South Works Innovative Career & Technical Education Centre
Complex Project Graduation Studio MSc 4

Mick van Gemert (main mentor)
Suzanne Groenewold (second mentor)
Rein Have (external examiner)

Mohammed Al-Khalili
1231367
al_khalili_mohammed@hotmail.com
TABLE OF CONTENT

INTRODUCTION

1. URBANPLAN
   - Problem statement
   - Opportunities
     - Approach
     - Masterplan

2. ARCHITECTURE
   - Research Education
     - Program
     - Concept
     - Design
     - Impressions
     - Facade

3. BUILDING TECHNOLOGY
   - Construction
     - Climate
     - Materialization
INTRODUCTION
2.4 km²
1. URBAN PLAN
MASTERPLAN
QUESTION:
HOW TO DEVELOP THIS EMPTY SITE IN SOUTH CHICAGO?
UNEMPLOYMENT
CITY SHRINKING
PROBLEM STATEMENT
Monofunctionality
Less money for Public amenities
Unsustainable urban sprawl
A. BRING BACK MANUFACTURING (IN A NEW WAY)

- Re-shoring current trend
- Manufacturing jobs in US are increasing
- Growing sentiment for US products
A. BRING BACK MANUFACTURING (IN A NEW WAY)

- Learn from the past: mix it up!
B. INFRASTRUCTURE PERFECT TO FACILITATE MANUFACTURING

On different scales the infrastructure has high potentials to facilitate manufacturing.
C. BUILD ON THE MULTI-NODAL NETWORK

Chicago is a city of nodes!

South Works can contribute to this networks as a manufacturing node
D. CONCENTRATE!

- Multifunctionality
- Money for public amenities
- More Sustainable
| approach |

Approach
approach

RE / COLONIZE
by
RETHINKING
FRONTIERS
1. THE NEW FRONTIERS

2. CONCENTRATION IS THE ANSWER TO SHRINKAGE

3. CONNECTIVITY
1. FIXED MIX OF FUNCTIONS
2. MINIMUM FSI
3. RETAIL BACKBONE

30% dwelling
30% flexible + public
10% retail
30% manufacturing

INFRASTRUCTURE

| proposal |
2. ARCHITECTURE
RESEARCH
UNEMPLOYMENT

21%

THIS IS HIGHLY PROBLEMATIC!
Low education is one of important factors of unemployment.
PERCENTAGE OF CHICAGO FAMILIES (WITH CHILDREN UNDER THE AGE OF 18) THAT ARE LOW-INCOME

52% LOW INCOME

PERCENTAGE OF CHICAGO PUBLIC SCHOOLS STUDENT WHO ARE LOW-INCOME

85% LOW INCOME
YOUTH UNEMPLOYMENT

33% UNEMPLOYMENT

PERCENTAGE OF TEEN UNEMPLOYMENT IN CHICAGO.

92% UNEMPLOYMENT

PERCENTAGE OF YOUNG BLACK MALES IN CHICAGO.
There is a large amount of dropouts, these dropouts contribute to the high rate of (youth) unemployment.
WHEN DO MOST STUDENTS DROP OUT?
HOW TO SOLVE THIS PROBLEM?
I will offer them:

Jobs and Education.

Low educated jobs.

Education in order to perform this type of work.
MANUFACTURING
I WILL FOCUS ON PRACTICAL SCHOOLS.
THIS IS A CURRENT HOT TOPIC IN WESTERN EUROPE
People realized that it's impossible to exist mainly on a knowledge-based economy, that's why handicraft is now becoming more and more important.
IN THE US AND CHICAGO THESE PRACTICAL SCHOOL ARE NEGLECTED AND NOT CHALLENGING AT ALL
THEY KNOW THEY NEED TO CHANGE AND INNOVATE, BUT THEY STICK TO THEIR TRADITIONAL WAY

I WILL HELP THEM TO CHANGE!
COMMUNITY Colleges
CULINARY SCHOOL
HOW CAN WE MAKE THE VOCATIONAL SCHOOL MORE CHALLENGING?
We need to create a new type of school building

- More interaction inside and outside
- No more isolation
- Combining education with the commercial world
WHAT IS THE FOCUS OF THE SCHOOL?

CARPENTRY & CULINARY
CARPENTRY

65% OF WORKERS COTTAGES ARE MADE FROM WOOD

NUMBER 36%
FOOD DESERTS

PERCENTAGE OF UNEMPLOYMENT FOOD DESSERT
WHY ONLY FOCUS ON TWO SPECIALISATIONS?
COMMERCIAL VISION

CLEAN INDUSTRY

RELATION TO DIRECT SURROUNDING

SIMILAR IN SIZE
WHY COMBINING THE TWO SPECIALISATIONS?

THEY ARE USUALLY SEPARATED
BY COMBINING THE SPECIALISATIONS THEY BENEFIT FROM EACH OTHER, RESULTING IN A WIN-WIN SITUATION!!!
RESULT OF MAKING THE SCHOOL MORE CHALLENGING:

- REACTIVATE THE REGION
- MAKE THE YOUTH SELF-CONSCIOUS
- MAKE THE YOUTH APPRECIATE THE EDUCATION
- MAKE THEM PROUD OF WHAT THEY DO
MAIN EFFECTS;

MINIMIZATION OF DROPOUTS

BUT ABOVE ALL PEOPLE ARE ABLE TO WORK

UNEMPLOYMENT DECREASES
REFERENCES AND THEMES
IT university Ørestad copenhagen
Henning Larsen Architects
JÅTTÅ VOCATIONAL SCHOOL IN STAVANGER
Henning Larsen Architects
16,000 m²
INTERACTION

INTERACTION WITH THE SURROUNDING
THROUGH TRANSPARANCY IN THE FACADE.
PROGRAM
# EDUCATION PROGRAM

## 1. Lecture & Teaching
- 1x Library: 2000 m²
- 4x Reading Room: 400 m²
- 2x Conference Room: 250 m²
- 20x Classroom: 2000 m²
- 2x Computer Lab: 600 m²
- 4x Small Working Space: 250 m²
- 1x Atrium: 600 m²

## 2. Services
- 10x Administration Room: 450 m²
- 2x Room for Stuff: 100 m²
- 1x Archive room: 50 m²
- 1x Bookstore: 100 m²
- 1x Copy & Print shop: 100 m²
- 1x Security office: 50 m²
- 6x Toilets: 150 m²
- 1x Technical Rooms: 200 m²
- 1x Server rooms: 50 m²
- 1x Cafeteria: 400 m²

## 3. Carpenter
- 1x Dressing Room: 50 m²
- 1x Supervisor Room: 50 m²
- 1x Storage area: 125 m²
- 1x Painting Room: 125 m²
- 1x Delivery area: 125 m²
- 1x Large Exhibition Hall: 600 m²
- 1x Large Workshop Room: 1200 m²
- 1x Model Making Room: 300 m²
- 1x CNC Room: 125 m²

## 4. Culinary
- 1x Dressing Room: 50 m²
- 1x Supervisor Room: 50 m²
- 1x Storage area: 125 m²
- 1x Delivery area: 125 m²
- 1x Large Public Restaurant: 600 m²
- 1x Large Teaching Kitchen: 1200 m²
- 1x Packaging Room: 400 m²

### Total square meter:

**13000 m²**
Carpenter

- Delivery area
- Storage area
- CNC Room
- Big Machines Room
- Small Machines Room
- Robotic area
- Theoretical Room
- Dressing Room
- Supervisor Room
- Model Making Room
- Large Exhibition Hall
- Large Workshop Room

Common Spaces

- Basketball Court
- Lobby
- Atrium
- Canteen
- Library
- Sports Room
- Leisure Room
- ICT Room
- Stuff Room
- Copy & Print shop
- Baked Goods Shop
- Services

Culinary

- Delivery area
- Storage area
- Baking Kitchen Lab
- Legumier Kitchen Lab
- Butcher Kitchen Lab
- 3D food printing
- Theoretical Room
- Dressing Room
- Supervisor Room
- Demo Kitchen
- Large Public Restaurant
- Large Teaching Kitchen
CONCEPT
SITUATION
1. VERTICAL DIVISION

2. HORIZONTAL DIVISION

3. DELIVERY

4. COMMON SPACE

5. QUALITIES

6. ONE UNIFIED BUILDING
- Practical
- Noisy
- Openness
- Variety in Activities
- Large Spaces
- Interaction with Outside
- Connection with the Commercial World
Begane Grond
. PRACTICAL
. LESS NOISY
. COMMON MEETINGS SPATIAL
. CENTRAL ACTIVITY
. FLEXIBLE IN TE DELEN RUIMTEN
. INTERACTION WITH CORE
. CONNECTION WITH COMMERCIAL WORLD
1ste Verdieping
THEORATICAL

STILLE RUIMTEN

OPENHEID

GEVARIEERD LOKALEN

CENTRALE GEMEENSCHAPPELIJK RUIMTE GEBRUIK

RUIMTEN VERBOONDE N MET GEMEENSCHAPPELIJK KE VERKEER

GEMEENSCHAPPELIJK KE VERKEER INTERACTIE M ET HARTEN

ADMINISTRATIE
2de Verdieping
. THEORETICAL
. STILTE
. GESLOTENHEID/CONCENTRATIE
. G EVARIEERD ACTIVITEITEN
. KLEINE RUIMTEN
. BUITENWERLED NAAR BINNEN HALLEN DOOR LANDSCAPTE CREEREN
. OPENBAAR GEBRUIK
. VERBOONDE MET DE HEMEL
Sections
ARCHITECTURAL FACADES
3. BUILDING TECHNOLOGY
CONSTRUCTION
COOLING AND HEATING
COOLING AND HEATING
SUN PROTECTION/FACADE
MATERIALIZATION