri-food and energy systems so to reduce our environmental impact.

We approached the idea of the transition by creating circular systems that improves the food cycle and energy cycle of the compound, reducing waste and offsetting consumption. **'The Stride' will serve as a pilot to showcase how our society can undergo Ecological Transition through adaptive re-use of existing buildings and spaces, to achieve sustainability.**

The site is nested within layers of trees and foliage. We decided to retain many of the natural features to minimise our environmental impact. Plants and greenery that might clash with the construction site needs will be shifted and incorporated back to other portions of our design. 'The Stride' coexists within nature, and the existing environment complements the buildings.

In addition, flexible spaces have been created within the buildings to allow the programmes and various function to adapt to changing and evolving needs. **With the help of movable partitions and other reconfigurable systems, this removes the need to add substantial extensions and external structures for additional programmes.**

BEACON FOR THE FUTURE

We understand that the implementation of new systems and habitual changes to our lifestyles requires time. The design of 'The Stride' addressed this 'transition' through a holistic approach. For instance, through the implementation of sustainable cycles and systems in the spirit of the 'Ecological Transition', the aim to nurture the next generation of entrepreneurs and innovators ready to help private and public sector to embark on this 'transition', as well as engage and encourage the public to embrace this new lifestyle. **'The Stride' represents a bridge between the past and the future, redefining our approach to adaptive re-use and sustainable living moving forward.**

Throughout the day, the interior of the middle block is visible from the outside. One will be able to observe how new technologies can bring about the "transition" of pre-existing structures to be bring relevant contributions to society. **At night, the entire block glows from the glow lights used in the indoor farms, becoming an icon of the Ecological Transition, a reminder that there needs to be a fundamental change in our design philosophy to consider the building in relation to its surrounding environment and structures, past, present and future.** 'The Stride' will lead this new 'transition'.

PRESERVATION

Preserving the historical buildings, promoting the "transition" and encouraging societal change, forms the pillar of our vision. **We are committed to make targeted and minimal interventions to the original buildings to retain their invaluable heritage values,** while ensuring that the changes are discernible to highlight the "transition" of the historical site to a high functioning and productive facility.

Our strategy involves retaining most of the architectural structures of the buildings. The facades of Blk 37 (The School of Ecological Transition) and Blk 24 (The Gathering) are left undisturbed, while the façade of Blk 161 (The Farm) is replaced with a light clear skin, allowing its internal programmes to be visible from the exterior. The Farm, with its updated appearance, contrasts against the colonial military style of the two other buildings. The iconic buildings of the Old Changi Hospital will remain highly recognisable but at the same time, with new injection of life in its middle block, which will help break away from its outdated stigma.

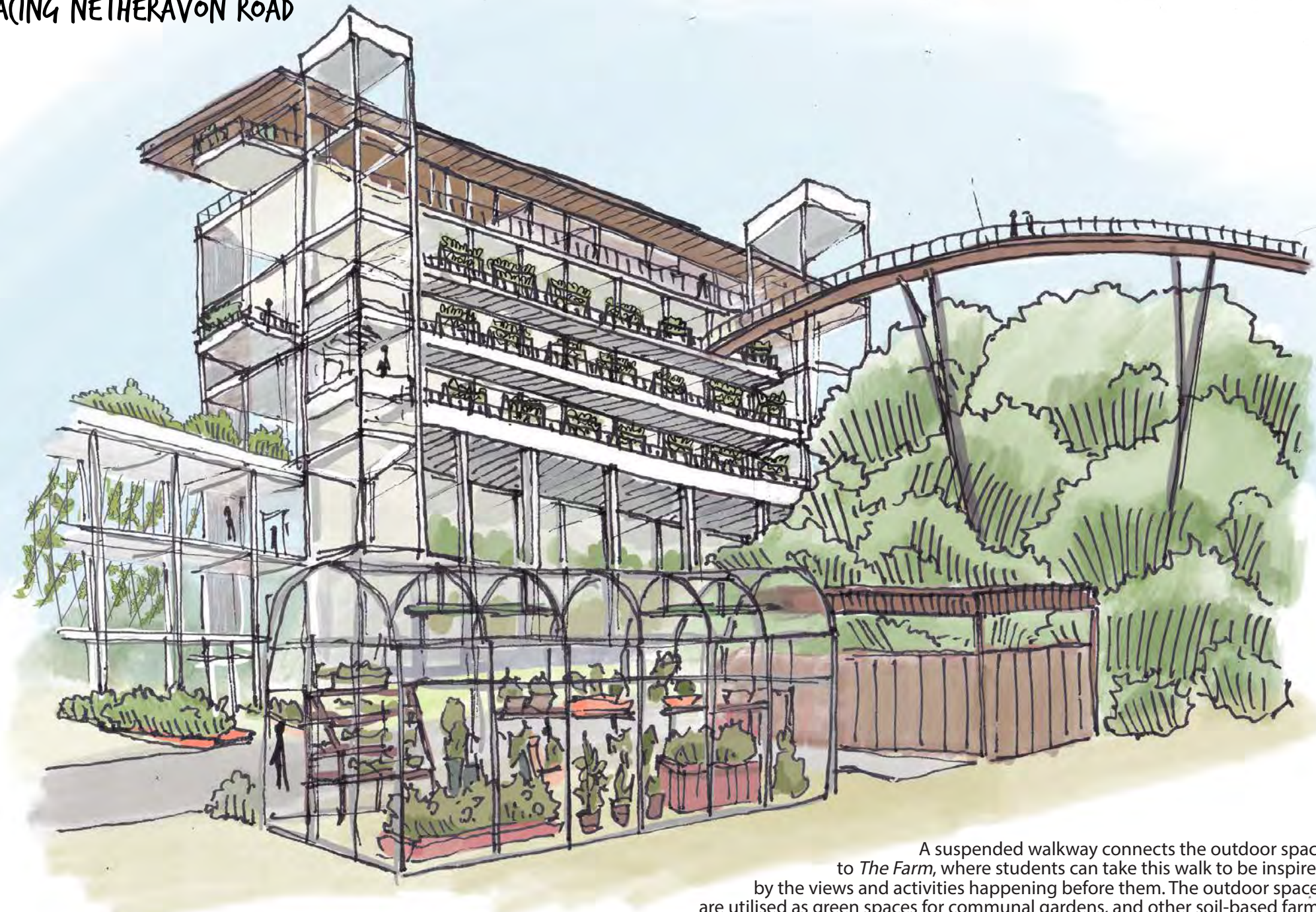
Structural elements, such as pillars, are retained, while the internal partitions and walls of the buildings are removed to create open floor spaces. These large open floorplans can then be reorganised into highly reconfigurable spaces that can suit the needs of different activities. **A sustainable waste cycle is achieved during construction by reusing most of the pre-existing structures, thereby reducing waste generated, and reusing construction materials for the extensions to the landscape.**

LANDSCAPING

The addition of terraces along the front of the buildings creates a dynamic space that act as a "transition" between the lower level and the upper portion of the premise. This improves the circulation from the main entrance to The School of Ecological Transition, where one would previously be required to walk through the central block for access. These outdoor spaces are allocated for recreational use and can be utilised as seating areas that point towards the open space in front of The Gathering, where events and fairs can be held. These social events and outreach programmes will welcome visitors to purchase fresh produce grown here and enjoy food prepared with them.

This landscaping feature can also be found beside the open square in front of The School. This act as a flexible space that includes small analysis labs for outdoor sampling and resting areas. The students are given the responsibility to grow and take care of the greeneries planted around the terraces to enhance the outdoor spaces. This builds a sense of ownership and belonging on the students as they are given the freedom to create a space to call their own.

FACING NETHERAVON ROAD

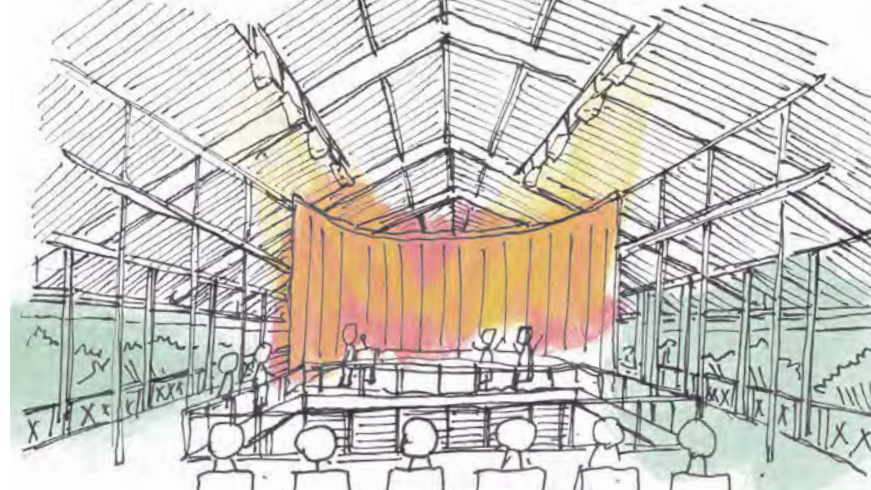


A suspended walkway connects the outdoor space to The Farm, where students can take this walk to be inspired by the views and activities happening before them. The outdoor spaces are utilised as green spaces for communal gardens, and other soil-based farms to encourage the public to experience farming and gardening.

FACING MAIN ENTRANCE



LVL 03 MULTI-PURPOSE HALL



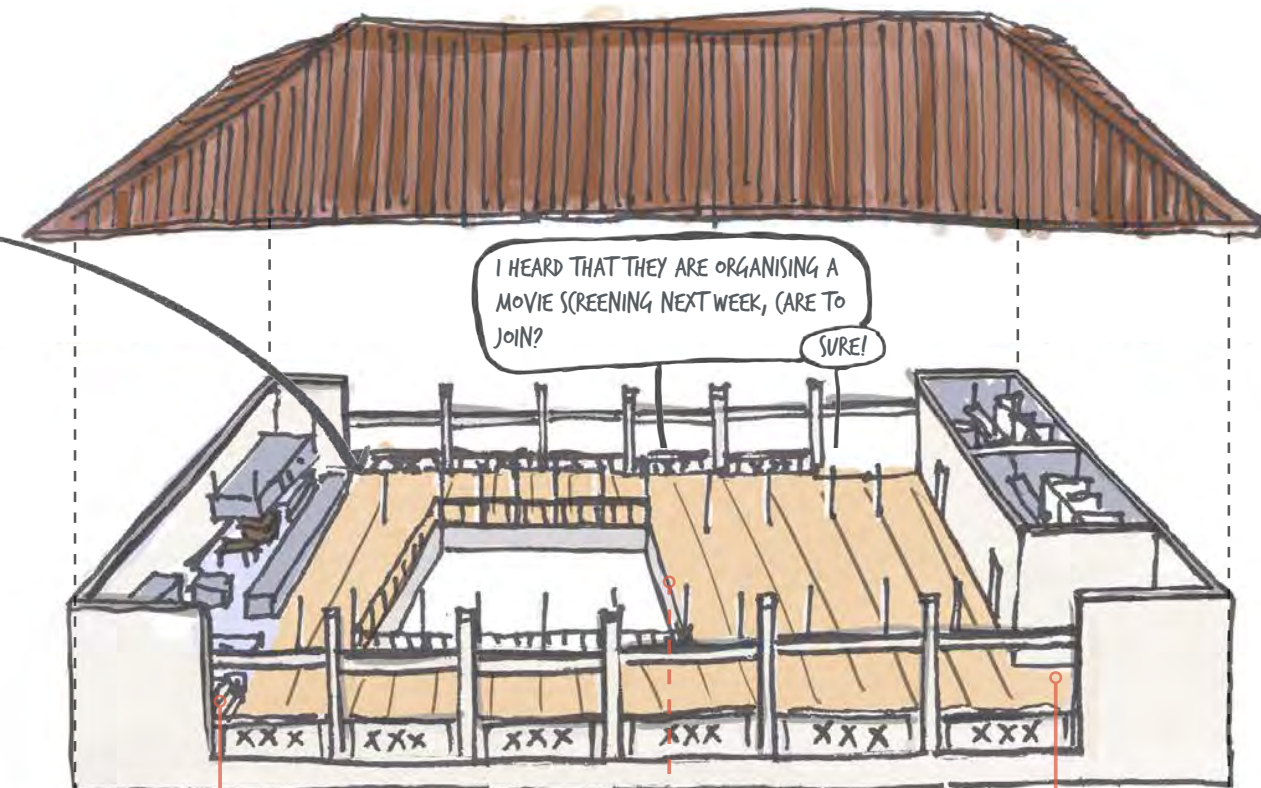
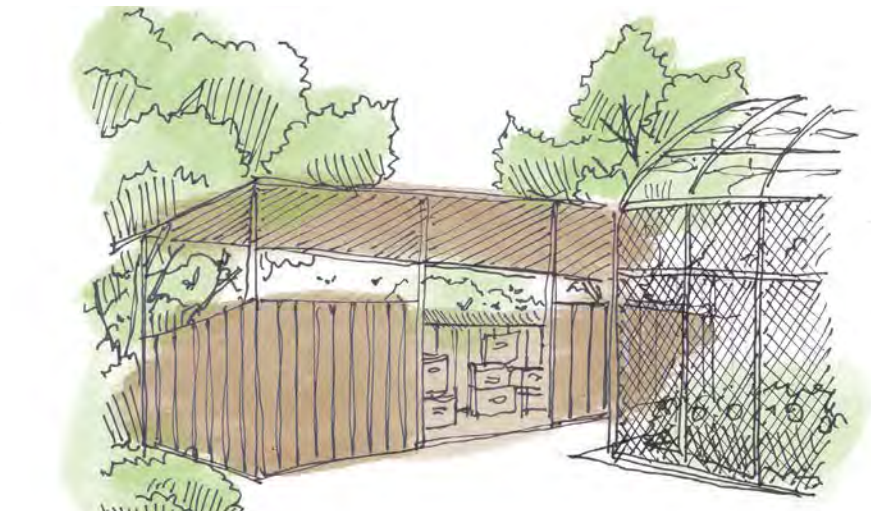
LVL 02 MULTI-PURPOSE STUDIO



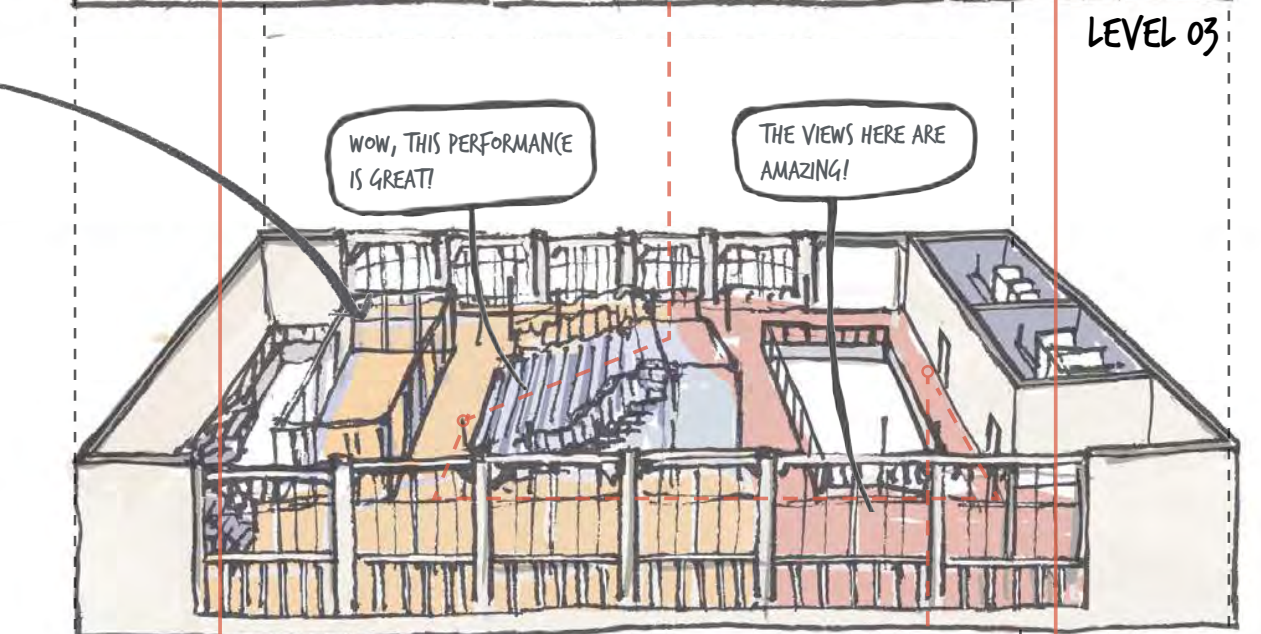
L1 OUTDOOR PLAYScape



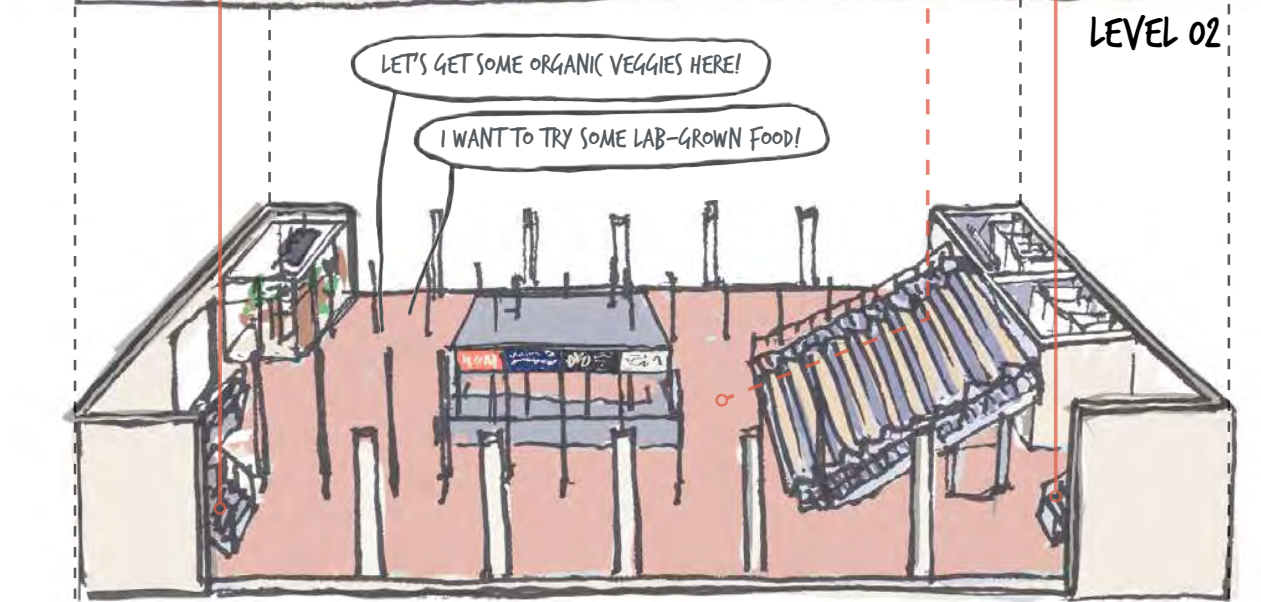
L1 OUTDOOR BEE FARM



LEVEL 03



LEVEL 02



LEVEL 01 & OUTDOOR

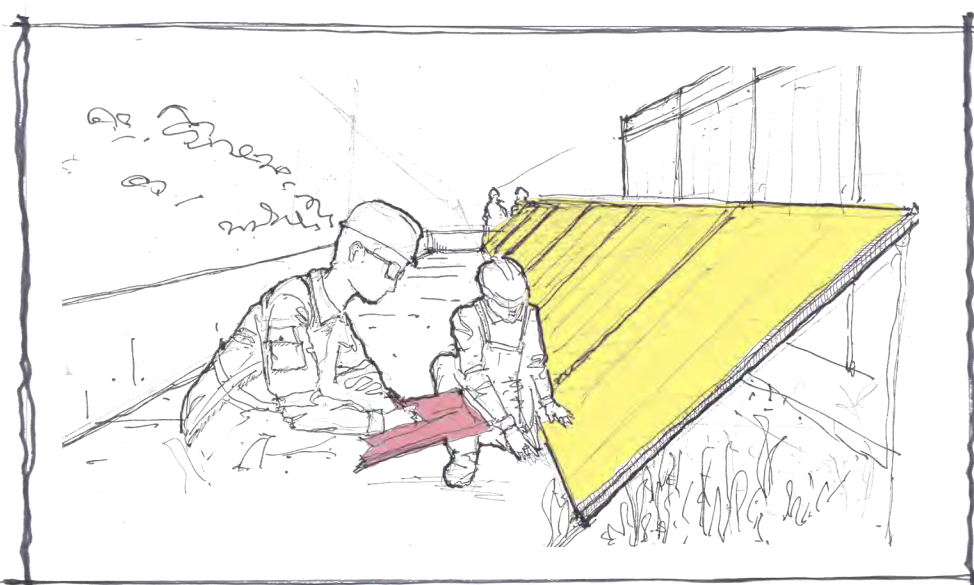
LEGEND: ——— STAIRWELL
- - - - - MAIN STEPS

When visitors first arrive at 'The Stride', they are greeted with a bustling multi-purpose centre akin to community centres around Singapore. This is where people can come and attend various activities like cooking classes, learn about how they can grow their own food at home, as well as purchase local fresh produce from the minimart. The multi-purpose centre provides a platform for the public to be informed on the "transition" to sustainable living.

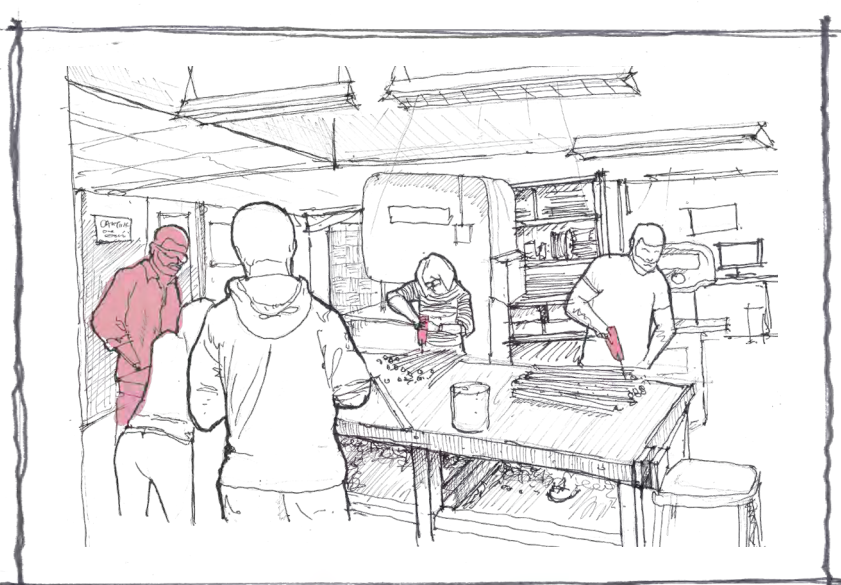
The Healthy Canteen is located at the first floor, where students, operators, users, and the public can take the myriad of dishes prepared using the ingredients grown here. **The menu rotates daily depending on the available ingredients of the day, providing a fresh and exciting experience for patrons.** Visitors interested to purchase the fresh produce can head

to the minimart, and even purchase DIY kits to build their own vertical farming racks to grow crops at home!

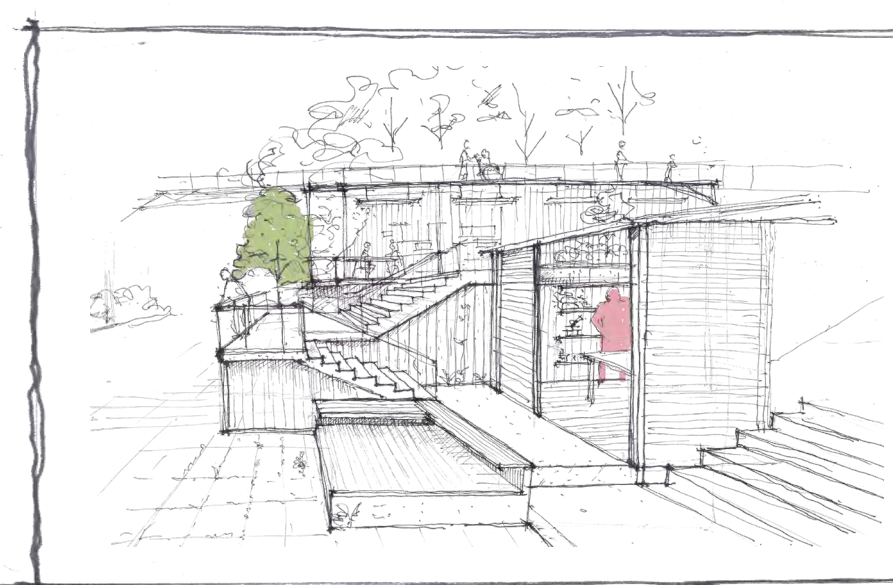
A prominent feature of The Gathering is the large steps that connect the floors together. **These steps act as communal spaces where people can rest, play, eat, etc, and create opportunities for people from all walks of life to interact with one another.** They also serve as seats for the public to enjoy performances in the multi-function studio. The top floor of the building is dedicated to a large multi-function hall, with a catering kitchen to provide food service for large scale events. Large curtains allow the open space of the multi-purpose hall acts as a highly reconfigurable space and can be divided to house different functions at the same time.



1 RENEWABLE ENERGY RESEARCH LAB

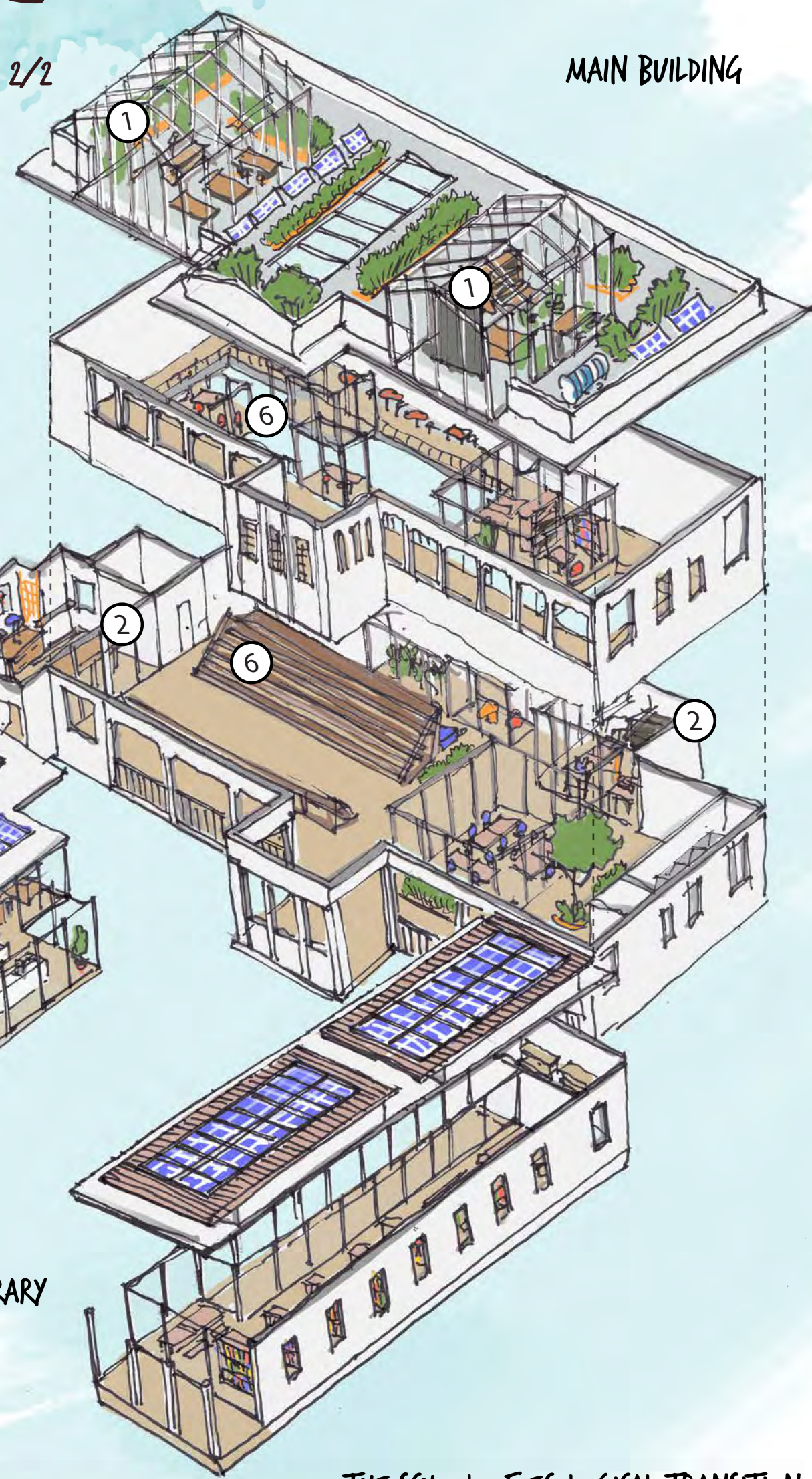
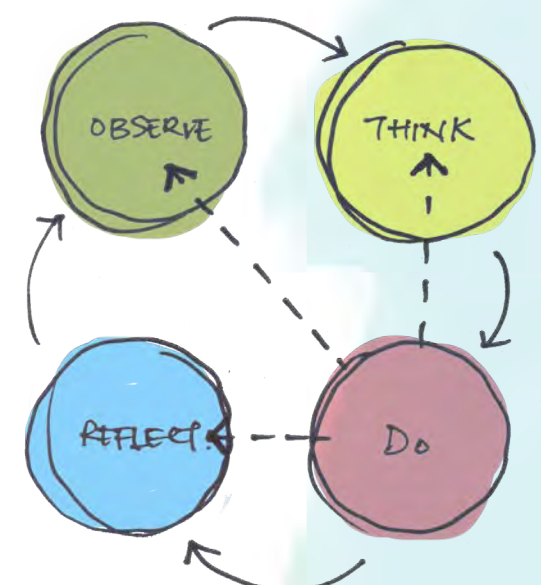


2 FABRICATION LAB



3 OUTDOOR ANALYSIS LAB

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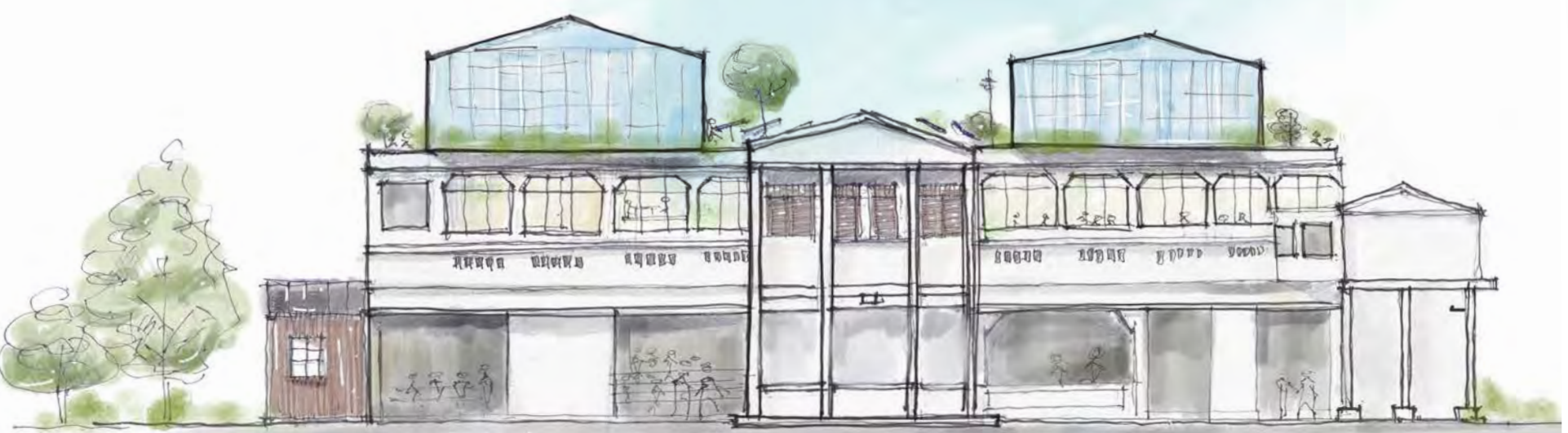


MAIN BUILDING

ECOLOGICAL LAB

LIBRARY

THE SCHOOL OF ECOLOGICAL TRANSITION



REJUVENATED FACADE

The School of Ecological Transition is where a new generation of students will be nurtured through the ideologies of the Ecological Transition, sensitive to our ecosystem with critical thinkers and innovators.

Discover how the latest innovations in sustainable energy can be implemented for commercial use and understand the challenges inhibiting change. Explore the natural world and acquire knowledge of how plants and foods grow.

A hands-on approach challenges students

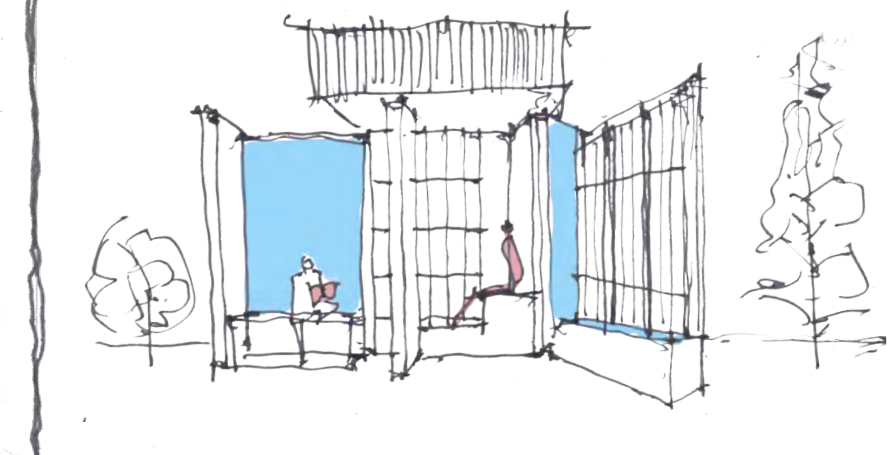
to not only understand the theories behind ecological transition, but also to explore the natural environment around them to develop a creative approach to problem solving.

Fabrication labs let students create objects and structures from scrap materials which then would be used during the farmers' market or to be sold at the minimart. Digital fabrication skills will be taught to allow students to do rapid prototyping of their ideas and inventions. We want to instill innovation and entrepreneurship skills to

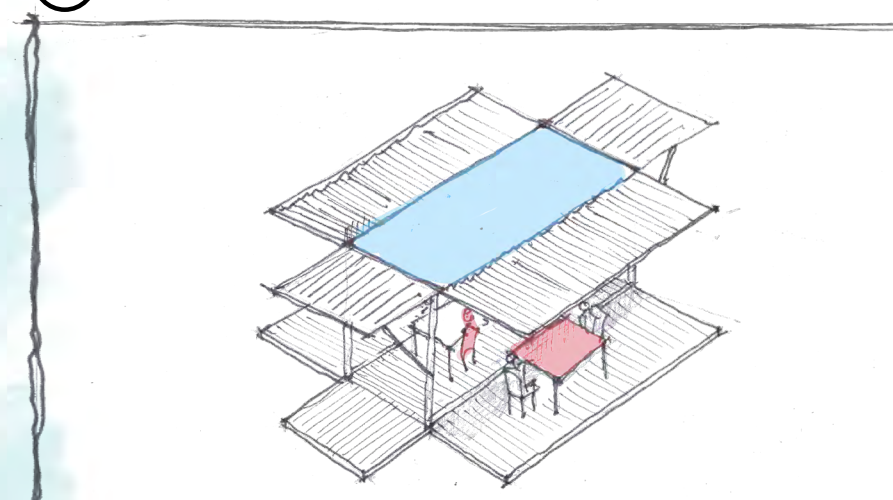
push students to develop new solutions to our environmental issues.

The façade of the building has large openings to connect the students with the immediate natural environment around the school. They will be encouraged to explore it and analyse samples collected from the flora and fauna surrounding the school in an experiential learning system.

Outdoor pods found around the school can be used as spaces for work and reflection while they enjoy the proximity to Nature.



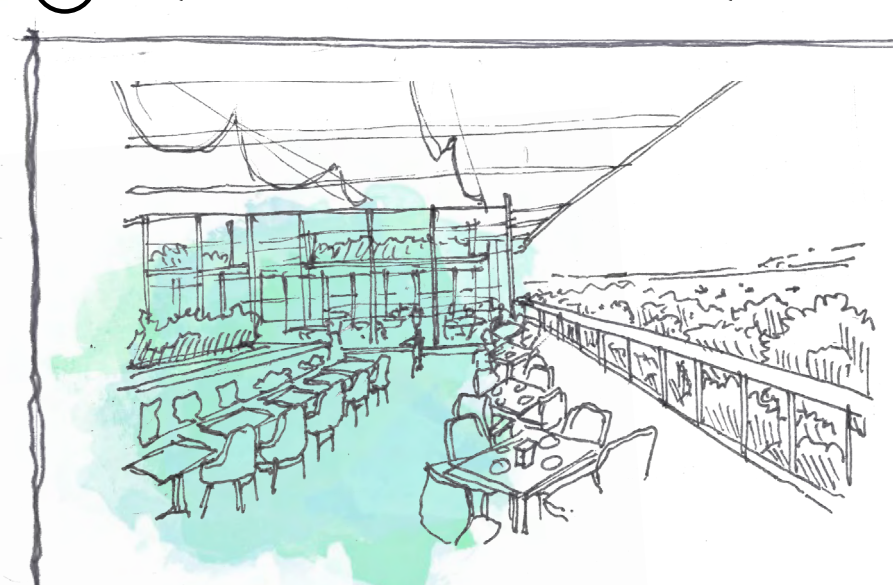
4 OUTDOOR LIBRARY PODS



5 COLLABORATIVE SPACES AND RESTING PODS



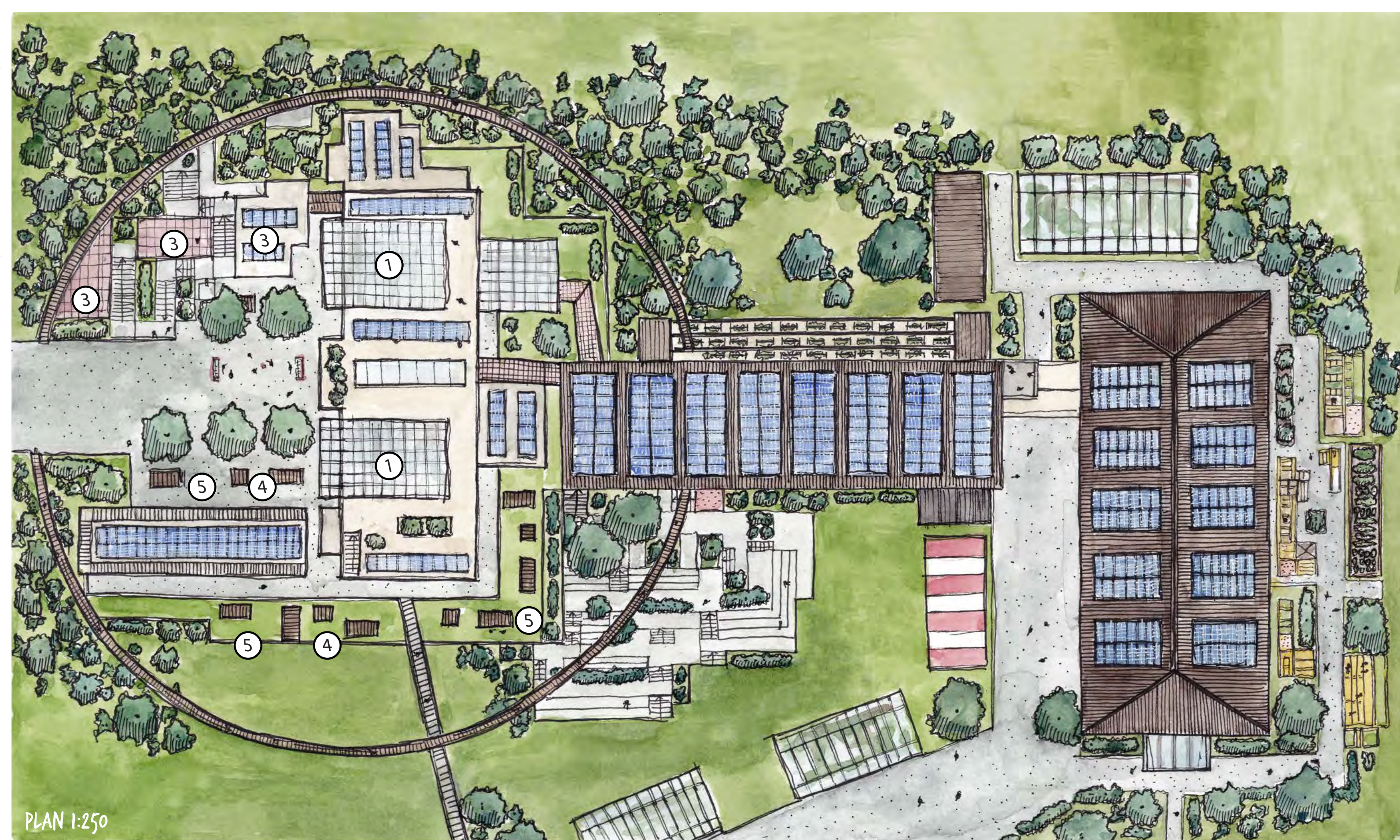
6 LECTURE THEATRE AND STUDY SPACES



7 ROOFTOP RESTAURANT

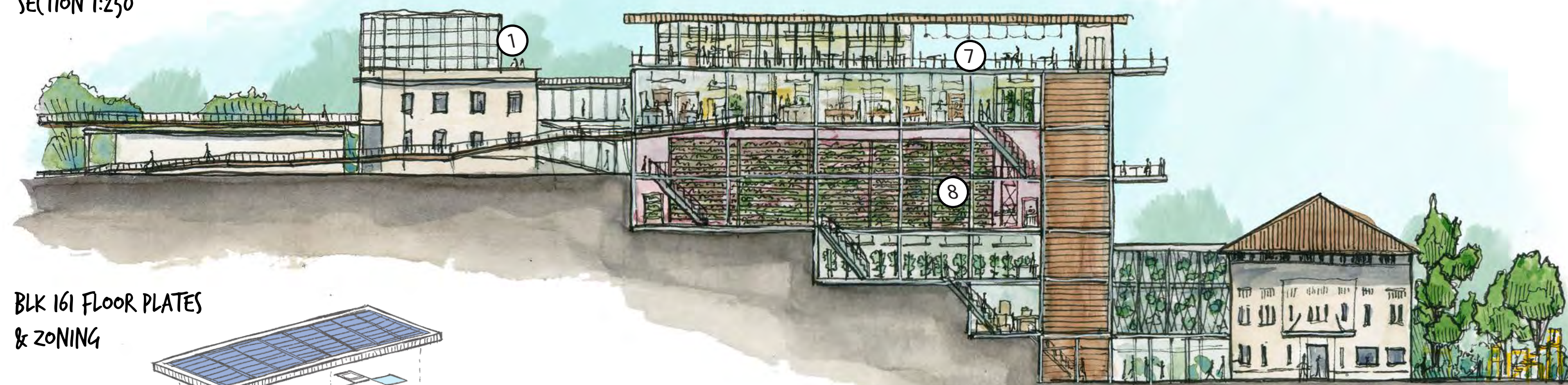


8 VIEWING GALLERY INTO HYDROPONICS FARM

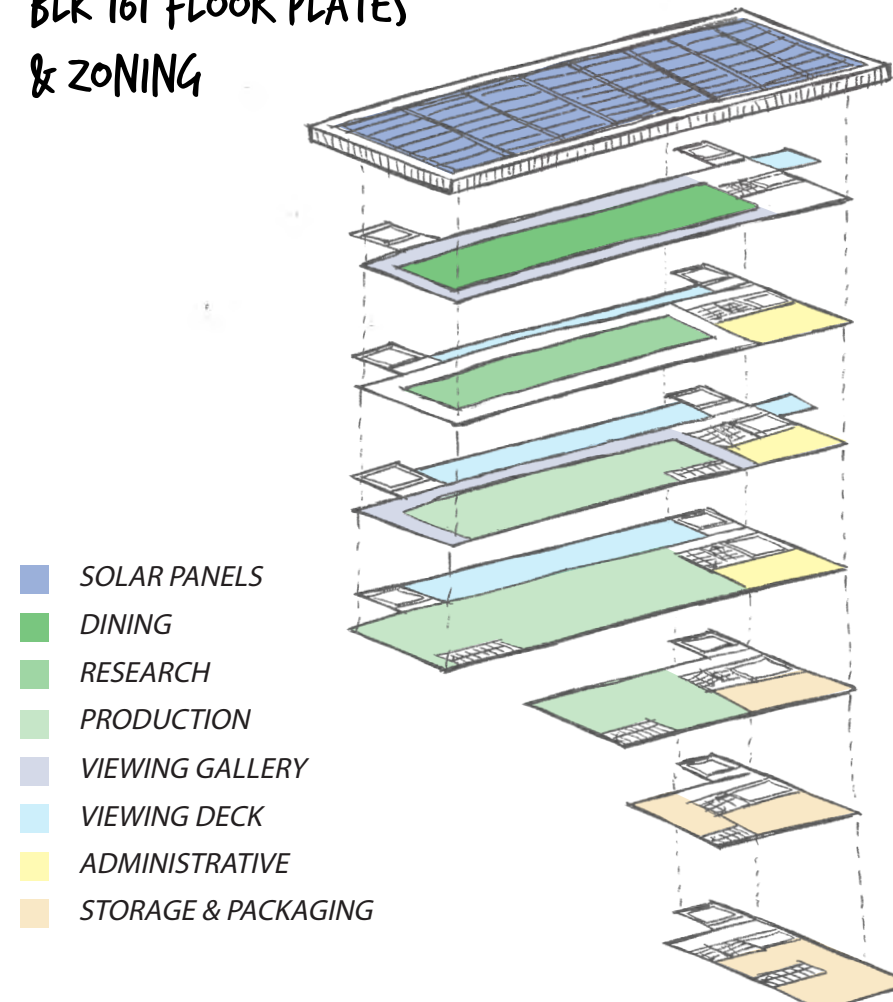


PLAN 1:250

SECTION 1:250



BLK 161 FLOOR PLATES & ZONING



ENERGY

Solar panels are fitted along the rooftops of all the structures to offset the energy requirement of the amenities found in the buildings. As we foresee solar energy as the most viable alternative source of energy that can be implemented in the urban environment in Singapore, The School of Ecological Transition is equipped with analysis laboratories that allow students to be familiarised with solar cells and understand how such systems can be implemented effectively to existing buildings.

The original buildings were designed with high ceilings to improve cooling and ventilation for the British military troops stationed inside, as they were not used to the hot and humid tropical climate when they first arrived. Our design utilises this to let natural ventilation to cool the internal spaces. The translucent facades allow natural lighting to penetrate through and illuminate the interior spaces, reducing the reliance of artificial lighting during the day. These energy-saving elements minimises the overall energy consumption of the facilities.

HIGH-TECH FARMING

To ensure a more sustainable food cycle, the The Farm houses many food production facilities that will produce food for the canteen and the rooftop restaurant, while the rest would be available for sale to the public. This follows Singapore Food Agency's (SFA) goal for our nation to locally produce 30% of our nutritional needs by 2030. The key to achieve this goal is to be able to accept new farming technologies that allows growing of crops in the urban context with limited land. We

want to be able to prove that these technologies can be introduced to existing buildings, to push for a change in current strategies for adaptive reuse of existing buildings.

The use of a two-storey automated vertical farm allows for the growing of crops indoors under controlled conditions with minimal manpower. Food labs equipped with the latest technologies push the boundaries of lab-grown

foods, accelerating the discovery of alternative proteins that will be essential to bolster our food resiliency. To supplement the food production capacity of The Stride, the extended terraces at the back of the farming block are utilised for vertical farming racks. Herb gardens and soil-based farms are found around the outdoor spaces around The Gathering, including a bee farm to help the ecosystem around the environment and accelerate the growth of the outdoor crops.

