FLOODING BANGKOK

EXPERIENTIAL LEARNING IN THE PLANNING DISCIPLINES

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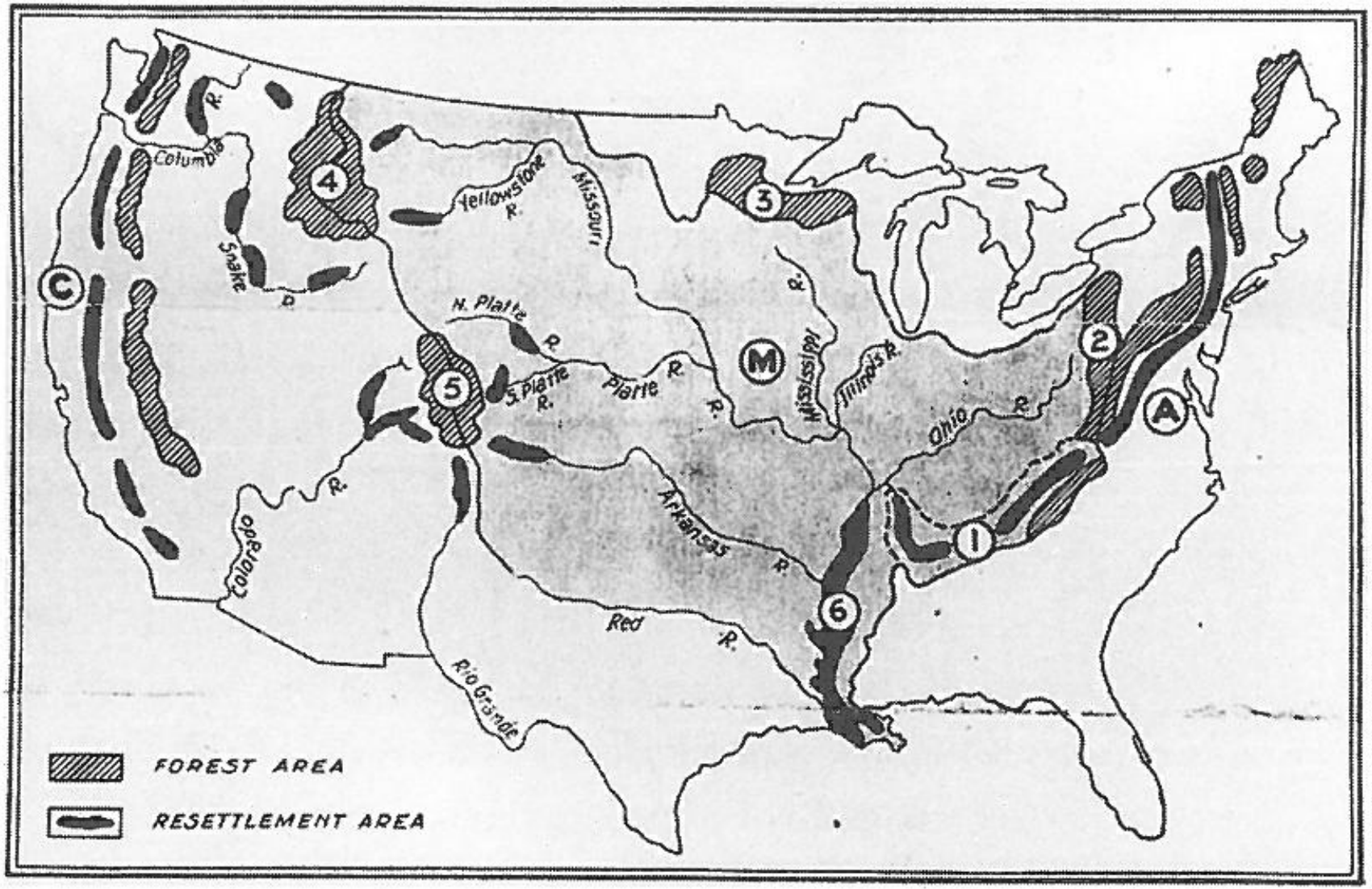
DIVISION OF LANDSCAPE ARCHITECTURE / FACULTY OF ARCHITECTURE / 21 MARCH 2013

Rural Studio, Auburn University, USA
http://ruralstudiofarm.ruralstudioblogs.org/

WHAT ABOUT LANDSCAPE PLANNING?

(1) identification of ecological relationships and of landscape problems and issues at a scale larger than that of an individual site;
(2) understanding landscapes as dynamic systems and the importance of protecting and maintaining natural processes;
(3) development of techniques for the spatial analysis of landscape and cultural resources data, resource processes and relationships between and among data sets;
(4) understanding variable values within and among cultures;
(5) recognition of the need for multi- or interdisciplinary approaches to planning.

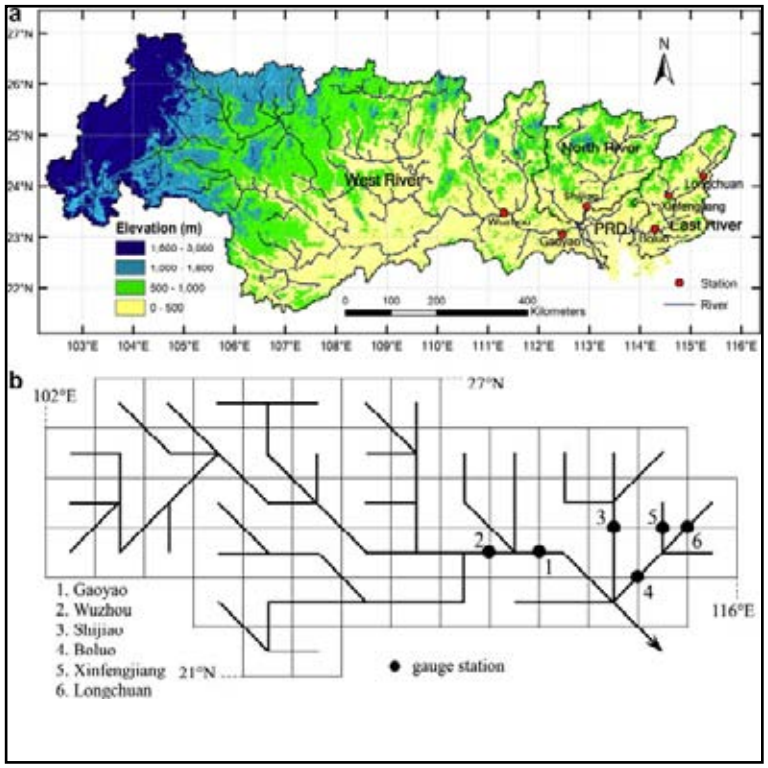
Ervin H. Zube, **Landscape planning education in America: retrospect and prospect**,
Landscape and Urban Planning, Volume 13, 1986, Pages 367-378



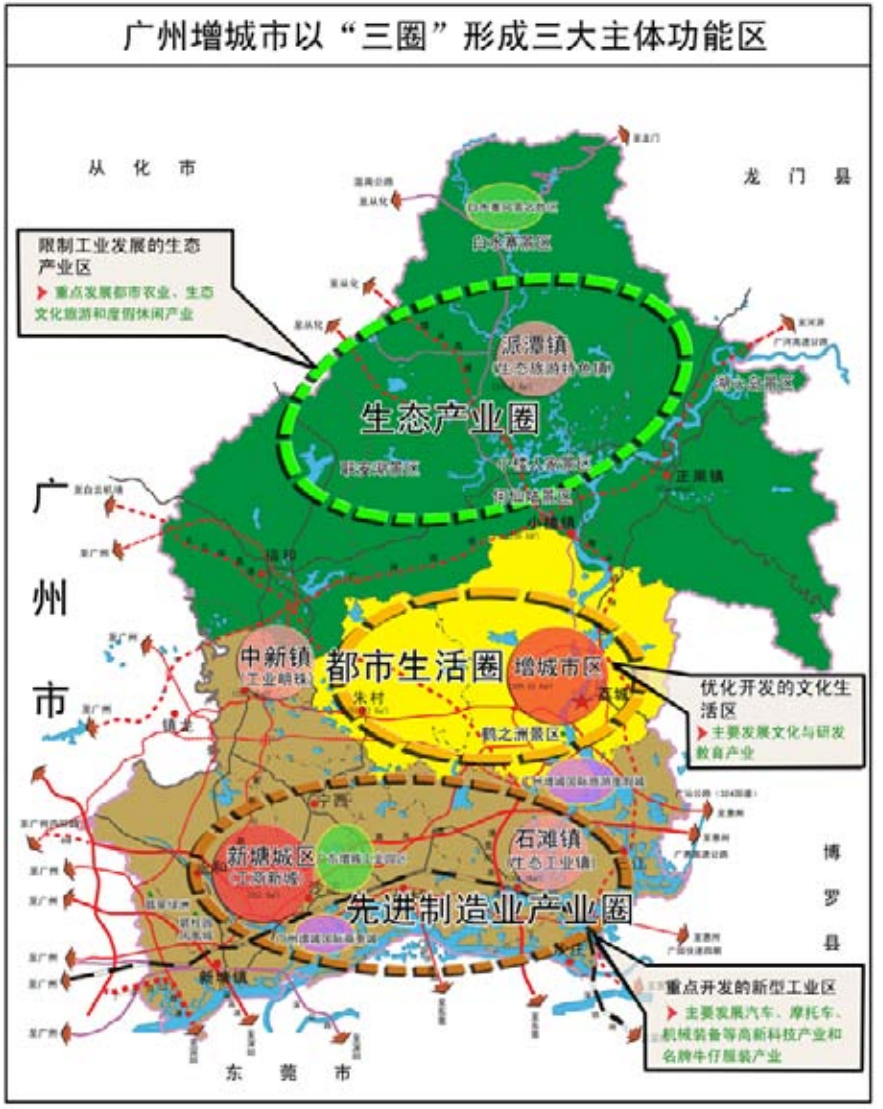
1.3.2 Lanes of national development as mapped in article, "The Tennessee River Project: First Step in National Plan." a) Appalachian Valleys, b) Mississippi Basin, c) Columbia-Sacramento Valley, 1) Tennessee Valley 2) Pittsburgh-Alegheny Area, 3) Minnesota-Wisconsin Forest Area, 4) Columbia-Yellowstone Area, 5) Colorado-Platte Area, 6) Lower Mississippi Area. Benton MacKaye, "The Tennessee River Project: First Step in National Plan," *New York Times* (16 April 16, 1933):3.

CHALLENGES:

RECONCILING SCALES



CONSEQUENCES:

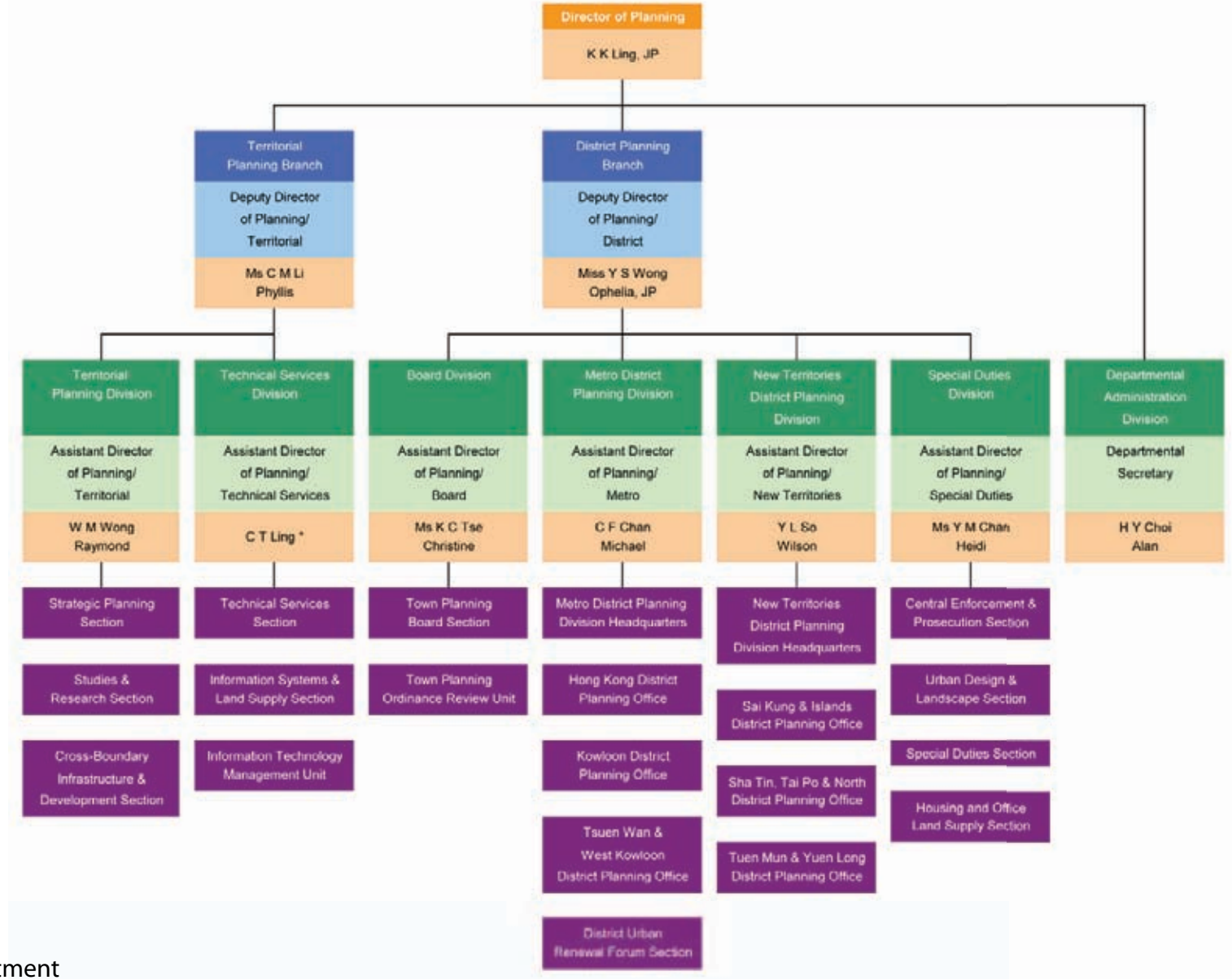


SWA Group. Hengqin Island Master Plan. www.swagroup.com

http://www.upo.gov.cn/pages/news/tzgg/images/200912181557441.jpg

CHALLENGES:

ENGAGING IN A REAL PLANNING PROJECT



HK Planning Department
www.pland.gov.hk

THE INFRASTRUCTURAL LANDSCAPE OF THE CHAO PHRAYA WATERSHED

ECONOMIC LOSS
$45.7
BILLION US DOLLARS

INFRASTRUCTURAL FAILURES

Photos from Regional Irrigation Office 12, Chainat

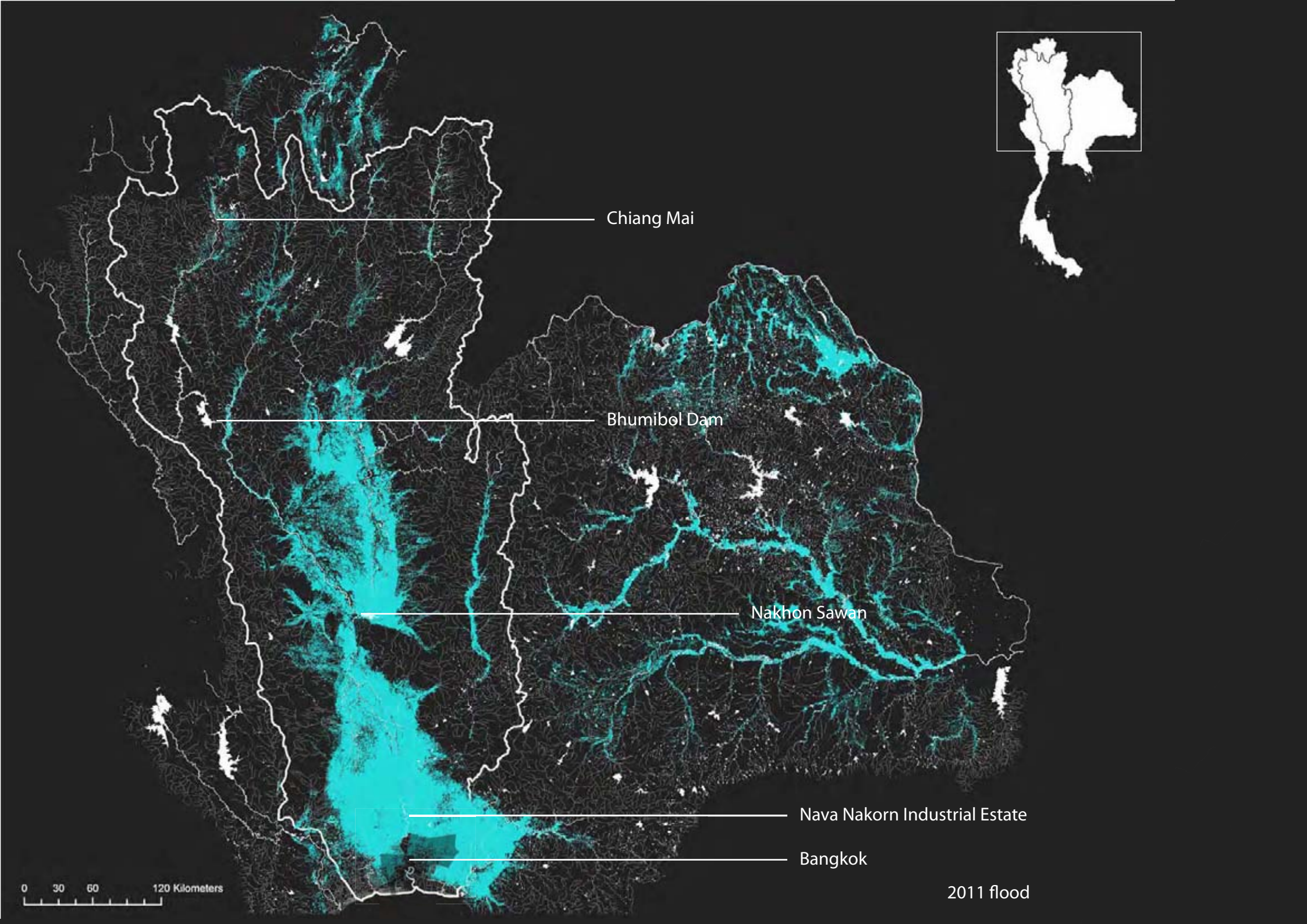
WORLD BANK ESTIMATES

REHABILITATION COSTS

$ 24.6

BILLION US DOLLARS

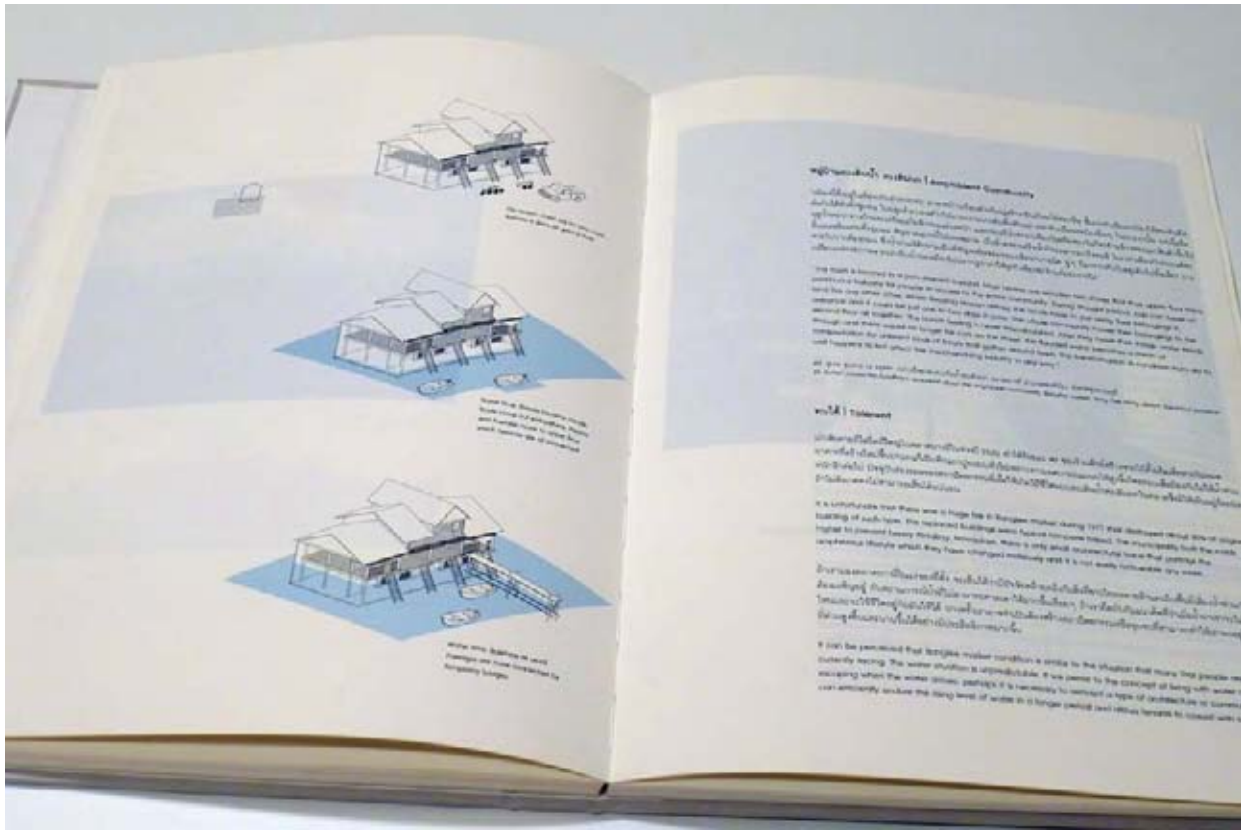
http://www.bangkokpost.com/business/economics/268331/rehabilitation-to-cost-b755bn


Chiang Mai
Bhumibol Dam
Nakhon Sawan
Nava Nakorn Industrial Estate
Bangkok
0 30 60 120 Kilometers
2011 flood

PRE-SEMESTER VISIT & RESEARCH

PRE-SEMESTER VISIT & RESEARCH

OTHER INTERESTED PARTIES

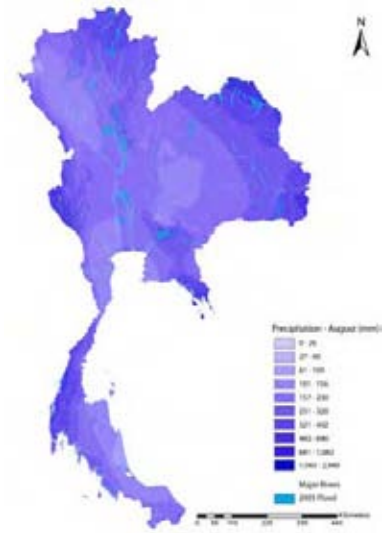


Water Brick: Liquid Perception in Thai Urbanism and Architecture
Association of Siamese Architects, 2012

STUDIO PROCESS

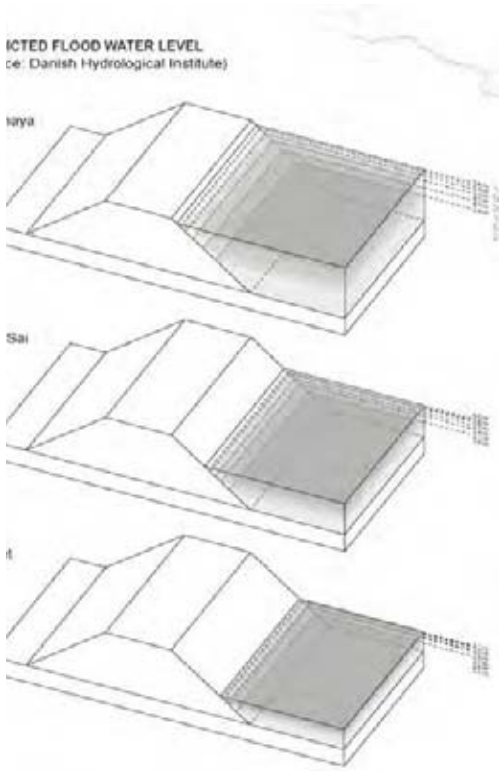
REGIONAL STUDY
indexing

Relationships Between Precipitation, River and Floods in Thailand

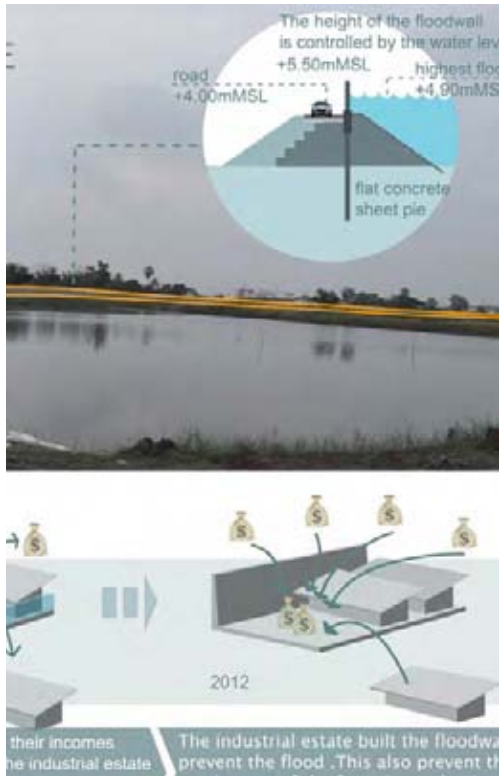


This map shows the precipitation in August 2005 and the 2005 flood. Flood occured in the area of high rainfall and the area next to major rivers.

DETAILED STUDY
typologies

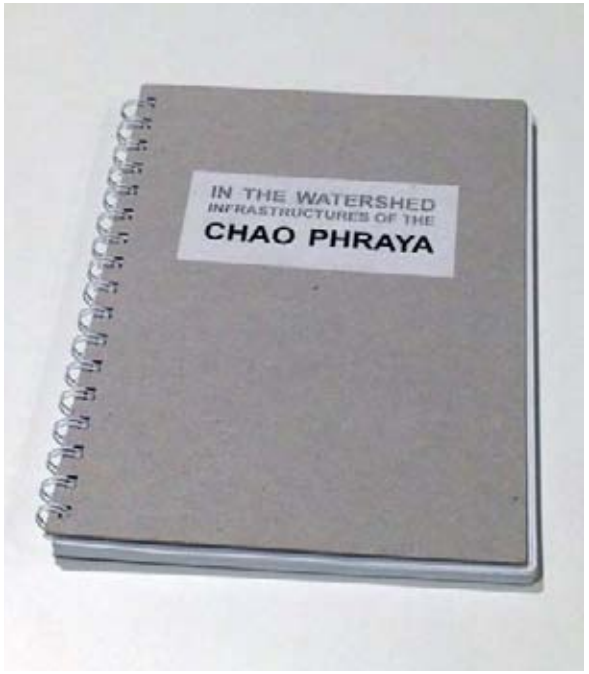


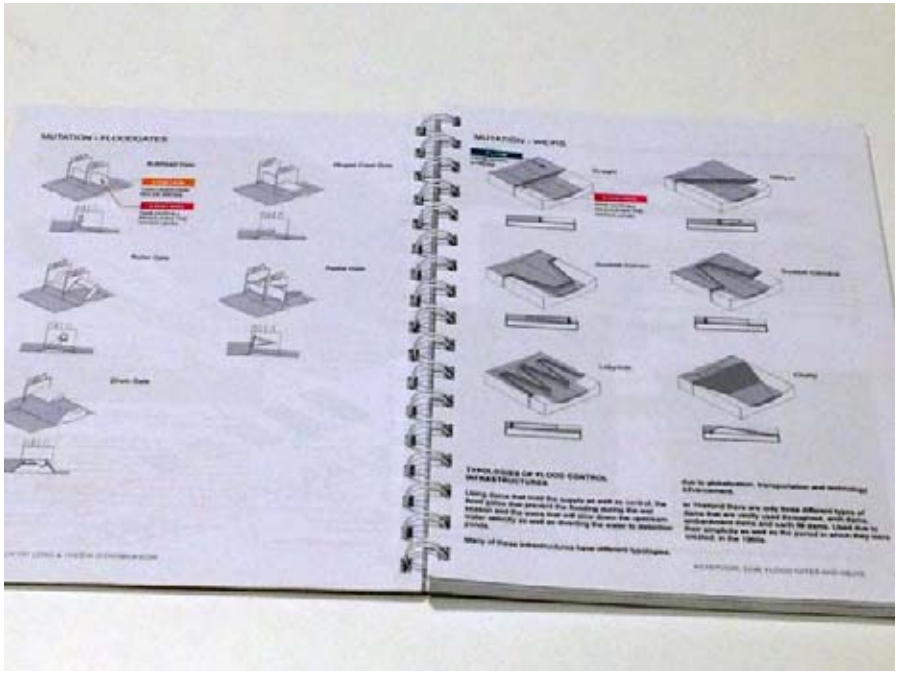
FIELD VERIFICATION
annotations

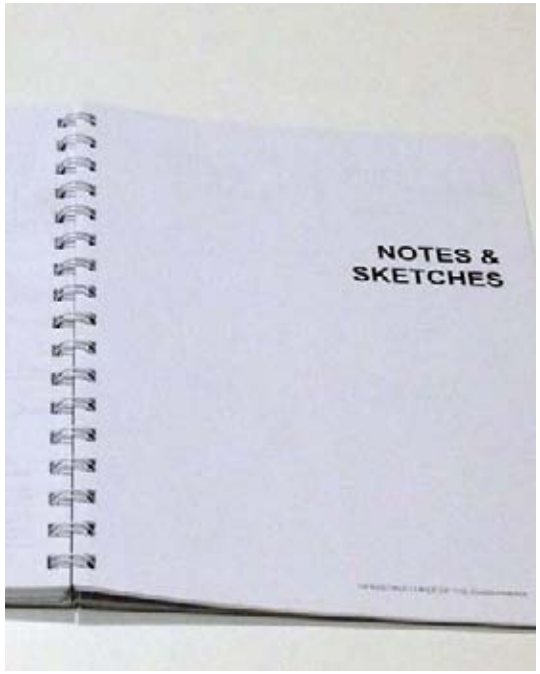


PROPOSAL
prototypes &
deployment

STUDIO PROCESS: MULTISCALAR







TRAVELLING ALONG THE WATERSHED-DATA COLLECTION

TRAVELLING ALONG THE WATERSHED-COMPILING INFORMATION

THE UNIVERSITY OF HONG KONG 香港大學
faculty of architecture 建築學院
Division of Landscape Architecture 風景建築學部

BALS3 Fall 2012 • ARCH 3027 Landscape Design Studio V (12 Credits)
Instructor: Dorothy Tang (e: dstang@hku.hk/KB209) , Office Hours: Wednesdays 10-12
Teaching Assistant: Seth Denizen (e: sdenizen@hku.hk / K814) , Office Hours: Thursdays 10-12
Circulation: DT, SD/jc • Date Issued: 26 October 2012

(re)Planning Bangkok: The Infrastructural Landscape

Analytical Photography

The Trans-Alaska Pipeline. Center for Land Use Interpretation

Photographs are drawings. Good photography goes beyond a good camera; it involves a critical understanding of the issues involved, a focused objective, and an artistic eye. This document suggests some strategies for you to compose photographs regardless of hardware, and enables a strong narrative for your project.

Framing a View

Tip #1: Think before Shooting
As designers with a particular understanding of how the landscape operates, it is critical that we THINK before taking a photograph. Any photograph represents our view of the subject, and therefore its framing, composition, and content are all important aspects of our research.

Tagging in picasa
This is an important part of building an archive that you should make a part of your own design practice. This technique is increasingly being used not only for photos, but also for PDF's, web images, and other data.

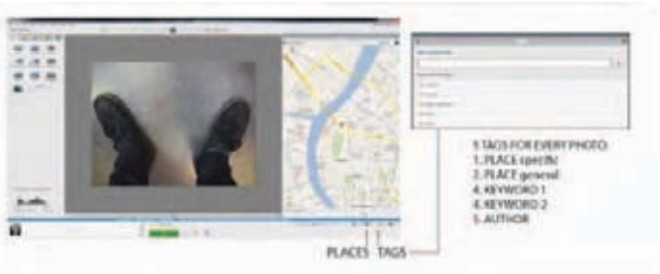
What we will be trying to do in this studio is build an archive of photo's that everyone can search through and use later on in the semester. For instance, if you become interested in canals later on in the semester, it will be useful to be able to search through every photo the class took for images of canals. This is only possible if pictures containing a canal, are tagged "canal." In order to increase the chances of finding what we want, we will be employing a standard framework for tagging our photos.

Every photo should have *at least* 5 tags:
1. PLACE - specific
2. PLACE - general
3. KEYWORD 1
4. KEYWORD 2
5. AUTHOR – your name

PLACE specific / general describes the *type* of place that the photo was taken in, for instance, "market." We will be geotagging all of our photos, but this only gives us the location, not the type of location.

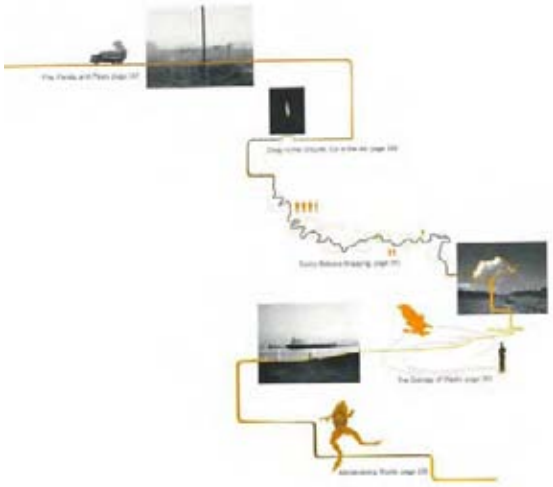
KEYWORDS describe what the photo is showing: canal, baby, mailbox, floodgate, market, sewer, religion. Make your keywords as generic as possible. Try to imagine someone actually searching for the keyword you create. For instance: inflatable spaceship is not a good keyword, even if you see one.

Unlike the EXIF metadata format for geographic information, there are no standard formats for attaching keyword information to photos. This is why we will all be using Picasa. To access the Picasa Tagging menu, click the icon as shown below.



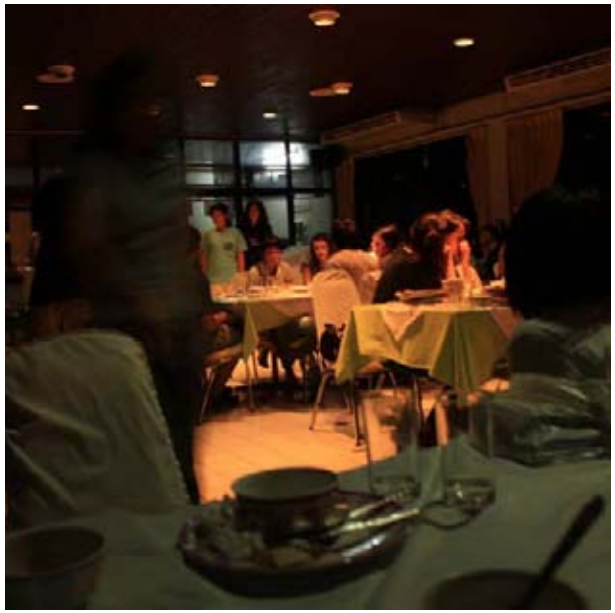
Annotated Photographs

When you annotate a photograph or create diagrams with your images, consider the invisible forces, actors, materials, relationships, and movement that are critical to your theme. Examine the existing photograph, and consider how you would draw a diagram that would help your viewer gain a deeper understanding of the site—operations that are beyond the surface. The annotations themselves should be more than simply labels, but the identification and emphasis of certain aspects of the photograph that might reveal something new. For example, highlighting certain types of programs, uses, movement over time, or interactions within a photograph would allow the viewer to reconsider overall relationships within a place. Or, drawing a section over a photograph would help the viewer understand the relationship between how something is constructed and water levels. Below are some examples of how others have used similar techniques to annotate photographic images.



TRAVELLING ALONG THE WATERSHED-PROCESSING INFORMATION

hearing from people on the ground



daily debreifings

final workshop

NEW LEVEE AT HIGH TECH INDUSTRIAL ESTATE

NEW FLOODWALL CONSTRUCTION AT NAVA NAKORN INDUSTRIAL ESTATE

NEW FLOODWALL AT NAVA NAKORN INDUSTRIAL ESTATE

NEW LEVEEE + WALL IN NAKHON SAWAN

NEW DETENTION AREA IN BUENG BORAPHET RAMSAR SITE

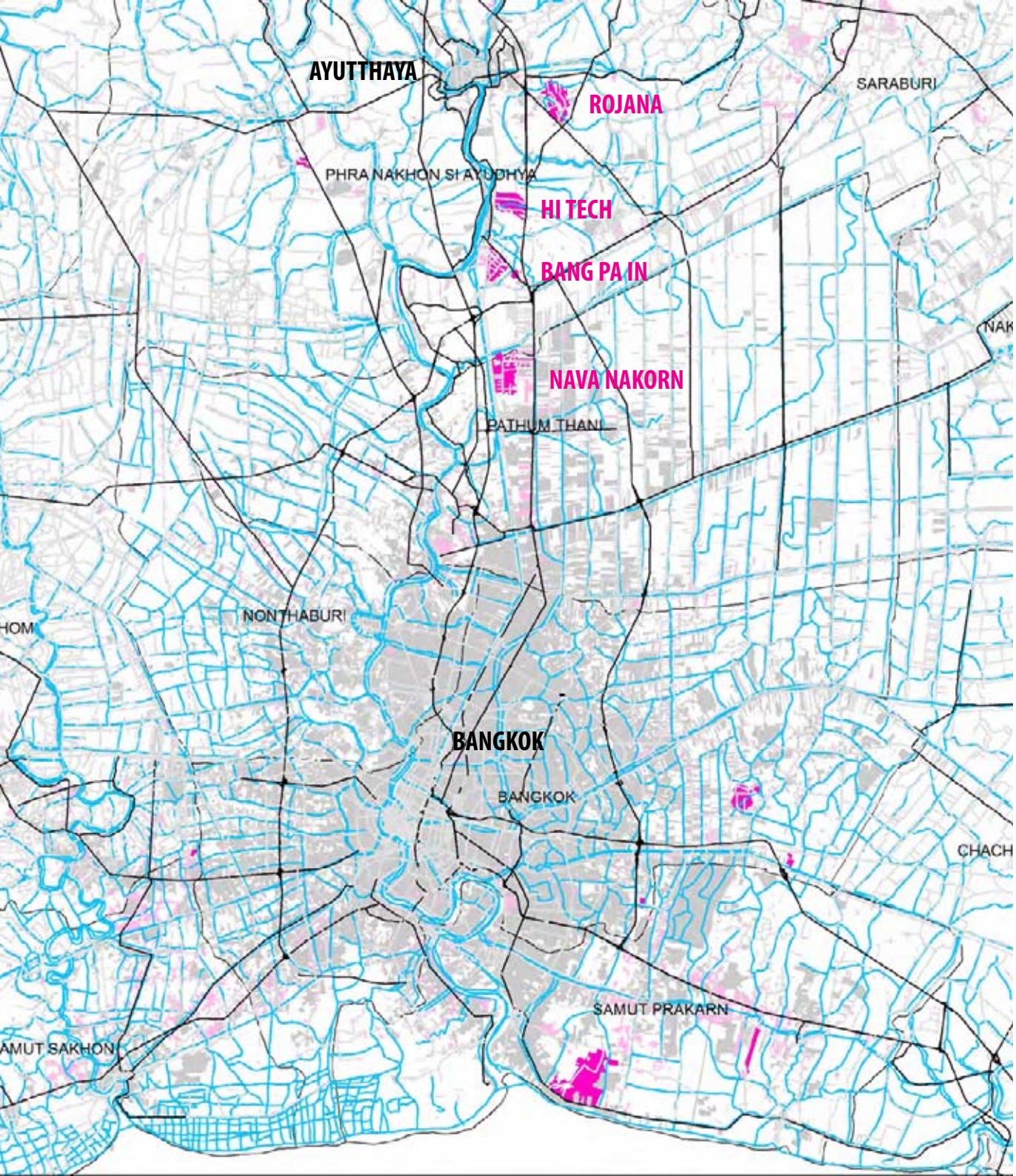
BHUMIBOL DAM + RESERVOIR

CHAO PHRAYA DAM + IRRIGATION

URBAN CANALS

MANGROVE REHABILITATION

DESIGN BRIEF
INDUSTRIAL ESTATES
BETWEEN AYUTTHAYA & BANGKOK



SITE(S)

BETWEEN AYUTTHAYA & BANGKOK

ISSUE(S)

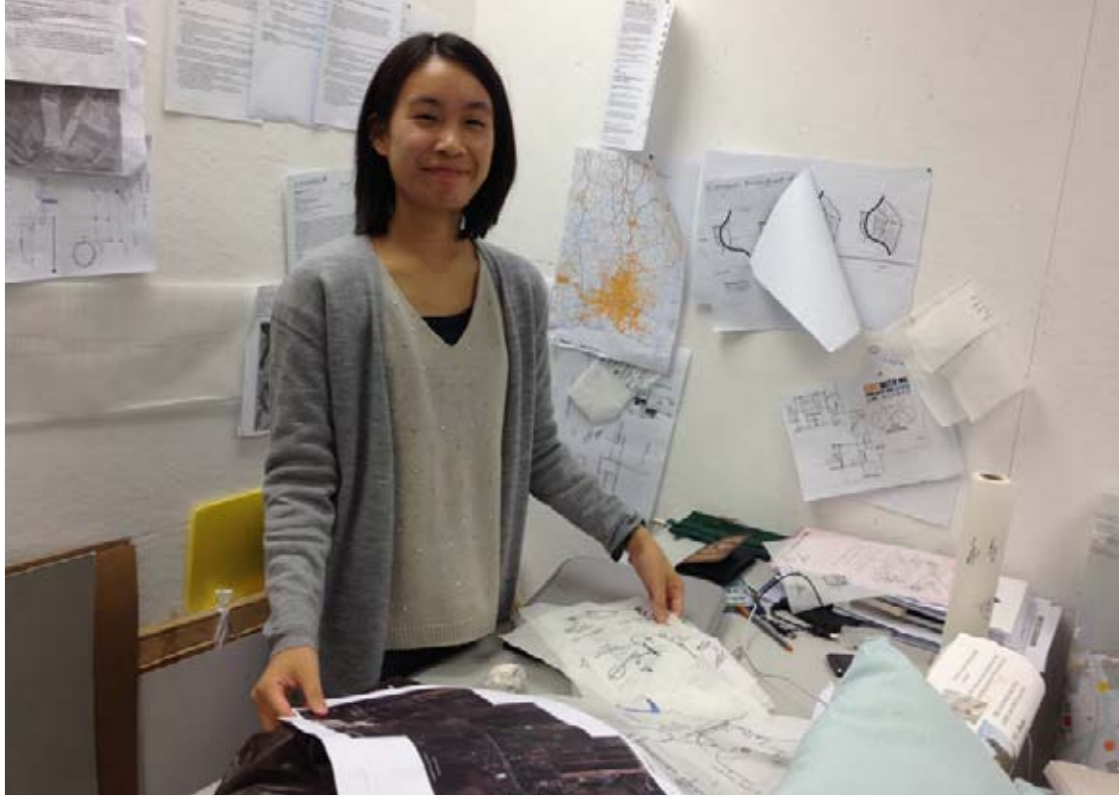
ADDRESS FLOODING IN RELATIONSHIP TO THE INDUSTRIAL ESTATES

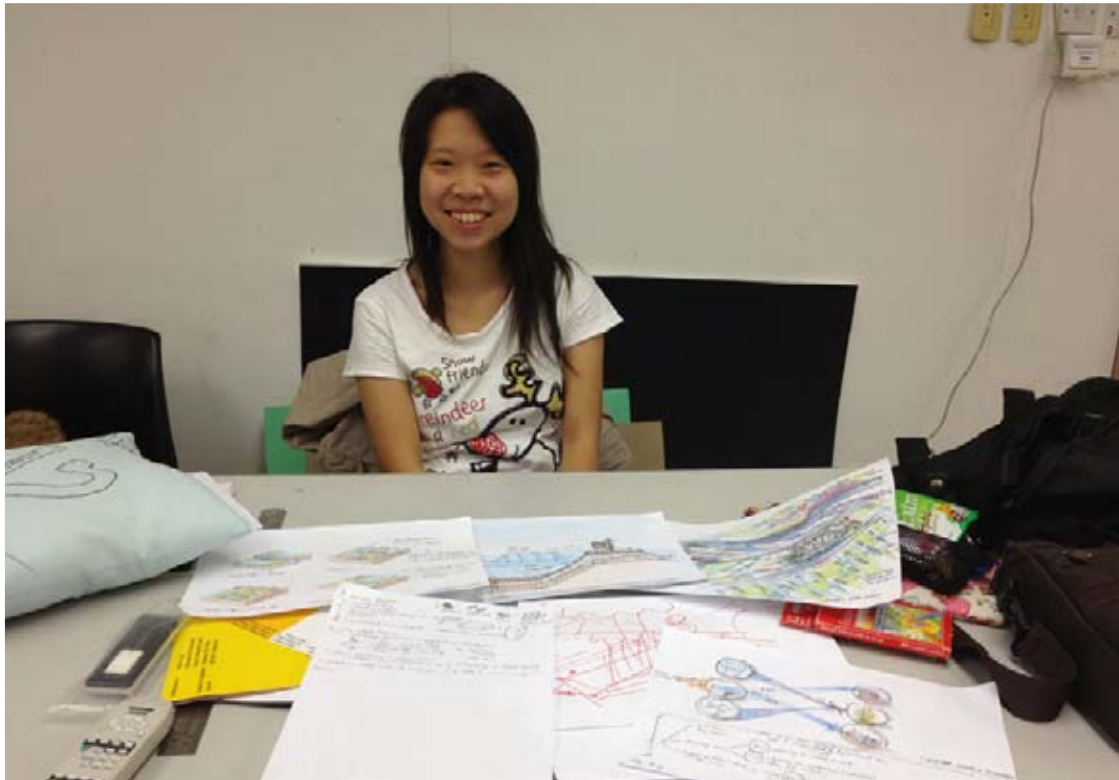
INTERVENTION(S)

WITHIN THE LARGER SYSTEM REGARDLESS OF SCALE

RESOLUTION(S)

MUST OCCUR PHYSICALLY AND MATERIALLY





Elevated Evacuation

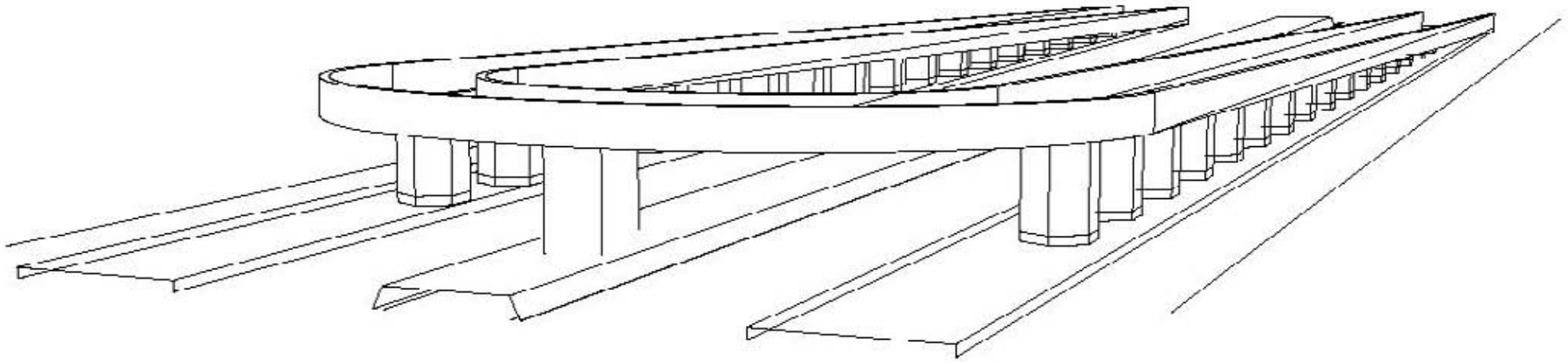
The last project combines as a final design project. Depending on our observations from the Thailand fieldtrip, we are to focus on several issues and try to come up with different typologies to deal with the situations. Each student may work on a different scale according to the issues they identify, the design should eventually act as an arguement to the current infrastructural system that is starting to fail at dealing with the floods. The ultimate goal is to come up with a alternative approach to the landscape and infrastructural planning of the country and of the individual region or sites.

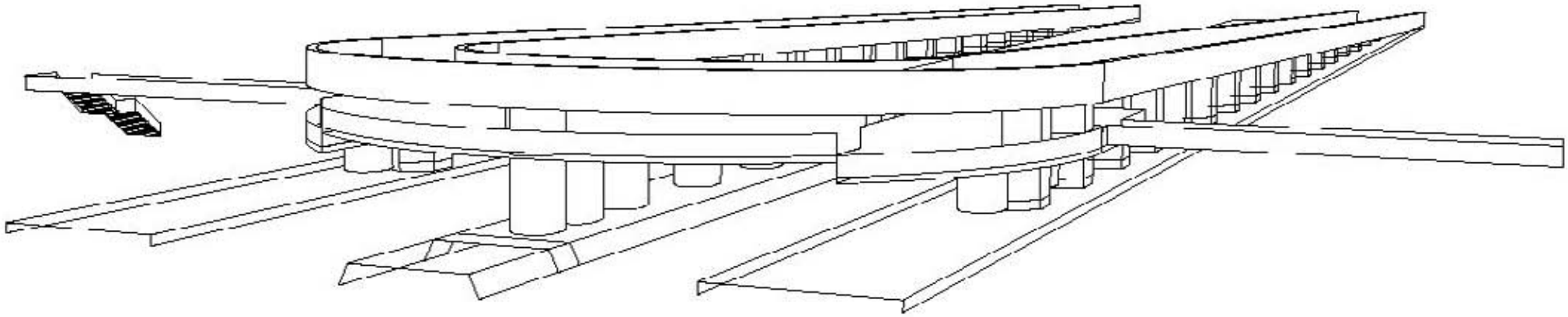
My project looks into a regional scale at first, focusing on the idea of evactuation and how people react to the flooding events. After some more analysing, the topic is narrowed down to individual transportation infrastructures known as the U-Turn Bridges. These are interesting structures that can remain dry in times of floods, even in the most severe flood in 2011. My proposal is to untilize the structure of the existing infrastruces and create safe zones for evacation while remain as crossing of the highway on a daily basis. The prototype also reflect on the self-protecting industrial estates which are all building flood walls around themselves to create island during floods.

DENNIS FUNG

U-Turn Bridges

Design -





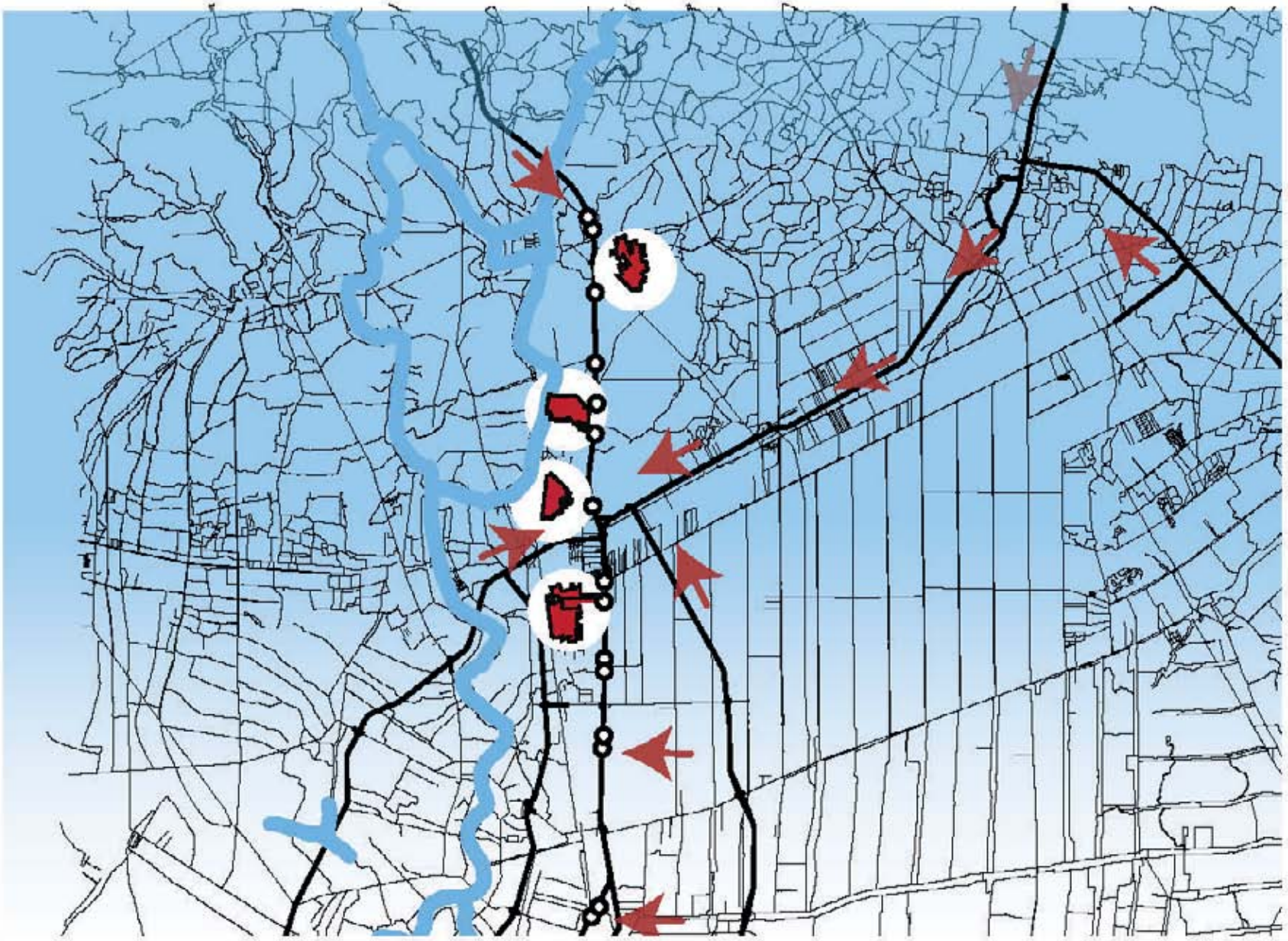
DENNIS FUNG

Change of evacuation

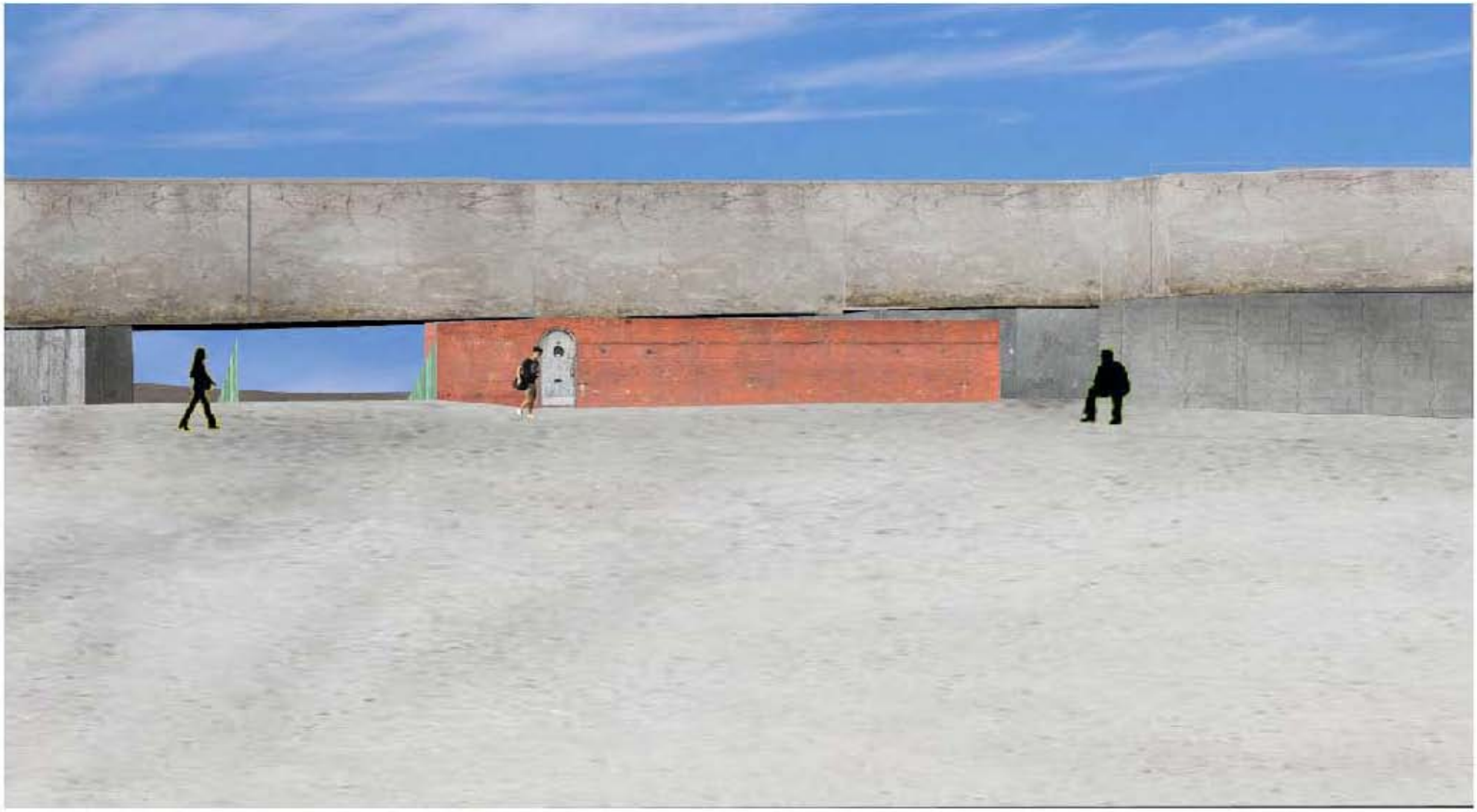
These proposed infrstructures should allow faster access during evacuation

These proposed infrstructures should allow faster access during evacuation

Provide vacancy for around 4000 evacuees, meaning an additional 33% more displaced people will be able to settle compare to 2011



DENNIS FUNG

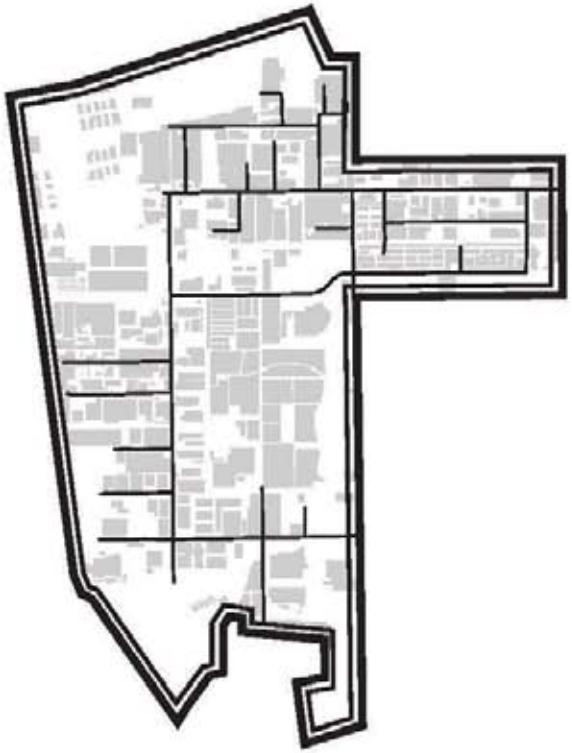


DENNIS FUNG

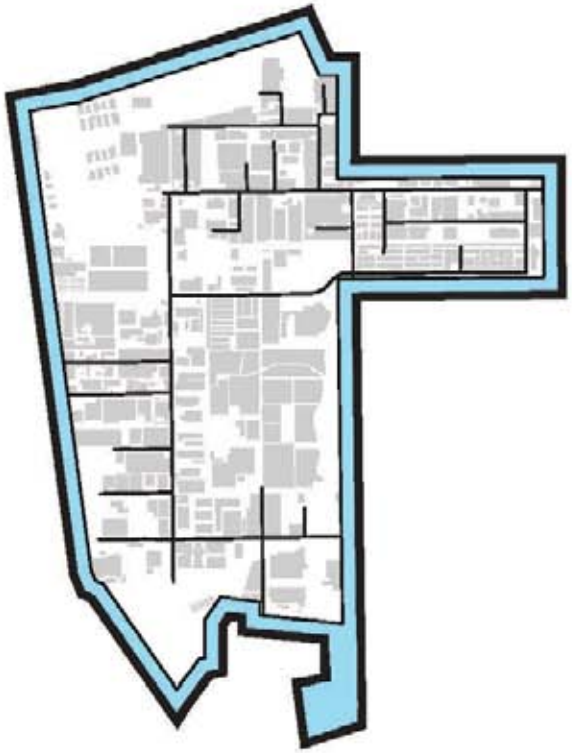
RUN
OFF
IN

CONCEPT: UTILIZING THE SPACE WITHIN

EXISTING FLOOD WALL SURROUNDS THE INDUSTRIAL ESTATE



USING OLD FLOOD WALL ALLOWING THIS SPACE TO BE UTILIZED FOR STORAGE AND WATER TREATMENT

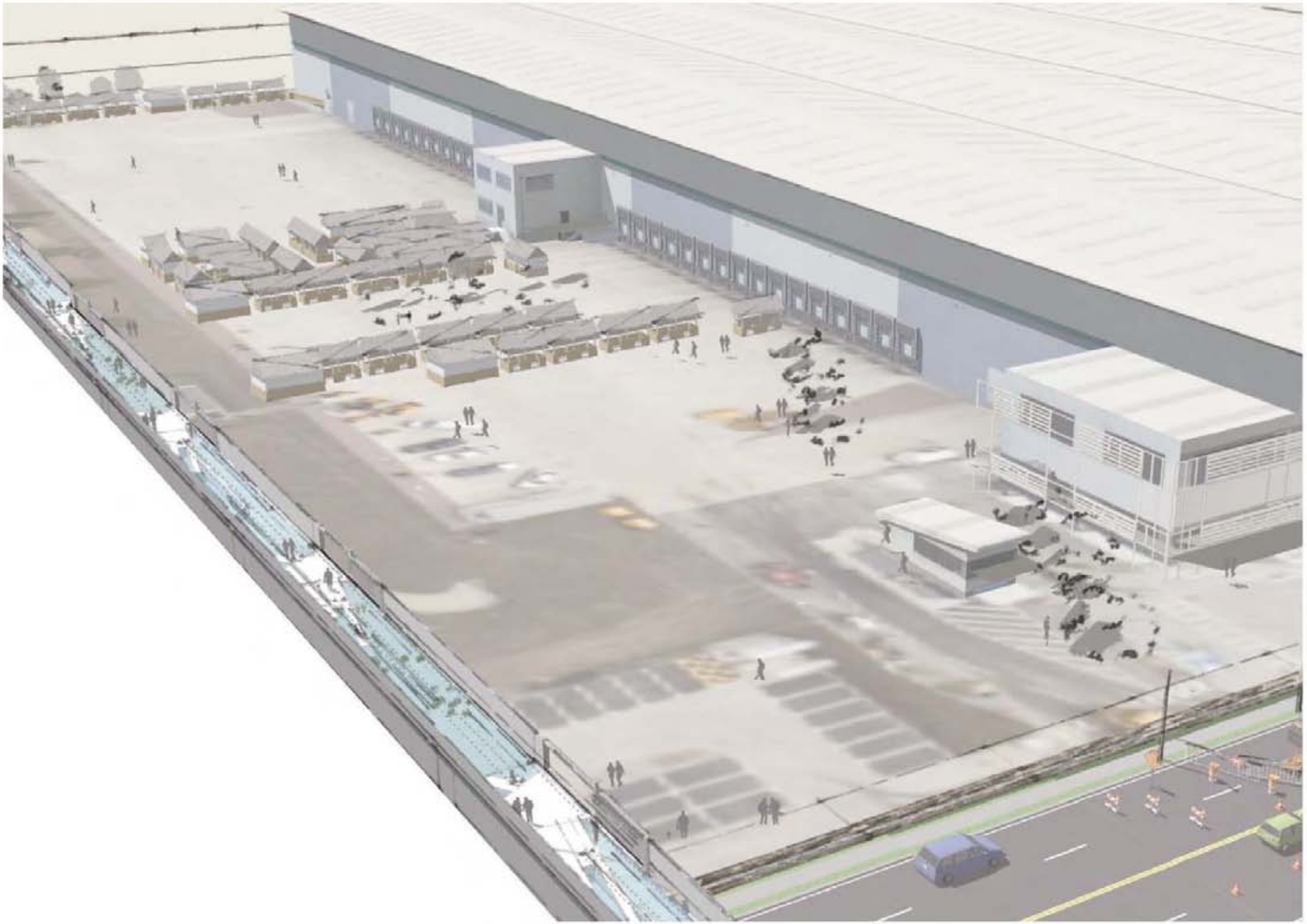


DURING FLOODS THE CONTAMINATED WATER WILL BE CONTAINED AND TREATED WITHIN

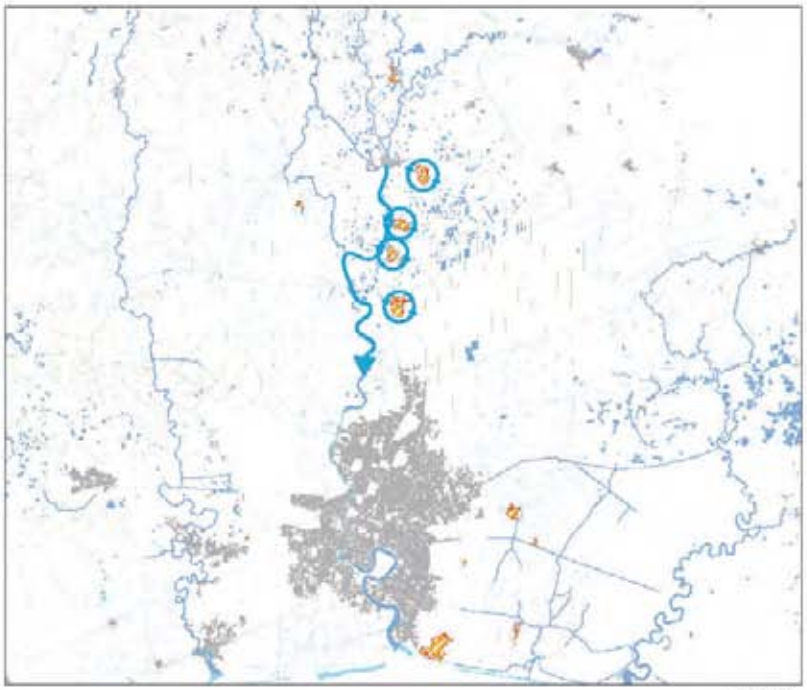
1:50,000

Using the space in between the existing flood walls, both the old and the new walls, and allowing water to be stored here during the flooding period so that the pumping of the site won't effect the surrounding landscape as well as containing this contaminated water within the site and treating it effectively.

TAMSIN THORNBURROW



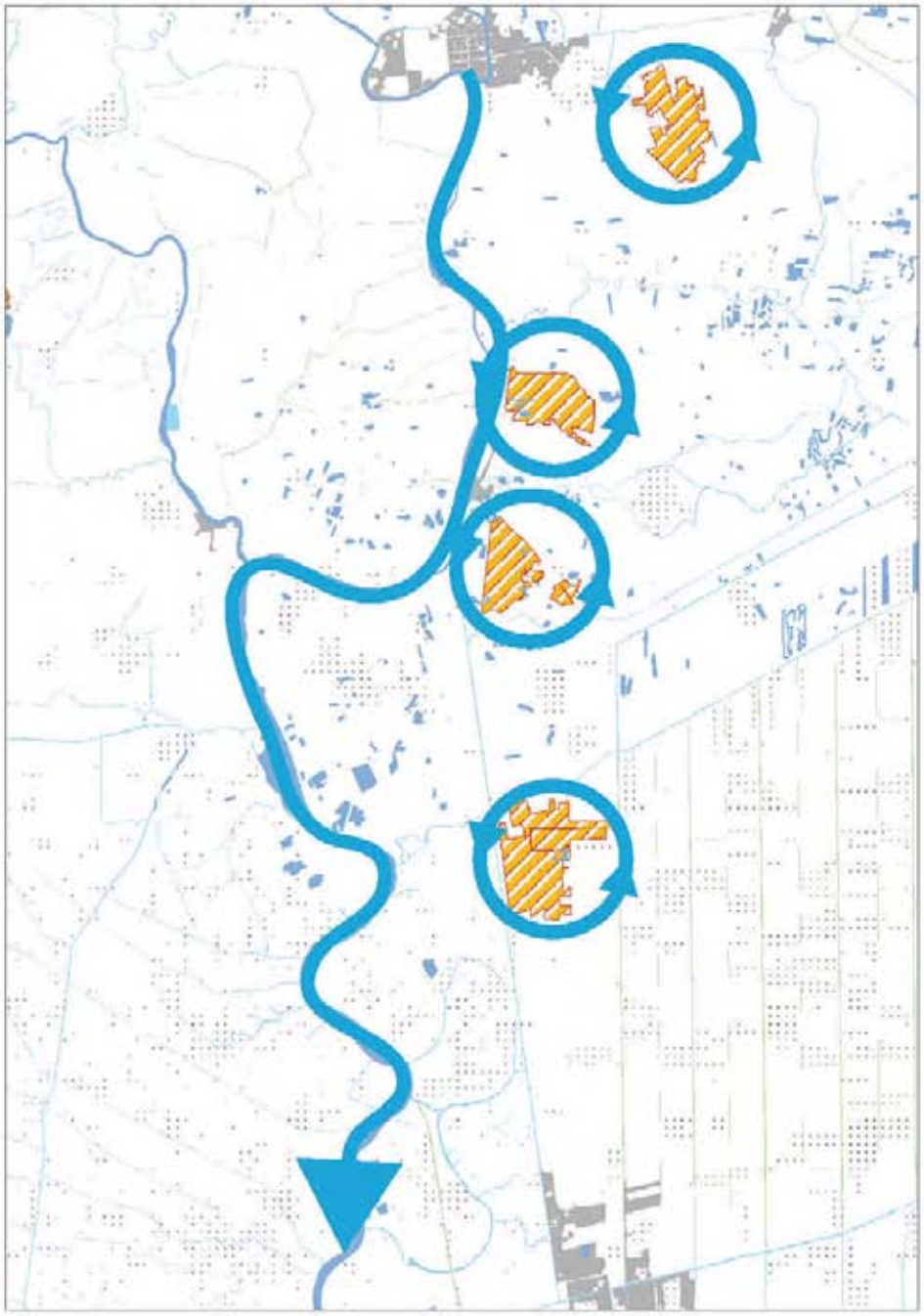
OPERATION: THROUGH A LARGER SCALE



1:750,000

FOR THE INDUSTRIAL ESTATES TO BECOME MORE SUSTAINABLE, WATER MUST BE MANAGED WITHIN THE SITE BY MEANS OF FILTRATION AND REUSE.

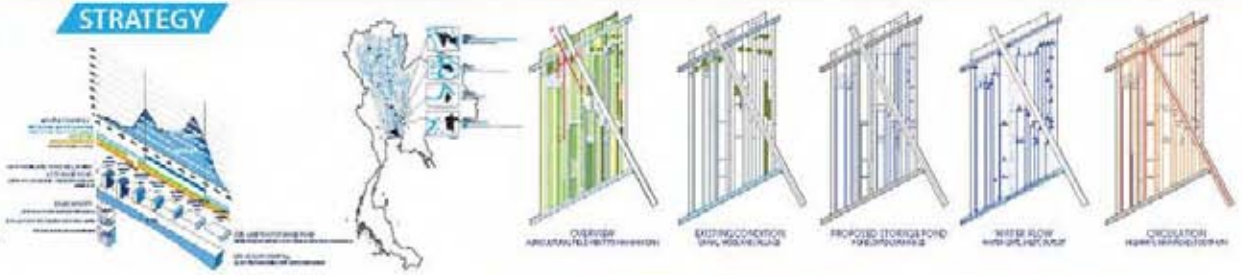
OPERATION: THROUGH A LARGER SCALE



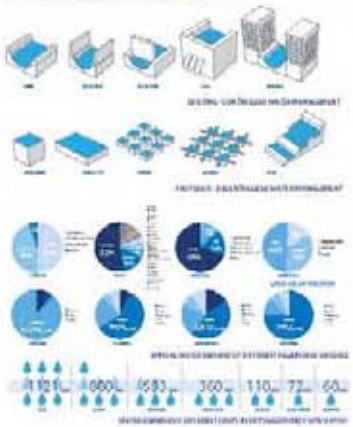
MEIYEE CHAN

CONCEPT

STRATEGY



BACKGROUND



WATER MOSAIC

DECENTRALIZED WATER STORAGE MANAGEMENT

AERIAL VIEW TO THE AGRICULTURAL FIELD NEAR TO NAVA NAKORN INDUSTRIAL ESTATE

THE END OF WET SEASON

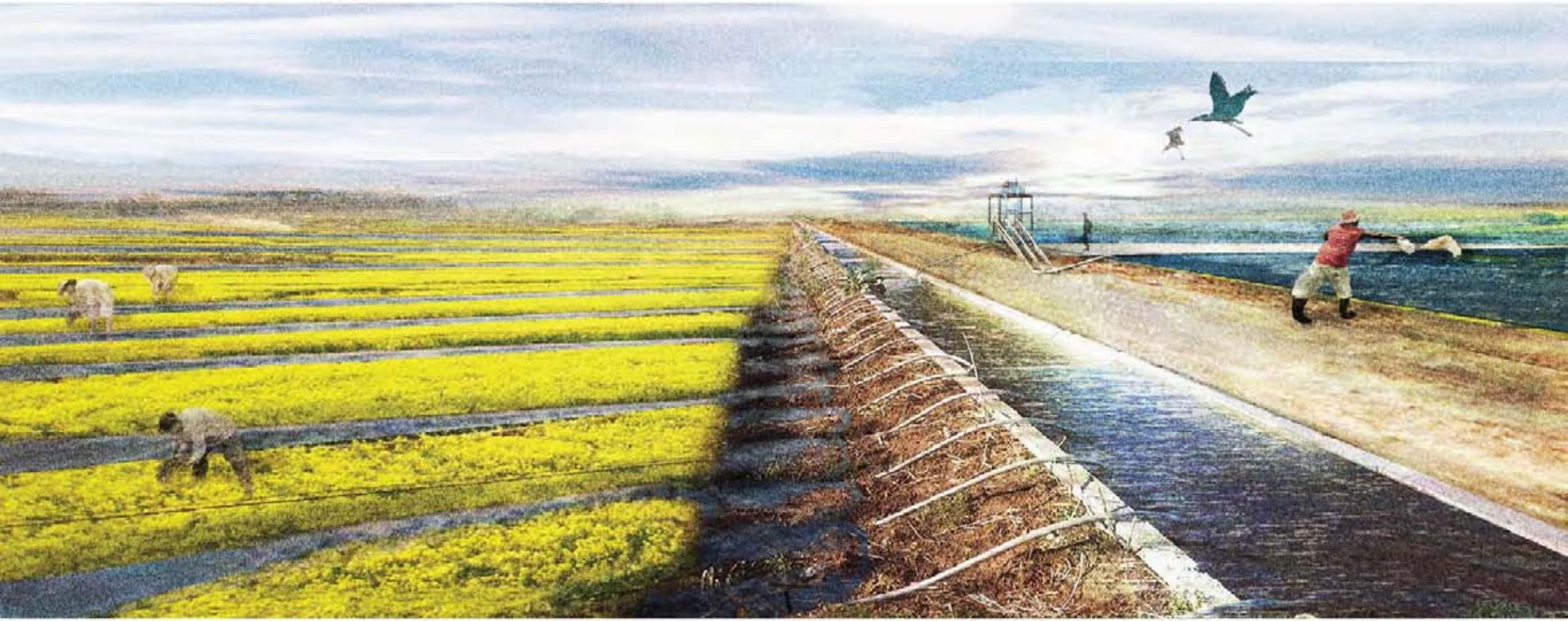
THE END OF DRY SEASON

SECTION A-A' - CONNECTION FROM MAIN CANAL TO SECONDARY CANAL

SECTION B-B' - CONNECTION FROM SECONDARY CANAL TO STORAGE POND

SECTION C-C' - WATER INLET AND DRAINAGE DETAILS

MEIYEE CHAN

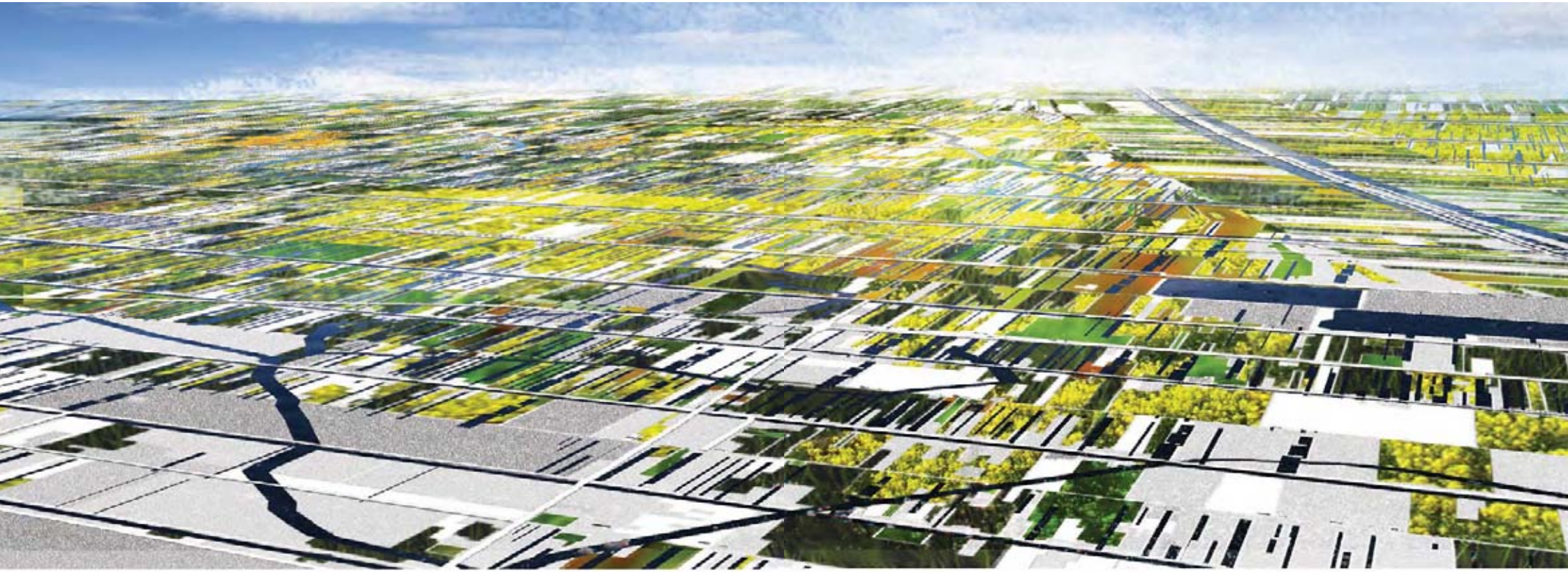


THE END OF WET SEASON

MEIYEE CHAN

THE END OF DRY SEASON

MEIYEE CHAN



AERIAL VIEW TO THE AGRICULTURAL FIELD NEXT TO NAVA NAKORN IND. ESTATE

As the storage ponds interweaves with the dynamic crop pattern, it integrates together and form a mosaic pattern in the regional scale at aerial view.