

**CONTAINER
STUDENT
HOUSING**

**ANNA SCHICKEROVA
2024**

**AD6 BACHELORS PROJECT
WERTIG KOPECKY STUDIO**



ANNA SCHICKEROVA
ANNA SCHICKEROVA

INTRODUCTION

EDUCATION

- 2007-2016 ELEMENTARY SCHOOL JIŽNÍ IV, 141 00 PRAGUE 4
- 2016-2020 SECONDARY SCHOOL OF CIVIL ENGINEERING, DUŠNÍ 17
- 2020-2022 FACULTY OF ARCHITECTURE CTU IN PRAGUE
- 2022-2024 ARCHIP

COURSES

- 2009-2019 ENGLISH LANGUAGE AT AKCENT INTERNATIONAL HOUSE PRAGUE, LEVEL B2, ZUŠ DUNICKÁ 3136/1, 141 00 PRAGUE 4

PRACTICE

- 2017 BETA PRAGUE S.R.O. - STUDIO
DOC. ING. ARCH. JÁN STRCULA, PHD.
RM PROJECT ACTIVITY UNDER CONSTRUCTION
- RADEK MÁČA
- 2018 APRIS S.R.O.
- 2019 PARTICIPATION IN THE MAGYAR BETONKENU KUPA
INTERNATIONAL CONCRETE CANOE CUP IN BUDAPEST
- 2020 GROWJOB S.R.O.

CONSTRUCTION PRACTICE AT STAVBY S+D S.R.O.
AVALON S.R.O.
- 2022
- 2020-? BETA PRAGUE S.R.O. - CREATION OF VISUALIZATIONS

TECHNICAL SKILLS

WINDOWS OFFICE, AUTOCAD, REVIT, LUMION, ADOBE

TABLE OF CONTENTS

1

INFORMATIONS

2

SITE SITUATION

3

CONCEPT

4

PLANS

5

VISUALISATIONS

6

MATERIALS AND TECHNICAL

DETAILS

ANNA SCHICKEROVA



INFORMATIONS

LOCATION

PETRSKÁ 18
PRAHA 1

FUNCTION

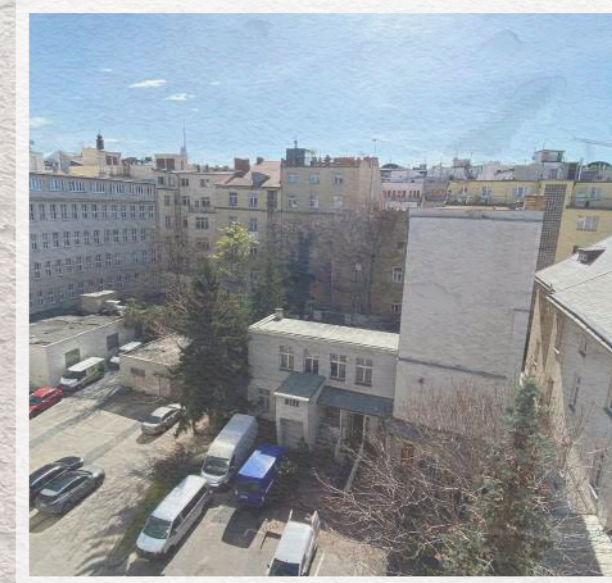
AUTOMATIC TELE-
PHONE EXCHANGE
BUILDING

NOW

CURRENT STATE



Prázdné
domy

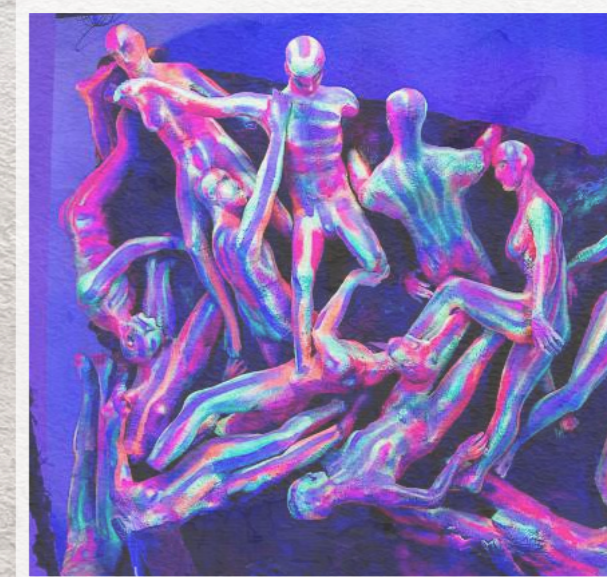
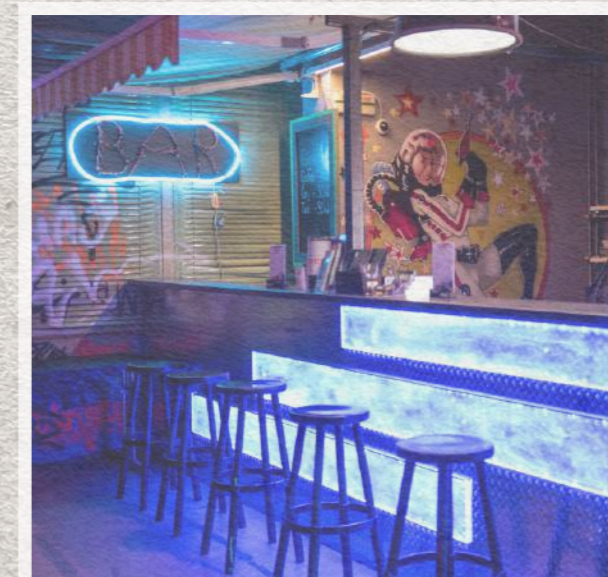
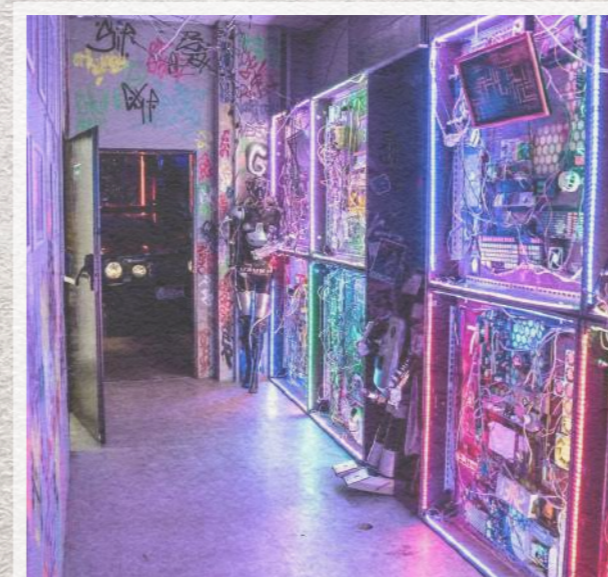


PETRSKÁ ČTVRTĚ IS A NEIGHBORHOOD LOCATED WITHIN PRAGUE 1'S NEW TOWN DISTRICT, CENTERED AROUND THE CHURCH OF ST. PETER ON POŘÍČÍ NEAR THE VLTAVA RIVER. ESTABLISHED IN 1348 AS PART OF THE NEW TOWN, IT MAINTAINS ITS ORIGINAL STREET LAYOUT. BORDERED BY STREETS SUCH AS HYBERNSKÁ, HAVLÍČKOVA, NÁMĚSTÍ REPUBLIKY, LUDVÍKA SVOBODY EMBANKMENT, AND MORE, IT ENCOMPASSES PETRSKÉ NÁMĚSTÍ, A CENTRAL SQUARE FEATURING A PEDESTRIAN ZONE.









CURRENT STATE



CURRENT STATE



- 2 UNDERGROUND CITY
- 3 CYBER ARCADE
- 2 MANA POTION 1 FACTORY FIELD 1 NERF ARENA
- 5 STUDIO PETRSKA

- | | | | | | | | |
|---|---|--|---|--|--|---|--|
| 
Adrenallhové | 
Military | 
Pro firmy | 
Pro děti | 
Paintball | 
Airsoft | 
Rozlučty se svobocou | 
Večírky |
|---|---|--|---|--|--|---|--|



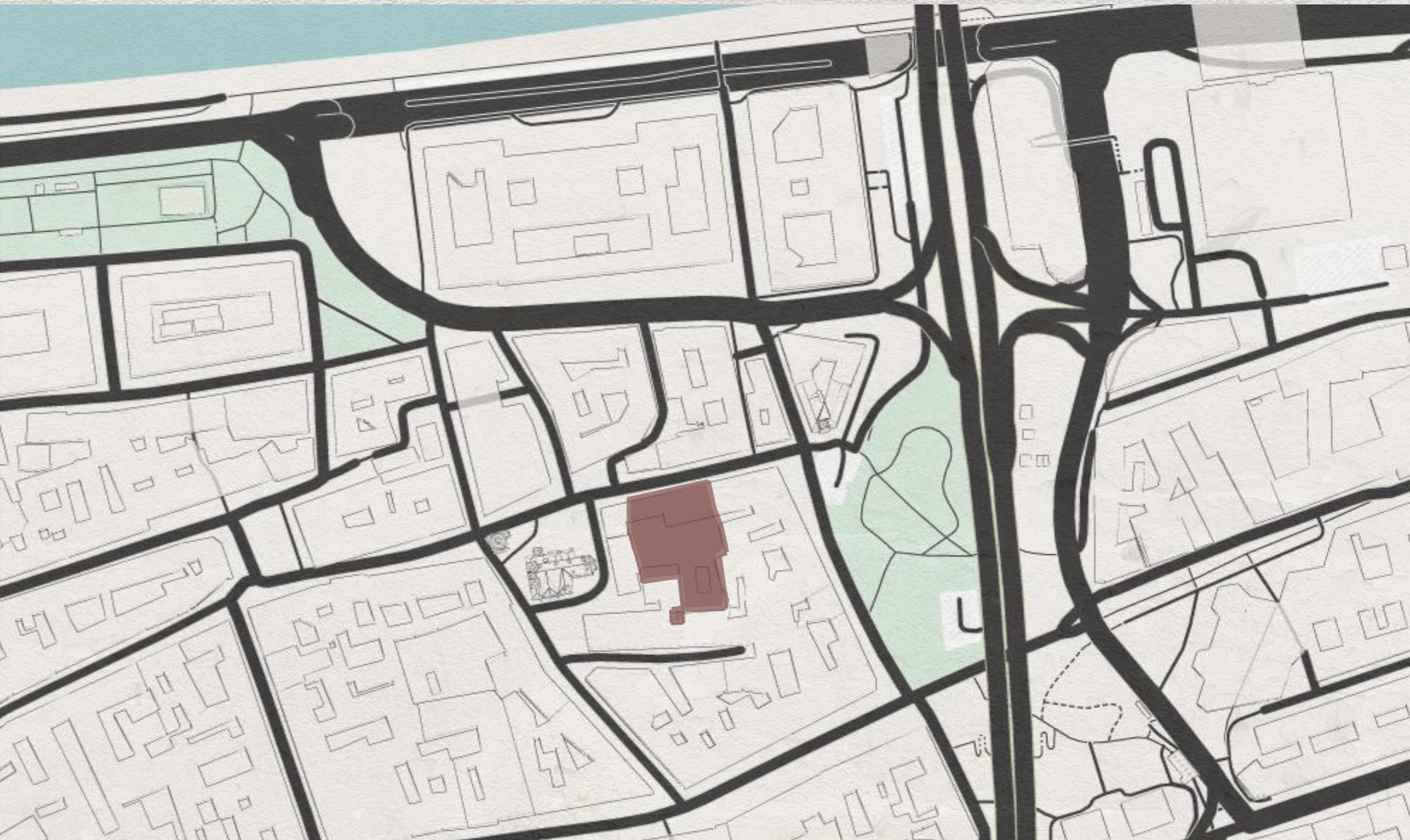
2

SITE SITUATION

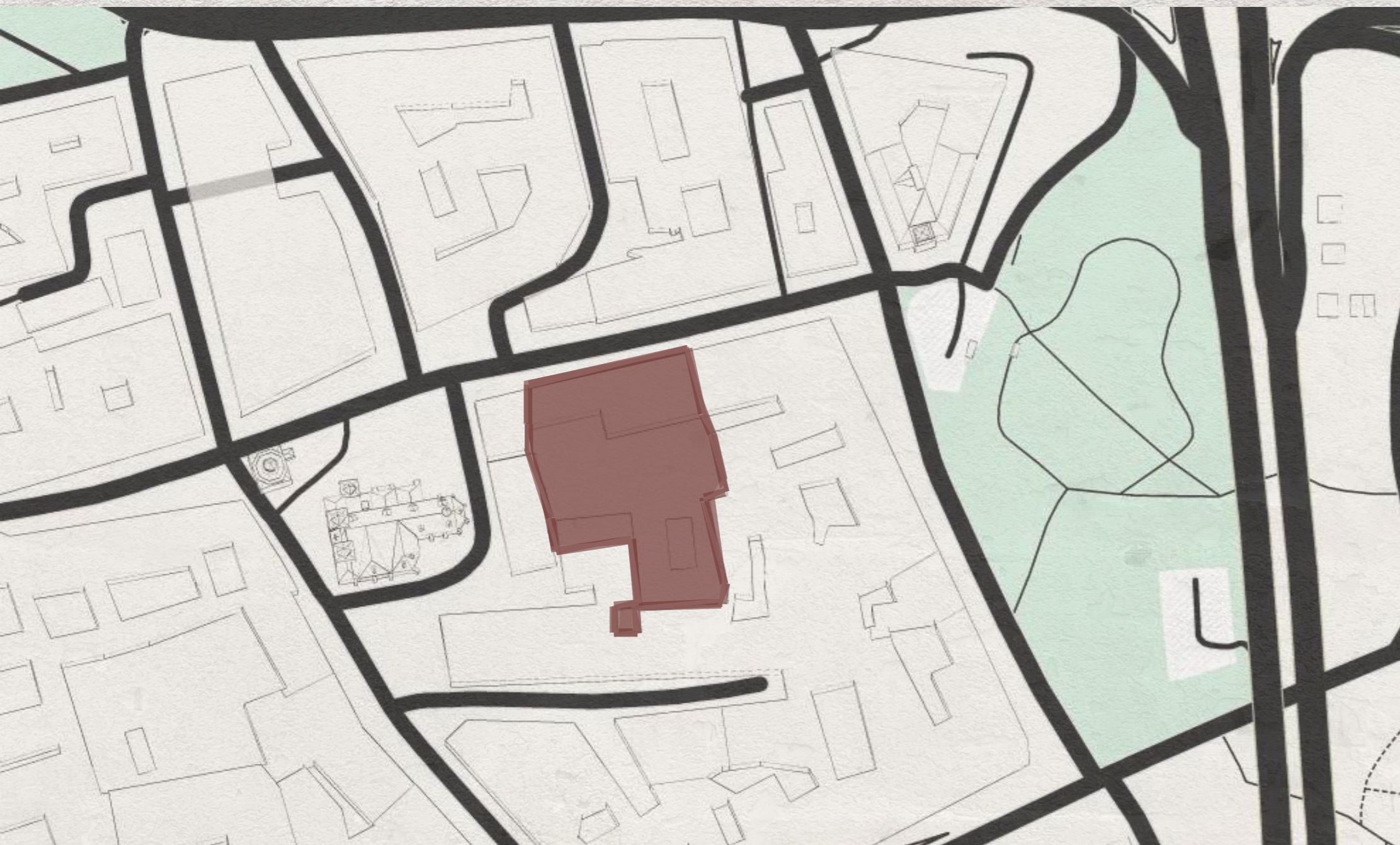
ORIGINALLY INHABITED BY GERMAN MERCHANTS, THE AREA LATER HOUSED RELIGIOUS ORDERS AND INSTITUTIONS. RIVERBANK REGULATIONS IN THE EARLY 20TH CENTURY LED TO THE DISAPPEARANCE OF WORKSHOPS AND MILLS. TO PROTECT THE AREA, THE „SPOLEK PŘÁTEL PETRSKÉ ČTVRTI“ WAS FOUNDED. OVER THE YEARS, SIGNIFICANT CHANGES HAVE TRANSFORMED PETRSKÁ ČTVRTĚ INTO A MODERN COMMERCIAL AND OFFICE HUB. PROMINENT STREETS WITHIN THE NEIGHBORHOOD INCLUDE BISKUPSKÁ, HAVLÍČKOVA, NA POŘÍČÍ, LUDVÍKA SVOBODY EMBANKMENT, PETRSKÁ, AND V CELNÍCI.



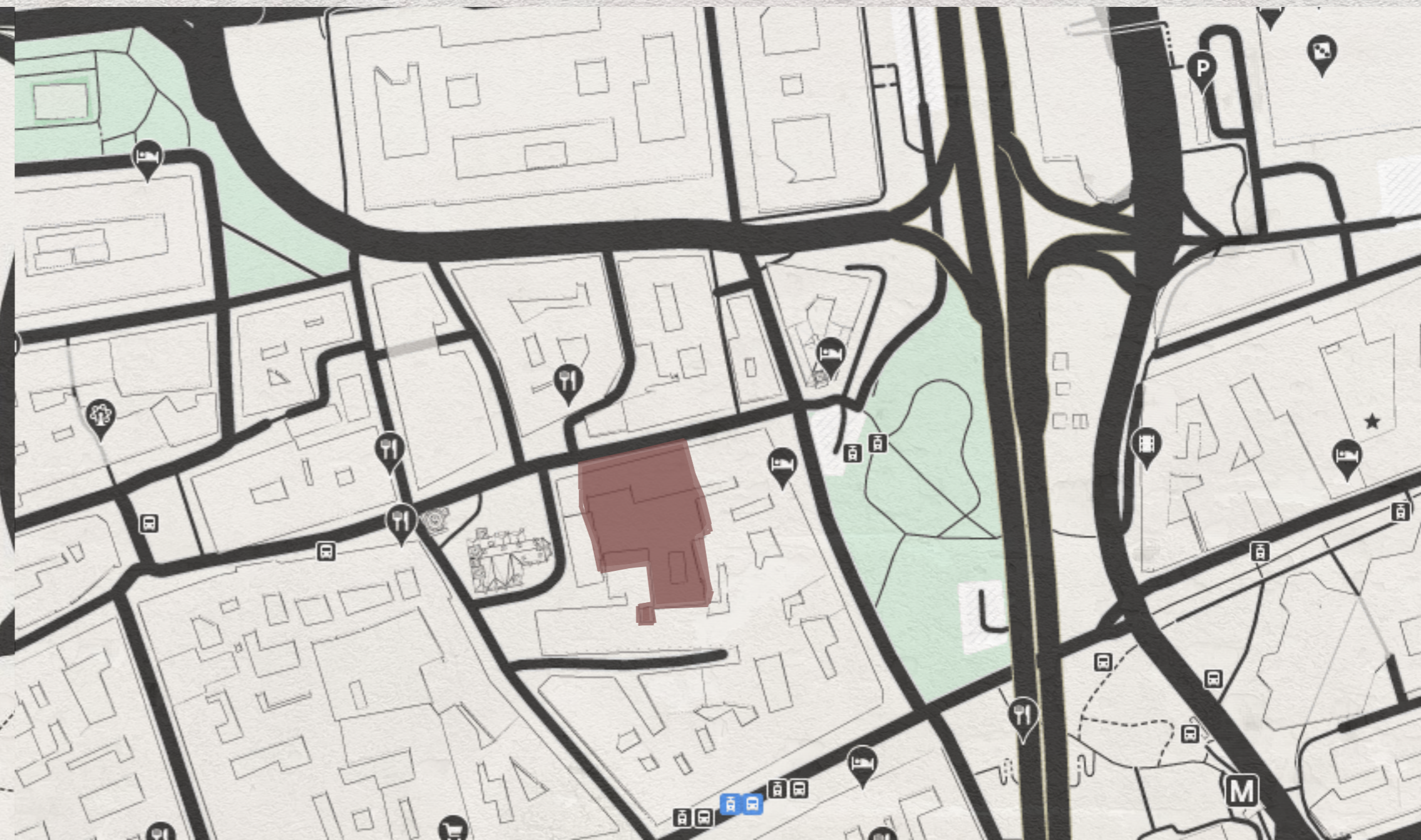
SITE SITUATION 1:2000



SITE SITUATION 1:1000



SITE ANALYSIS



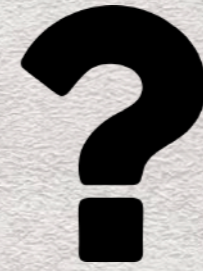


CONCEPT

FIRSTLY WE MADE A SURVEY ON HOW MANY EMPTY BUILDING ARE IN PRAGUE AND WHAT AREA ARE THEY TAKING..
IN CONCLUSION THE SPACE WHICH IT TAKES IS VERY VALUABLE AND THE BUILDNING COULD BE REPURPOSED, RECONSTRUCTED OR REMADE INTO SOMETHING ELSE

CONCEPT

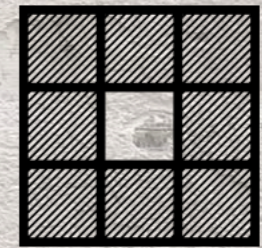
WHAT



WHY

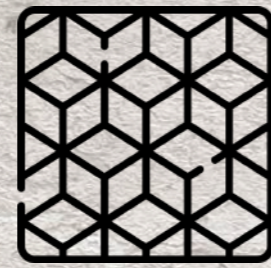
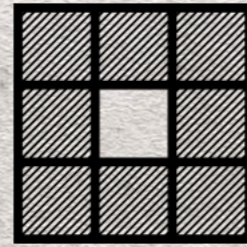
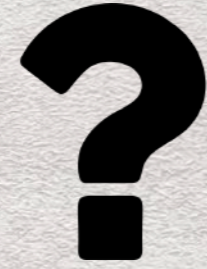


HOW



PRAGUE IS FULL OF STUDENTS, BUT THE DORMITORIES HAS NOT ENOUGH CAPACITY.
PRAGUE HAS AMOST 2000 EMPTY BUILDING WHICH COULD BE USED TO HELP LOCAL OR FOREIGN STUDENTS TO ACCOMODATE
THERE ARE THREE EMPTY AUTOMATIC TELEPHONE EXCHANGE BUILDINGS IN PRAGUE
THIS PROJECT IS FOCUSED ON REUSING AND REPURPOSING SPACES OF TELEPHONIC EXCHANGE BUILDING INTO STUDENT DORMITORIES

CONCEPT

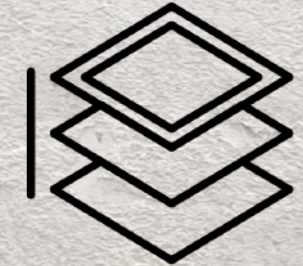
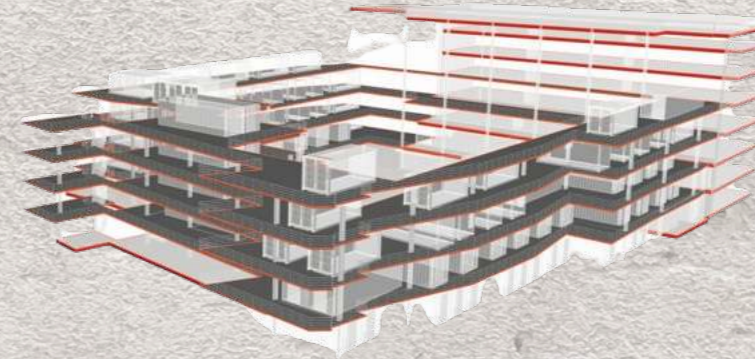


THE CONCEPT INVOLVES FOLLOWING AN EXISTING STRUCTURE'S LAYOUT OF COLUMNS AND EXPANDING IT INTO A COURTYARD. A NEW GRID OF COLUMNS WILL CREATE AN ATRIUM, ENABLING COMMUNICATION THROUGHOUT THE ENTIRE SITE. BY ADDING PERFORATED STEEL FLOORS, THE STRUCTURE BECOMES LIGHTER, SUPPORTING MODULAR ROOMS WITHIN SHIPPING CONTAINERS.

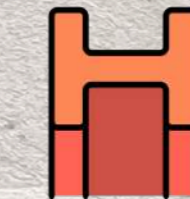
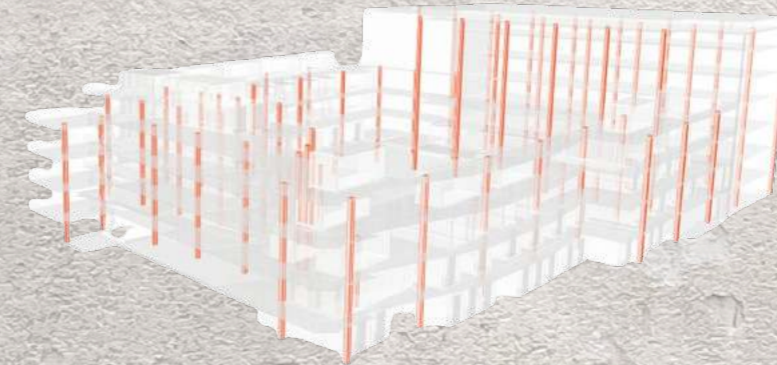
CONCEPT



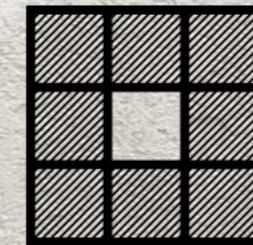
SHIPPING CONTAINERS
-AFFORDABLE AND MODULAR
SOLUTION FOR UNITS
(INSULATED)



PERFORATED CORTEN FLOORS
-TO CREATE CORRIDORS
AROUND ALL UNITS AND TO
KEEP THE STRUCTURE LIGHTS



COLUMN SYSTEM
-KEEPING ORDER IN NEW ONE
THROUGHOUT FOLLOWING
ALREADY FUNCTIONING SYSTEM



COURTYARD
-CURRENTLY USED AS PARKING,
WHICH COULD BE
MOVED TO TWO UNDER-
GROUND FLOORS



4

PLANS

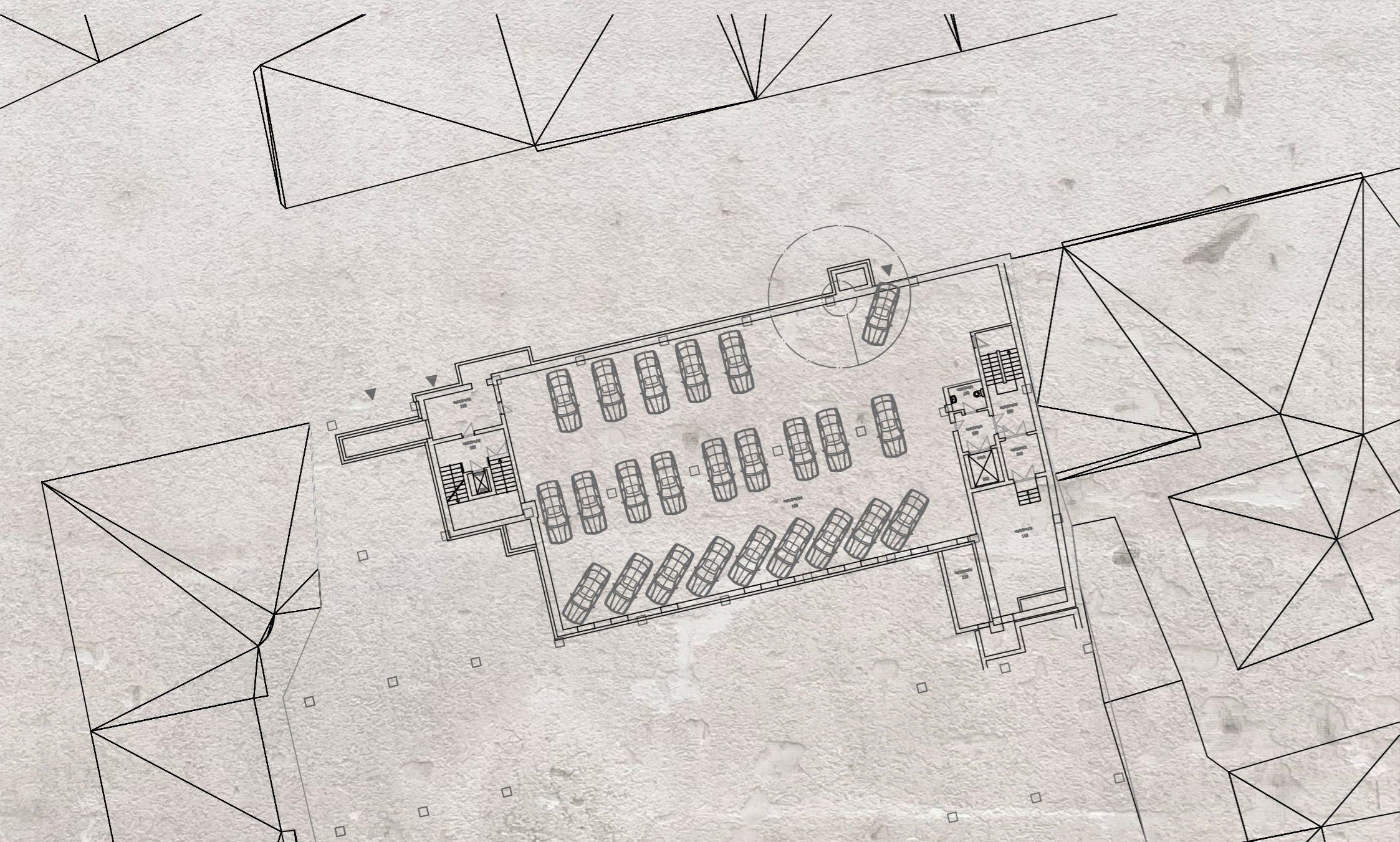
MY PLAN IS TO REMOVE FEW BUILDING ON COURTYARD WHICH WOULD LEAD INTO CREATING WHOLE NEW ENTRANCE TO SITE FROM STREET WHICH IS CURRENTLY BLIND
COURTYARD HAS FUNCTION OF PARKING BUT IT COULD BE MOVED TO UNDERGROUND FLOORS TO BE ABLE TO USE COURTYARD IN DIFFERENT WAY SUCH AS STUDENT DORMITORIES



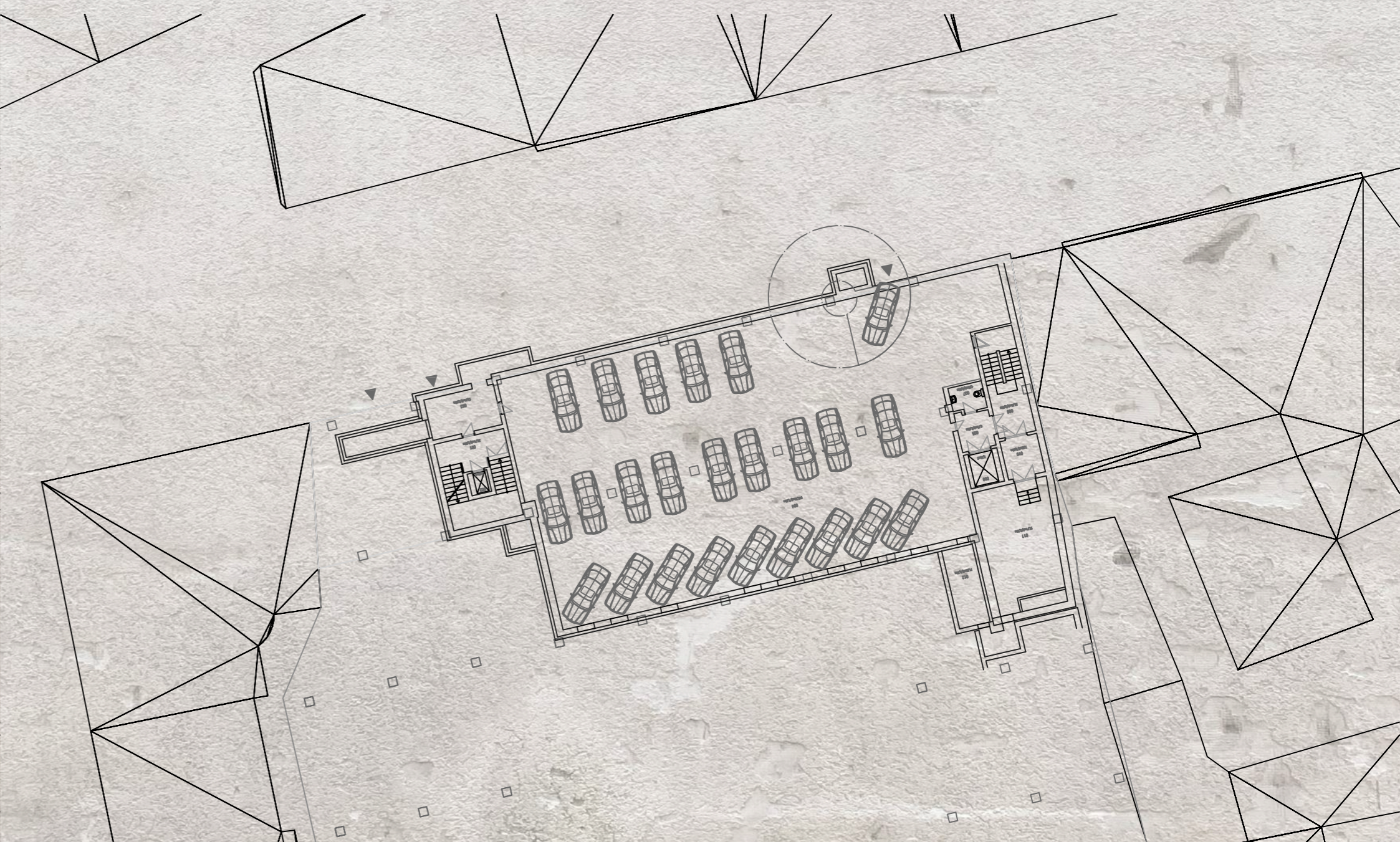
SITE PLAN 1:750



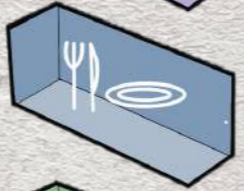
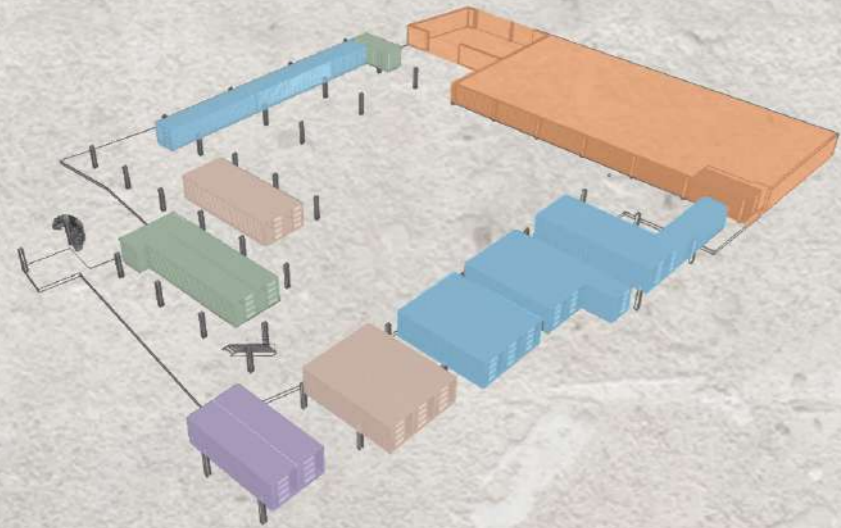
2PP 1:250



IPP 1:250



INP 1:500



14 m²



21 m



26,5 m²



2NP 1:500



14 m²



21 m



26,5 m²



3NP 1:500



14 m²



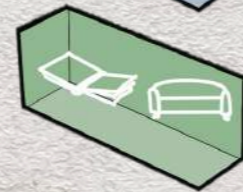
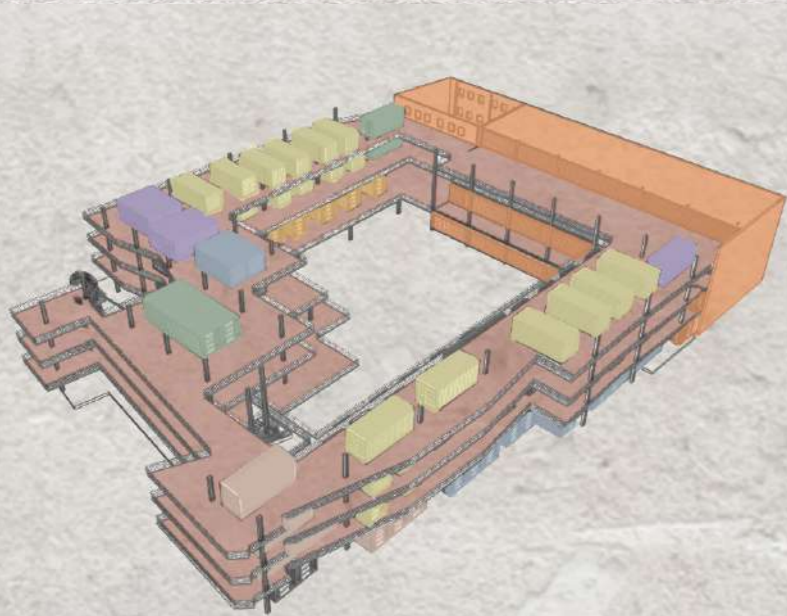
21 m



26,5 m²



4NP 1:500



14 m²



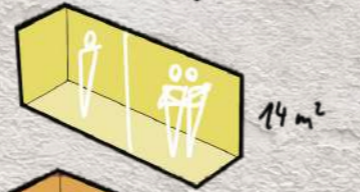
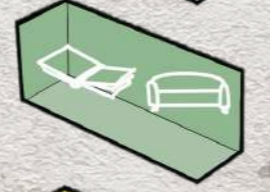
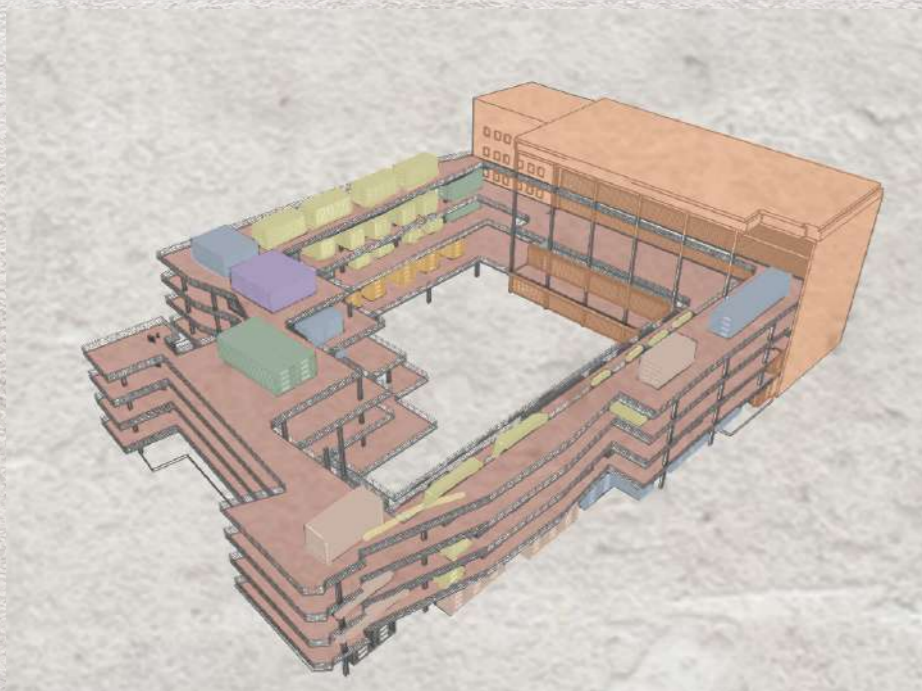
21 m



26,5 m²



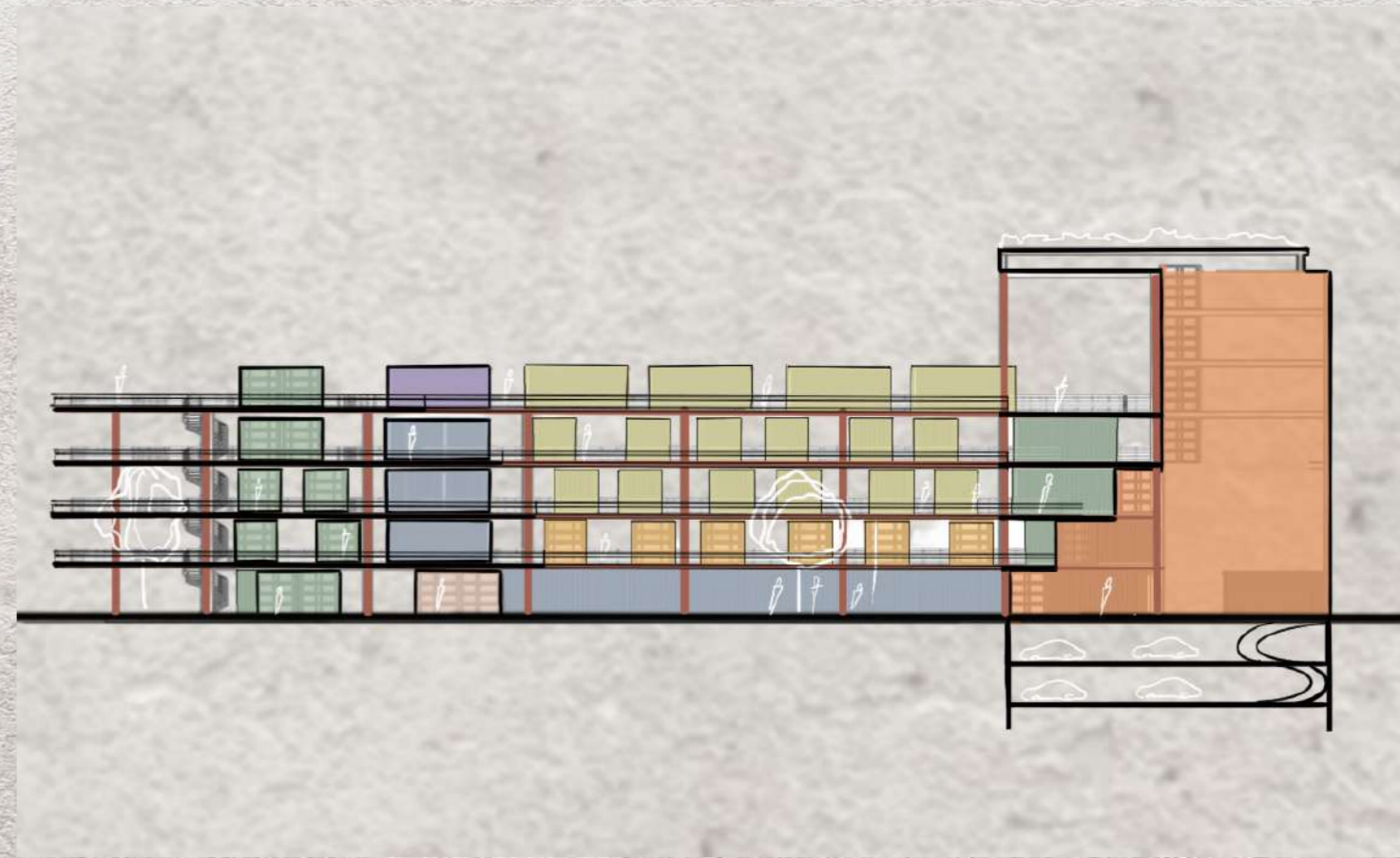
5NP 1:500



EXAMPLE OF CONTAINER



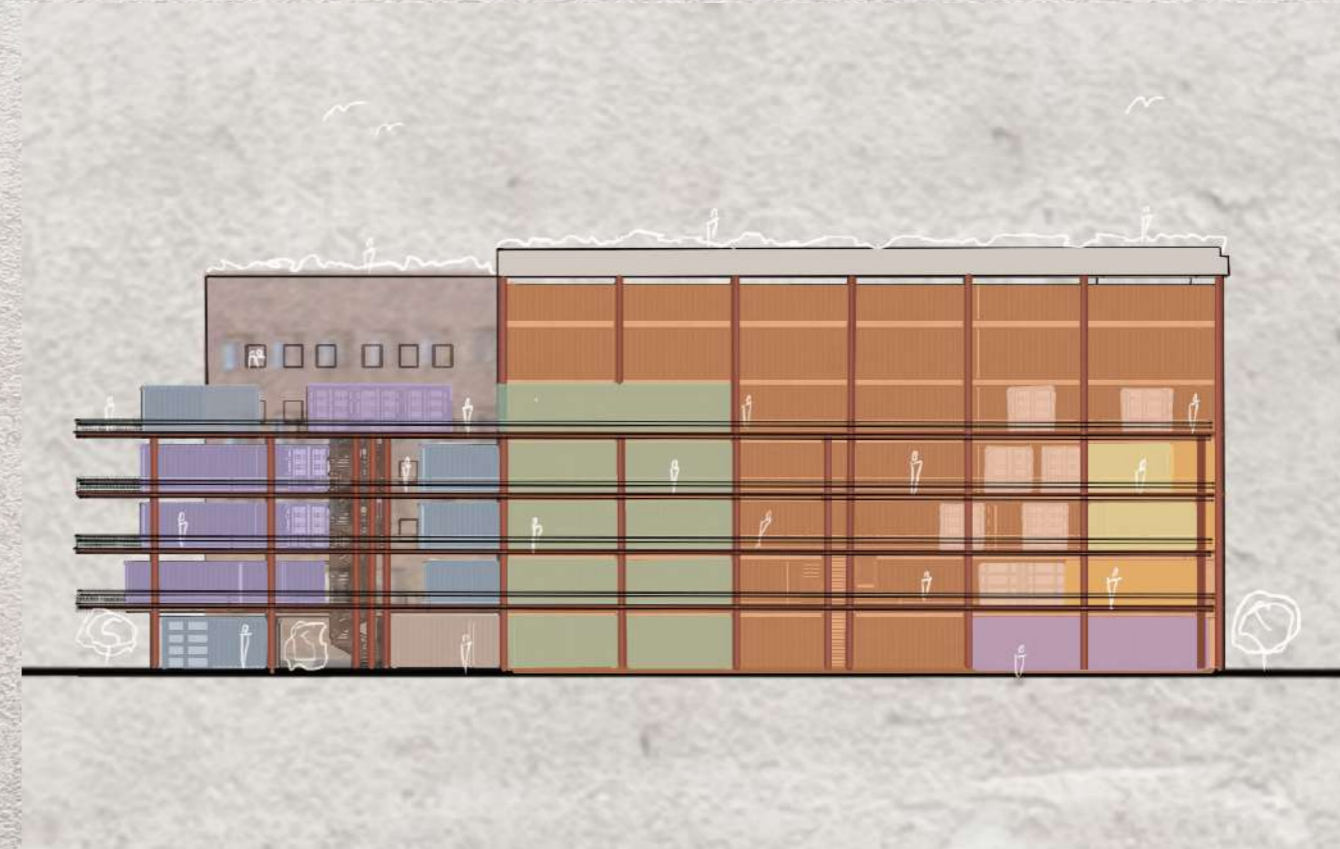
SECTION A-A'



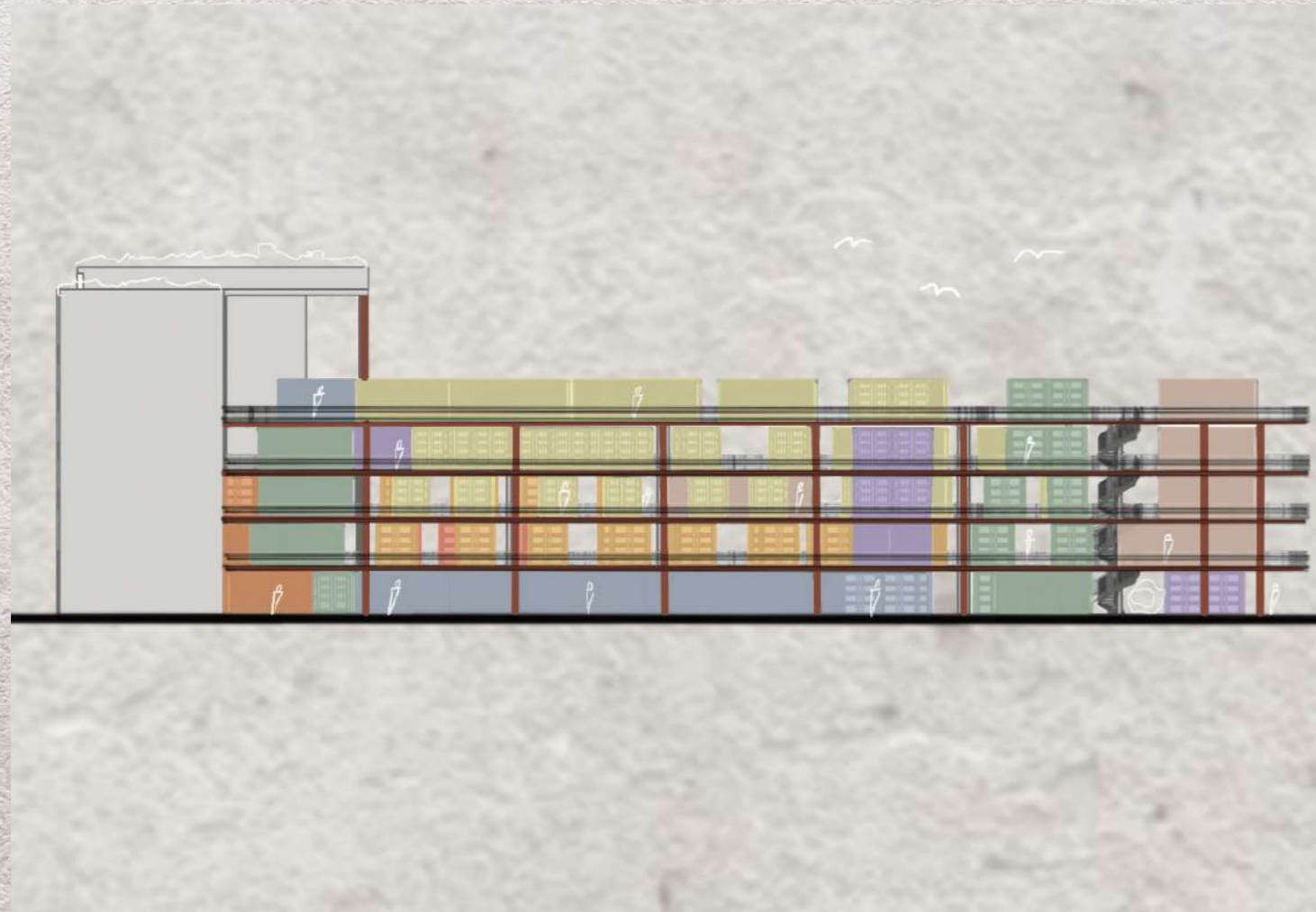
NORTH VIEW



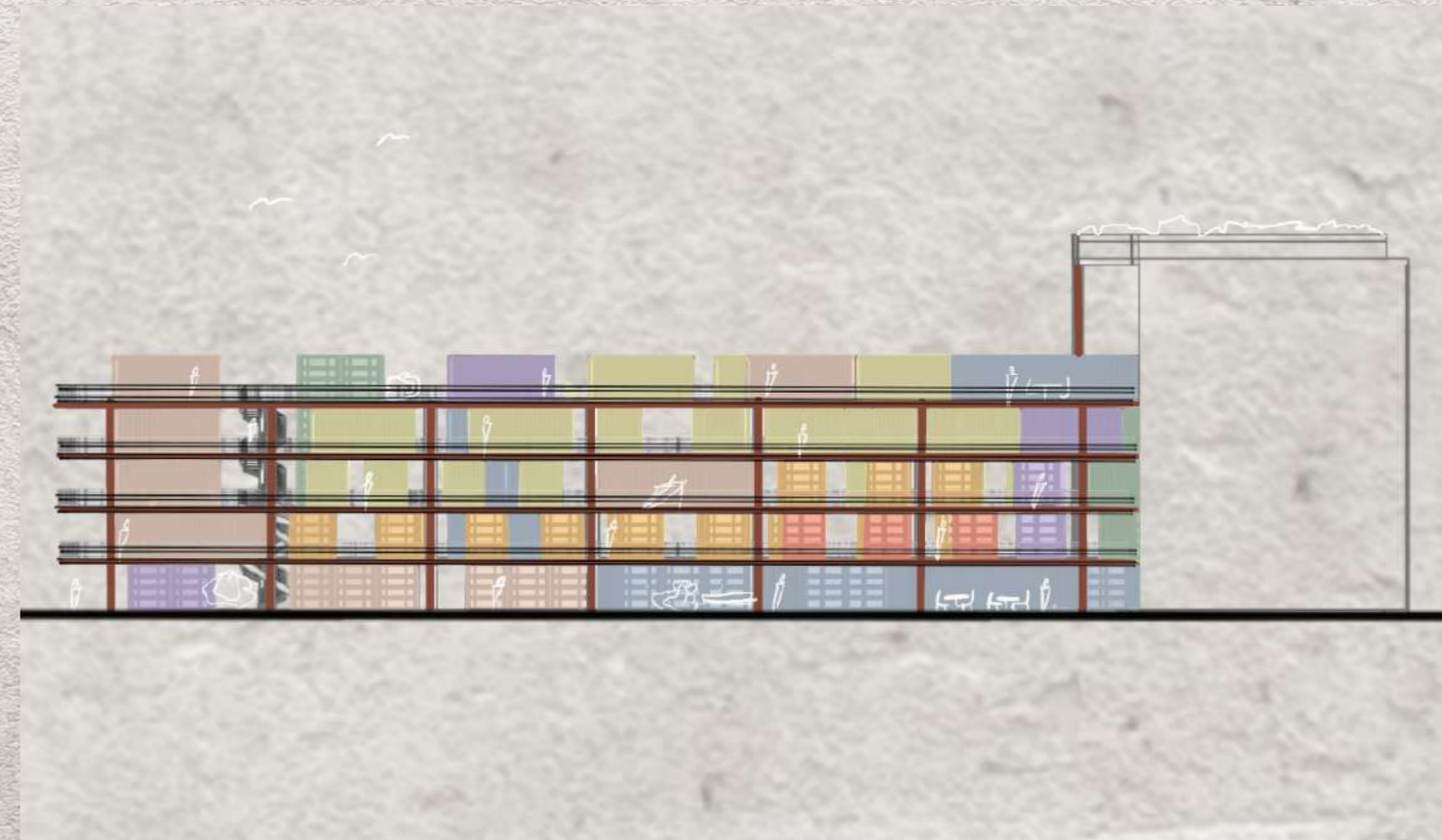
SOUTH VIEW



WEST VIEW



EAST VIEW

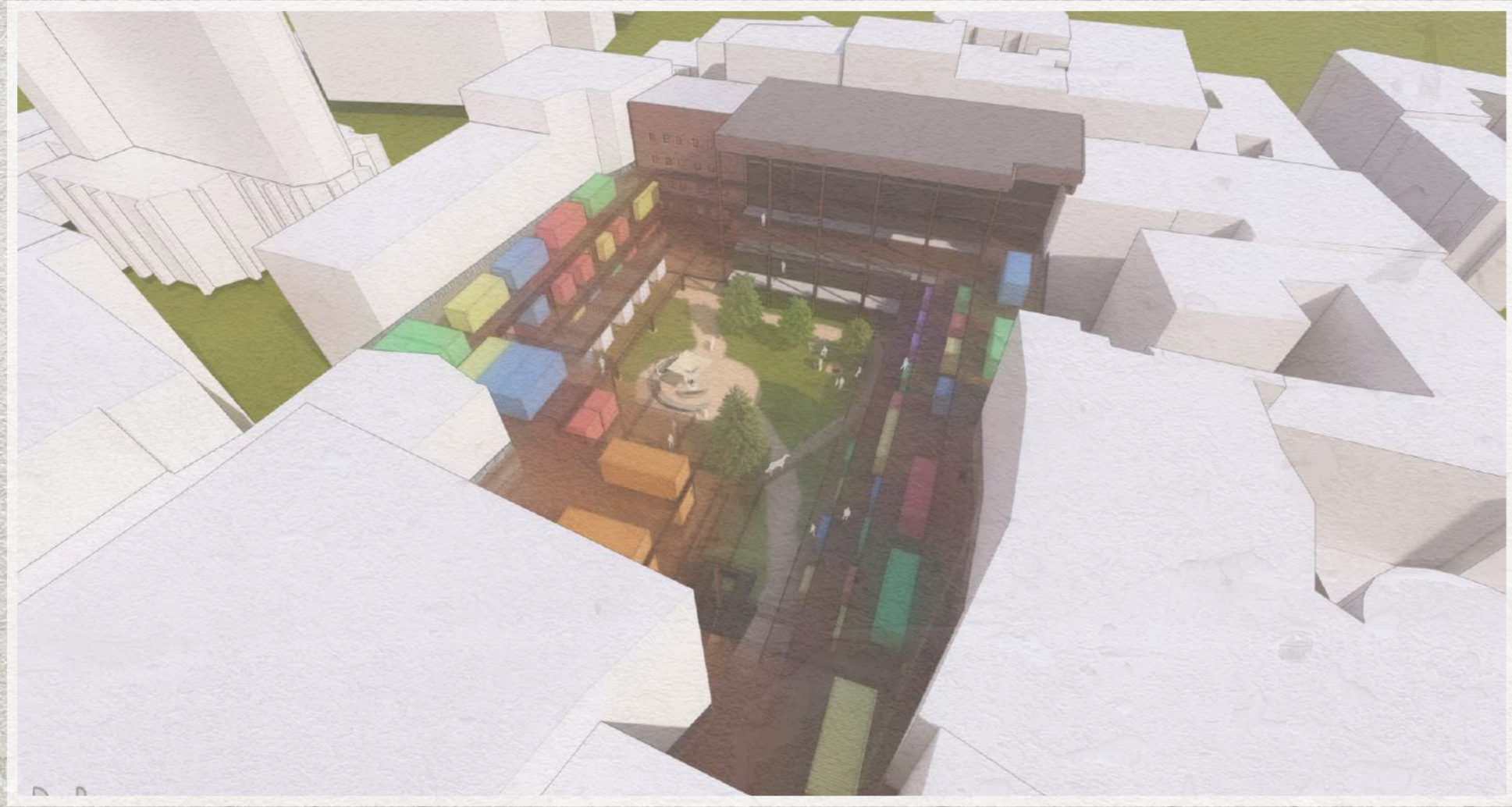


5

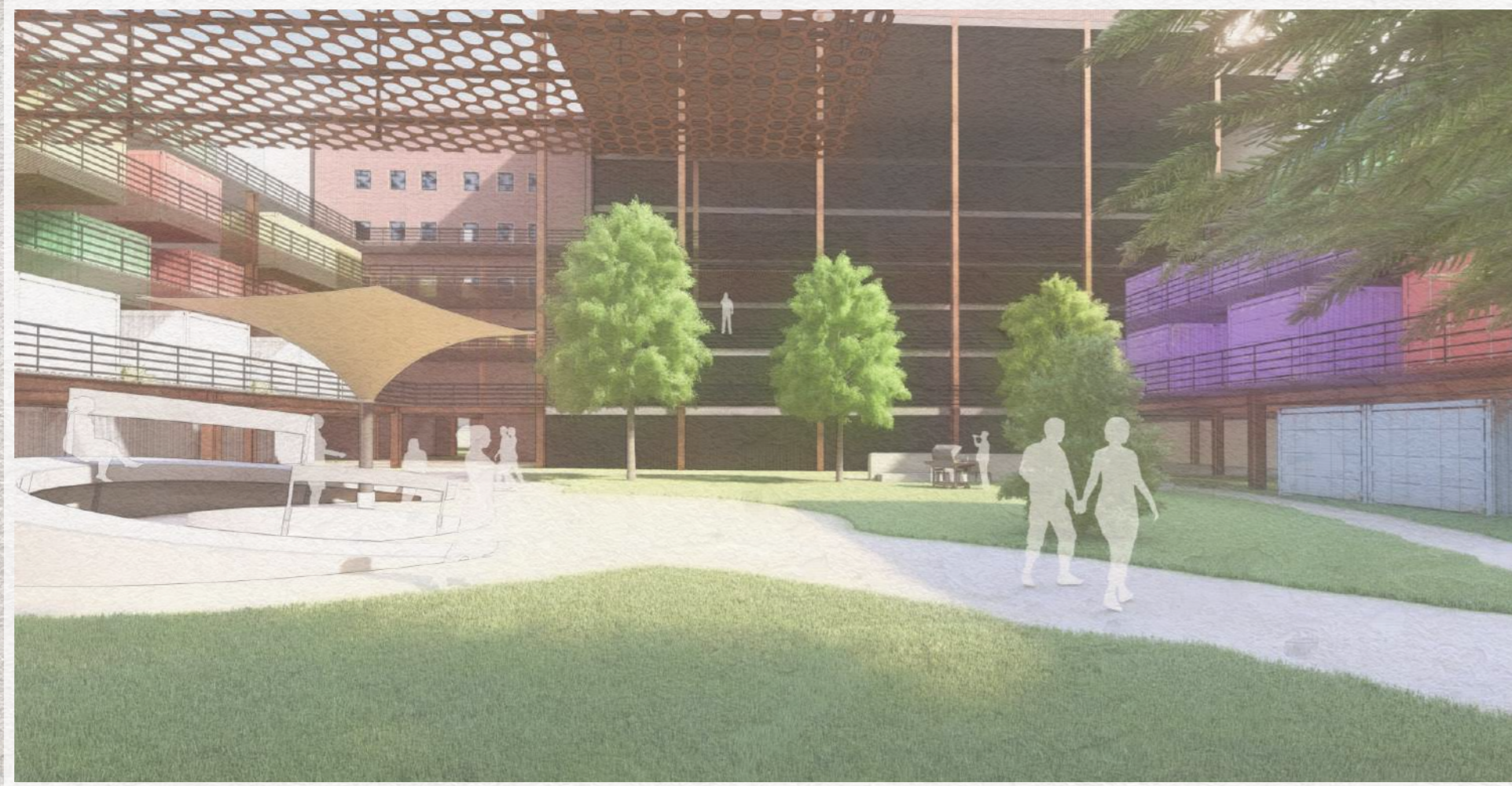
VIZUALIZATIONS

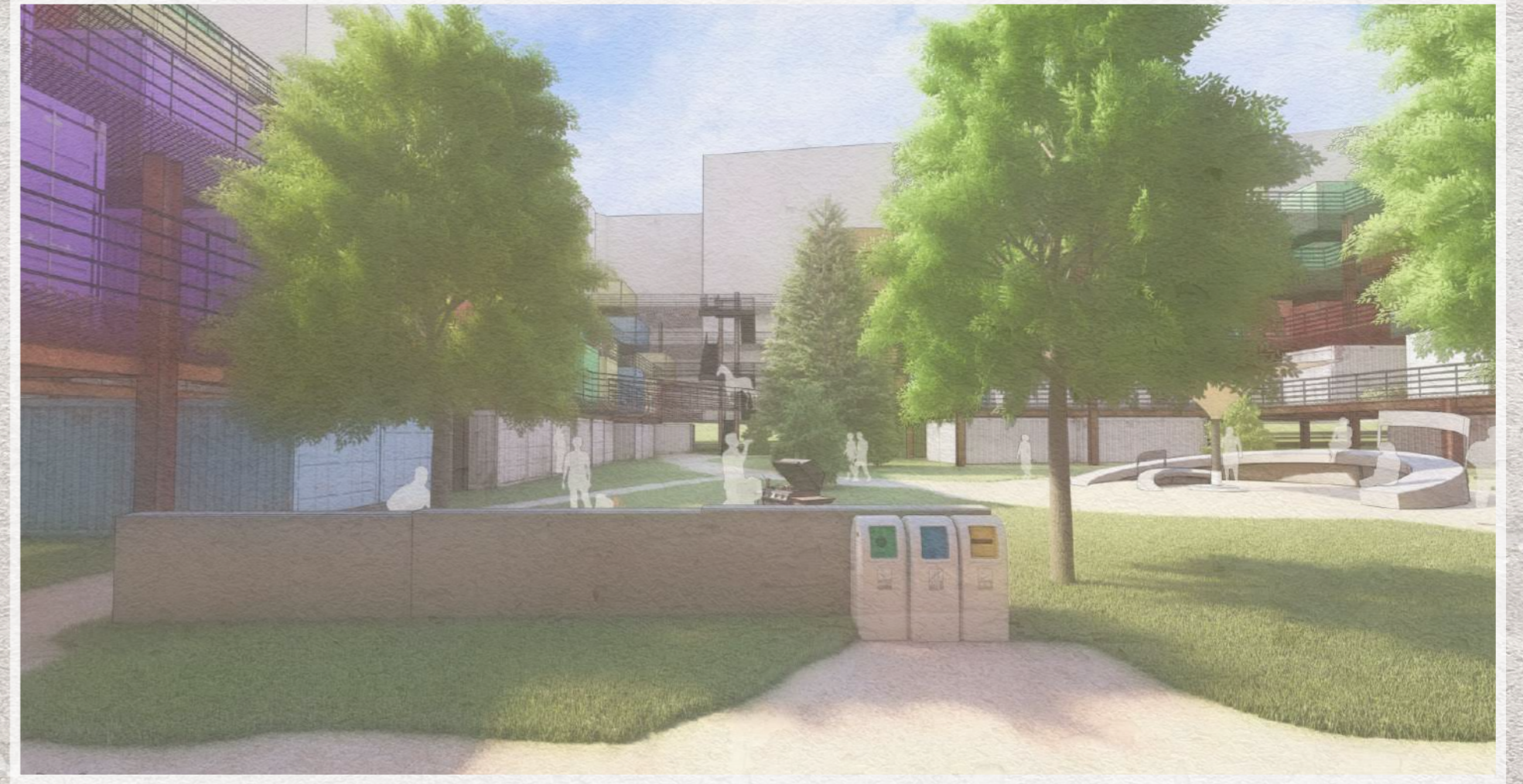
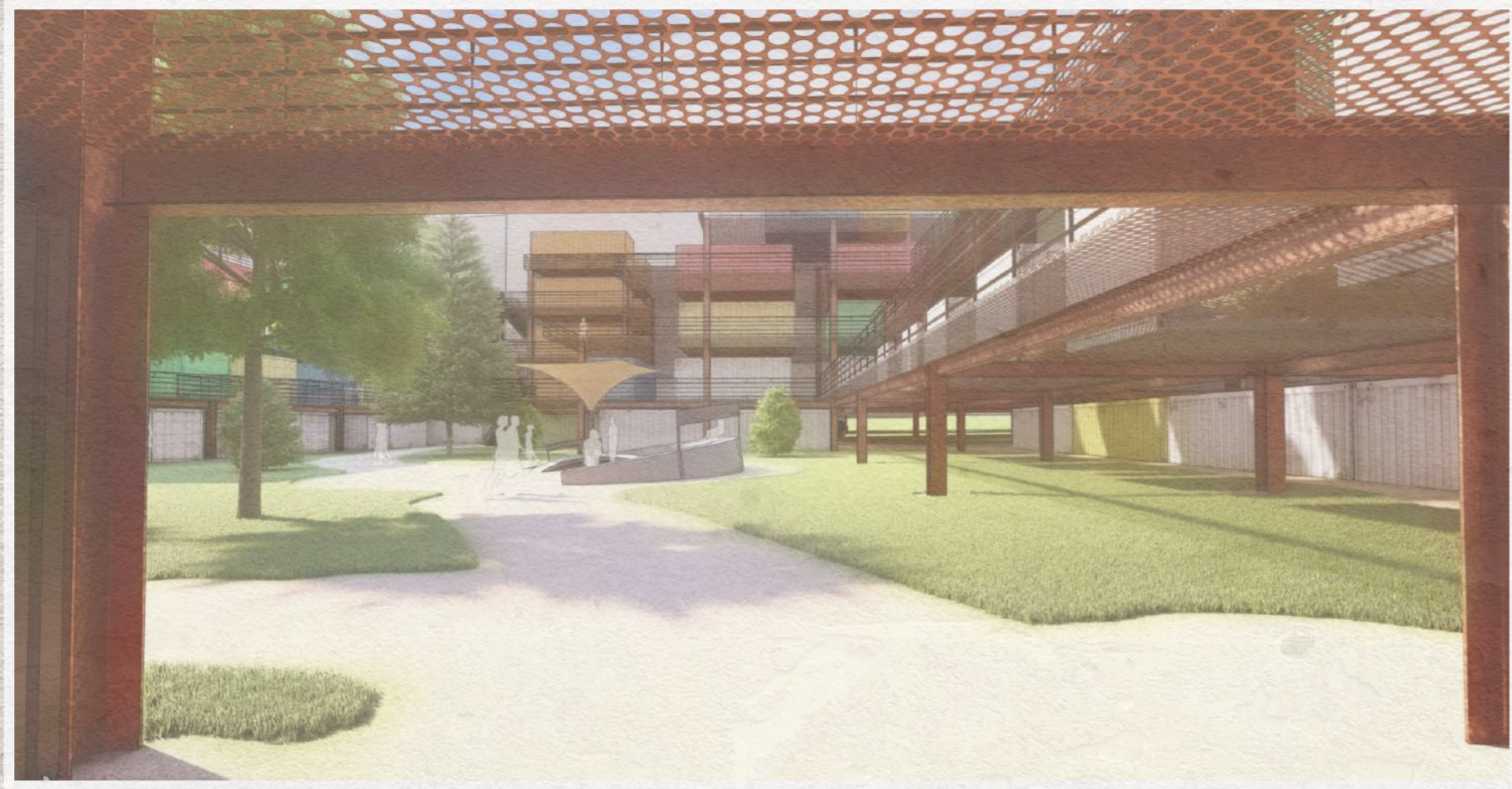
DESIGN OF BUILDING FROM FRONT WONT CHANGE A LOT BUT FROM OTHER SIDE THE COURTYARD IS CREATING A NEW GATHERING PLACE AND COULD BE A CENTRE OF INTEREST FOR LOT OF PEOPLE







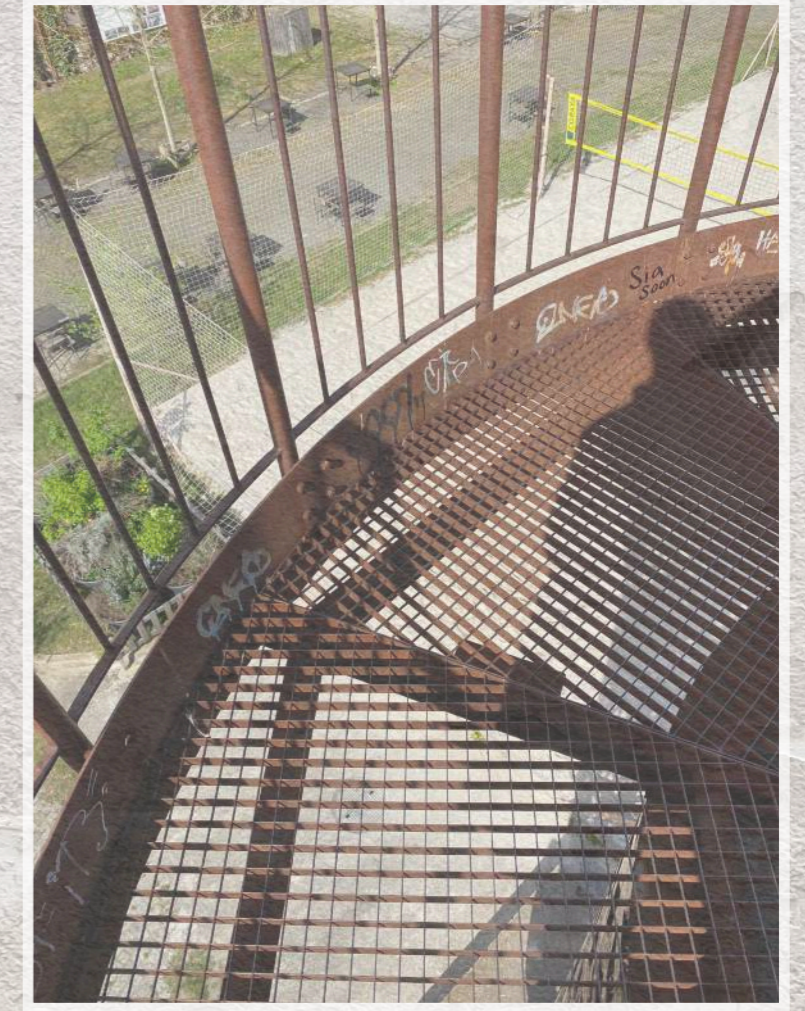


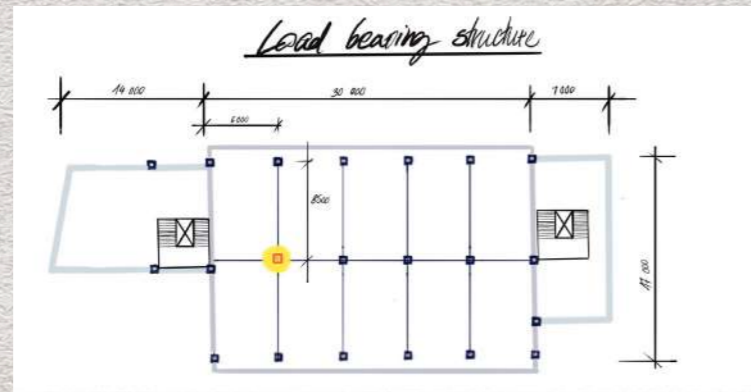


6

MATERIALS AND
TECHNICAL
DETAILS

MATERIALS FOR THE NEW STRUCTURE WILL BE
STEEL COLUMNS
PERFORATED CORTEN FLOOR
SHIPPING CONTAINERS





The total load is 24 kN.
 The column is made of steel with known dimensions square column with dimensions 300x300 mm

$$\text{Stress} = \frac{\text{Load}}{\text{Area of cross section}}$$

$$A = 300 \times 300 = 90\,000 \text{ mm}^2 = 0,09 \text{ m}^2$$

$$\text{Stress} = \frac{24 \text{ kN}}{0,09 \text{ m}^2}$$

$$\text{Stress} = 266\,667 \text{ Pa}$$

$$\sigma = \frac{f_y}{\text{safety factor}}$$

$$\sigma = \frac{250\,000 \text{ Pa}}{1,5}$$

$$\sigma = 166\,667 \text{ Pa}$$

Stress > σ
 $266\,667 > 166\,667 \checkmark$

Moment of inertia

$$I = \frac{b \cdot h^3}{12}$$

$$I = 0,00675 \text{ m}^4$$

Buckling load

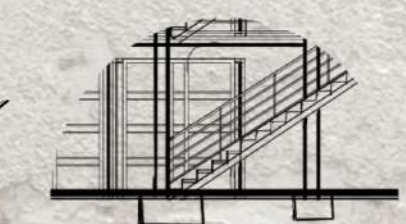
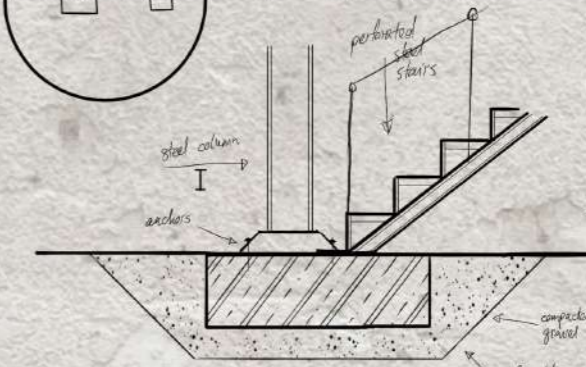
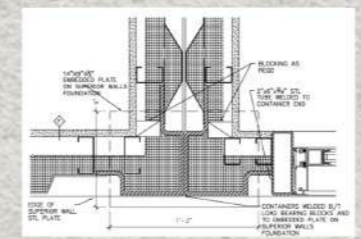
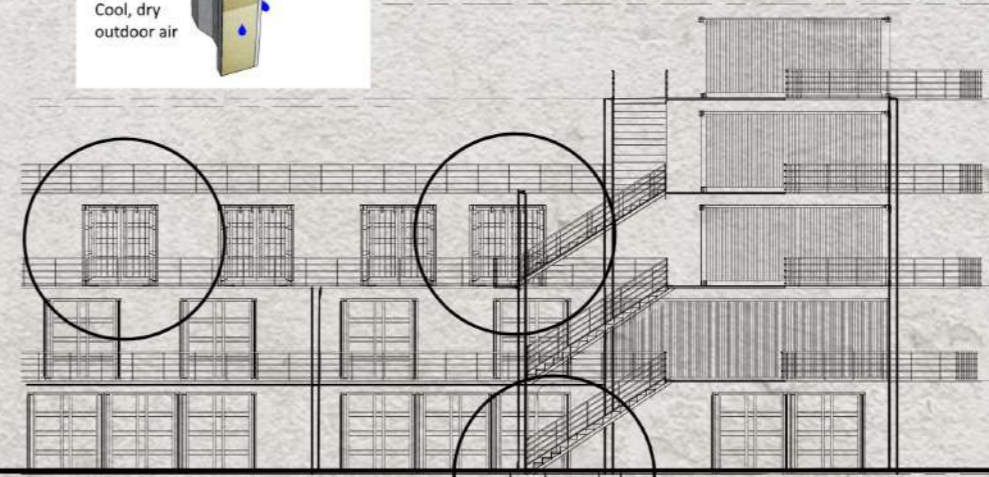
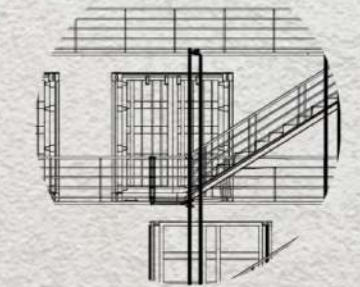
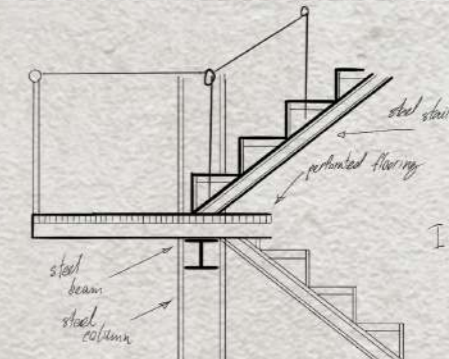
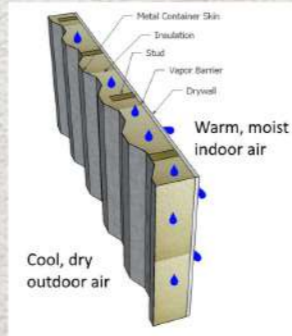
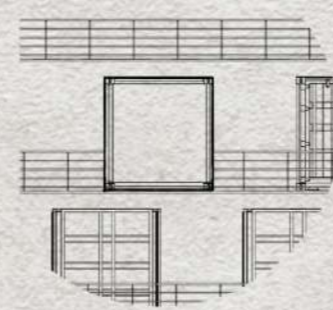
$$P_{cr} = \frac{\pi^2 \cdot 200 \cdot 10^9 \cdot 0,00675}{(1,25)^2}$$

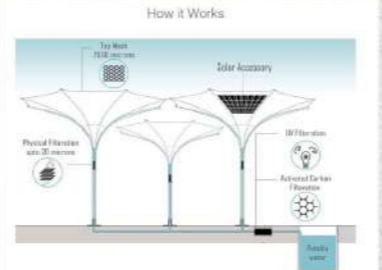
$$P_{cr} = 157,92 \text{ kN}$$

$P_{cr} > \text{total load}$

Stable under applied load \checkmark

Construction details





CONTAINER STUDENT HOUSING

THE PROPOSED REPURPOSING OF THE PETRSKÁ BUILDING INTO STUDENT HOUSING COMBINES HISTORICAL PRESERVATION WITH MODERN FUNCTIONALITY, ADDRESSING THE GROWING DEMAND FOR SUSTAINABLE ACCOMMODATION IN PRAGUE. INTENTION IS TO MAKE A NEW FORM OF STUDENT LIVING, ACCORDING TO NEEDS AND SPECIFICATIONS FOR THE SITE. TO PROPOSE ALTERNATIVE FORM OF SHARED AND SINGLE LIVING, SUPPORTING SOCIAL GATHERING AND COMMUNICATION AND CONNECTIONS BETWEEN USERS.