URBAN DESIGN PORTFOLIO

DANNI MA

MASTER OF URBAN DEVELOPMENT & URBAN DESIGN -
UNIVERSITY OF NEW SOUTH WALES, AUSTRALIA

INTRODUTION

- KOTA TUA REGENERATION - JAKARTA (GROUP IN MUDD22 PROGRAM STUIDO)
- BARDWELL VALLEY PARK CITY - SYDNEY (GROUP IN MUDD22 PROGRAM STUIDO)
- WEST CHELSEA WATERFRONT - NEW YORK (GROUP IN MUDD22 PROGRAM STUIDO)

1.KOTA TUA REGENERATION - JAKARTA

1.KOTA TUA REGENERATION - JAKARTA

ISSUES

POPULATION GROWTH

Jakarta has been the capital of Indonesia since the Dutch colonial era. The population of Jakarta in 1900 was about 115,000. In the first nationwide census of the Dutch colonial administration (1930), Jakarta's population increased to 409,475. In the next ten years, the population increased to 544,823. After Independence, Jakarta increased by nearly three times to 1.43 million by 1950. It increased to 2.91 million in 1960 and 4.47 million in 1970. The Megacity of Jakarta then increased from 11.91 million in 1980, 17.14 million in 1990, and 20.63 million in 2000 to 28.01 million in 2010.

FLOODING

Floods have become a threat and have brought great woes for Jakarta residents every year. In 2007, the worst floods in memory inundated about 70% of Jakarta, killing at least 57 people and sent about 450,000 fleeing from their houses. The East Flood Canal was launched in the aftermath of major floods in 2002 and reached the sea on December 31st, 2009 after a very slow progress as a result of the complicated land acquisitions. This canal is considered the most feasible means to prevent future flooding in Jakarta, but clearly cannot prevent flooding entirely. The canal, coupled with the dredging of rivers, is only able to mitigate impacts of flooding.

CONGESTION

Jakarta is estimated to lose US$3 billion a year because of traffic congestion, a consequence of the high growth rate of vehicle ownership (9 to 11 percent per year), and has not been supported by road development. The daily jams in Jakarta are getting worse; the peripheries are a "bedroom suburb" for the daily commuters of Jakarta, the center of government and corporate offices, commercial and entertainment enterprises. The economy of Jakarta dominates its peripheral areas. In the daytime, the total population in Jakarta is much more than its population in the nighttime; the number of daily commuters in Jakarta is estimated to be 5.4 million.

POOR NEIGHBOURHOOD

The residential environment in jakarta and especially in our site which is kota tua port area is really poor and disordered due to historical causes, the appearance and type of building are not unified.

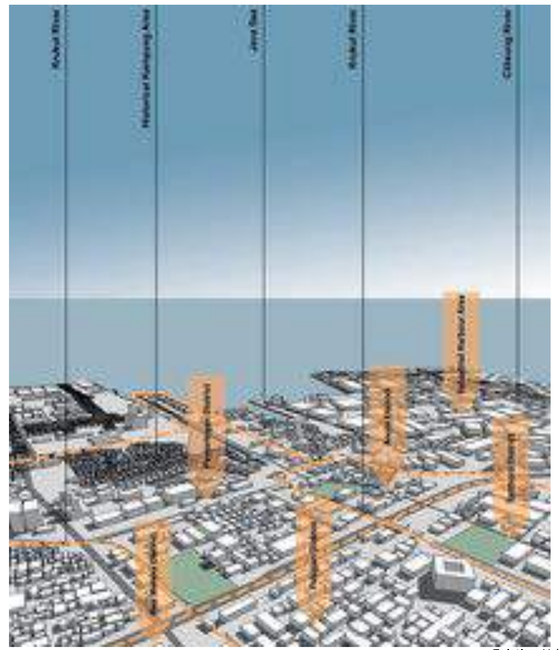
Kota Tua Site Images

Traffic Congestion In Jakarta

Traffic Congestion In Jakarta

Jakarta City View

Site Context Map



Existing Urban Form

URBAN REGION
The Special Capital Region of Jakarta demonstrates the urban expansion.

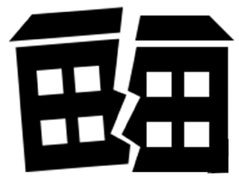
URBAN DISTRICT
The City Centre demonstrates the intensive urban morphology.

URBAN BLOCK
The block demonstrates the neighbourhood envrionment combined with water system.

1.KOTA TUA REGENERATION - JAKARTA

ISSUES

CONGESTION



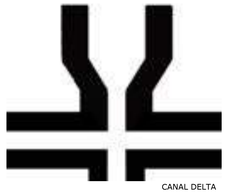
POOR NEIGHBOURHOOD

FLOODING

SOLUTIONS

PUBLIC TRANSPORTATION

UPGRADE KAMPUNG

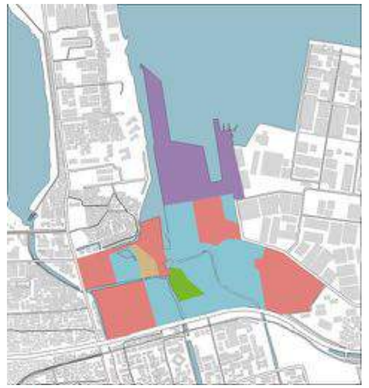


CANAL DELTA

Existing Water System

Current canals

Existing Land Zoning

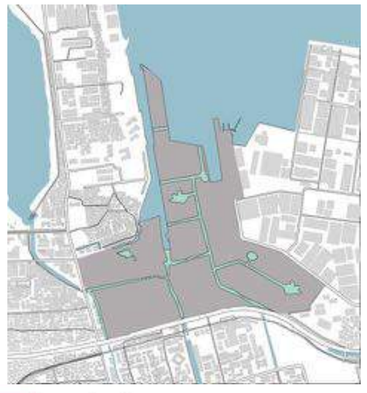


Residential area
Conservation area
Commercial area
Public recreation area
Harbour area

Existing Road System

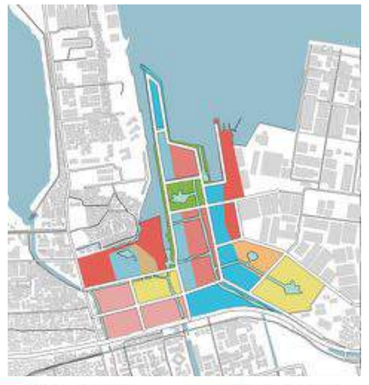
Current road network
Express way
Railway line

Proposed Water System



Proposed canals

Proposed Land Zoning



High residential area
Local commercial centre
Medium residential area
Educational area
Low residential area
Public recreation
Commercial Centre
Conservation area
Hospital

Proposed Road System+Railway

Proposed road network
Express way
Railway line
Proposed train station

1.KOTA TUA REGENERATION - JAKARTA

Urban Design Framework

VISION

To regenerate the old city, and update land use as well, whilst improving the living environment as well as creating a new active CBD.

OBJECTIVE

- To provide a mixed use area that caters for 5,000 residents. The site will provide 1,000 jobs in stage one
- To alleviate flooding issue
- To regenerate Kampung house areas
- To increase the public transportation infrastructure and alleviate traffic congestion
- To increase green space and open space
- To expand the campus of university of Bunda Mulia
- To create an active harbour city

STRATEGIES

- Remove old buildings and reintegrate land use by offering mixed use areas and innovation precincts. Replan a new CBD of Kota Tua and promote economic development
- Alleviate flooding issue by widening the canal for promoting the connection between inner city and waterfront

- To improve the living environment around kampung house by reorganising the building order and environmental remediation

- Alleviate traffic congestion by encouraging public transportation. Provide metro and bus line for residents who are living, working and studying in the site or around the site
- Improve the environment and upgrade the open space for people which can ensure the site has a strong green network good accessibility

- Expand the campus of university of Bunda Mulia to improve education environment

- Create a liveable and active harbour area contributing to increasing land value

Bird View Looking North East to Jakarta Bay

STAGE 1

STAGE 2

STAGE 3

STAGE 4

Central Canal in University Campus

Upgraded Kampung

Gateway of New Rail Station

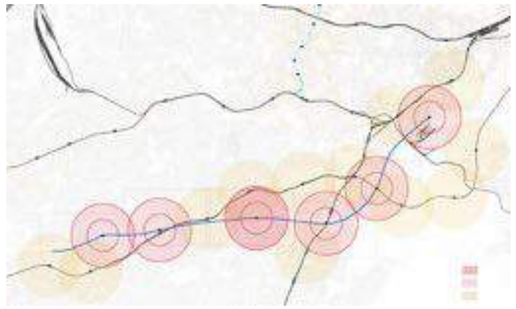
View South Over Central Park

2.BARDWELL VALLEY PARK CITY

2.BARDWELL VALLEY PARK CITY - SYDNEY

ISSUES

Because of the vast area of green space in the core of the study area, the topography is variety and complexity. In addition, most of these green space is the private business land and the natural reserve. Therefore, there still lacks of enough public open green space to serve residents in this area. The three metro stations are nearby, Bexley north station, Bardwell park station and Arncillf station,.However, service range of 10-min walking distance doesn't coverage the precint. Despite the coverage gap, the private business green land becomes a barrier to the connectivity of this area. Because its location is far away from city, people who living here mostly rely on vehicles to commute. It leads to poor development of the pedestrian and cycling route networks. The major building type of this area is the townhouse, and its building height is mostly 2 to 3 storeys. It creates a very low density dwelling area with poor number of facilities to serve.



Proposed Stations

Existing Site Condition

Bardwell Valley Golf Club

The Topography and Housings

Pedestrain and Motor Way

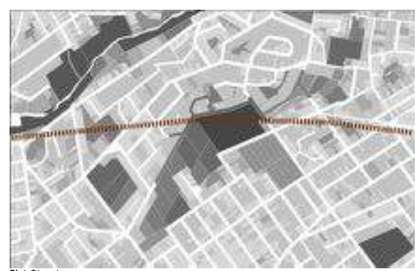
ISSUES

Private Ownership

Unconnected Road Network

Poor Facilities

Contour

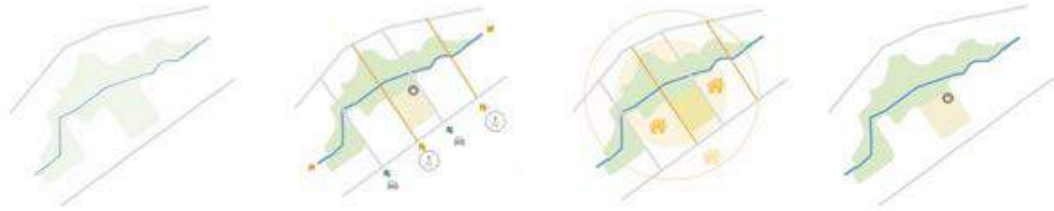


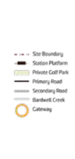
Plot Structure

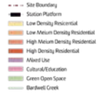
Built Type

2.BARDWELL VALLEY PARK CITY - SYDNEY

Concept







Proposed Development Stage

2.BARDWELL VALLEY PARK CITY - SYDNEY

Urban Design Framework

VISION

To create a walkable, liveable, ecological community and provide a showcase of sustainable and ecological living with natural green space. Local residents can enjoy a convenient and rich social life here.
Population structure could change. More younger population would be attracted to settle here, which improves community vitality. Passengers of the new station are willing to join the social activities here.

OBJECTIVES

1. Create a public park. The previous private golf course will be transformed into a new public green space. This park has a high quality of landscape using original terrain.
2. Create a local center. A new local center would be placed above the station of new M5 serving for passengers and local residents. It is taken as a focal point for high density development.
3. Re-plan road network. Create connections between both sides of the green park. And the key point is adding roads linking station and surrounding residential areas. Recycle routes and pedestrian routes would be included in the new integrated transportation system.

Bird's-eye View Looking East

Connectivity Analysis

Local Centre Street View

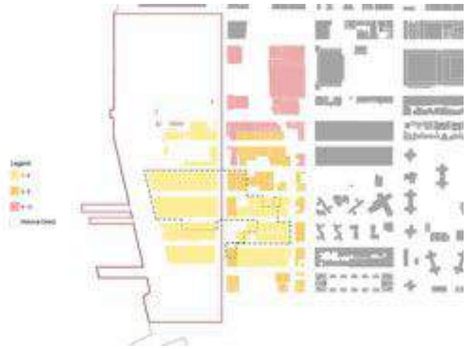
Looking Through the Valley

Wetlan-d Edge Terrace

3.WEST CHELSEA WATERFRONT - NEW YORK

3.WEST CHELSEA WATERFRONT - NEW YORK

Existing Figure Ground



Existing FAR

Existing Land Use

Proposed Figure Ground

Proposed FAR

Proposed Land Use

3.WEST CHELSEA WATERFRONT - NEW YORK

UNITARY LAND UTILISATION

The current land uses and built form within the study area is considered to be of low quality. However, the historic buildings do have excellent architectural merit that could be used to inform the future design character of the area. Notwithstanding this, it is considered that the site is significantly under-utilised.

LOW DENSITY

The predominant built form on the site is large warehouse buildings that are of varying quality. The site includes buildings with large amounts of vacant floor space. The current development standards on the site limit density to an FAR of two, which is considered extremely low. Therefore, there is significant potential to dramatically increase the density on the site. The historic and continual use of the site for industrial is considered one of the causes for the existing low density in this area.

DISCONNECTED AND INACTIVE NEIGHBORHOOD

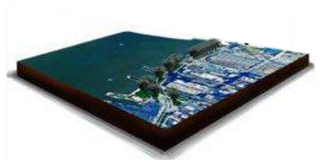
The site lacks integration with surrounding urban block pattern and as generally disconnected from surrounding land uses. Currently, the site presents a sense of inactivity as there are limited active street frontages and use to promote an active neighbourhood.

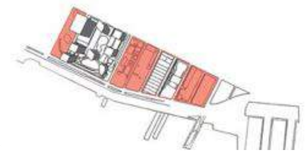
POOR STREET QUALITY

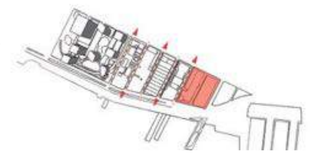
In comparison with surrounding urban blocks the site lacks the character of a 'good' street. Streets through the site are considered to be of a poor quality in relation activation, landscaping, uses and quality of buildings to street interface. The quality of the street is a function of the existing and historic industrial uses on the site that have influenced the built form.

FLOODING ISSUES

Study of the site found that the site is within a dangerous flood zone. The perimeter of the west side of Manhattan along the Hudson River is in Flood Zone V according to the Advisory Base Flood Elevations (ABFE). Also, according to the historical case, as it was experiencing during Hurricane Sandy, West Chelsea's vitality is threatened by its vulnerability to flooding.





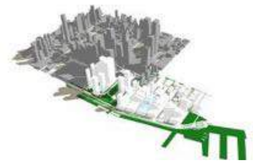


URBAN DESIGN FRAMWORK

Source: Google earth

VISION

To reactive this un-dynamic area, which is next to high value Hudson Yards development and create a livable neighborhood. Rezone the land to optimize the integration of mixed-uses, new innovation creative industry areas, retail and residential uses. This is to be achieved while also providing a completely new neighborhood and character to the site.



REZONE LAND USE AND IMPROVE FACILITIES

Create a new mixed-use creative innovation industrial district as well as services business centres. Rezoning the site with higher development standards and mixed uses would encourage redevelopment of the area and creation of a new community with new types of employment, new buildings and facilities, improved potential for street activation and increased residential population.

REACTIVE VITALITY

Increase density and floor area ratio development standard to encourage redevelopment. Provide affordable housing to promote a diverse community and encourage people that live in the area to work in the area, therefore creating a new social and economic outcome injecting vitality and vigor into the area.

IMPROVE CONNECTION

Improve connection through entire site, provide an unimpeded road system for both pedestrian and vehicle and more linkable neighborhood to people live and work here. Offer more open public space to encourage residents recreate in the area.

KPPE TYPICAL CHARACTER

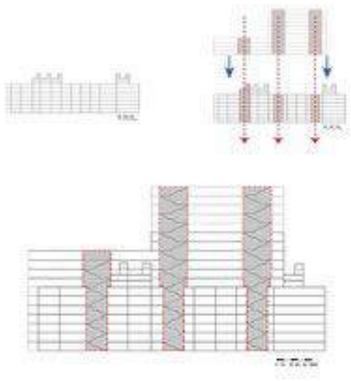
Carry forward the typical traditions of New York urban block pattern.

Retain the historical character of the existing landmark buildings with a continuous street wall design. Strengthen the role and importance of the Starrett-Lehigh building via adaptive re-use.

3.WEST CHELSEA WATERFRONT - NEW YORK

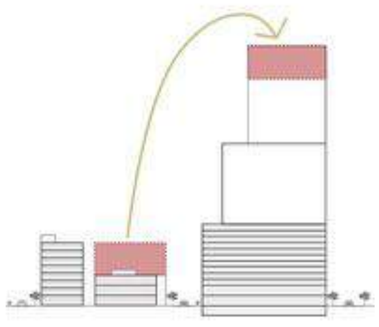
Commercial Building Within 28th St. and 29th St.

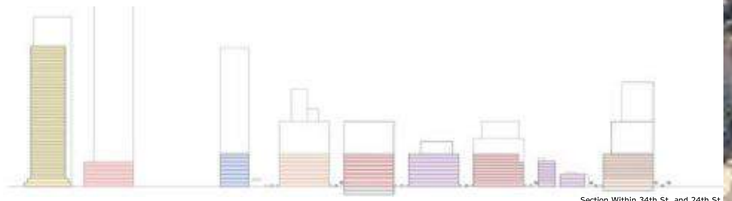
Mixed-use Building Within W29th St. and W 30th St.



Adaptive Reuse Building Analysis

AIR-RIGHT TRANSFORMATION





Section Within 34th St. and 24th St.

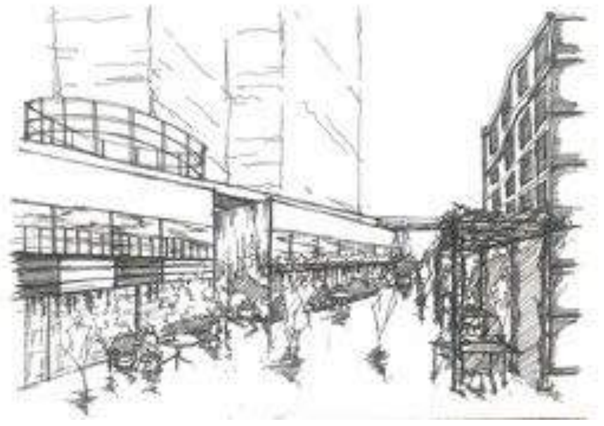
STRATEGIES

• Construct a new connection through the site generating greater permeability throughout the entire site and encouraging greater street activation. The proposal includes four pedestrian lanes through four blocks. Extend 25th Street to 12th Avenue through the site to achieve a regular block pattern and continue the New York City grid.

• Flooding is a major issue is discovered during super storm Sandy that flooded most the site. Implement that design principles utilised at the Chelsea waterside park to manage flooding. The park manages flooding by several methods dealing including, plant selection ensuring that plants are salt-tolerant indigenous species, bulkheads to stop flood surges from River, buoyant EPS foam fill (light weight) is used to offset the weight of soils and land forms.

In addition, some new ways are proposed as well such as constructing man-made island under water to absorb extra water and slow down the impact and angle piers at gentle 2% slope, raising the western end of the pier a full story to down the river.

From Hudons Yards Phase II To Chelsea Waterpark



Sketch Of W 25th St.

Sketch Of W 27th St.