- *Uses shape grammar to determine modules of development creating blocks, neighborhoods and regions*
- *Disaggregates the park and disperses the park area throughout the project site*
- *Completes a link between Pearl's Hill and York Hill through the development of the air-rights over the CTE*

Robert Brown
Marianne Deklerk
Meegan Massagli

Team C

The team that developed a shape grammar to inform future development

Plan Iterations

Design Intent

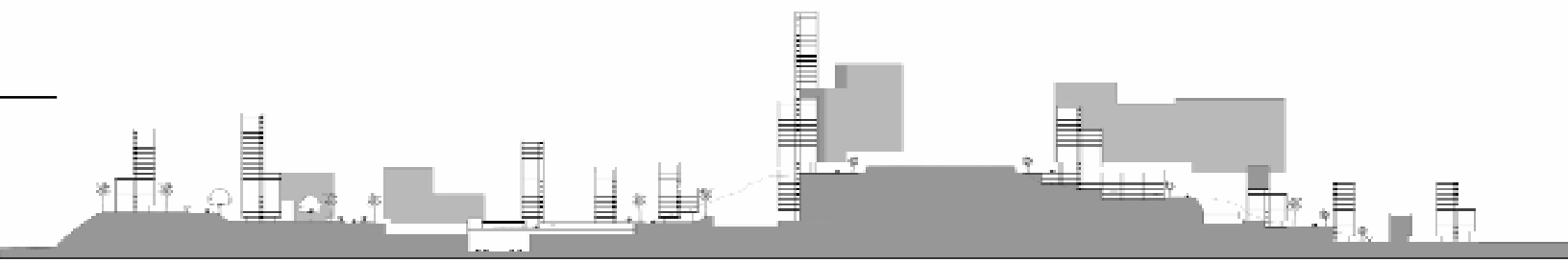
Team C offers a design tool to guide the future development of this site. Embedded within the design tool is the generation of a development module, or block, that responds to and comes out of the existing site conditions. The growth and expansion of development on the Pearl's Hill and York Hill sites is determined by the physical assets of the site, societal values, and available financing to fund future development. The other parameters of the design tool are the URA's desire for both high-density residential use of the site and the preservation of public open space.

Team C reconfigured the underutilized Pearl's Hill Park and dispersed the park area throughout the site to create multiple parks that are easily accessible to the new blocks of housing. The team considered the reservoir as a historic object that should have its' walls preserved and offered to the public as a potential recreational resource. The team assumed that the use of the reservoir for water storage is not a function that will continue into the distant future; therefore, the open space immediately adjacent to the reservoir walls could be opened to the public as a civic or historical park. This scheme proposes creating a public pathway system to link the park at the reservoir to other public spaces and activities throughout the city.

Proposal Descriptions and Link to Intentions

Team C believes that the combined factors of the rapid rate of development and the large size of the project sites promote the need for a systematic design tool that allows for flexibility at multiple scales. A flexible design system

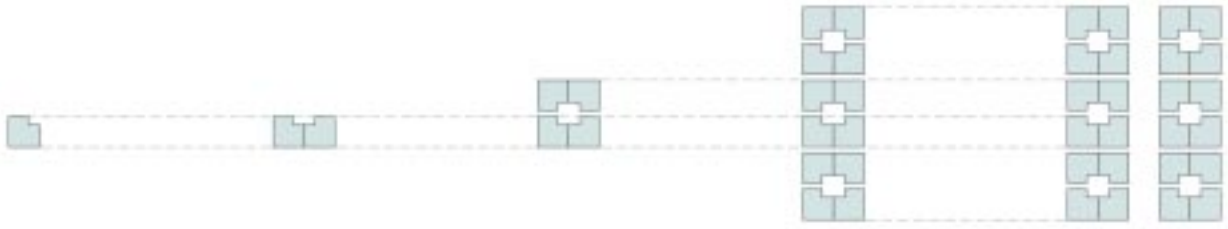
Section through Pearl's and York Hill



Site plan

Model view from south

Typical Chinatown block



Unit to block analysis

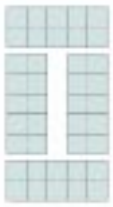
allows for changing uses as well as additions or deletions to the total development scheme. Team C's system of development starts at the individual unit and grows outward to the block, then to the neighborhood scale, and, ultimately, to the regional scale.

The Chinatown Block system is used as the basis for the patterning of the units to form blocks. Architecturally, this system of design utilizes the slab block form in combination with vertical point towers. These combined forms have setbacks that allow for a pedestrian-scaled environment and unconstrained views over the site. As the height of each block increases, a larger block size becomes necessary. A maximum height of five stories along street edges defines the individual blocks and street forms. Ten story buildings are set back from the street edge and define a larger area that encompasses two blocks. The tallest buildings have forty-five stories and mark communities or regions that contain multiple blocks.

Concept collage

By establishing a system for the design of this site, an open-ended condition is created where growth can occur as desired by the URA. Furthermore, such a system allows for a constant evolution of development beyond the site edges based on the immediate adjacencies. Internally, this system can also evolve based on the development of its immediate neighbors. Therefore, new development does not occur independently, but is constrained by relational adjacencies to the structures that currently exist on the site, the steeply sloping hillsides and the flat parcels at the base of the hill.

Rather than create a constant system over the entire site, Team C proposes variation based on topography and the built context. The blocks developed on the flatter parts of the site are able to be denser with pocket parks and private courtyards. The blocks built on the steeply sloping portions of Pearl's Hill and York Hill have fewer direct connections to the ground. These contextual variations can create regional communities differentiated by their own formal rules. These regions can be linked together by a network of continuous public green space of varying sizes.

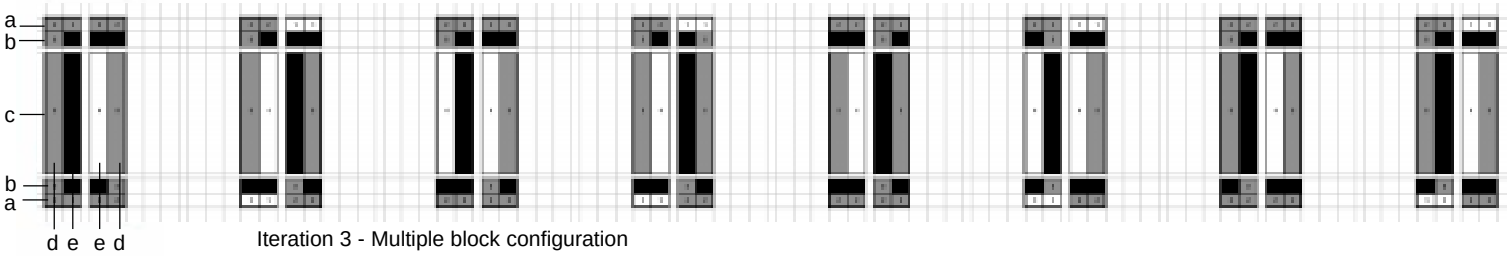


①

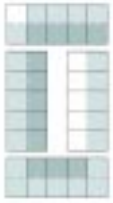
Block iterations

②

Model view from west



Iteration 3 - Multiple block configuration



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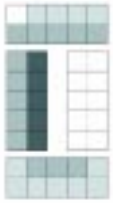

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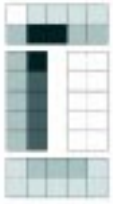


⑥

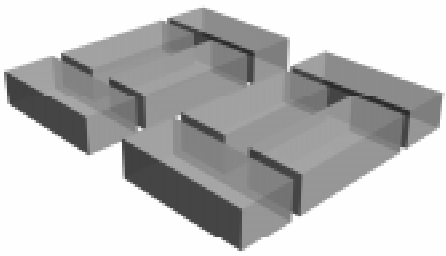
Zone a - Maximum height of 15 meters. No more than 6 solid cells across before two must remain open.

Zone b - Maximum height 30 meters. No more than 3 cells at maximum before 1 cell at 15 meters. No more than 3 sets of 3 full cells at 30 meter heights before 3 sets of 2 full cells at 30 meters.

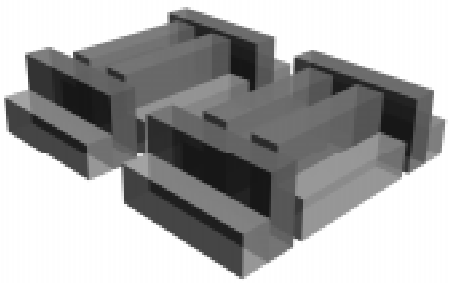
Zone c - No more than three strips may be solid before one must remain open.

Zone d - Maximum height of 15 meters. Every third block must have an open street edge.

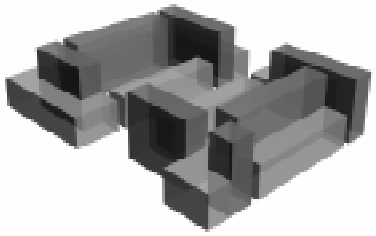
Zone e - Maximum height of 30 meters. Maximum of one full strip per block.



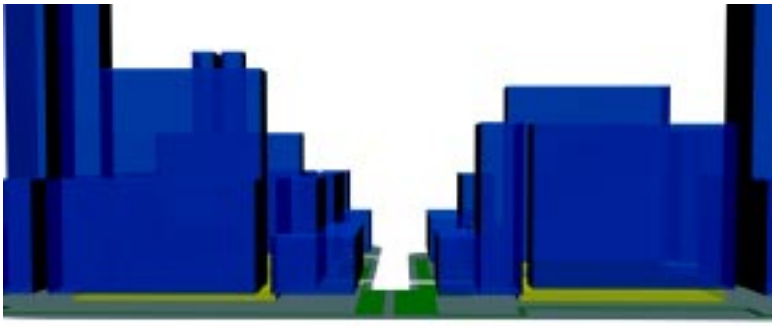
Block iteration 1



Block iteration 2

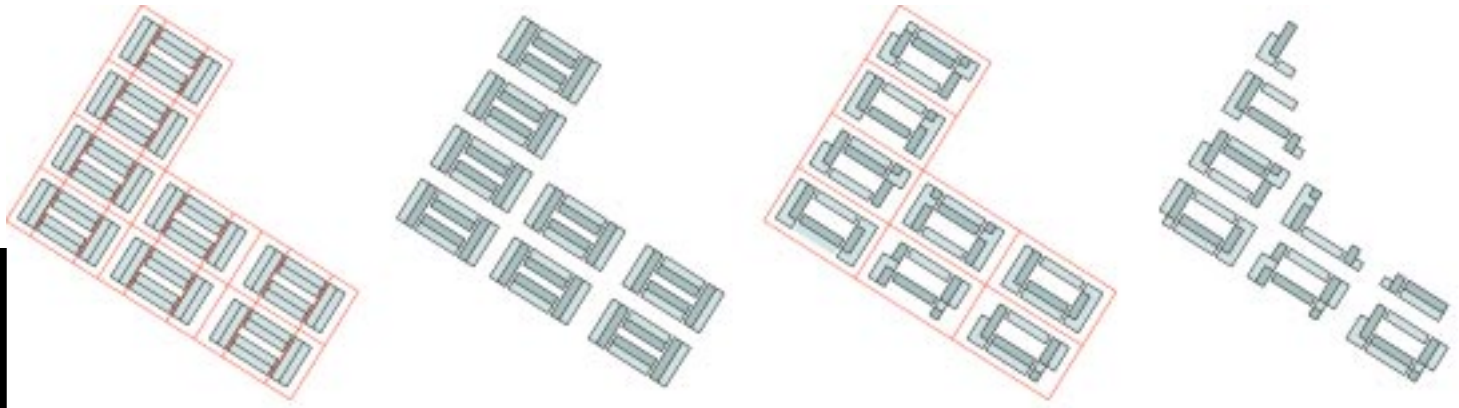


Block iteration 3



Digital model view from southwest

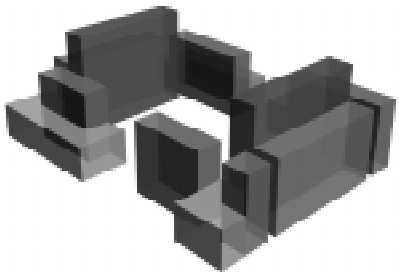
Although each of these separate communities have similar FAR requirements, each community can potentially create distinctive high-rise typologies that differentiate one community from another. These high rises then become symbols not only of each community, but also symbols for the city. Both the natural and the historical elements of the site influence the visual form of the city by determining how the towers mark the communities into which they are placed.



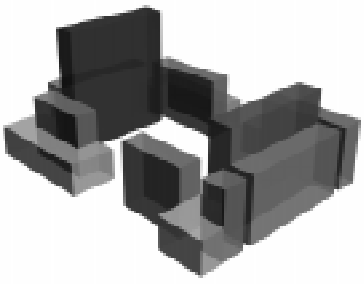
Plan iterations of region

This proposal incorporates development of the air rights over the CTE. The new structure over the CTE acts to make a seamless connection between Pearl's Hill and York Hill, and also increases the quantity of developable land on the site.

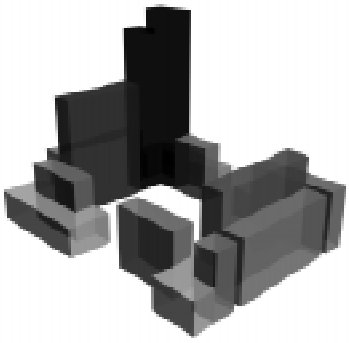
In its existing state, the Pearl's Hill Park is underutilized. While the park is intended for use of residents of the city, accessibility up the steeply sloping topography is limited. Team C proposes to keep the same relative area of park land on the project site, but plans to disperse it throughout the site as public, semi-private, and private open spaces. Within the rule grammars that create the block units on the site, setback requirements will allow for a continuous



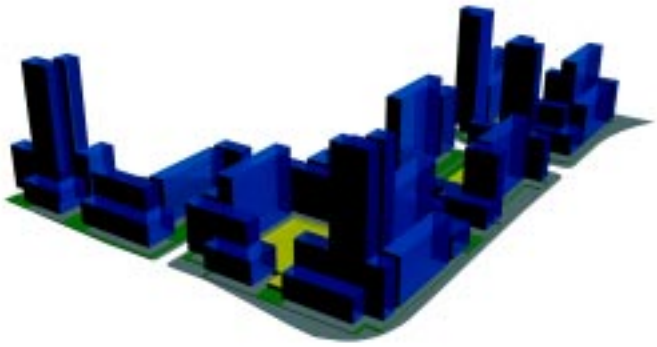
Block Iteration 4



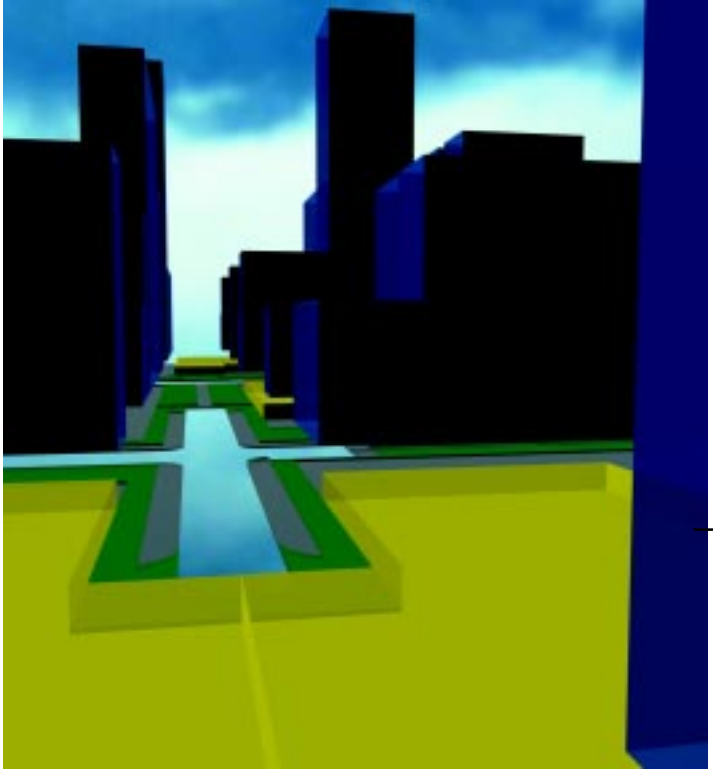
Block Iteration 5



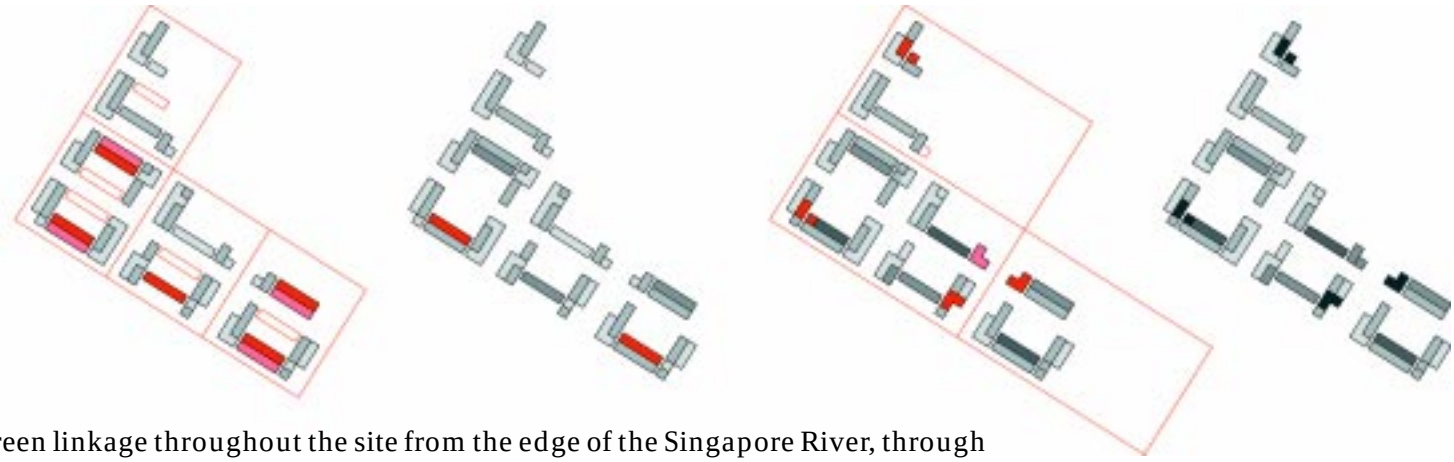
Block Iteration 6



Digital model view of region

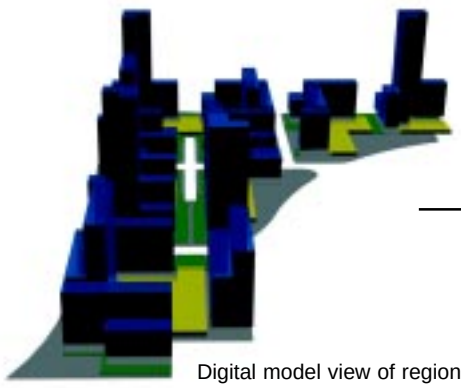


View of internal street



green linkage throughout the site from the edge of the Singapore River, through York Hill, over the CTE, and terminating around the base of Pearl's Hill in large public open spaces. Each block and neighborhood will have easily accessible public green space integrated into the development.

While automobile accessibility and parking is required for all dwelling units, the proximity between the dwelling unit and its parking space can be varied. Since there is a MRT interchange on the site, those dwelling units within walking distance of the MRT can have their automobiles stored in parking banks on more remote parts of the site. This allows for more dwelling units to be placed immediately adjacent to the transit stop. Additionally, each block on the site will have a two level parking structure in the base. On top of the garage will be a private park designed for the use of the residents of the block. Along the green linkage throughout the site, it is possible to incorporate a personal transit system that connects the residential and commercial development with the more remote parking banks. The top of these parking banks will be primarily public open space which is possible since the parking banks are located in areas where rooftop access can be provided by existing topography (such as underneath the air rights development and at the northeast corner of the site).



Digital model view of region

Phasing of Development

The shape grammars applied to the site have created a systematic tool that allows for flexible phasing and ownership. Team C recommends that the first phase of development is the edge of the site, primarily, along Outram Road and New Bridge Road. Building along the edge of the site allows for the site interior to be preserved as open space until further development occurs. This edge development is discontinuous at the existing CID building to ensure public access into the park. Additionally, the development is intended to occur according to the community regions embedded in the site based shape grammars. The further stages of the development allow for the removal of the existing school on York Hill and the reuse of the Pearl's Hill reservoir when it becomes obsolete. These sites will become the cores of the separate regions, and become community symbols with views outward to the city.

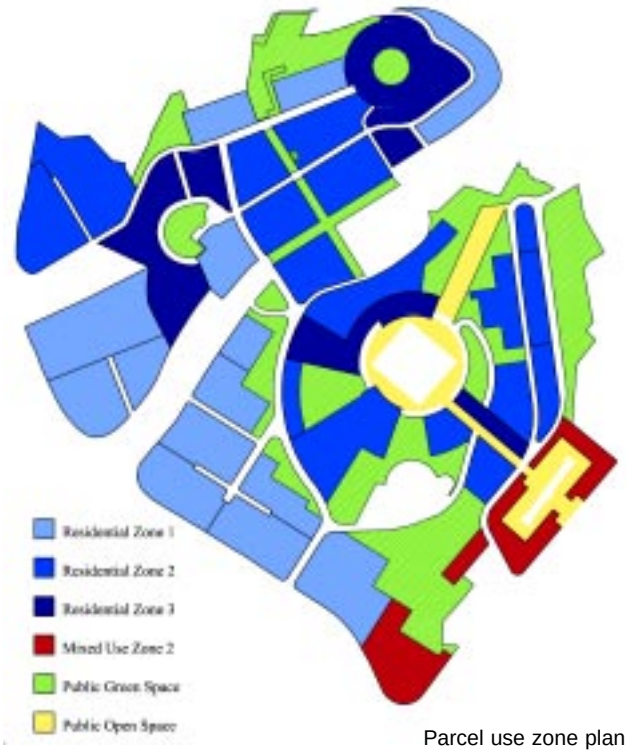
The design tool suggested by this proposal can be applied to the development parcels immediately adjacent to the project site. The constraints of the design tool will change as the context in which it works is differentiated, although adjacent, from our given site. This flexibility of design module and form allows for a finer grain of development at larger scales. Through the use of shape grammar as the design tool for Pearl's Hill and York Hill, the area will develop with a sense of coherence and a strong identity that distinguishes the area from the rest of Singapore.

Section through York Hill

The rapid redevelopment of Singapore's urban core is creating a need to distinguish between existing development that is significant and must be preserved, and, existing development that is ripe for demolition. This applies to individual buildings (the CID Building), entire neighborhoods (Chinatown), and green open spaces (Pearl's Hill Park). How to integrate preservation and conservation into a quickly changing context is a design issue that must be based upon the community context that evolves around them.

Parcelization sequence

Sidewalks and green space



Parcel use zone plan

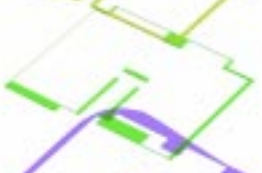
Housing structures

Private green

Parking

Sidewalks

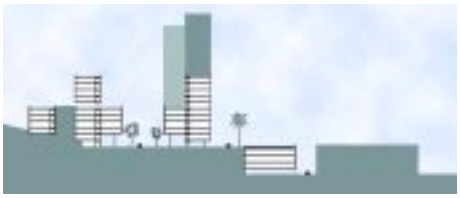
Public Green



Public Open

Parcel

Section through parking bank



Parcel ownership plan