

TRANSFORMATION STRUCTURALISM

21ST CENTURY UNIVERSITY IN A 70'S STRUCTURALIST BUILDING



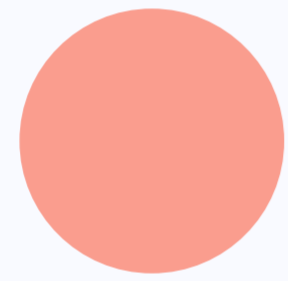
VALERY ESHUIS
HERITAGE & ARCHITECTURE
FUTURE OF STRUCTURALISM
TUDELFT

CONTENT



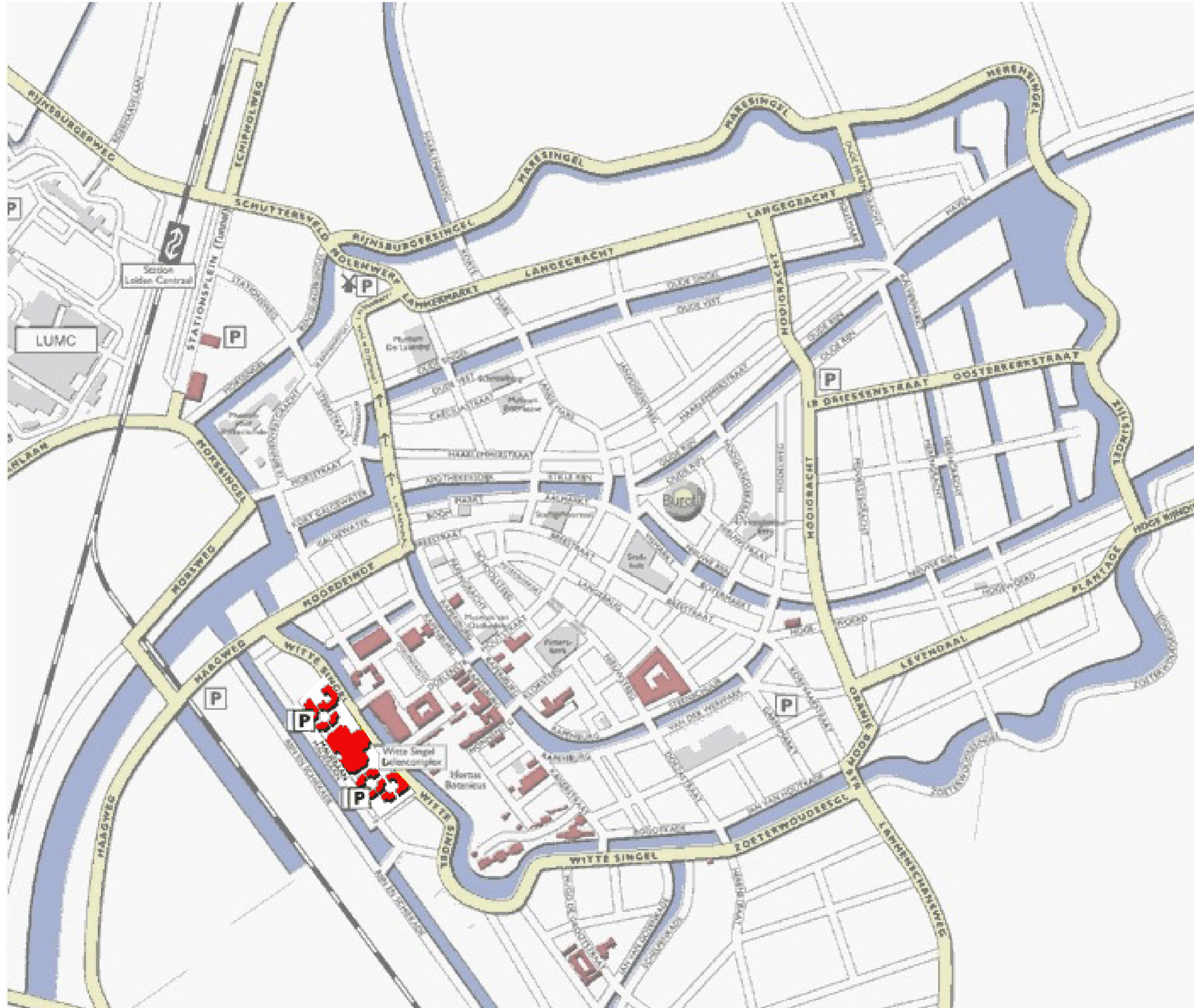
PART 1	CONTEXT
PART 2	STRUCTURALISM
PART 3	21 ST CENTURY UNIVERSITY ANALYSIS
PART 4	CULTURAL VALUE
PART 5	INTERVENTION AND TECHNICAL CONSEQUENCES
	CONCLUSION

PART 1

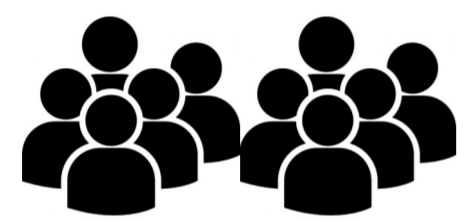


CONTEXT | INTRODUCING EXISTING SITUATION

CONTEXT | LOCATION LEIDEN



CONTEXT | PROBLEM STATEMENT



Universiteit
Leiden



CONTEXT | SITE



FACULTY OF HUMANITIES

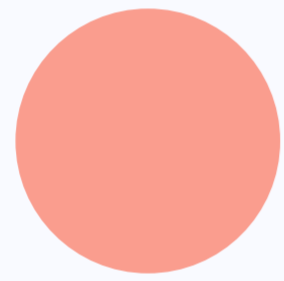
RESEARCH QUESTION

HOW CAN THE FACULTY OF HUMANITIES BE RE-USED TO ACCOMMODATE THE 21ST CENTURY UNIVERSITY REQUIREMENTS AND HOUSING FOR STUDENTS, WHILST AT THE SAME TIME MAINTAINING ITS CHARACTER AS A STRUCTURALIST BUILDING?

RESEARCH QUESTION

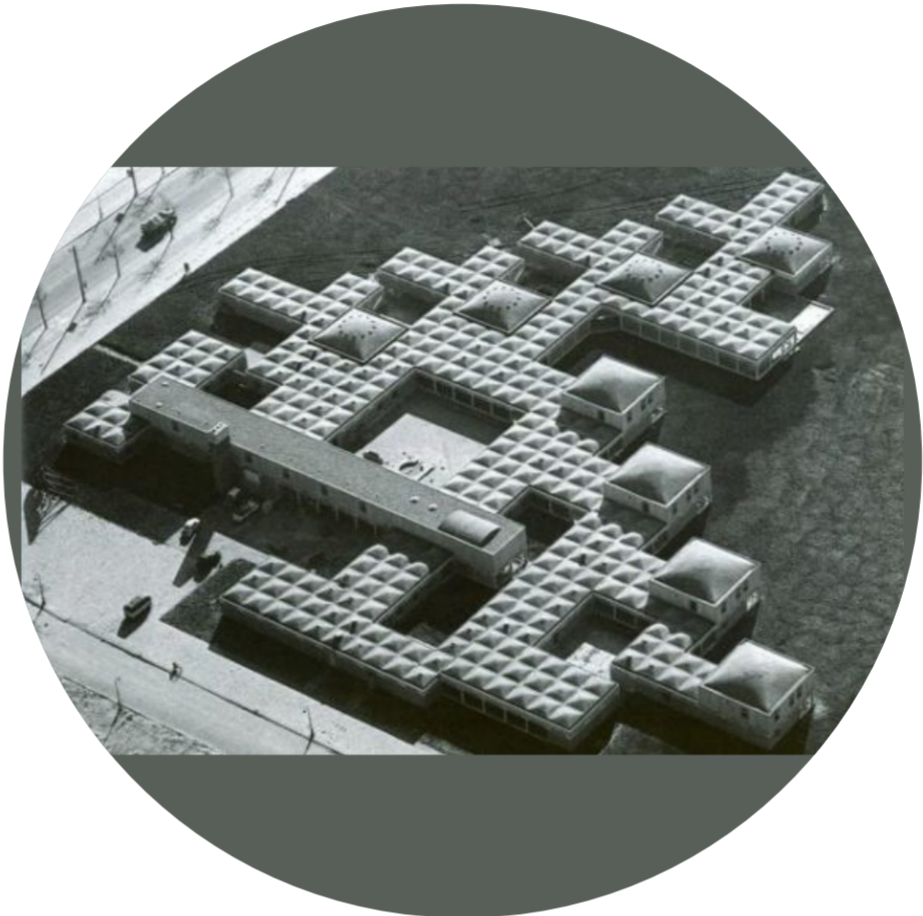
*HOW CAN THE FACULTY OF HUMANITIES BE **RE-USED** TO ACCOMMODATE THE **21ST CENTURY UNIVERSITY REQUIREMENTS** AND **HOUSING FOR STUDENTS**, WHILST AT THE SAME TIME MAINTAINING ITS CHARACTER AS A **STRUCTURALIST BUILDING**?*

PART 2



STRUCTURALISM | BUILDING DESIGN, ARCHITECT

STRUCTURALISM | THEORY RESEARCH



1953

1956

1960

1967

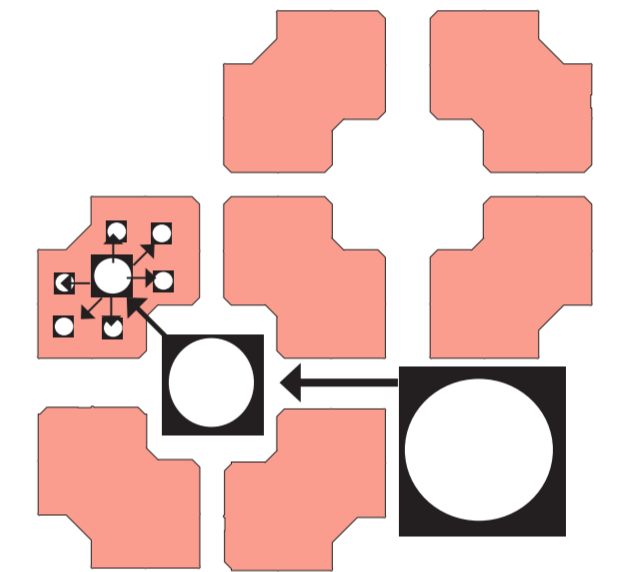
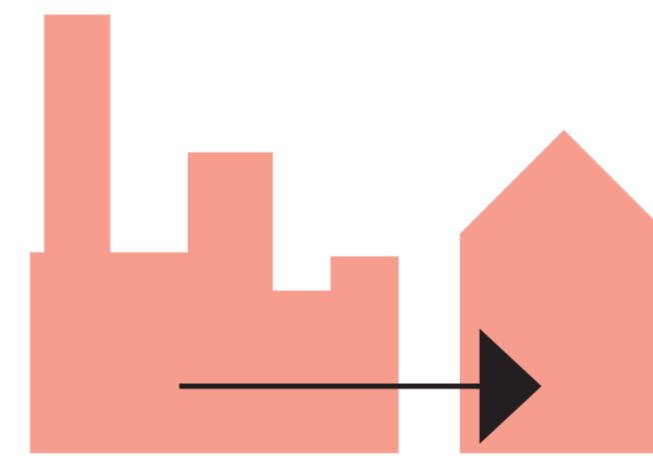
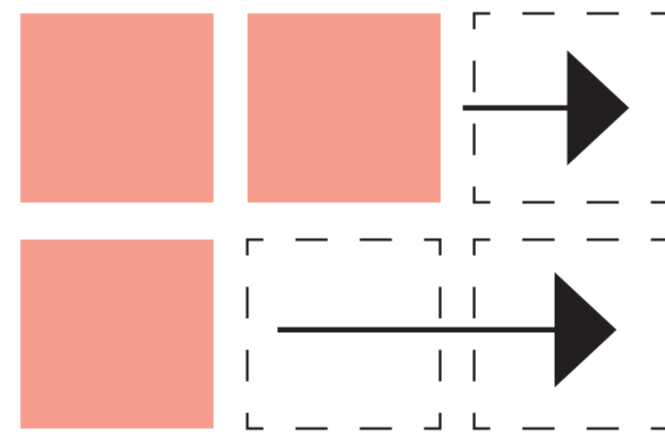
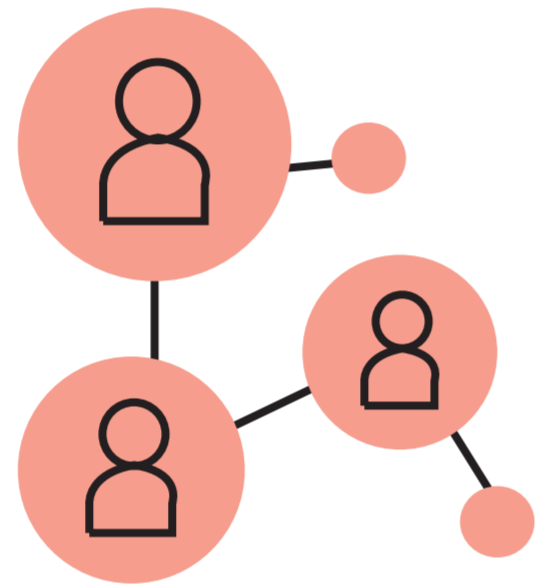
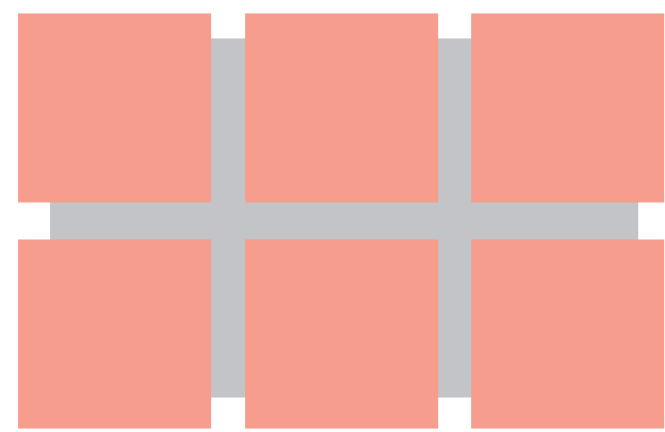
JOOP VAN STIGT
STARTS CAREER

FOUNDING TEAM 10
STRUCTURALISM
DISCUSSIONS

FIRST STRUCTURALISM
EXAMPLE

FACULTY OF
HUMANITIES

STRUCTURALISM | CORE PRINCIPLES STRUCTURALISM



1. UNITS

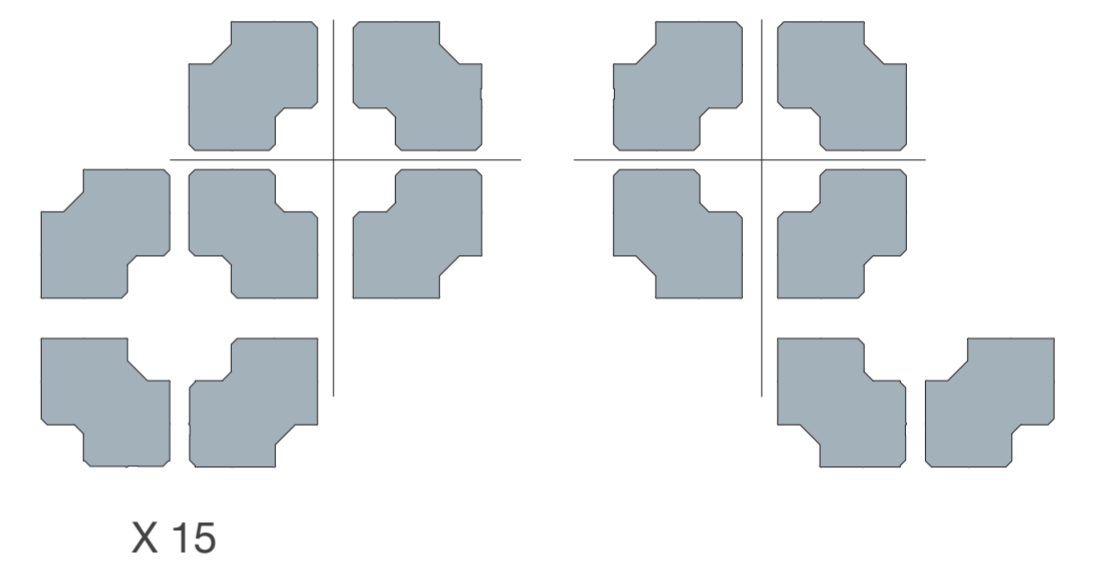
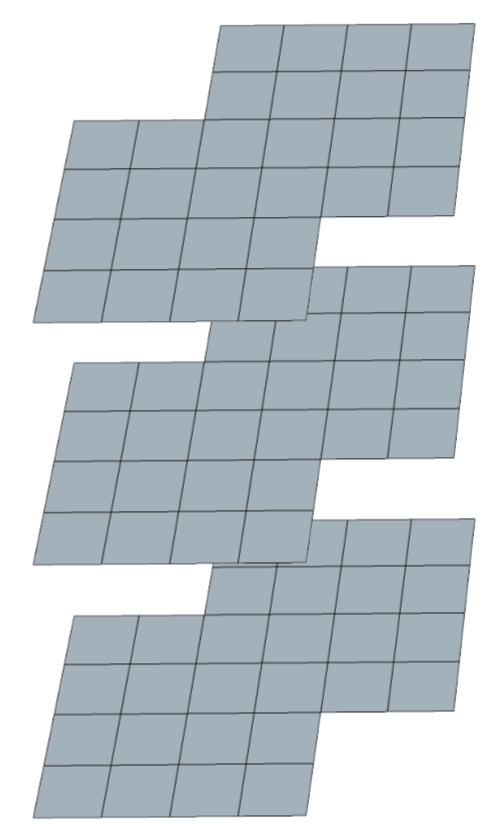
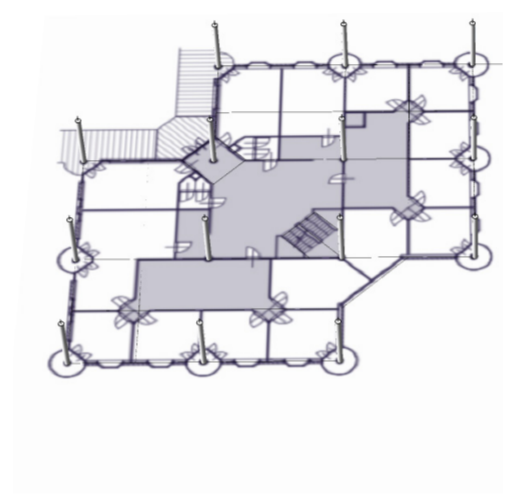
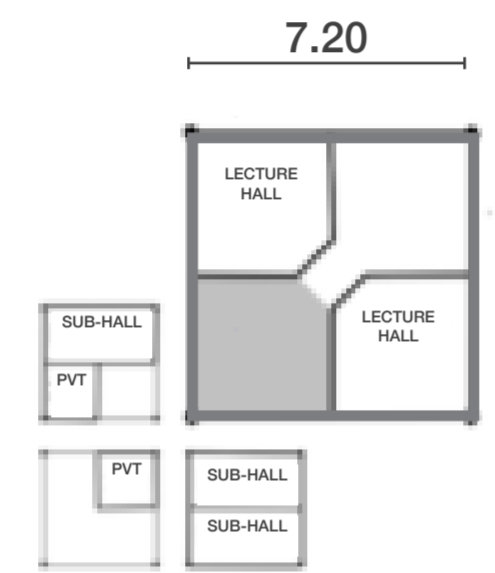
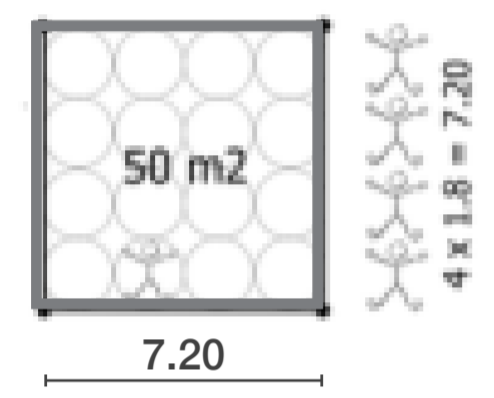
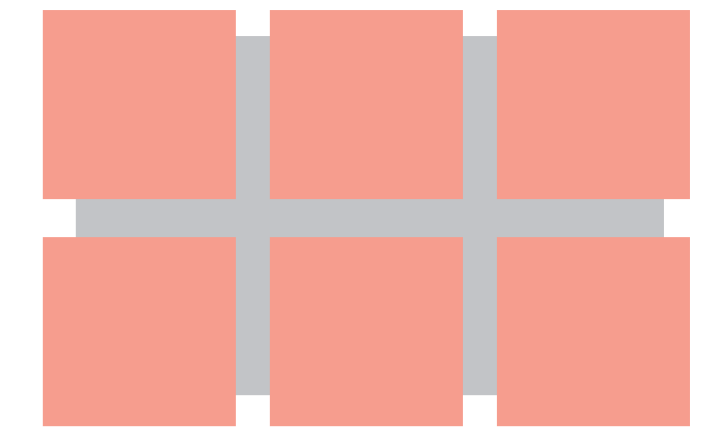
2. SOCIAL INTERACTION

3. OPEN ENDED

4. BUILDING AS A CITY

5. SEQUENCE OF SPACE

STRUCTURALISM | 1/5 UNITS



HUMAN SIZE GRID

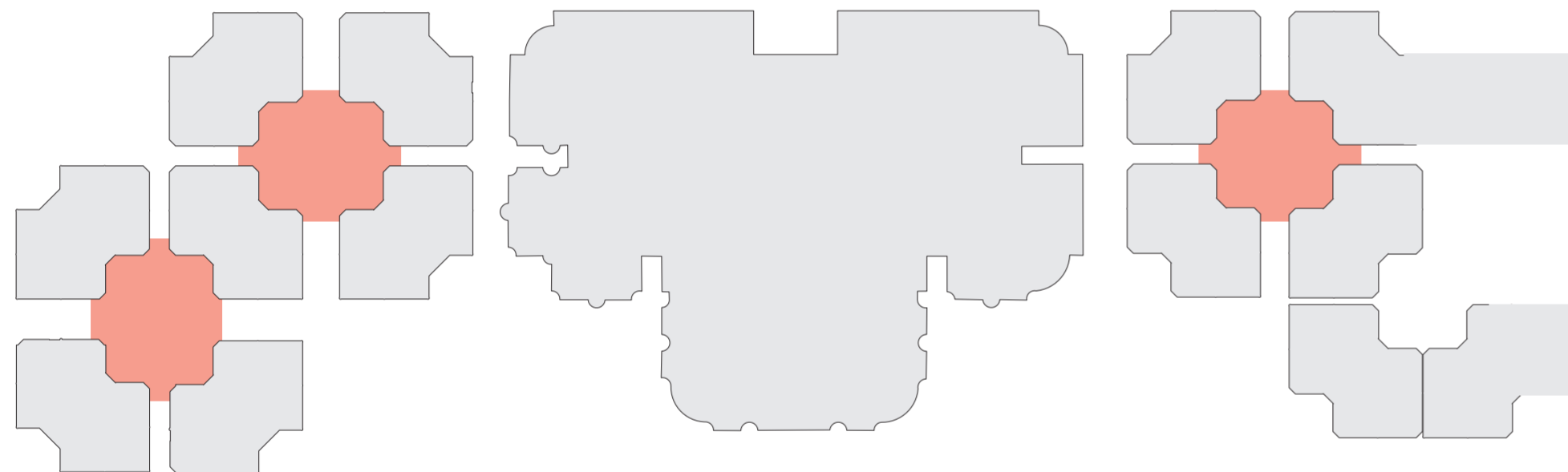
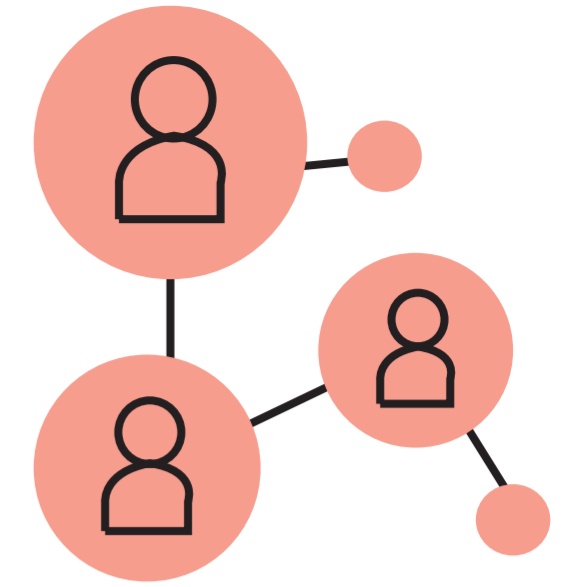
TYPES OF STUDY SPACES

TYPICAL FLOOR PLAN

BUILDING CLUSTERS

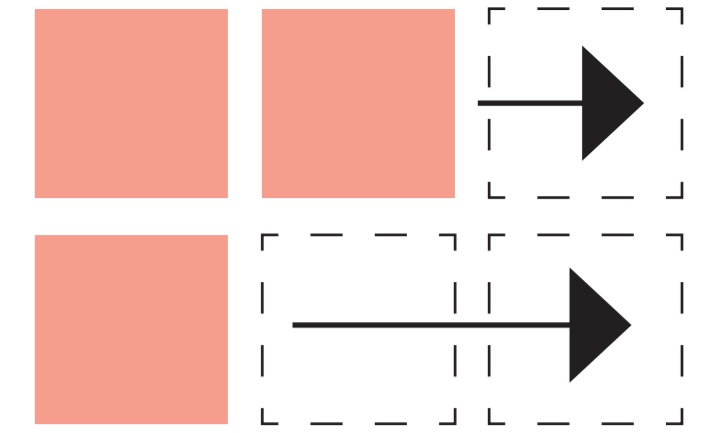
ENTIRE COMPLEX

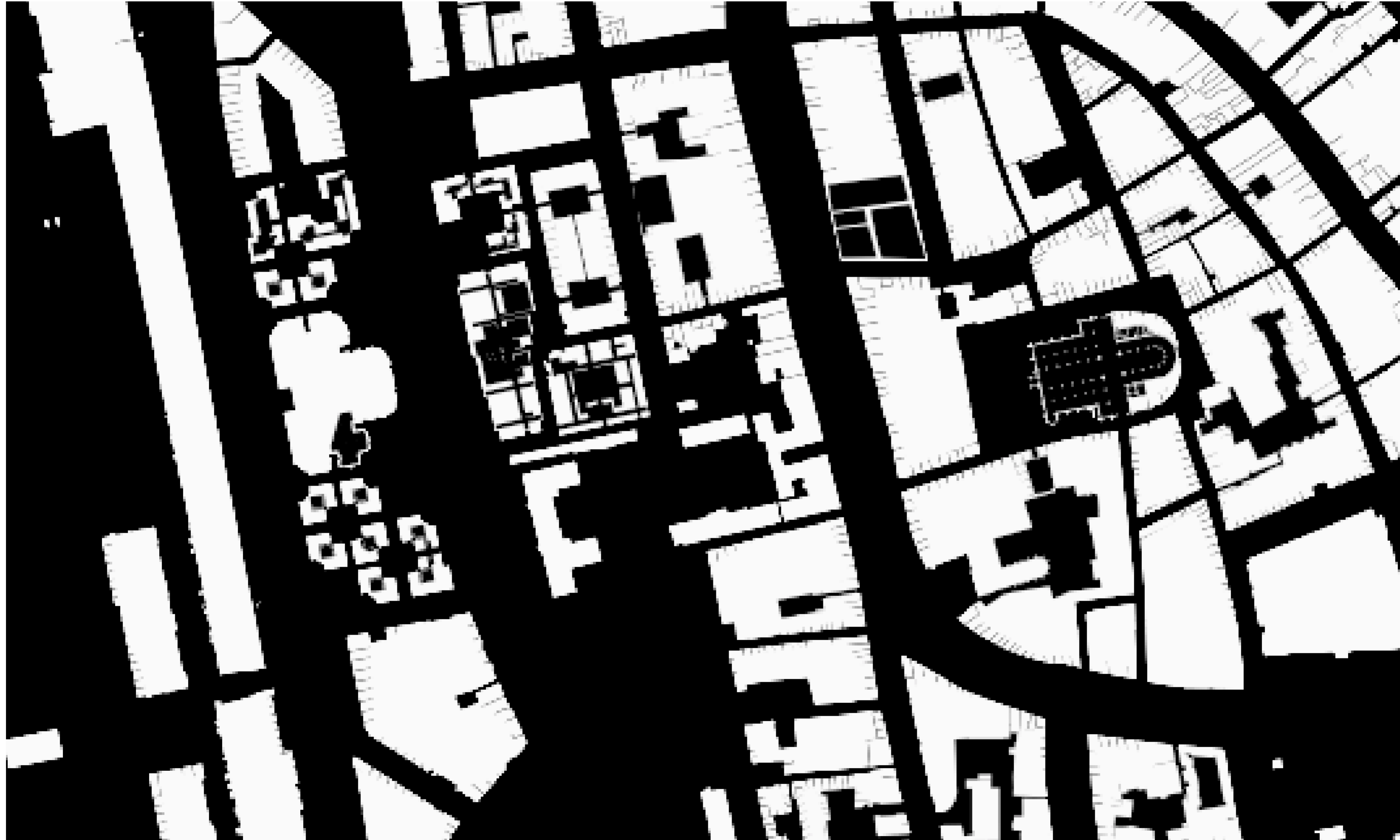
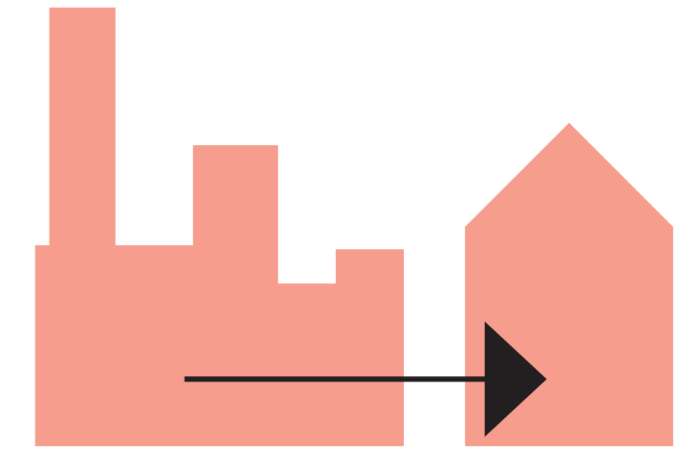
STRUCTURALISM | 2/5 SOCIAL INTERACTION



SKETCH- IMPRESSION BY JOOP VAN STIGT (JOOP VAN STIGT, 1970S)

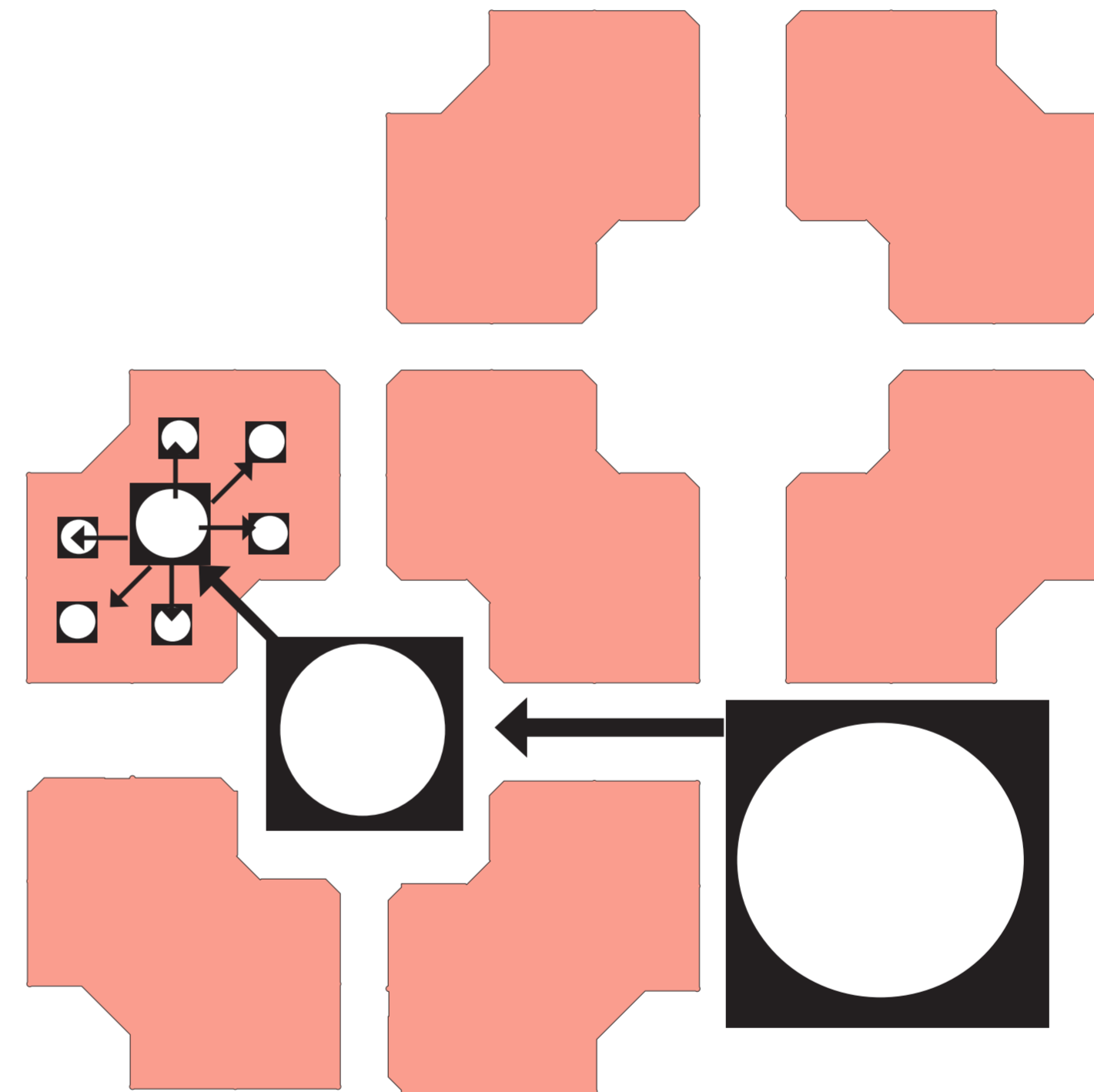
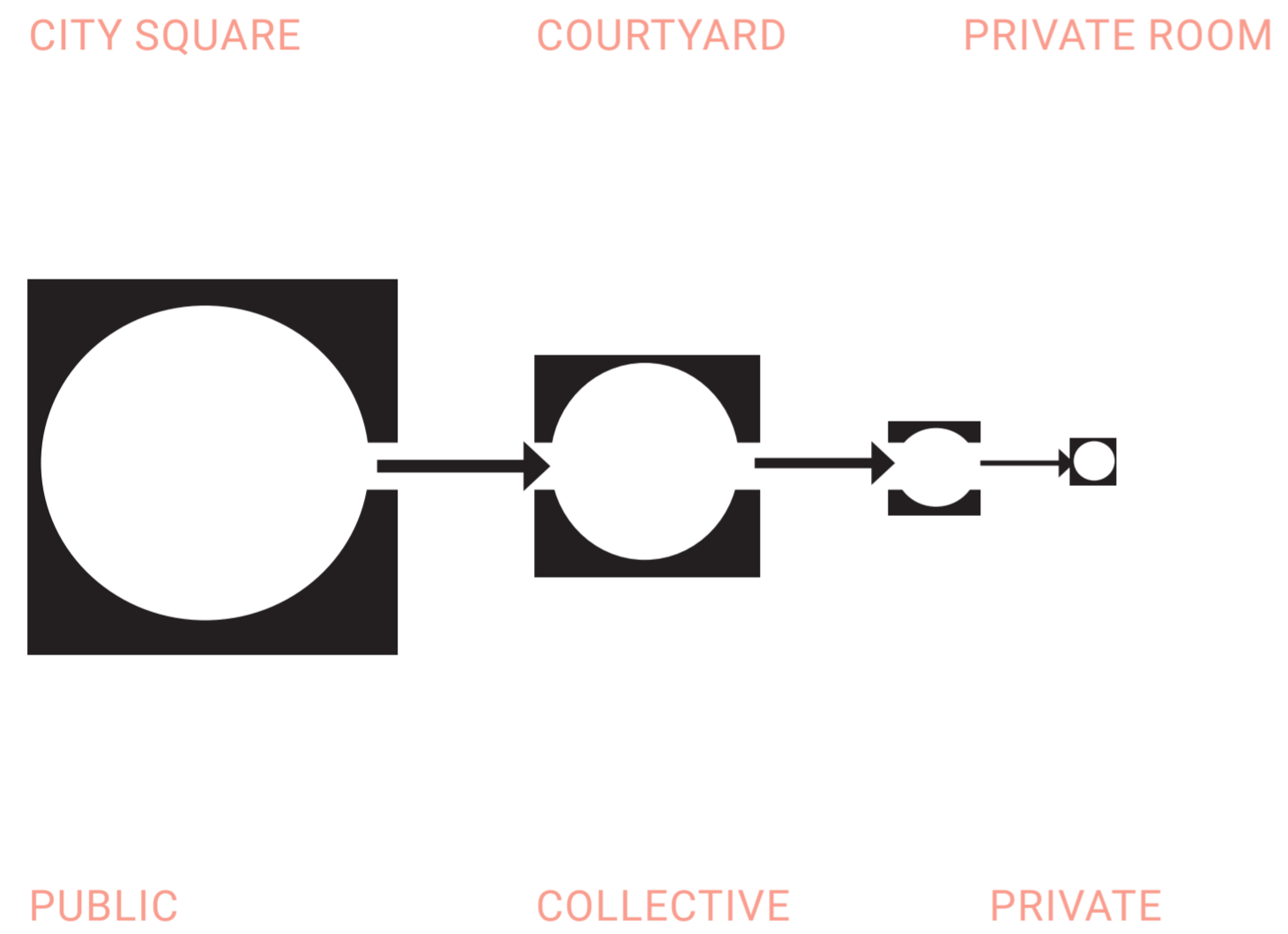
STRUCTURALISM | 3/5 OPEN ENDED



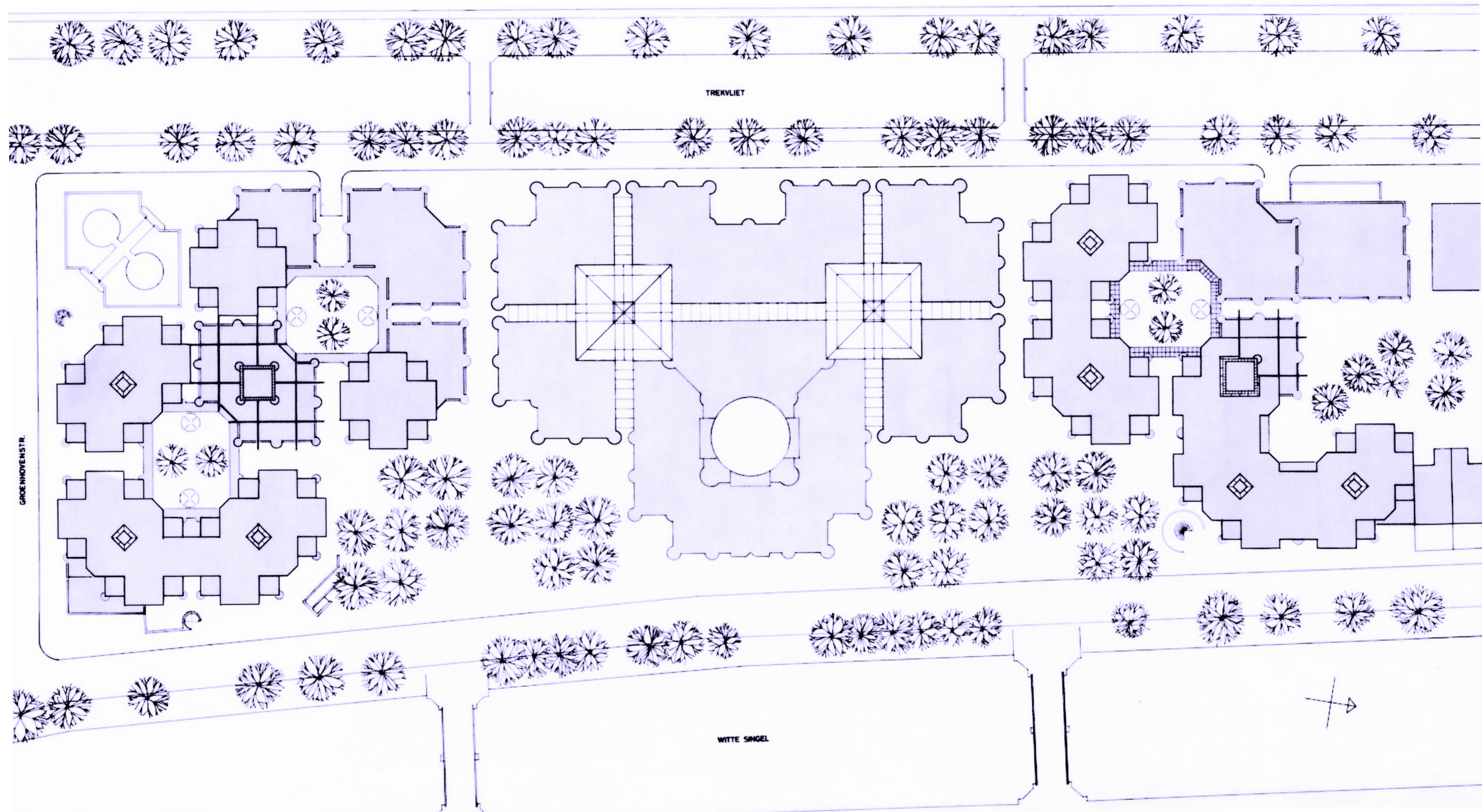


ANALYSIS DRAWING J. HETTEMA

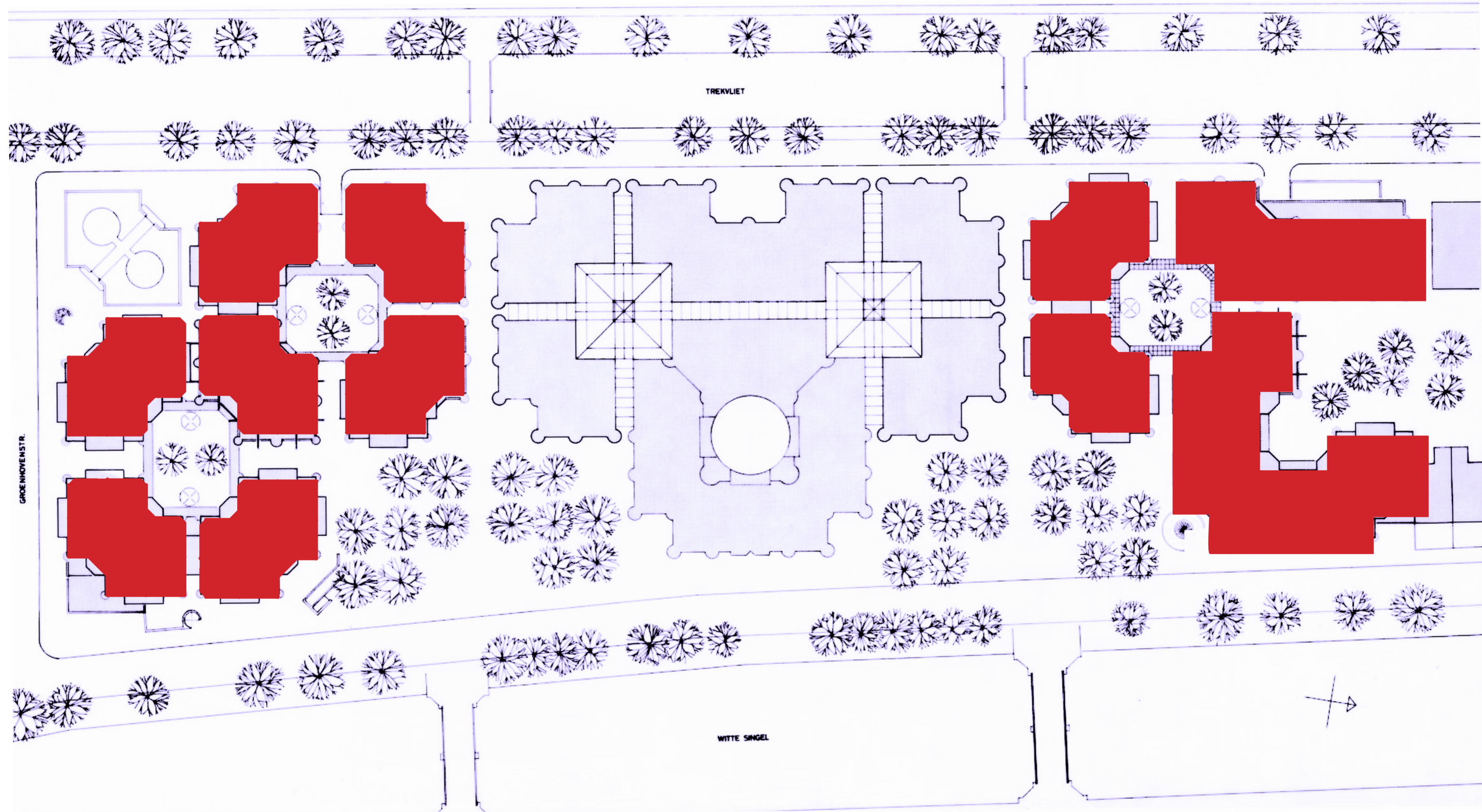
STRUCTURALISM | 5/5 SEQUENCE OF SPACE



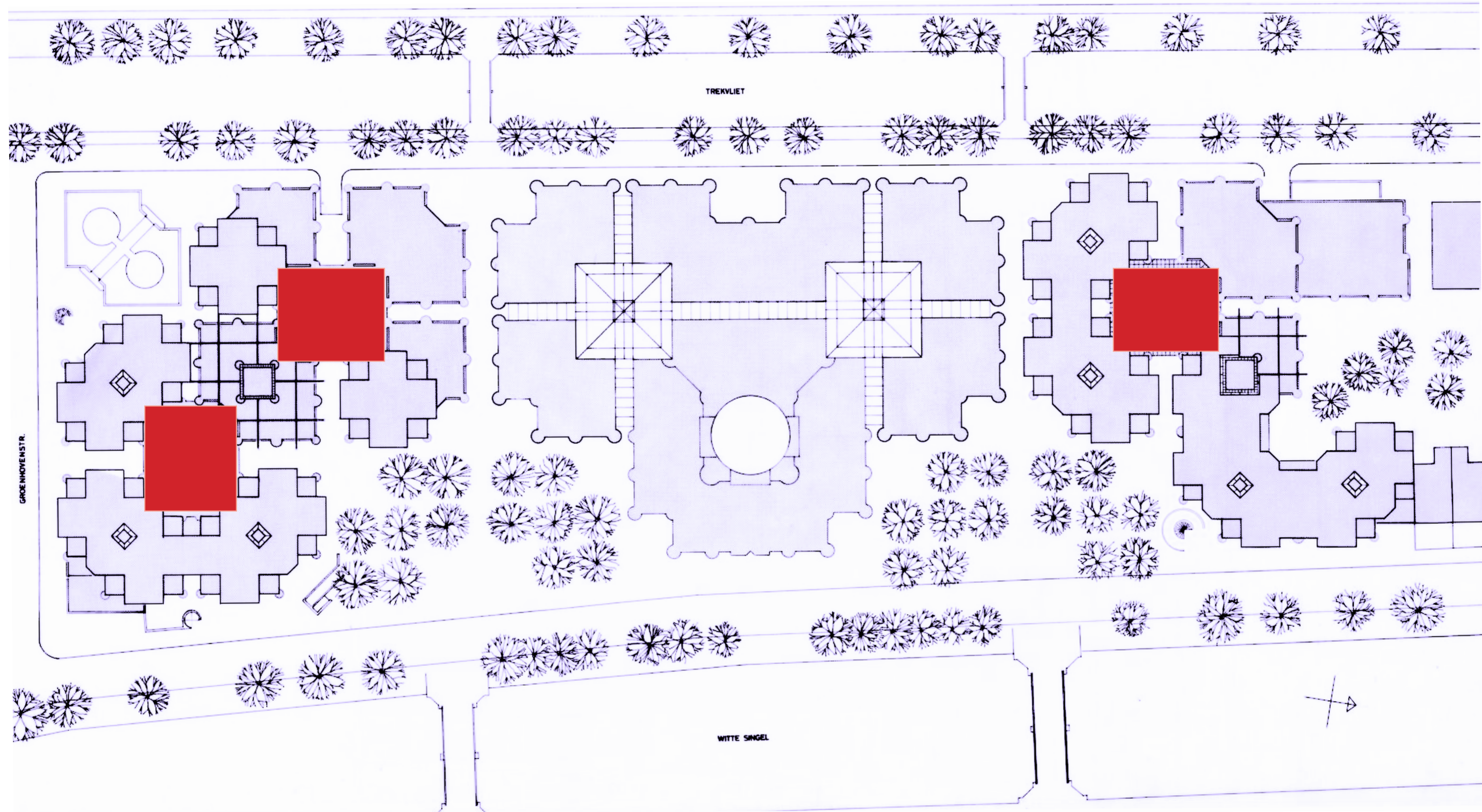
STRUCTURALISM | ARCHIVAL DRAWING ANALYSIS



STRUCTURALISM | ARCHIVAL DRAWING ANALYSIS



STRUCTURALISM | ARCHIVAL DRAWING ANALYSIS

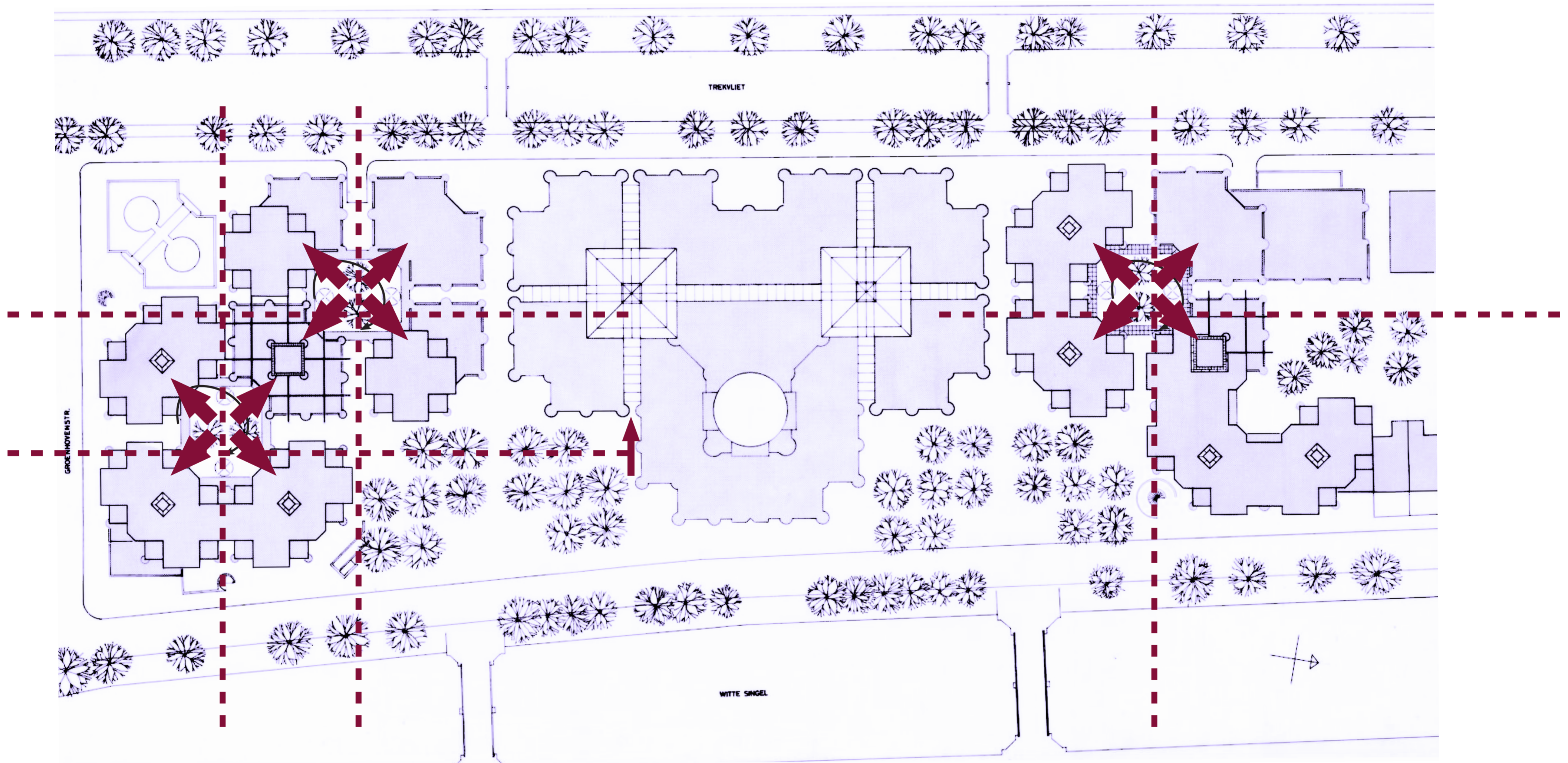


STRUCTURALISM | EXISTING COURTYARD

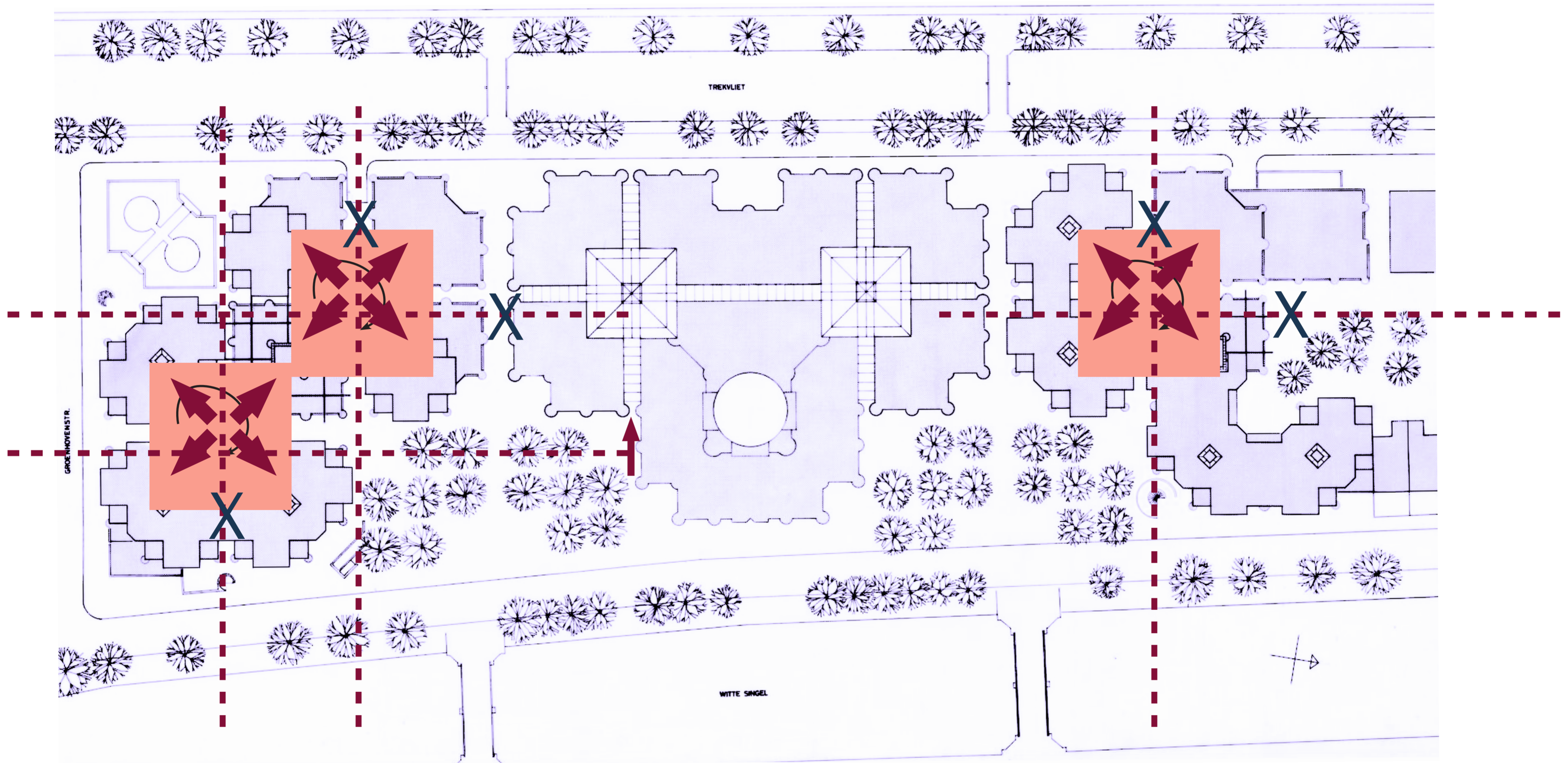


PHOTOS FACULTY OF HUMANITIES BY V.ESHUIS

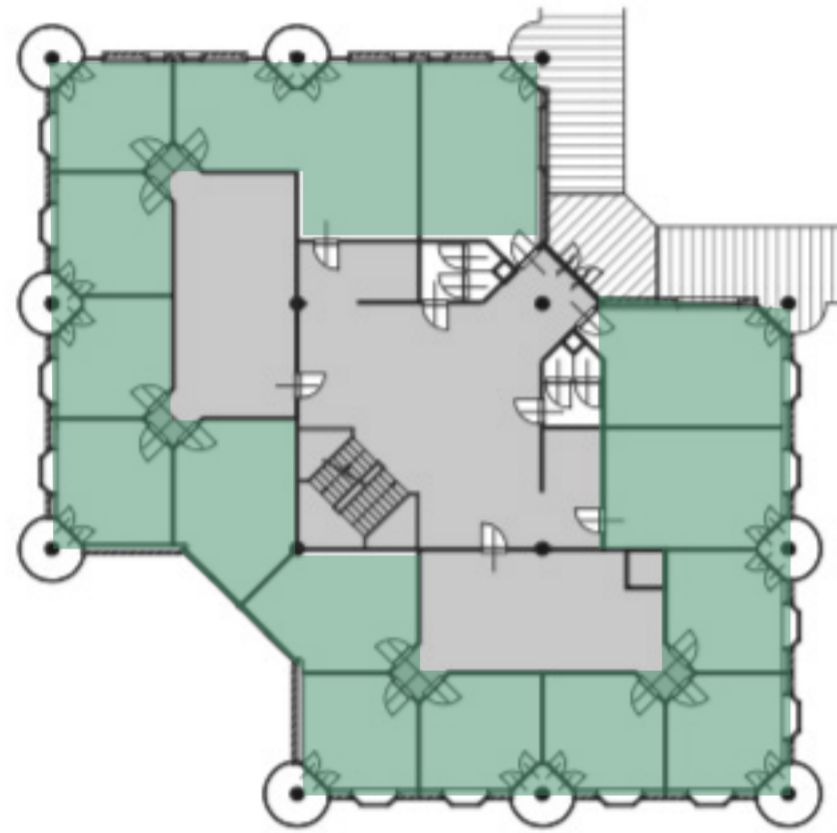
STRUCTURALISM | ARCHIVAL DRAWING ANALYSIS



STRUCTURALISM| ARCHIVAL DRAWING ANALYSIS



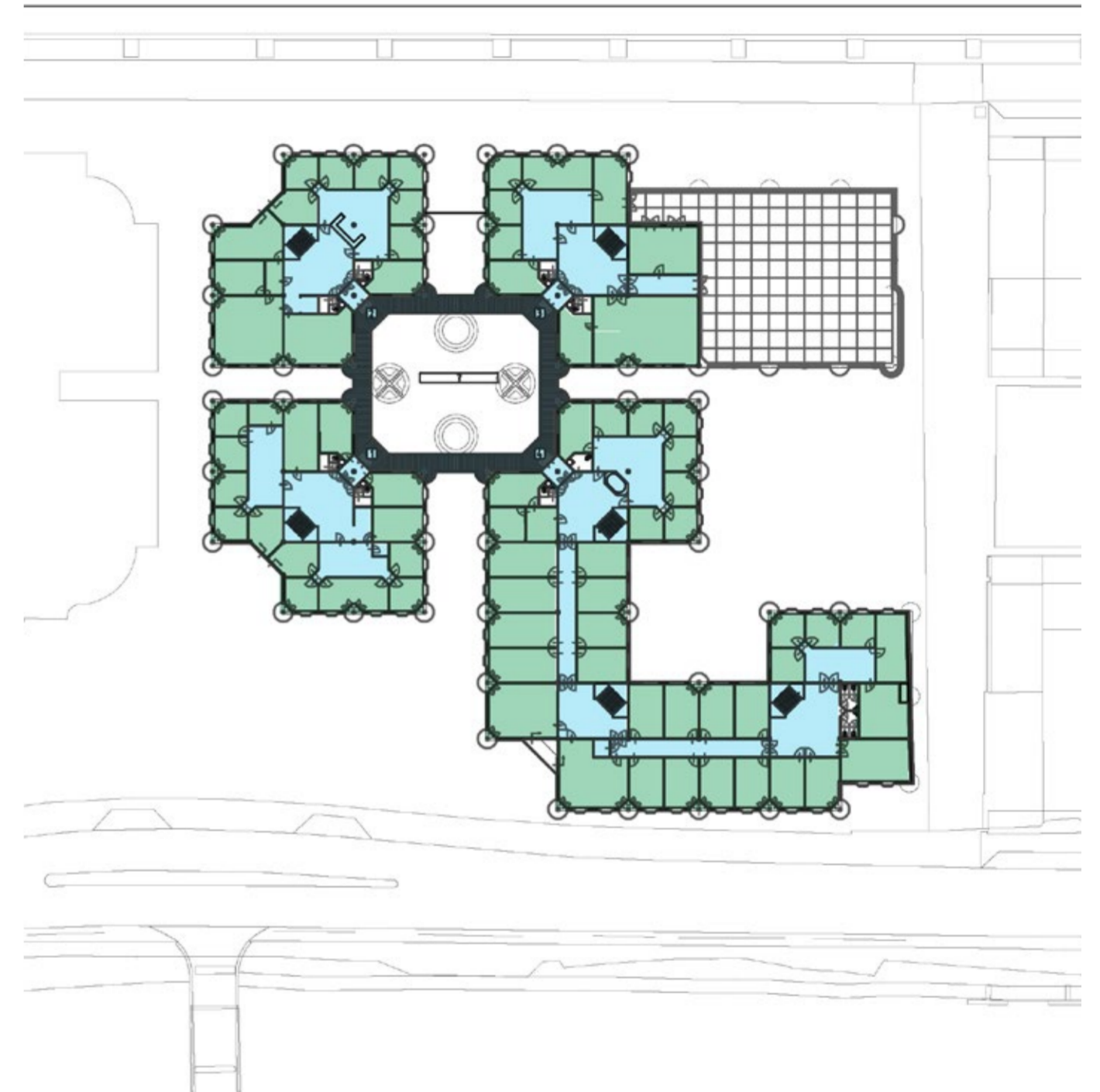
STRUCTURALISM | ANALYSIS INTERIOR



X 30 % CIRCULATION



X MOSTLY THE SAME TYPE OFFICES

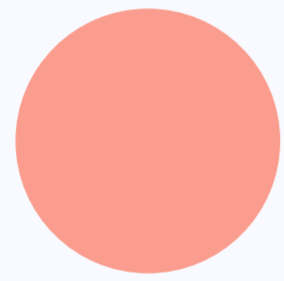


STRUCTURALISM| INTERIOR



PHOTOS FACULTY OF HUMANITIES BY V.ESHUIS

PART 3



21ST CENTURY UNIVERSITY ANALYSIS

21ST CENTURY UNIVERSITY | ANALYSIS

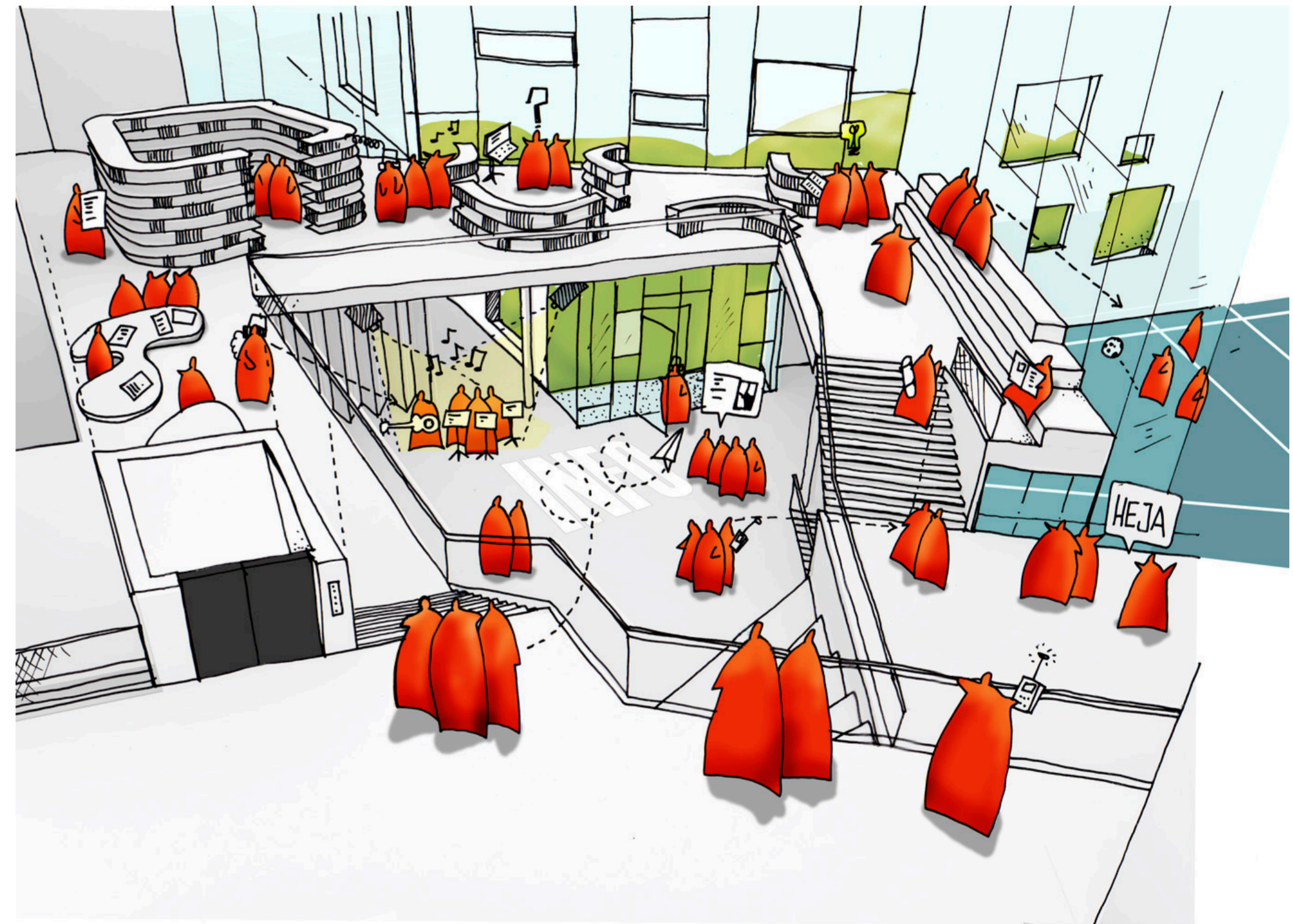
70S

MEMORIZING FACTS



21ST CENTURY

ABILITY TO PROBLEM SOLVING AND APPLYING KNOWLEDGE TO NEW SITUATIONS



The Vibeeng School / Arkitema Architects

THE MOST SOCIALLY USEFUL THING TO LEARN(ING) IS THE PROCESS OF LEARNING

- MALCOM KNOWLES

21ST CENTURY UNIVERSITY | FUTURE PROGRAM ANALYSIS



COLLABORATION



INFORMAL STUDY SPACES



**LECTURE HALL WITH
HEIGHT**



ATRIUM

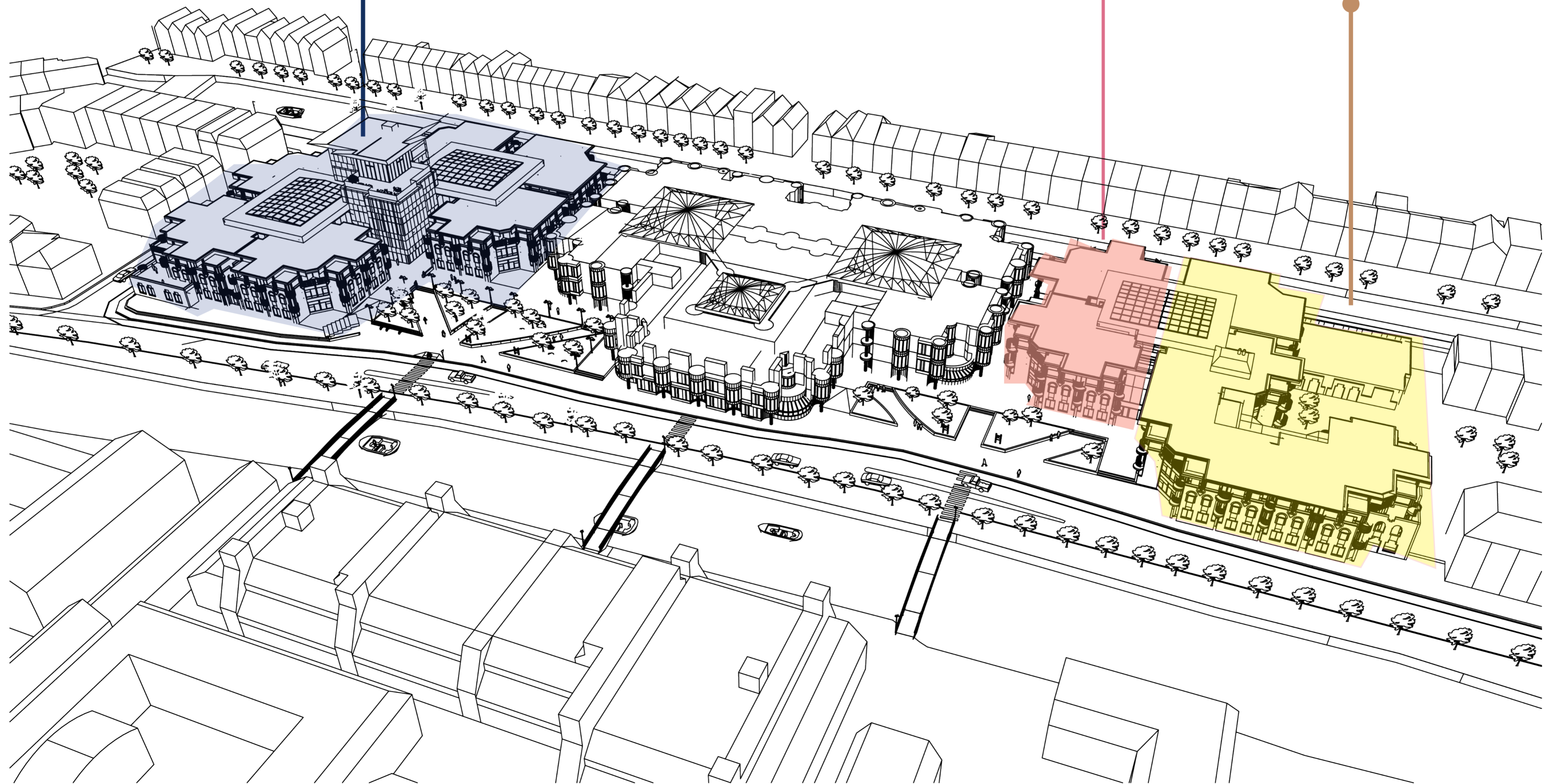
21ST CENTURY UNIVERSITY | FUTURE PROGRAM

TYPE OF SPACE	original BVO according to KCAP (sqm)	space % of total building	New program total sqm	new program % of building	sqm now - sqm original	
total building clusters						
offices	9700	57.06%	5000	26.70%	-4700	- LESS OFFICES
vergaderzaal/ meeting rooms	90	0.53%	200	1.07%	110	
ondersteunende kantoorruimte	80	0.47%	80	0.43%	0	
lecture hall/ lecture theatres (flat)/ teaching space	1100	6.47%	1100	5.87%	0	
lecture theatre with height	0	0.00%	200	1.07%	200	- LECTURE HALL W/ HEIGHT
utility space/ berging	450	2.65%	450	2.40%	0	
sanitary spaces	800	4.71%	1200	6.41%	400	
horizontal circulation space	2200	12.94%	1800	9.61%	-400	
vertical circulation space	400	2.35%	400	2.14%	0	
outside space (balconies, perrons)	150	0.88%	150	0.80%	0	
collaboration space	0	0.00%	3000	16.02%	3000	- COLLABORATION INCUBATOR
restaurant/ cafe	400	2.35%	700	3.74%	300	- CAFE
incubator space		0.00%	700	3.74%	700	- ATRIUM STUDYSPACES
front desk		0.00%	30	0.16%	30	
courtyard/ outside learning space		0.00%	700	3.74%	700	
galleries	311	1.83%	450	2.40%	139	
Living / Rooms/ student hotel rooms/ home base	0	0.00%	1200	6.41%	1200	- STUDENT ROOMS
rousources/ supply store	0	0.00%		0.00%	0	
installations	450	2.65%	200	1.07%	-250	
Library	870	5.12%	870	4.64%	0	
breakout space		0.00%	300	1.60%	300	
Total building cluster	17001	100.00%	18730	100.00%	1729	

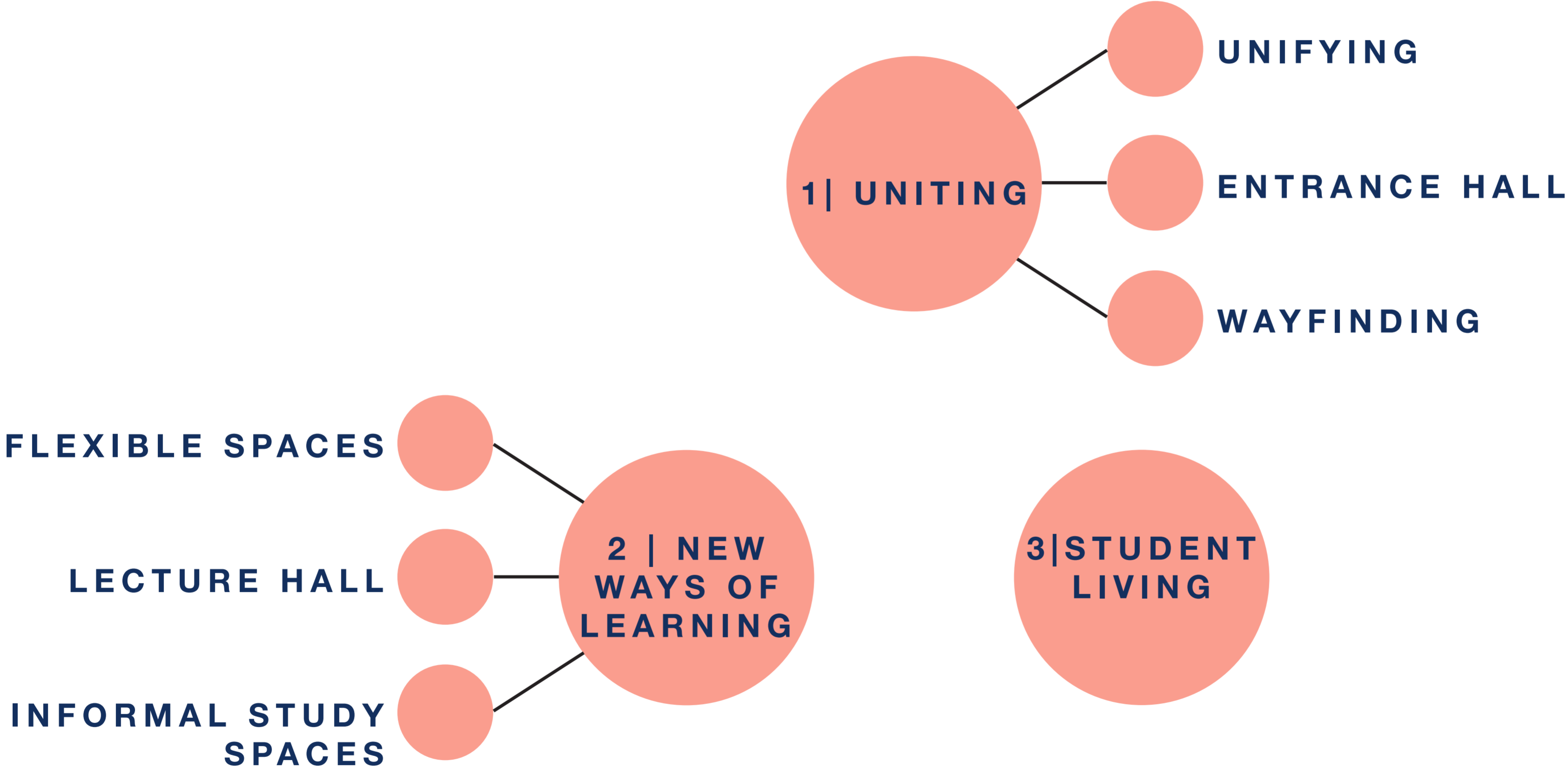
INTRODUCING 21ST CENTURY UNIVERSITY INTO FACULTY OF HUMANITIES

**SOUTH |
UNIVERSITY**

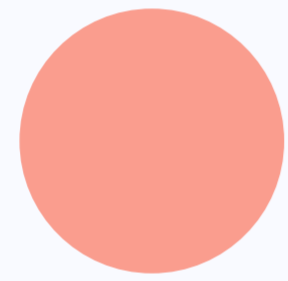
NORTH |
- STUDENT HOUSING
- EXISTING LIBRARY
- PUBLIC SPACES



INTERVENTION PROPOSAL | DIAGRAM

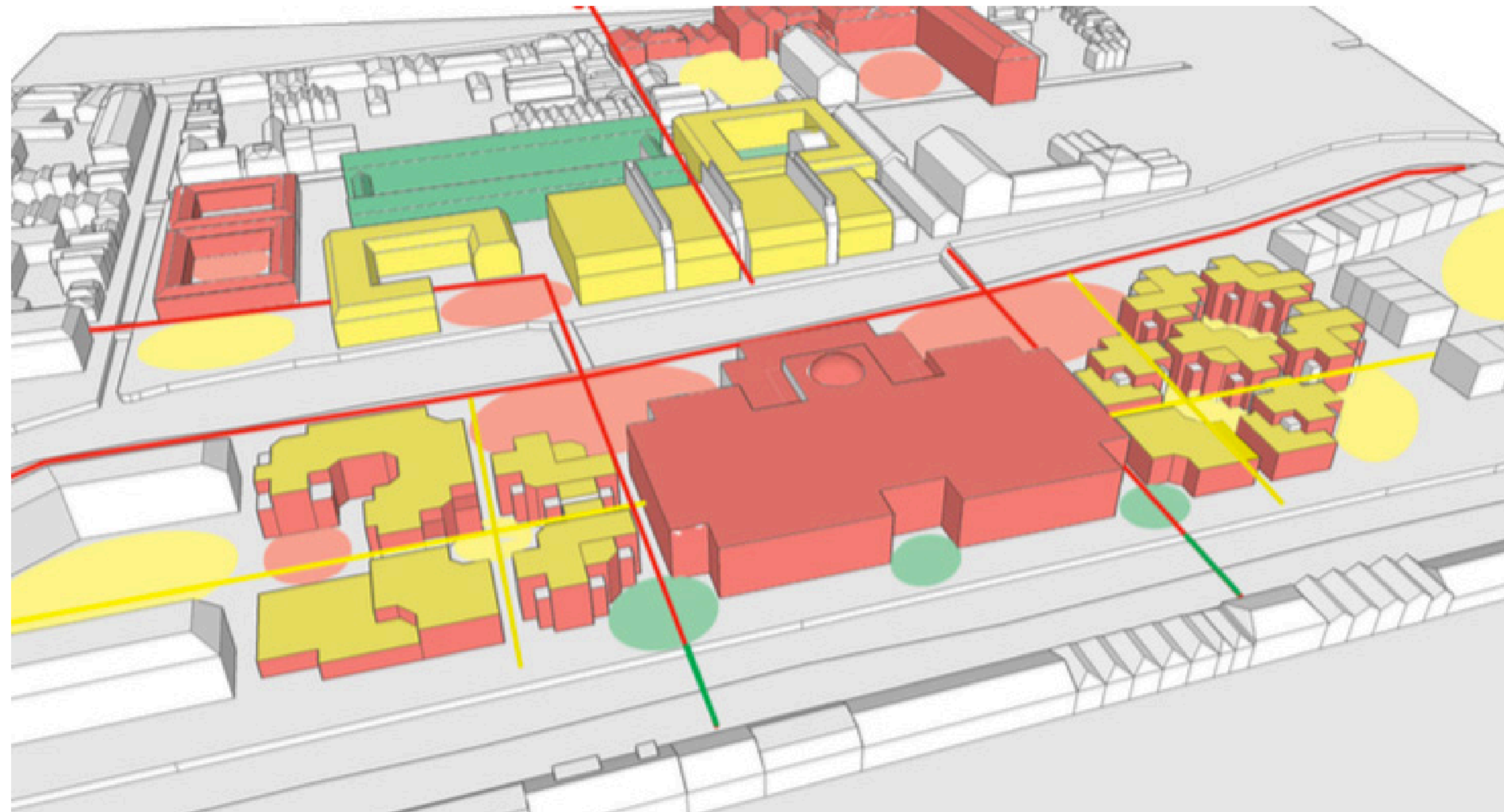
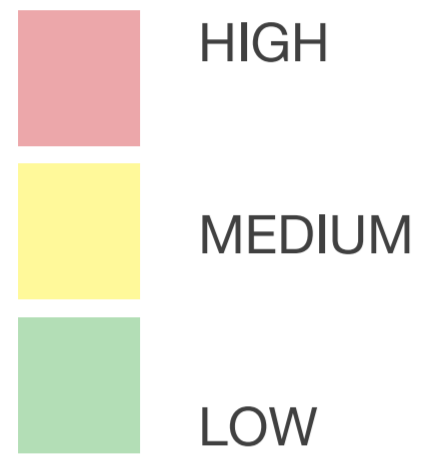


PART 4



VALUE ASSESSMENT

CULTURAL VALUE ANALYSIS | URBANISM

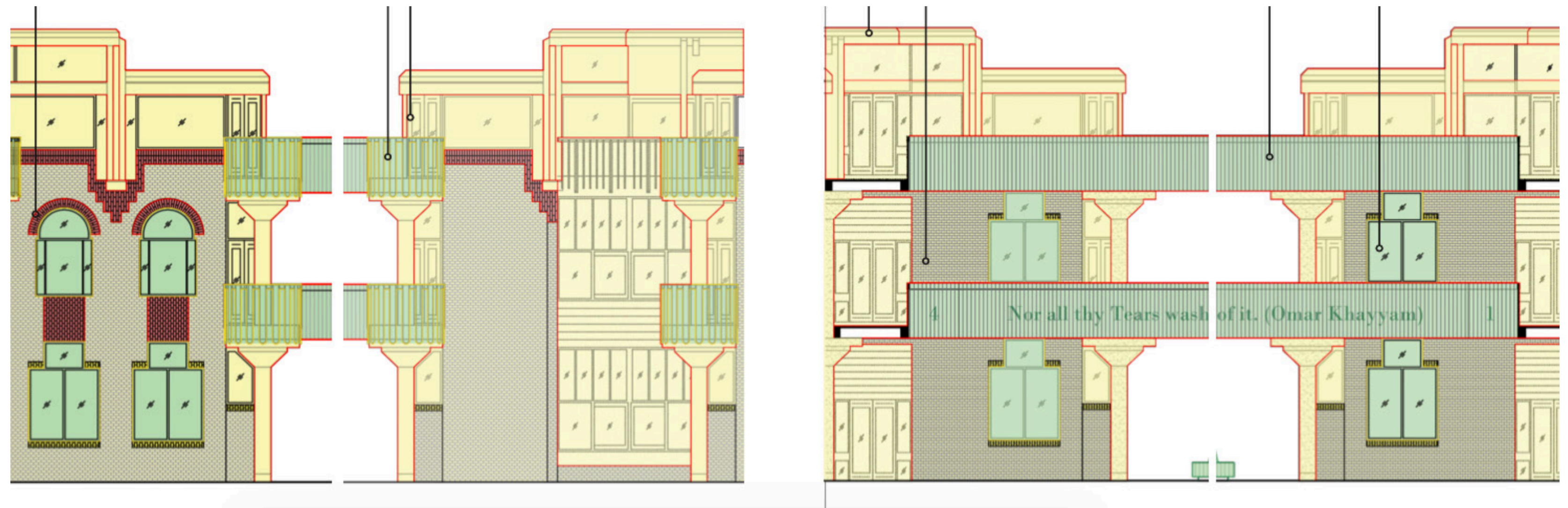


THE PERMEABILITY FROM THE BRIDGES

THE SWUARES INFRONT OF THE BUILDINGS

CULTURAL VALUE ANALYSIS | FACADE

- HIGH
- MEDIUM
- LOW



BRICKS BASE AND WINDOW SHAPES REFERENCE OTHER BUILDINGS AROUND WITTE SINGEL

HEAVY BASE AND LIGHT TOP

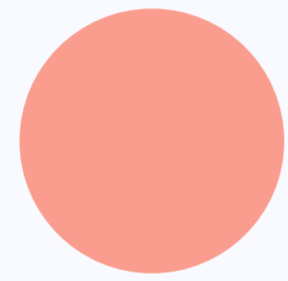
MUSHROOM COLUMNS



*WHEN YOU KNOW THE BOUNDARIES SET BY ARCHITECTURAL VALUES YOU
DETERMINE THE PLAYING FIELD IN WHICH YOU CAN DESIGN*

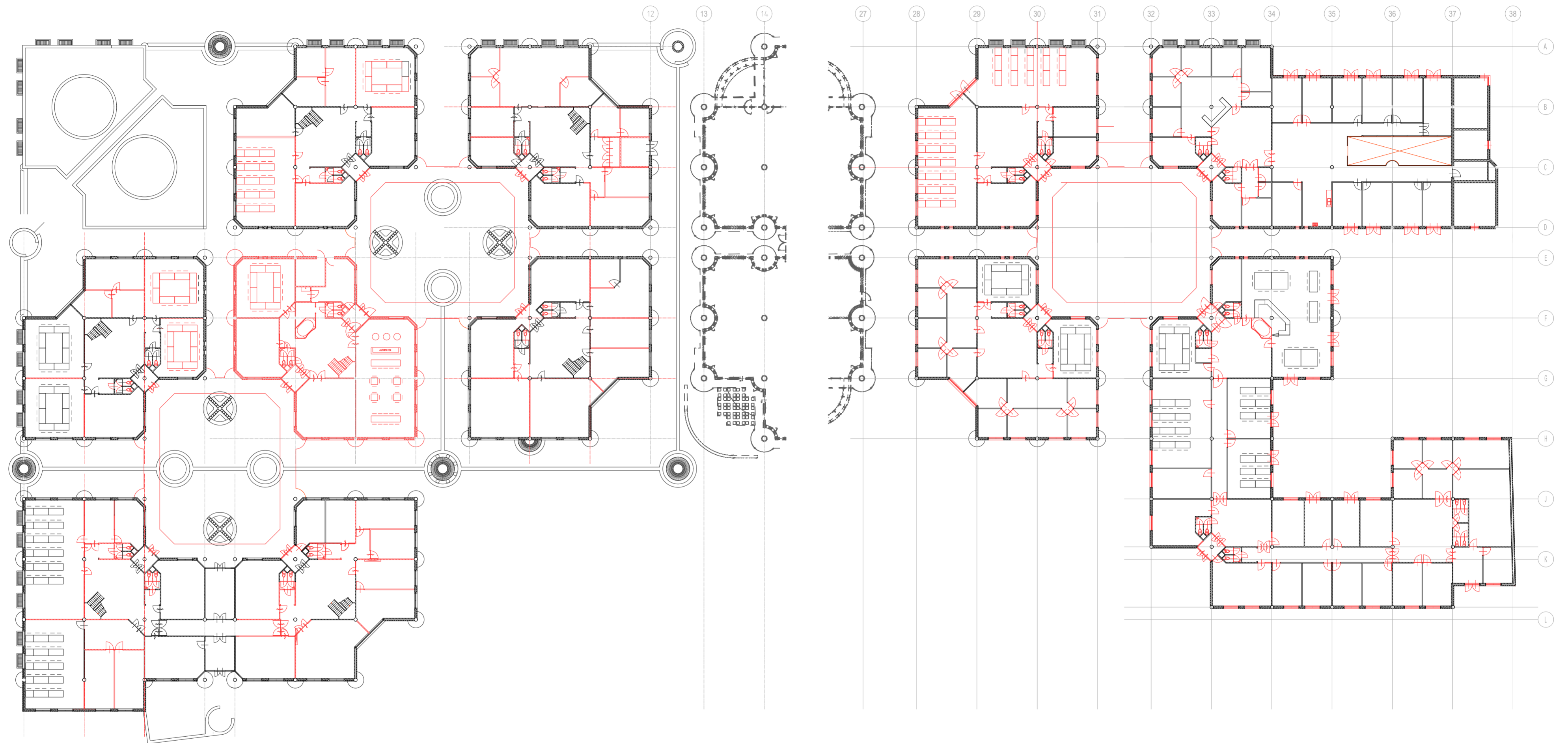
- PROF. IR. W. DE JONGE

PART 5



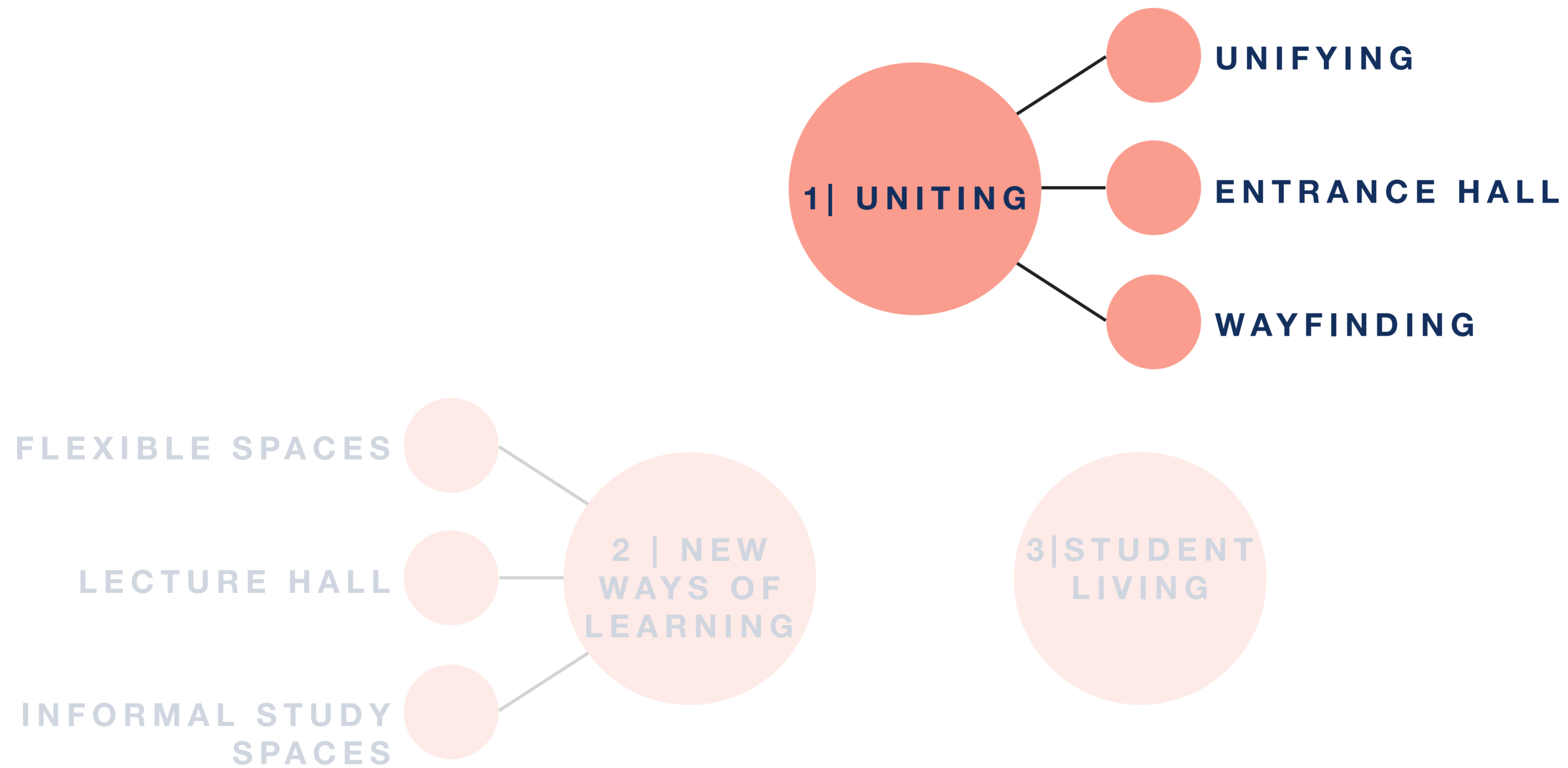
INTERVENTION

INTERVENTION | DEMOLITION

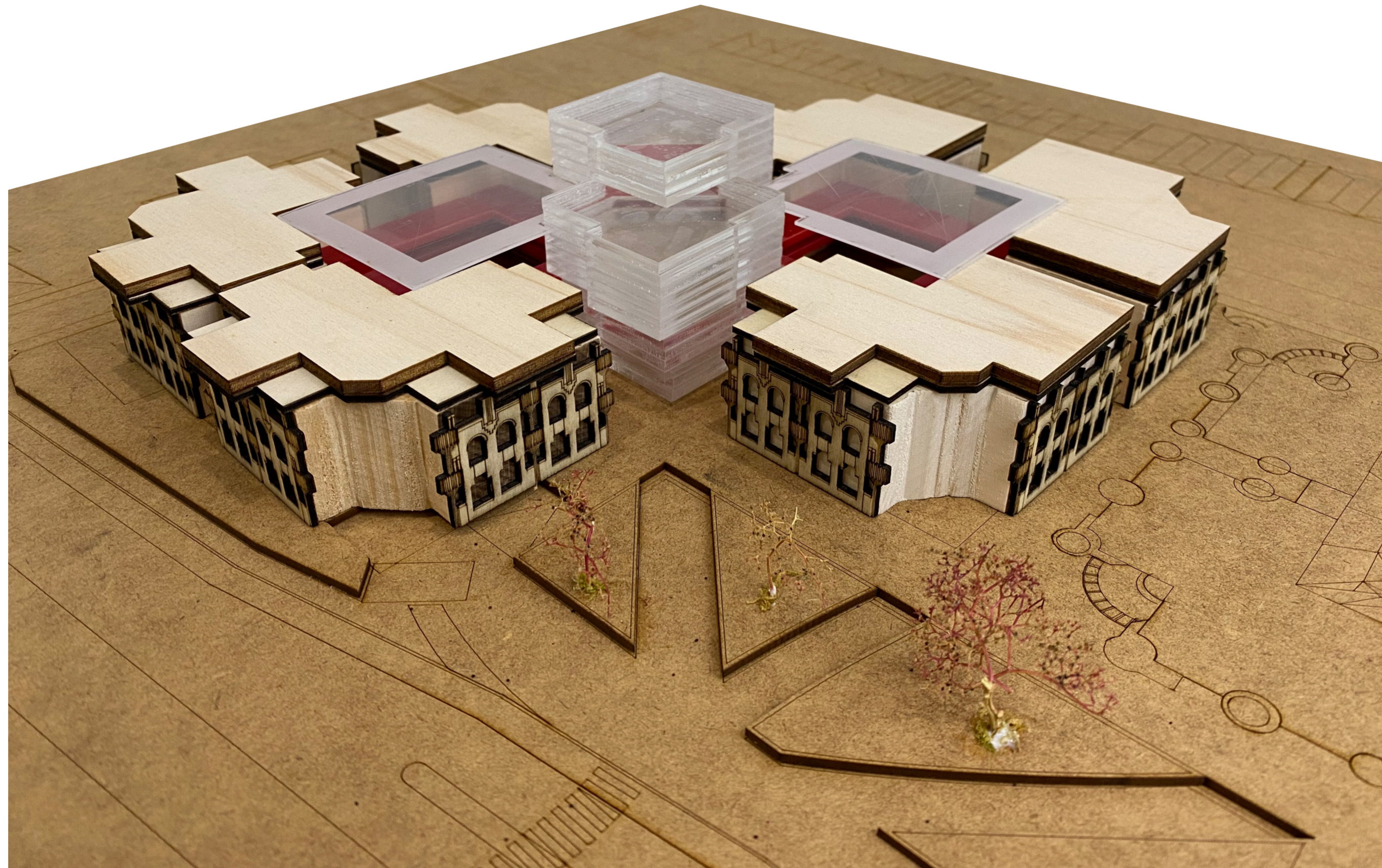


- REMOVE ALL DIVIDING WALLS
- REPLACE COURTYARDS
- CREATE ENTRANCE BUILDING FOR UNIVERSITY
- REPLACE ALL WINDOWS
- ADD INSULATION

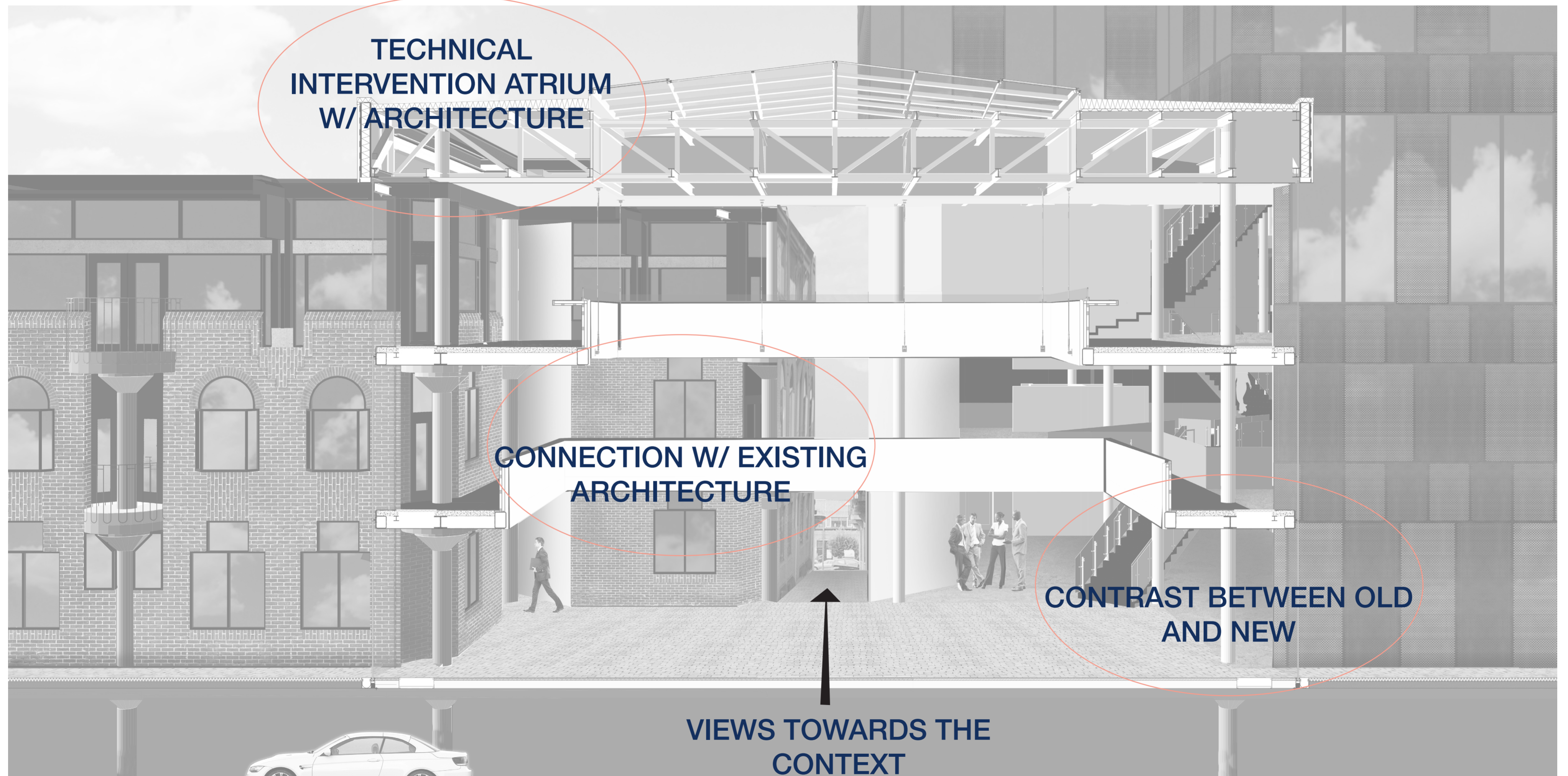
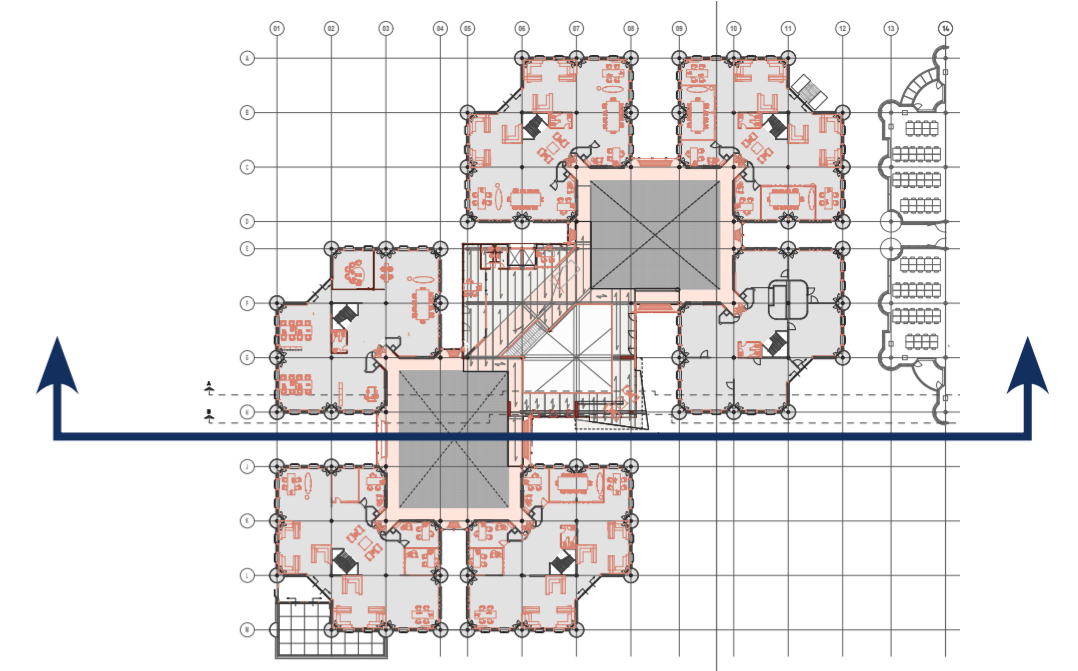
INTERVENTION



INTERVENTION | INTERVENTION MODEL

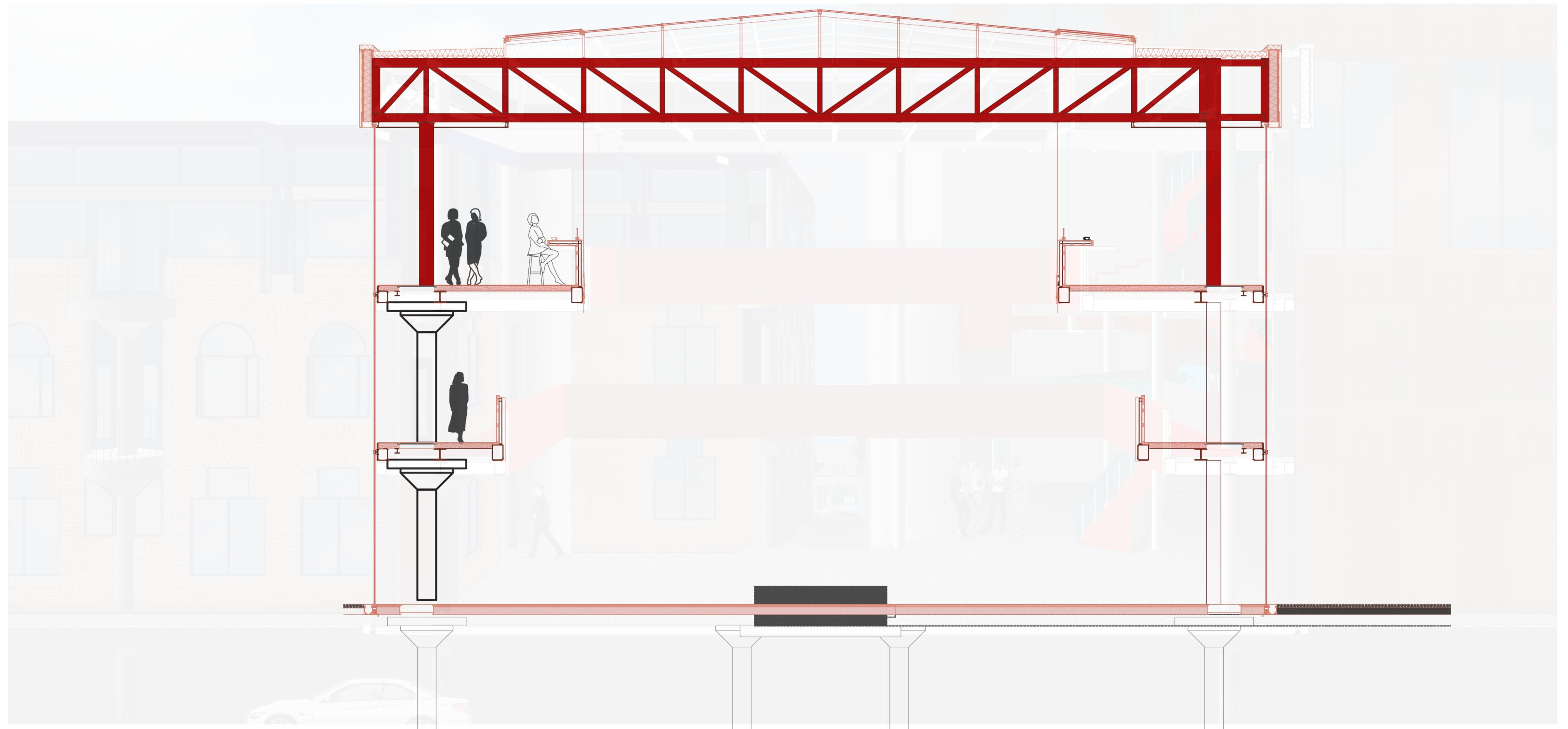
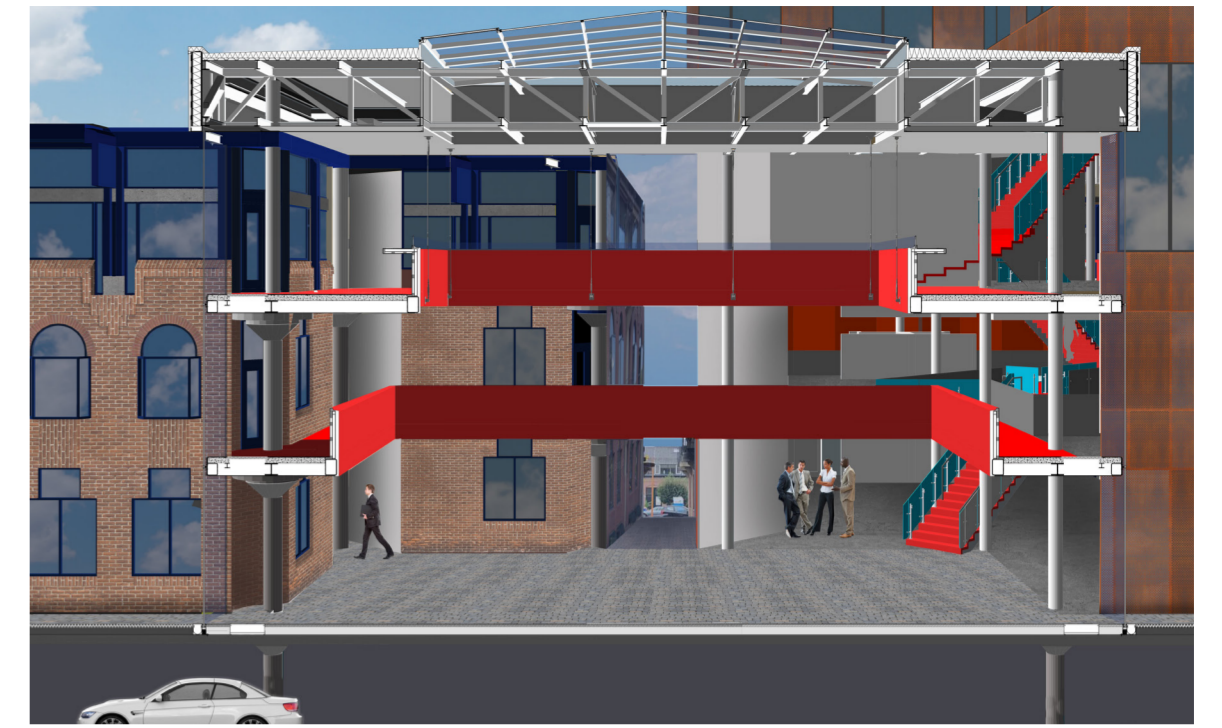


INTERVENTION | IMPRESSION UNIFY CLUSTERS

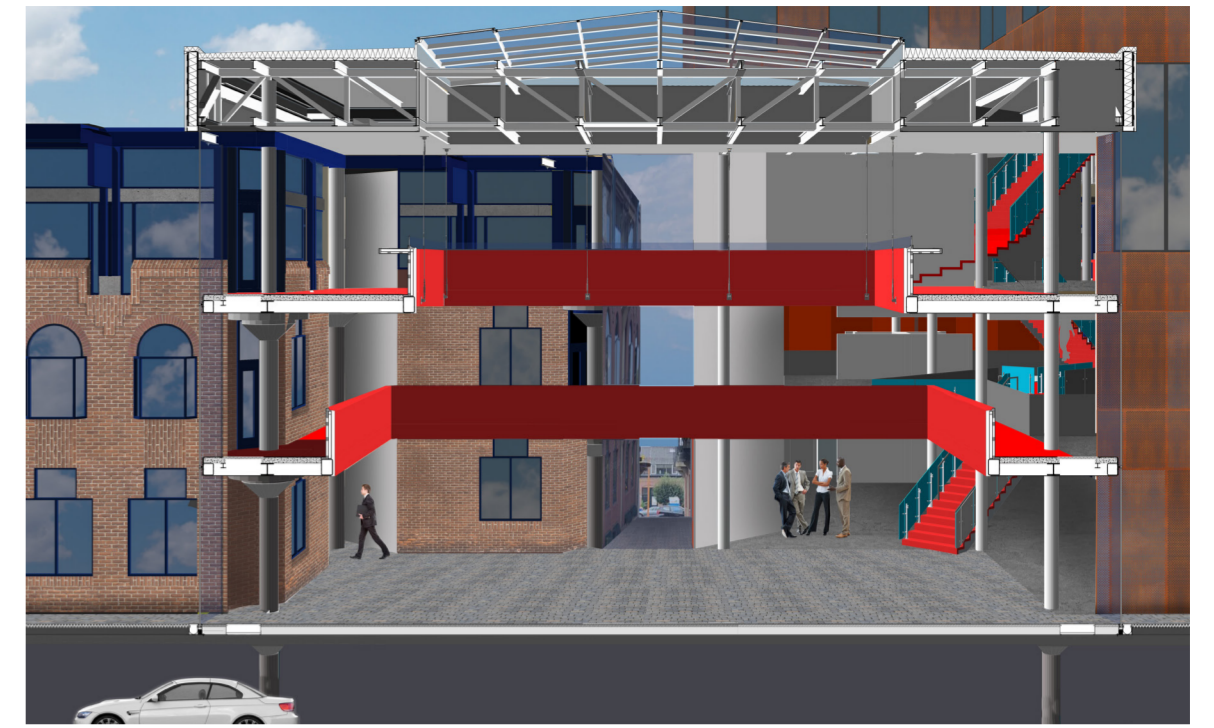
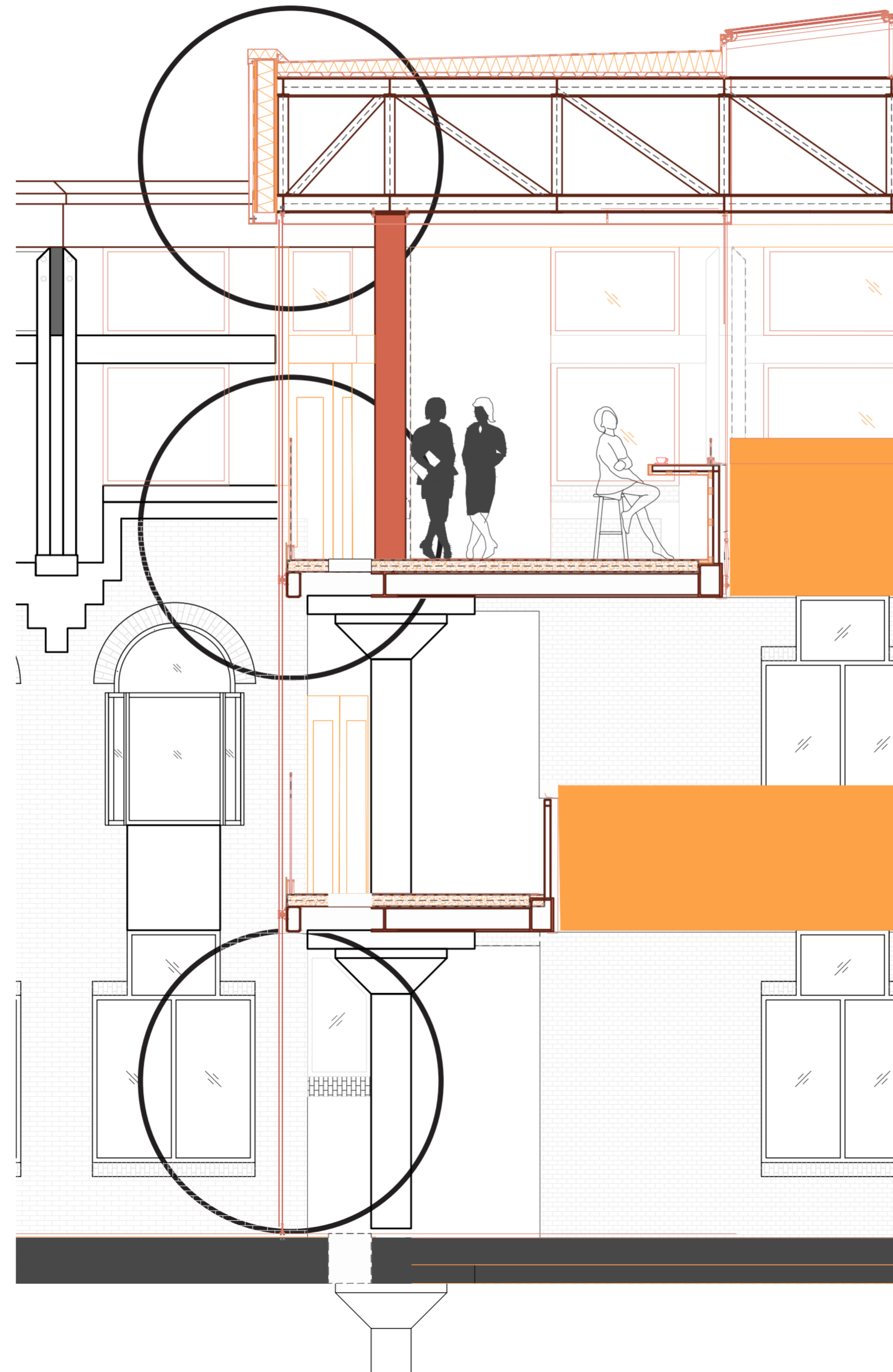


Former Drawing Courtyard intervention

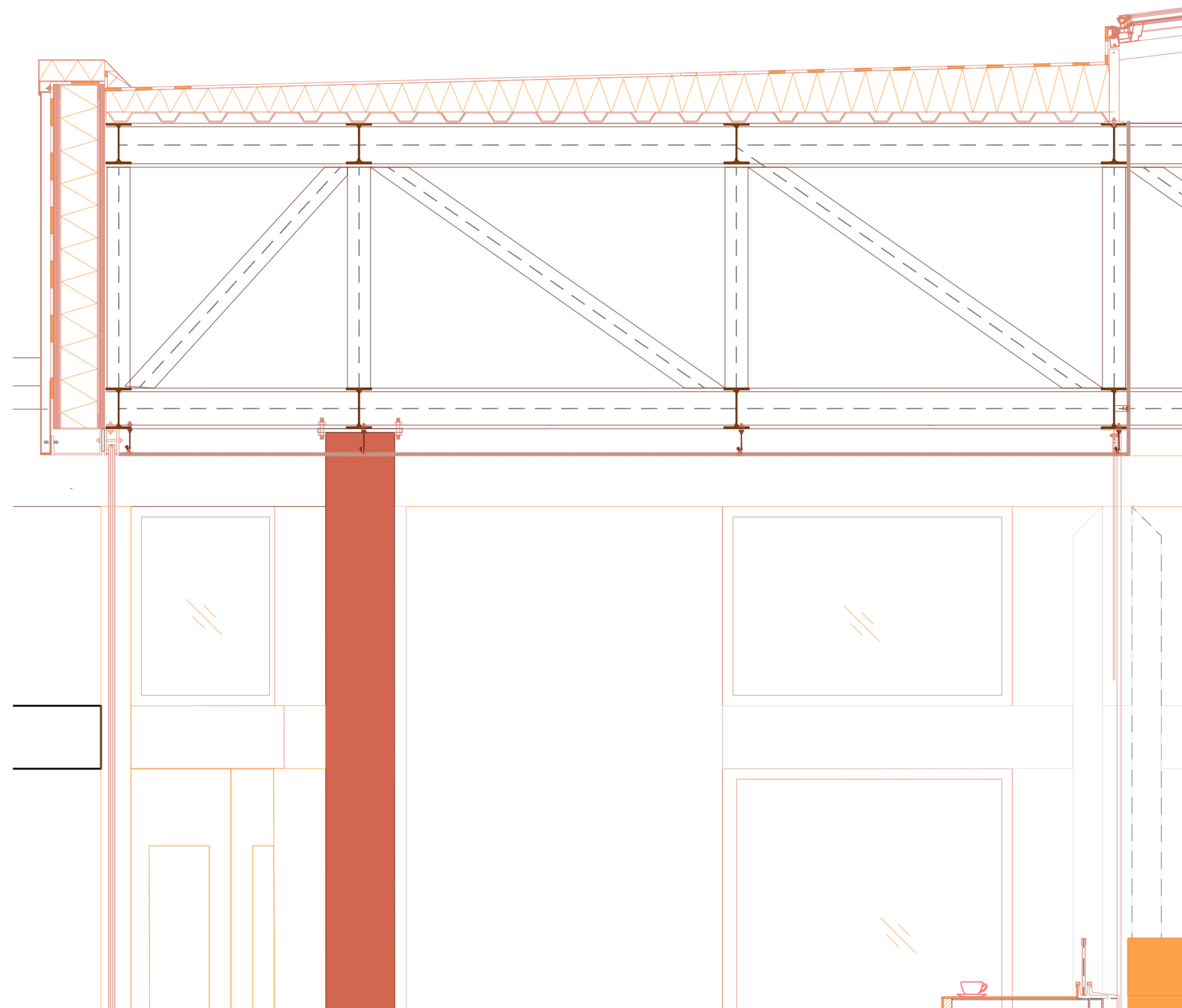
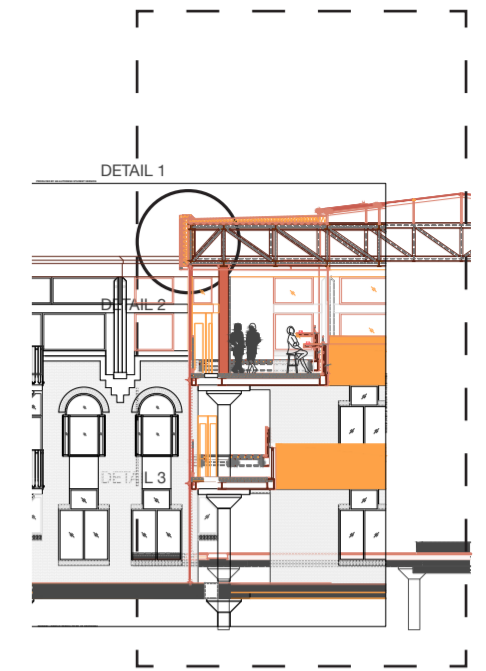
INTERVENTION| NEW COLUMN CARRIES TRUSS



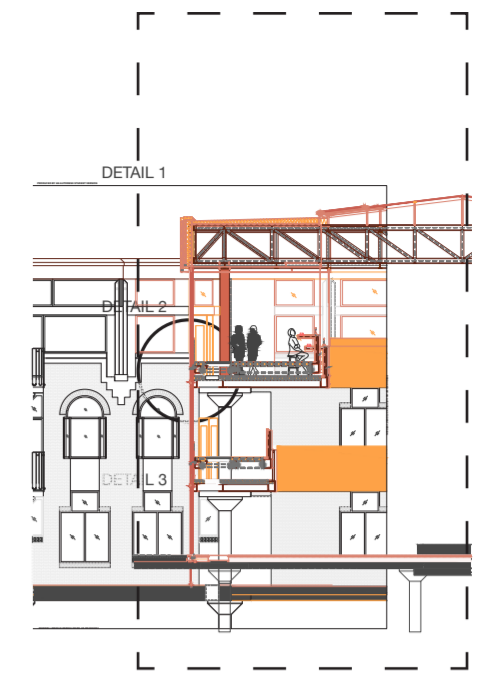
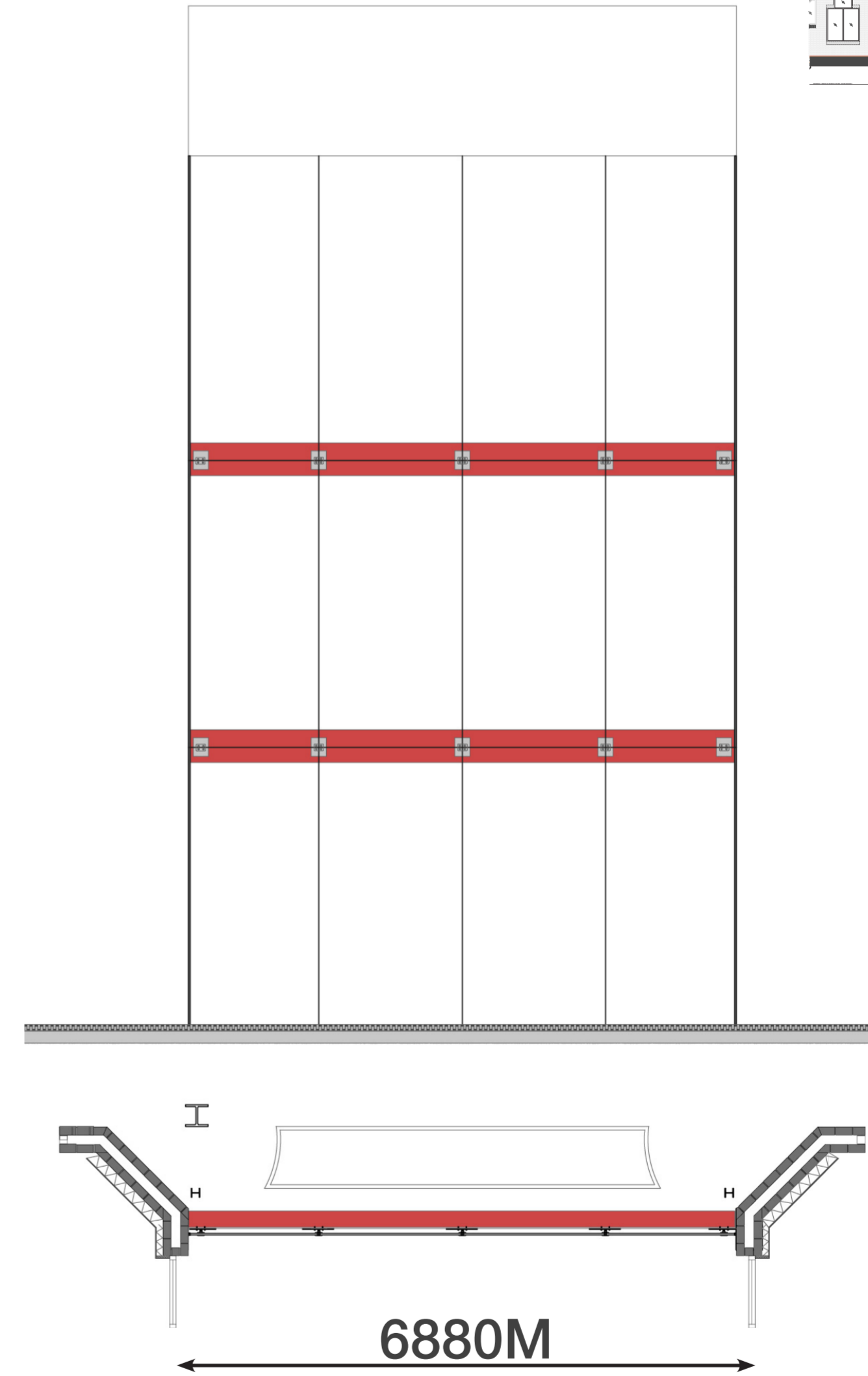
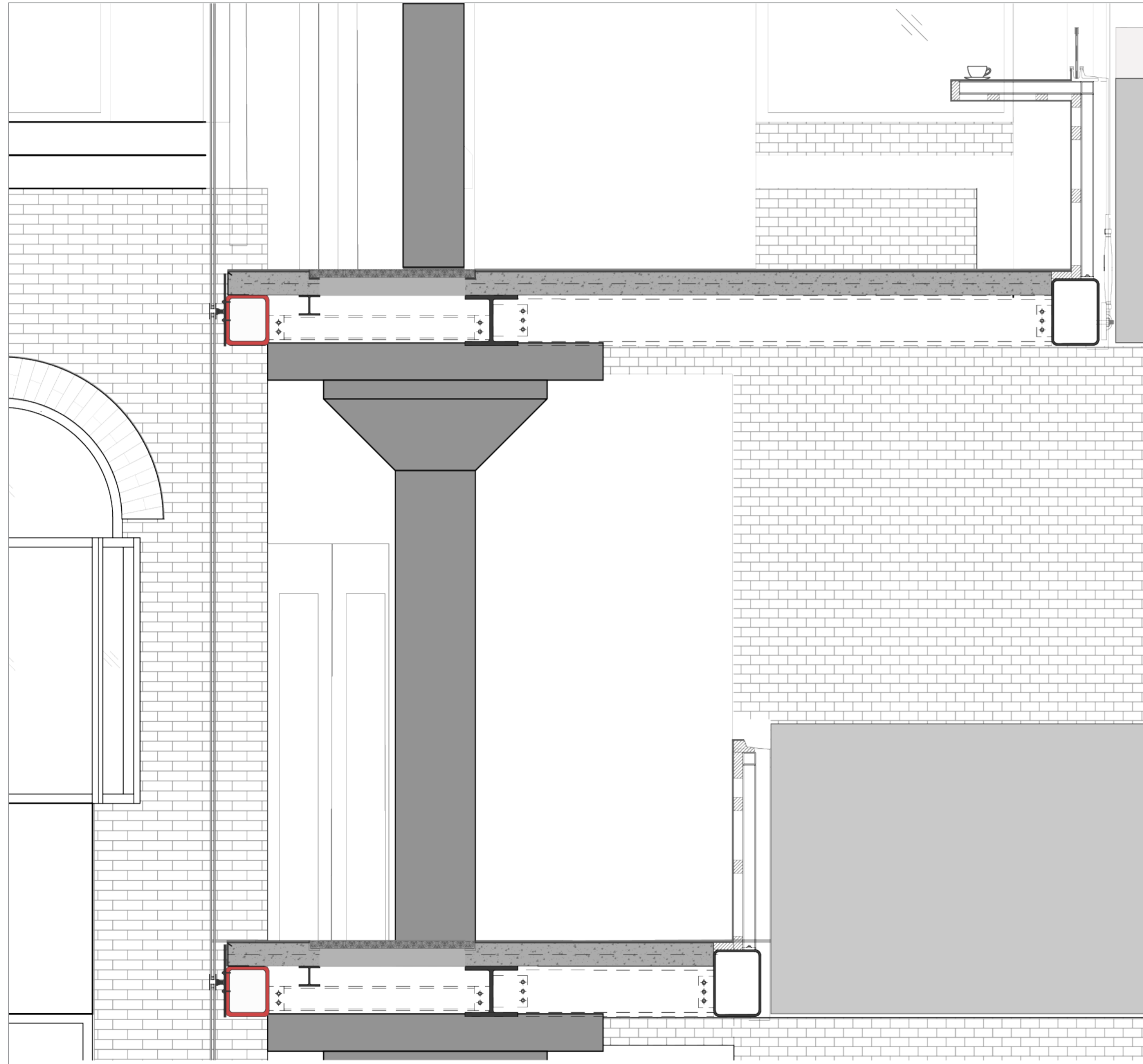
INTERVENTION| CONSEQUENCES



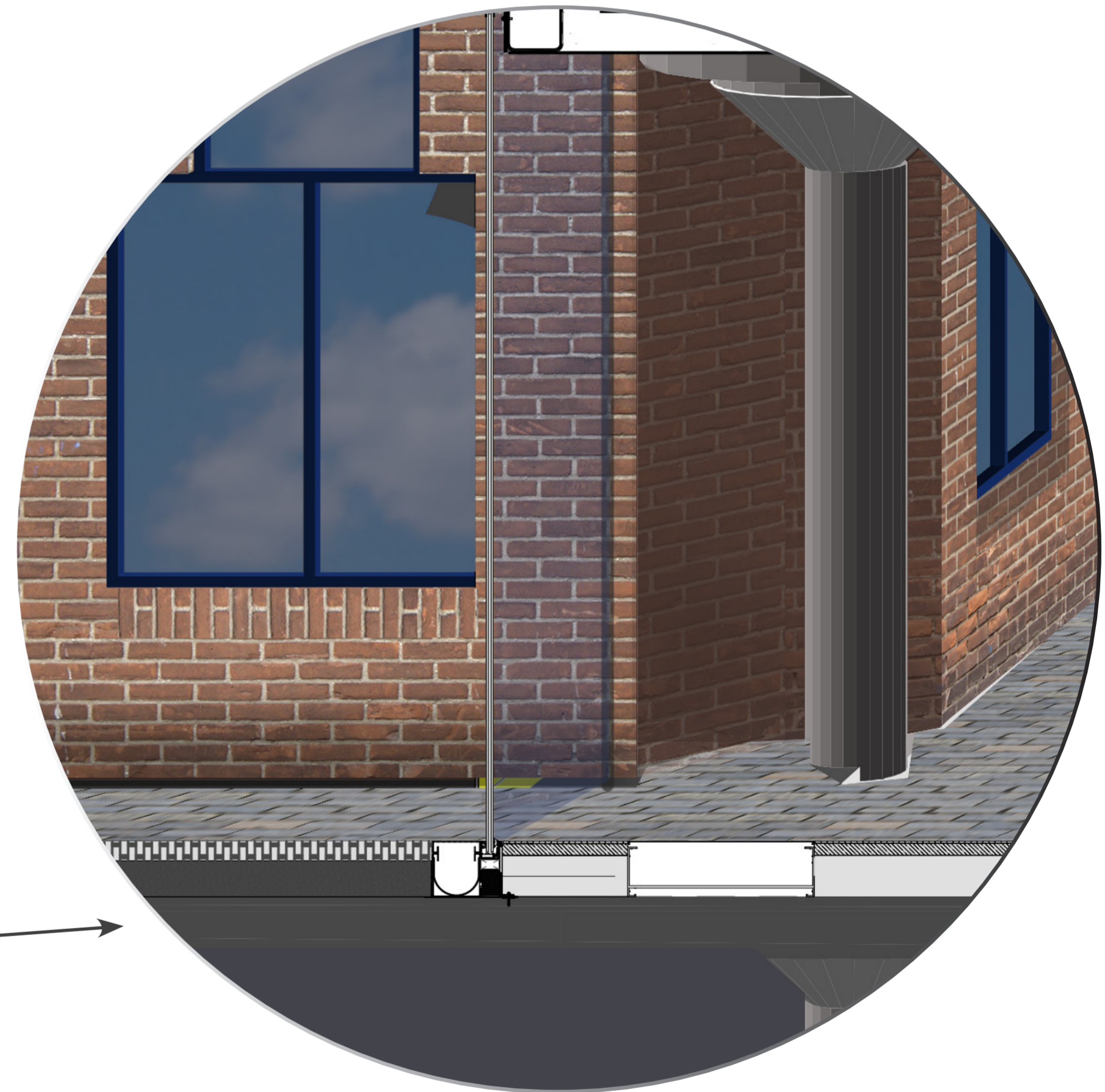
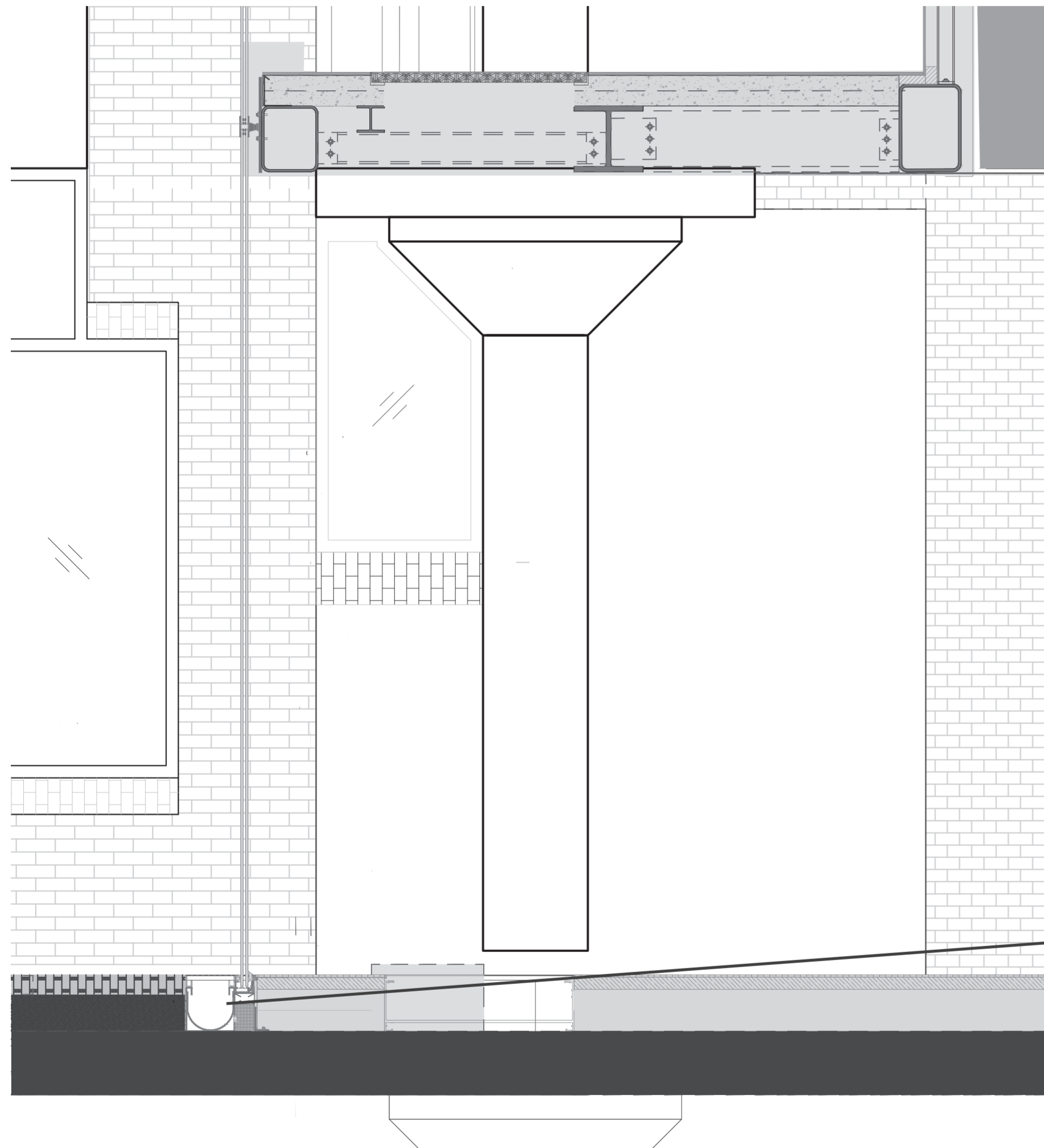
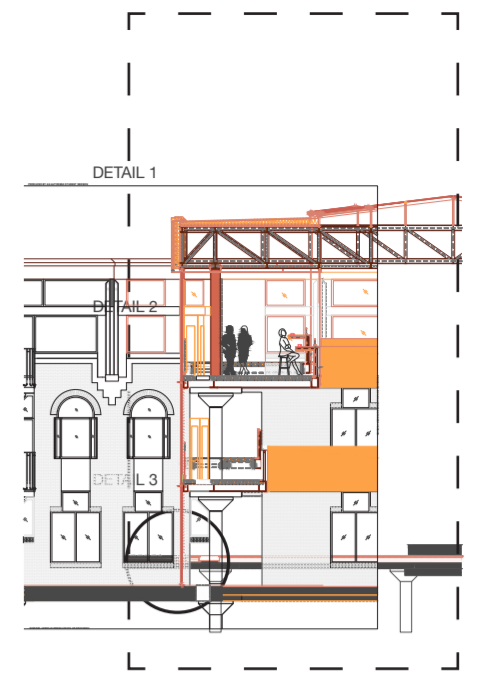
DETAIL 1 | NEW ATRIUM ROOF



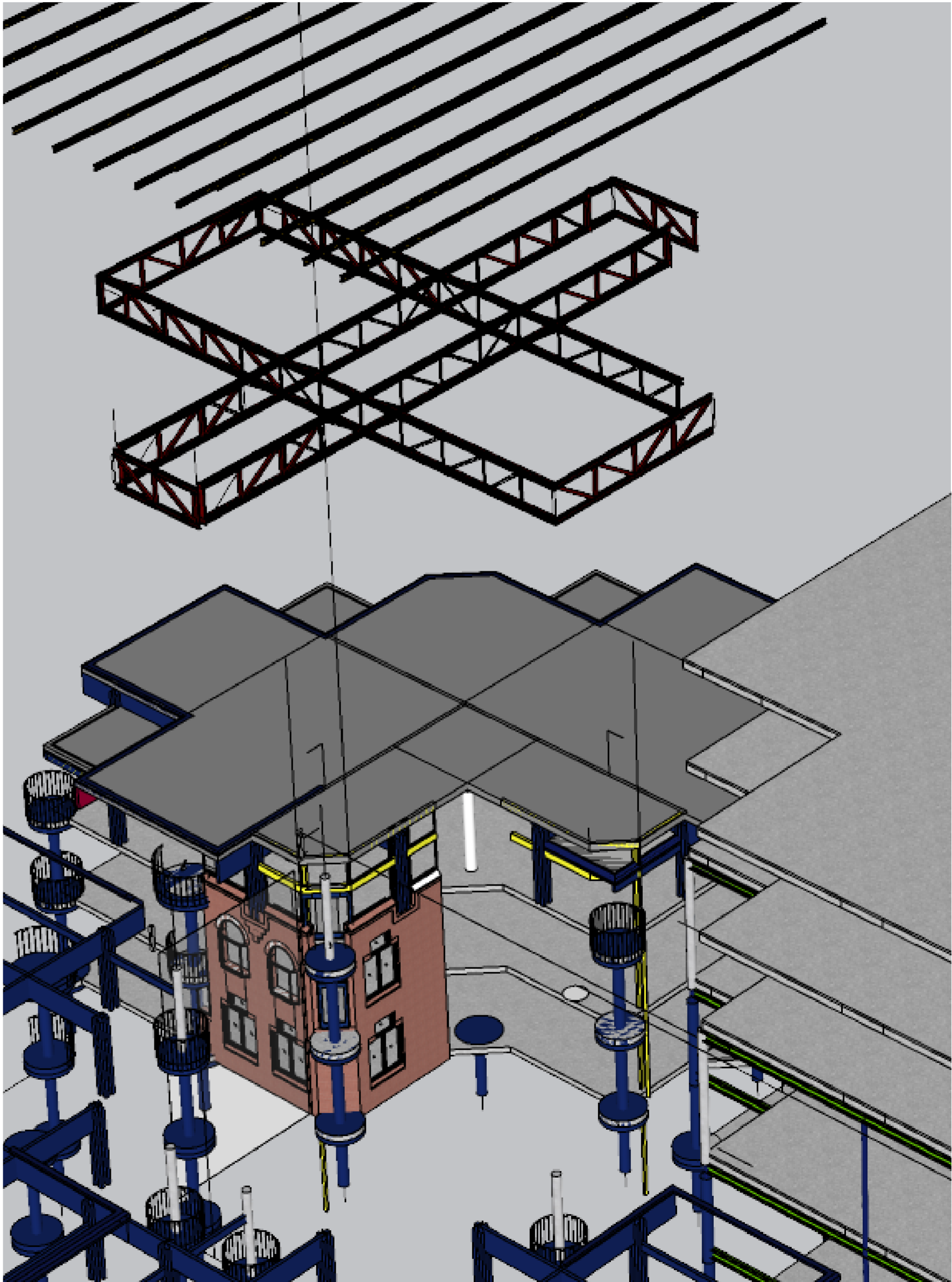
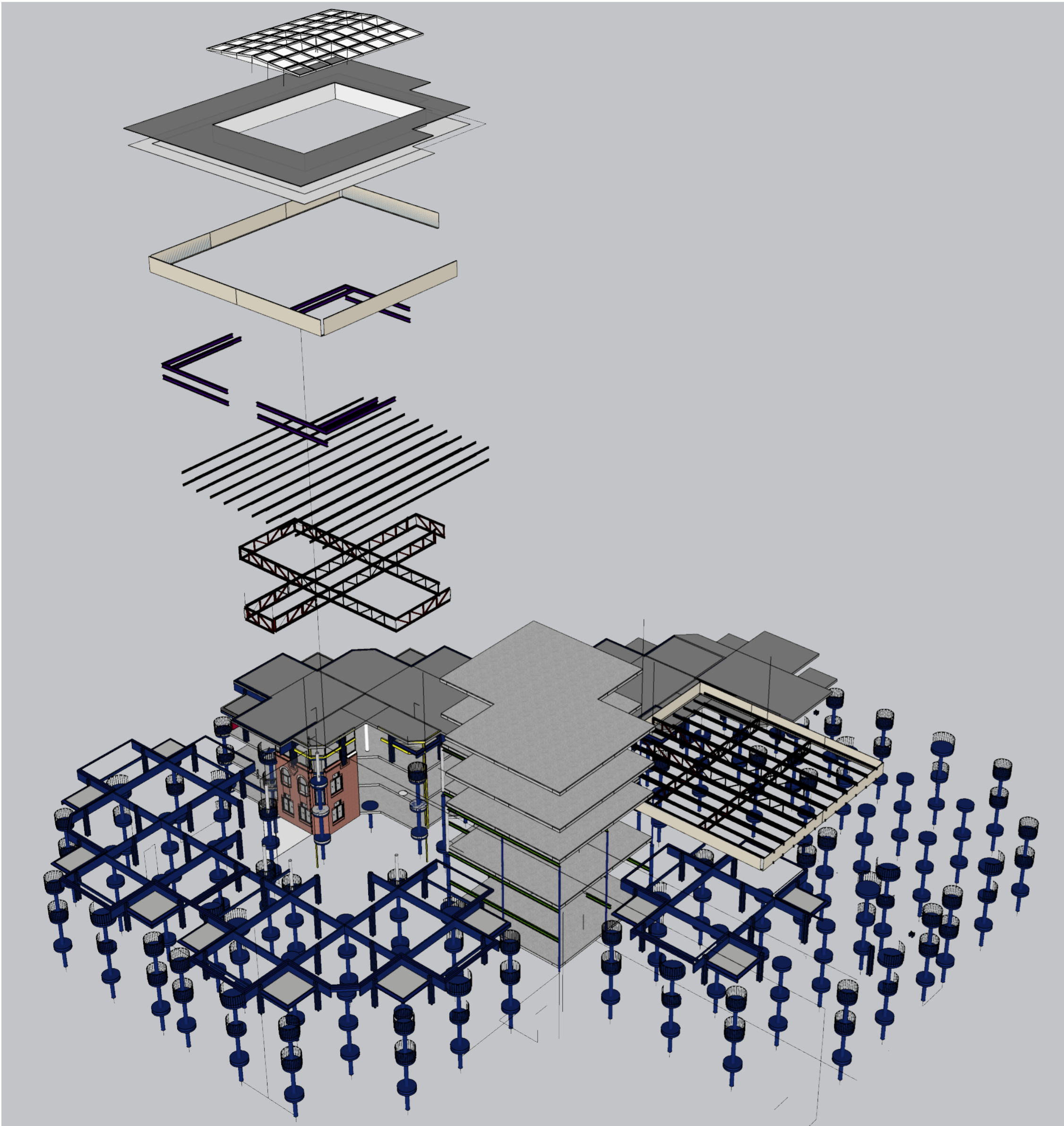
DETAIL 2 | BEAM BETWEEN BUILDINGS



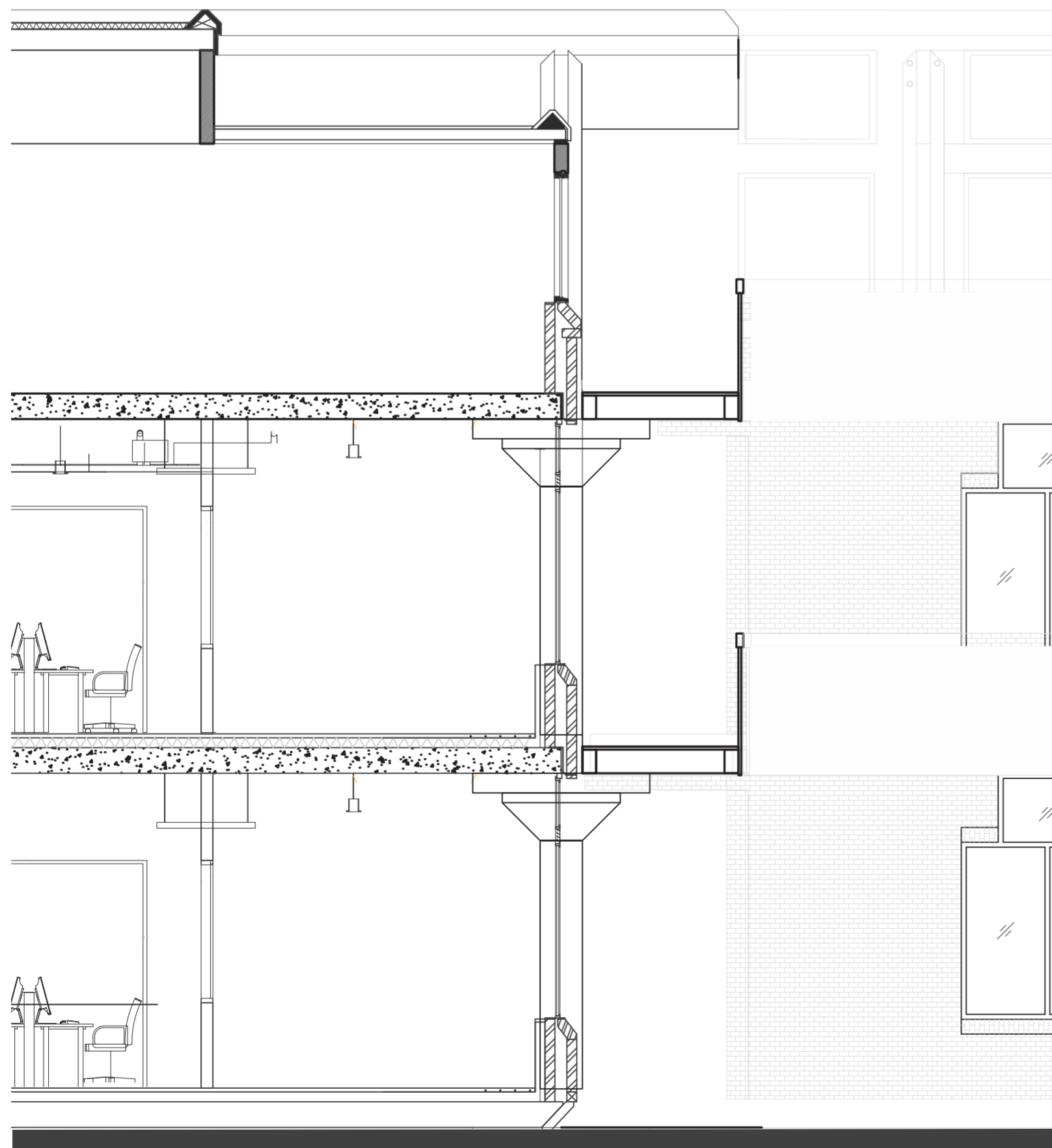
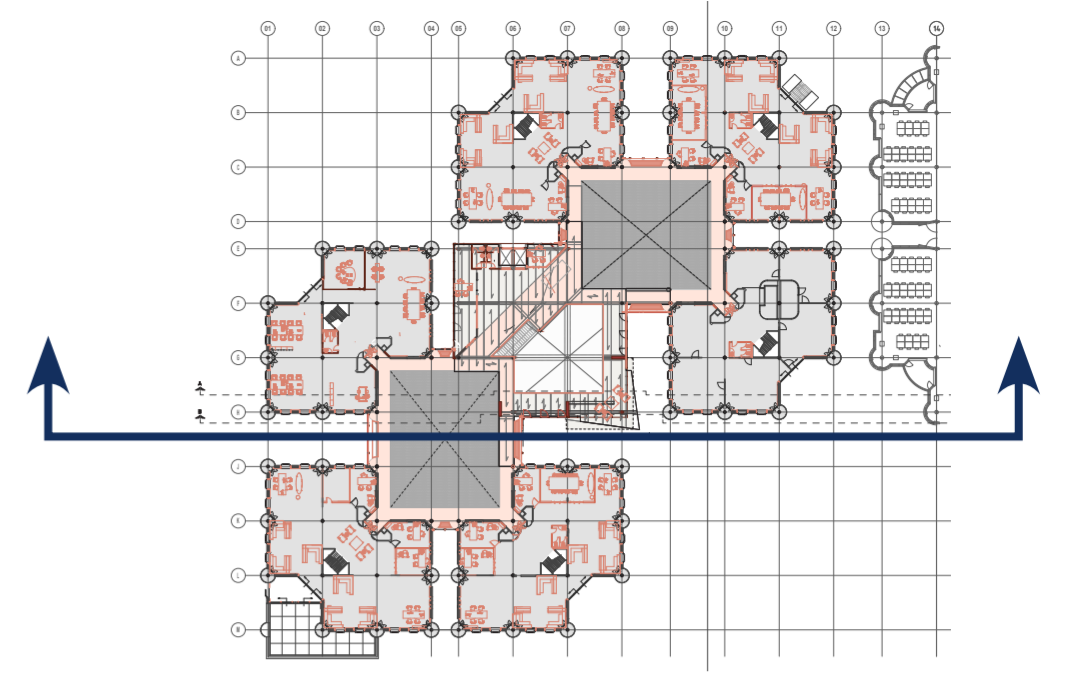
DETAIL 3 | CURTAIN WALL SUNKEN INTO GROUND



ATRIUM STRUCTURE | SIMPLIFIED ROOF



INTERVENTION | INTERVENTION | CONSEQUENCES NEW ATRIUM ROOF

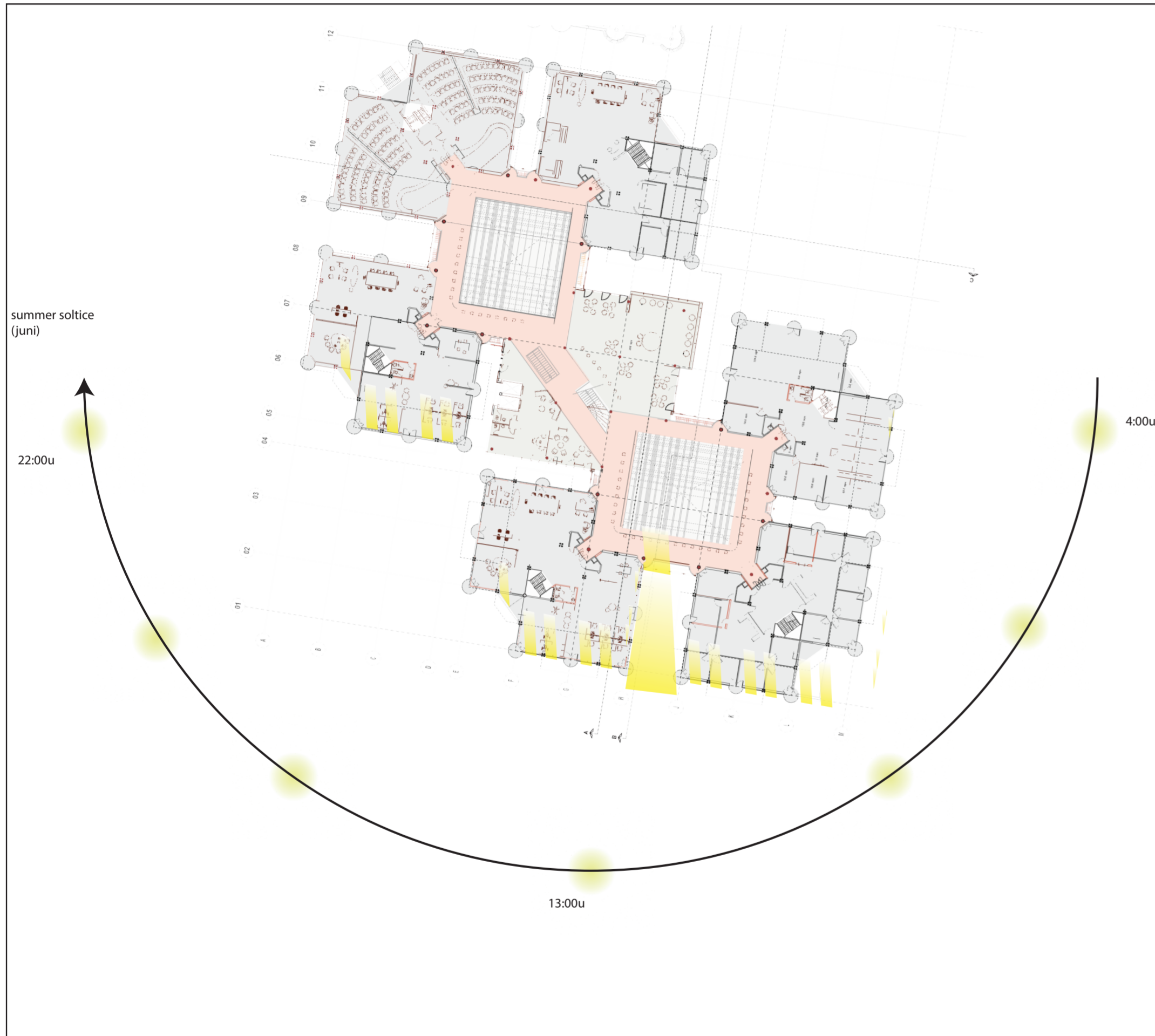


ROOF BEFORE

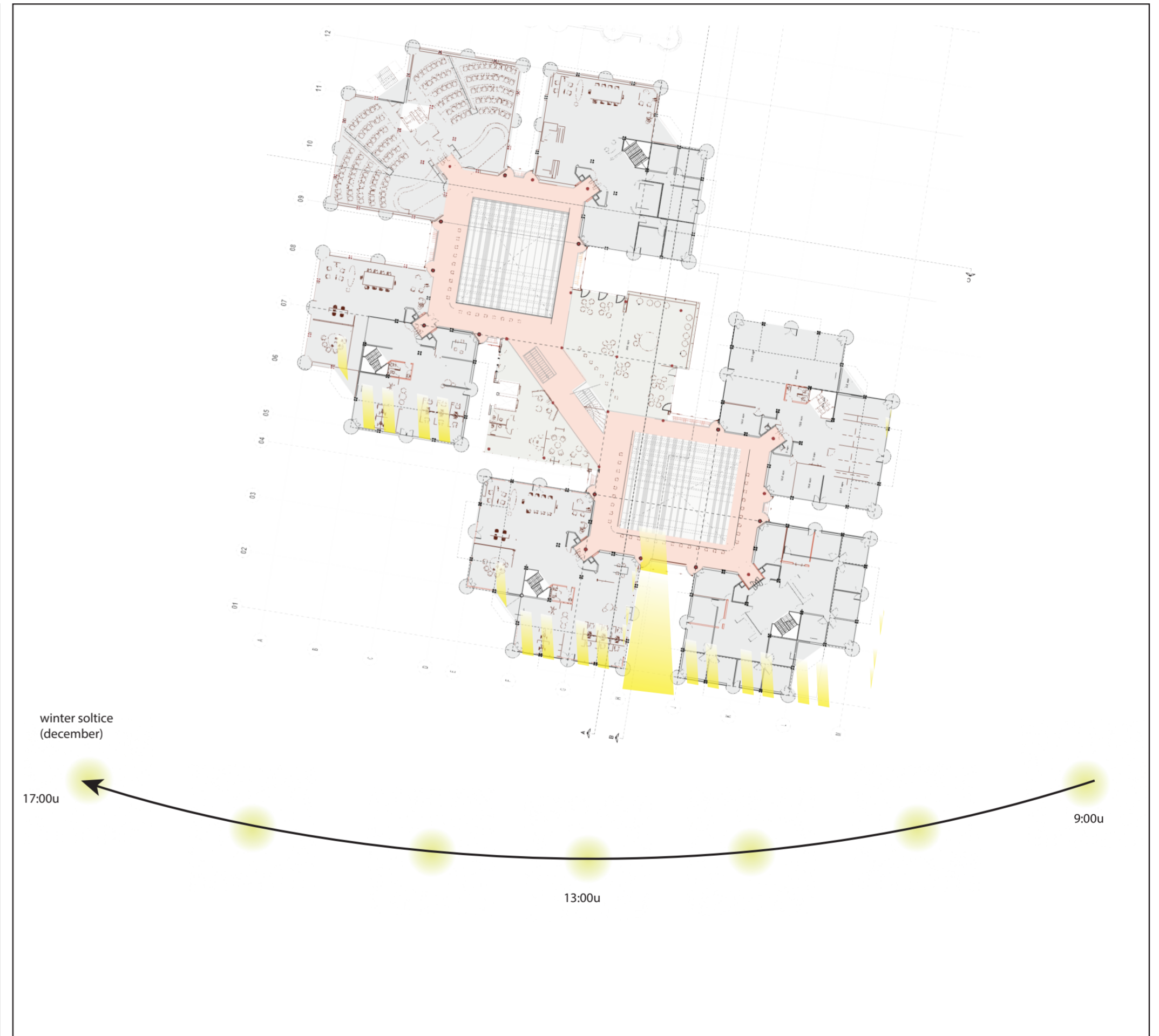


ROOF NOW

INTERVENTION | SOLAR STUDY

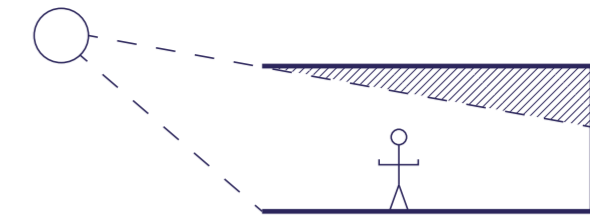


SUMMER

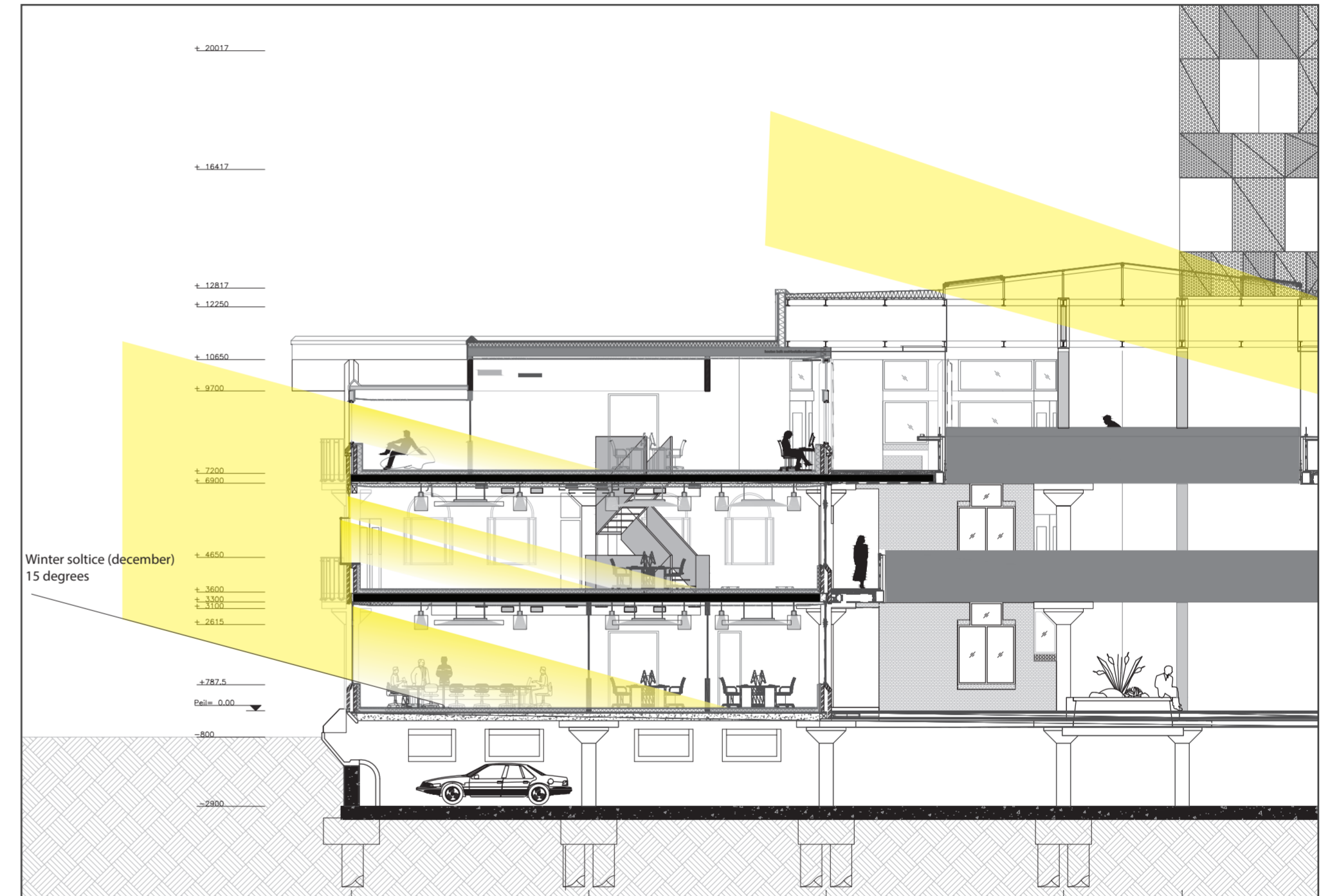


WINTER

INTERVENTION | SOLAR STUDY



SUMMER

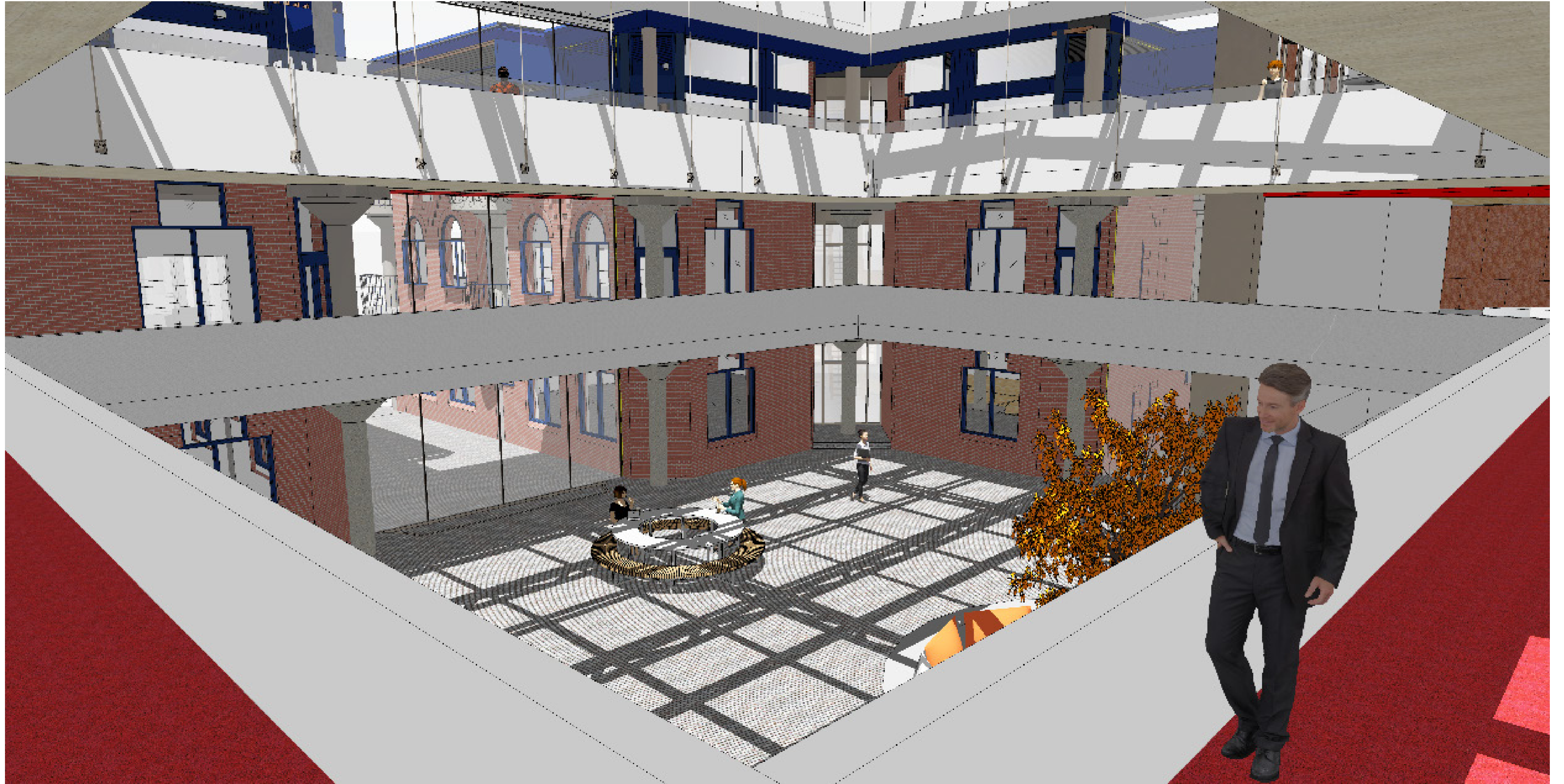


WINTER

INTERVENTION | PROGRAM ADJUSTMENT TO SOLAR STUDY

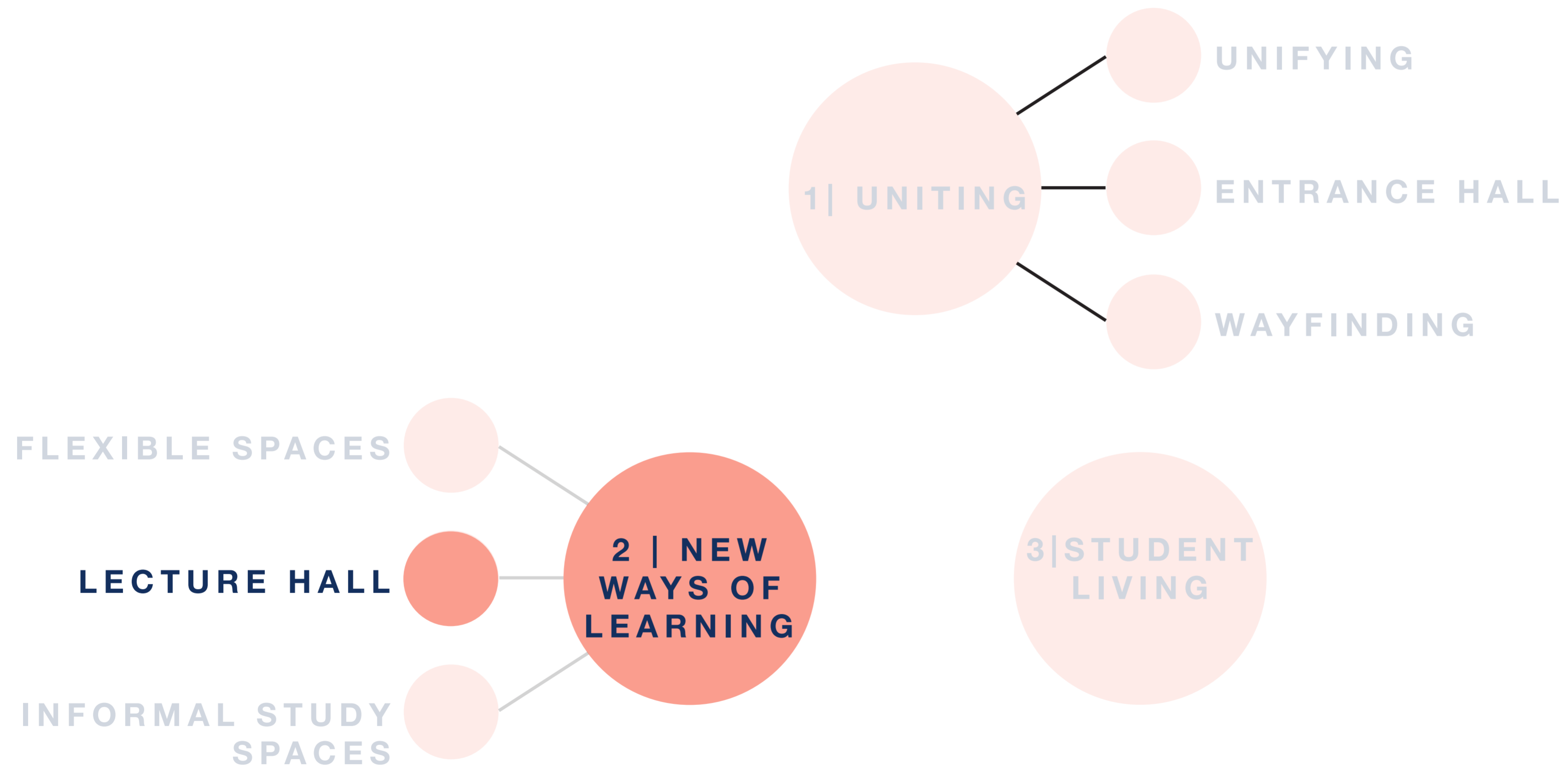


INTERVENTION | SUN STUDY COURTYARD



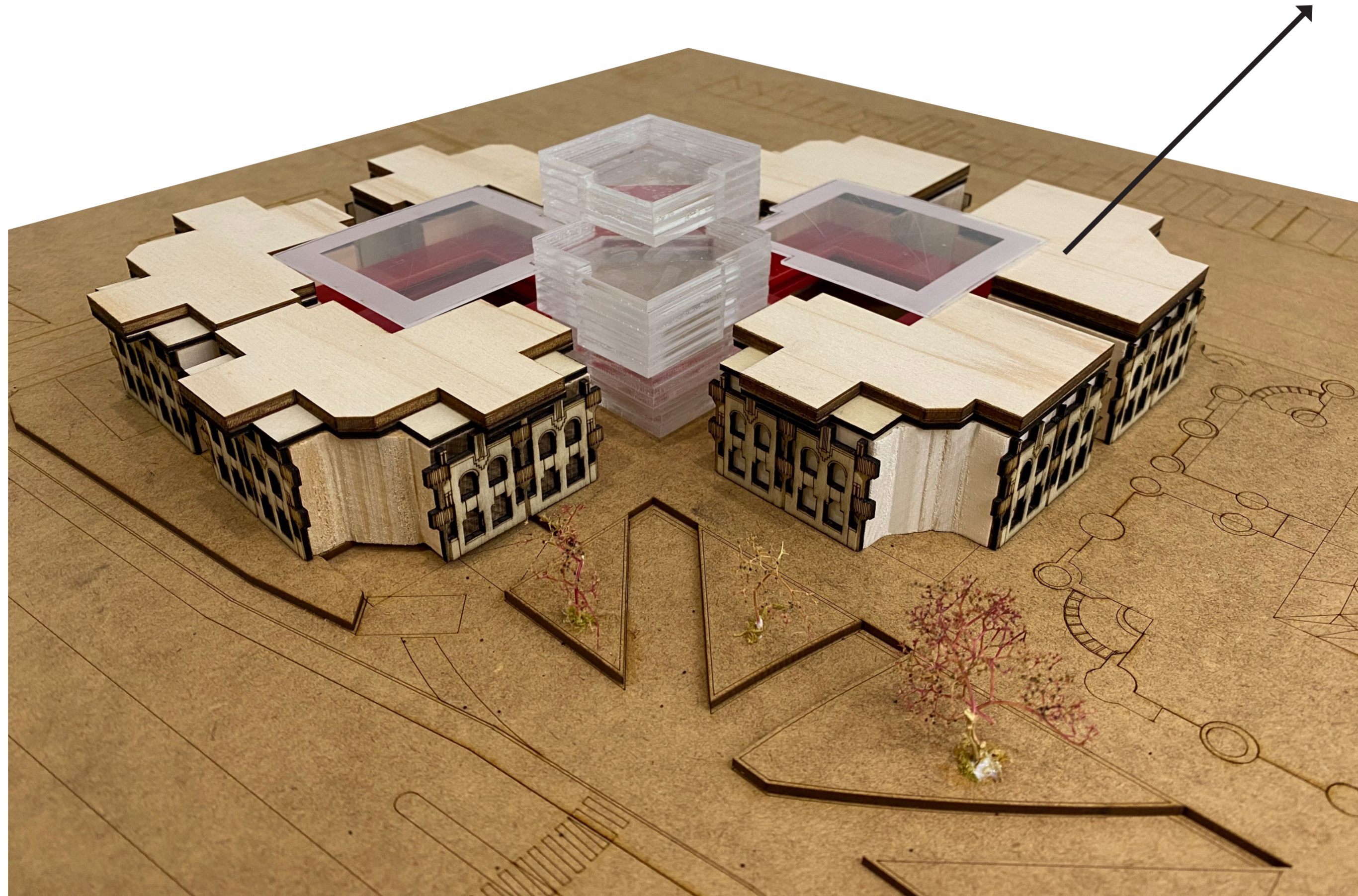
Zonnestand July 7 - 12:00u

INTERVENTION | LECTURE HALL

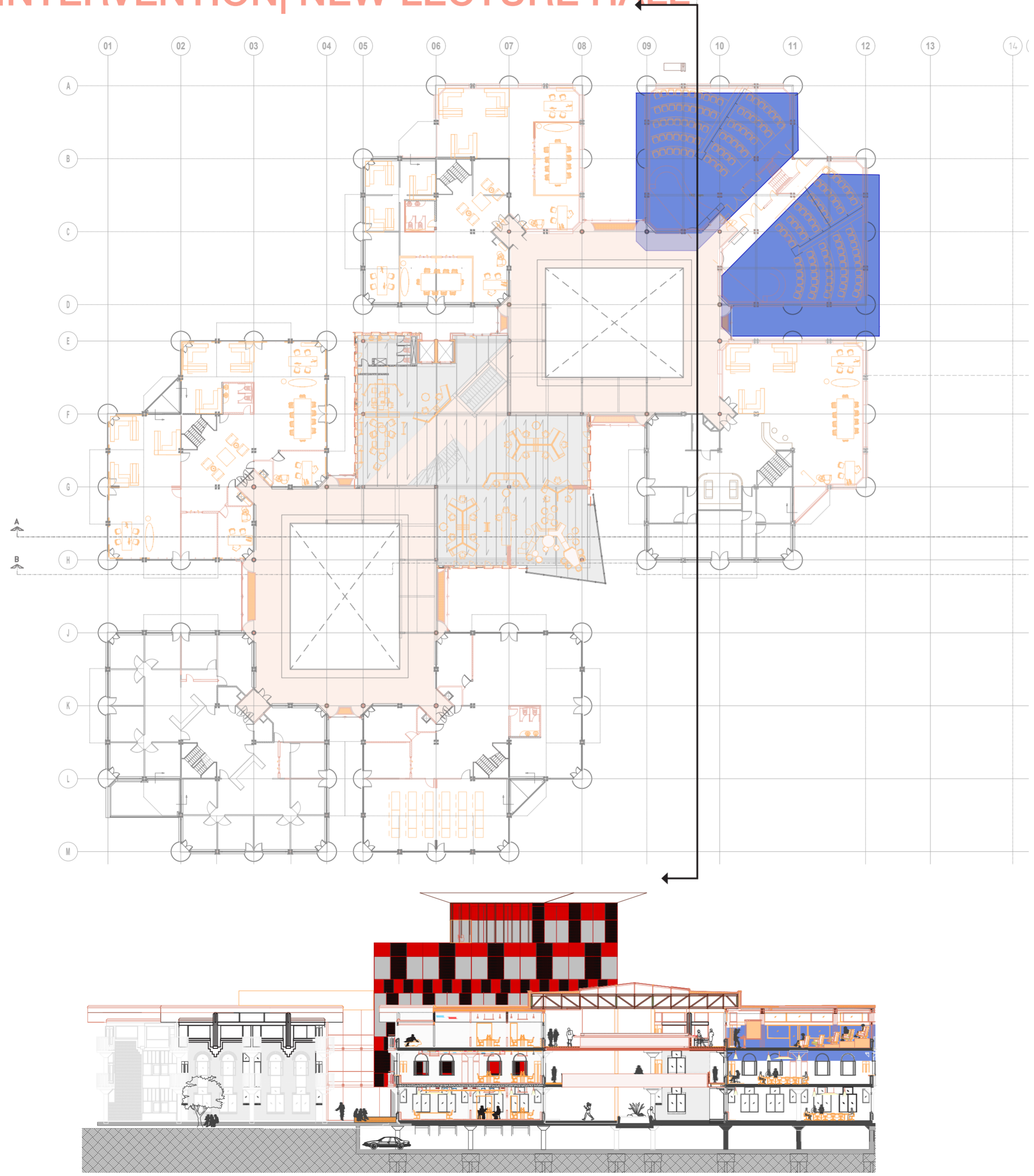


INTERVENTION | LECTURE HALL

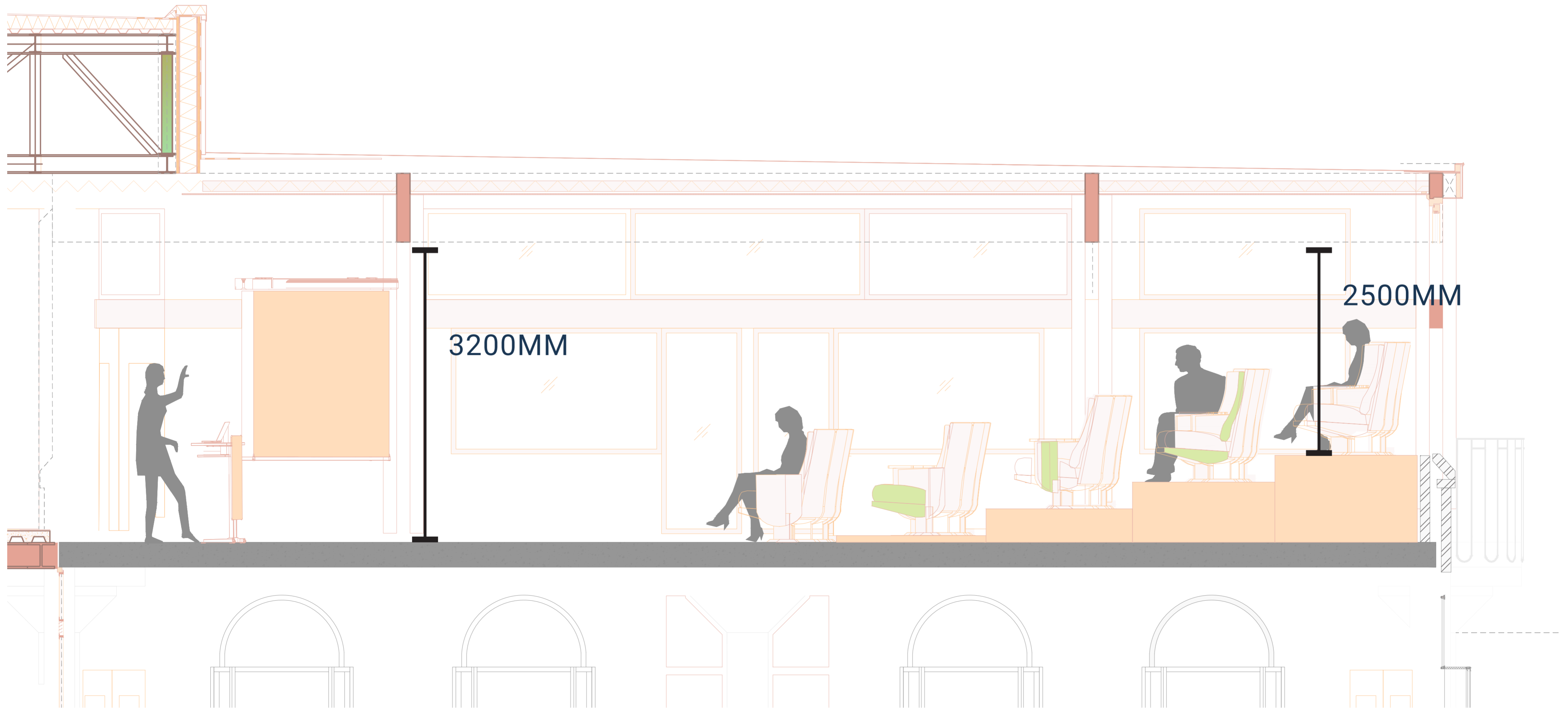
NEW LECTURE HALL



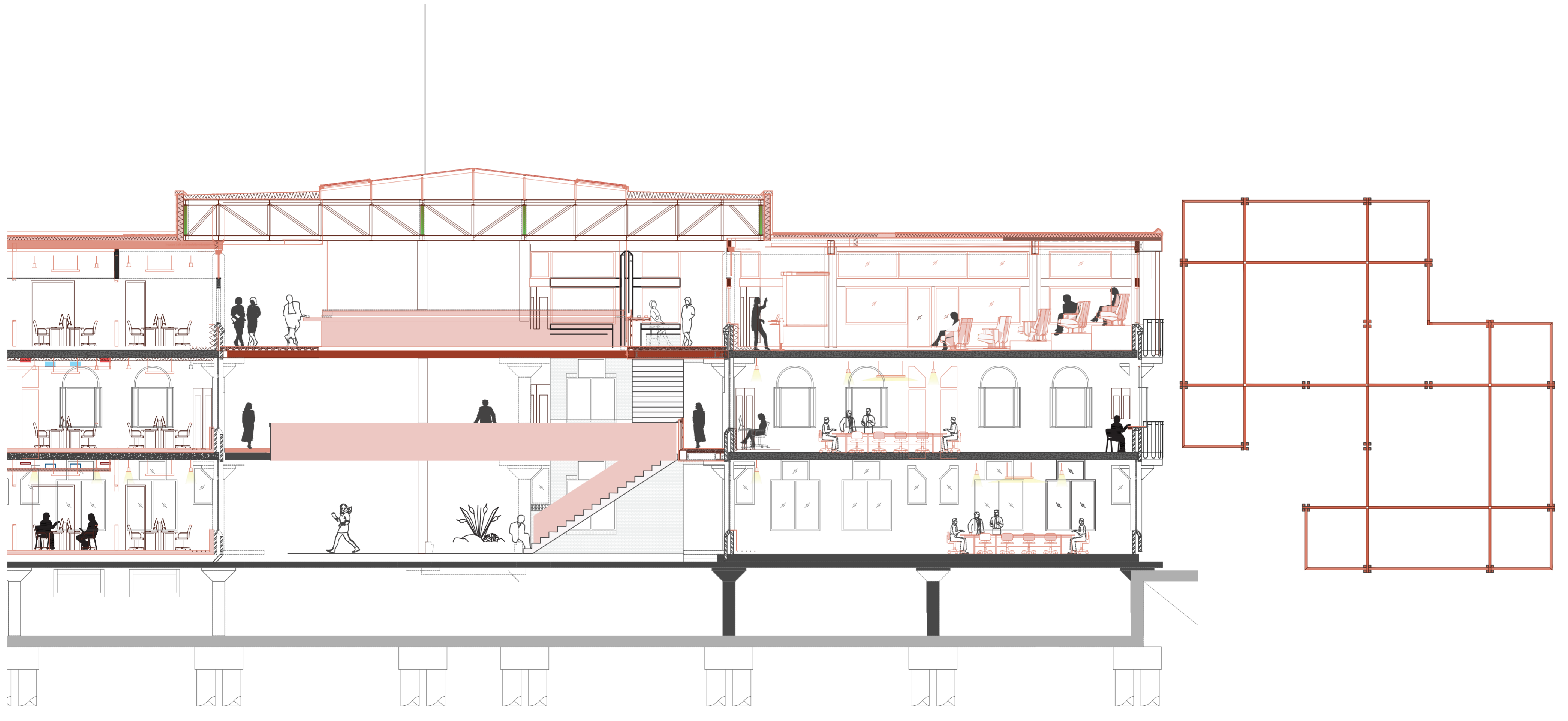
INTERVENTION | NEW LECTURE HALL



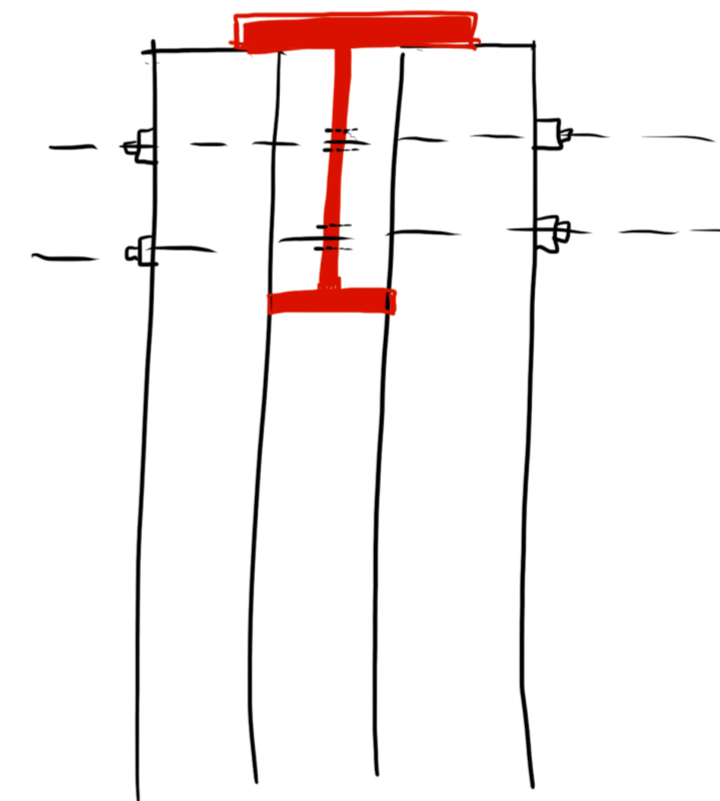
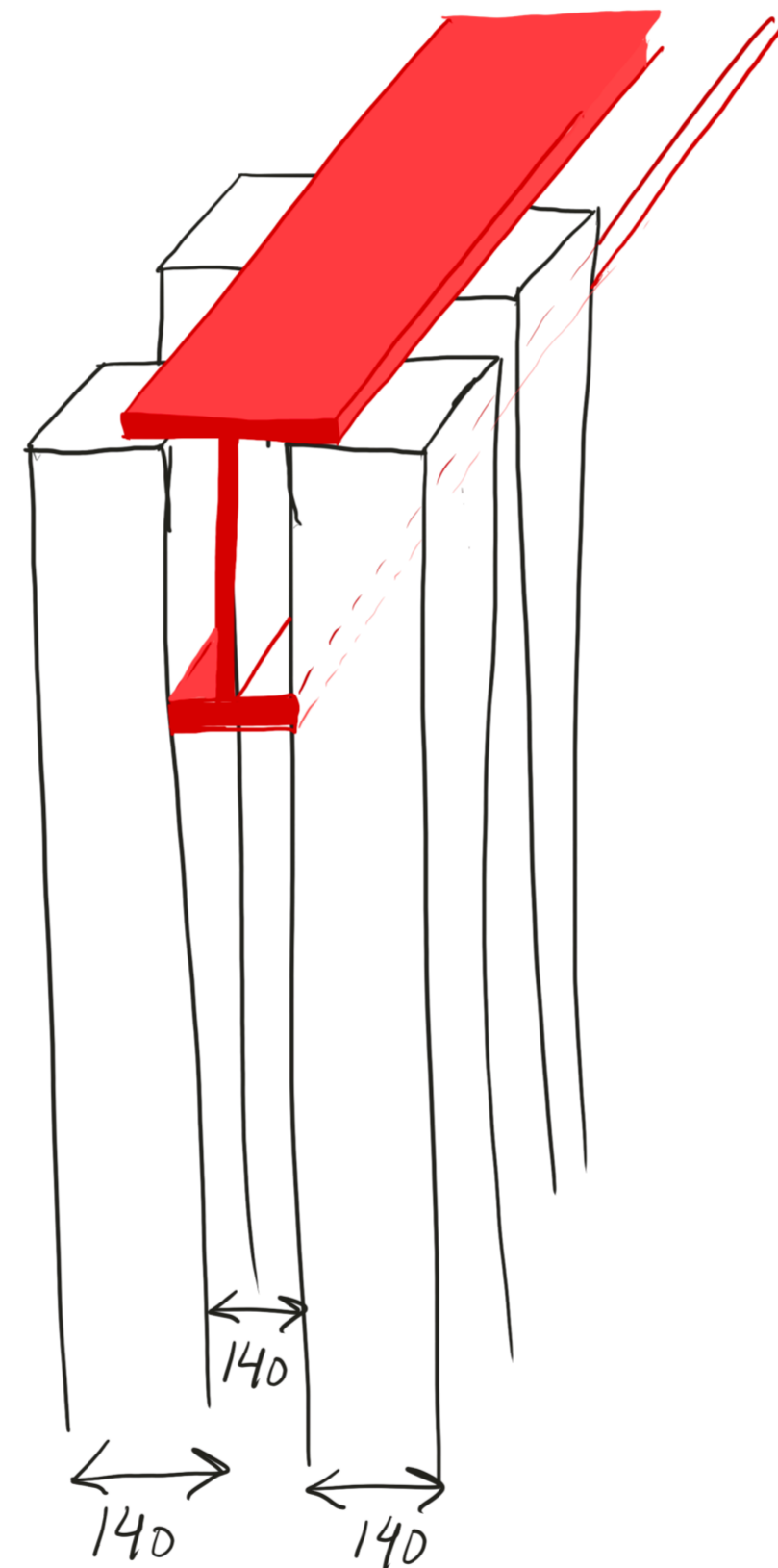
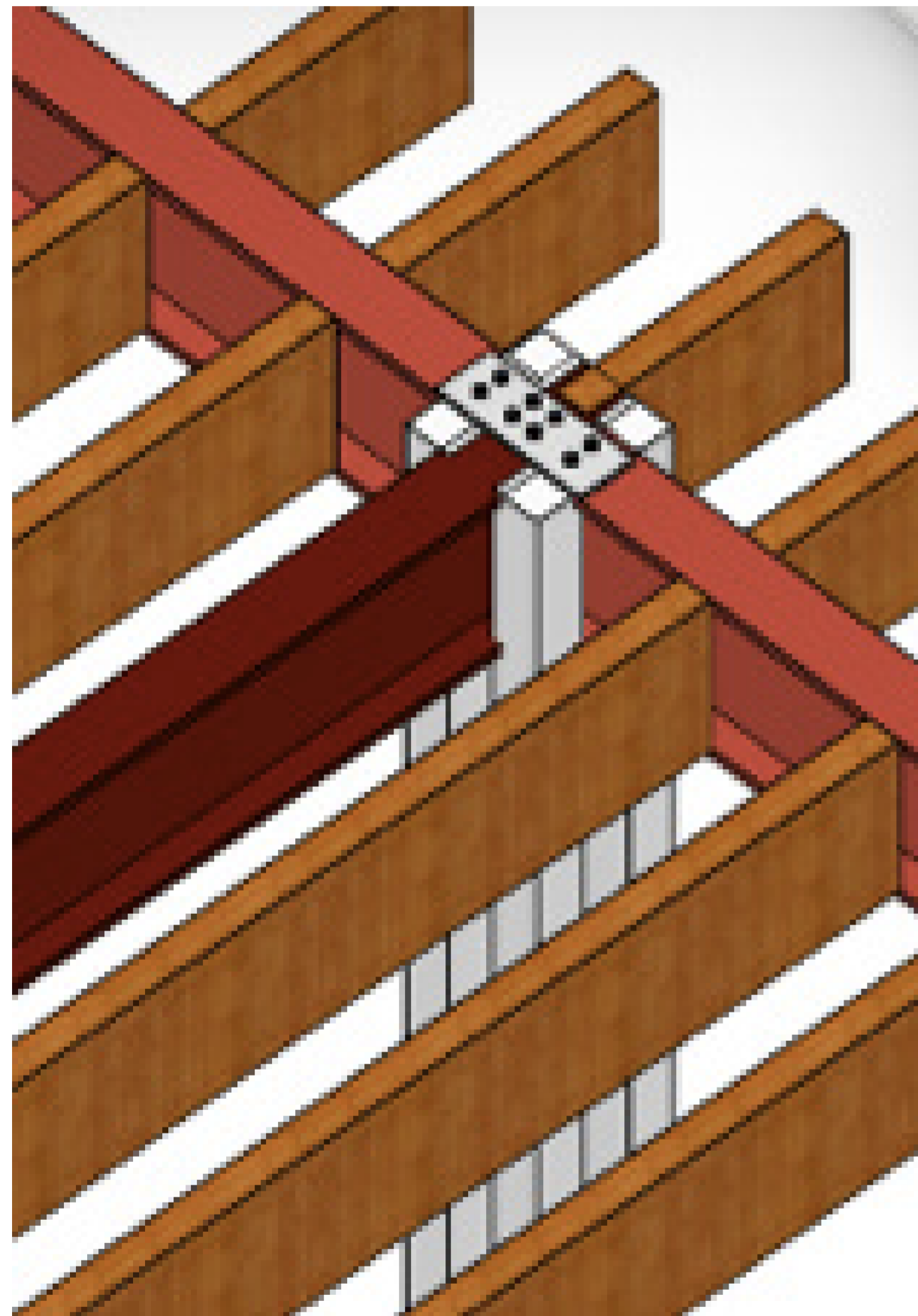
INTERVENTION | LECTURE HALL



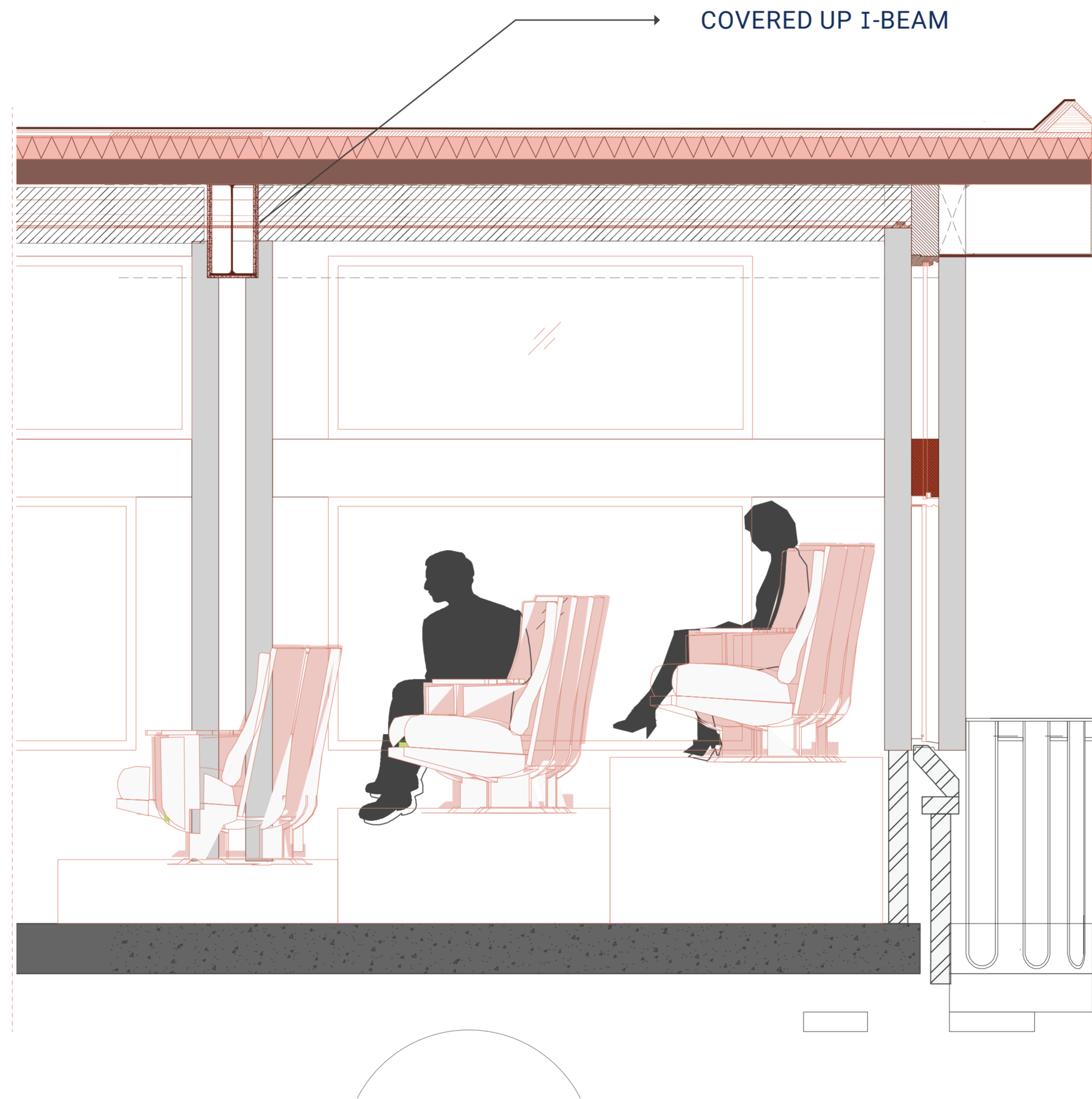
INTERVENTION | LECTURE HALL CONSTRUCTION



INTERVENTION | LECTURE HALL CONSTRUCTION



INTERVENTION | LECTURE HALL CONSTRUCTION DETAIL



INTERVENTION | IMPRESSIONS LECTURE HALL



Lecture hall (excluding installations)

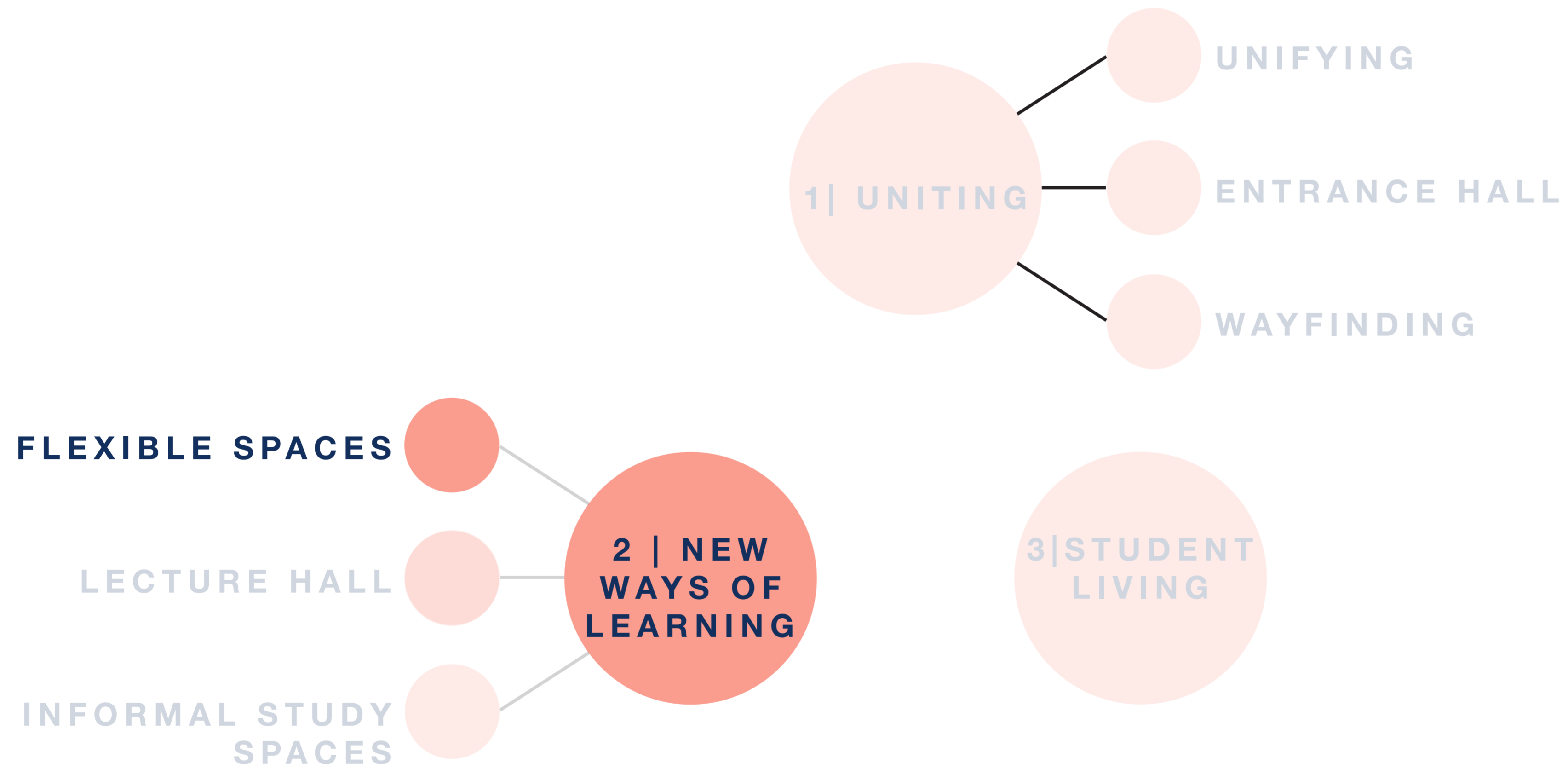
INTERVENTION | LECTURE HALL | MORE HEIGHT SAME EXTERIOR



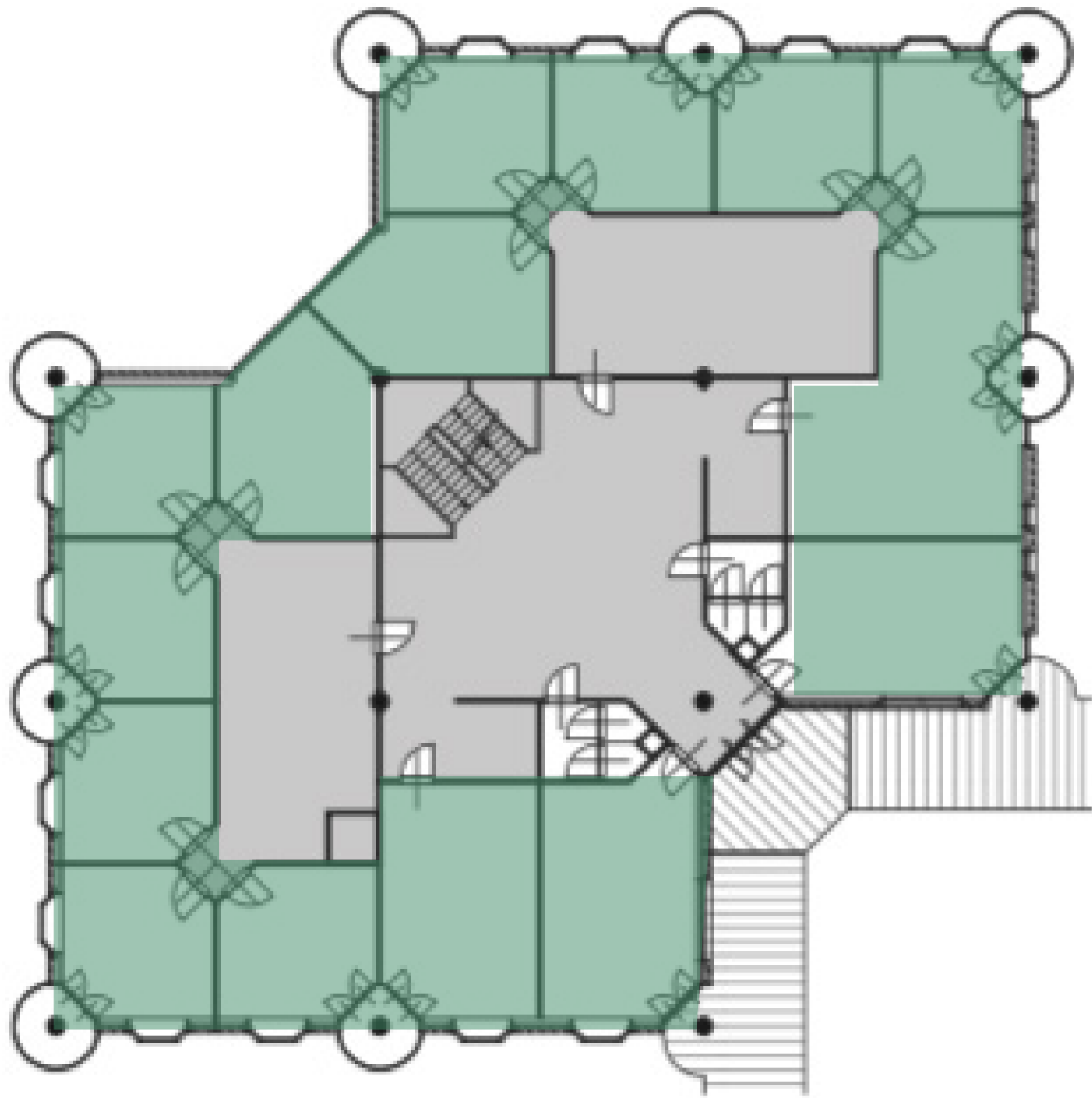
INTERVENTION | FACADE NORTH



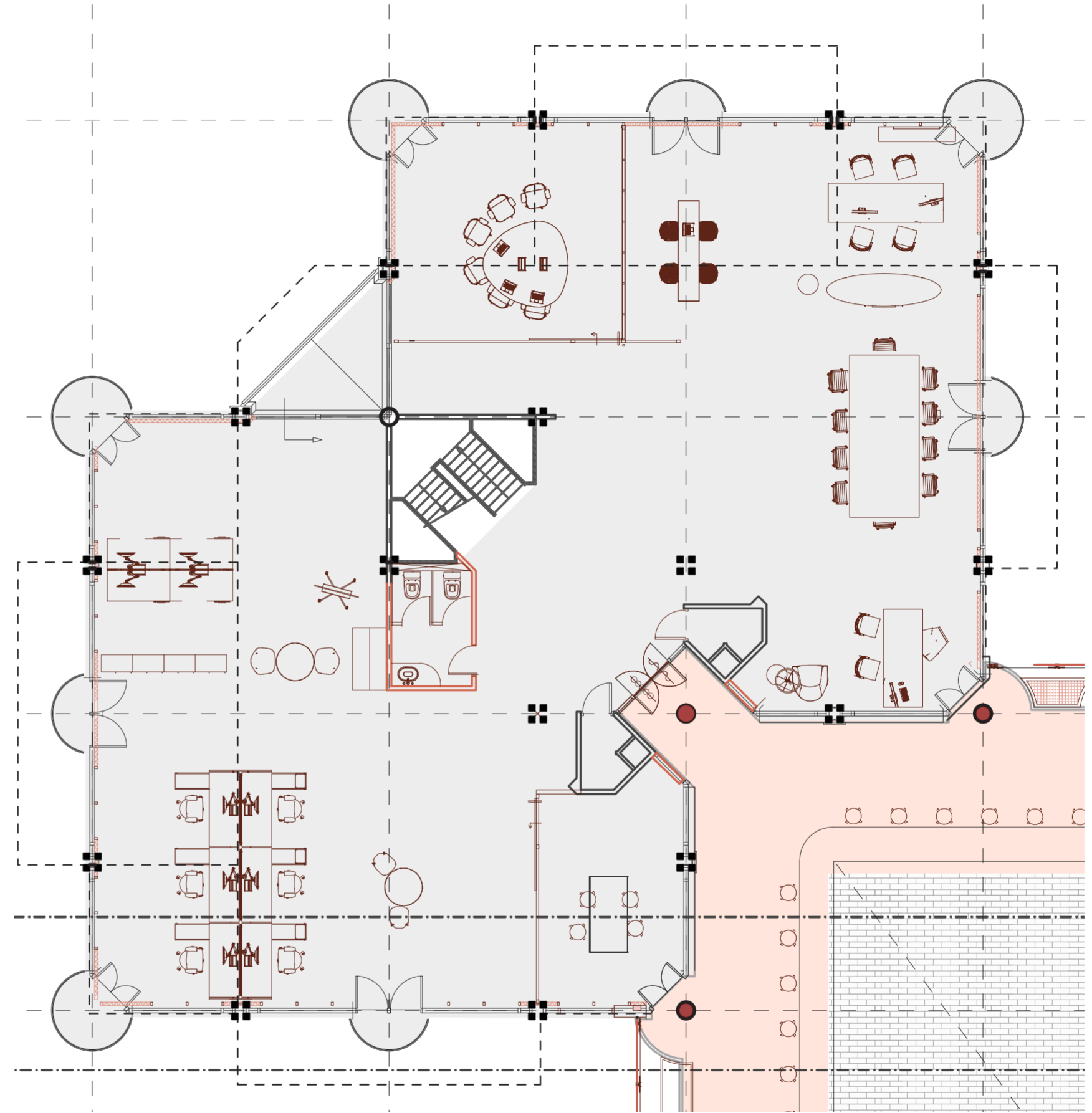
INTERVENTION | FLEXIBLE SPACES



IMPRESSION | OPEN FLOOR PLANS

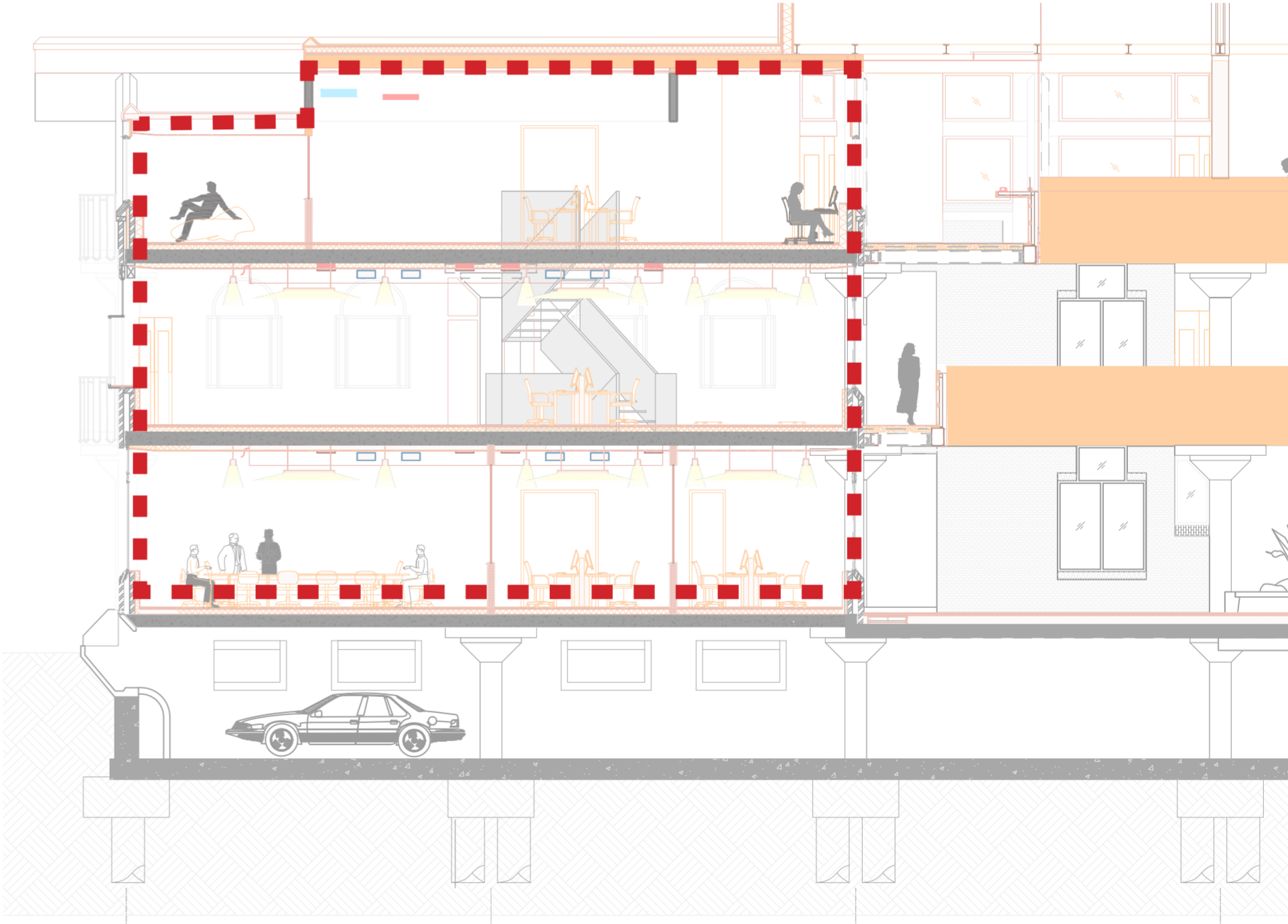
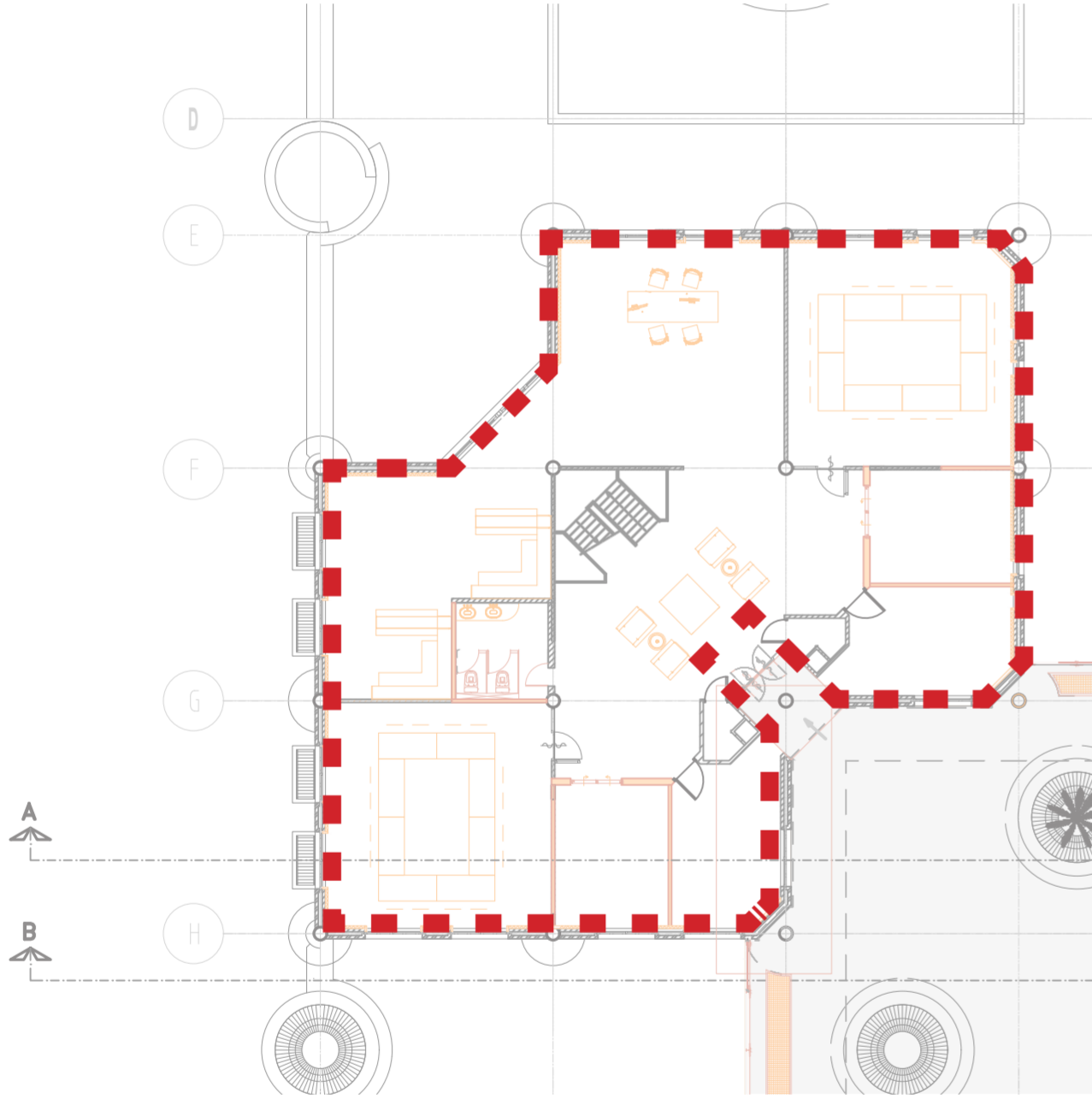


BEFORE



AFTER

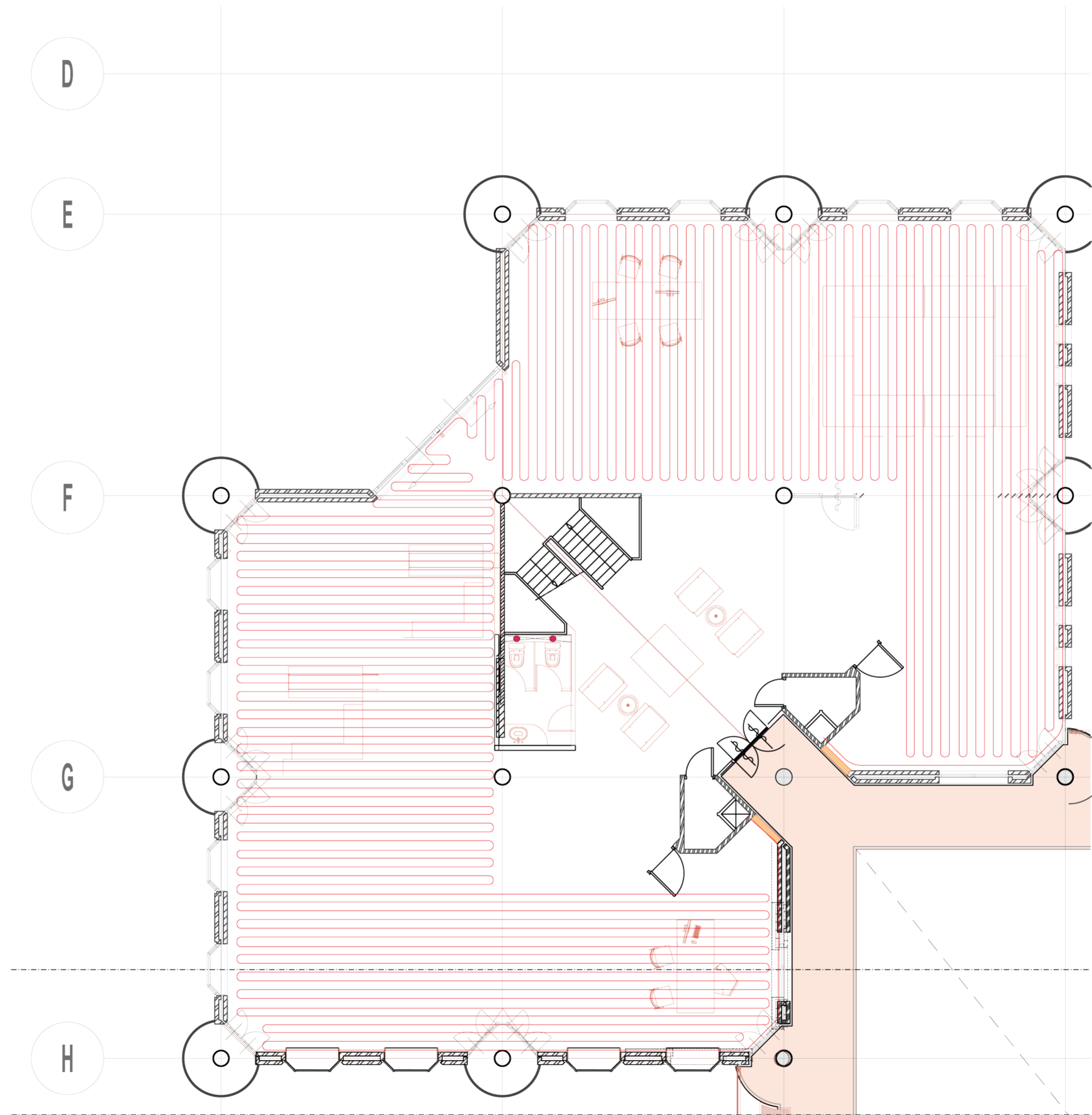
INTERVENTION | INSULATION FROM INSIDE



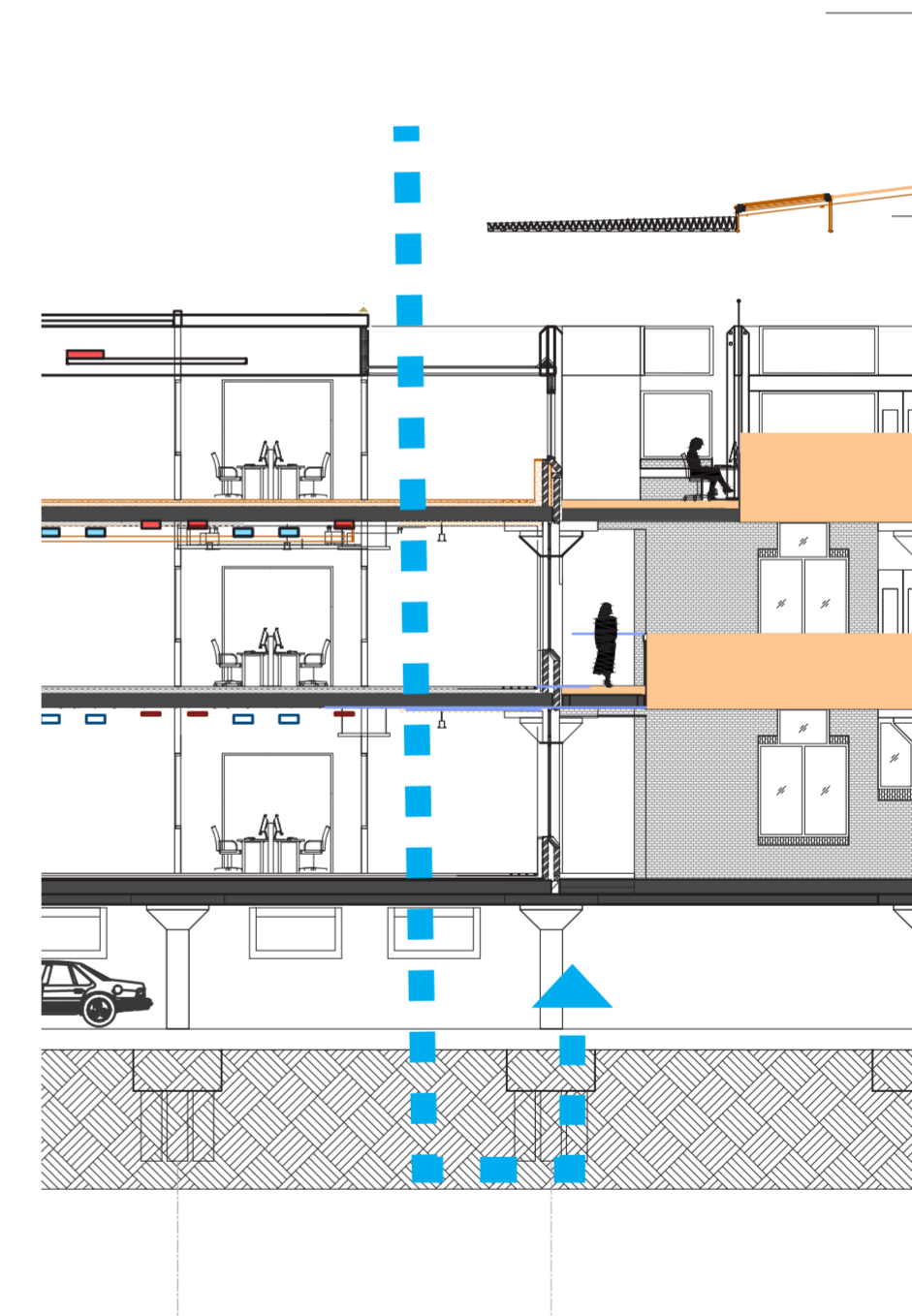
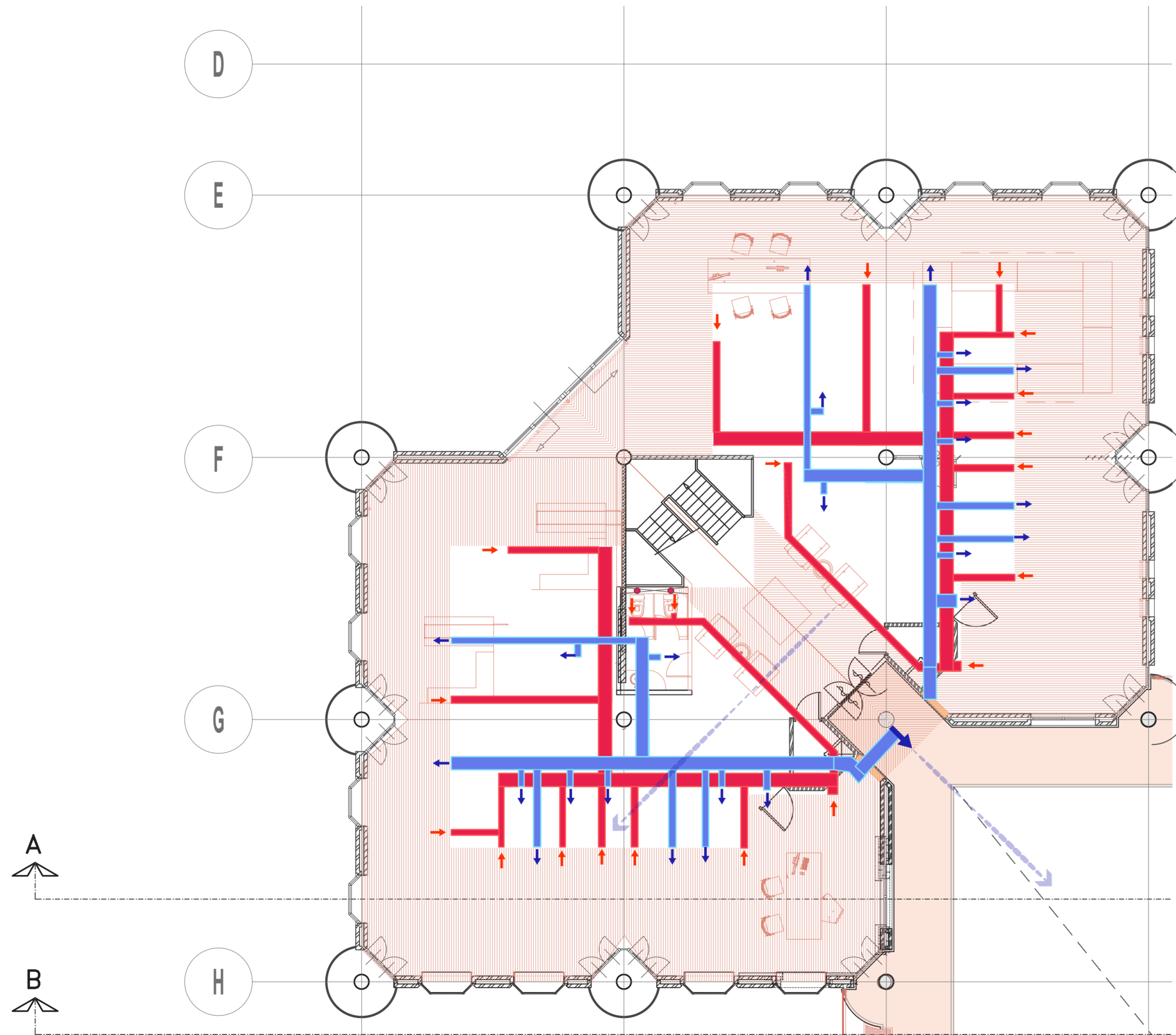
INTERVENTION | NEW WINDOWS EXISTING BUILDINGS



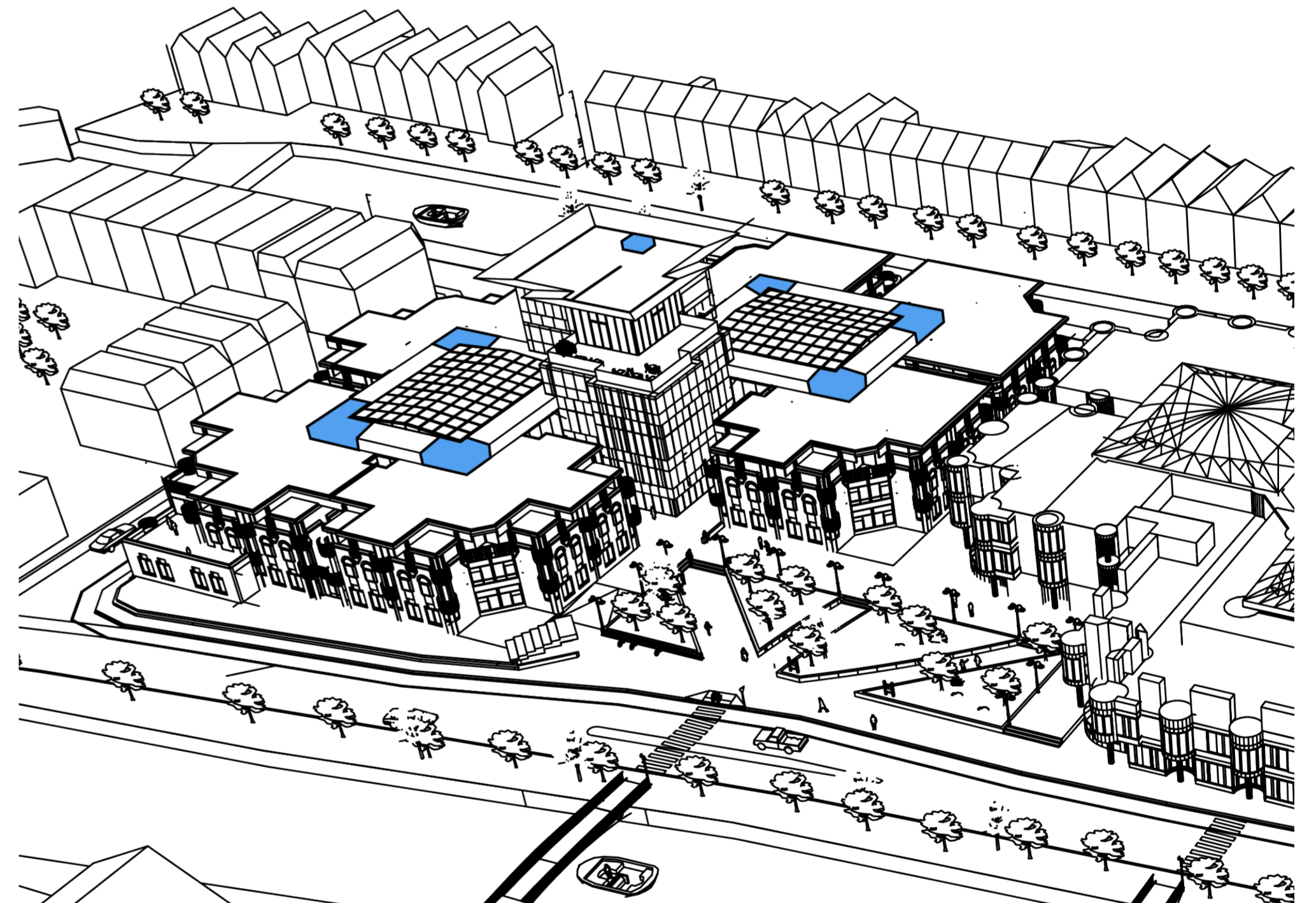
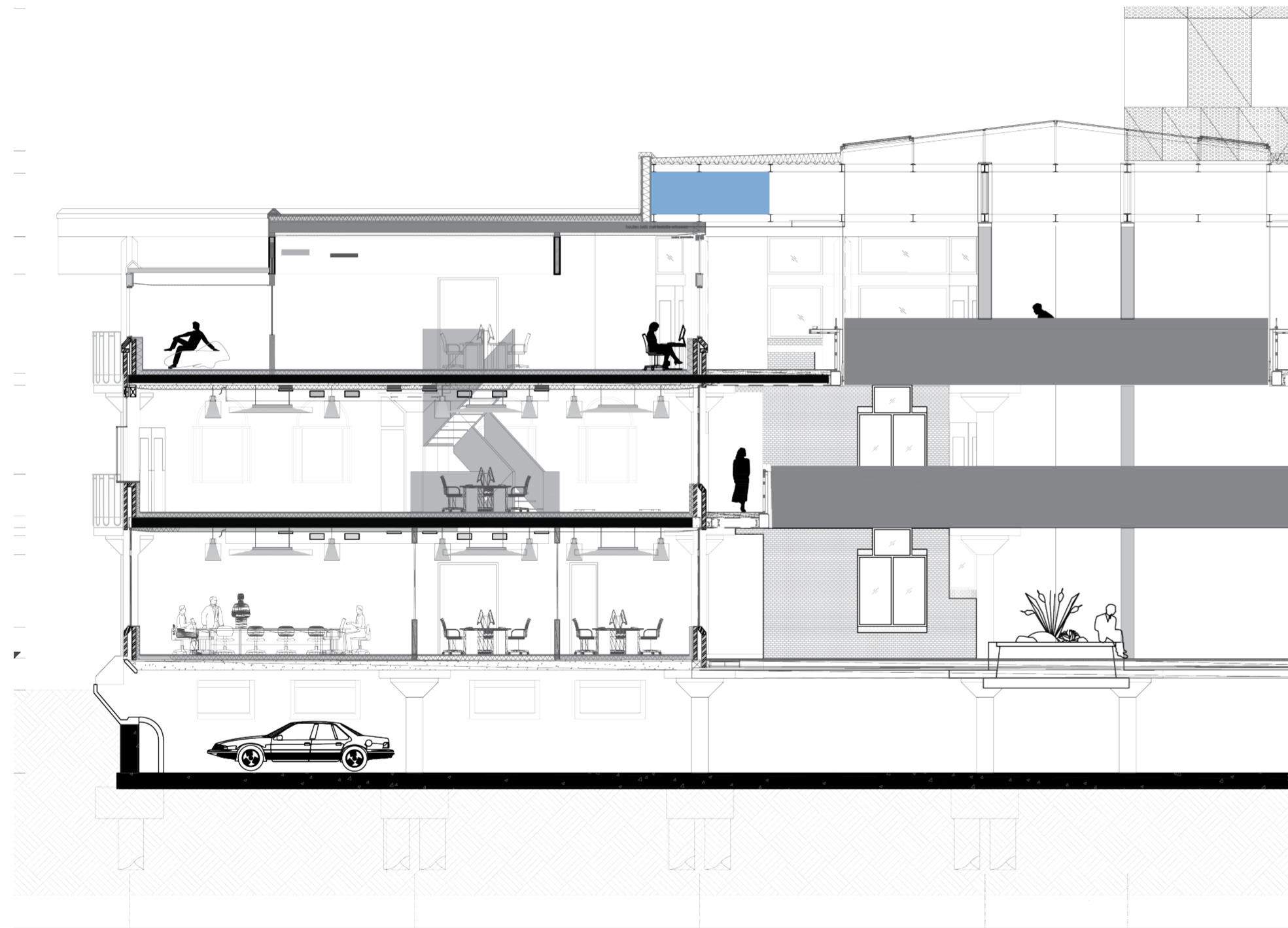
CONSEQUENCES | FLOOR HEATING



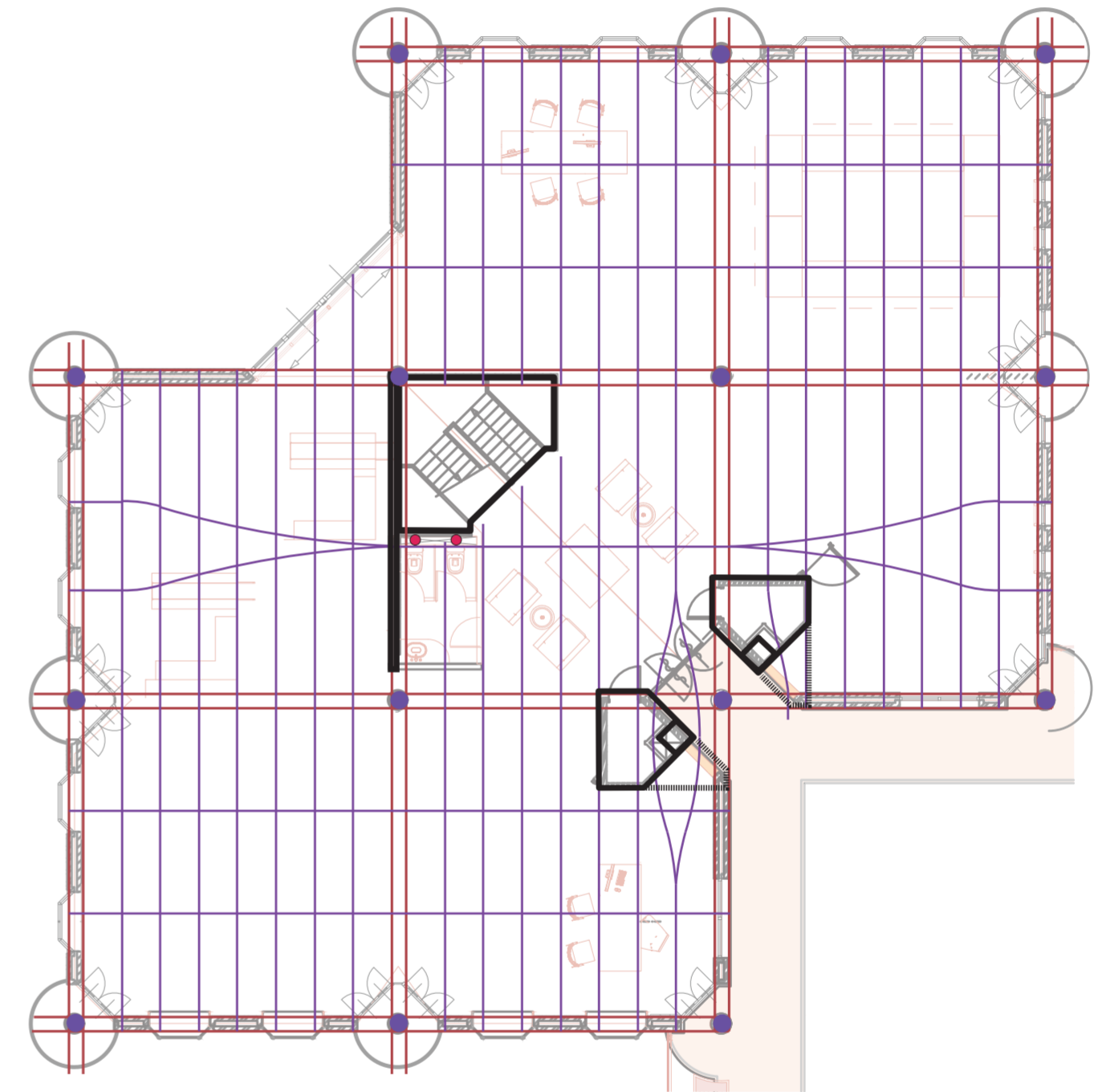
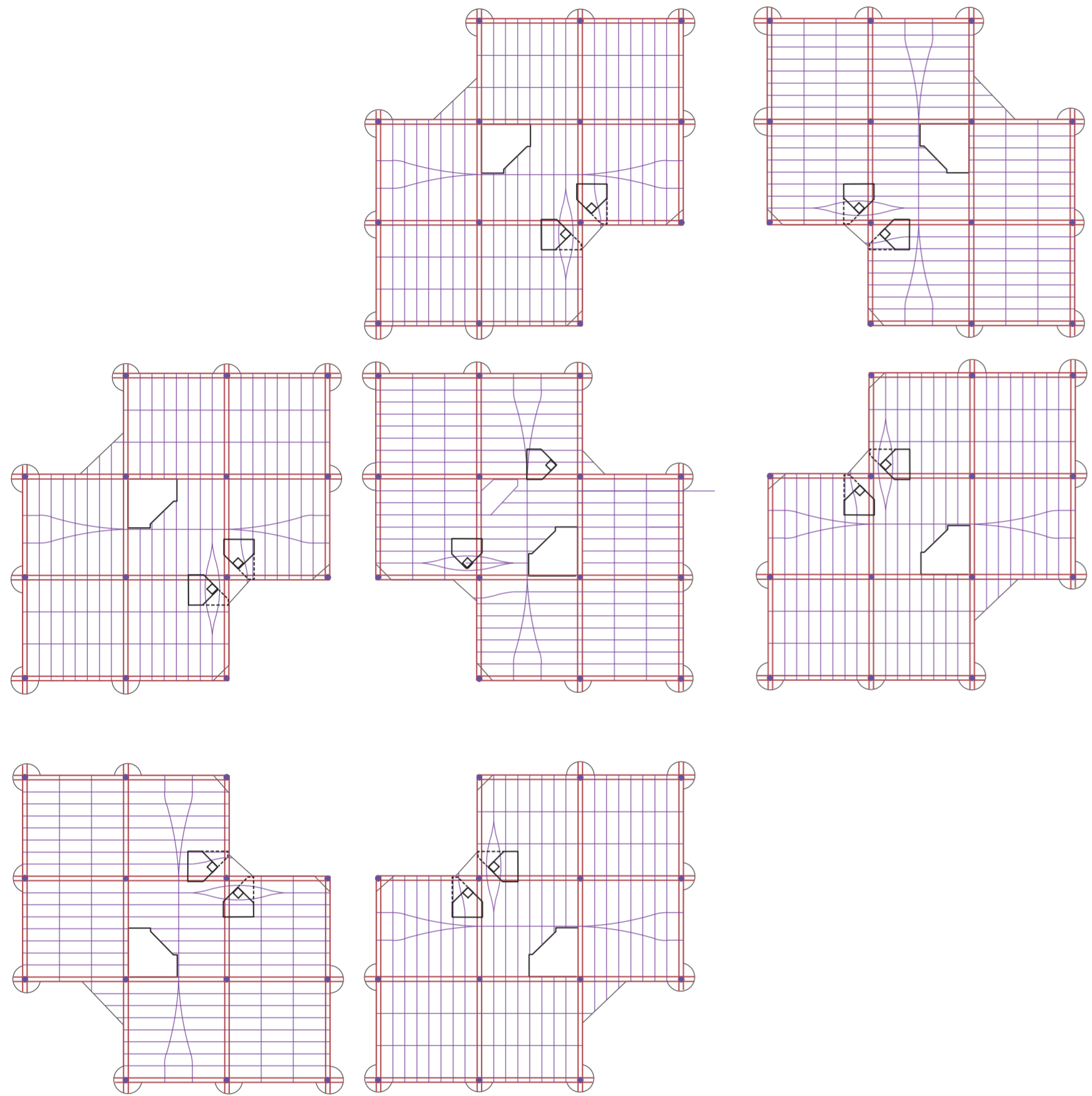
CONSEQUENCES | VENTILATION SCHEME NORTH



CONSEQUENCES | INSTALLATIONS IN ROOF OVERLAP

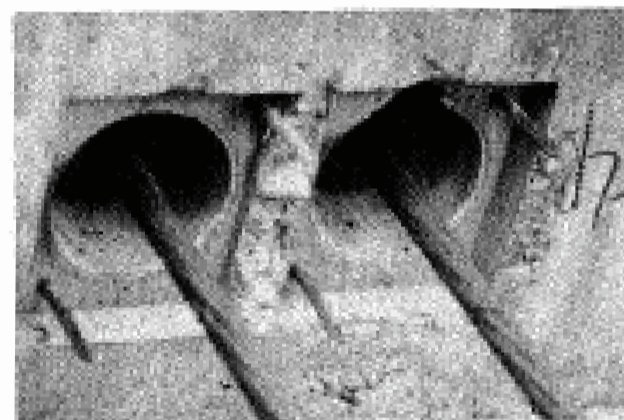


CONSEQUENCES | MAKING NEW SHAFTS FOR VENTILATION



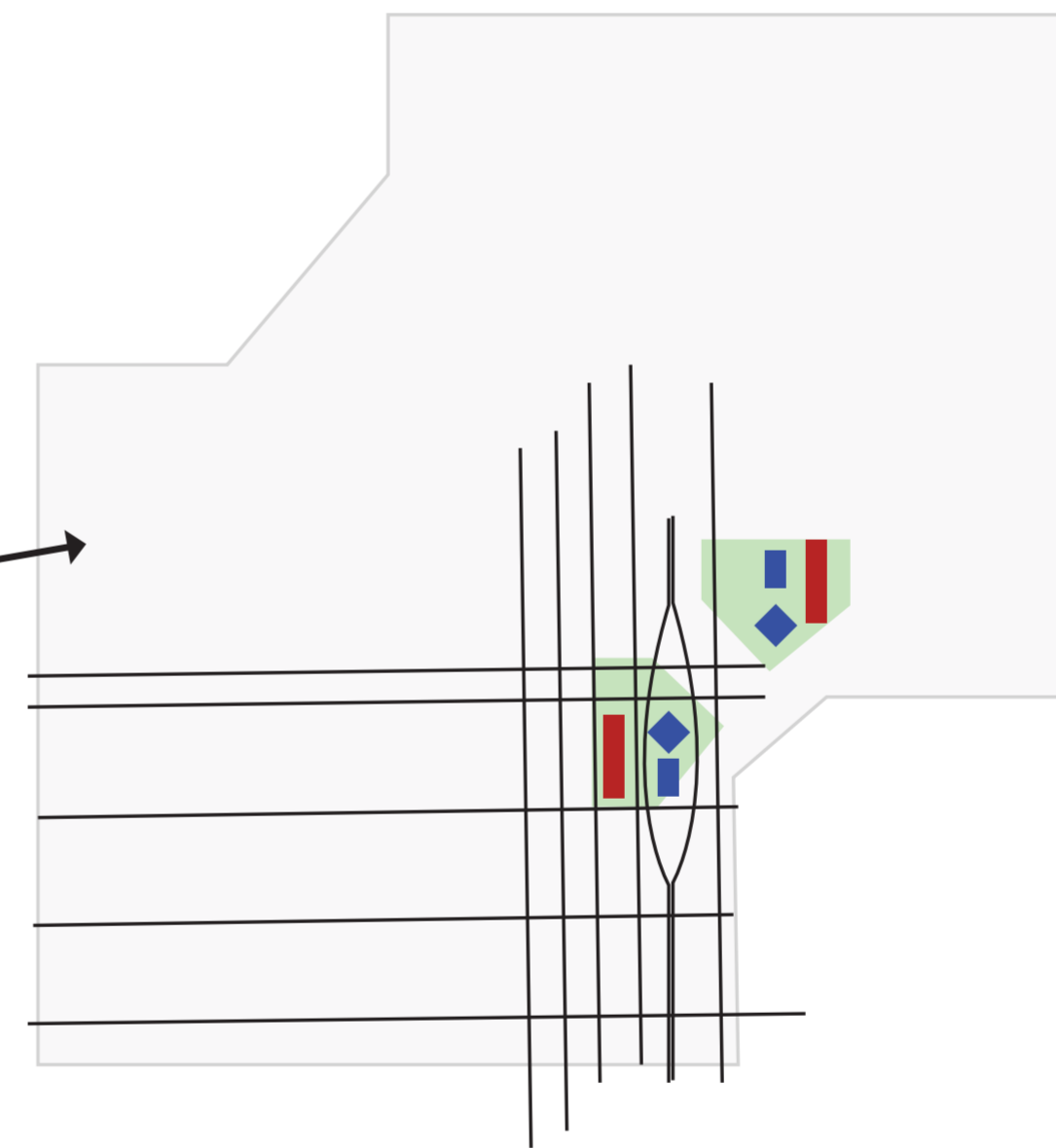
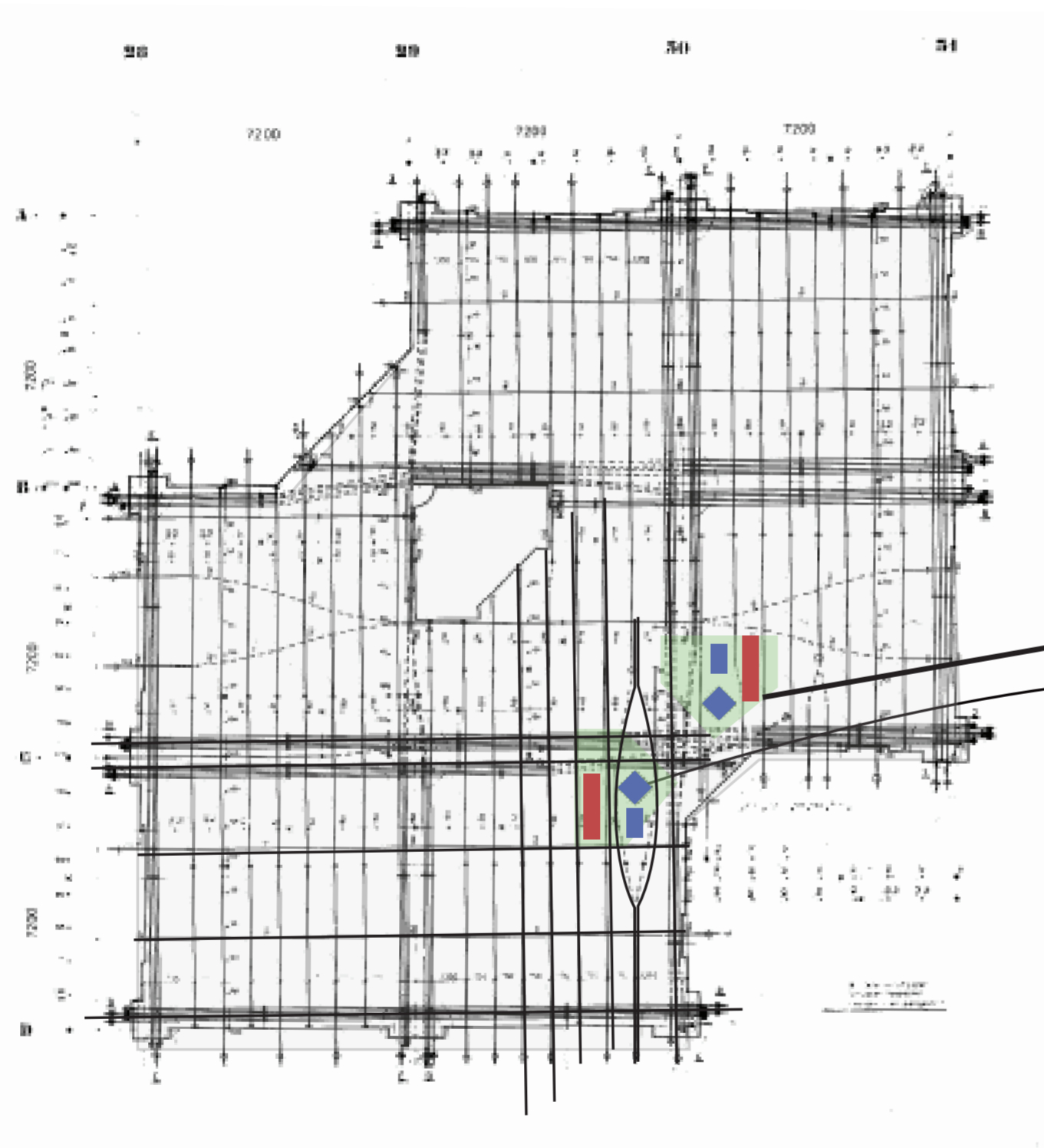
- primary steel reinforcement
- secondary steel reinforcement
- mushroom columns
- ▭ make new installation rooms slightly larger
- new holes in between steel reinforcement for toilets

CONSEQUENCES | MAKING NEW SHAFTS FOR VENTILATION



16-17
Verankeringen na het spannen

18
Ligging voorspankabels



820 mm



247 mm



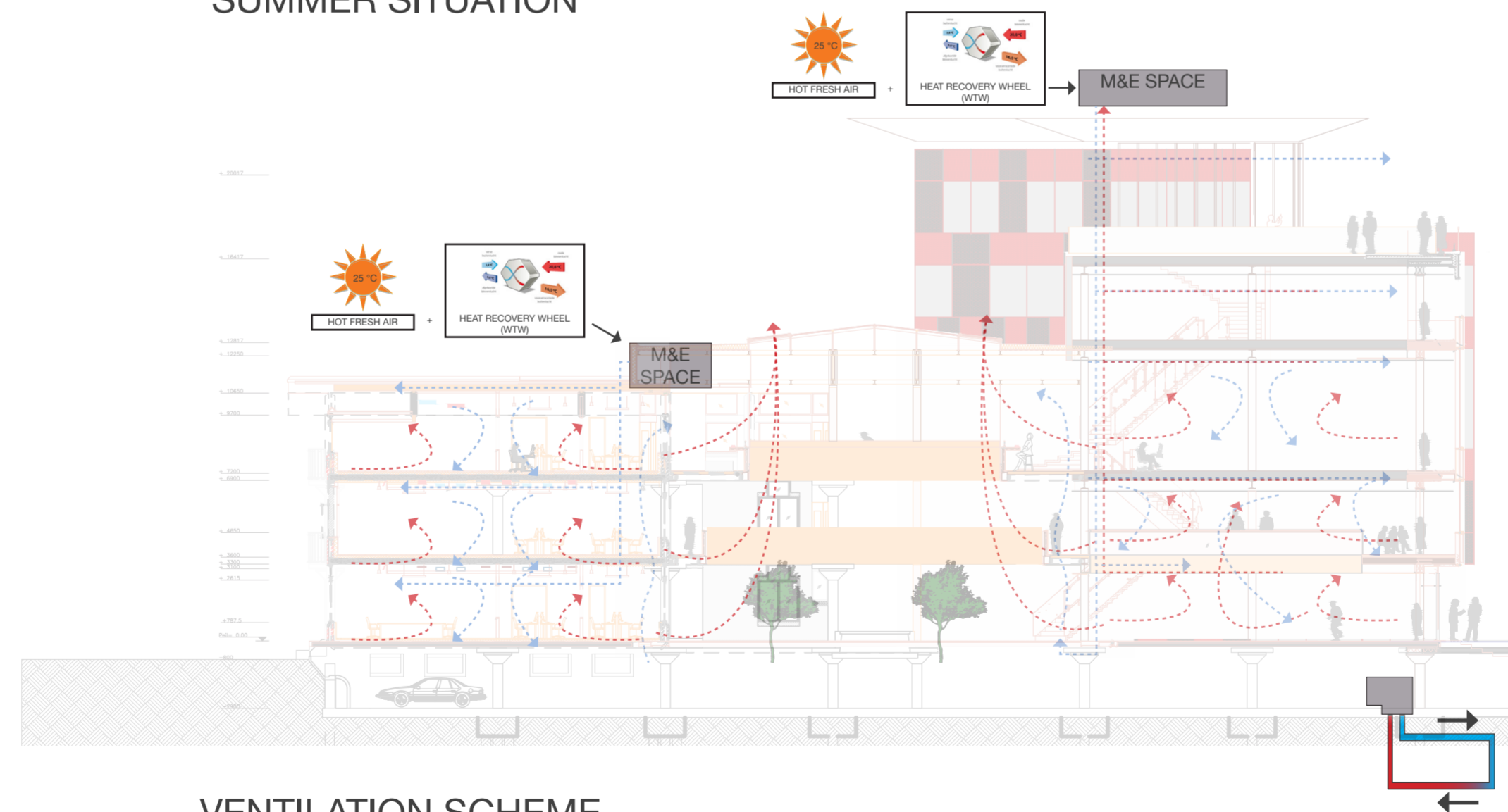
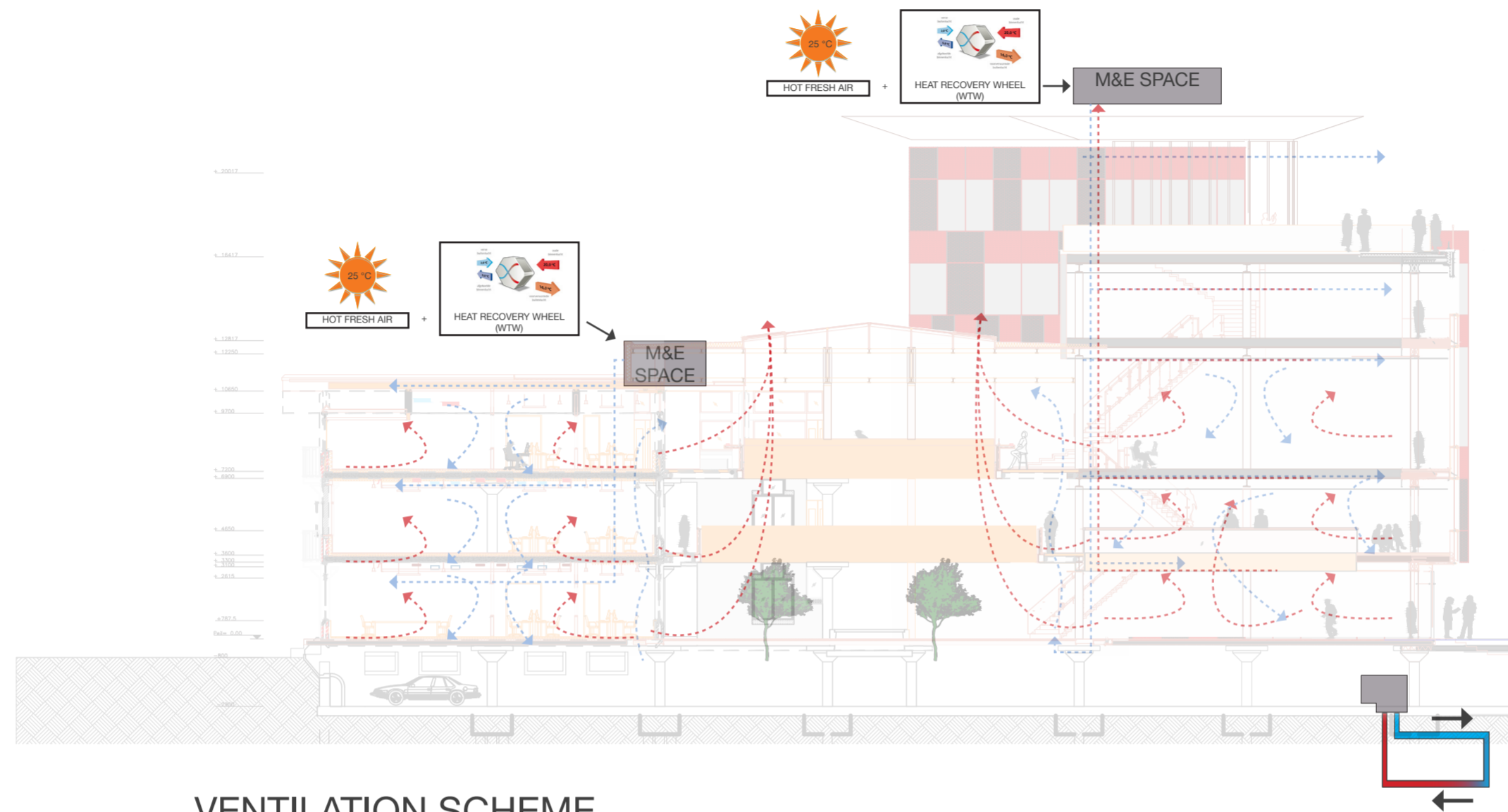
BRON: CONSTRUCTIE WAPENING ARTIKEL FACULTEIT VAN LETTEREN

BUILDING SUSTAINABILITY | CLIMATE CONTROL

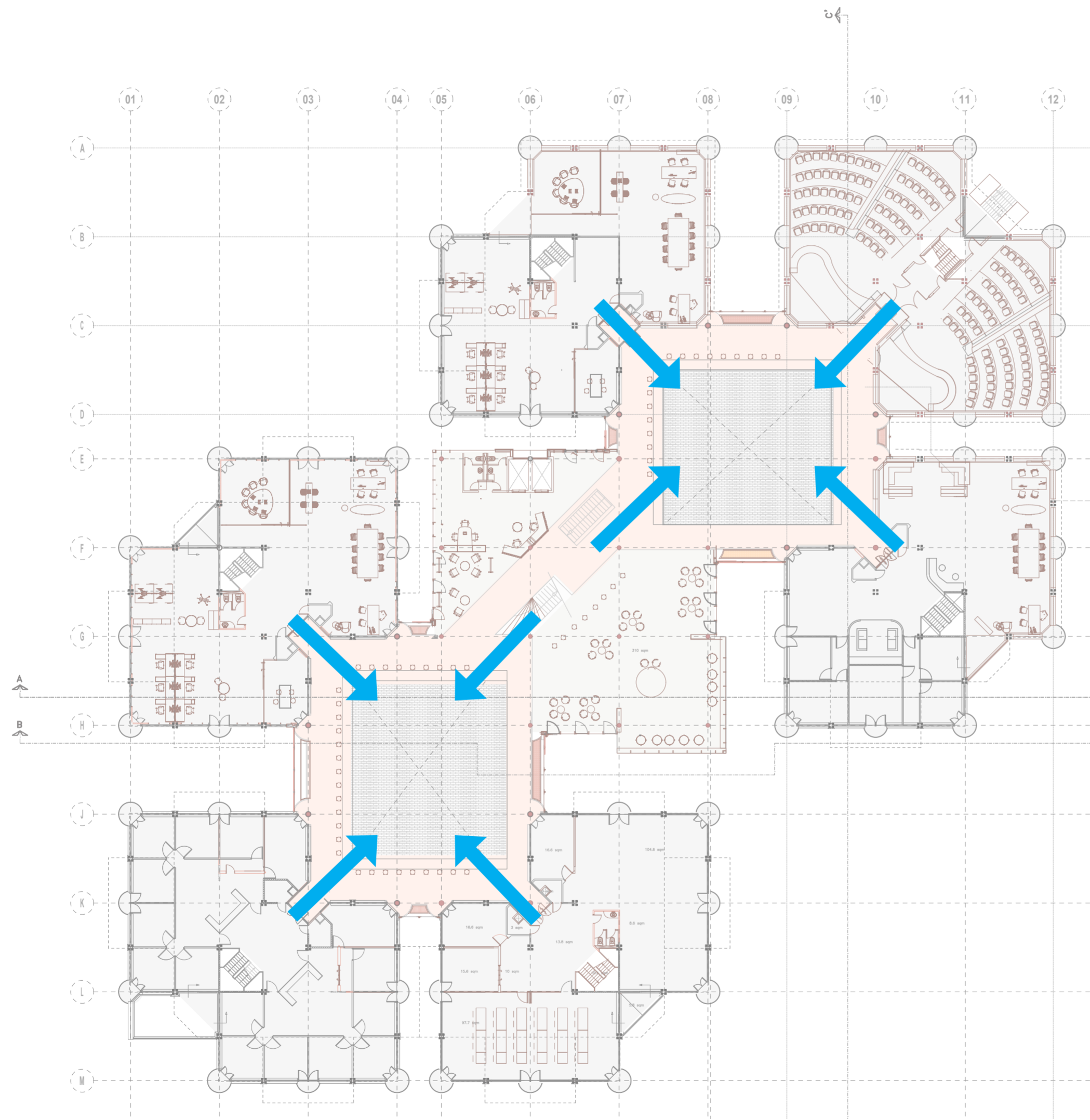
FLOOR HEATING THROUGH
GEOTHERMAL ENERGY
(GROUND SOURCE HEAT-
ING AND COOLING)

HEAT RECOVERY SYSTEM
(WTW) | AIR SUPPLY HEAT-
ING AND COOLING

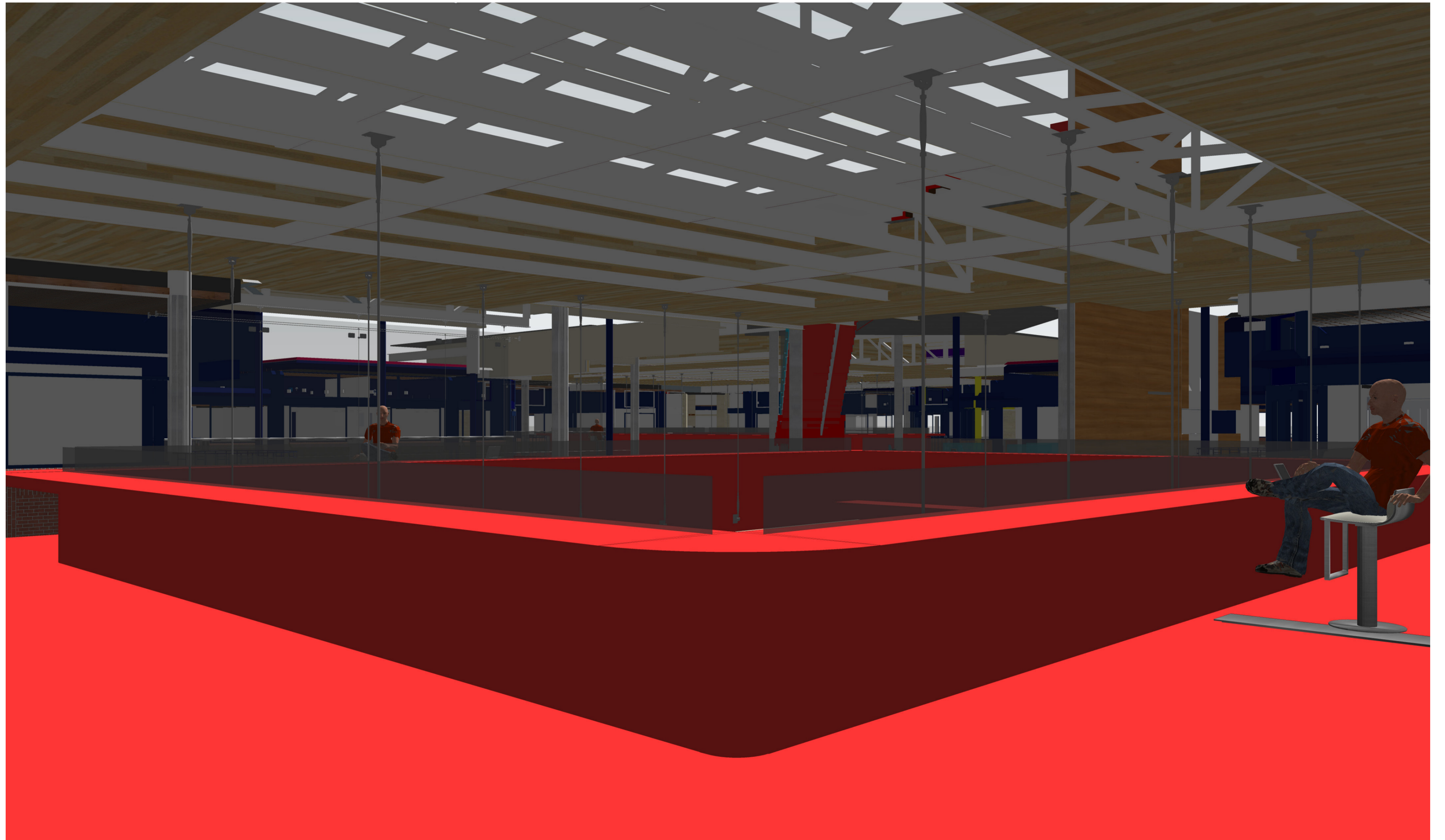
INSULATION



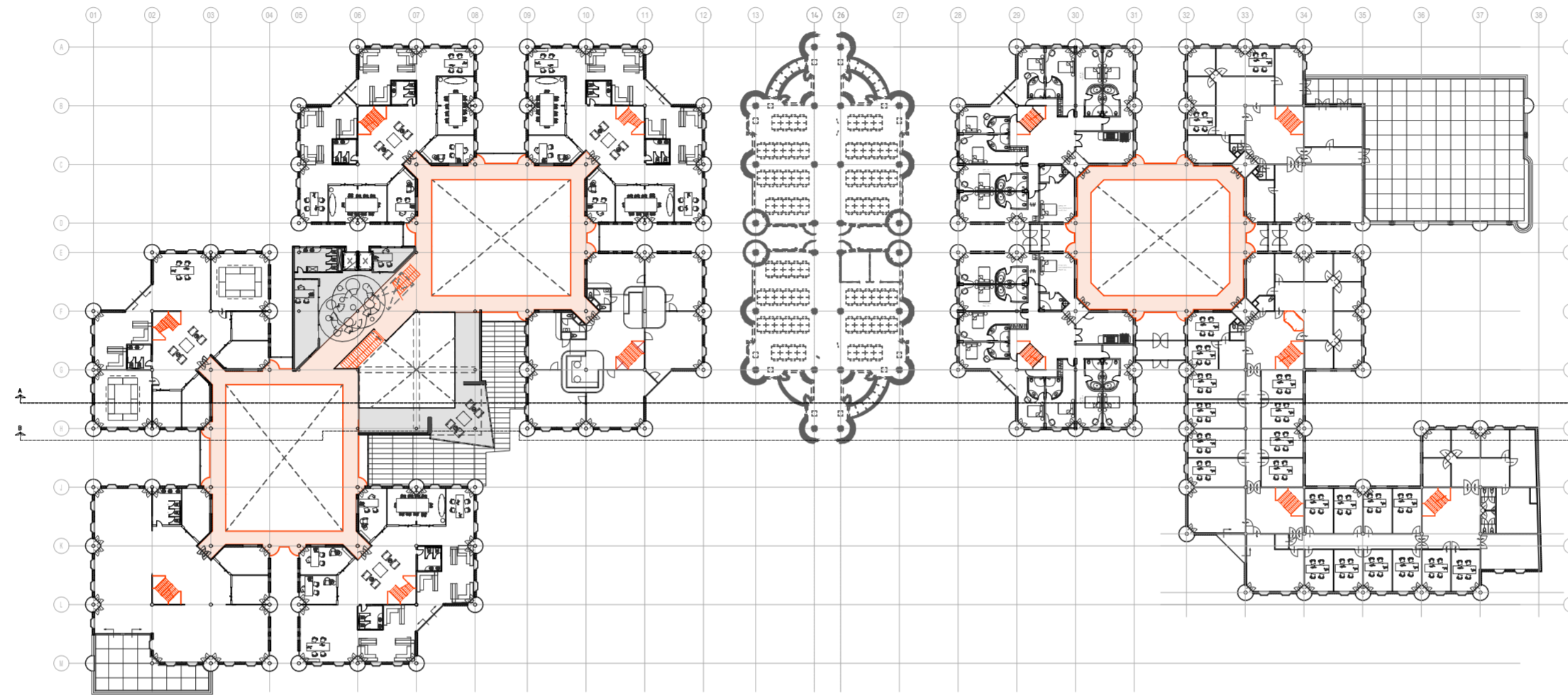
BUILDING SUSTAINABILITY | CLIMATE CONTROL



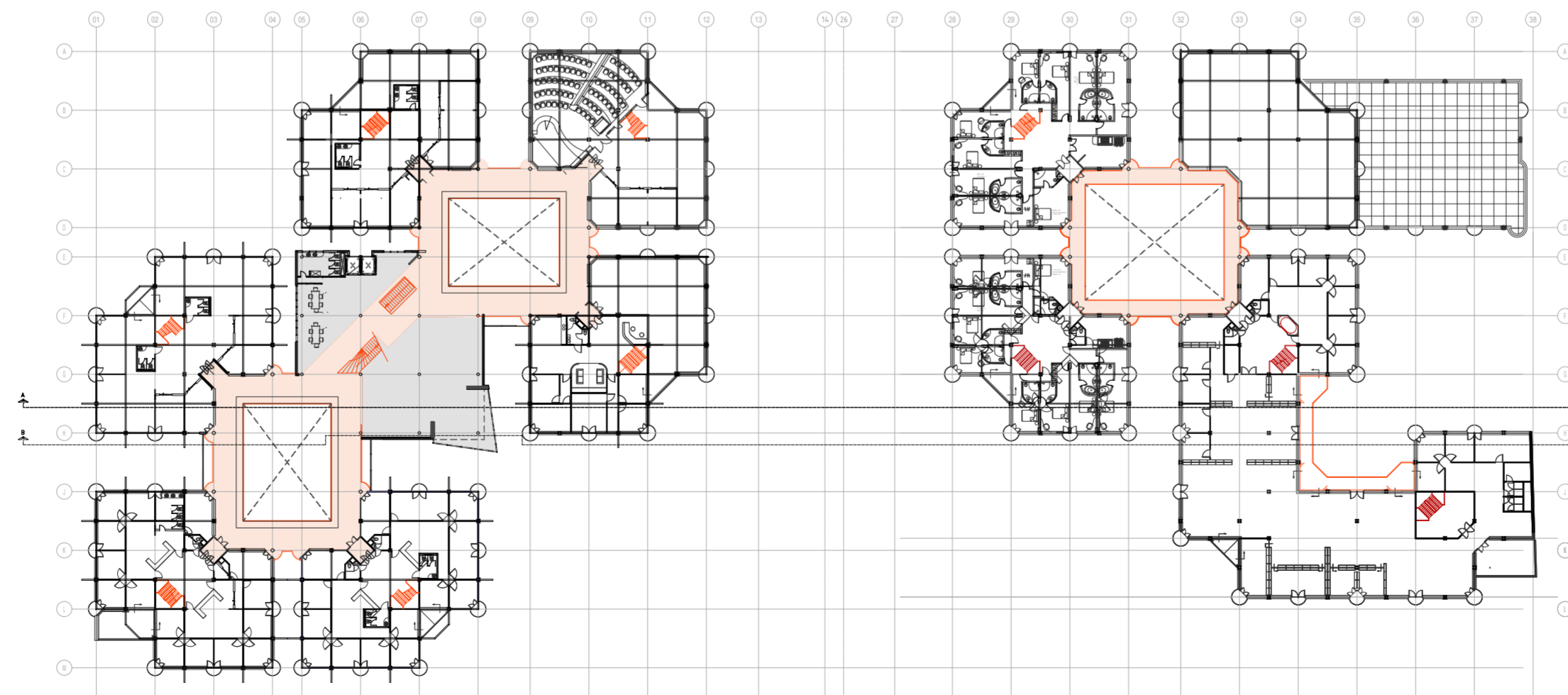
INTERVENTION | MATERIALISATION GALLERIES



GALLERIES



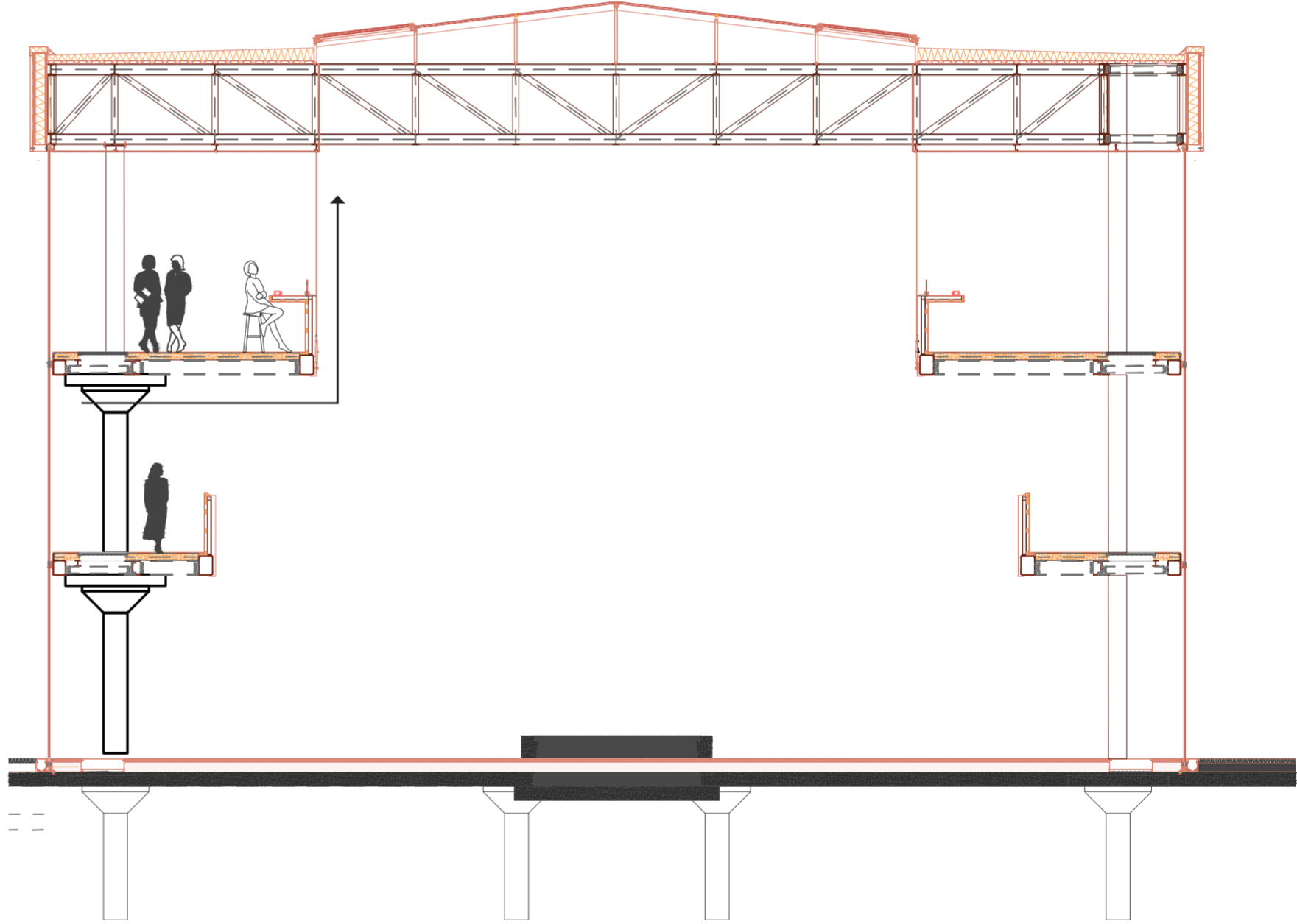
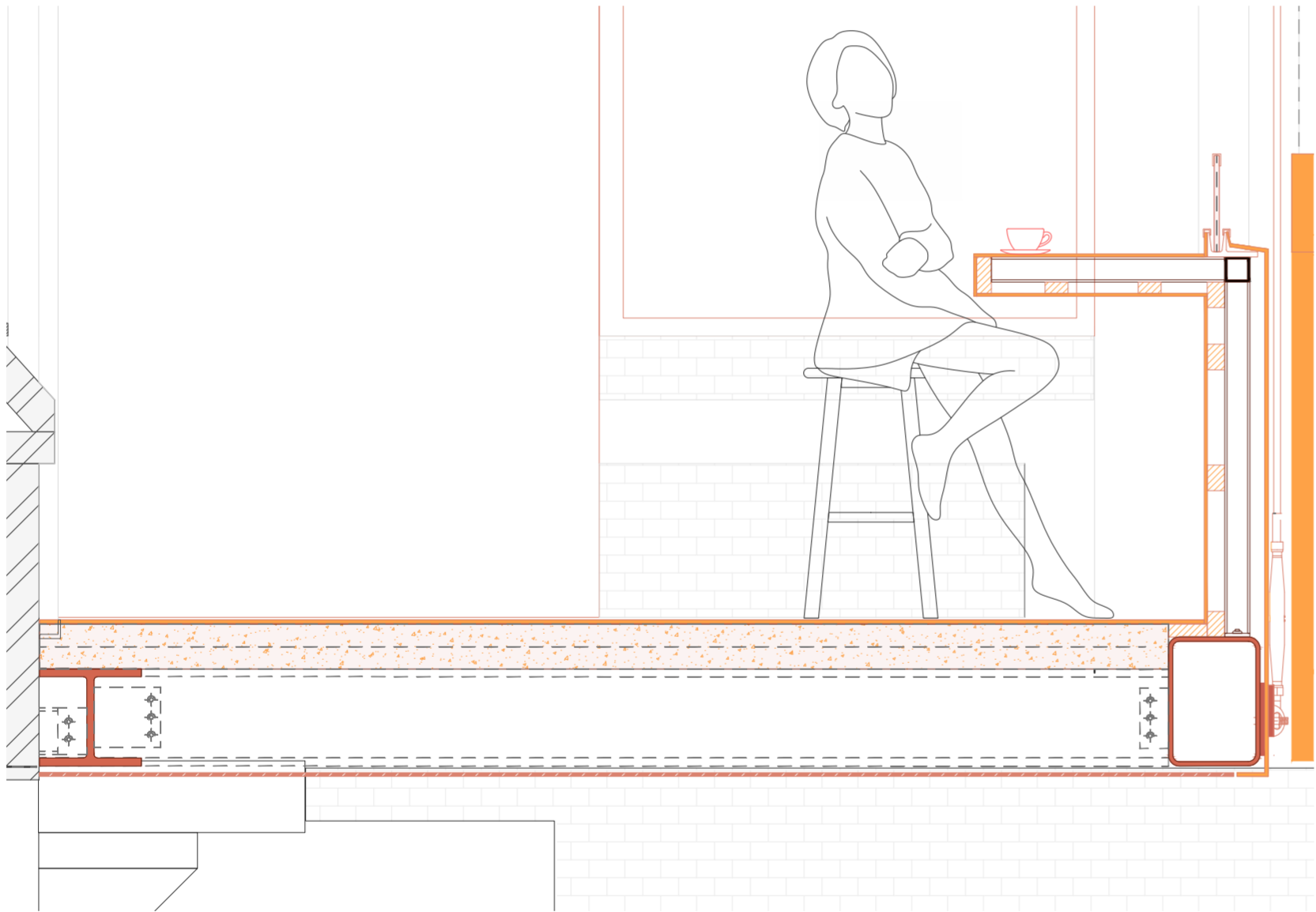
1st floor



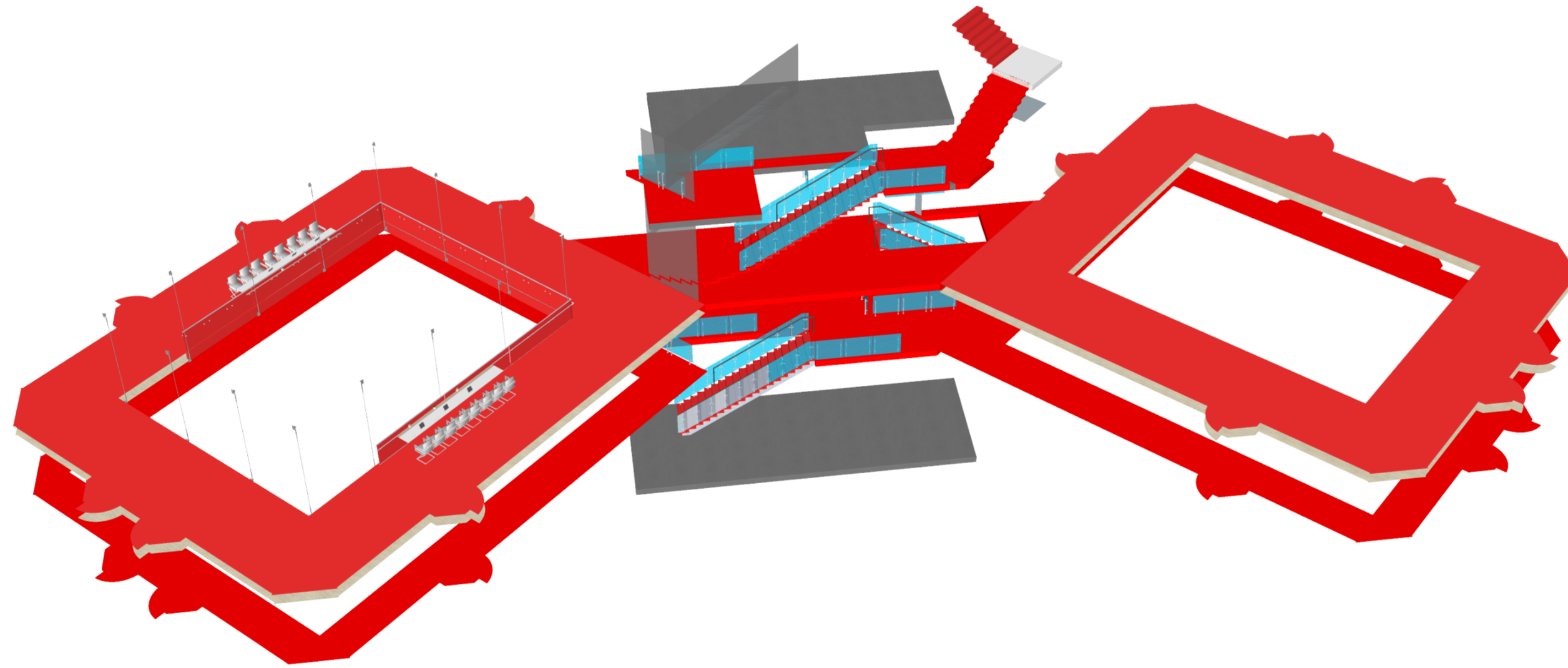
second floor

 NEW

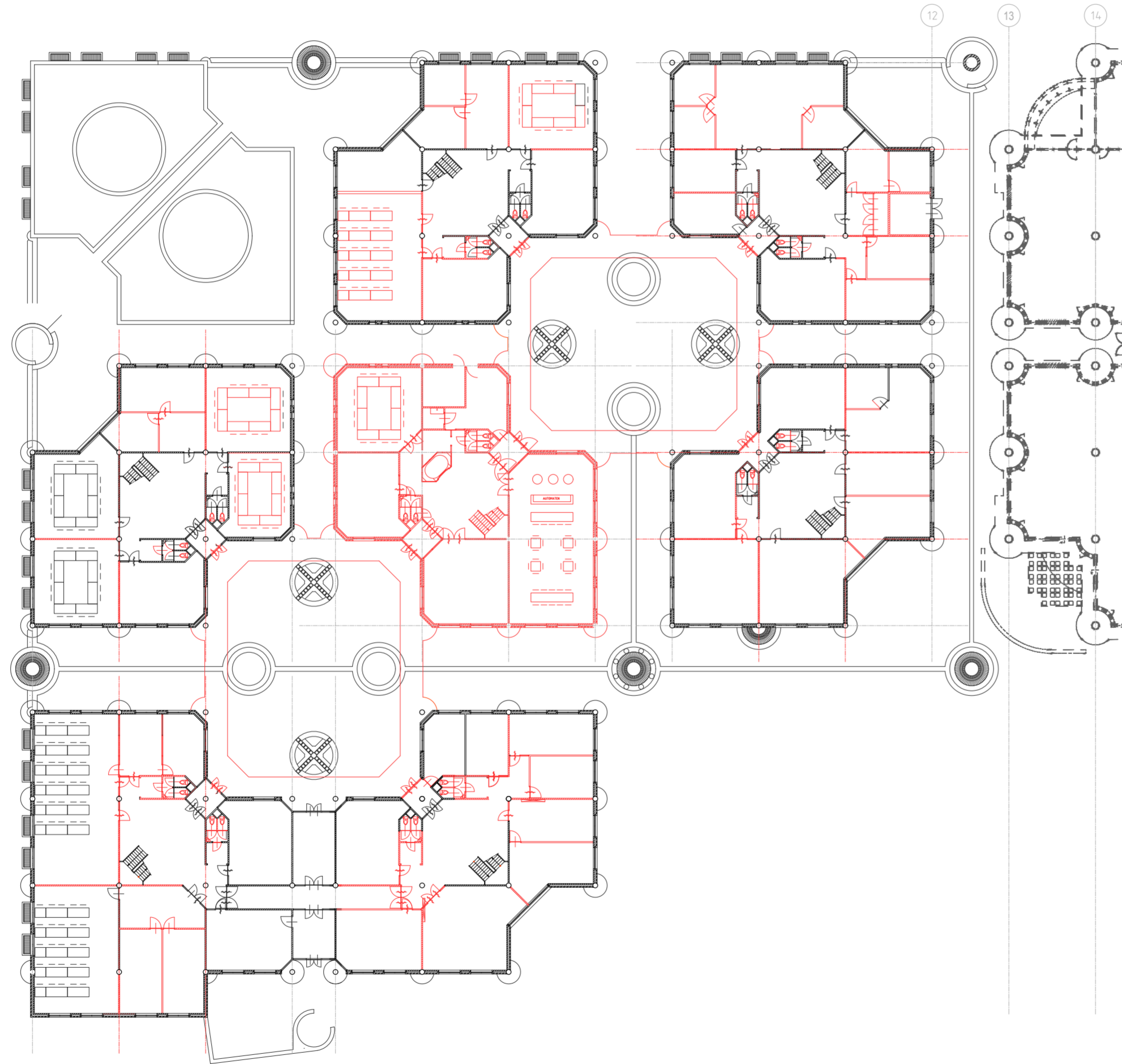
SECTION NEW GALLERIES EXISTING BUILDINGS



INTERVENTION | WAYFINDING DESIGN



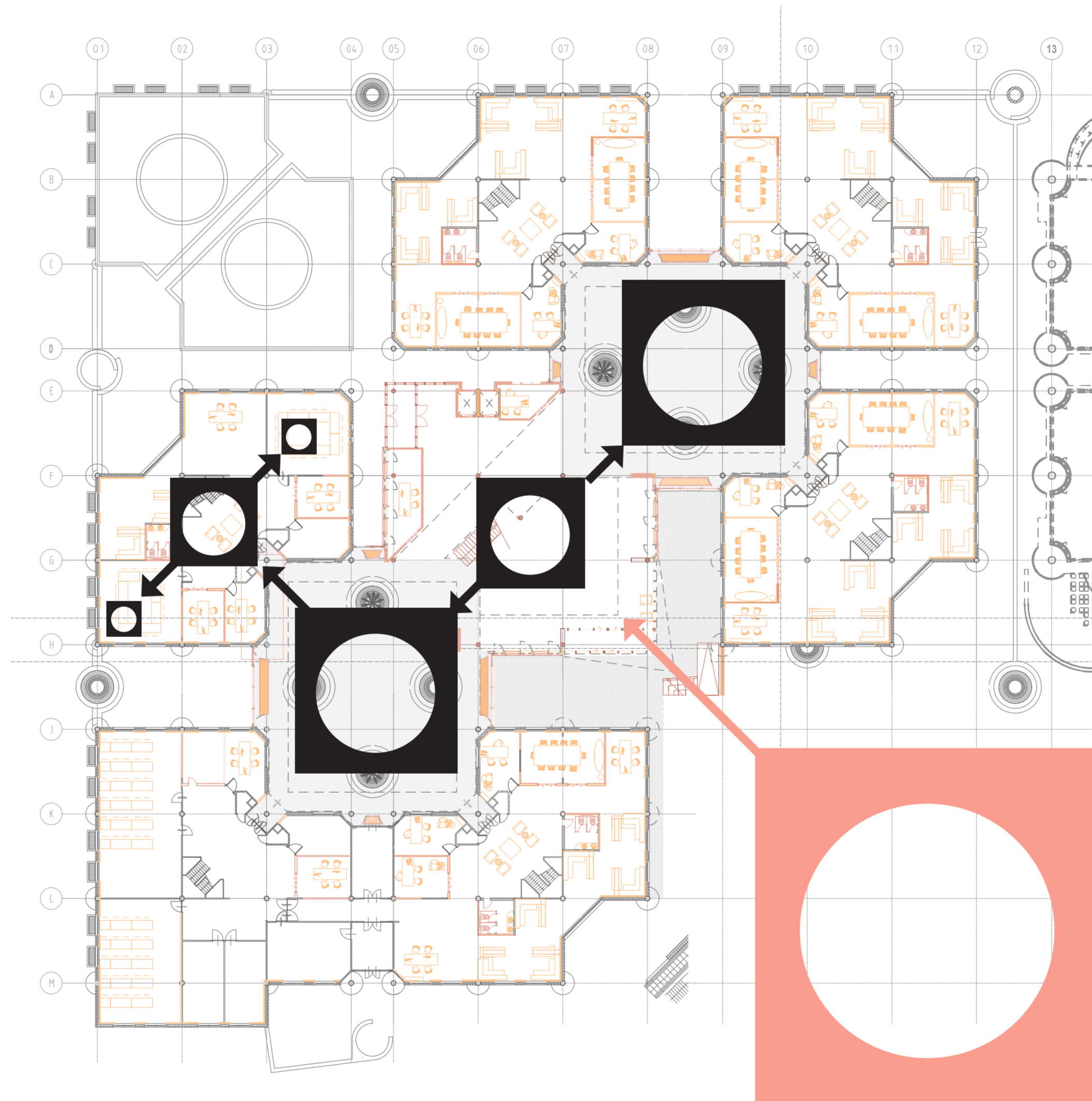
INTERVENTION | DEMOLITION DRAWING ENTRANCE HALL



AIMS MAIN ENTRANCE HALL:

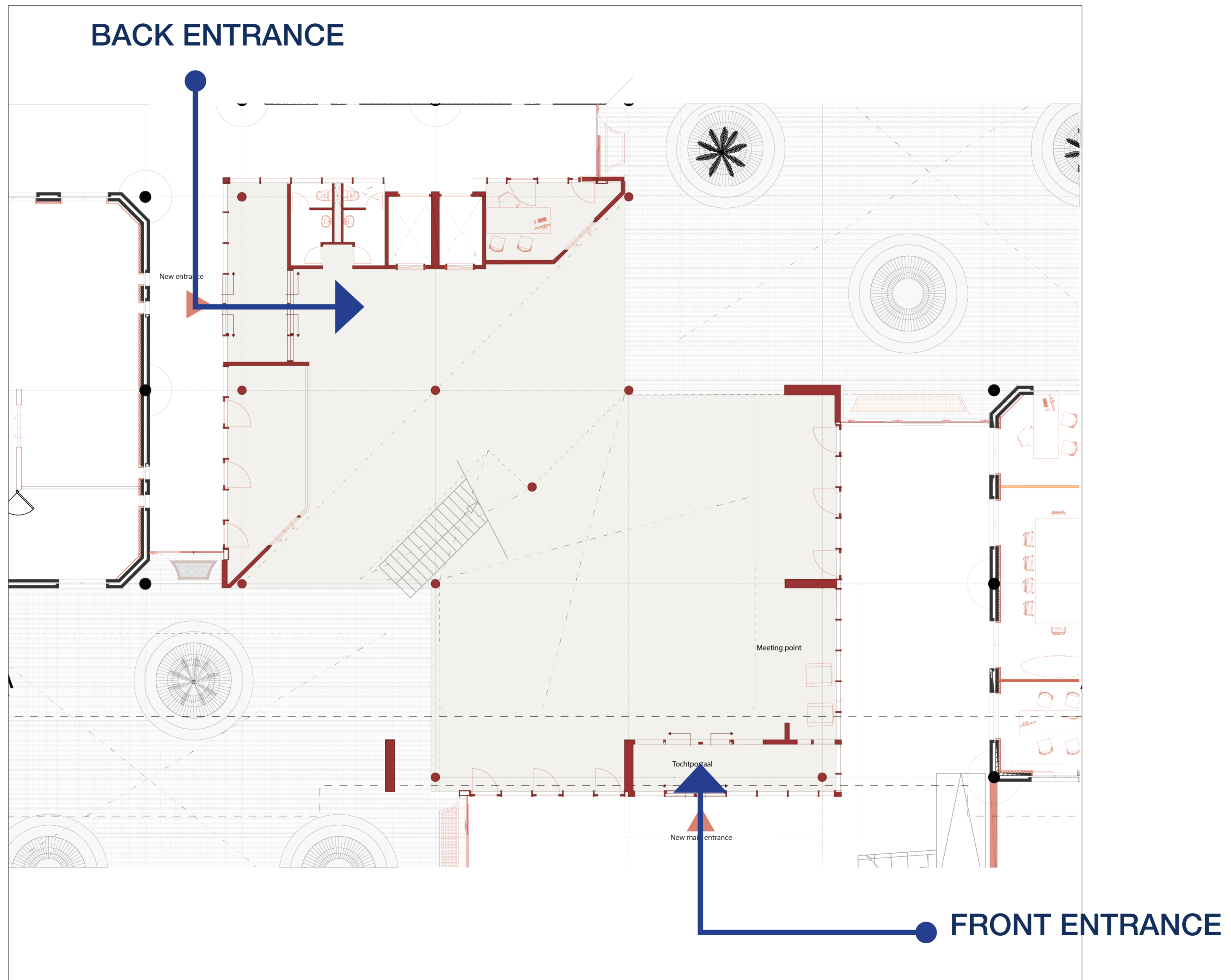
- OPEN TO THE CORNERS
 - LARGE VOID TO ENHANCE ENTRANCE EXPERIENCE AND IMMEDIATE OVERVIEW OF THE BUILDING
 - LARGE COLLABORATION SPACE/ MEETING POINT AT THE HEART OF THE COMPLEX
 - MAIN WAYFINDING CORE
- ROOF TERRACE CAFE WITH VIEWS

INTERVENTION | SEQUENCE OF SPACE

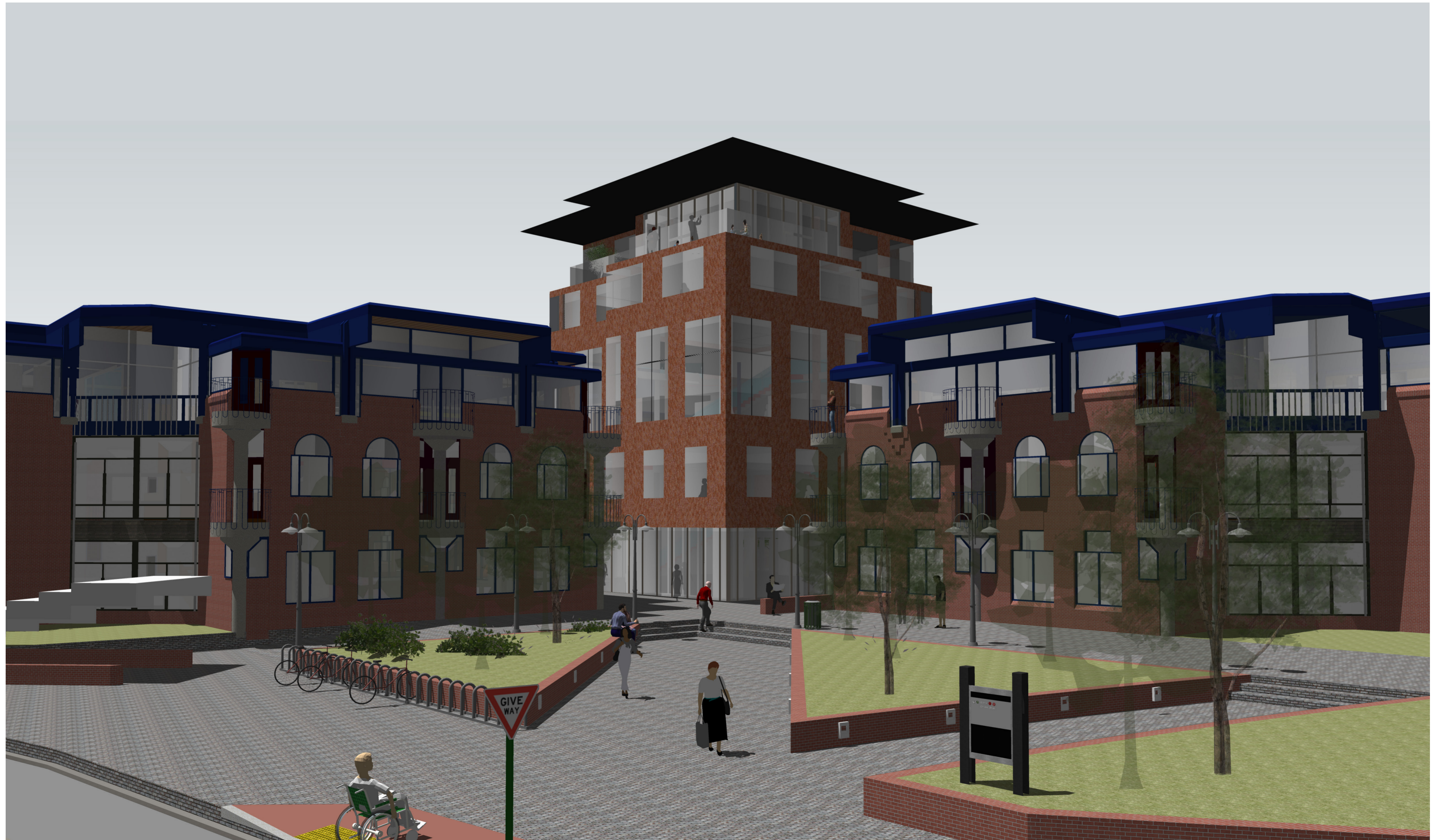


GROUND FLOOR SOUTH

INTERVENTION | FLOOR PLAN ENTRANCE HALL

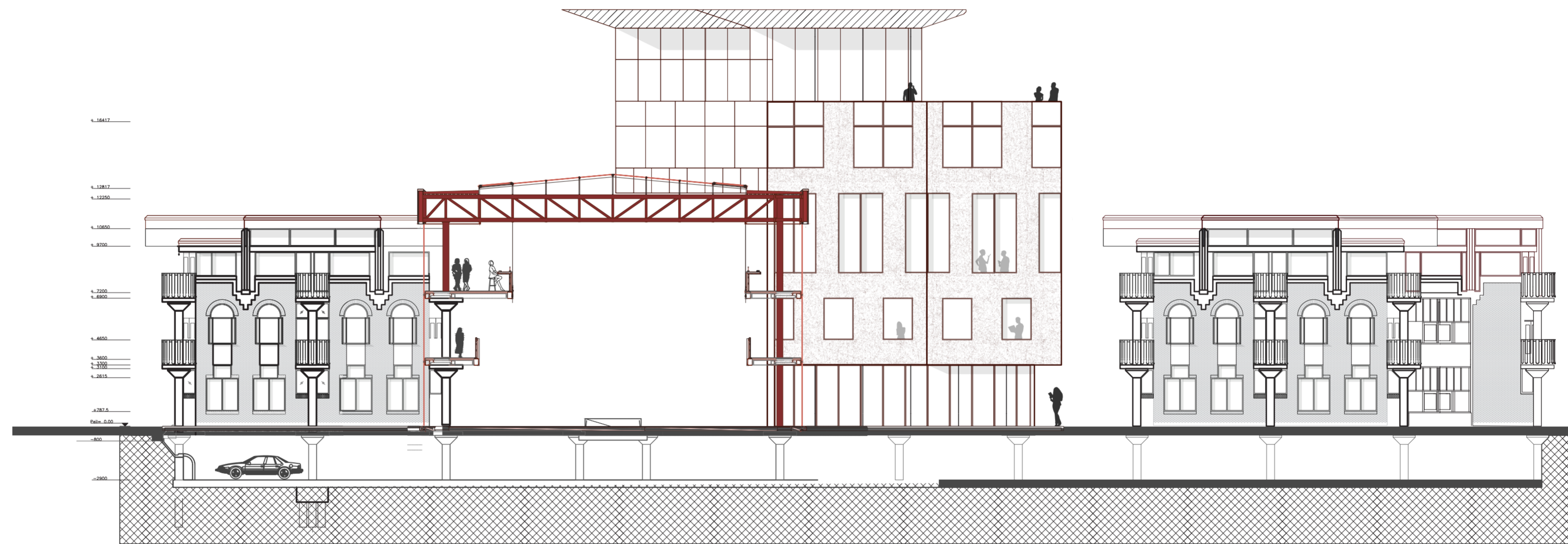


INTERVENTION IMPRESSION ENTRANCE HALL



Entrance building facade July 7 - 12:00u

INTERVENTION | ENTRANCE BUILDING FACADE

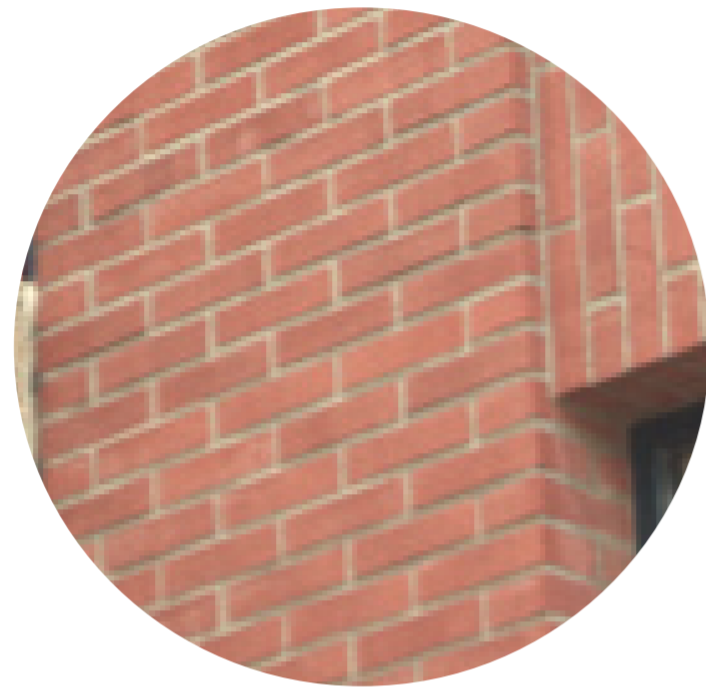


EXISTING FACADE

**NEW ENTRANCE
HALL FACADE**

INTERVENTION | MATERIALISATION

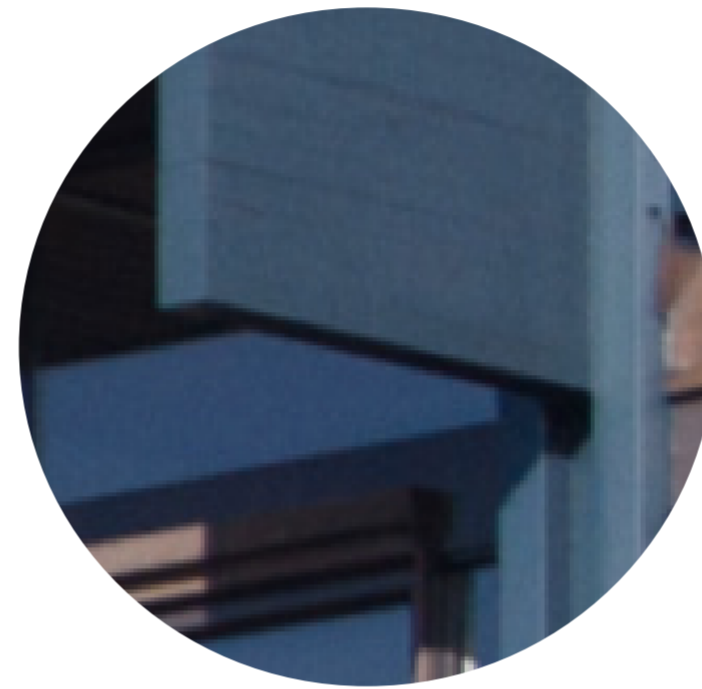
EXISTING



RED BRICK



WASHED CONCRETE



BLUE PAINTED WOOD



DARK WOOD | INTERIOR

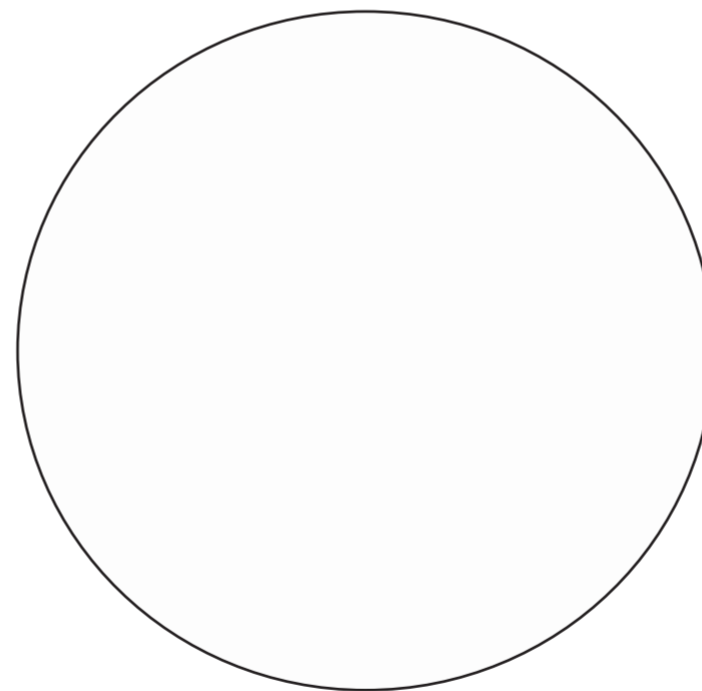
NEW



ALUMINUM RED COPPER
FINISH



RED CARPET



GALLERIES

SOLID SURFACE MARLAN
SHEETS (MIX VAN POLY-
ESTERHARS & MINERALE
VULSTOFFEN)

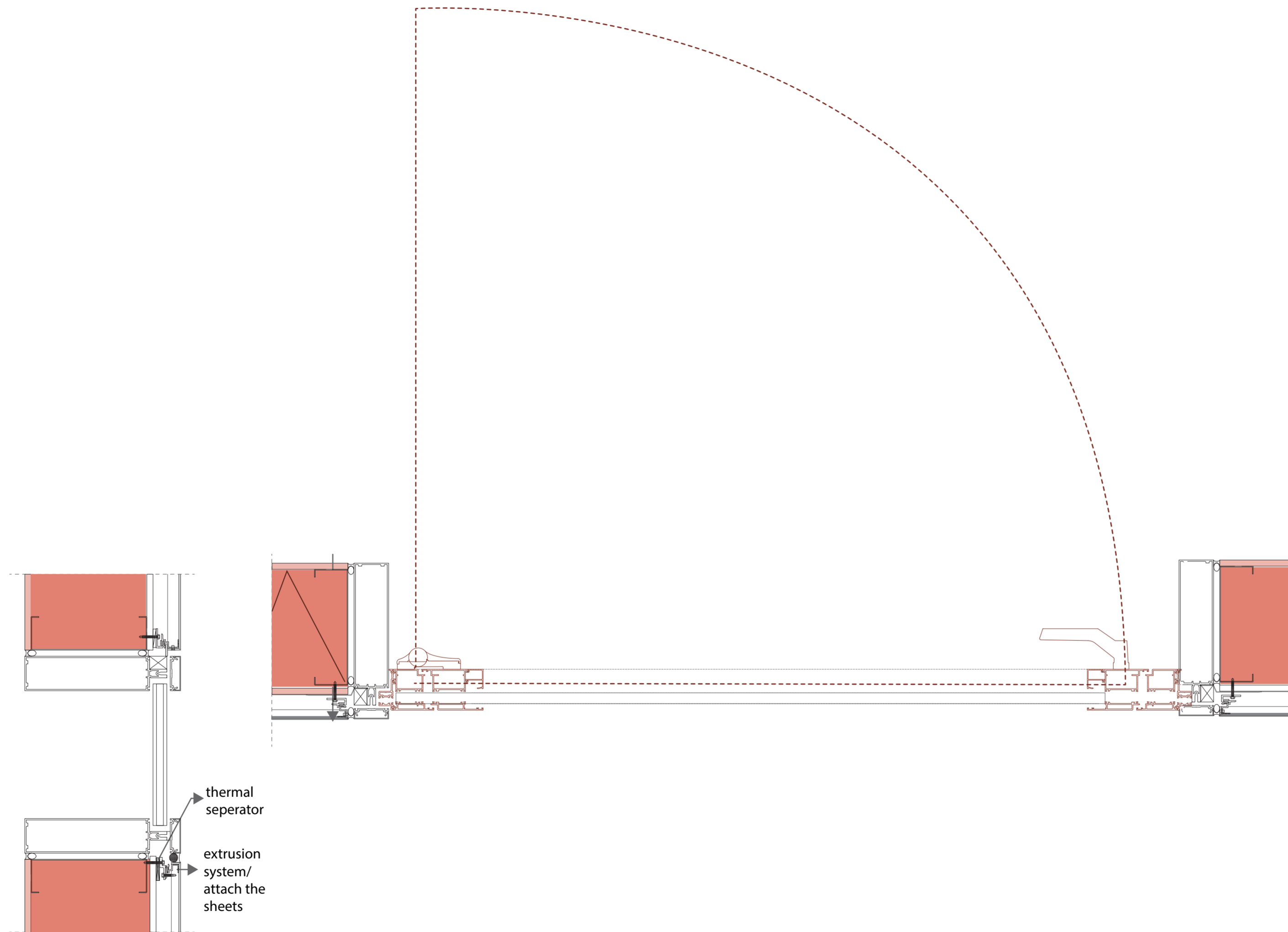


WHITE PLASTERBOARD | INTERIOR



WOOD ATRIUM
CEILING
AND
GALLERIES

INTERVENTION | MATERIAL ENTRANCE HALL

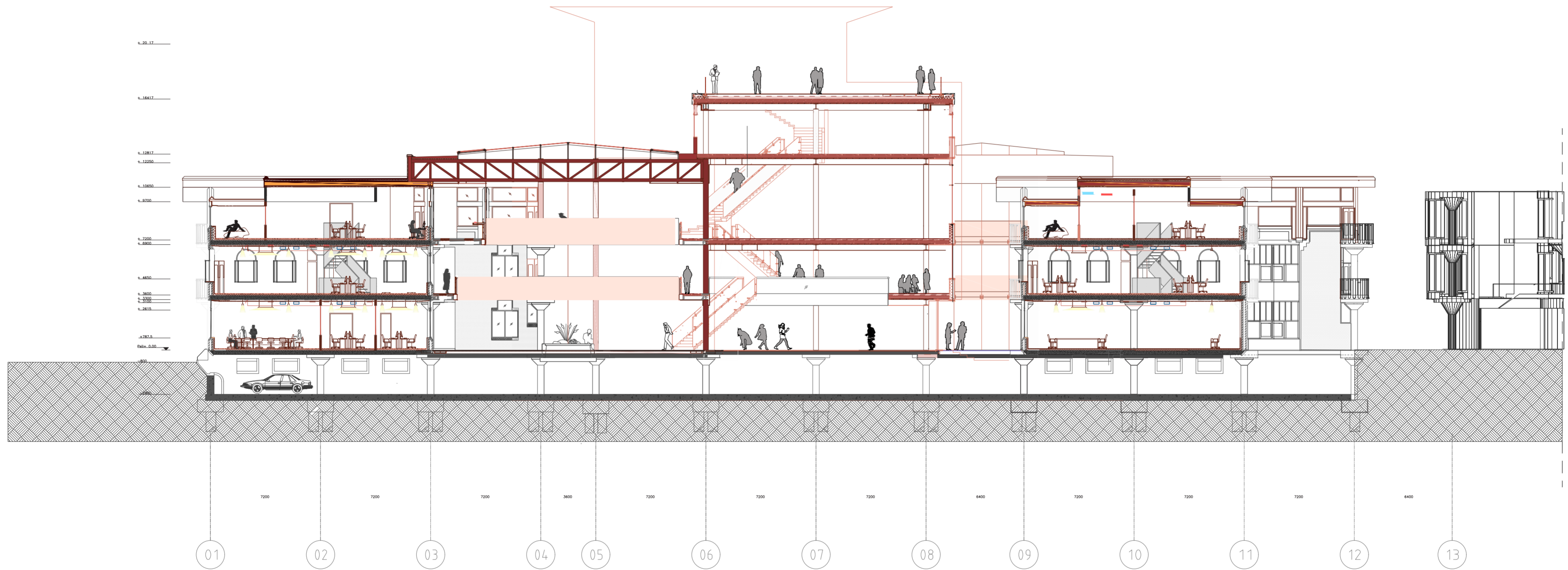
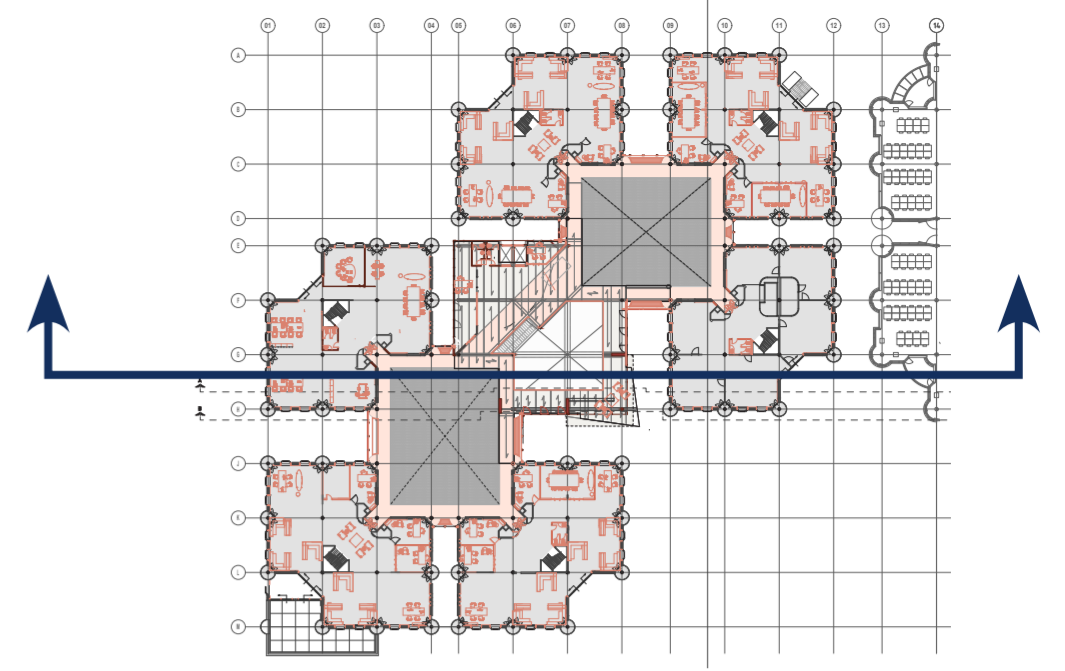


INTERVENTION | IMPRESSION CIRCULATION SPACE

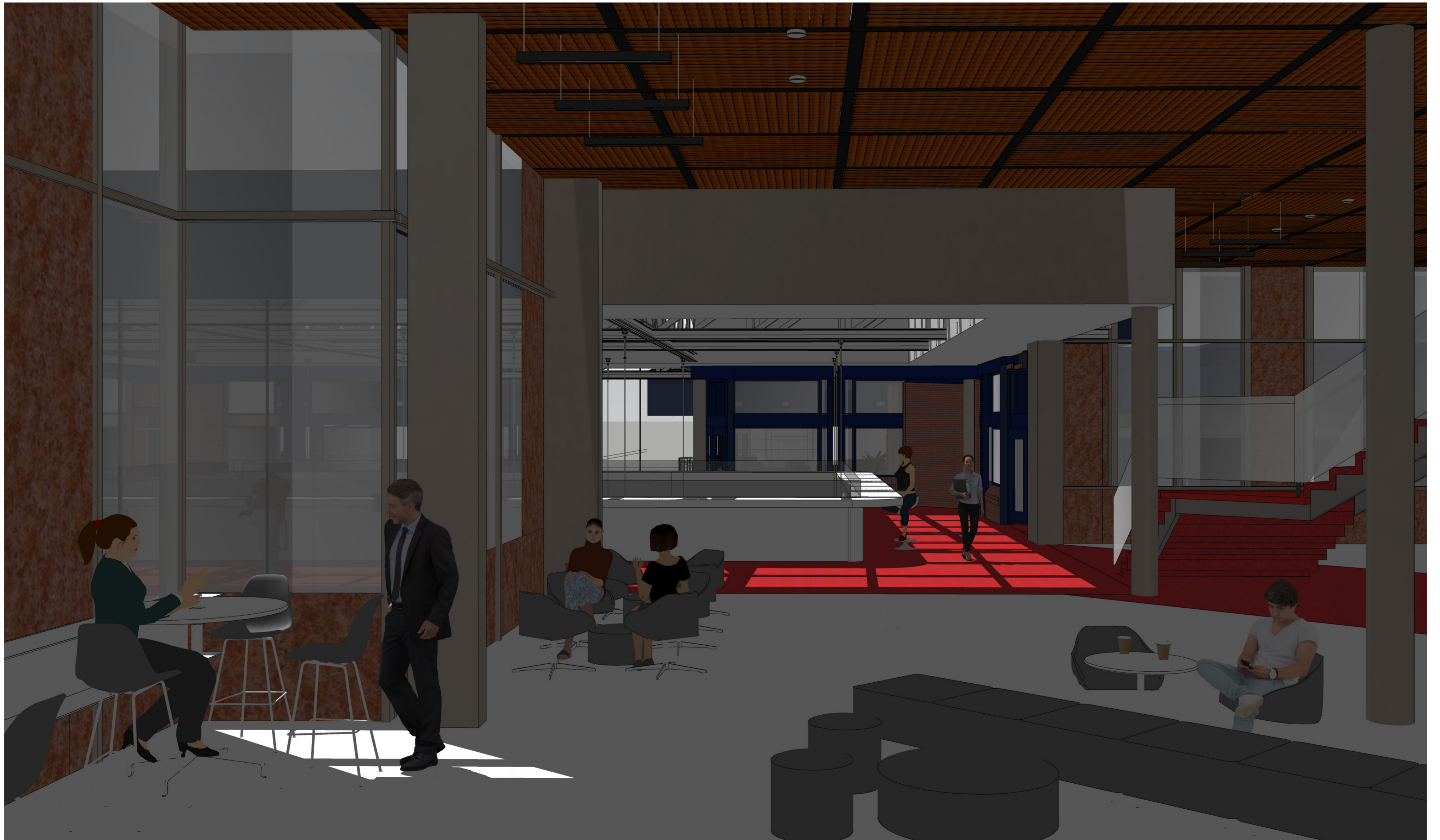


Front door view , Zonnestand July 7 - 12:00u

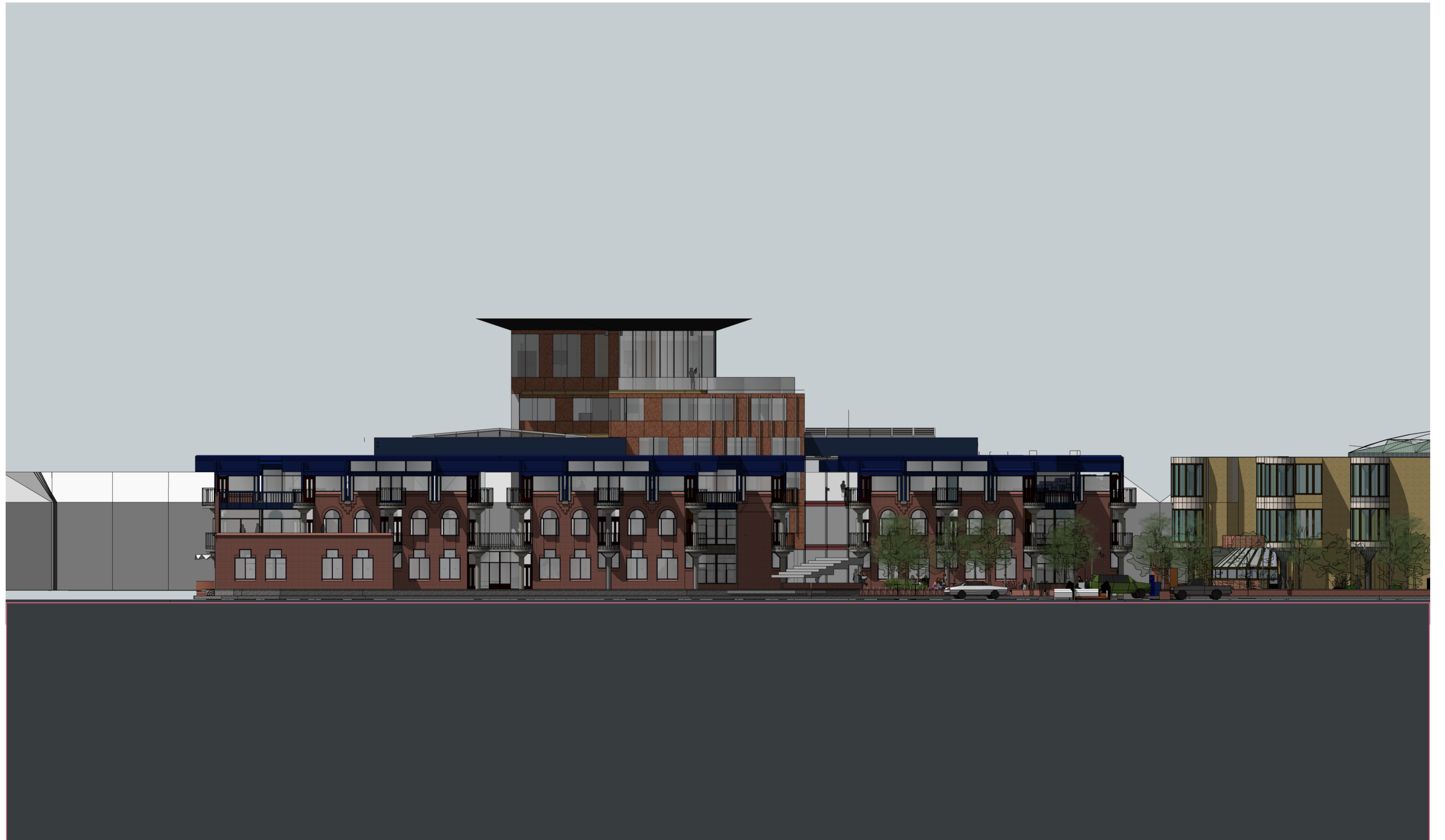
INTERVENTION | SECTION AA' ENTRANCE HALL



INTERVENTION | IMPRESSION INCUBATOR SPACE



INTERVENTION | FACADE SOUTH



INTERVENTION | ROOFTOP CAFE



CONCLUSION

HOW CAN THE FACULTY OF HUMANITIES BE RE-USED TO ACCOMMODATE THE 21ST CENTURY UNIVERSITY REQUIREMENTS AND HOUSING FOR STUDENTS, WHILST AT THE SAME TIME MAINTAINING ITS CHARACTER AS A STRUCTURALIST BUILDING?

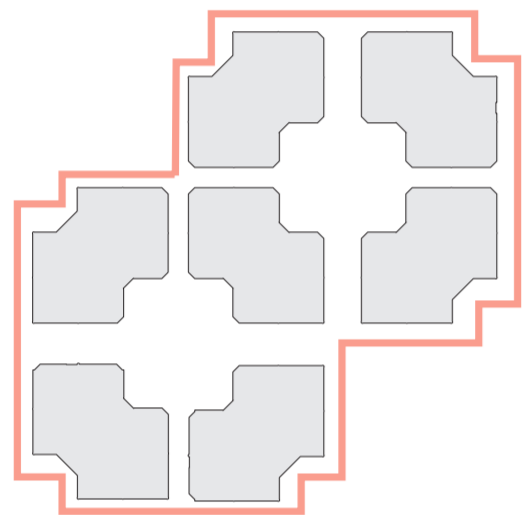
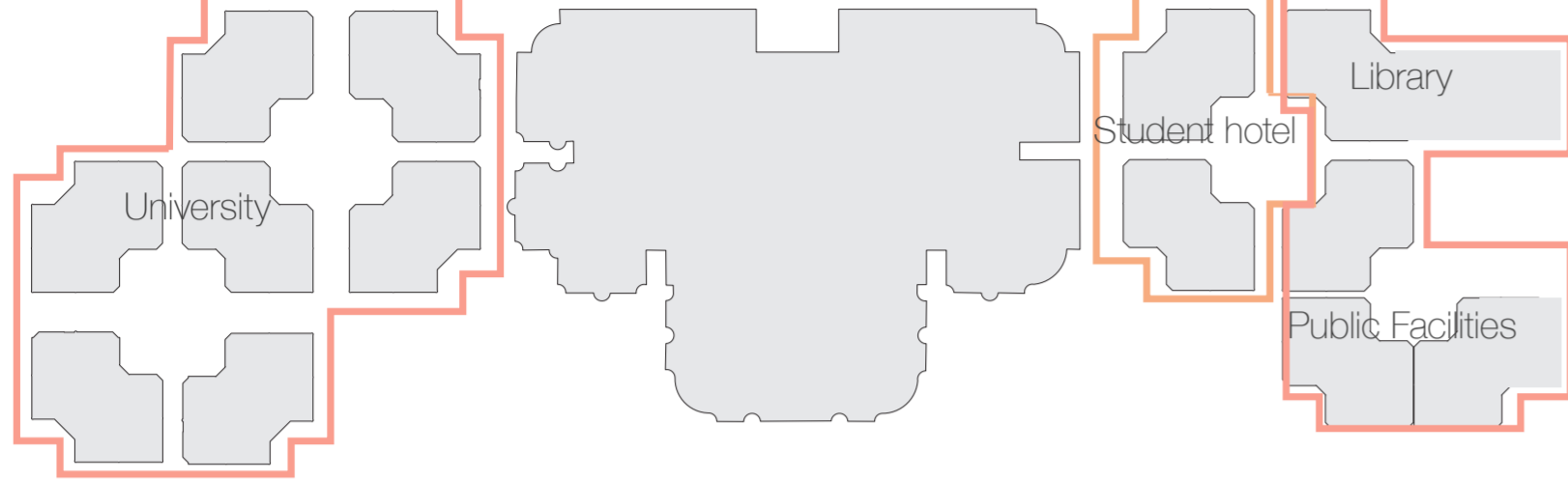
THANK YOU!

QUESTIONS?

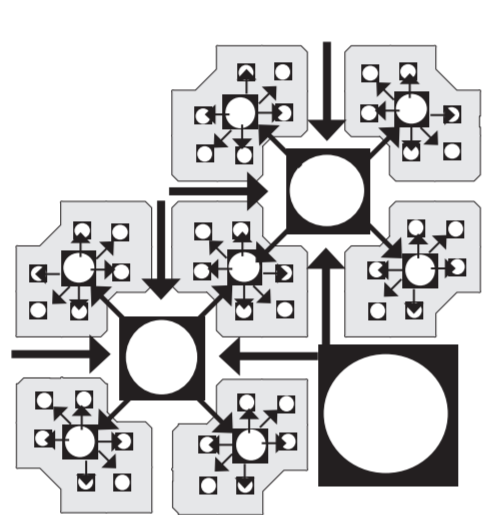
TIEING CLUSTERS OF BUILDINGS TOGETHER

DEMOLITION - ENTRANCE BUILDING

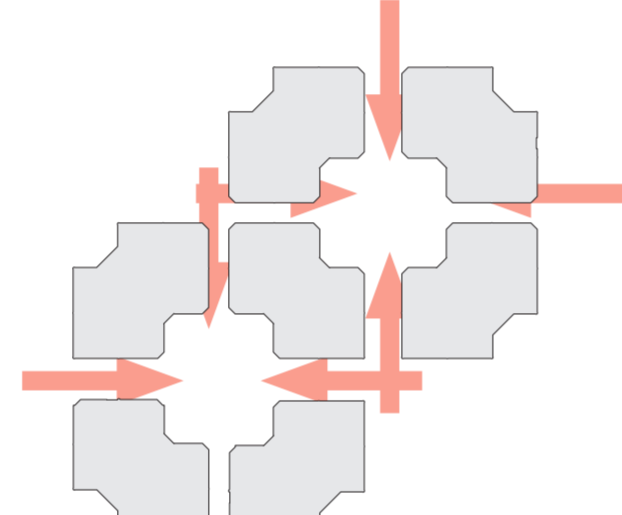
1 university building, 1 student hotel, 1 building of public facilities



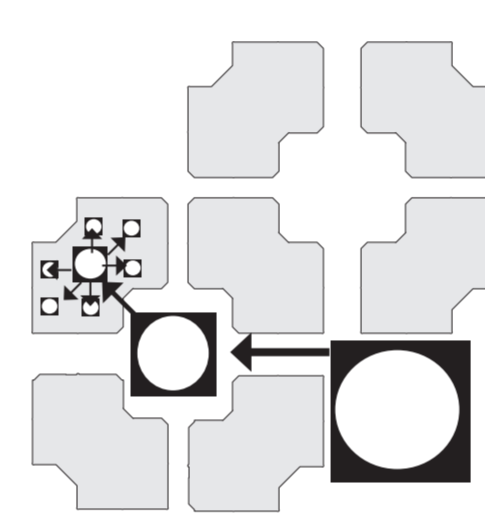
JVS WILT 1 GEBOUW



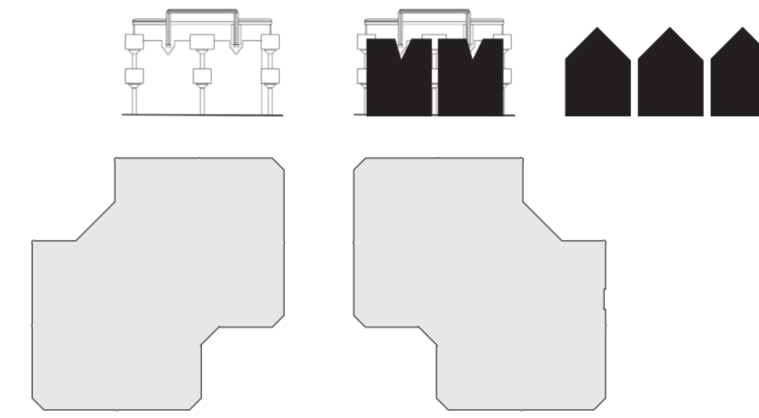
NU BENADER JE HET GEBOUW ZO



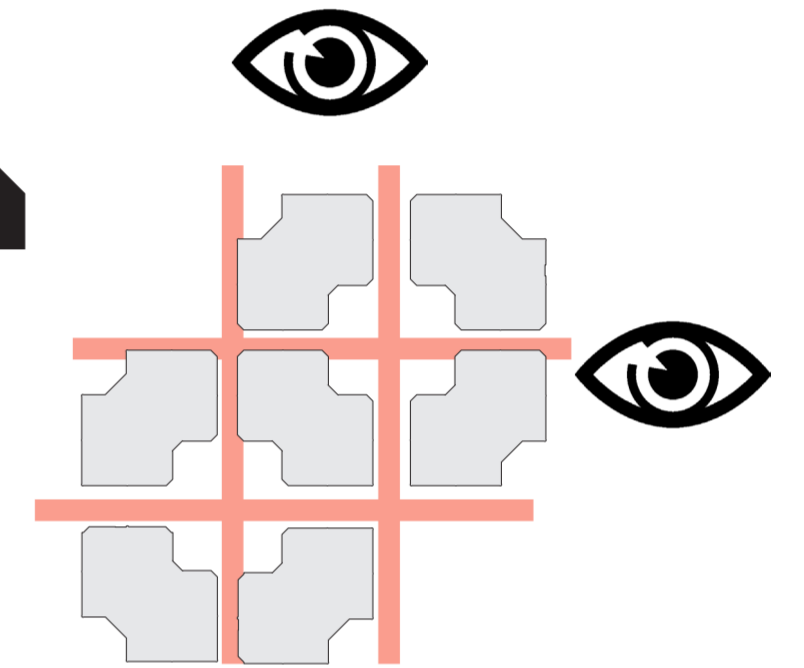
JE KOMT HET GEBOUW BINNEN VAN ALLE KANTEN



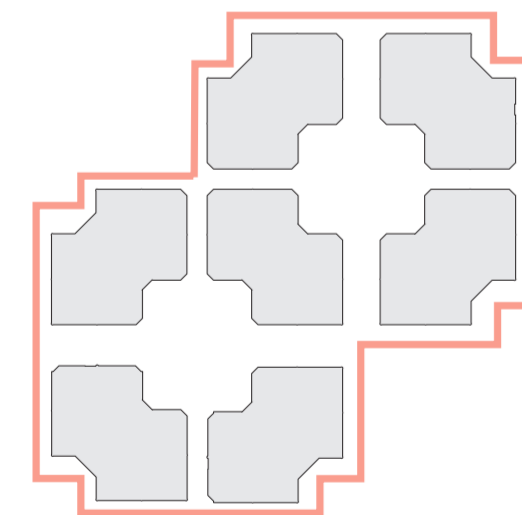
THE SEQUENCE OF SPACE GAAT VAN GROOT NAAR KLEIN. DE BEDOELING OM ALS 1 GEBOUW TE FUNCTIONEREN LUKT NIET VANWEGE DE SCALA AAN MANIEREN OM HET GEBOUW TOE TE TREDEN



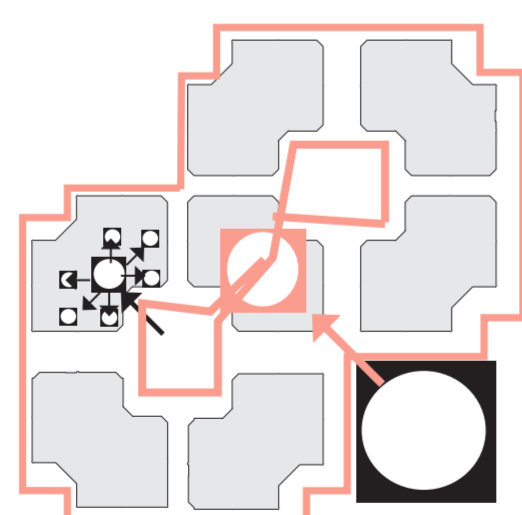
DE STRATEN ZIJN BELANGRIJK VOOR HET VERHAAL. DEZE BREKEN HET GEBOUW OP IN STUKKEN (KUA MAATVOERING PAST BETER IN URBAN CONTEXT).



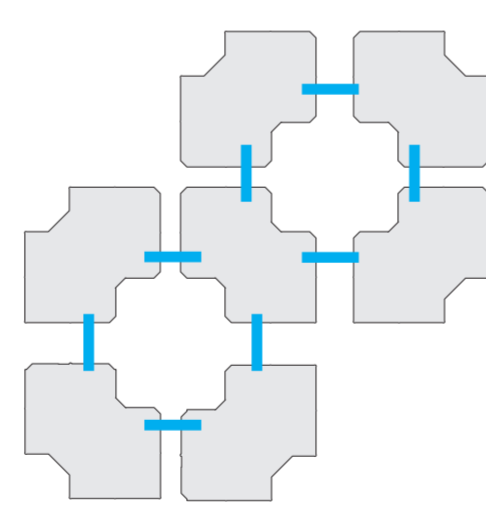
EN DE ZICHTLIJNEN DOOR DE STRATEN NAAR DE BIBLIOTHEEK EN DE STAD VERBONDEN LAAT MET DE ACHTERLIGGENDE BEBOUWEN IS BELANGRIJK.



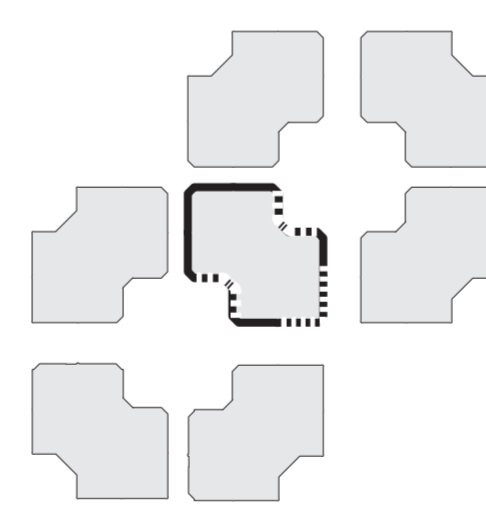
JVS WILT 1 GEBOUW



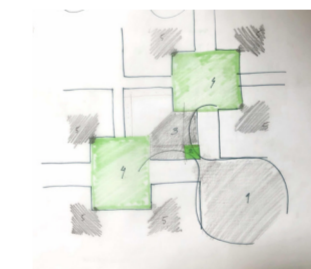
EIGENLIJK IS 1 HOOFENTREE NODIG OM DE ROUTING TE VERDUIDELIJKEN.



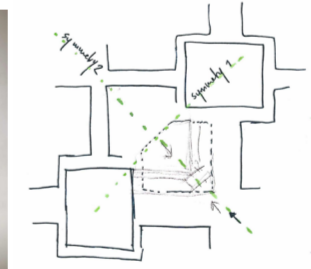
DIT WORDT DAN WEL GEDAAN MET EEN CURTAIN WALL OM DE VISUELE ZICHTLIJNEN TE BEHOUDEN



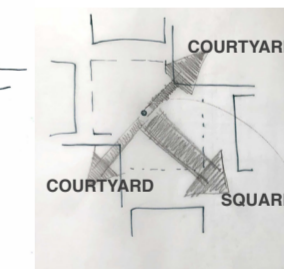
OM DE ENTREE TE MAKEN OP DE HOEK (A: SEQUENCE OF SPACE EN B SYMMETRISCH), CONNECTIE MET CAMPUS (C) EN HET OVERZICHT VAN DE ROUTING (B) TE BEHOUDEN MOETEN DELEN VAN DE FACADE WEGGEHAALD WORDEN.



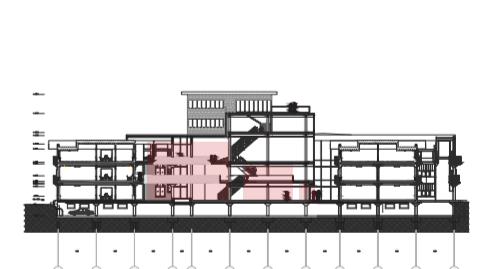
ENHANCED SE-



MAINTAIN



CONNECTIVITY

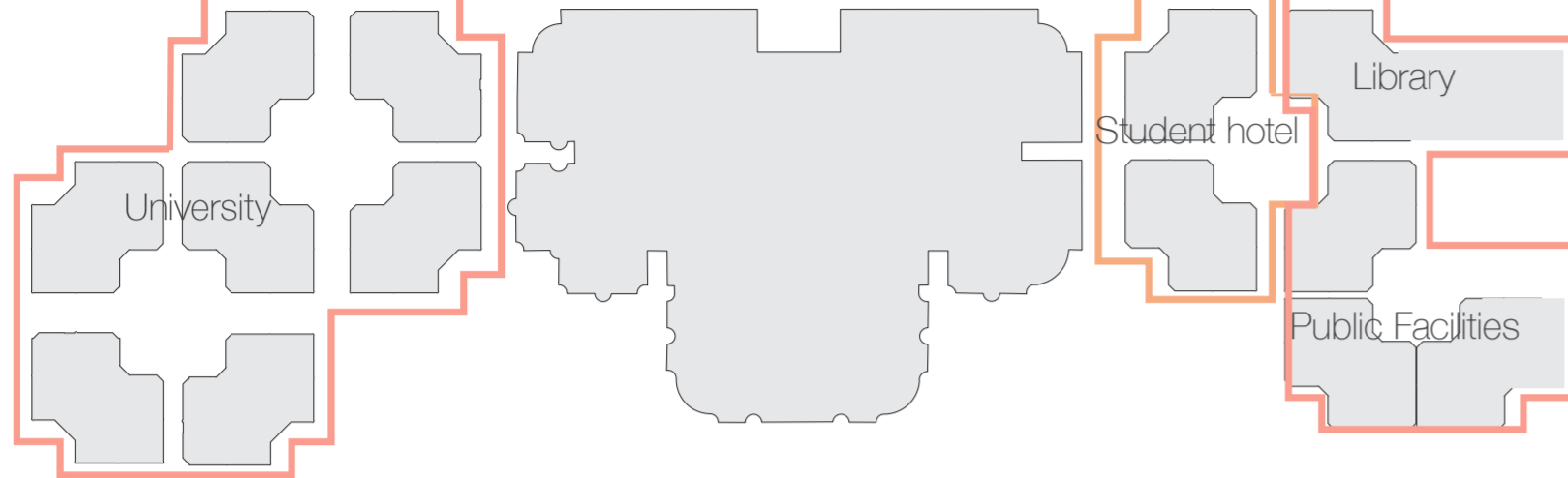


SEQUENCE OF SPACE OOK RUIMTELIJK ERVAREN EN NIEUWE TRAPGATEN, EN LIFTSCHACHT, VLOEREN OPEN BREKEN

REALISED PROPOSAL

TIEING CLUSTERS OF BUILDINGS TOGETHER

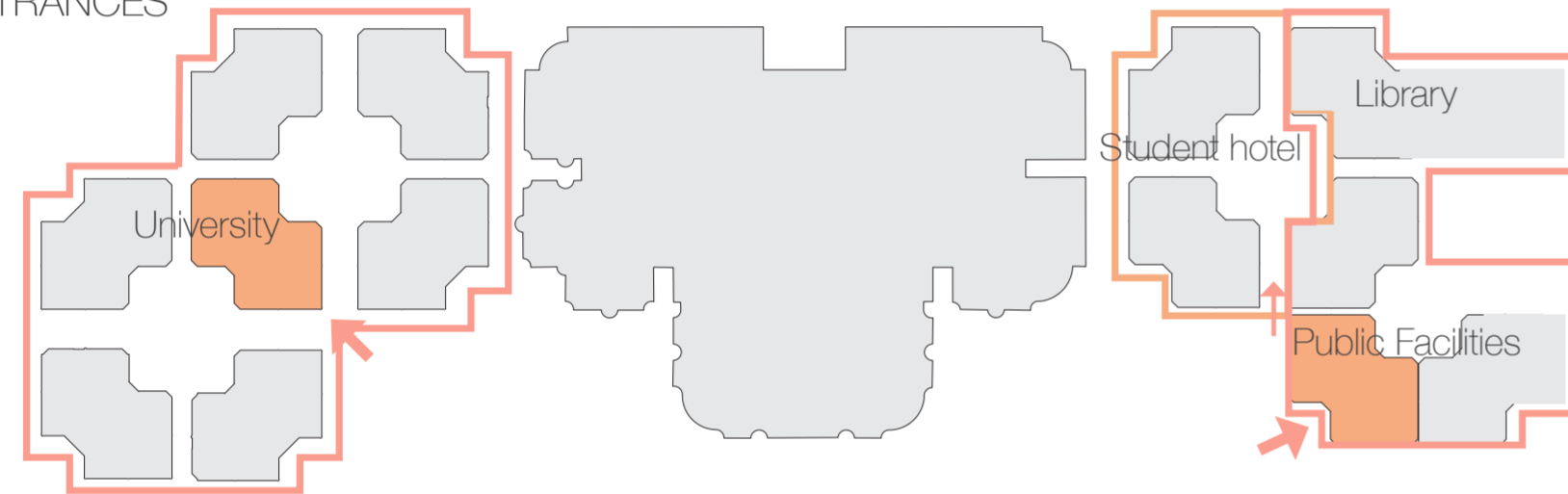
1 university building, 1 student hotel, 1 building of public facilities



- North: making the 7 individual buildings function as a whole in order to be 1 university
- South: Making new clusters from Student hotel and public facilities

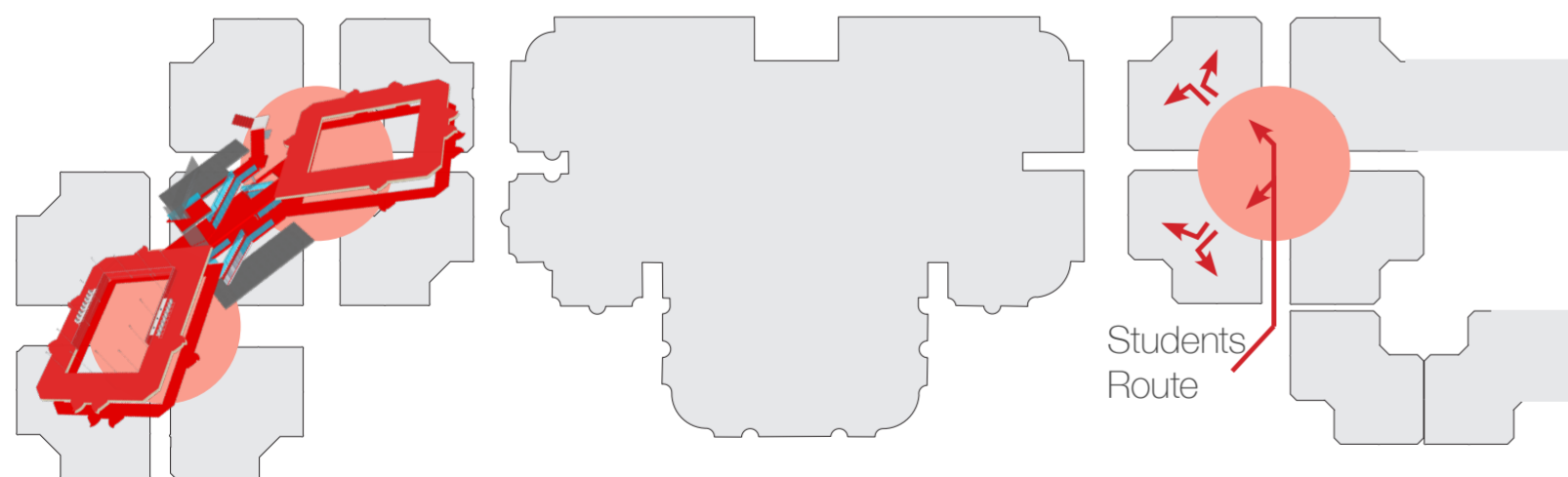
1: Intertwine buildings in stedelijk weefsel

ENTRANCES



- North: create 1 main entrance and connect the individual clusters to make them function as 1 unit
- South: Create a closed off atrium for a private entrance into the student hotel
- Main entrance for Student hotel check-in balie, public restaurant and breakout zones open to public.

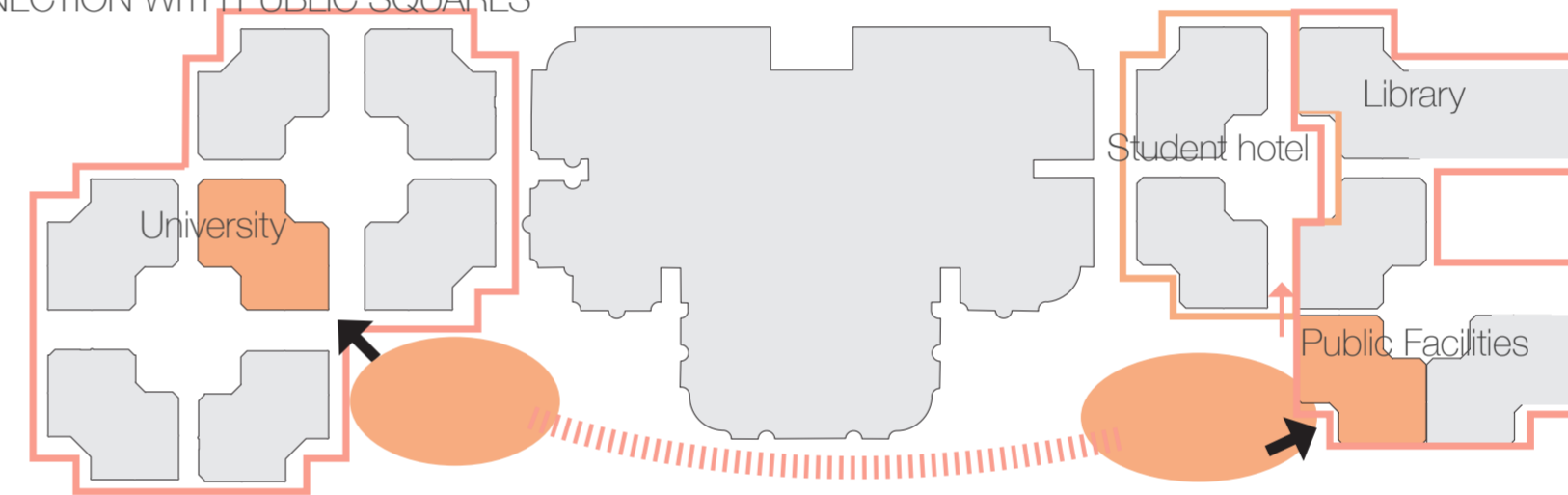
2. LIVELY AND/ OR FUNCTIONAL COURTYARDS



North: One of my project's aims it to make the courtyards of the university function according to the architect's initials ambitions. * Along with the building now functioning as 1 whole now Make one large internal connected route

South: Intervene in courtyards to make it feel enclosed and thus more private. Including the public facilities and library to be accesible for the student housing. At the same time not making library and Public facilities want to go into the student housing.

CONNECTION WITH PUBLIC SQUARES



- North: Connect University with square
- South: Connect Public facilities with square

North and South connect squares through path