

NEW TOWN LAB - RE-SCRIPTING URBAN RULES FOR A SUSTAINABLE DISTRICT “SHATIN / TAIPA VISION 2050”

2014-15 2nd Term

Mondays & Thursdays 1:30 pm – 6:15 p.m., Venue: AIT Zone A

Instructor: Nuno Soares



The studio will be conducted as a parallel studio with a common theme and two different sites one in Sha Tin Hong Kong and the other in Taipa Macau. The methodology of comparative studies will allow the students to explore different design approaches and learn from the comparison of two different sites with similar urban conditions.

Sha Tin: The projects should expand upon the original ideas of Sha Tin New Town, exploring how a new sustainable 21st century city should be planned and proposing ideas for envisioning Sha Tin in 2050. Of utmost importance in this context it is the integration of the new development into the existing conditions. Students will study a radical reconsideration of urban infrastructure in the city, and alternative solutions for land reclamation and design approaches for healthy living.

Taipa: The studio will focus on design proposals to create a masterplan integrating the planned yet-to-build-islands with Taipa waterfront. The islands will be conceived as a pilot case study for an ideal New Town whose urban principles, layout and infrastructural strategy should be able to influence the future development of Taipa Island at large. Students will be encouraged to rethink Macau's practice of land reclamation and to question how to plan and design a sustainable District.

The studio is conceived as a New Town Lab exploring innovative strategies for a future sustainable district. Students will start by researching the Shatin model as well as outstanding contemporary urban developments, explore innovative design and planning approaches in the urban expansions of Taipa (Macau) and Ma Liu Shui (Hong Kong) and develop proposals contemplating new urban rules and guidelines.

Module Approach

This studio is organized as part of a comparative research project of the M.Sc. in Urban Design program, investigating, developing and testing urban rules for different cities in the Pearl River Delta. It will offer a field of experimentation to bring together various interdisciplinary perspectives at CUHK linking to new initiatives of the interdisciplinary Institute for Future Cities.

The studio will include the participation on the upcoming Waterlink workshop in Macau in January 2016, in which we will explore the city/water interface and develop proposals aimed to intensify citizens' interaction with the waterfront. Organized by CURB Center for Architecture and Urbanism in Macau this workshop studio will comprise site visits, lectures, fabrication and will culminate with a public presentation. The studio outcome will be part of an urban design exhibition integrated on the public discussion about the Macau New Land Reclamation Project. This will take place at CURB on the second half of 2016.



Sha Tin - Study Background

Hong Kong has a landmass of 1,108 square kilometers, only about 24% of which is built-up with infrastructure facilities. In the Government plans land supply is at the very top of the priorities. To increase land supply, one clear option is to increase the development density of the built-up area, taking into account planning considerations such as traffic and infrastructure capacities as well as the environment, and visual and air ventilation impacts.

As land is a scarce resource in Hong Kong, the Government has been adopting a flexible approach to land supply for years, including land rezoning, redevelopment, land resumption, reclamation, rock cavern development (RCD) and reuse of ex-quarry sites to support our economic and social development. To meet the increasing needs for housing and community facilities to cater for the projected population growth, infrastructural and economic development, and aspirations for a better living environment, it is essential to have an adequate and steady supply of land.

The Civil Engineering and Development Department has therefore commissioned a consultancy in July 2011 to conduct relevant studies and a public engagement exercise to explore, in particular, the feasibility of the options of reclamation outside Victoria Harbour and RCD for enhancing land supply in Hong Kong. The move of the existing sewage plant into rock caverns and the reclamation site at Ma Liu Shui could potentially provide land close to Sha Tin town centre, Chinese University of Hong Kong and the Science and Technology Park. Sha Tin can be considered Hong Kong's most successful New Town.

When it was planned in the 1960s-70s it was planned with the ambitious goal 1) to create a socially balanced city, and 2) to be self-sufficient by combining places to life and work. The area of the sewage plant and the potential reclamation site at Ma Liu Shui could be connected with the existing railway system and benefit from the upcoming Sha Tin to Central Link, making it a highly competitive location for residential development.

At the same time there have been strongly voiced concerns against further reclamations on this location, which each project at this location would have to address.

Design Studio

After the study of different urban rules in the PRD, we use the extension project of Sha Tin, to formulate new urban rules for a sustainable city in the 21st century by rethinking and extending the ambitious program of Sha Tin including today questions of biodiversity, ecosystems and food circles. This includes a rethink of Hong Kong's practice of land reclamations and the question how to plan and design a healthy city. It also includes a radical rethinking of the organization of infrastructure in the city, currently undertaken by Asian cities such as Hong Kong, Singapore and Macau, by considering moving parts of the urban infrastructure underground or in rock caverns and thus free up space for urban living and working.

The project area is in Ma Liu Shui in the northern part of Sha Tin near the Chinese University of Hong Kong. The site is characterized by a highly developed infrastructure network (highway, railway) that actually separates this strip of land from the rest of the territory, making access to the coastline somewhat difficult.

A large part of the project area is occupied by a sewage treatment facility. Sha Tin Sewage Treatment Works (STSTW) serves Sha Tin, Ma On Shan and the villages nearby, and is the largest secondary sewage treatment plant in Hong Kong. It occupies 28 hectares of land and serves a population of about 630,000 in Sha Tin and Ma On Shan Districts, which produce approximately 250,000 m³ of sewage per day.

In order to support Hong Kong's sustainable development, the government is actively exploring innovative approaches to utilizing existing land resources.¹ From a geological perspective, according to findings of a study entitled "Enhanced Use of Underground Space in Hong Kong" carried out by the Civil Engineering and Development Department in March 2011, Hong Kong's rock caverns are particularly suitable for development and use. The report recommended that a feasibility study be carried out on the relocation of the Sha Tin Sewage Treatment Works (STSTW) to the caverns, with the intention of freeing up the existing site (about 28 hectares) for other, more beneficial uses. The relocation site proposed is Nui Po Shan of A Kung Kok.² Completion of the relocation project is expected around 2027.

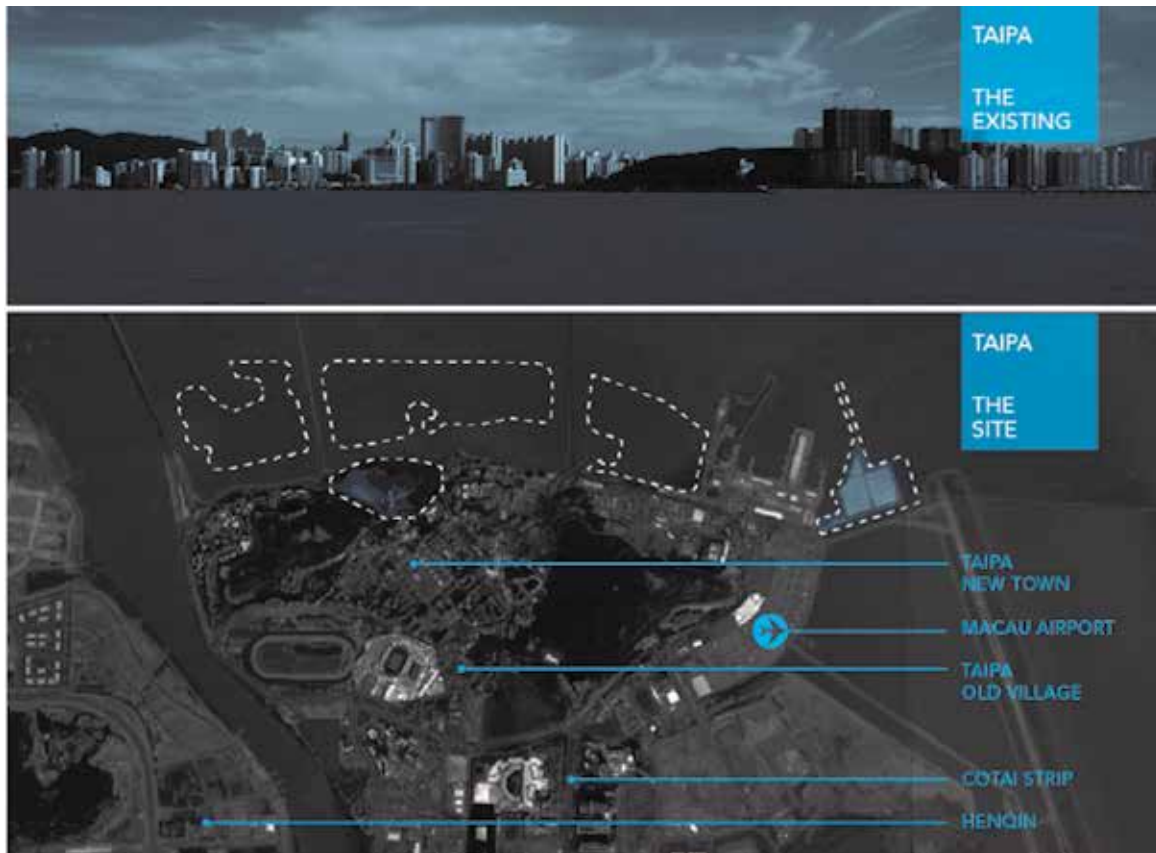
The Ma Liu Shui area was selected, along with an additional four other sites, as a potential spot for coastal land reclamation and extension. Of the five pre-selected areas, Ma Liu Shui was subject to the strongest opposition during public consultations in the second round of the strategic land recovery project. Of chief concern were the possible negative impacts on public services, increased traffic, as well as effects on the coastal landscape and marine life.³ As

1 http://www.ststwincaverns.hk/page.php?l=study_landuse&p=3&lang=en

2 Ibid.

a result, architects must pay particular attention to the vulnerabilities highlighted by such criticism.

The studio will focus on the development of urban planning strategies and design proposals to create a new sustainable mixed used district. A comprehensive urban design strategy is needed to integrate the new development into the existing context with Sha Tin, Ma On Shan, CUHK and the Science and Technology Park. Particular attention will be given to the provision of means for spontaneous social and recreational activities and the challenge of finding more ecological strategies for land reclamations.



Taipa - Study Background

With a landmass of only 31.3 sqkm (March 2014) and a population of 552,503 (census 2011), Macau SAR is the most densely populated territory in the world. It is comprised of the Macau Peninsula, the Islands of Taipa and Coloane and the landfill connecting these two islands, named Cotai.

Land has always been a scarce resource in Macau, a condition that has led to a long and still ongoing history of land reclamation. Macau's urban area has increased dramatically throughout the centuries, particularly since the 20th century, having almost tripled from the 11,8 sqkm that made up Macau's total area in 1912.

The currently ongoing New Land Reclamation Plan (NRLP), which is part of a regional plan for the Pearl River Delta, will add another 3,5 sqkm to Macau SAR's total area.

High demographic growth in the second half of the 20th century put Macau Peninsula in need for urban expansion. As a result, in the 1980s plans were made to develop Taipa as an expansion of the Macau Peninsula, a new town-like development to accommodate housing and infrastructural facilities that could no longer be held in Macau, such as the airport, and the University Campus.

The development of the Cotai strip in the late 2000s, however, would change Taipa's urban profile, as the construction of major casino resorts in this area triggered an ongoing fast urban development.

Over the last three decades, Taipa developed in a parceled manner. Macau's "New Town" was never fully accomplished, having resulted in a fragmented territory with contrasting conditions in need of a masterplan.

With a healthy economy, growing population, a fragmented territory and limited land resources, the New Land Reclamation Plan offers a unique opportunity for Taipa to re-define its model and strategic role for the future.

Design Studio

Our studio will take these circumstances as an opportunity to create a masterplan integrating these yet-to-build-islands with Taipa waterfront.

The projects should expand upon the original ideas of the undergoing New Land Reclamation Project for Taipa side areas C,D,E, as a test pad to explore sustainable urban developments for the 21st century. Of utmost importance in this context it is the integration of the new development into the existing urban conditions in Taipa. Students will study a radical reconsideration of urban infrastructure in the city, and alternative solutions for land reclamation and design approaches for healthy living.

The studio will focus on the development of urban planning rules and strategies, as well as on design proposals to create a new socially, economically and ecologically sustainable, mixed-use district.

A comprehensive urban design strategy is needed to integrate the new development into the existing context while also potentiating the latter's future re-development. Particular attention will be given to the provision of means for spontaneous social and recreational activities and the challenge of finding more ecological techniques for land reclamation.

Objectives Of The Design Studio

- To create a sustainable mixed-use district, with focus on increasing living quality, social interaction and economic vitality;
- To create a Conceptual Plan and study schemes indicating, land use with program layout;
- To identify and understand how existing urban areas (Shatin / Taipa) emerged and are currently transforming;
- To develop strategies to improve and enhance the neighborhood's economic vitality and sustainability;
- To explore new opportunities for integrated infrastructure planning to guide the development of more cost-effective and resilient green infrastructure investments over time;
- To create a comprehensive urban design strategy to integrate the new development into the existing context;
- To increase the potential of Taipa's northern shoreline and Ma Liu Shui's shoreline as places for public enjoyment and leisure.

Student Learning Outcome

- Upon completing the studio, students will be able to:
- Understand how to organize a sustainable development strategy for Taipa and Shatin, that will integrate economic, social and environmental perspectives;
- Understand, map and interpret the urban morphology of an important part of Macau and Hong Kong;
- Understand the complex relationships between enhancing urban mobility and environmental, economic and social sustainability;
- Learn from key examples of New Town Planning in Macau, Hong Kong and Singapore;
- Create a comprehensive urban design strategy by learning to work in different scales in the fields of architecture, urban design and city planning;
- Understand and address contemporary urban issues with particular focus on development of advanced urban design, presentation and communication skills while addressing key issues and developing context sensitive strategies and designs
- Determine priorities and strategies to create a healthy urban ecosystem that protects and regenerates habitat and ecosystem function;
- Develop concepts on how urban design can foster and support healthy living.

Studio Output

Students develop individual strategies and designs for the improvement of urban integration including public spaces and street level building interfaces based on prior identified issues and realizing opportunities. Drawings and models in different scale 1:2500/1:1000/1:500, plus detail studies, montages and perspectives should show the intended qualities of urban transformation and integration of public spaces usable in various seasons and times of the day. Statements of addressed issues and design intentions should be formulated in text and drawings. With progression of the design project they should be revised and updated. Research findings and projects will be gathered in a joint studio booklet. All students have to submit a digital documentation.

Deliverables

- Group studies according to defined issues
- Developing a site model (scale 1:2500)
- Written description of addressed issues and design intentions (500 words)
- Group drawings and models with strategic propositions (scale 1:1000)
- Phasing plan of proposed development strategies
- Urban integration, public space/building design drawings and models (scale 1:500)
- Detailed study of urban integration incl. mixed development & public spaces
- Photomontages, Sketch Up models, visualizations and perspectives studies of urban integration
- Studio booklet

(Digital documentation of group and individual work is compulsory after final review)

Assessment Scheme

- Group Research 20%
- Overall Group Strategy 20%
- Individual Design Work 50%
- Participation 10%

Course Format

The course is organized in a research part (group work), overall and group strategy and individual design. The research encompasses field and precedent studies allowing for team and individual work. As part of the course students will join the Waterlink Workshop at CURB in Macau. A visit to the Hong Kong and Shenzhen Bi-City Biennale is also planned.

Required Readings

Alex Lehnerer, *Grand Urban rules* (Rotterdam: 010 Publishers, 2009)

Roger Bristow, *Hong Kong's New Towns: a selective review* (UK: Oxford University Press, 1989)

Jan Gehl, *Life Between Buildings: using public space* (Van Nostrand Reinhold New York, 1987)

Jan Gehl, *Cities for People* (Island Press, 2010)

Shane, David Grahame, *Urban Design Since 1945: A Global Perspective* (Wiley, 2011)

Richard Rogers, *Cities for a Small Planet* (Boulder: Icon Editions, 1998)

Shelton, Barrie, Karakiewicz, Justyna & Kvan, Thomas, *The Making of Hong Kong: From Vertical to Volumetric* (Taylor & Francis, 2010)

Recommended Readings

Urban visions and experimental massing:

WORKac, *49 CITIES* (New York: Storefront for Art and Architecture, 2009)

Stan Allen and Marc Macquade, *Landform Building* (Lars Muller Publisher, 2011)

R. Klanten and L. Feireiss, *Utopia Forever: Vision of Architecture and Urbanism* (Gestalten, 2011)

Winy Maas, *Visionary Cities* (Rotterdam: NAI Publishers, 2010)

Winy Maas, *Hong Kong Fantasies* (Rotterdam: NAI Publishers, 2012)

Aurora Fernández and Javier Arpa, *Density Projects* (Vitoria-Gasteiz: a+t ediciones, 2008)

Site and situation:

Frédéric Edelmann, *In the Chinese City. Perspectives on the Transformation of an Empire* (Barcelona: Actar 2008)

Johannes Widodo, *The Boat and the City: Chinese Diaspora and the Architecture of Southeast Asian Coastal Cities* (Singapore: Marshall Cavendish Academic, 2004)

Filipe Jorge and Francisco Figueira, *Macau From the Sky* (Lisbon: Argumentum, 1999)

Victor Sit, *Macau through 500 years: Emergence and Development of an Untypical Chinese City* (Hong Kong: Enrich Professional Publishing, 2012)

Wang Weijen and Cheong Cheok Kio, *Study of Macao's Historical Urban Fabric: Regenerating Pátio* (Macau: Cultural Heritage Department, 2010)

DSSOPT (2015) *Plano Director dos Novos Aterros - 3ª fase de auscultação pública*, http://www.dssopt.gov.mo/uploads/media/20160630/consult_pt.pdf

DSSOPT (2011) *Anteprojecto do Plano das Novas Zonas Urbanas - 2ª fase de auscultação pública*, retrieved http://urbanplanning.dssopt.gov.mo/pt/download/2nd_consultation.pdf

City and citizens:

Anne Mikoleit and Moritz Purckhauer, *Urban code: 100 Lessons for Understanding the City* (Cambridge, MIT Press 2011)

Kevin Lynch, *The Image of the City* (Cambridge, MIT Press, 1960)

Gordon Cullen, *The Concise Townscape* (Oxford: Architectural Press, 1996)

Jane Jacobs, *The Death and Life of Great American Cities* (New York, Random House, 1961)

Magda Anglès, *In Favor of Public Space. Ten years of the European Prize for Urban Public Space* (Barcelona: Actar, 2010)

Aurora Fernández Per and Javier Arpa, *The Public Chance: New urban landscapes* (Vitoria-Gasteiz: a+t ediciones, 2008)

Sustainability:

Albert Ferré, *Total Housing: Alternatives to Urban Sprawl* (Barcelona: Actar, 2010)

Mohsen Mostafavi and Gareth Doherty, *Ecological Urbanism* (Baden: Lars Muller Publishers, 2010)

Mason White, Maya Przybylski, *On Farming: Bracket 1* (Barcelona: Actar, 2010)

Schedule

(Will be handed in the first day of class)

FIELD TRIP

Yes Local; Overseas Date(s): TBC Destination(s): Macau & Singapore

No

SAME COURSE OFFERED BEFORE

Yes Offer year [2014] Term [2] Course code [URBD 5720b]

No

ACADEMIC HONESTY AND PLAGIARISM

Attention is drawn to University policy and regulations on honesty in academic work, and to the disciplinary guidelines and procedures applicable to breaches of such policy and regulations. Details may be found at <http://www.cuhk.edu.hk/policy/academichonesty/>.

With each assignment, students will be required to submit a signed declaration that they are aware of these policies, regulations, guidelines and procedures. For group projects, all students of the same group should be asked to sign on the declaration.

Students are required to submit a softcopy of the assignment to the VeriGuide system at: <https://veriguide2.cse.cuhk.edu.hk/cuhk/>. After submission, student should receive a receipt and an academic honesty declaration statement via an e-mail from VeriGuide.

Please print the receipt and the declaration statement (below) and submit them to the lecturer together with a hardcopy of the assignment.

I declare that the assignment here submitted is original except for source material explicitly acknowledged. I also acknowledge that I am aware of University policy and regulations on honesty in academic work, and of the disciplinary guidelines and procedures applicable to breaches of such policy and regulations, as contained in the website <http://www.cuhk.edu.hk/policy/academichonesty/>

Signature

Date

Name

Student ID

Course code

Course title