

Landscape Architecture

P Portfolio

Lu, Xia MLA

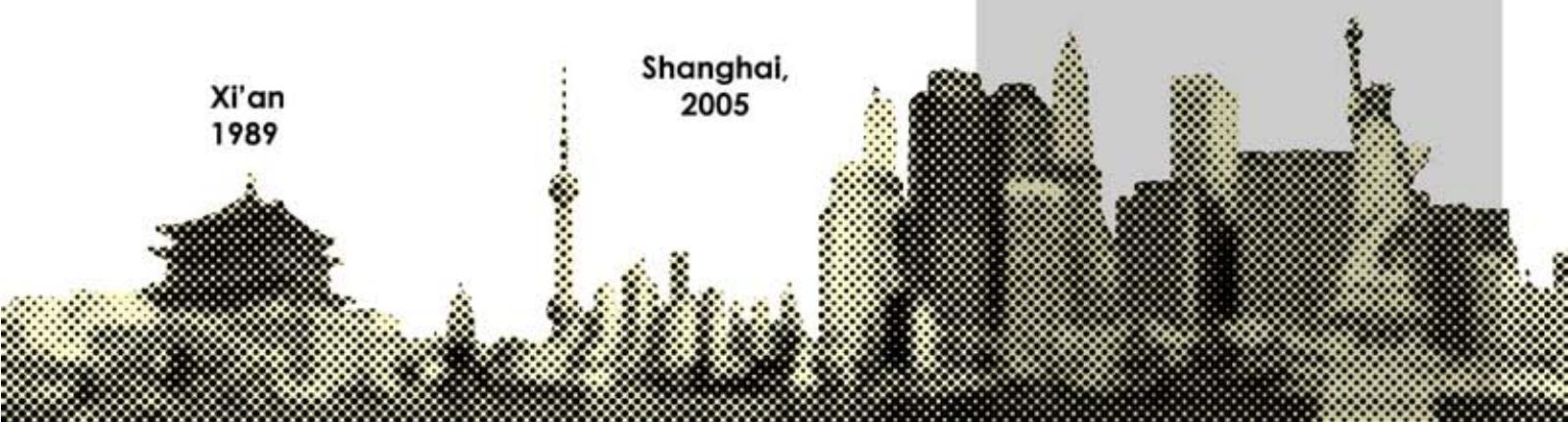
Selected Work from 2011 | 2013

XIA
Howay

U.S.A
2011

Xi'an
1989

Shanghai,
2005



LU XIA

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Tigersgalaxy@gmail.com

EDUCATION

Texas A&M University
College Station, Texas, United States
Master of Landscape Architecture Candidate, Jun 2014

Tongji University
Shanghai, China
Bachelor of Engineering, July 2011

PROFESSIONAL EXPERIENCE

Tourism Programming Assistant
LiuBinYi Landscape Design and Urban Planning Limited Company, Shanghai, China, Summer 2010 Project:
Traveling and economic hub in Taihu County, Anhui Province, China)
Organize the work of five-member crew. Collect and organize the ecological, economic, and social information of the project. Do a 7-day field trip to the project site and collect on-site photos and keep investigation diary. Work with group members to form the concept and write the document of programming of the traveling and economic hub in Taihu County, Anhui Province.

Park Design Assistant
ShangYi Landscape Design and Urban Planning Limited Company, Shanghai, China, 2011 winter Project: The Entry Park of National Geographical Park of Dalian, Liaoning Province, China
Collect ideas and do case study from similar and related projects. Work with group leader to form the concept and design of the entry park. Work with group members to model the design with 3D-modelling software. Supervise the rendering company to finalize the rendering of design. Packet all the design outcomes into format.

OTHER EXPERIENCE

Leadership
Representative of Master of Landscape Architecture at Department of Landscape Architecture and Urban Planning

Workshop
Aggie Workshop 2012, Texas A&M University
Design Week 2013, Texas A&M University

Design Competition Attendance
Attend ASLA Student Award May 2012
Attend ASLA Texas Chapter Student Award May 2012

SKILLS

Proficient in Photoshop, InDesign, Sketchup, Podium (Rendering software for Sketchup) with 5-year experience
ArcGIS with 1-year experience, AutoCAD with 4-year experience, Illustrator with 1-year experience
Skilled at Hand Drawing and Rendering with Color Pencil and Marker

CONTENT

Academic Project

Chinese Traditional Private Garden Design
(individual)

Water-wise Community Planning
(3-person group + individual)

Capacity-based and Self-sufficient Development:
a rural planning in undeveloped area
(2-person group)

Lick Creek Park Education Center
(individual)

Other Work

Construction Document

Art Work

Construction Experiment

Modelling

1

Chinese Traditional Private Garden Design

(individual work)

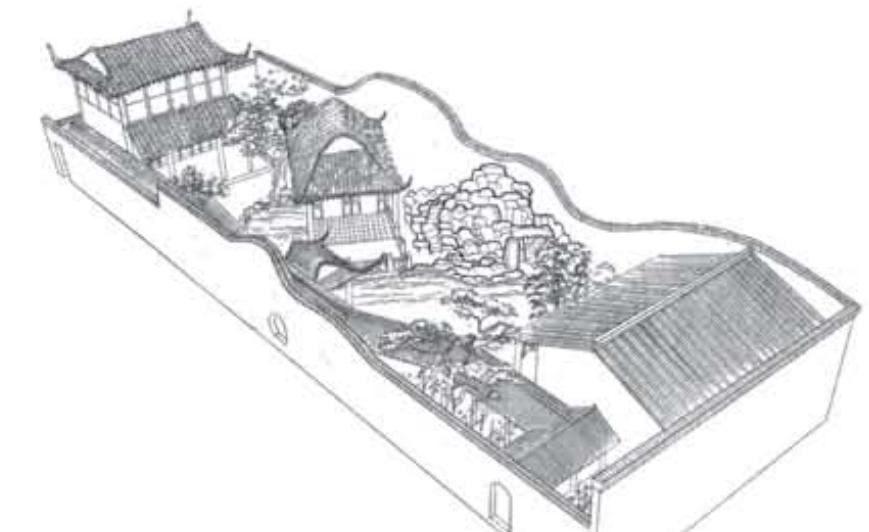


少无世俗韵 性本爱丘山
误落尘网中 一去三十年
羁鸟恋故林 池鱼思故渊
开荒南野际 守拙归田园
方宅十亩草屋八九间
榆柳荫后檐 桃李罗堂前
暧暧远人村 依依墟里烟
狗吠深巷中 鸡鸣桑树颠
户庭无尘杂 虚室有余闲
久在樊笼里 复得归自然

陶渊明



A poem created by Tao yuanming,East Jin Dynasty



Hand-drawing of the garden



Spatial Case Study-- Surging Wave Pavilion
Collaborators in model: Du siqing, Xu jifang, Zhangchong.

Typical space relationship in Surging Wave Pavilion:

The site is narrow and long.

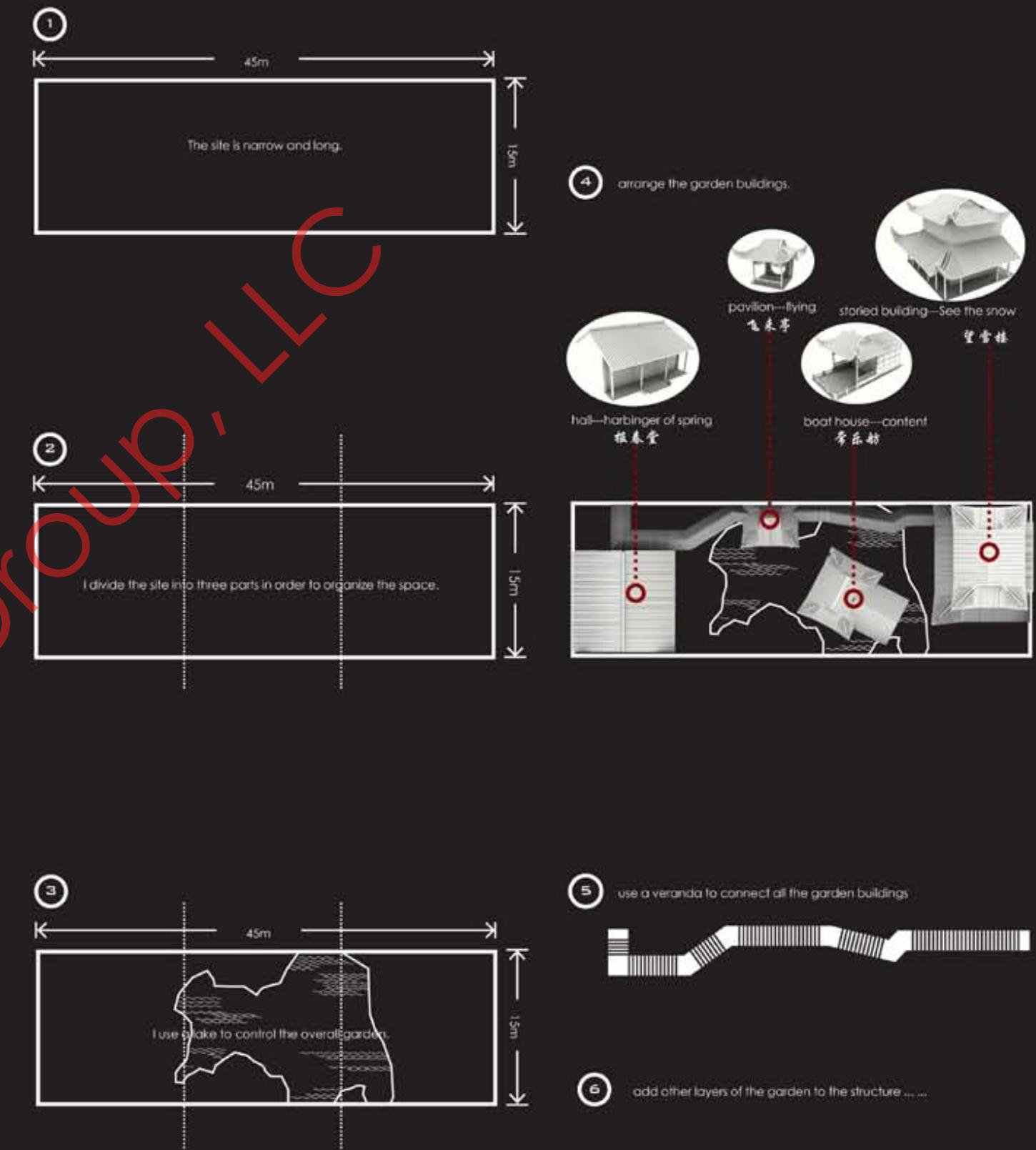
Spirit of Traditional Chinese Garden

Chinese classical private garden is a special kind of garden that belongs to the government officials, the merchants and the literati. During the Wei and Jin dynasties as well as in the northern and southern dynasties, the most turbulent period in China, a great amount of literati and the government officials chose to withdraw from the disappointing reality and live in seclusion. These people carefully investigate sites and constructed their own garden as the miniature scenery of the nature. That is the beginning of the Chinese classical private garden. The Chinese classical private garden developed through the history and it finally regards regions south of the Yangtze River as its ideal construction site.

XIA-LU

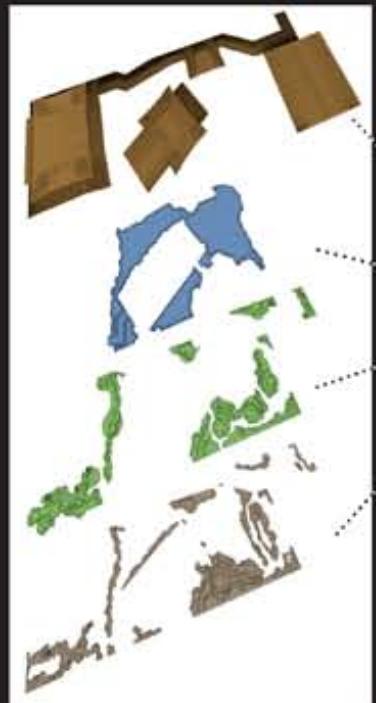
Conceptional space contrast model

Figure ground model





Four elements in the garden



the buildings layer
the water layer
the plants layer
the mountain layer



The mountain in the garden is an imitation and recreation of the real mountains in the nature. It reflects the owner's personal taste towards the natural mountains.



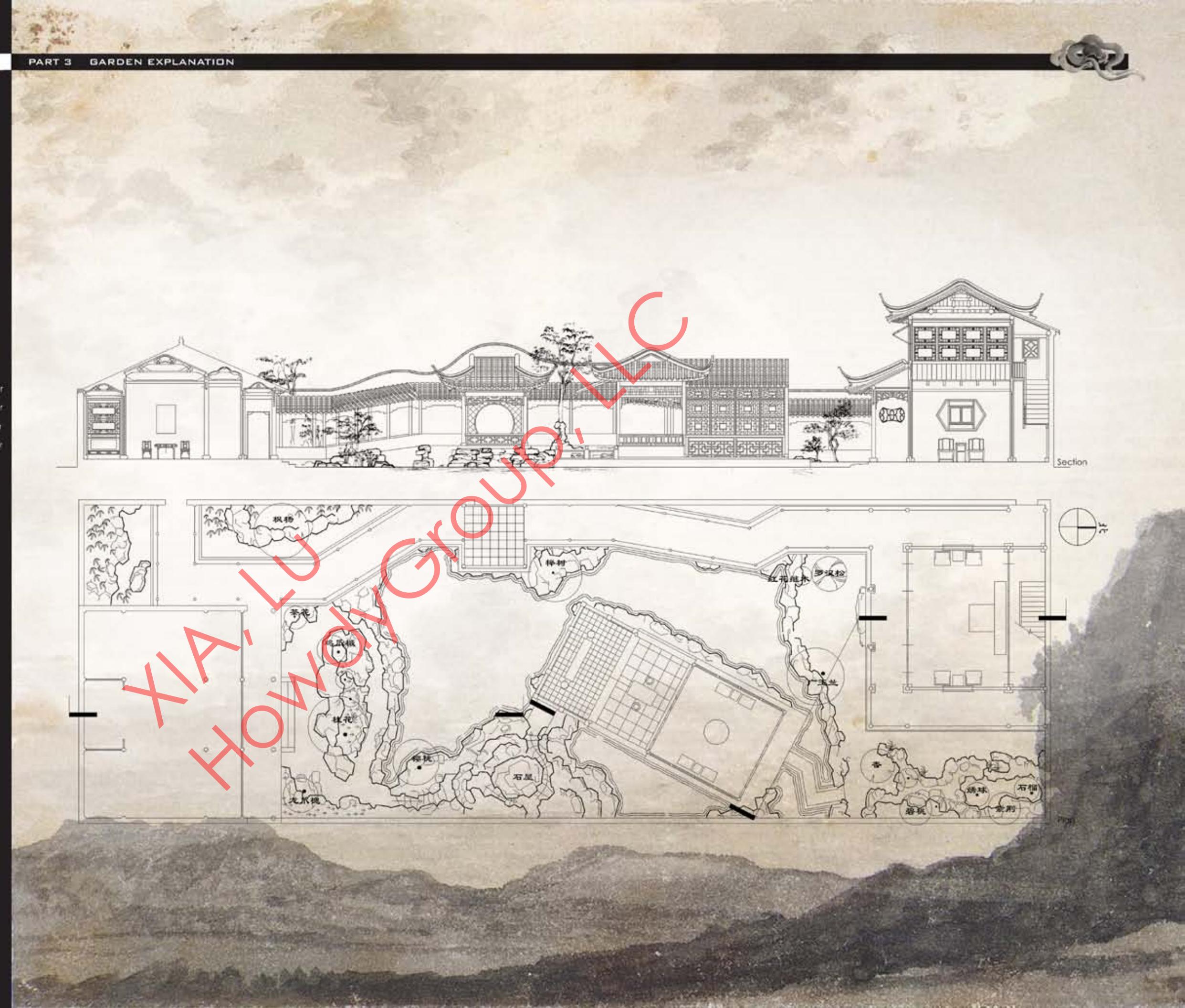
The water in the garden is divided into two parts and makes the space look larger than it really is when people wander along the bank.



The plants are set in combination of the mountains and the buildings in the garden. They make the garden charming by providing different sceneries as the season changes.

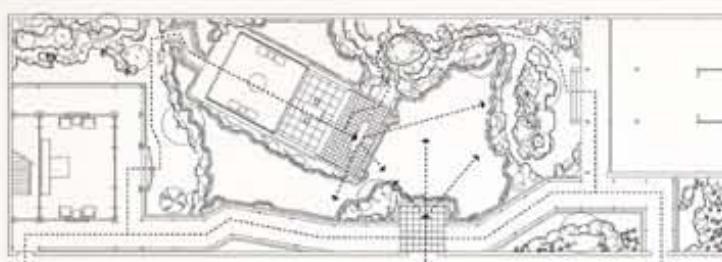


The buildings in the garden scatter around the water and it allows people to have different perspective of the beautiful sceneries of the garden as they meander.

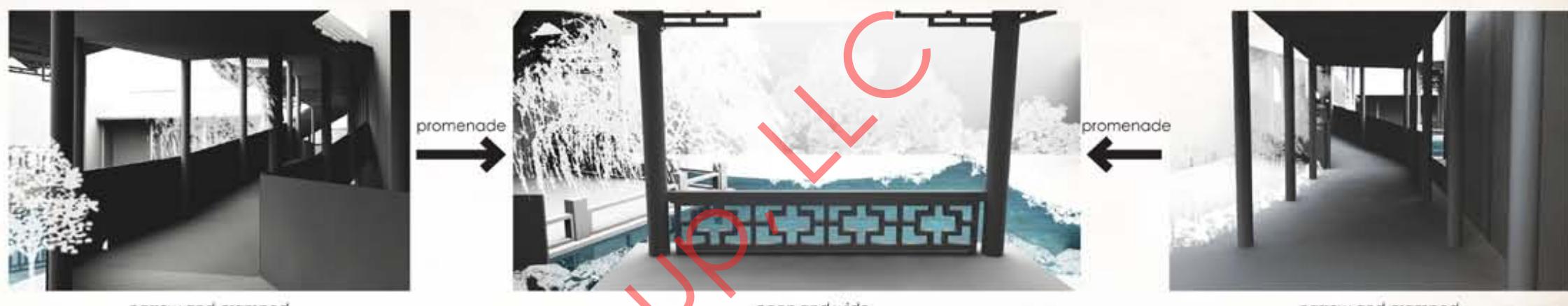




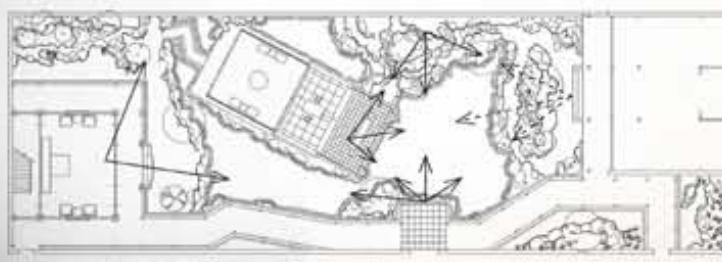
Spatial analysis



By organizing layers of the space and make contrast of it, the garden give the users an impression that it is larger than its real size.



Sight analysis



→ line of sight ---> line of sight that has block forehead



opposite scenery
↔



the moon gate



the hole gate

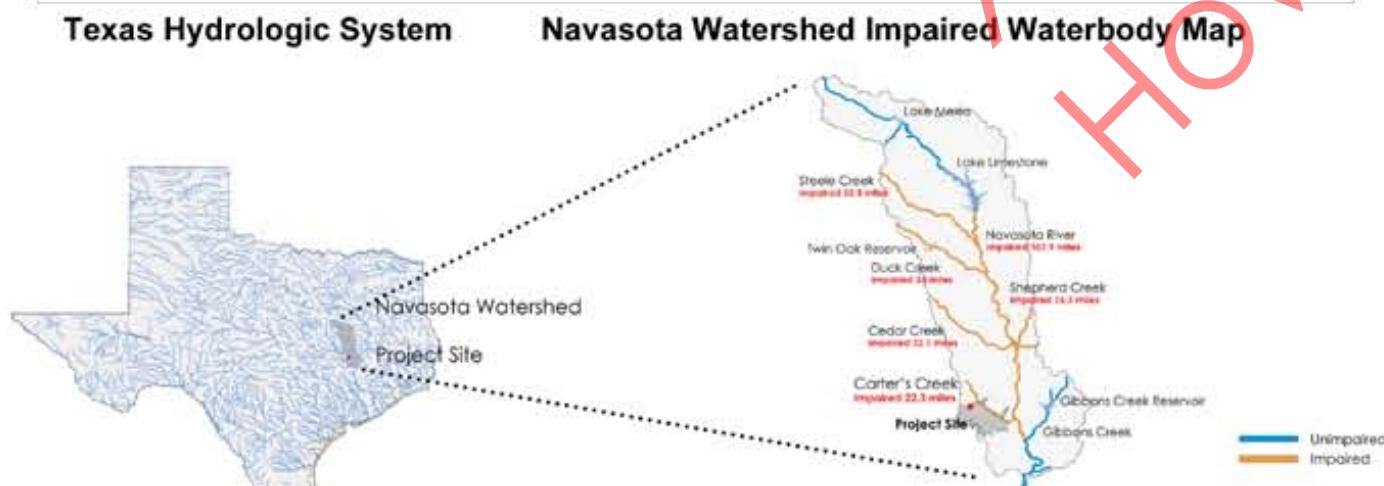
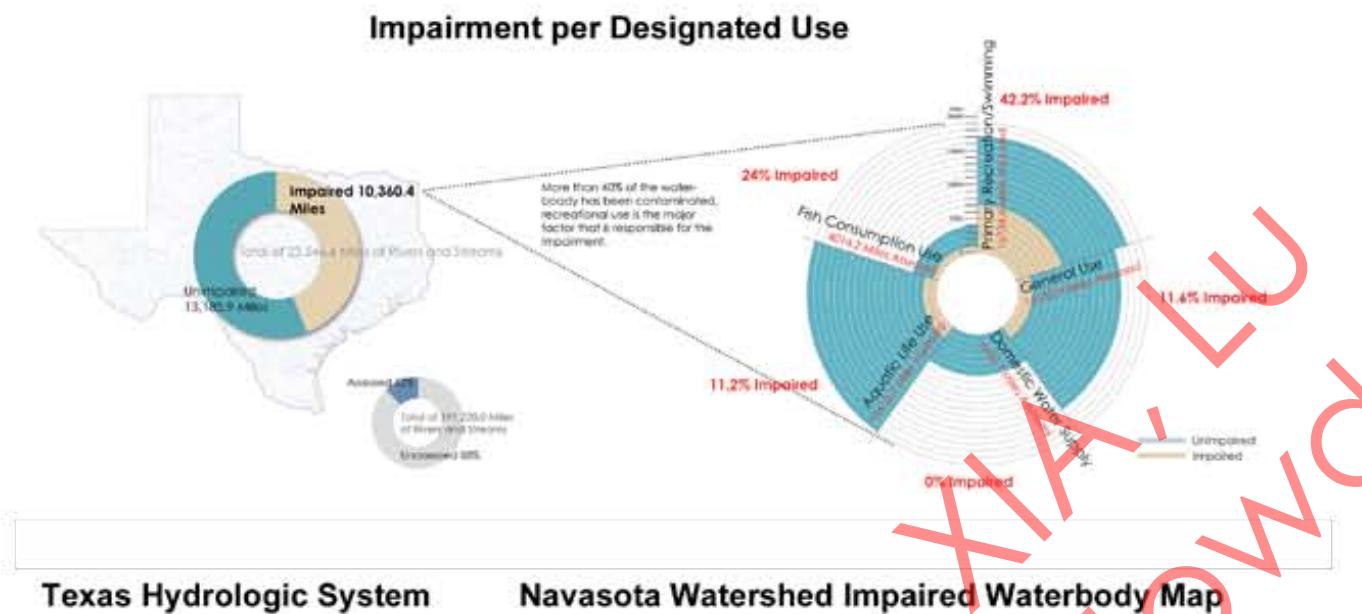
2

Water-wise Community Planning (3-person group)

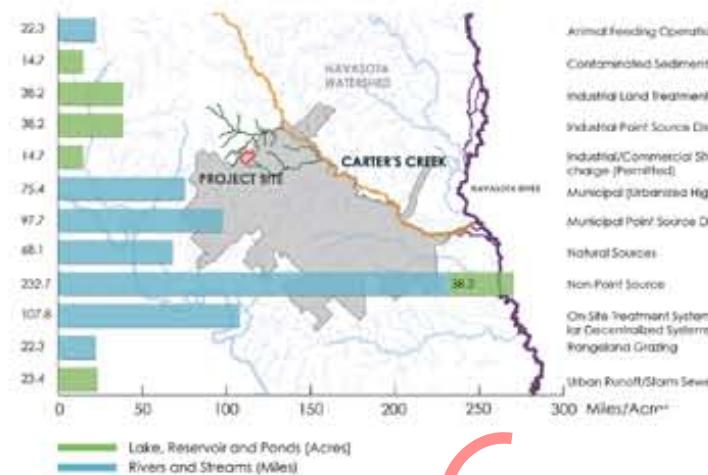
The increase of impervious surfaces in the constantly urbanizing College Station-Bryan area increase the amount of excessive runoff that brings pollutant, debris, chemicals, dirt, and other pollutant into rivers and lakes to impair the water quality within the watershed.

This project aims to create a community which uses wise water management approaches, solves the problem of water pollution on site, reduces stormwater runoff on site, and create a aesthetic environment for the community.

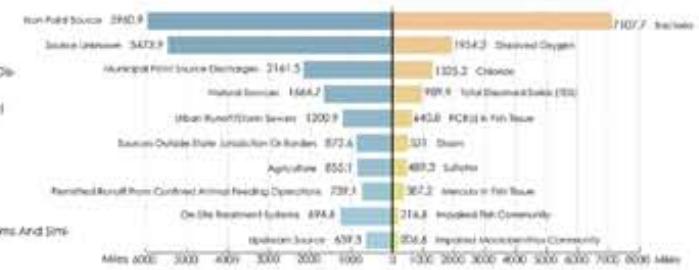
Watershed and Water Use Analysis



Watershed Source of Impairment



Source and Cause of Impairment in Texas



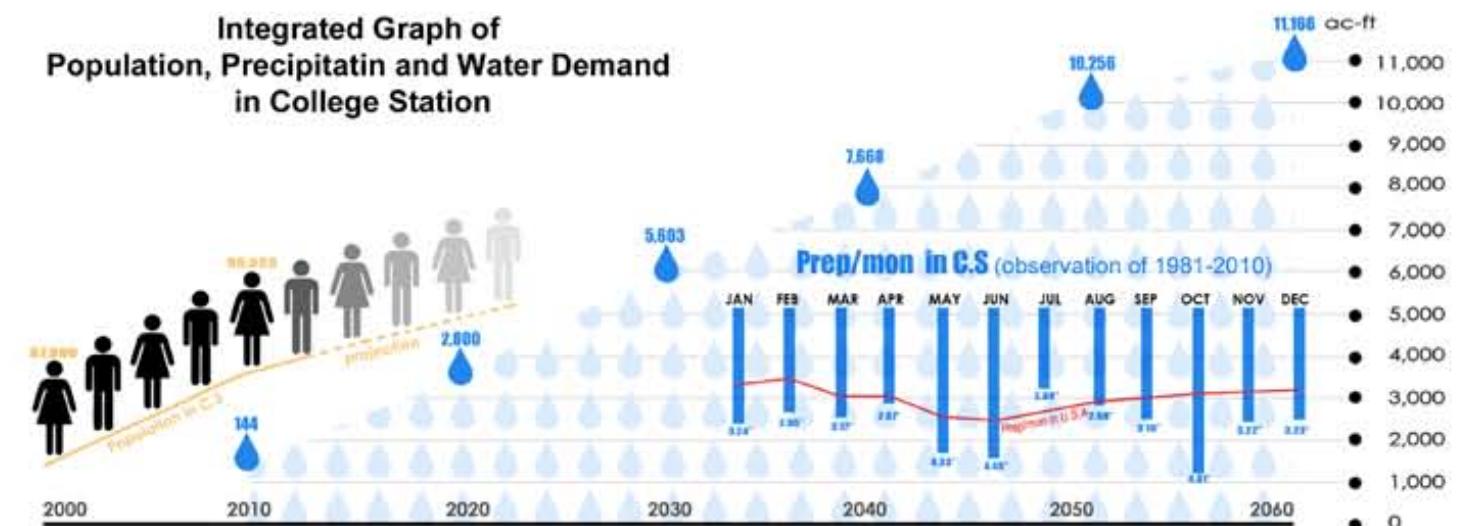
Integrated Graph of Ground Water Supply in Brazos County



American Indoor Water Use

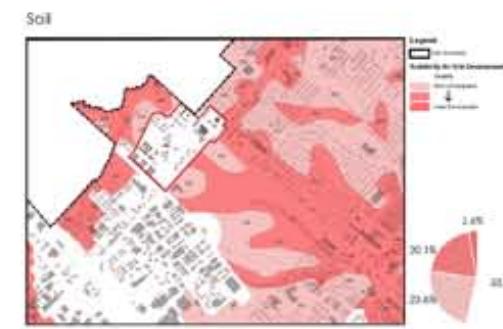
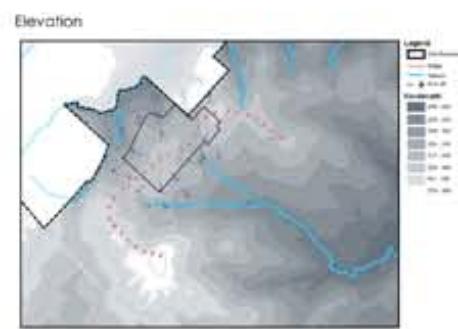
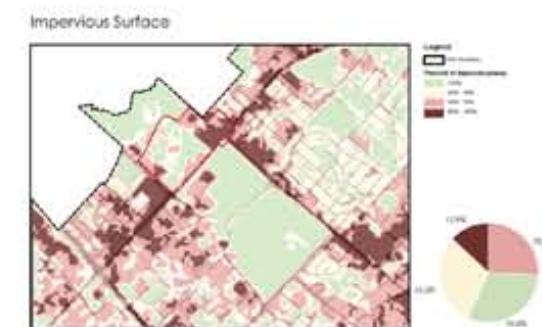
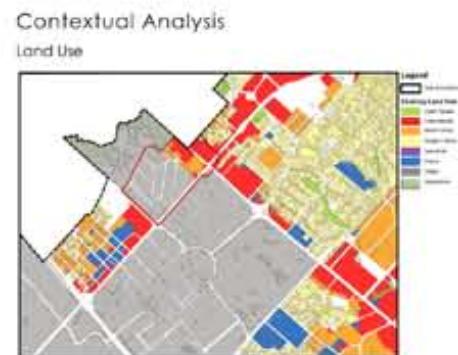


Integrated Graph of Population, Precipitation and Water Demand in College Station

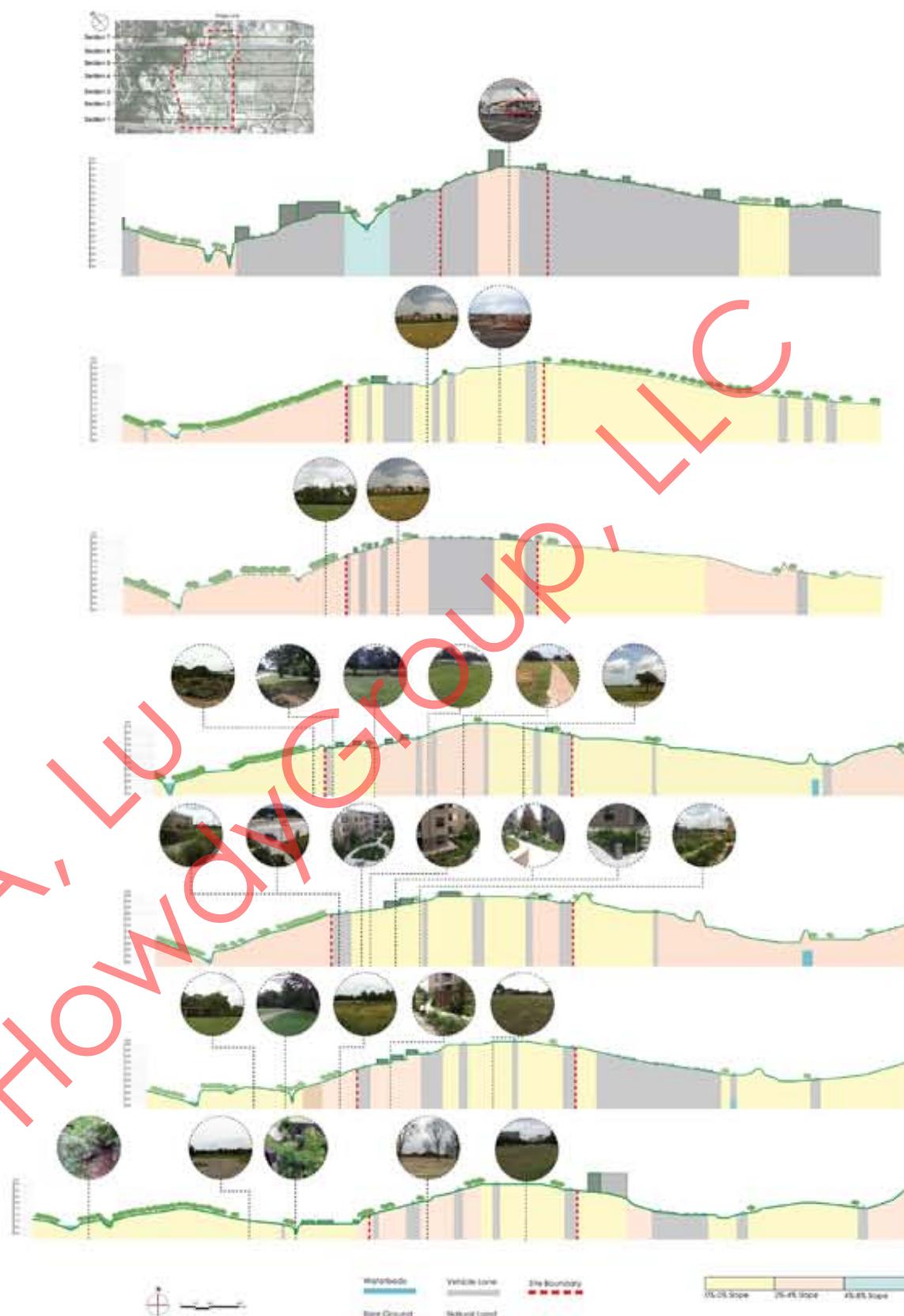


(This page shows group work)

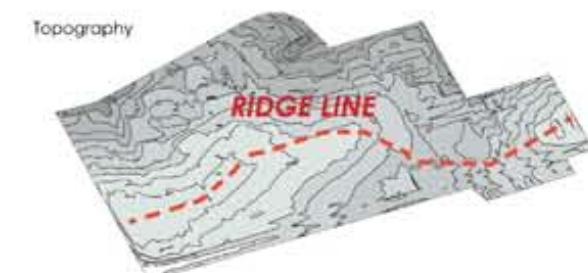
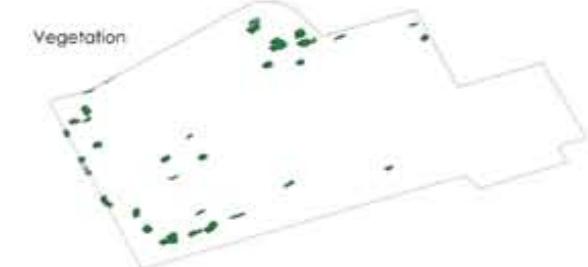
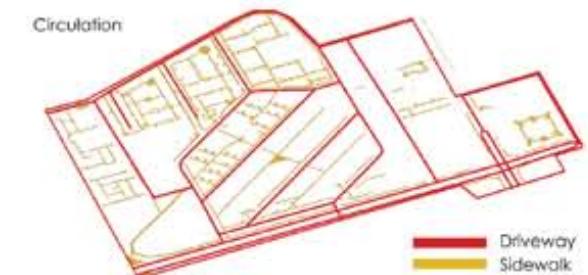
Contextual Analysis



Site Section Scan



Existing Networks

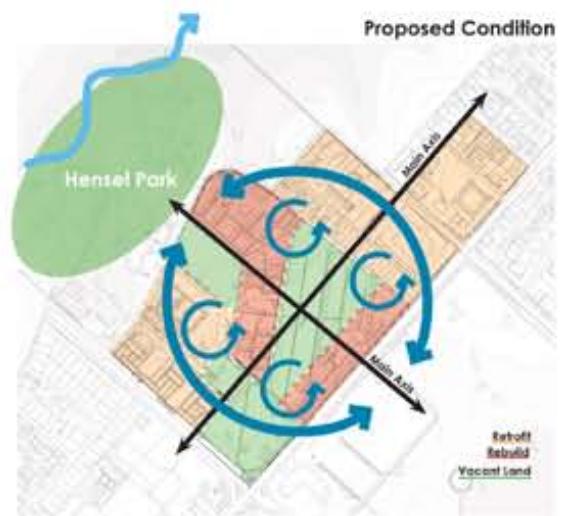
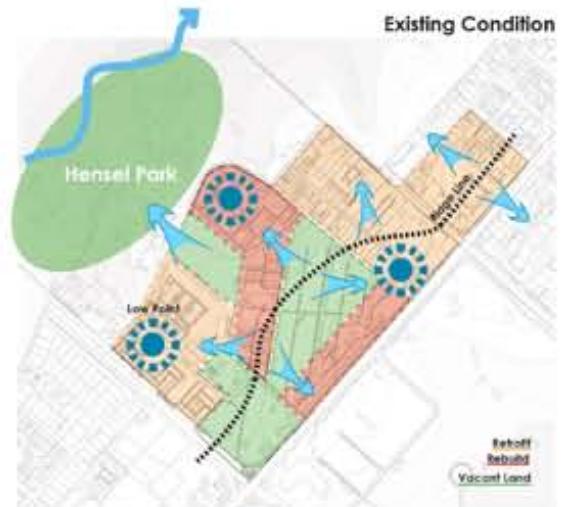


(This page shows group work)

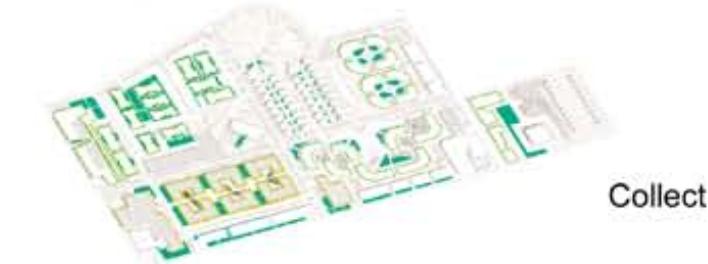
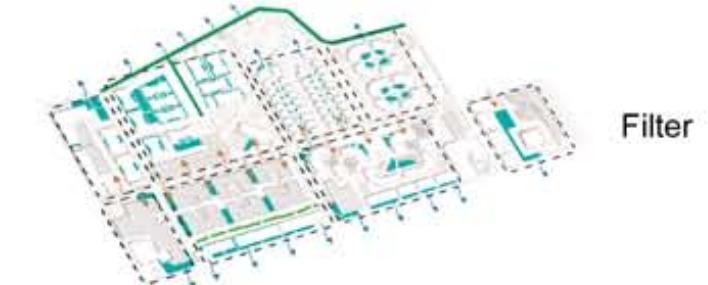
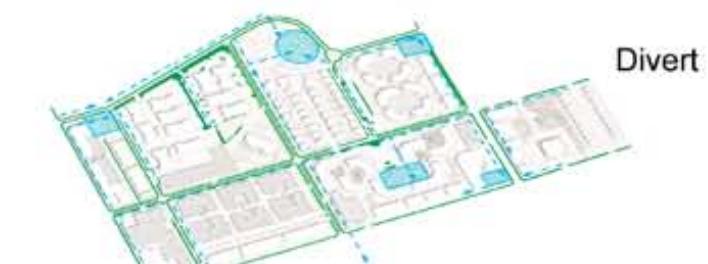
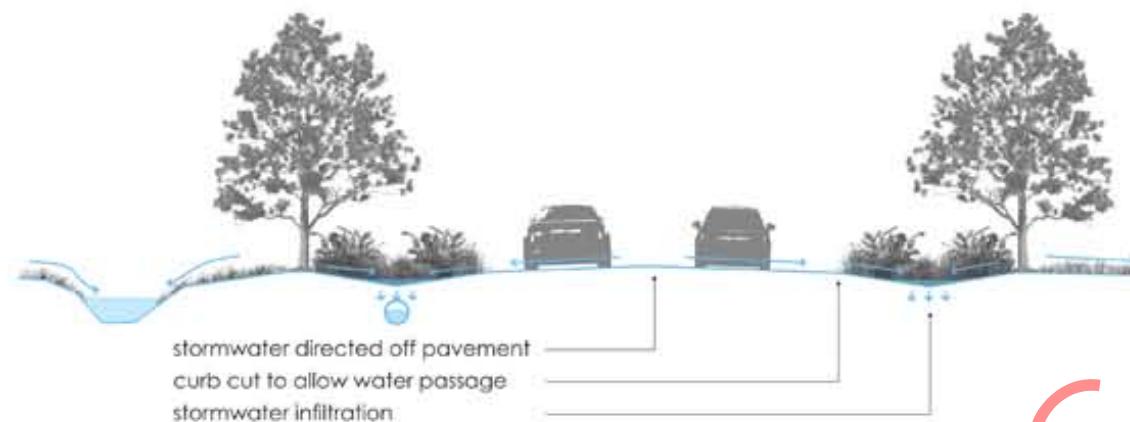
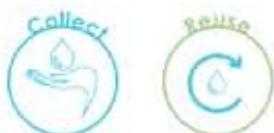
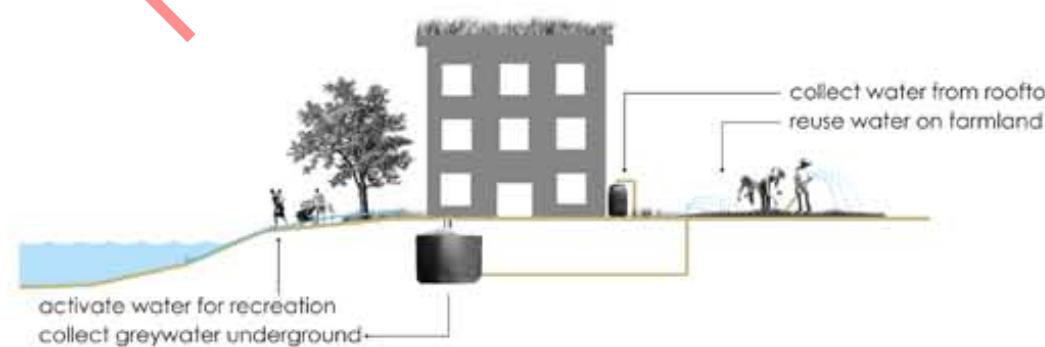
Concept

Strategy

Proposed Networks



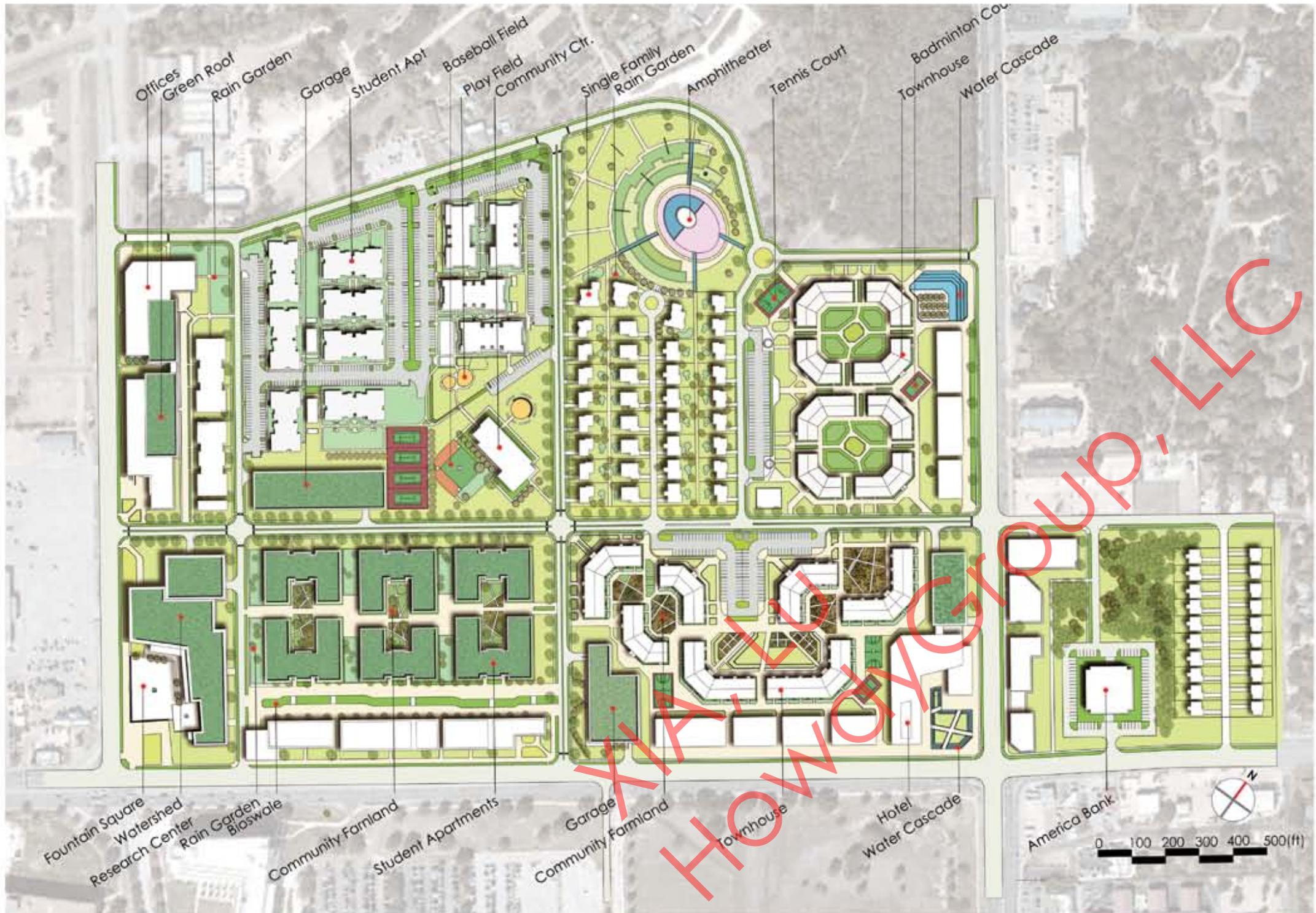
For the community to become more sustainable, water must be managed in neighborhoods by means of collection, diversion, filtration, reuse and activation. Water should be contained in multiple closed loop systems across the site to be used in harmony with its other various functions and demands.



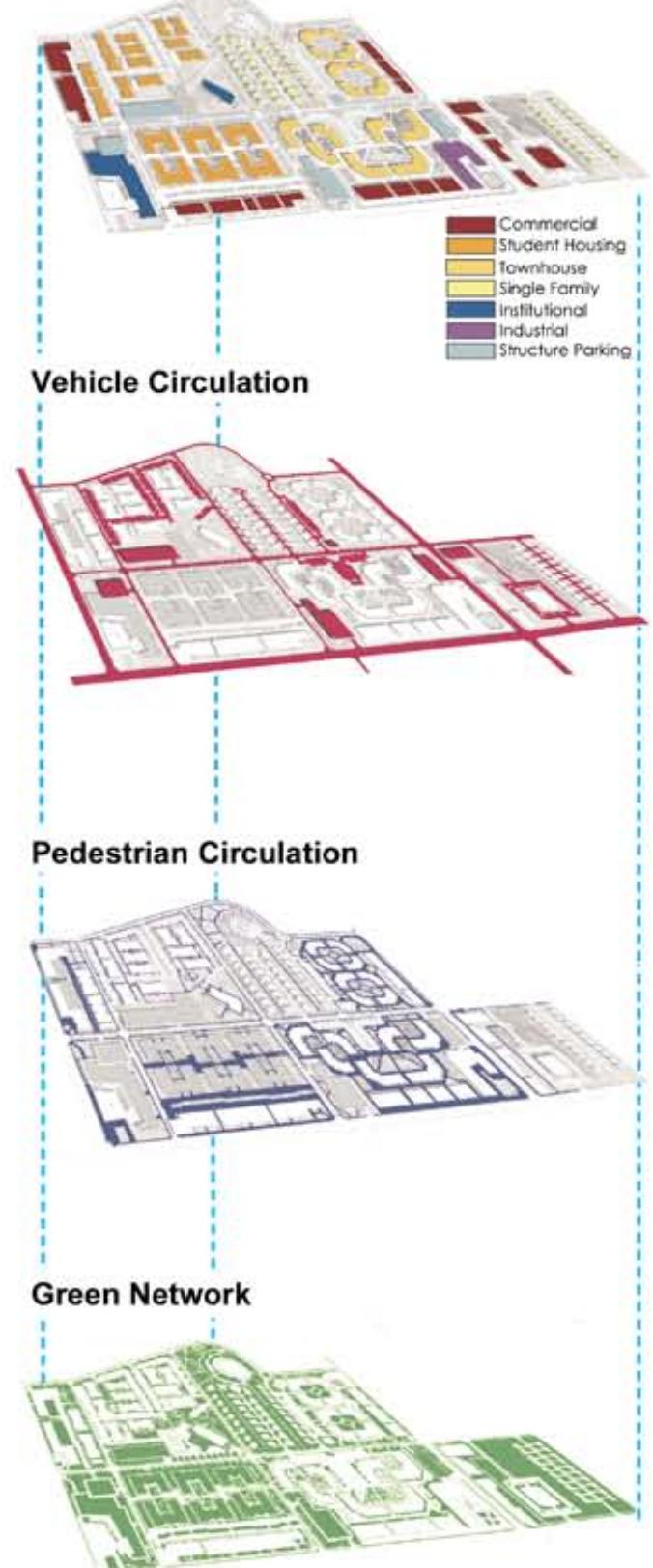
Bioswale	Water Feature
Rain Garden	Greywater Collection
Row-through Garden	Greenroof
Surface Runoff	
Grey Water	
Rainwater Caught from Roof	
Rainwater purified by infiltration	

(This page shows group work)

Master plan



Land Use



Metrics



(This page shows group work)

Perspective of the Amphitheater (*individual design + rendering*)



Alternative Master Plan



- ① Entrance Plaza
- ② Retail Plaza
- ③ Parking Lot
- ④ Rain Garden
- ⑤ Green Finger
- ⑥ Sport Field
- ⑦ Community Center
- ⑧ Play Ground
- ⑨ Restored Prairies
- ⑩ Lawn
- ⑪ Retention Pond
- ⑫ Parking Deck
- ⑬ Gateway Intersection
- ⑭ University History Garden
- ⑮ Hotel Garden
- ⑯ Preserved Tree
- ⑰ Proposed Tree

- Office Building
- Commercial Building
- Residential Building
- Mixed Use Building
- Preserved Tree
- Proposed Tree



(5-person group work)

Community Center Environs Detail Design



- 1 Community center with green roof
- 2 Covered passage
- 3 Memorial Square
- 4 Fountain plaza
- 5 Bioswale
- 6 Big tree square
- 7 Outdoor kitchen
- 8 Rain water collection structure
- 9 Pocket prairie
- 10 Basketball court
- 11 Tennis court
- 12 Bioswale
- 13 Outdoor kitchen

(individual design)

Perspective of Community Center East (*individual design + rendering*)



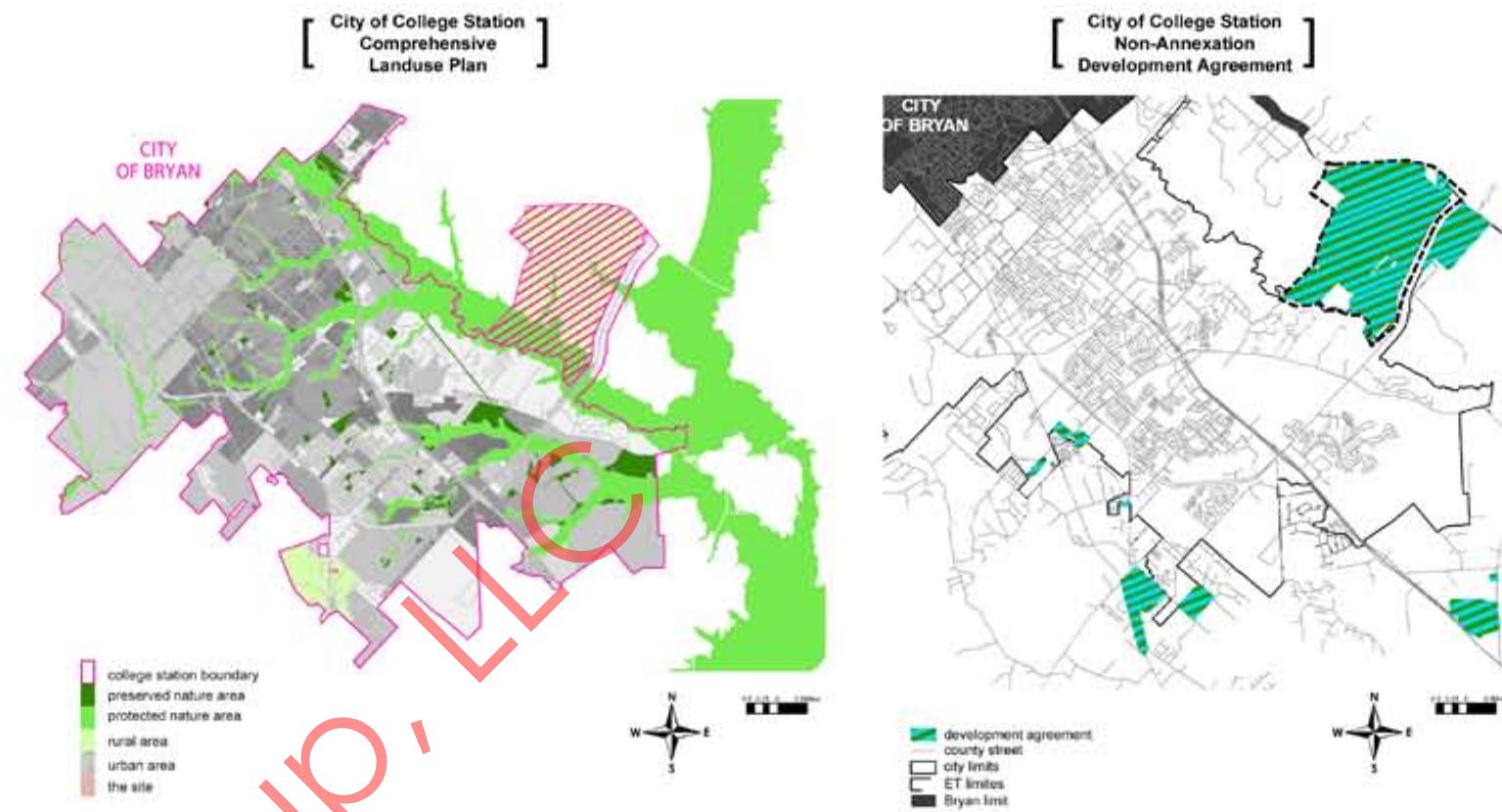
Perspective of Community Center South (*individual design + rendering*)



3

Capacity-based and Self-sufficient Development: a rural planning in undeveloped area (2-person group)

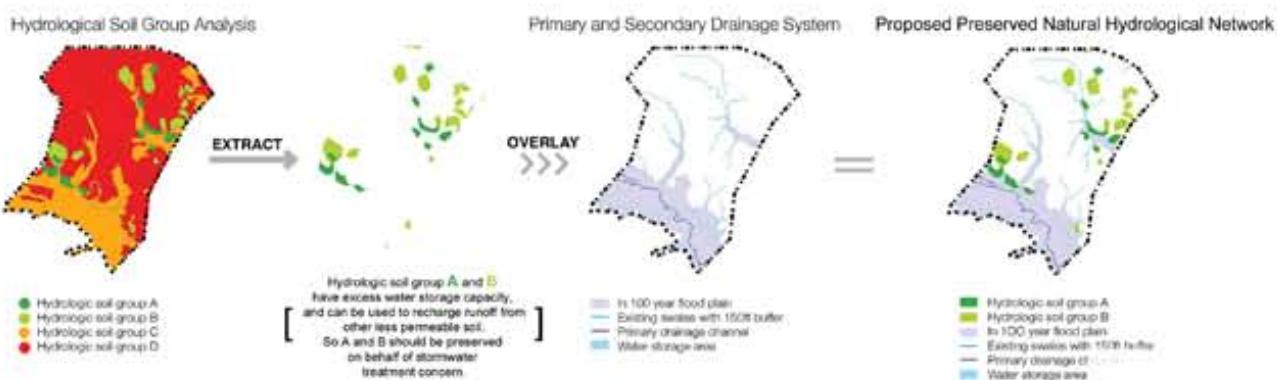
Sprawl is swallowing rural area continuously; however, the land cannot sustain endless development. Matching landscape tolerance with footprint of human development would shed light on future rural development. To achieve a capacity-based self-reliance community, the proposed planning determines the development density based on synthetic resource analysis while integrating conservational, agricultural, residential, recreational, and energy-saving area as a whole. The self-reliance community can preserve resources, harvest resources, market resources and recycle resources effectively and tactfully all within its boundary.



The site is outside of the City limits of College Station, TX. Because of its agricultural status, it is protected from development through the City's non-annexation development. Based on soil analysis, we hope to create a capacity-based, self-sufficient community.

Land Suitability Assessment

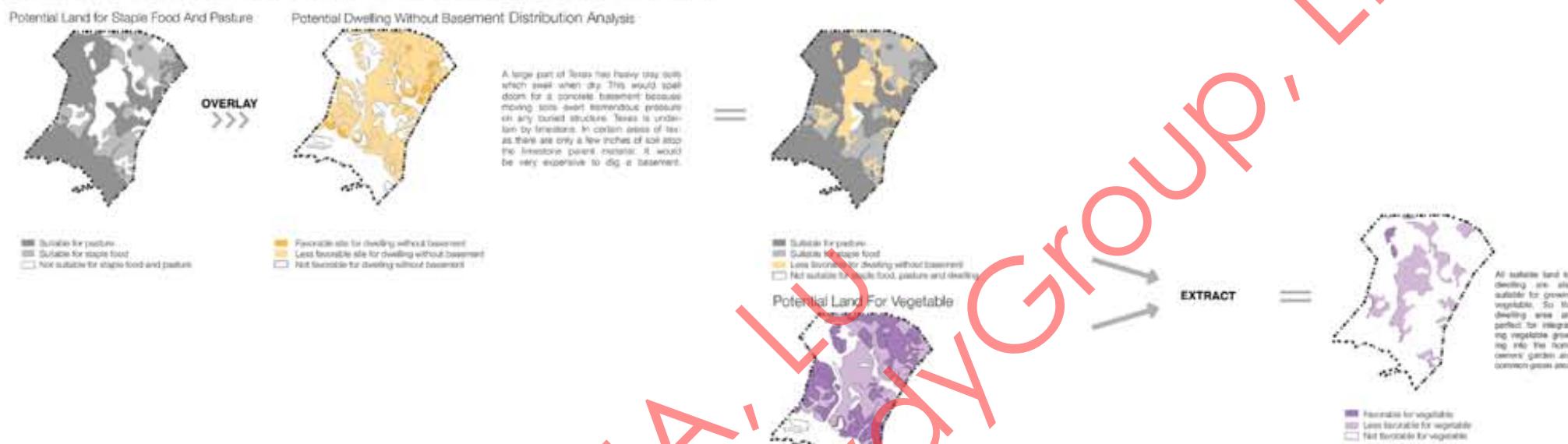
-- Identify Proposed Preserved Natural Hydrological Network



-- Identify Suitable Land for Agriculture & Grazier

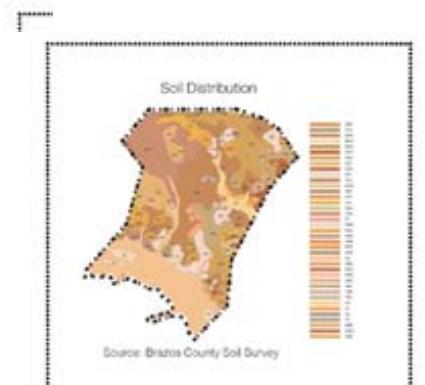
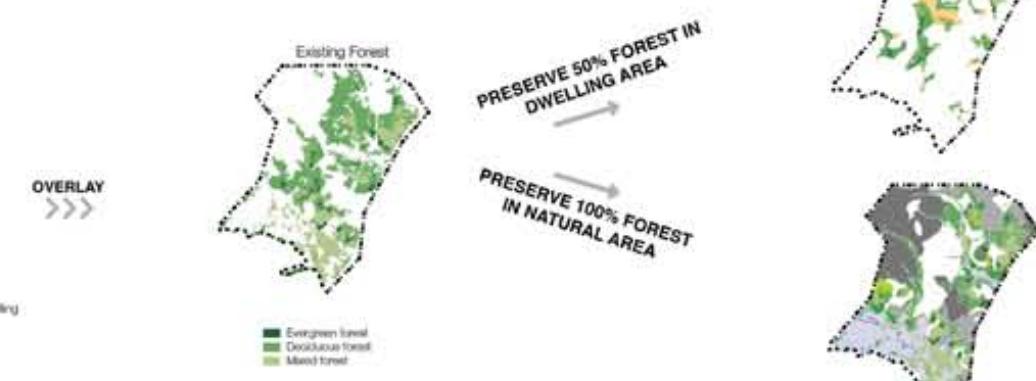
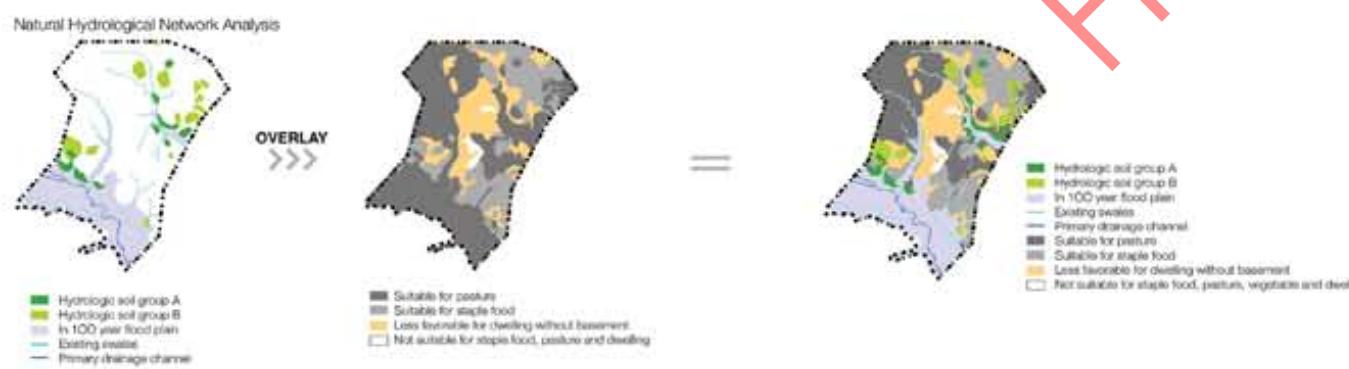


--Identify Suitable Land for Dwelling Integrated with Vegetable Growing



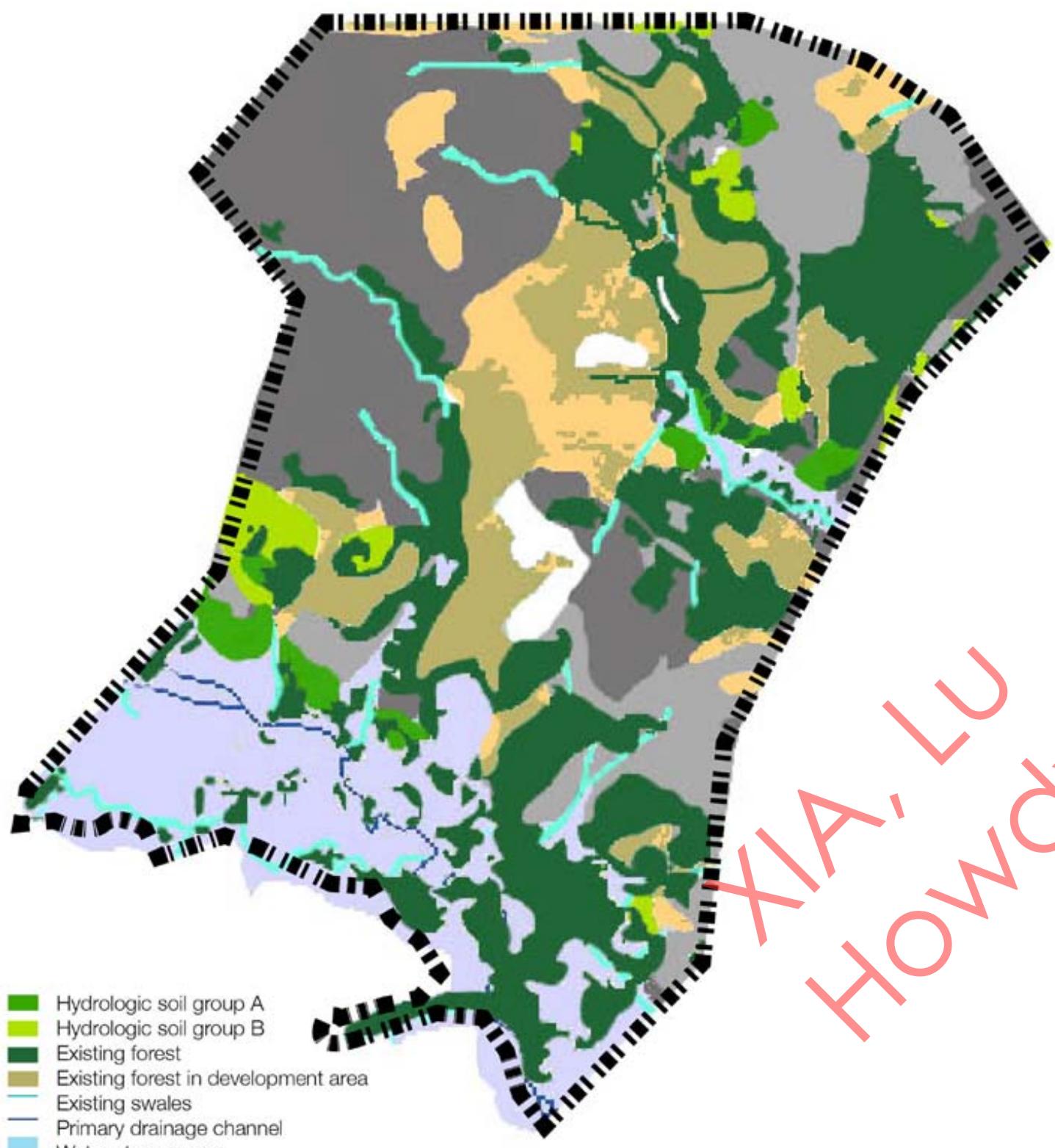
Resource Conservation & Development Area

--Identify Tree Preserving Area



XIA HOWDY GROUP LLC

Final Analysis



XIA' LU
Howdy Group, LLC

Concept Master Plan



According to low impact strategies, the master plan combines conservational, agricultural, residential, recreational and energy-harvest areas as a whole to preserve, harvest, market and recycle resources.

Population Density and Resource Calculation

--Identify Future Population by Human Footprint



5803
Units

Tab. 1 Calculation of population density.

Category	Elements	Area of Each Zone	Average Footprint per household	Actual Units Sustained	Proposed Units Sustained
FOOD	Pasture	795acre	0.137acre /year	5,803	5,803
	Farm	359acre	0.027acre /year	13,296	5,803

The population density is solely restricted by food productivity. Column "Units Sustained" refers to the number of household can be sustained in the community. It is derived by dividing the potential area of each zone with the average footprint per household. The final result is determined by pasture, as it supports less population density.

--Calculate Resources Consumption & Surplus



Tab. 2 Calculation of resources consumptions and surpluses for different category.

Category	Elements	Area of Each Zone	Average Footprint per household	Actual Units Sustained	Proposed Units Sustained	Resource Balance
FOOD	Pasture	795acre	0.137acre /year	5,803	5,803	0
	Farm	359acre	0.027acre /year	13,296	5,803	+202acre
AIR	In development area tree canopy area	436acre * 50%	0.344acre/day	634		
	Natural area tree canopy area	925acre	0.344acre/day	2,689		-39acre tree canopy area
	Pasture	795acre	0.688acre/day	1,155	5,498	
	Farm	359acre	0.688acre/day	522	5,803	
	Lawn	685acre * 50%	0.688acre/day	498		
ENERGY	Lighting	0.086acre solar panel * 5803 = 499acre	18kwh/day	5,803	5,803	0

Column "Units Sustained" refers to the number of household can be sustained in the community. Column "Resource Balance" refers to resource redundancy or shortage. It is calculated by subtracting the utilized area from the potential area.



5803 = 104,454 kwh/day
Units

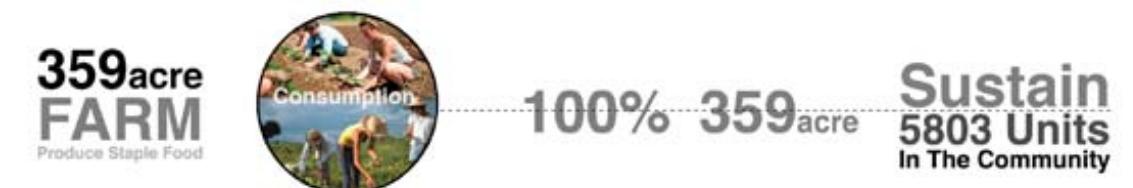
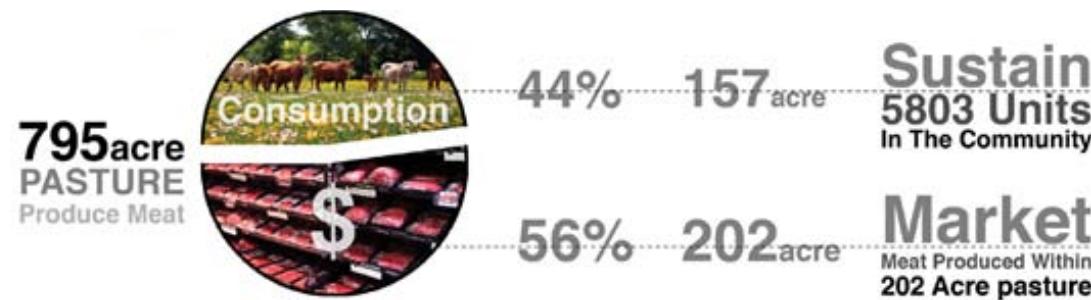


Assume 100%
Solar Panel
Installation Ratio

The population density is restricted by food productivity, since the watertable, dwelling, solar panels and oxygen productivity areas are all comparably unlimited. Based on household density, we calculate the resource balances, either positive or negative.

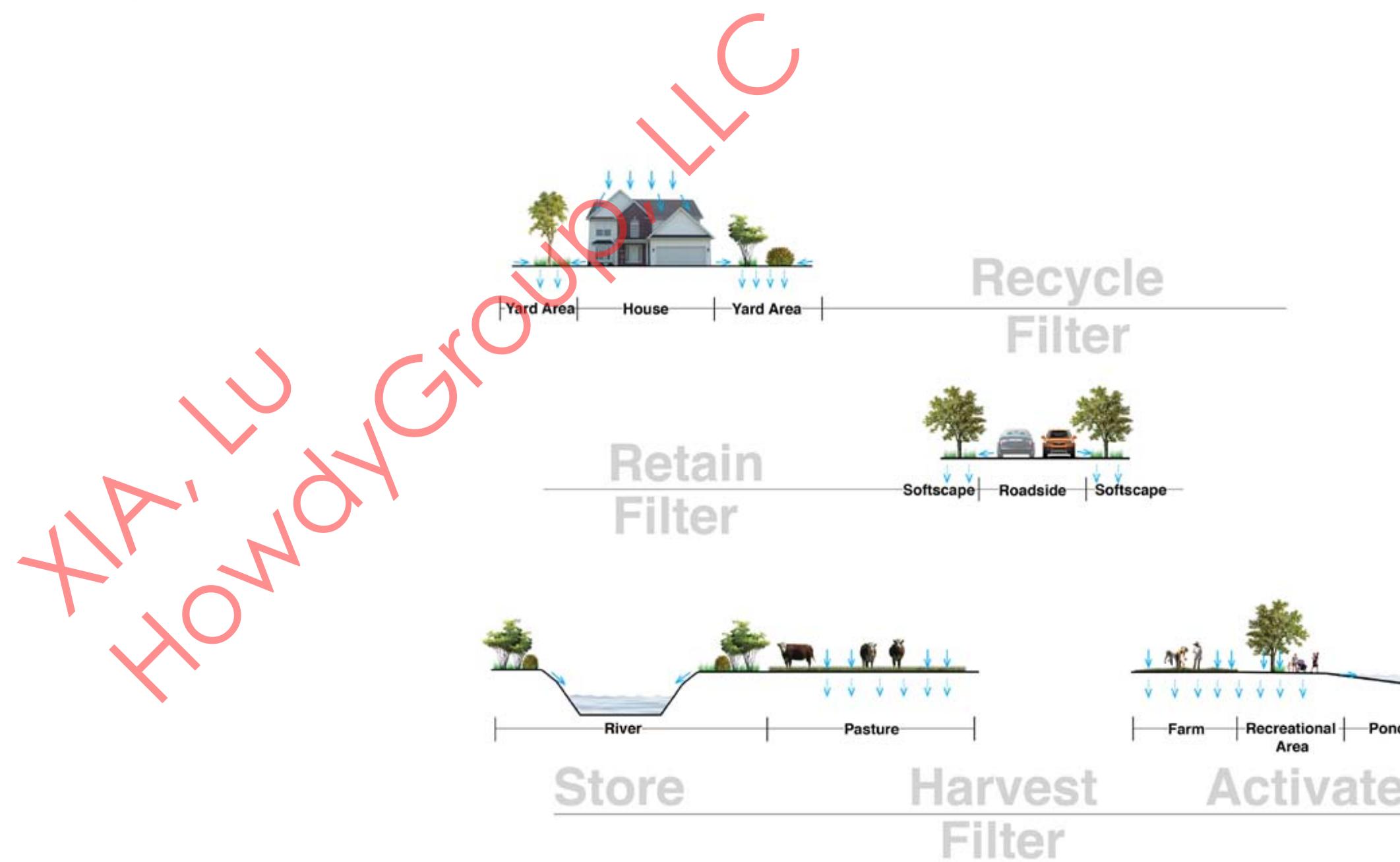
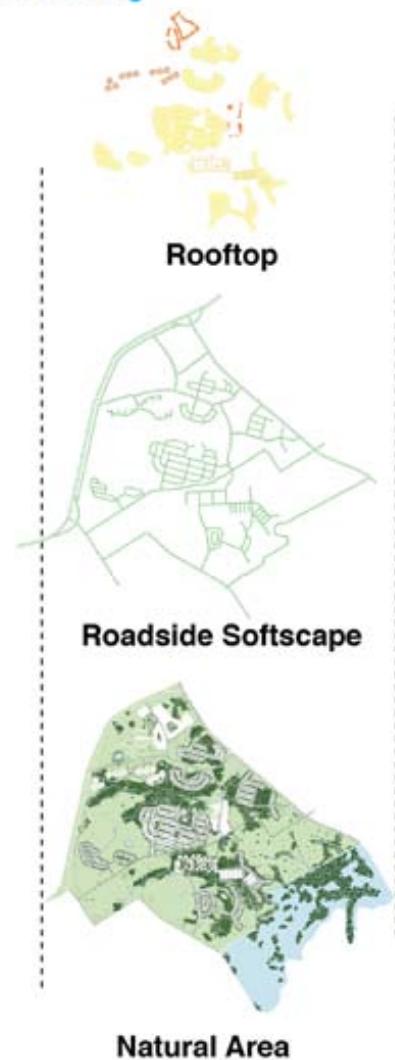
Harvest Resources & Market Resources

--Food Harvesting and Marketing



Recycle Resources

--Water Saving and Runoff Reducing



1. Harvest and market resource -- Food harvesting and marketing
2. Recycle resource -- Water saving and runoff reducing

4

Lick Creek Park Education Center

(individual work)

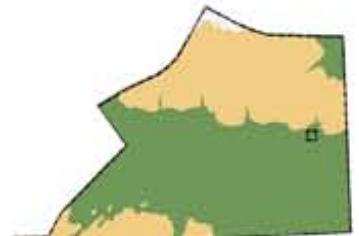
The site is located in a natural park adjacent of Rock Prairie Road and is 20 minutes' driving from central College Station. The park is used to serve as a popular natural park for families to spend weekend with activities like jogging, riding bike, walking dog and bird watching. The park has seen the potential of the site to extend its educational and recreational use in the future. Now an education center and an education park in its environs is under planning.



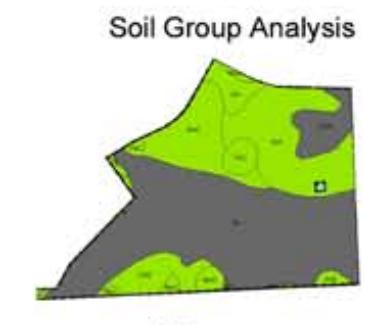
Site Inventory



Elevation Analysis



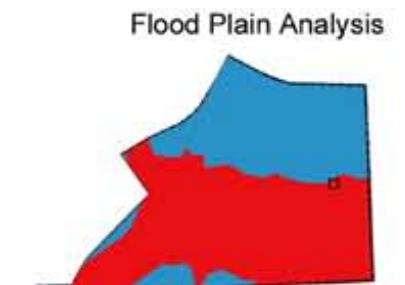
ParkBoundary
100 - 215
215 - 240
240 - 260



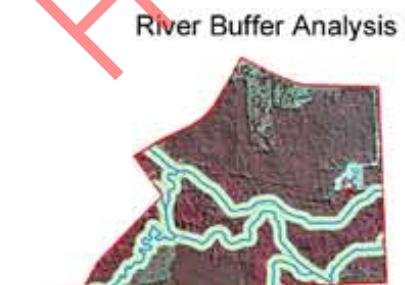
ParkBoundary
Surface
Subsoil



ParkBoundary
0-4°
4-8°
8-12°
12-17°

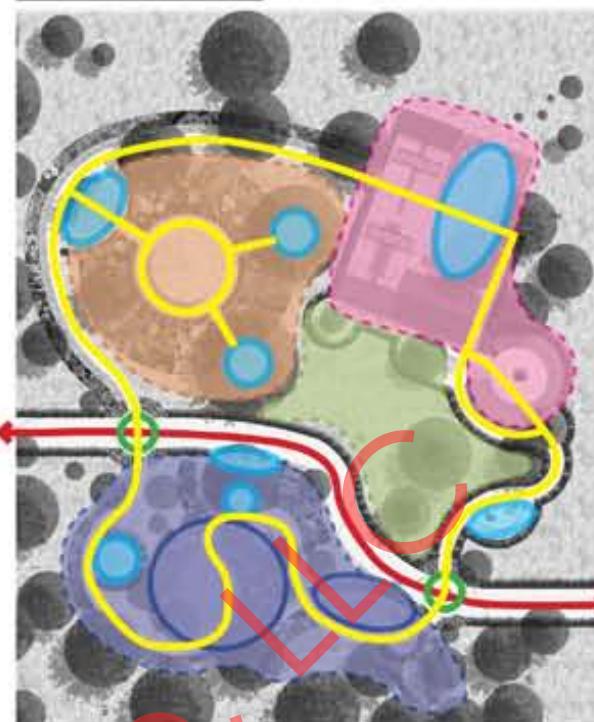


ParkBoundary
Inundatable
Inundable



ParkBoundary
River Stream
River Buffer

Spatial Diagram

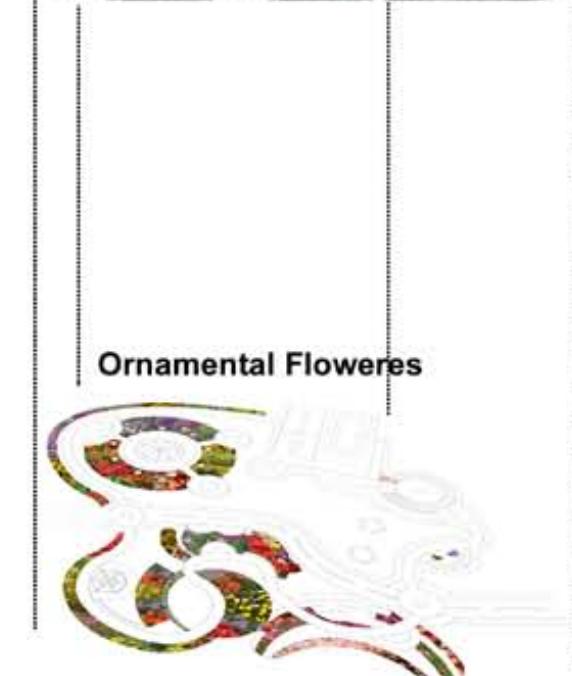
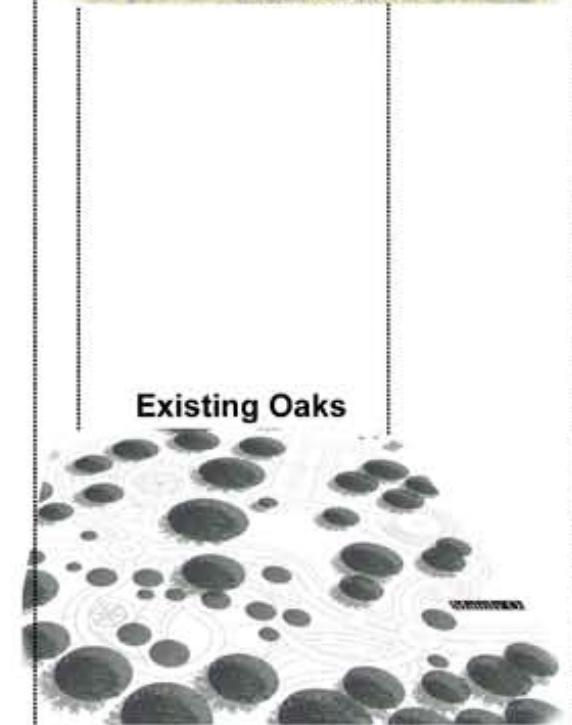


- Trail
- ↔ Existing path
- Main entrance
- Resting area
- Playing amenities
- Butterfly garden
- Open lawn
- Dense tree area
- Education center

Texas Native Butterfly Flowers



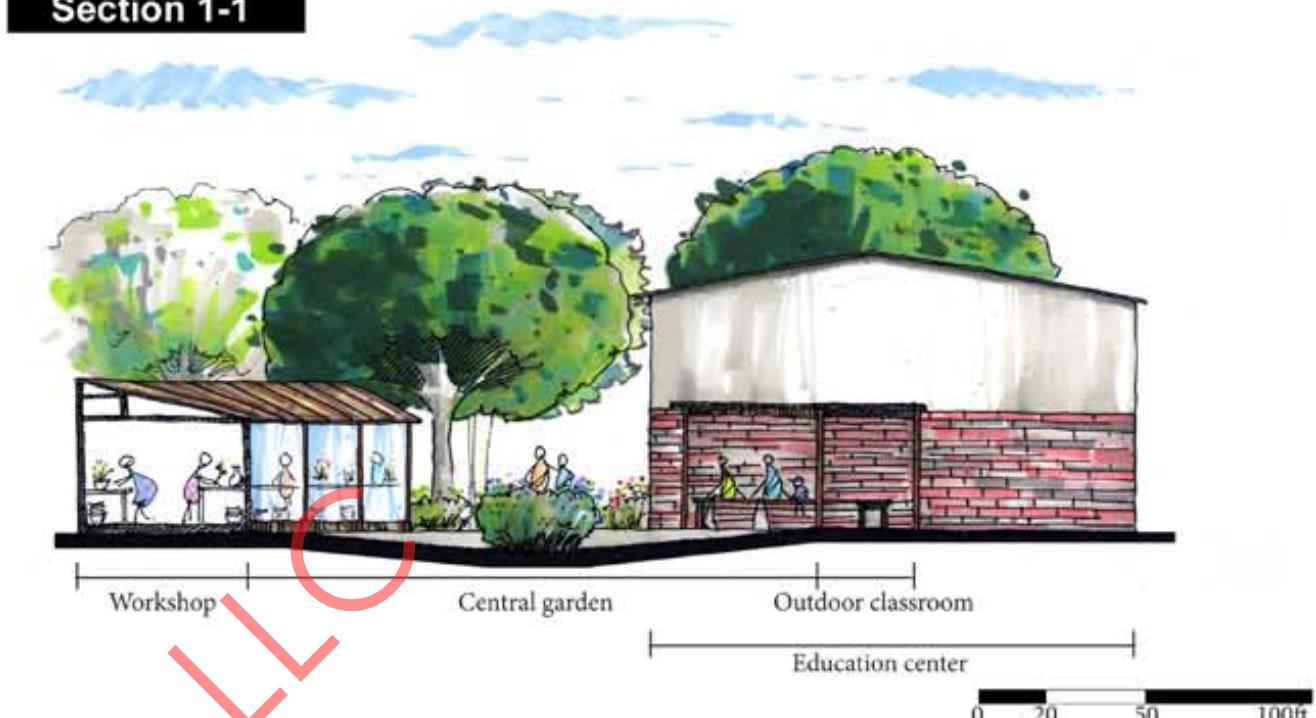
Landscape Network



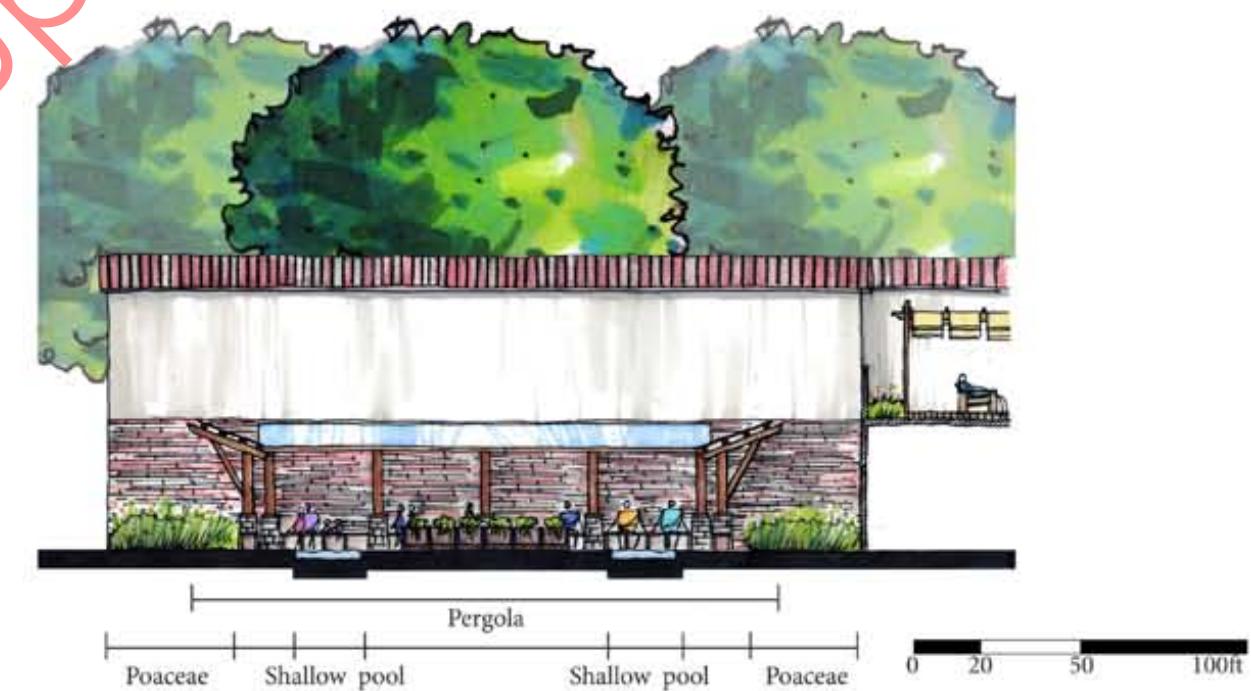
Master Plan



Section 1-1



Section 2-2

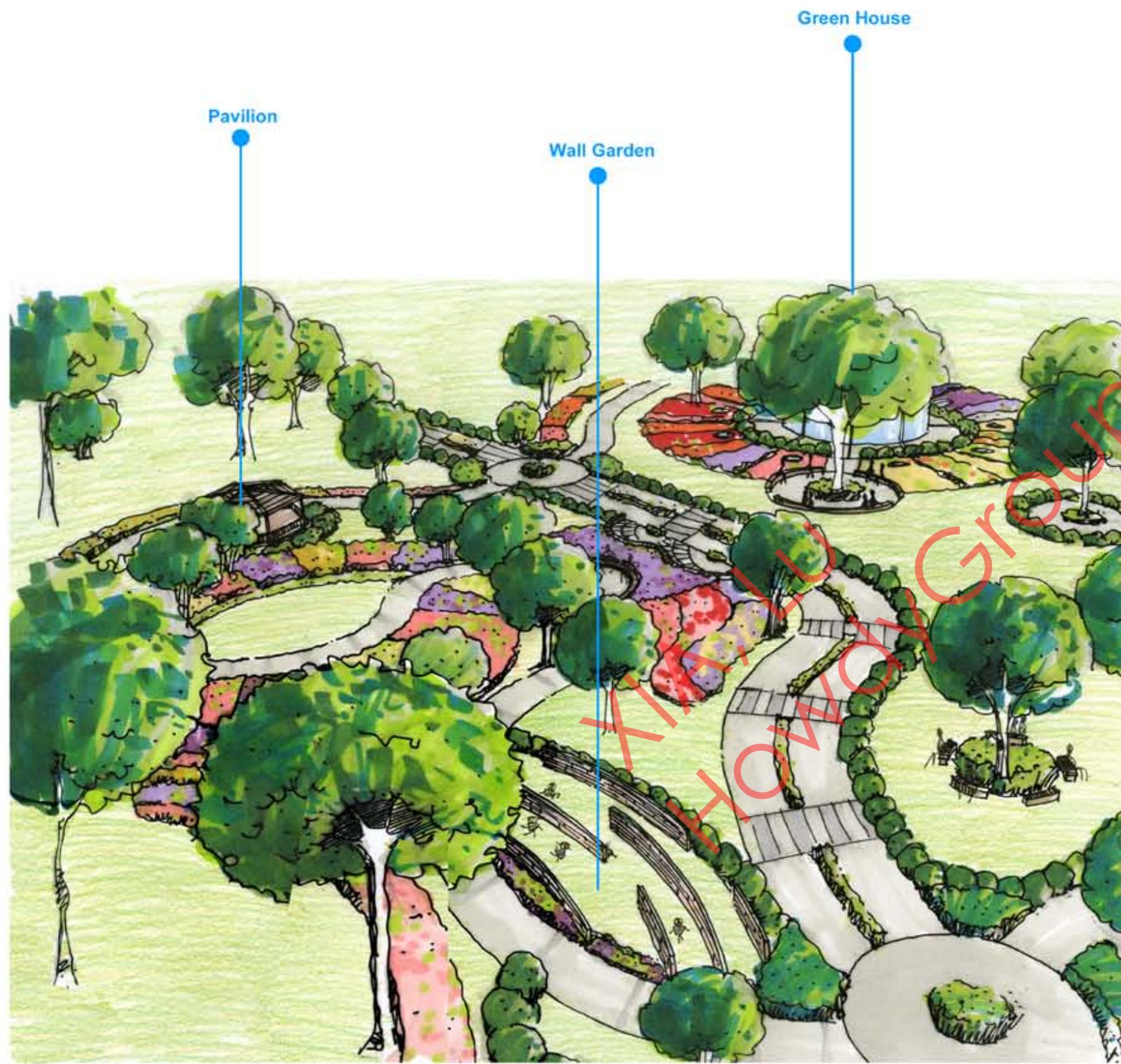


- ① Greenhouse
- ② Resting area
- ③ Butterfly garden
- ④ Rooftop garden
- ⑤ Education center

- ⑥ Backyard planting garden
- ⑦ Workshop
- ⑧ Outdoor classroom
- ⑨ Vine garden
- ⑩ Wall garden

- ⑪ Fan garden
- ⑫ Resting area
- ⑬ Pavilion
- ⑭ Short vertical curve wall
- ⑮ Main entrance

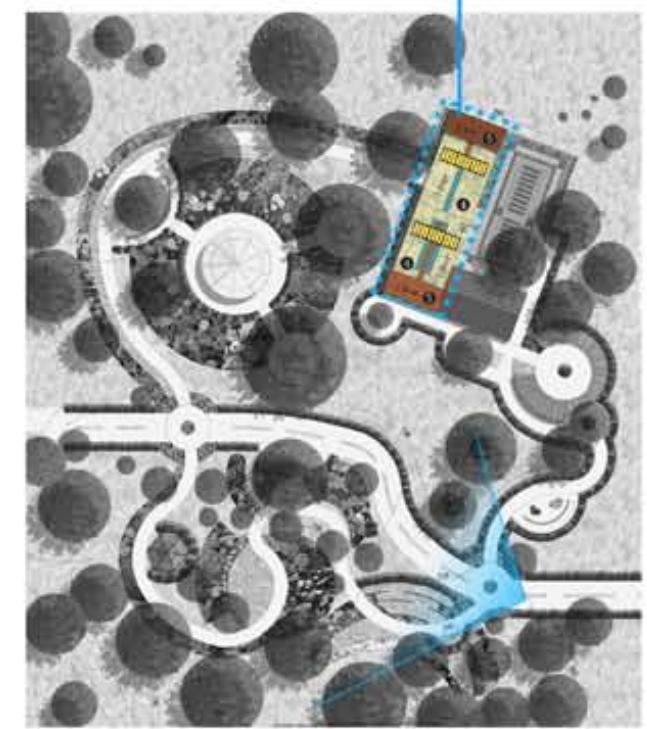
Bird-eye View form East Entrance



Perspective of Roof Garden



Rooftop Garden



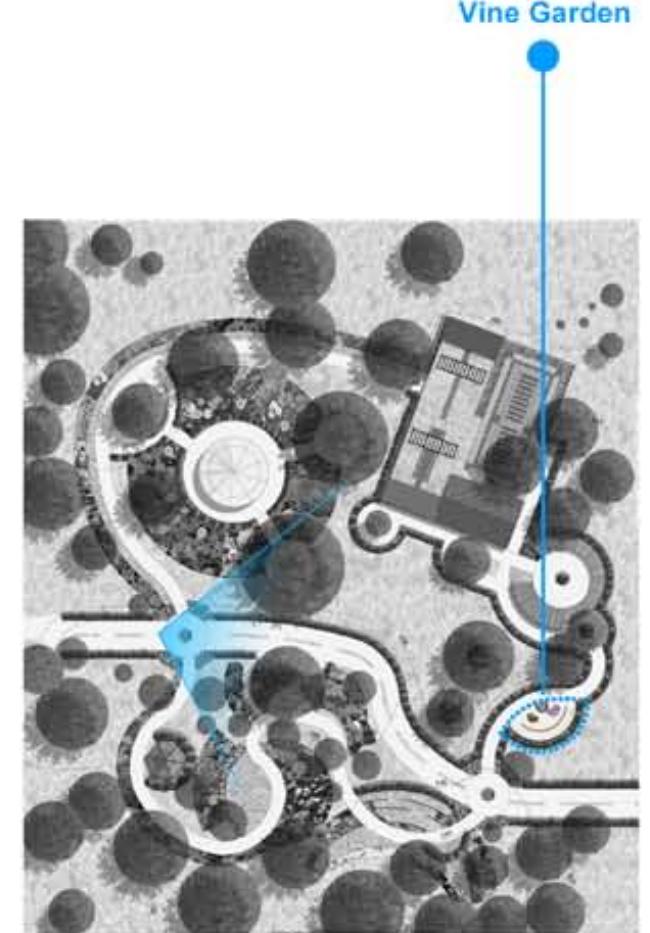
Bird-eye View form West Entrance



Perspective of Vine Garden

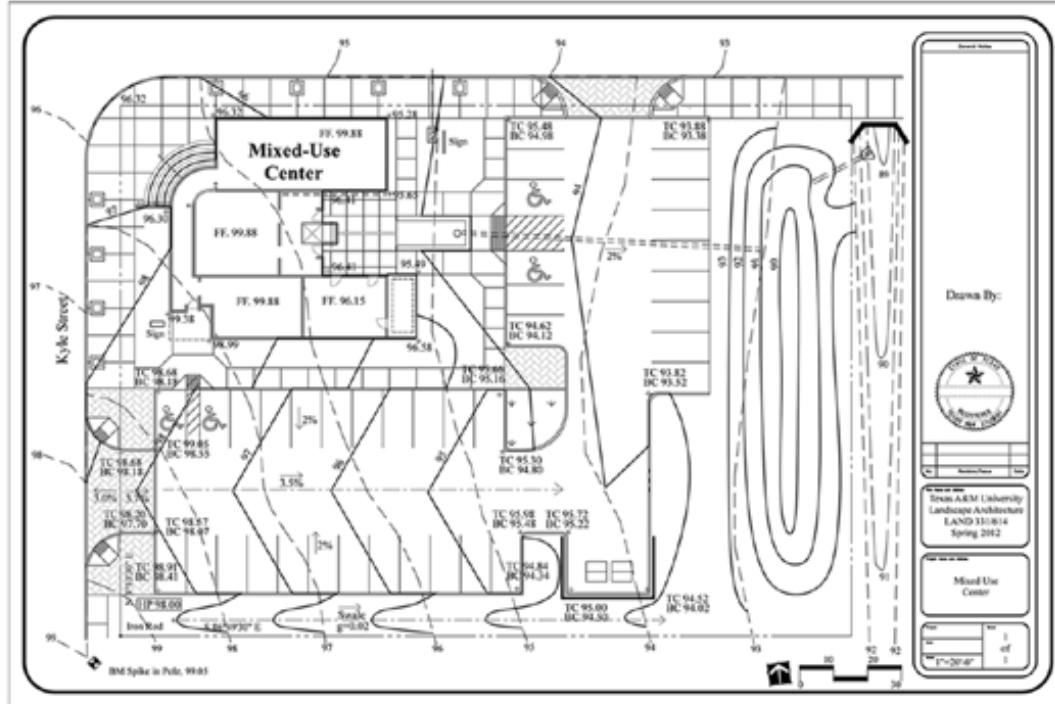


Vine Garden

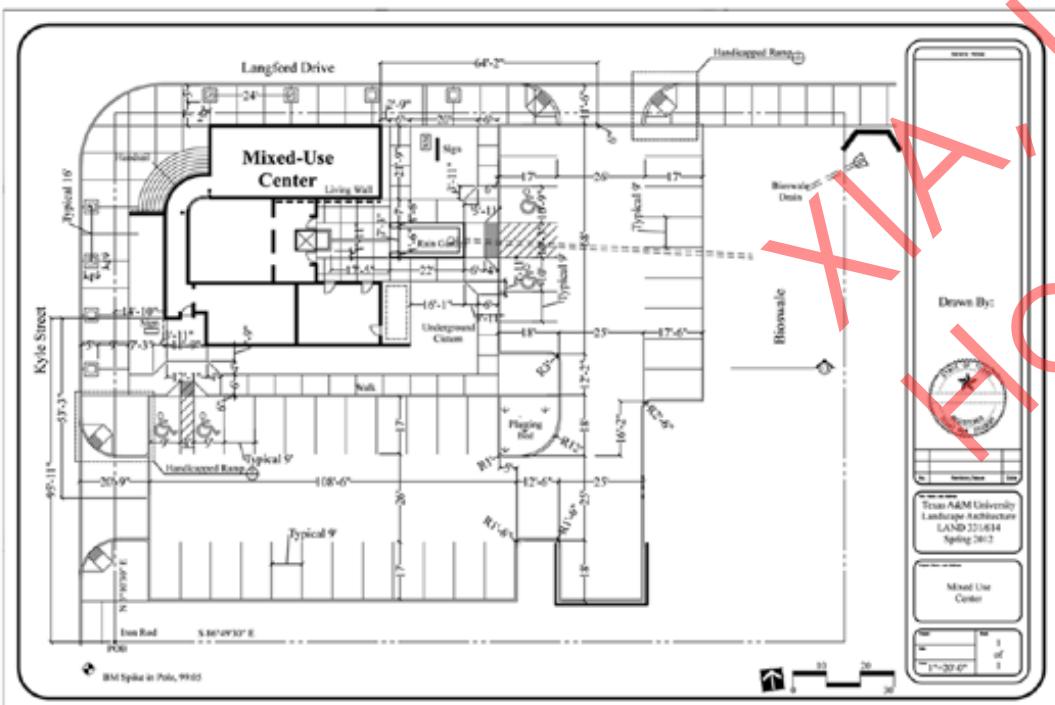


Construction Document

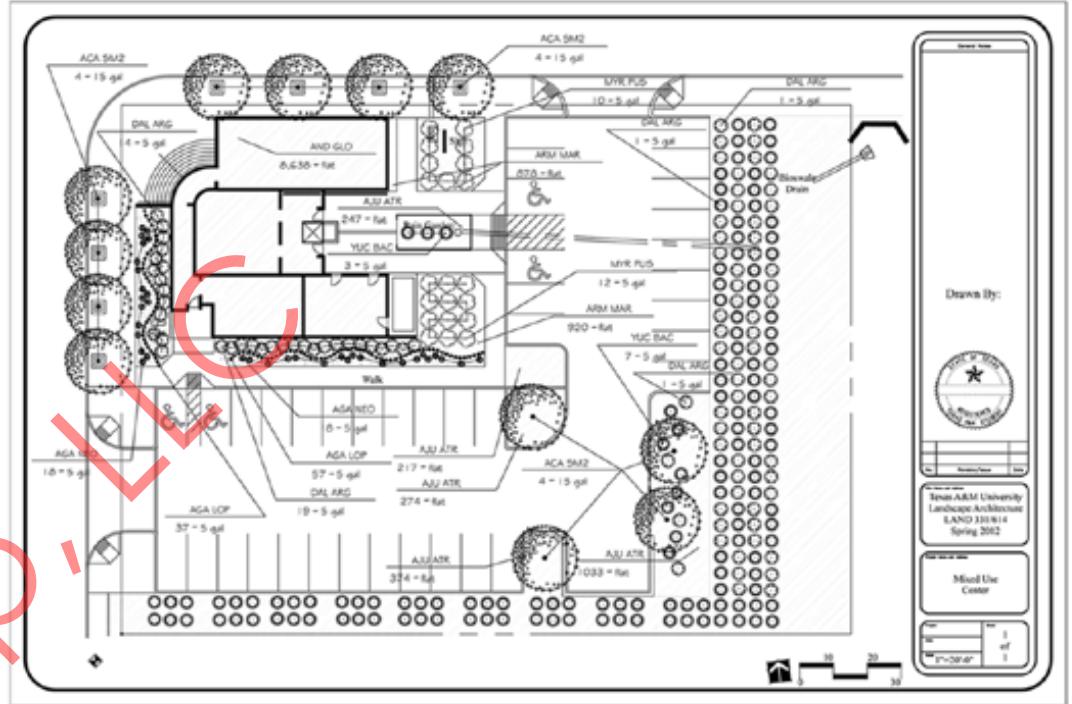
Grading Plan



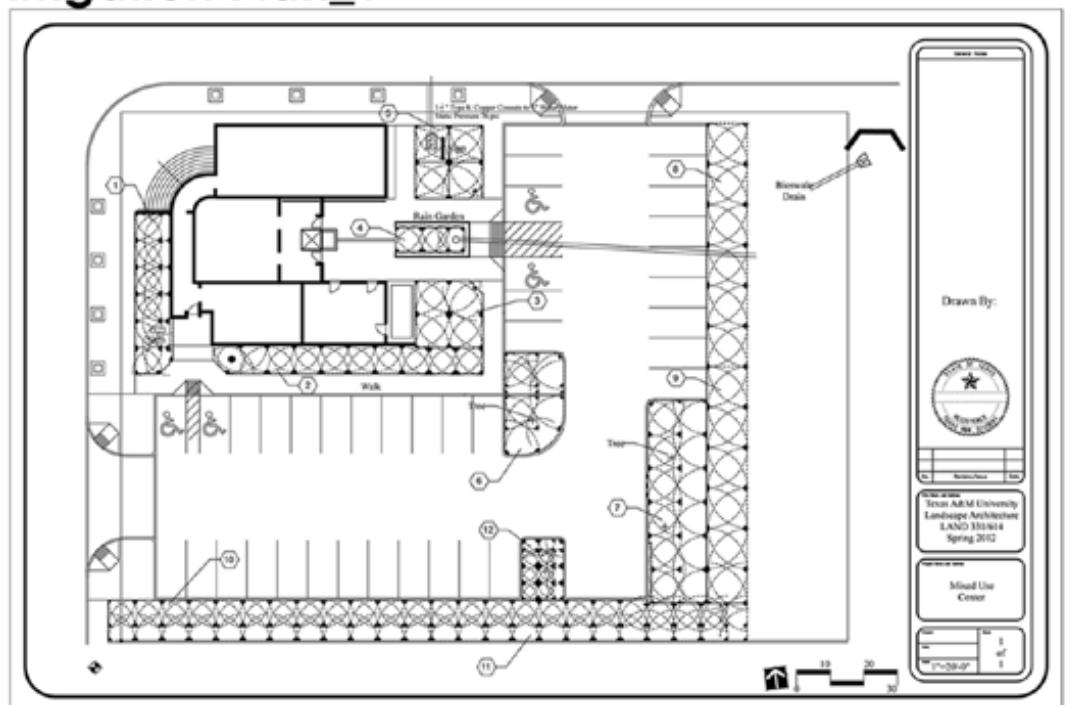
Layout Plan



Planting Plan

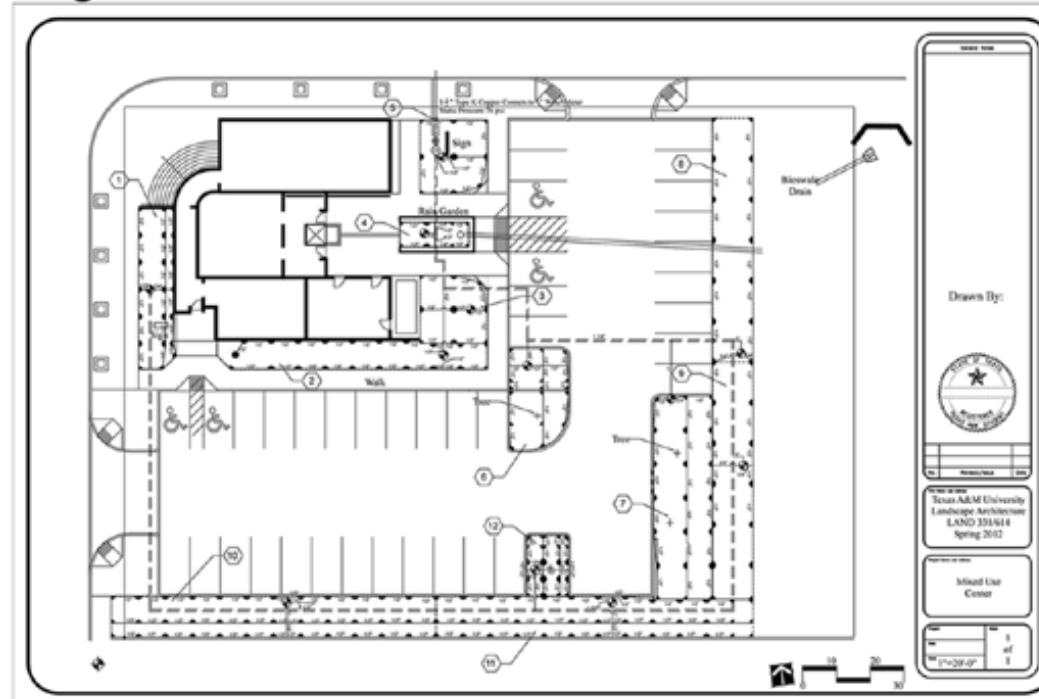


Irrigation Plan_1

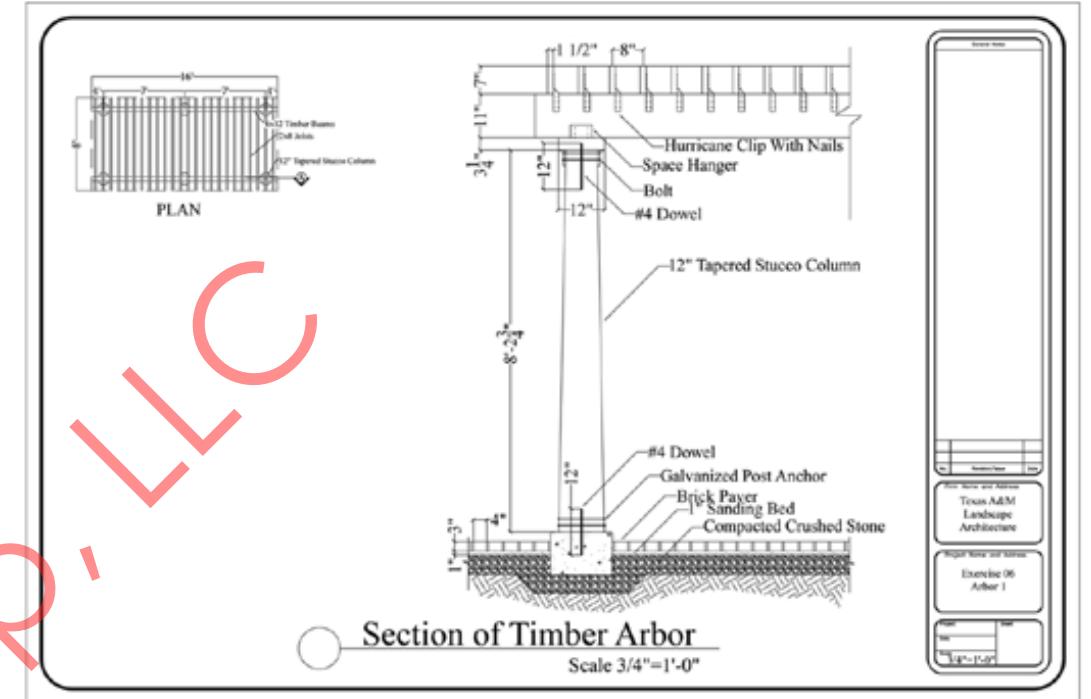


Construction Document

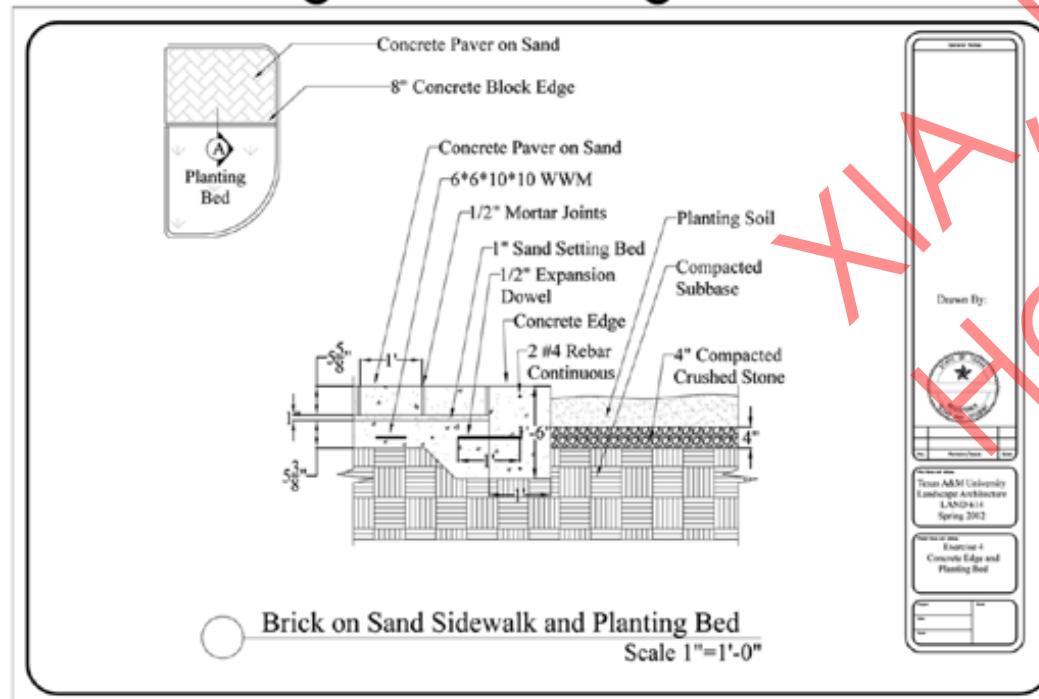
Irrigation Plan_2



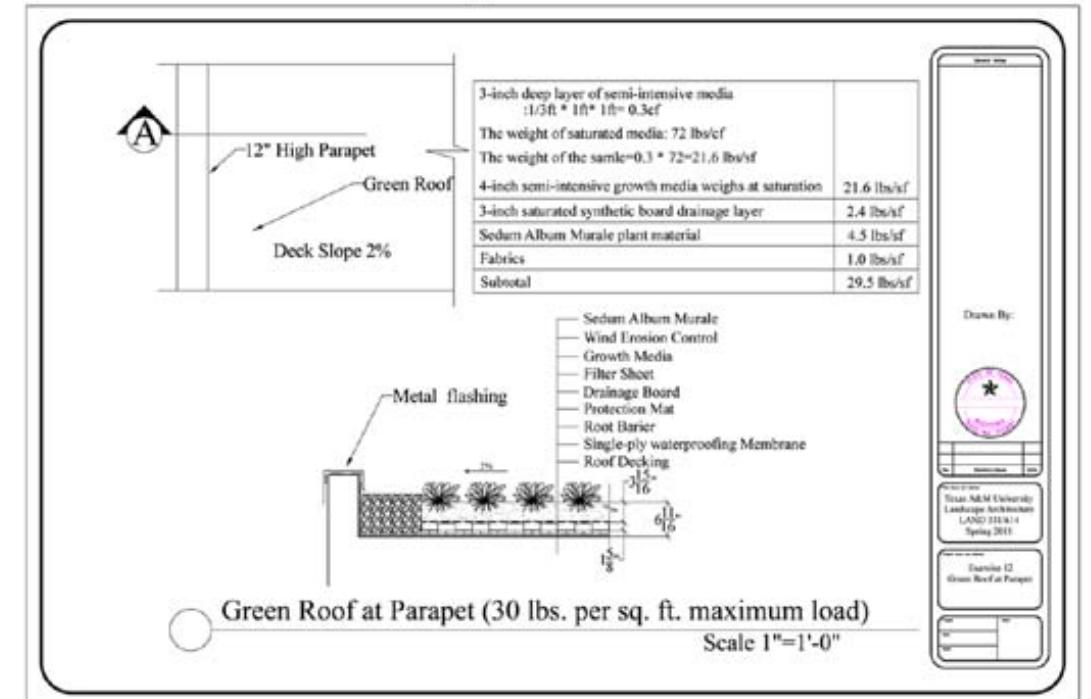
Arbor Detail

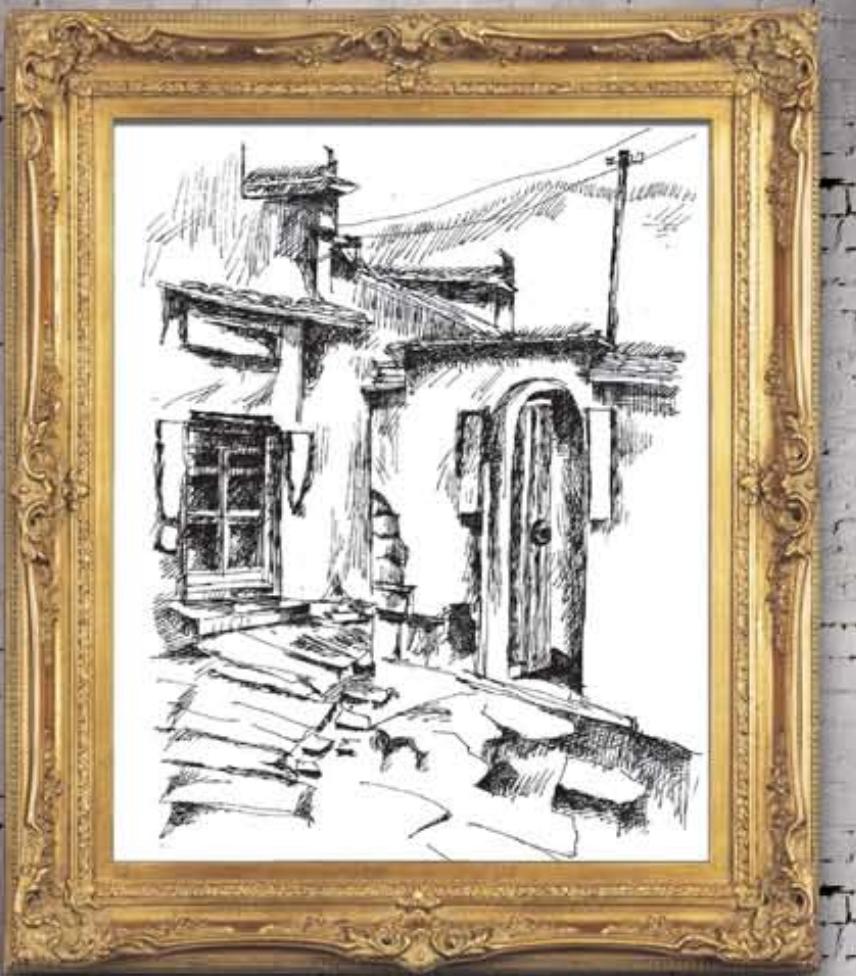


Concrete Edge and Planting Bed Detail



Green Roof at Parapet Detail



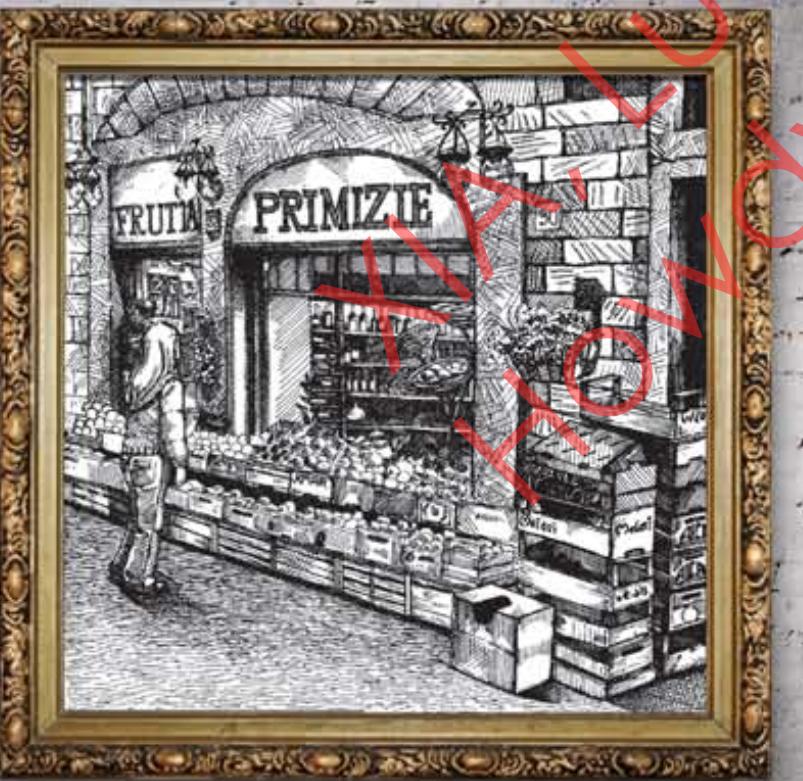


Art Work

Art Work

Art Work

pen drawing



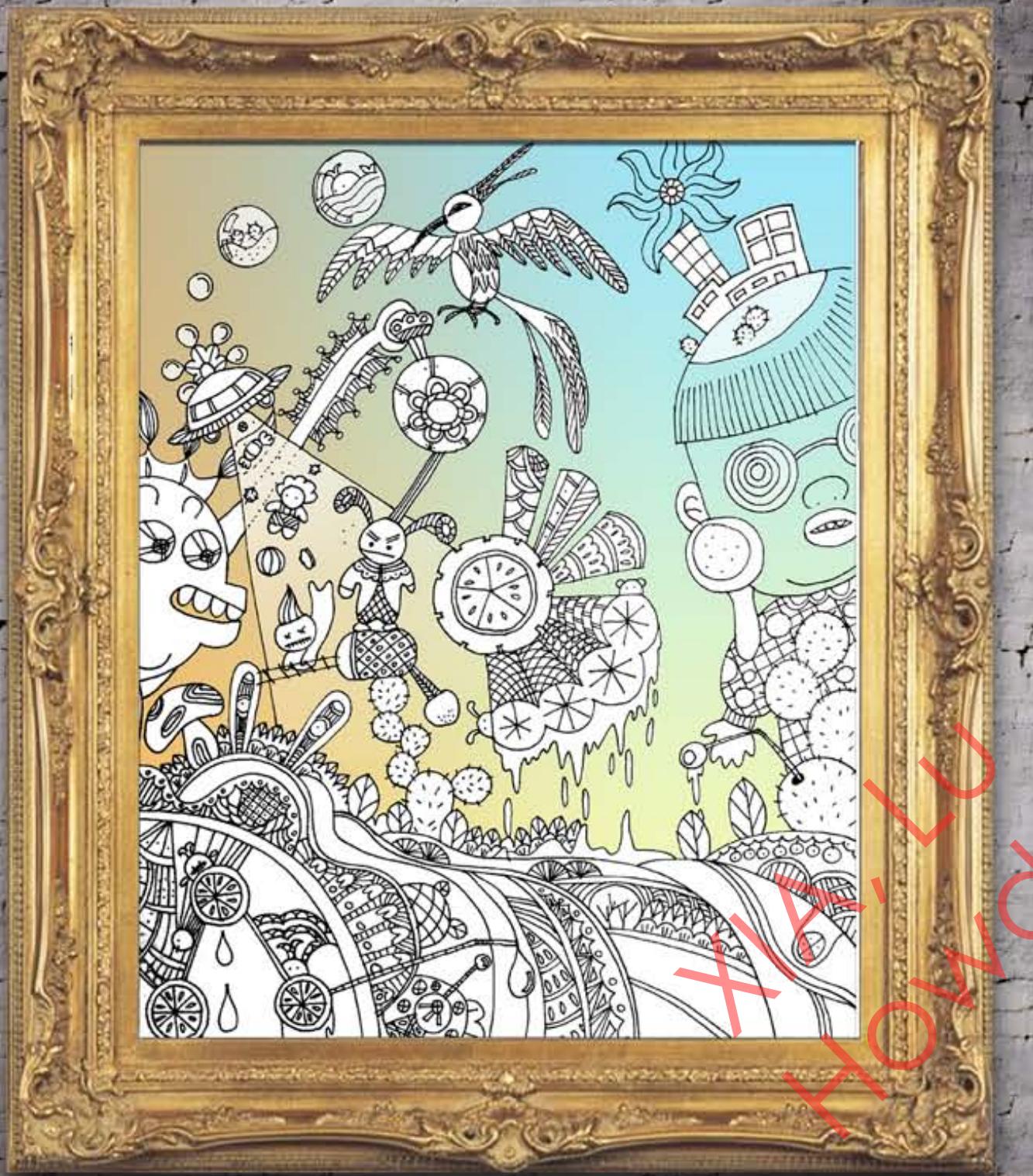
pen drawing



pen drawing



pen drawing + photoshop rendering



pen drawing + photoshop rendering

XIAO LU
Howdy Group LLC



pen drawing + photoshop rendering



pen drawing + photoshop rendering



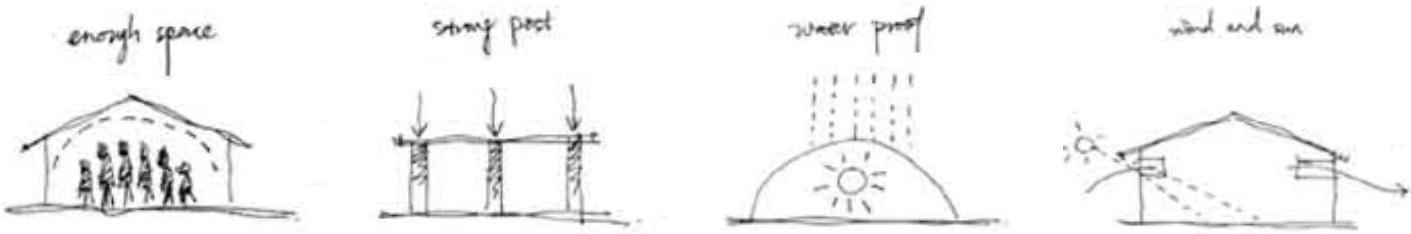
crayon drawing

Cardboard House Construction Experiment

(teamwork)



Requirement

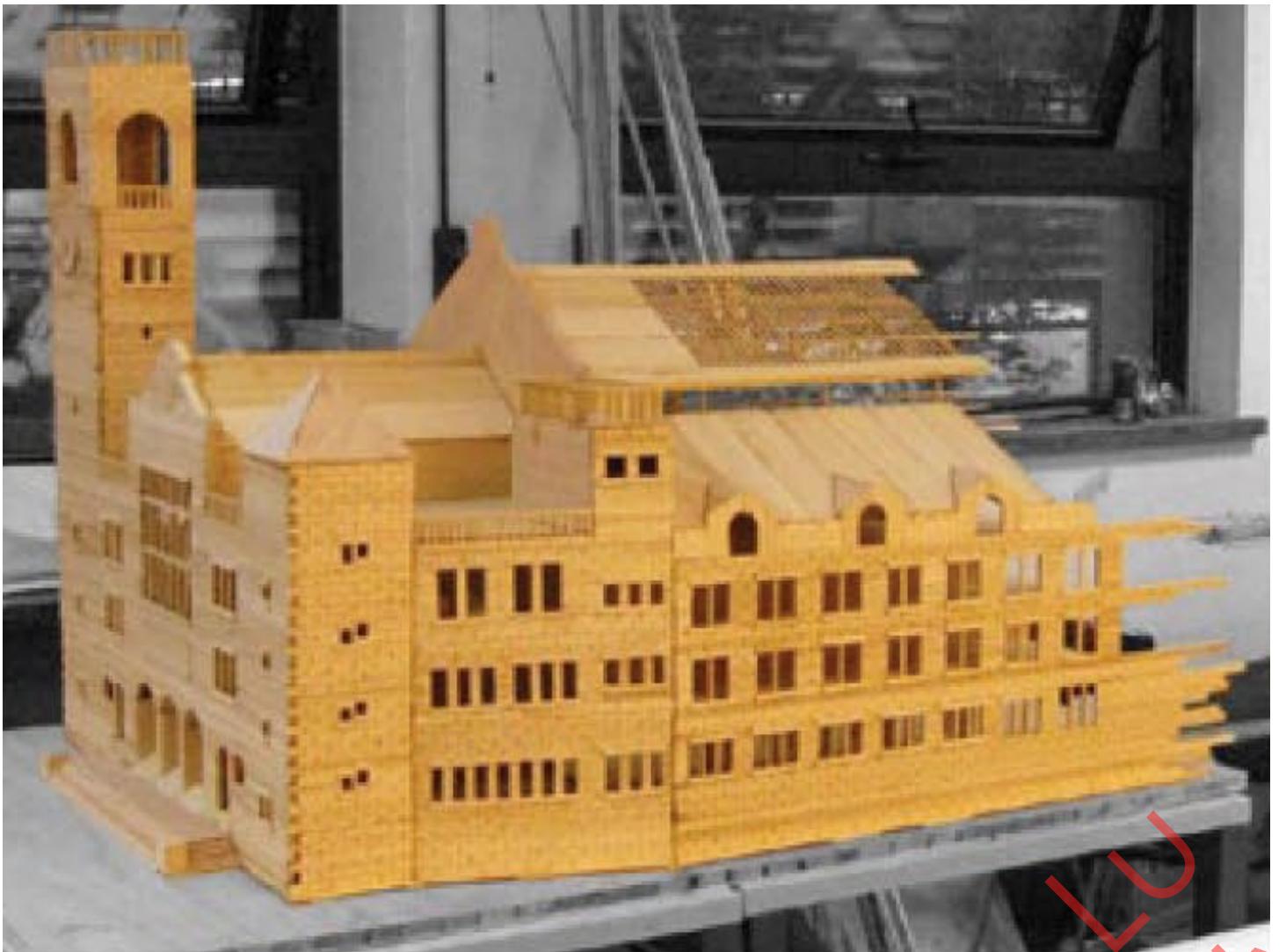


24
HOURS

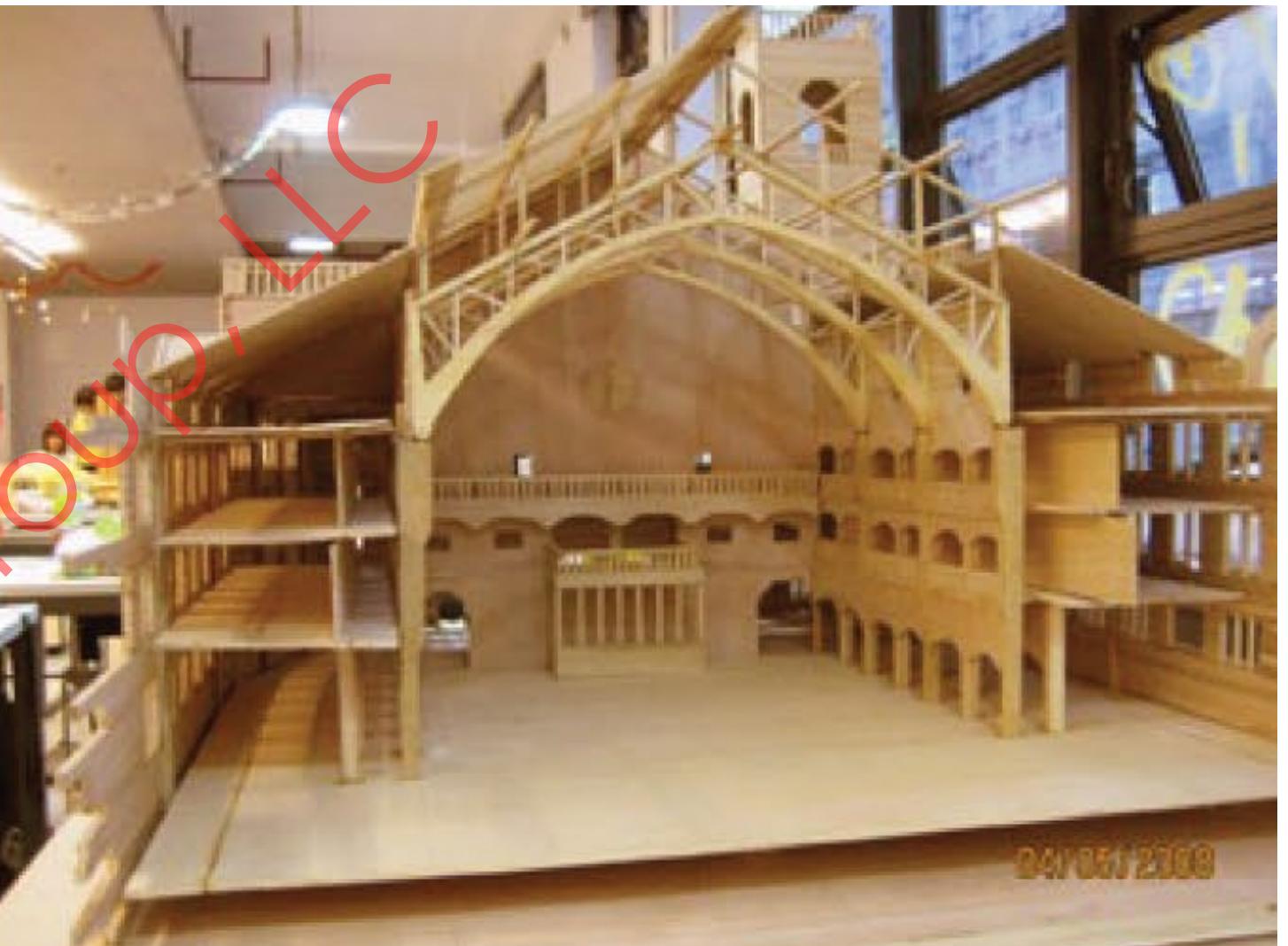
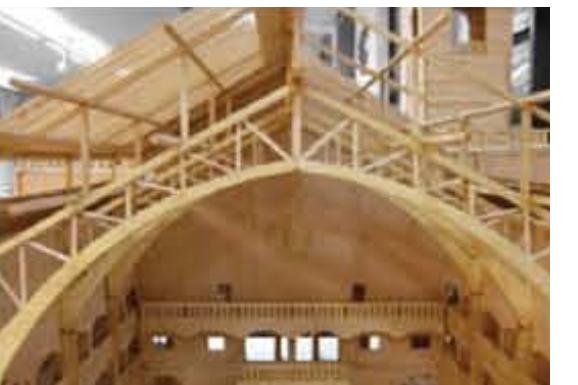
CARDBOARD
FABRICATIVE



Classical Architecture Modelling (teamwork)



When I was a sophomore, our class was designated a task of modelling the classical architectures in the world. Our team chose the Amsterdam Stock Exchange. It was the first time that we had to model an architecture that we had not even seen it before. We collected all the data we could find, discussed the construction method and at last we successfully model it. It was an unforgettable experience to me because I felt the strong power of teamwork in accomplishing a rather tough task.



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