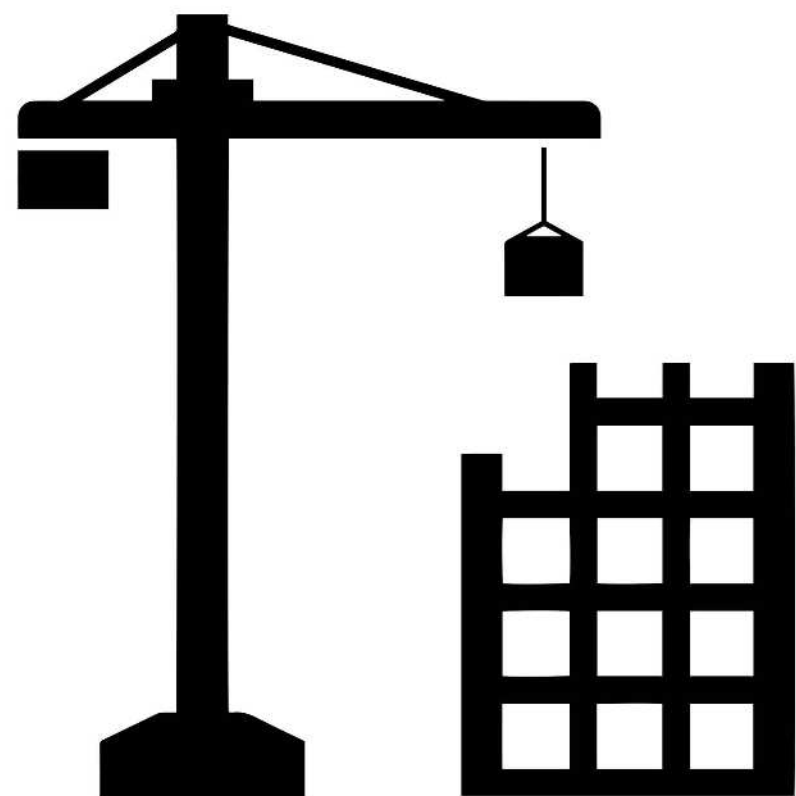
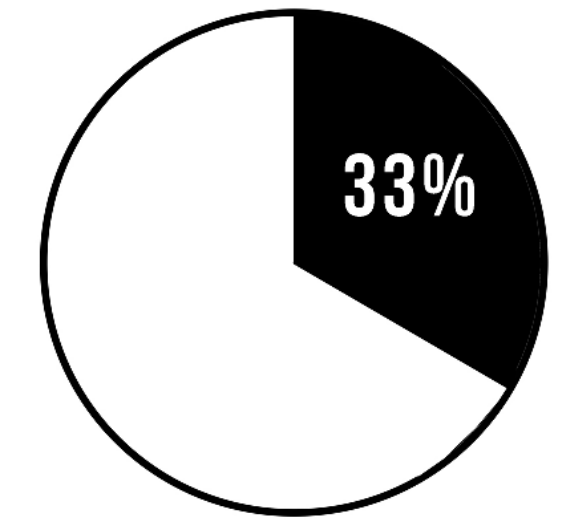
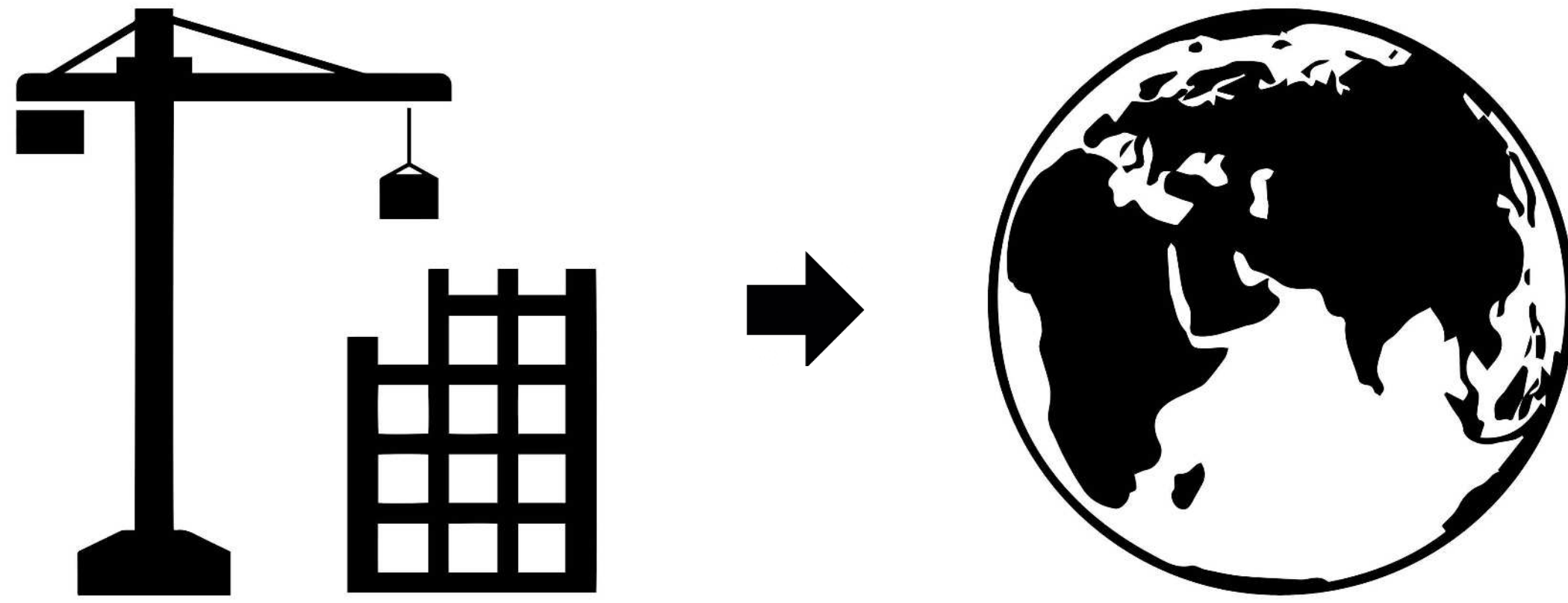


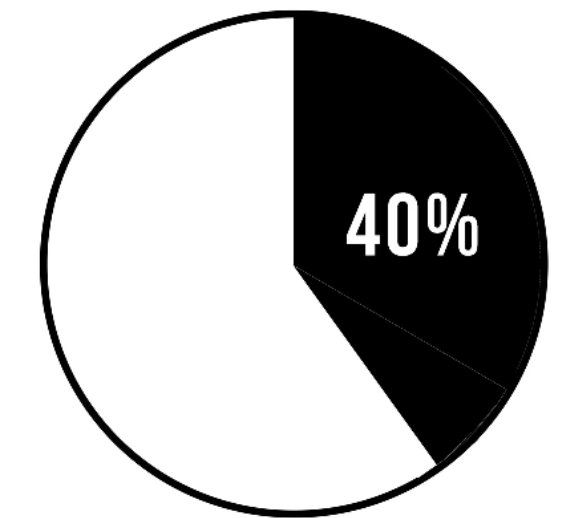
A GLOBAL APPROACH TO VERNACULAR PRACTICES

P5 PRESENTATION





GREENHOUSE GAS EMISSIONS



ENERGY USE



WINDSTORMS



LANDSLIDES



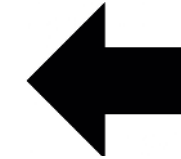
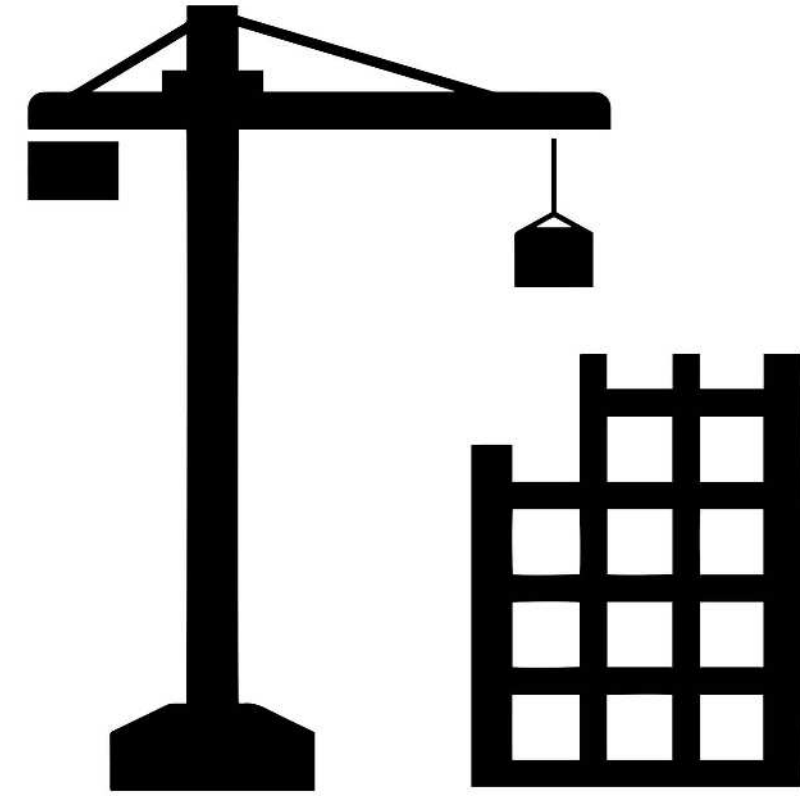
FLOODS



FIRES



RISING SEA LEVELS





50%

**OF THE POPULATION OF SOUTH ASIA
WAS AFFECTED BY AT LEAST ONE TYPE
OF NATURAL HAZARD BETWEEN 1990
AND 2008.**

USA



CHINA

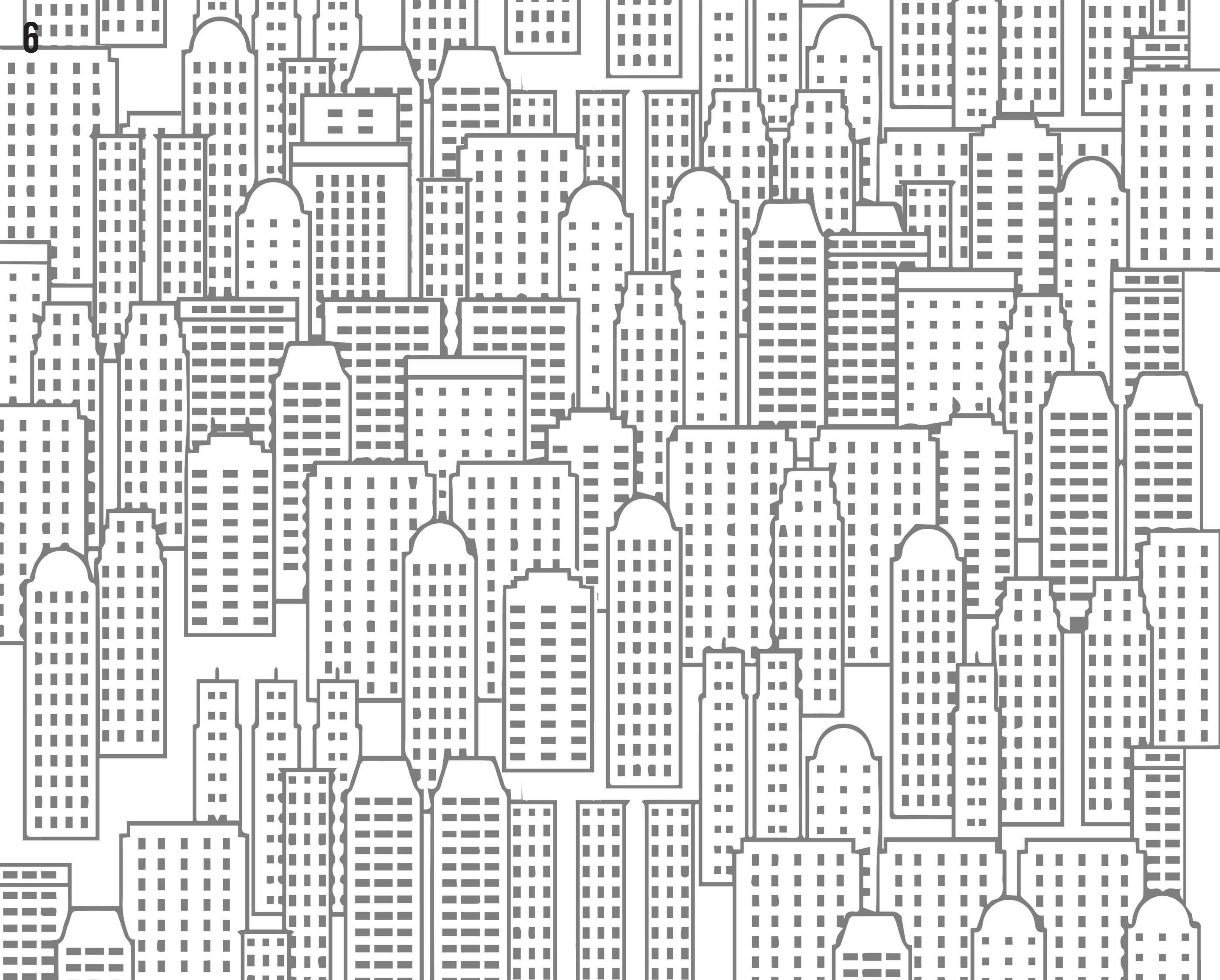


EUROPE



INDIA



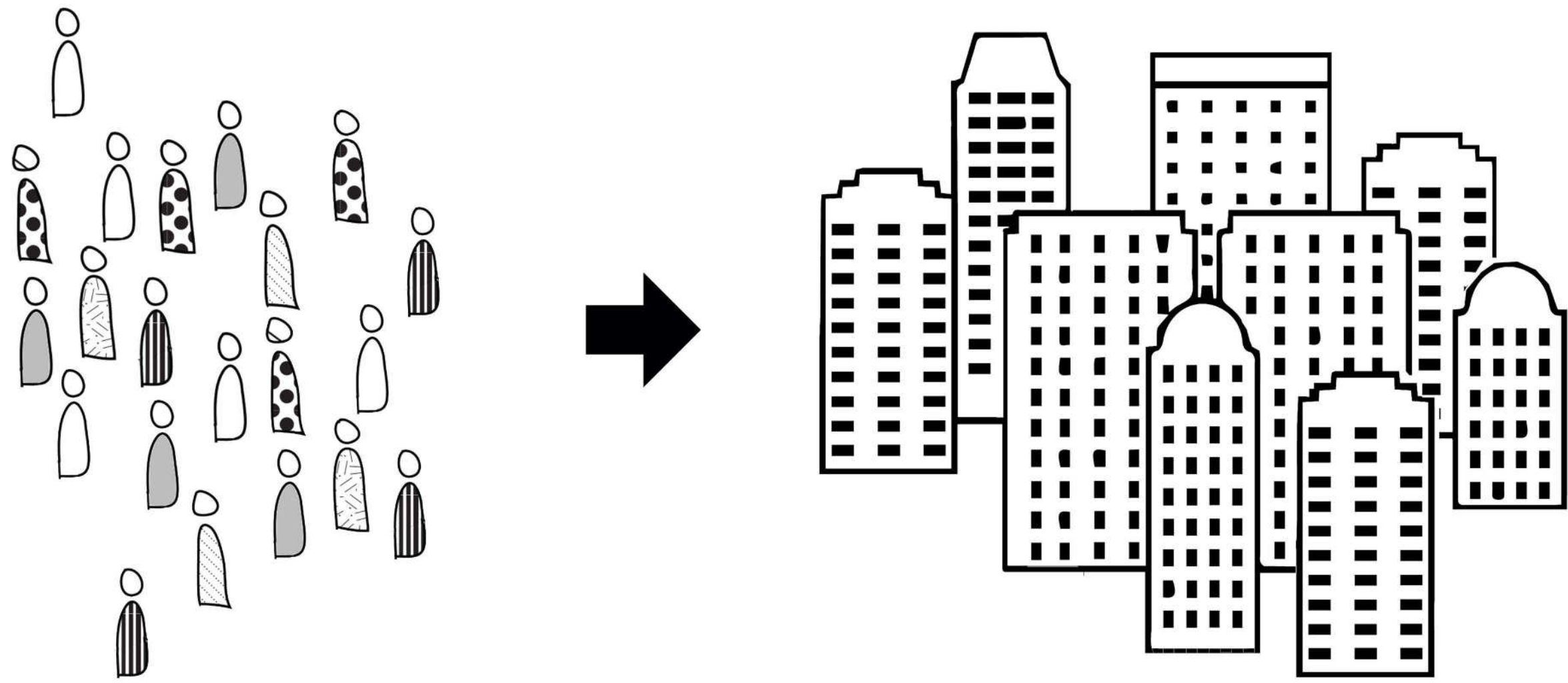


CONSTRUCTION IN INDIA

20%
NATIONAL CARBON EMISSION

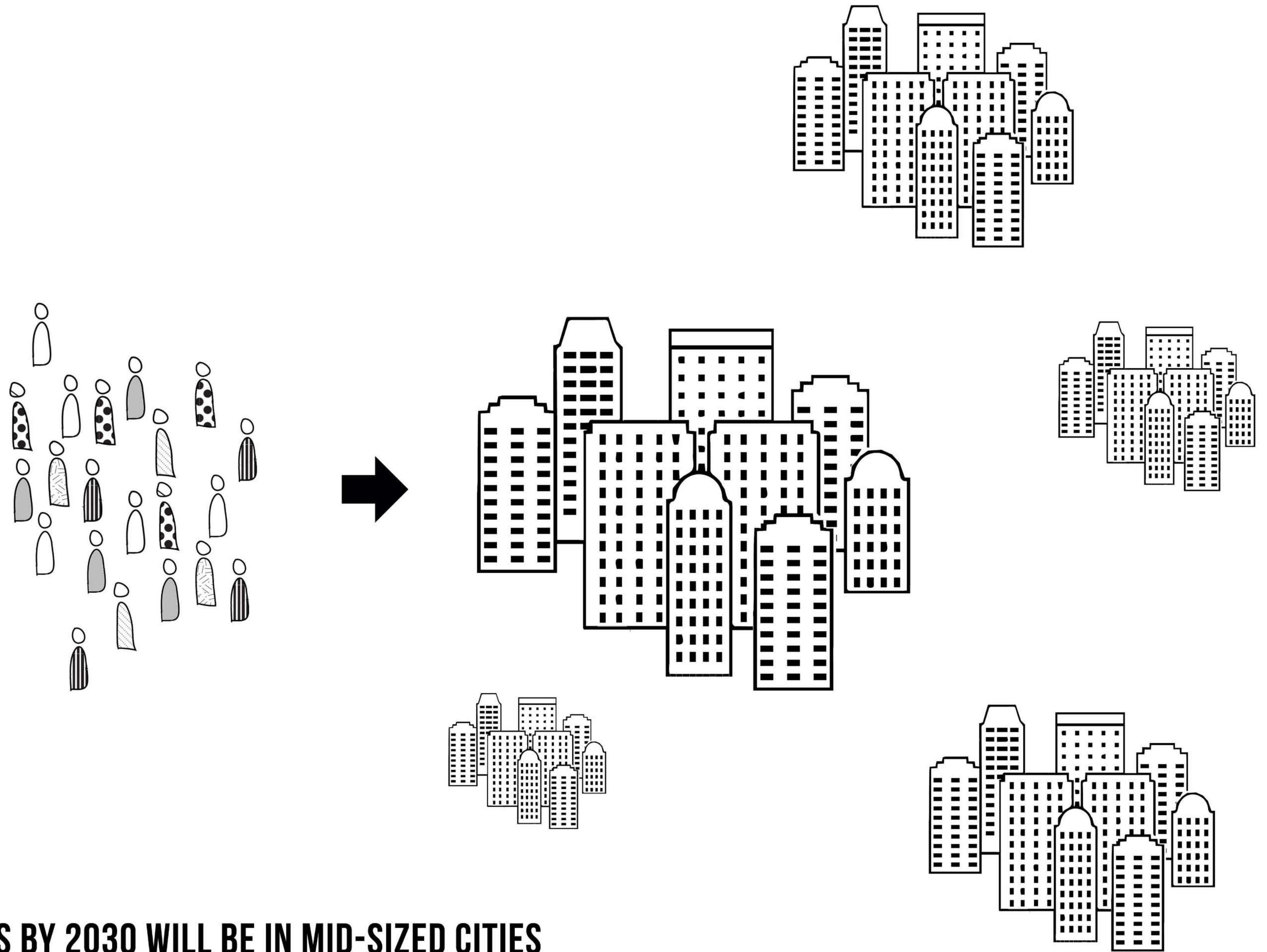
80%
FOR STEEL, BRICKS, CEMENT

156%
GROWTH RATE BETWEEN 2000 - 2007



MIGRATION

URBAN POPULATION FROM 31% IN 2011 TO 42.5% IN 2025

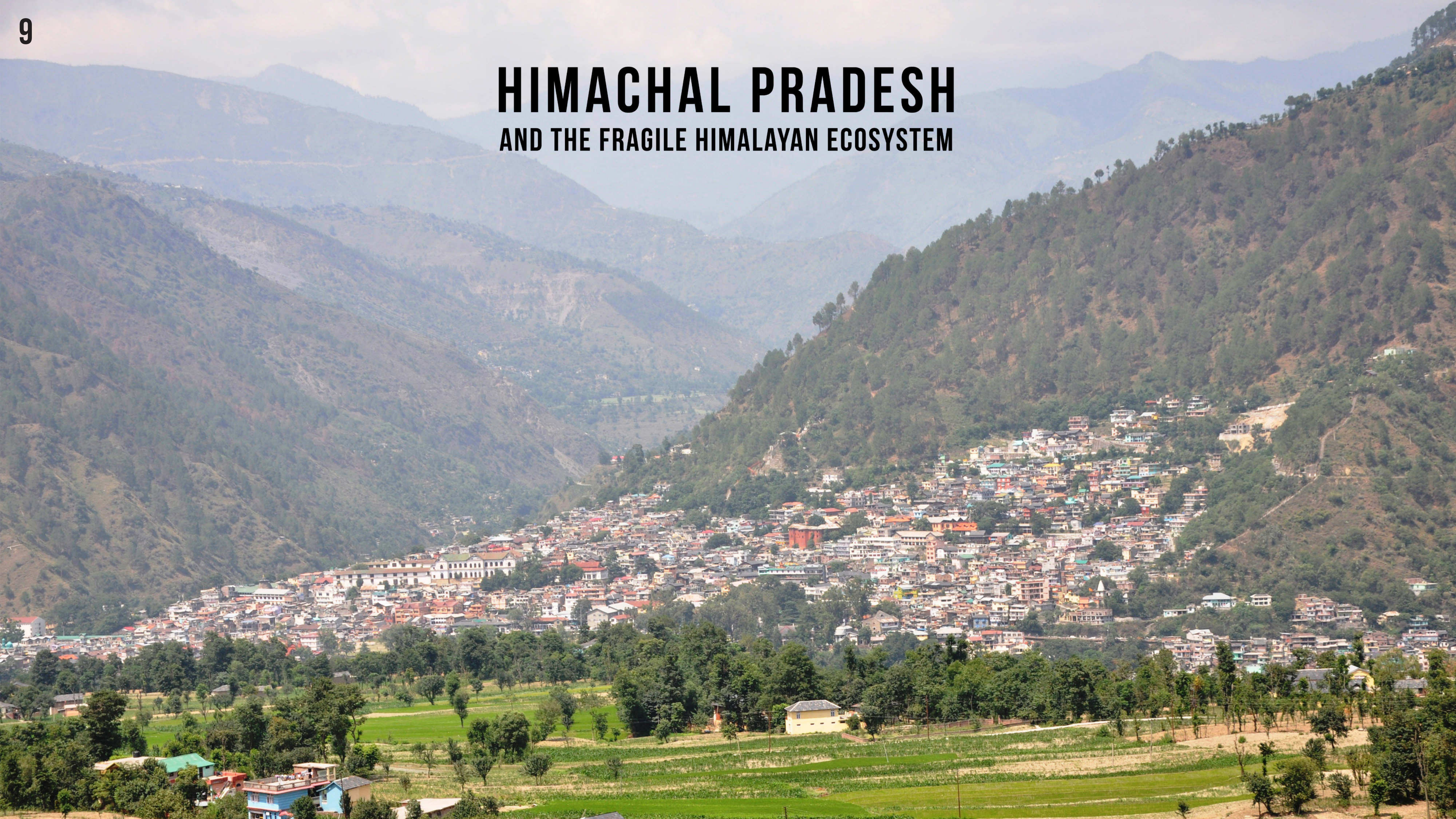


MIGRATION

50 MILLION OF NEW URBAN RESIDENTS BY 2030 WILL BE IN MID-SIZED CITIES

HIMACHAL PRADESH

AND THE FRAGILE HIMALAYAN ECOSYSTEM



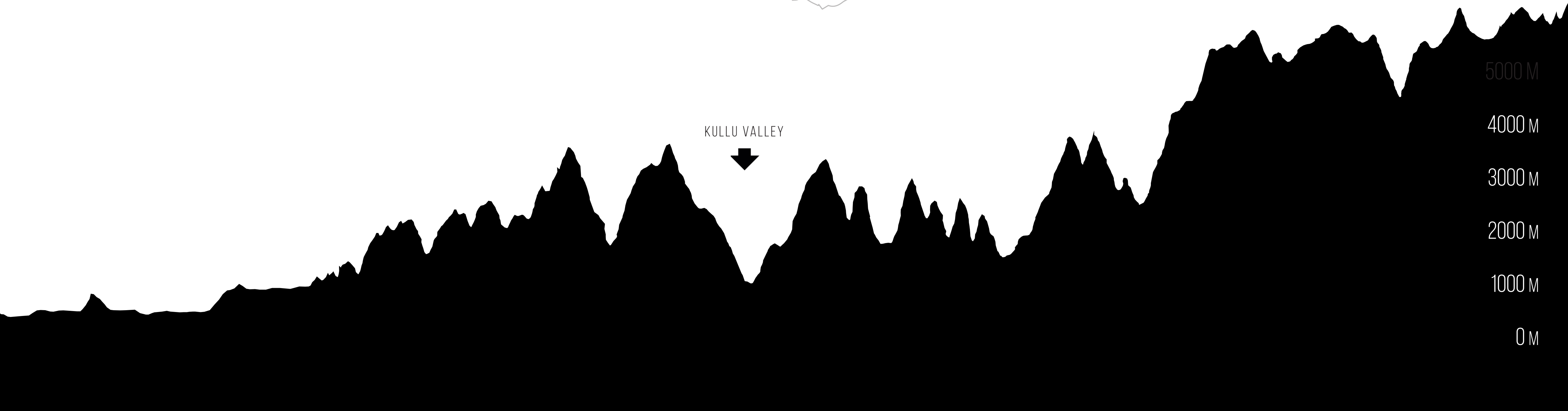
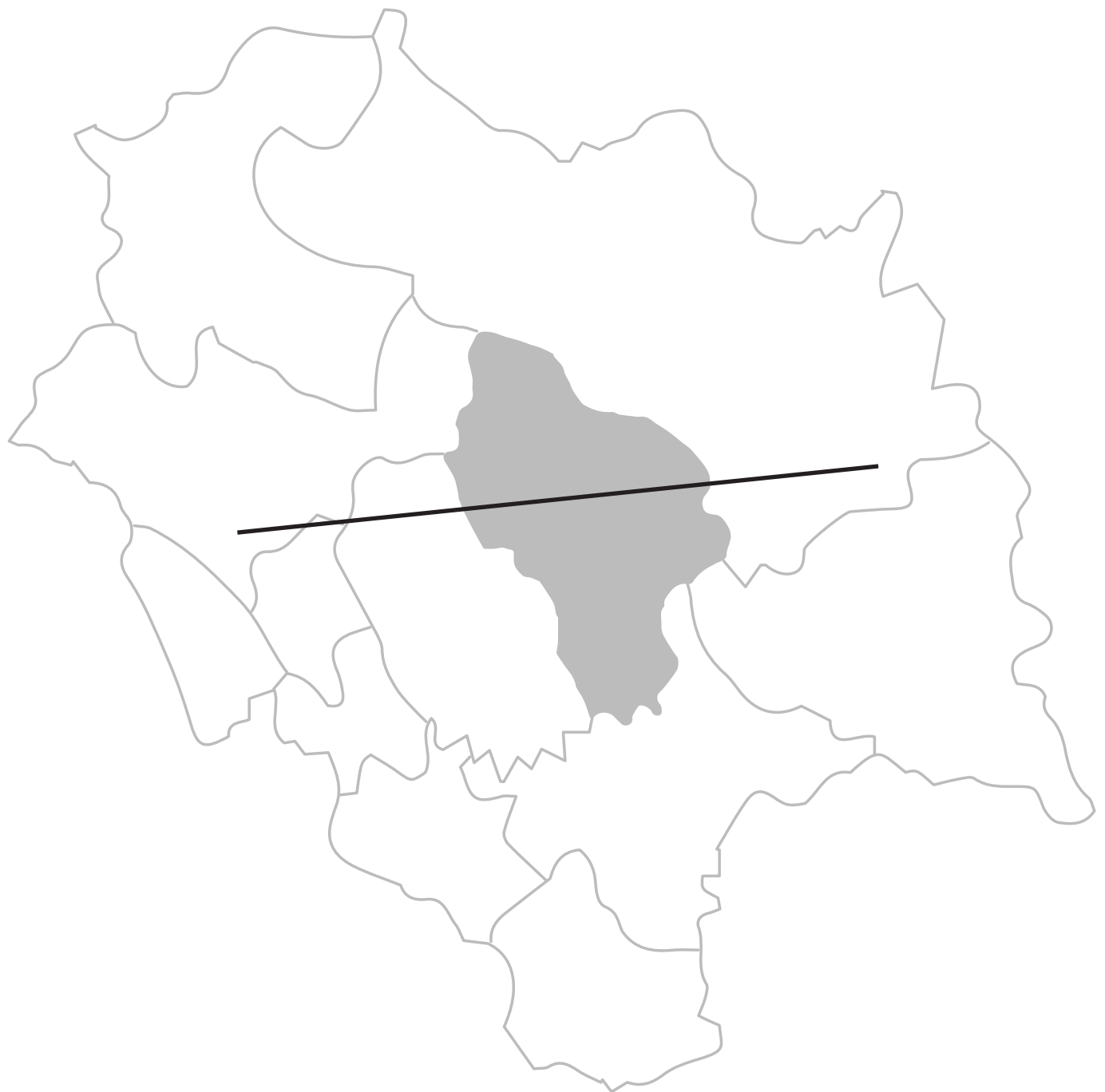
HIMACHAL PRADESH IN INDIA



**KULLU DISTRICT
IN HIMACHAL PRADESH**



KULLU DISTRICT IN HIMACHAL PRADESH



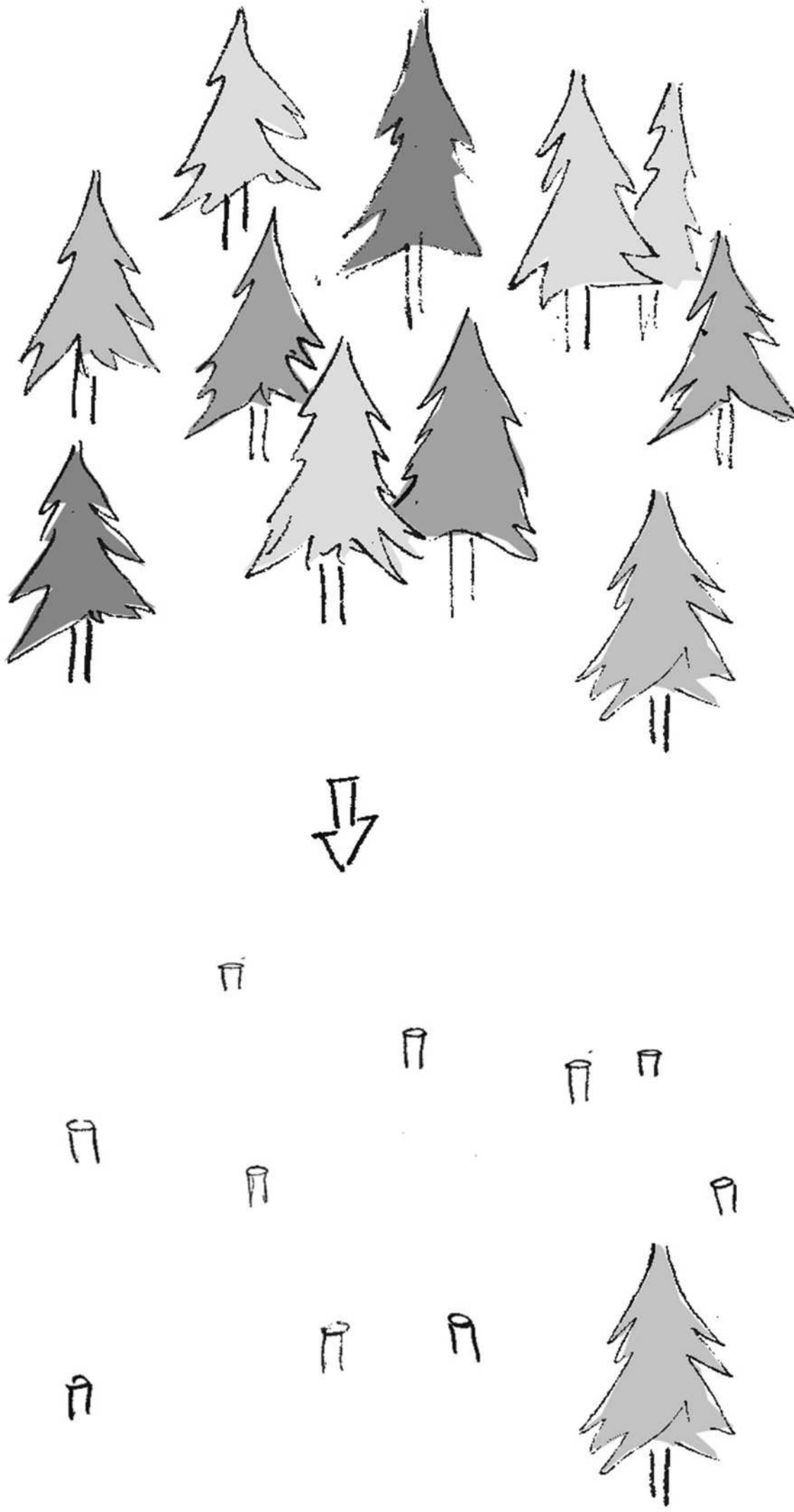


GLACIERS ARE MELTING



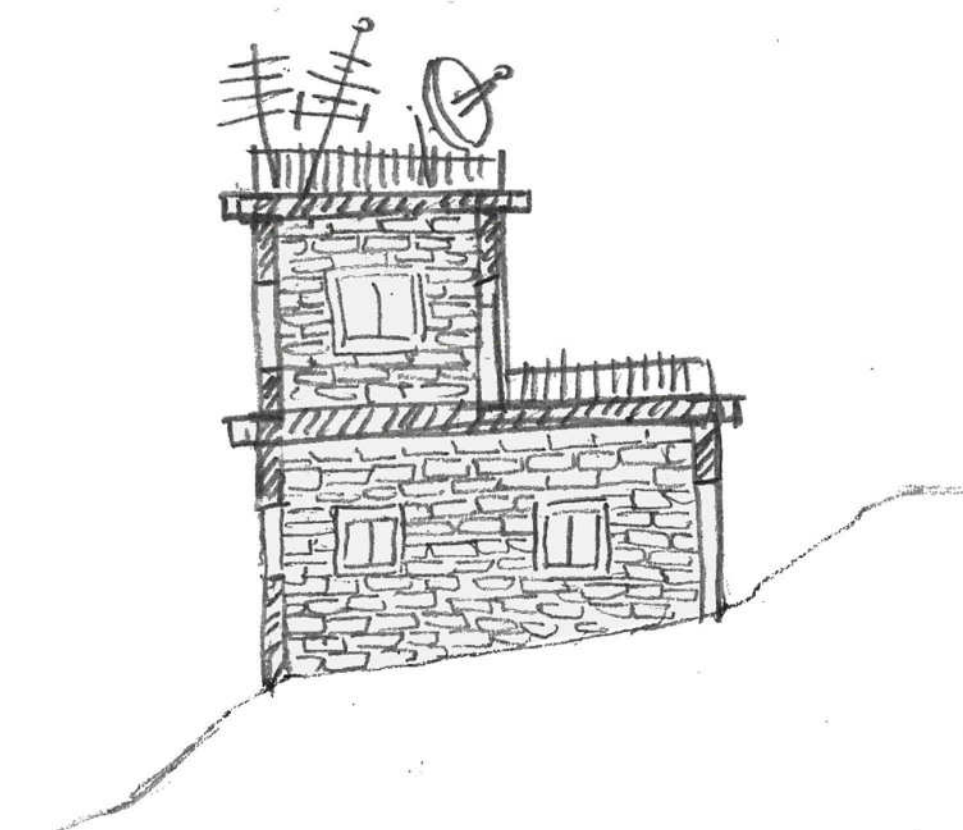


DEFORESTATION





GLOBAL CIVILIZATION / CEMENTIFICATION



CEMENT PRODUCTION = 94% INDUSTRIAL EMISSION = 50% TOTAL CO2 OF HP



SANJAULI TOWN, SHIMLA

HOW IS THE BUILT ENVIRONMENT OF THE AREA?

VERNACULAR

THE TERM **VERNACULAR**

*derives from the Latin vernaculus, meaning “domestic, native, indigenous”;
from verna, meaning “native slave” or “home-born slave”.*

*It's the **everyday language** spoken by a people as distinguished from the literary language.*

VERNACULAR ACCORDING TO AMOS RAPOPORT

*“A satisfactory definition of vernacular is more difficult at the moment. The most successful way of describing it seems to be in **terms of process**: how it is “**designed**” and built [...]*

*The peasant **owner** is still very much a **participant in the design process**, not merely a consumer. [...]*

*The model itself is the result of the collaboration of many people, over many generations, as well as the **collaboration between makers and users of buildings** [...]*

*Since knowledge of the model is shared by all, there is **no need for drawings or designers.**”*

VERNACULAR =

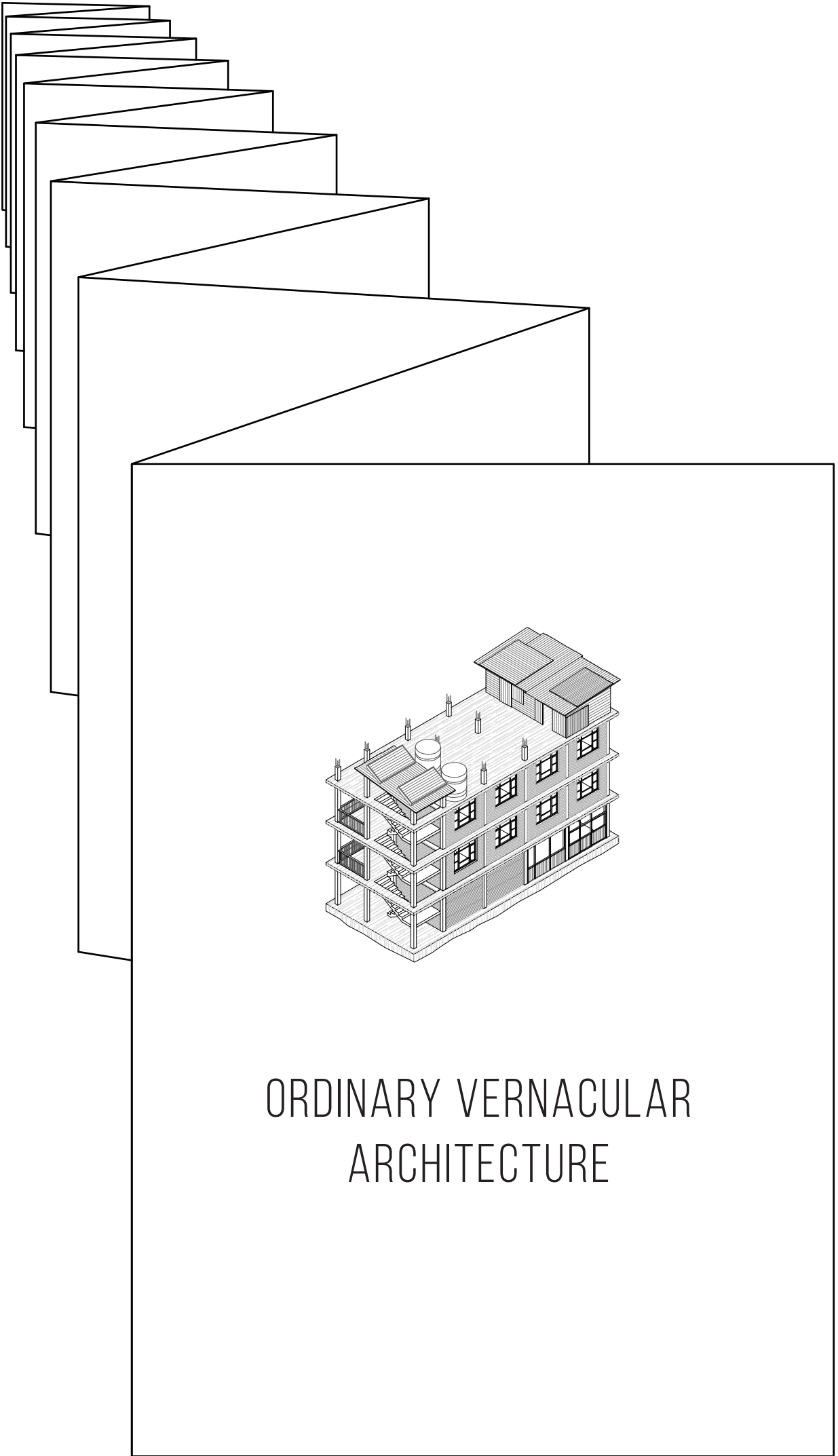
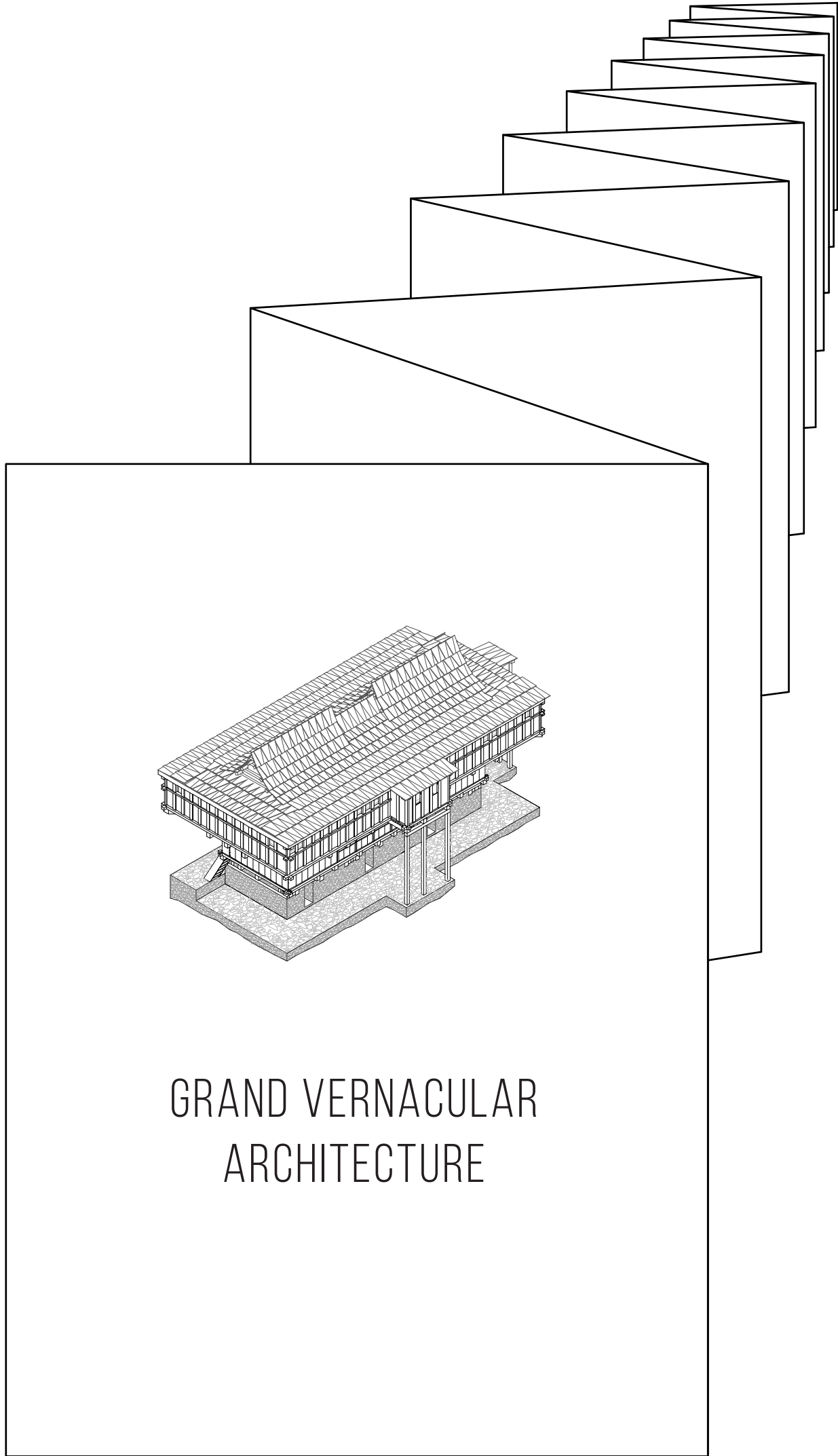
“architecture without architects”



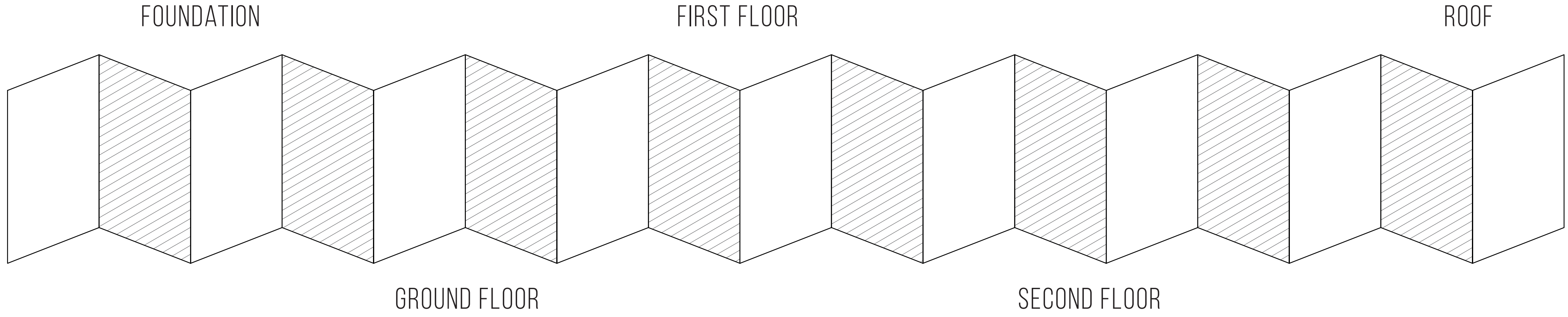
ORDINARY VERNACULAR

GRAND VERNACULAR

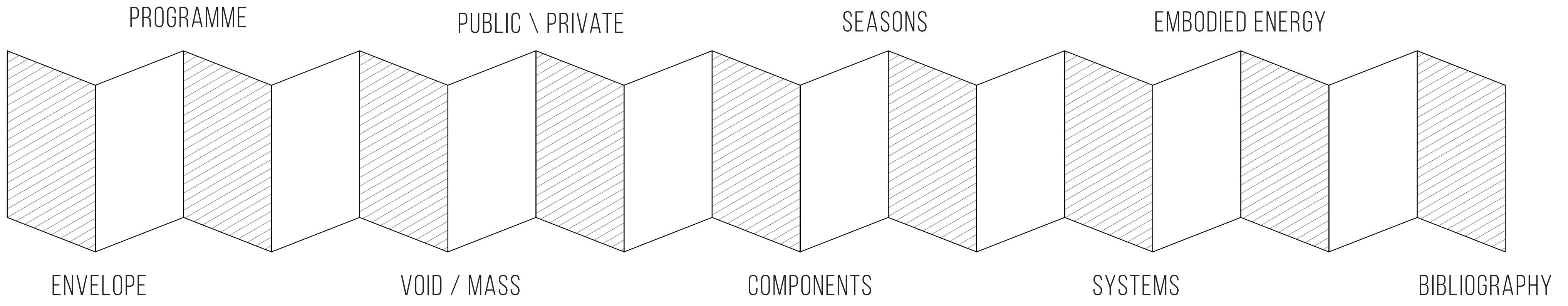




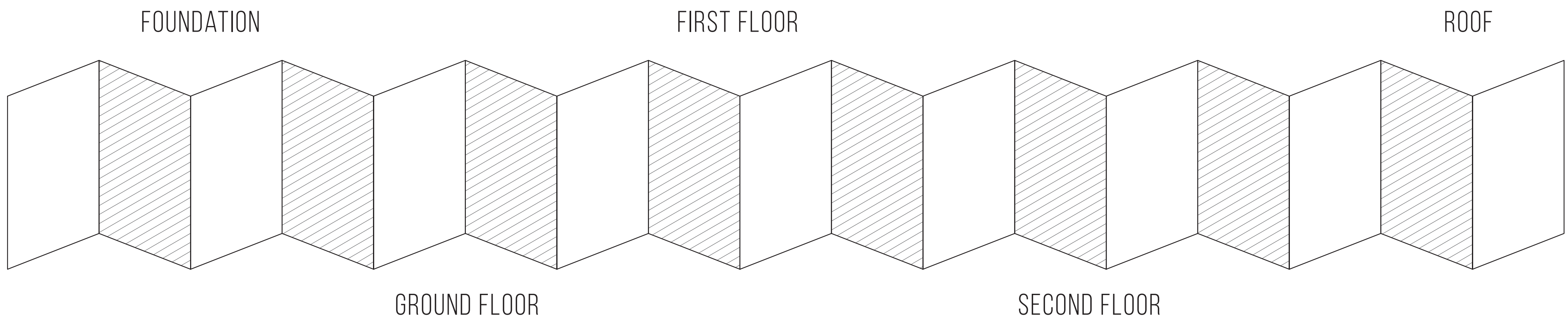
**SIDE A
CONSTRUCTION
PROCESS**



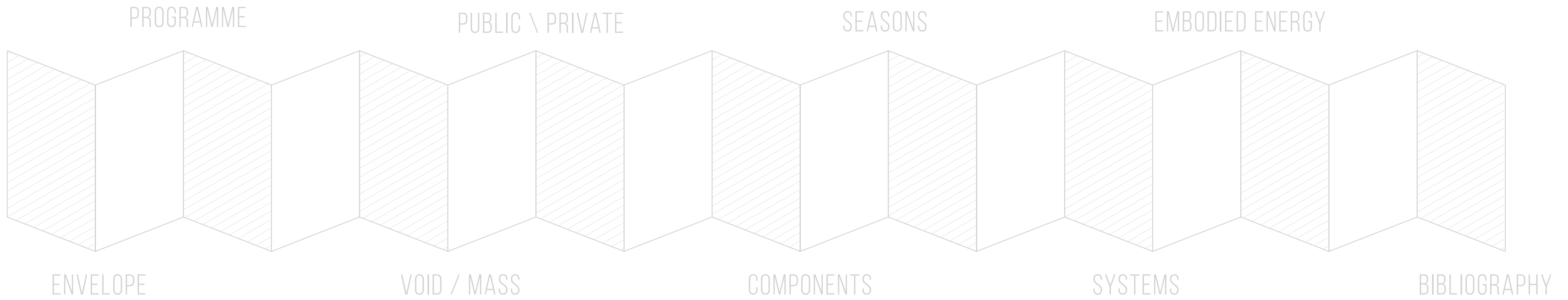
**SIDE B
BUILDING
ANALYSIS**



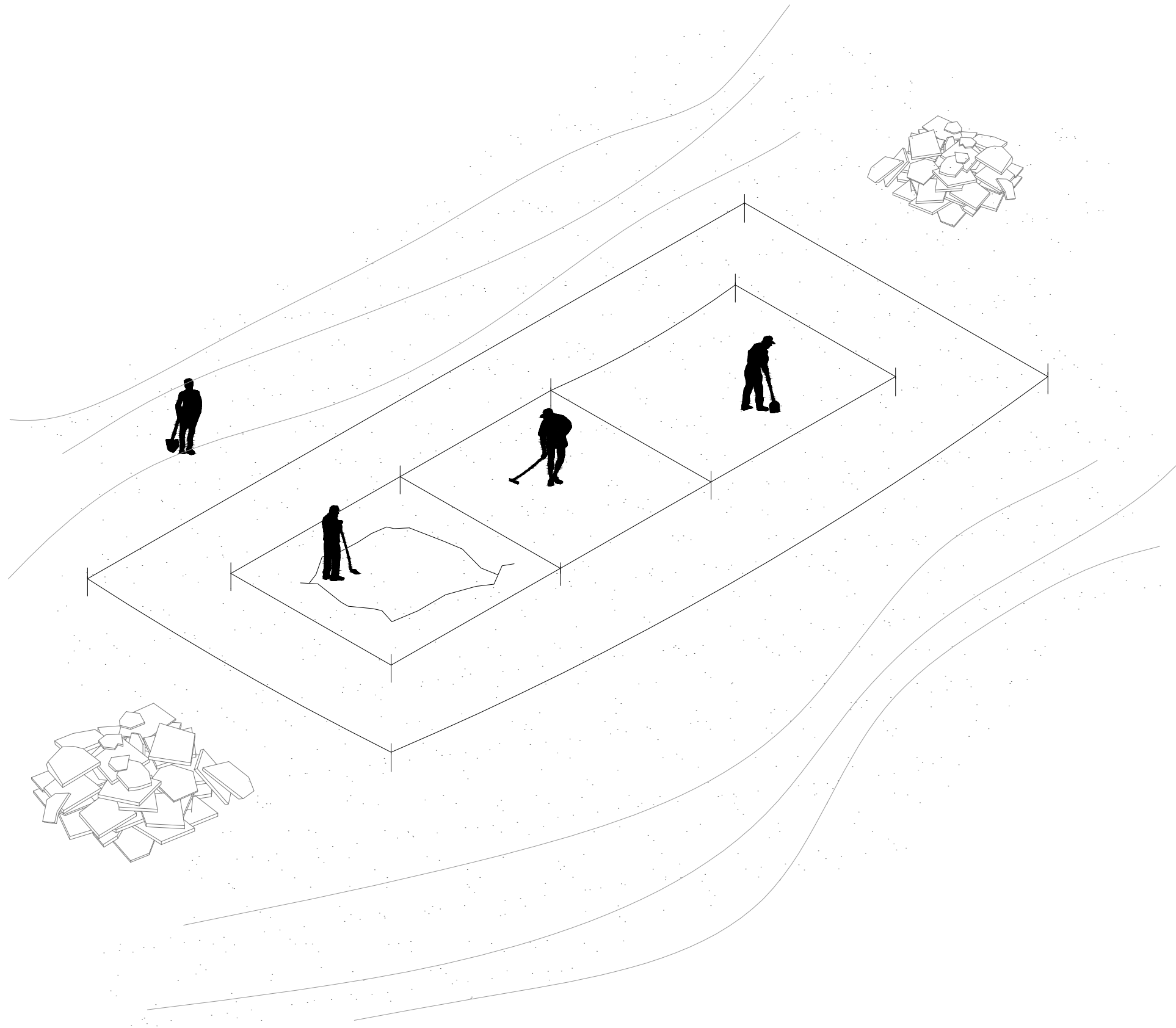
**SIDE A
CONSTRUCTION
PROCESS**



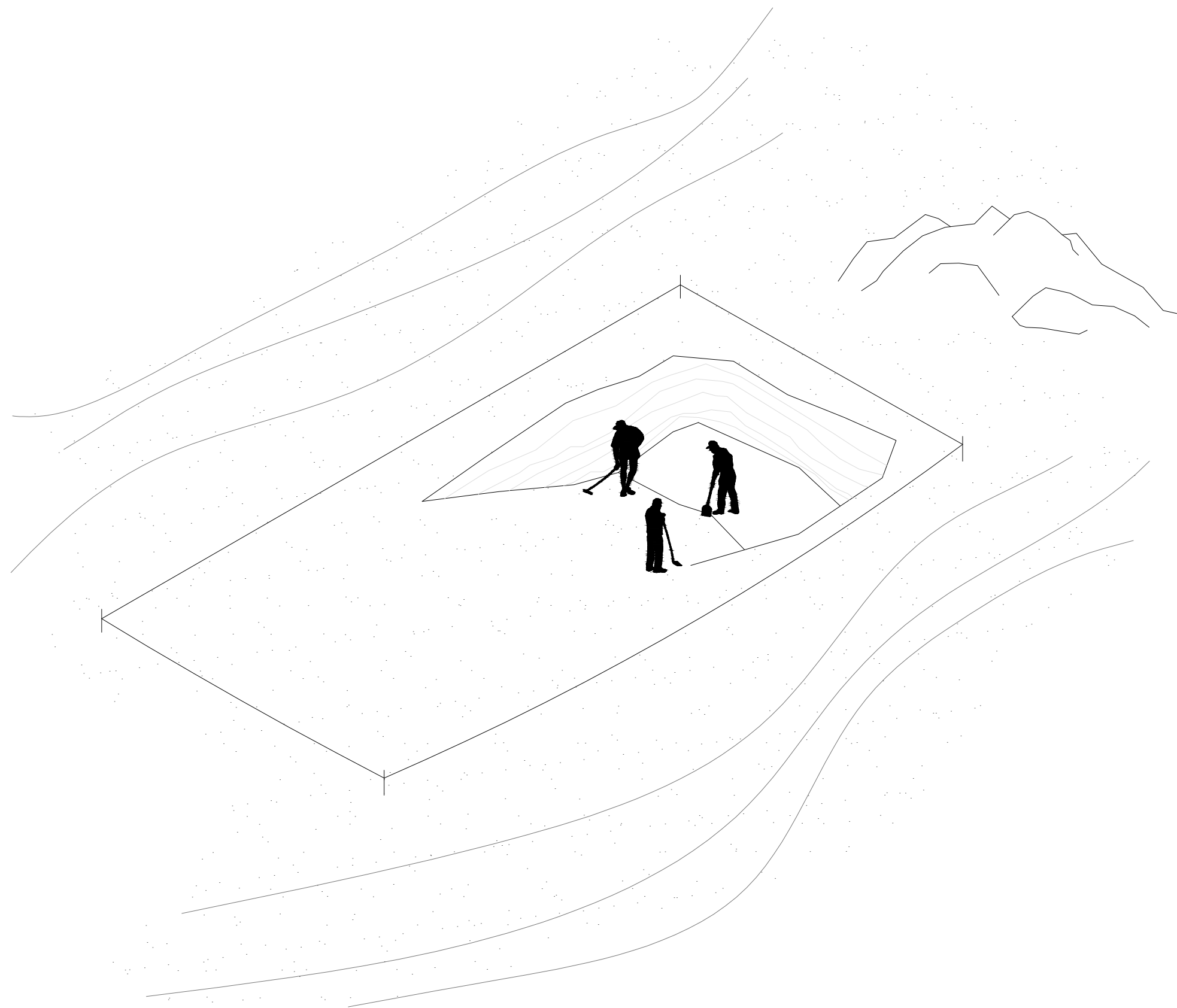
**SIDE B
BUILDING
ANALYSIS**



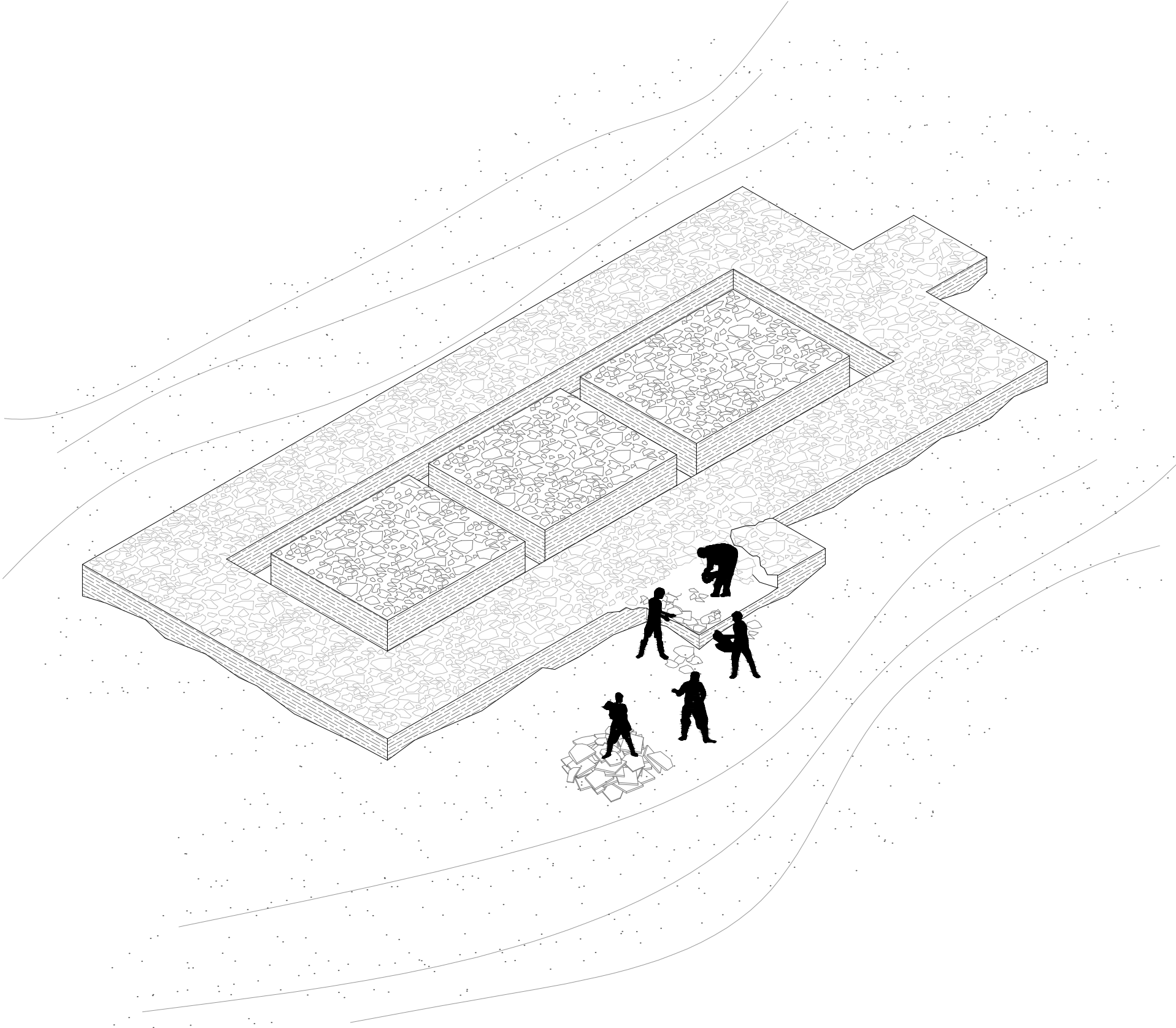
GRAND VERNACULAR
ARCHITECTURE



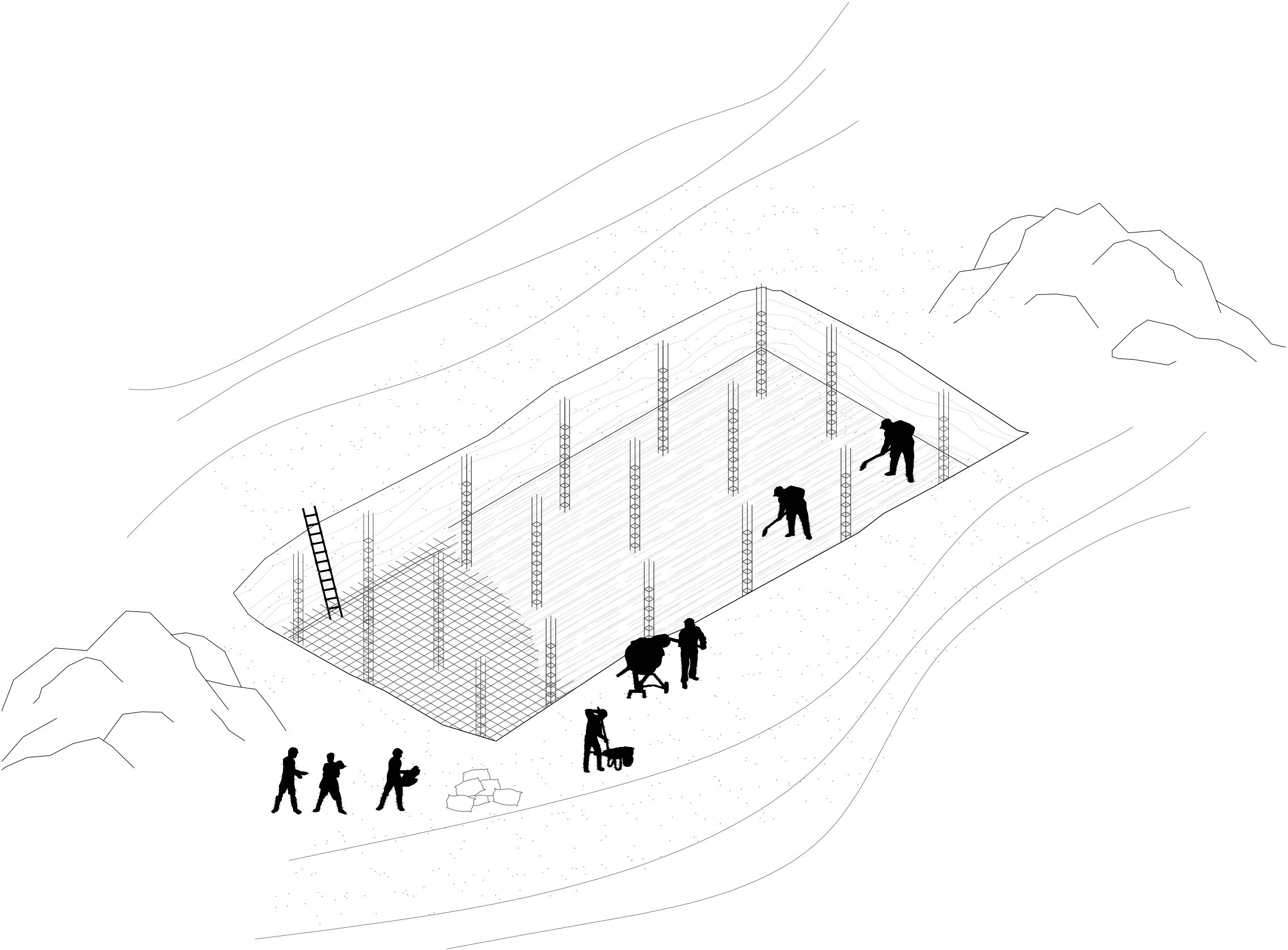
ORDINARY VERNACULAR
ARCHITECTURE



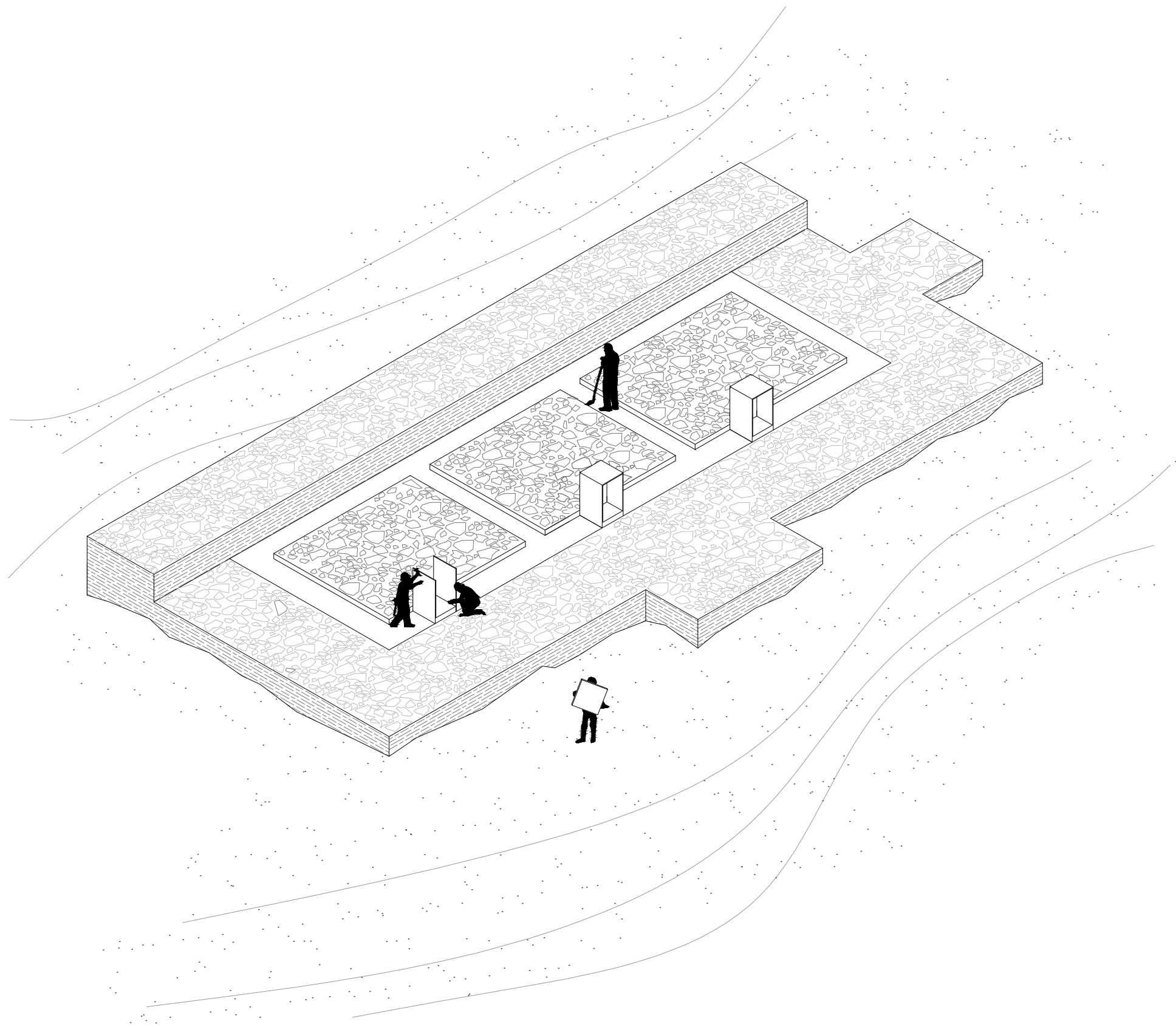
GRAND VERNACULAR
ARCHITECTURE



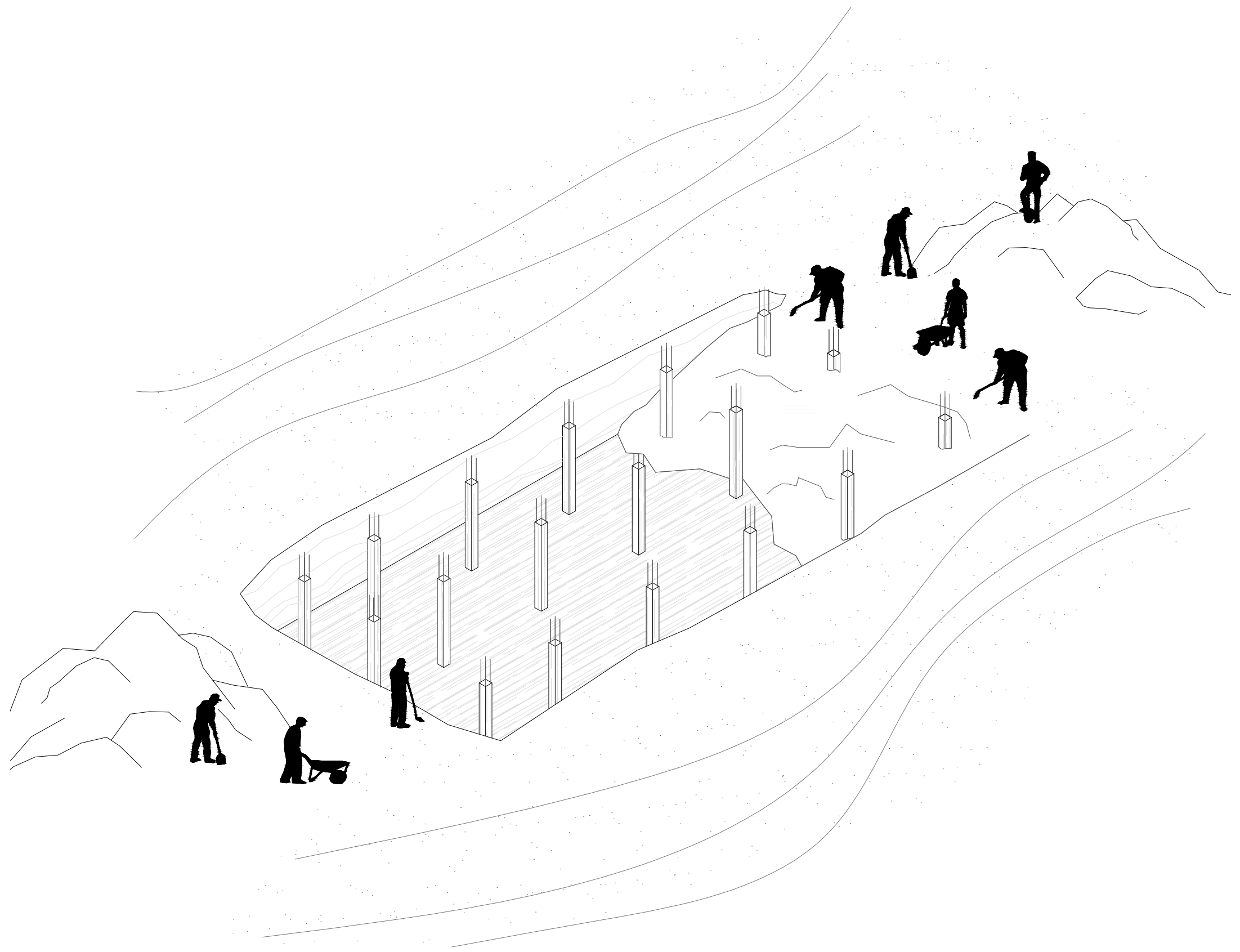
ORDINARY VERNACULAR
ARCHITECTURE



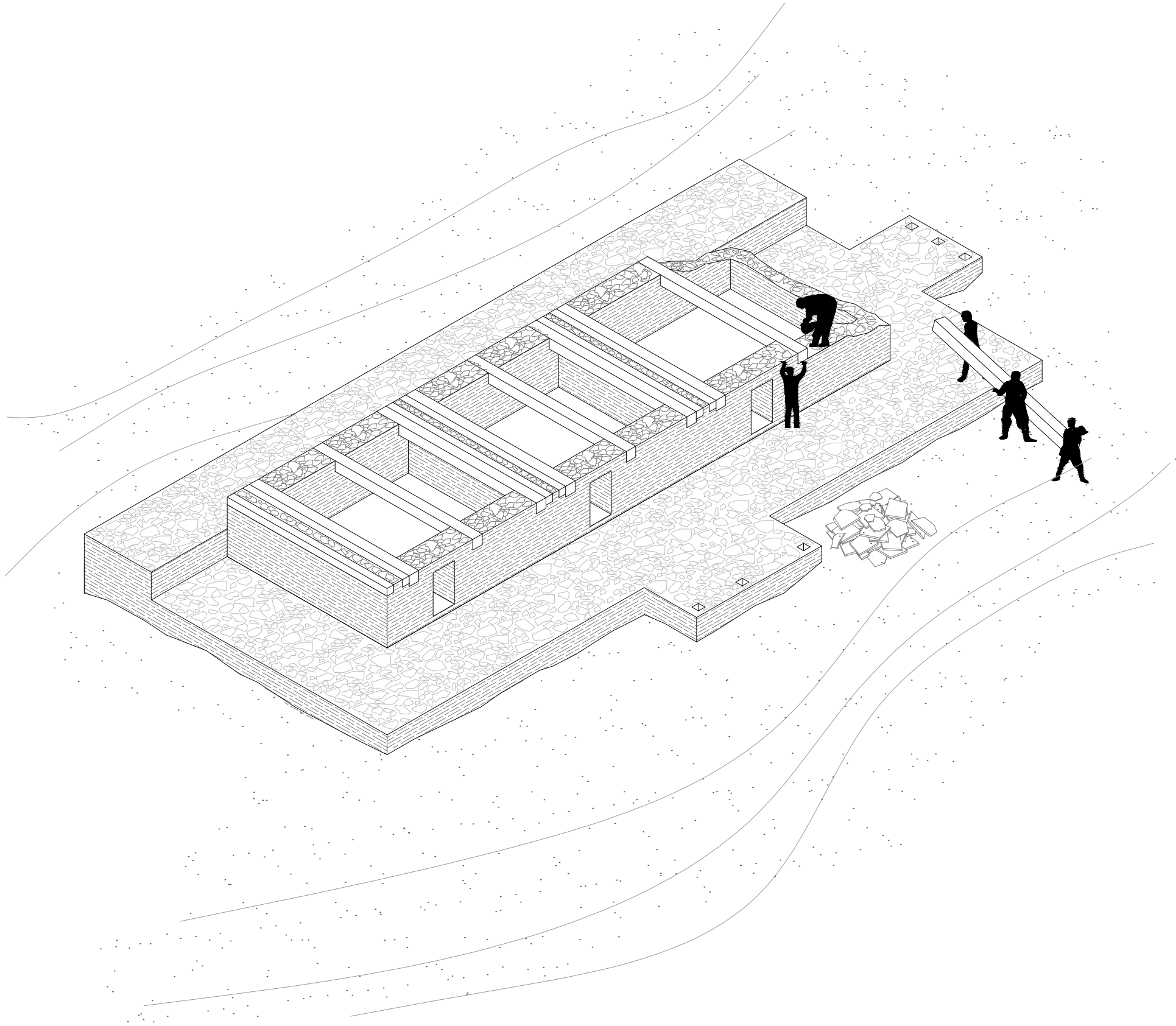
GRAND VERNACULAR
ARCHITECTURE



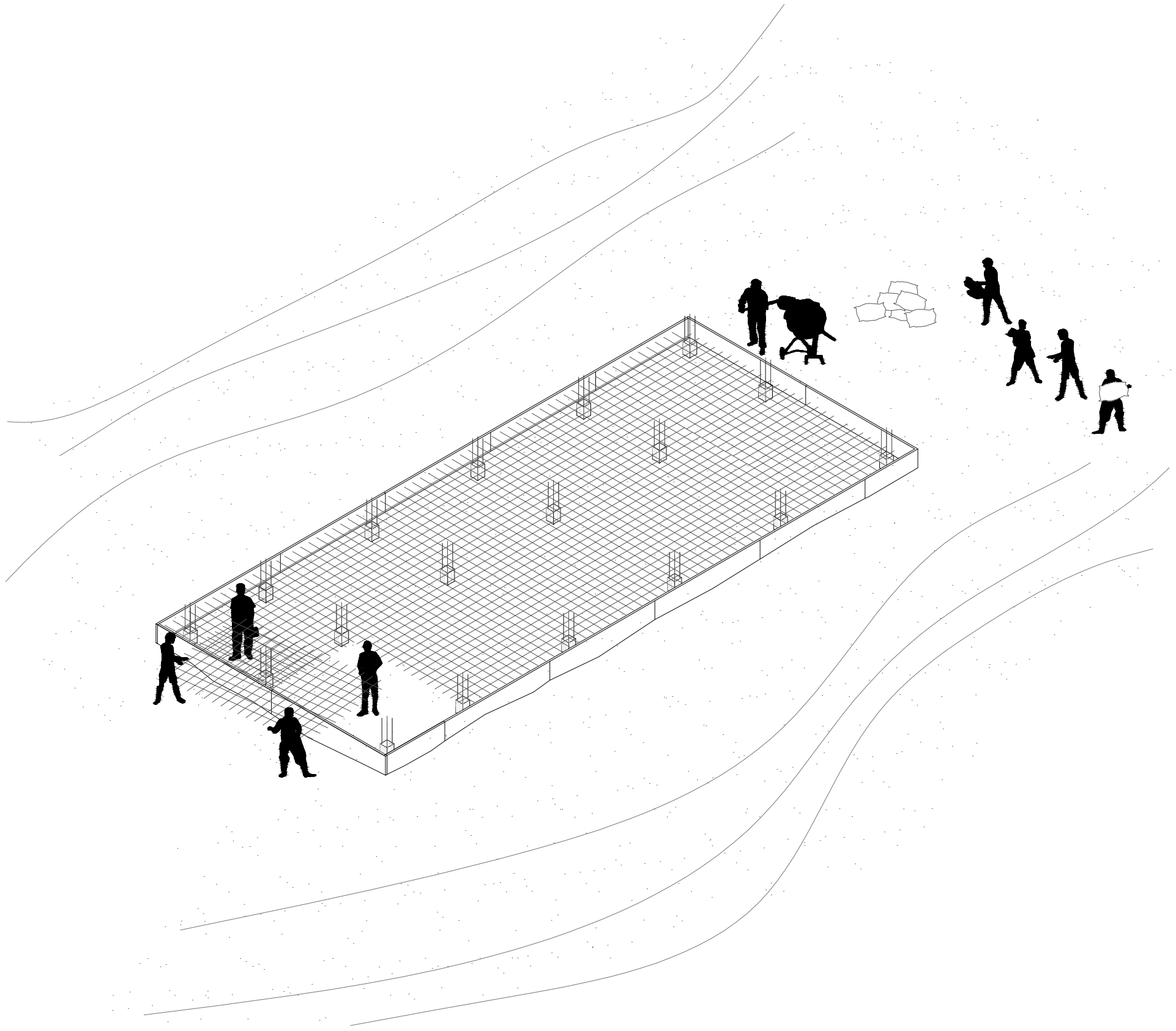
ORDINARY VERNACULAR
ARCHITECTURE



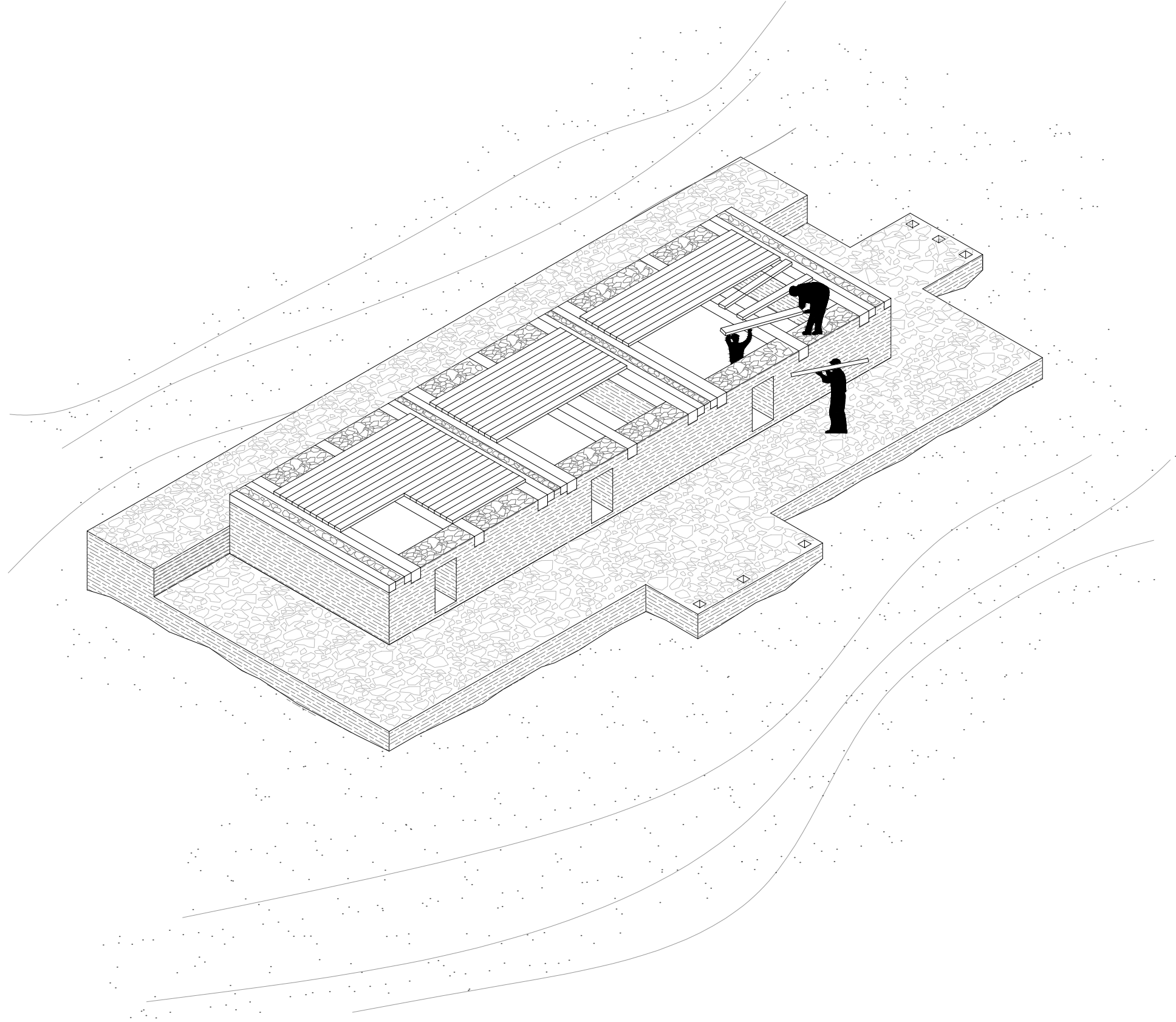
GRAND VERNACULAR
ARCHITECTURE



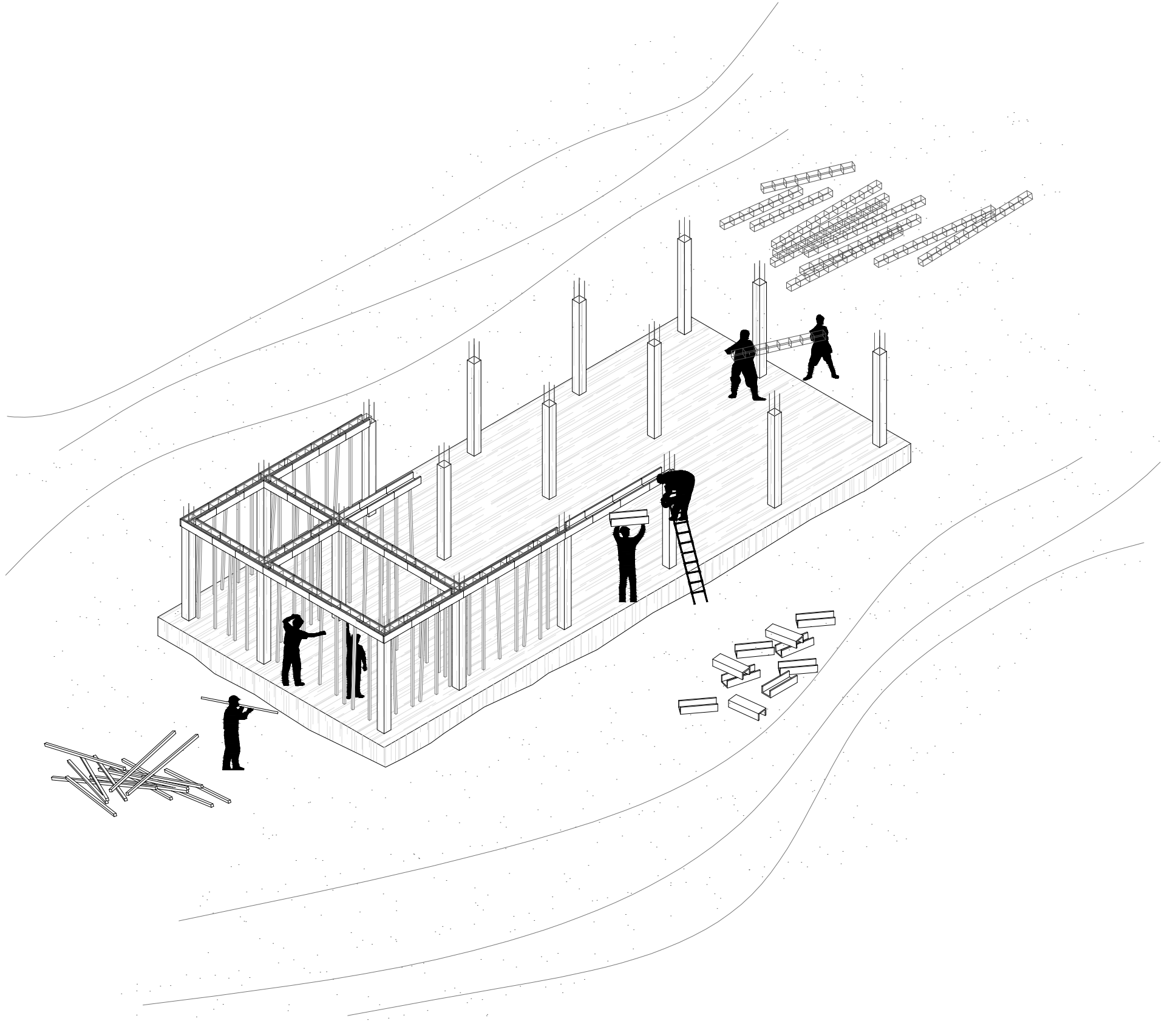
ORDINARY VERNACULAR
ARCHITECTURE



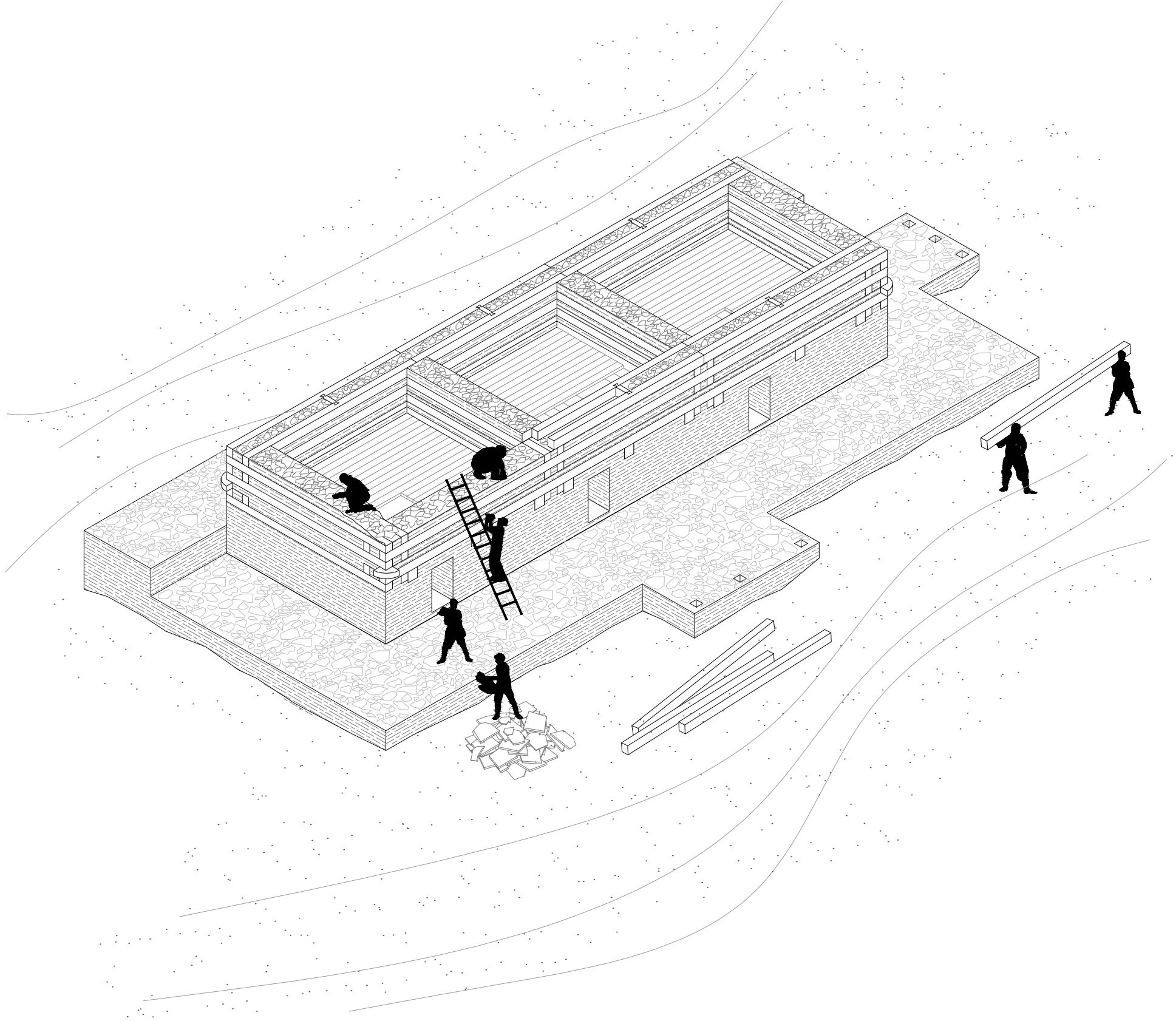
GRAND VERNACULAR
ARCHITECTURE



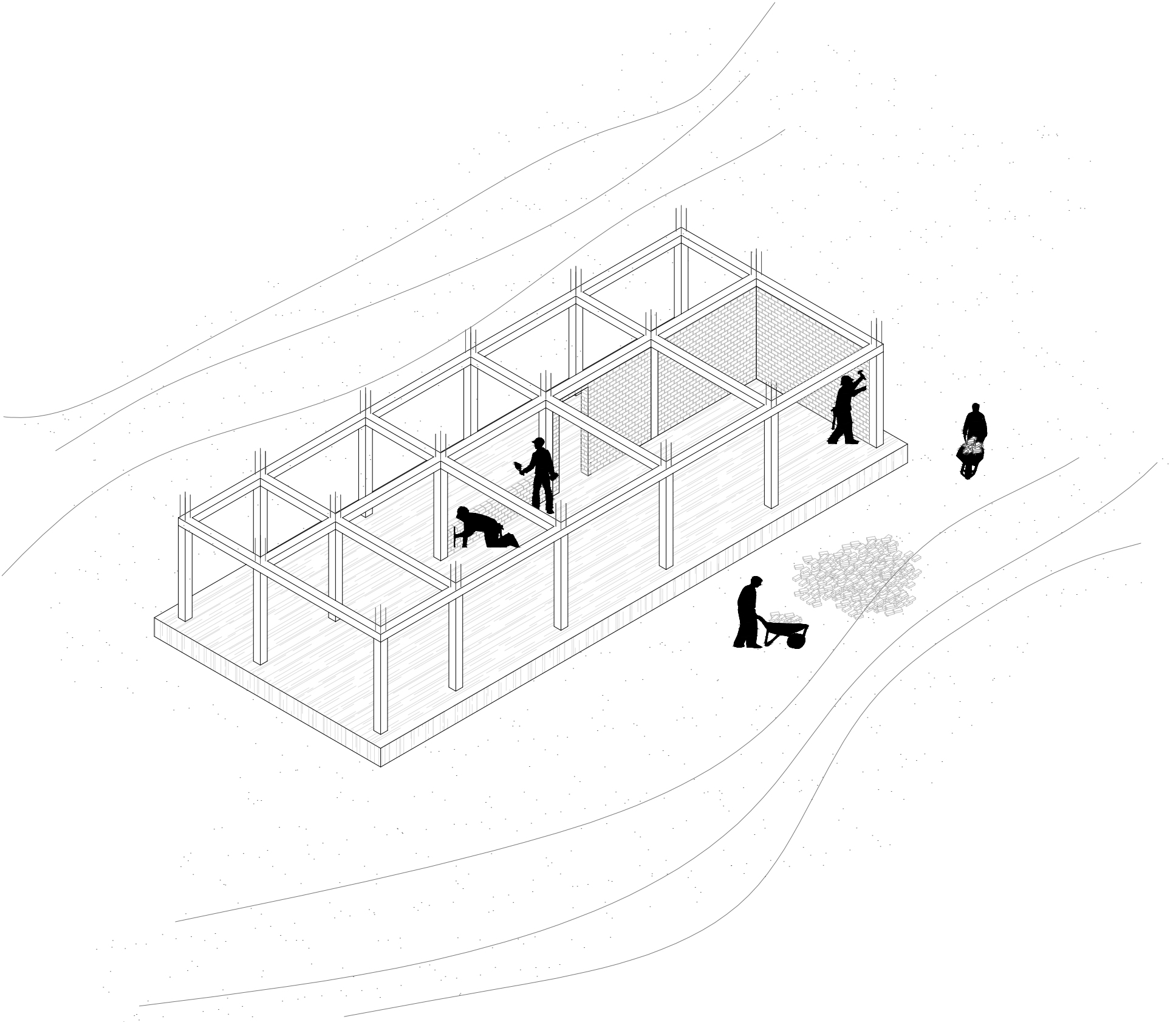
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ARCHITECTURE



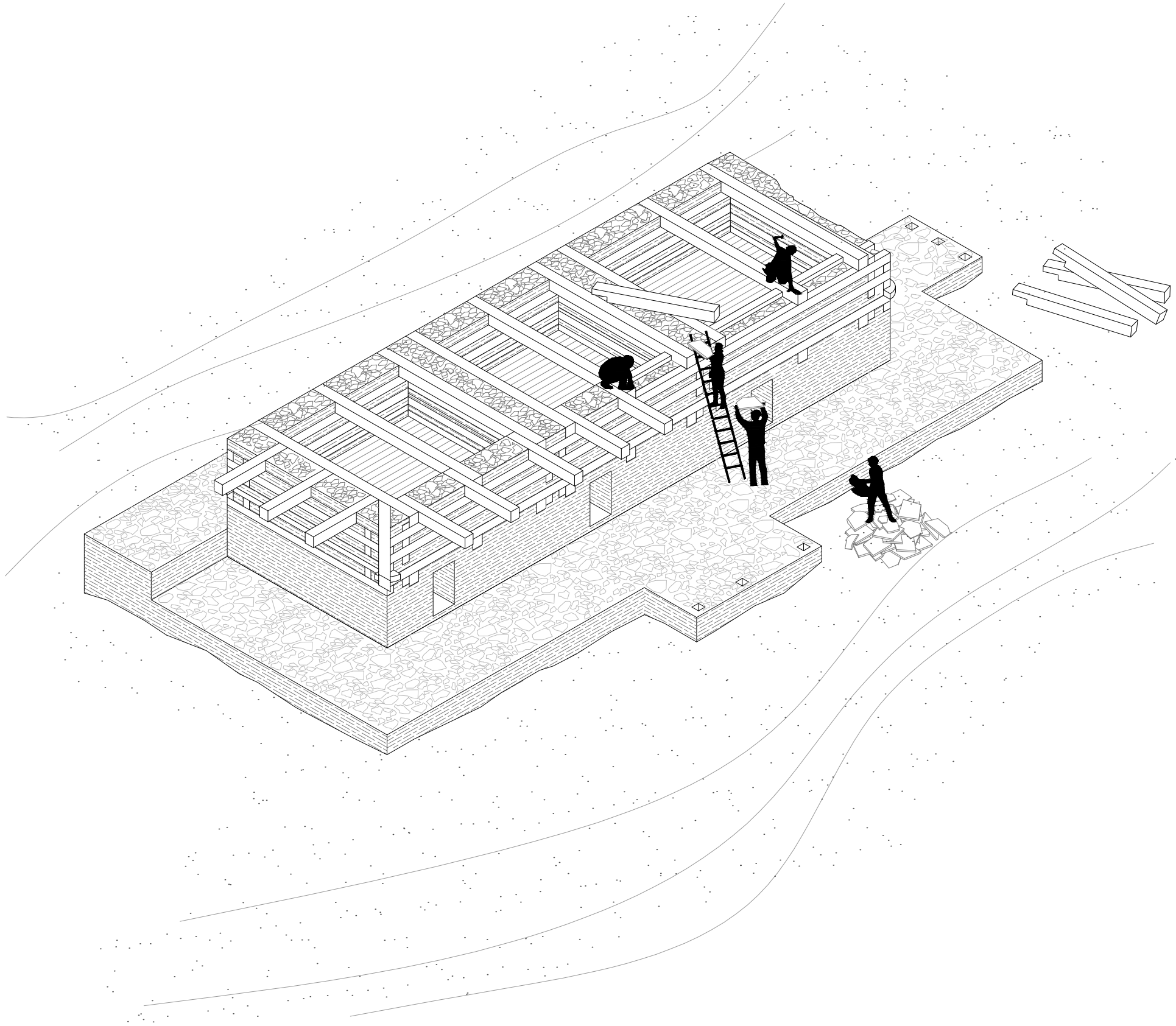
GRAND VERNACULAR
ARCHITECTURE



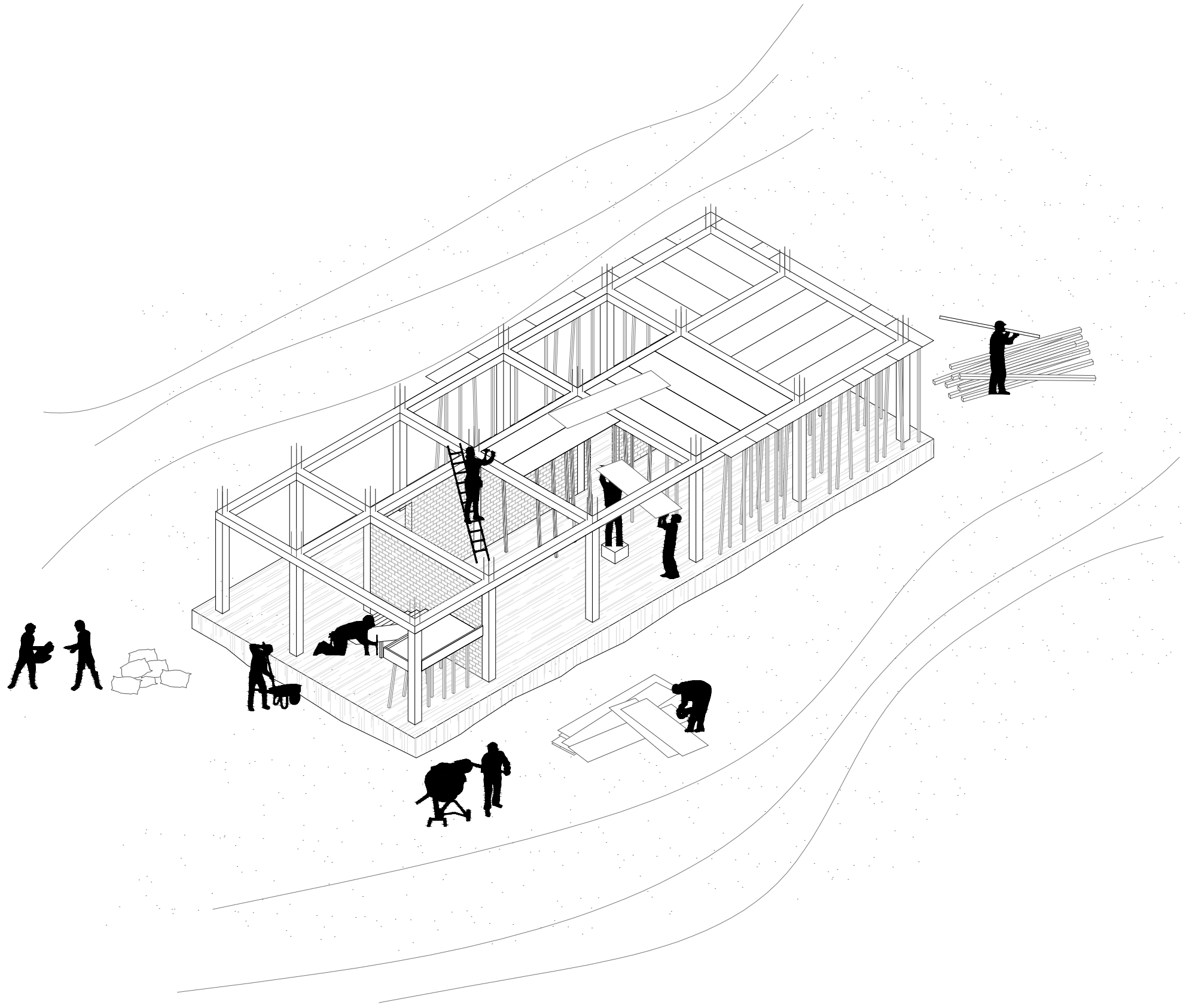
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ARCHITECTURE



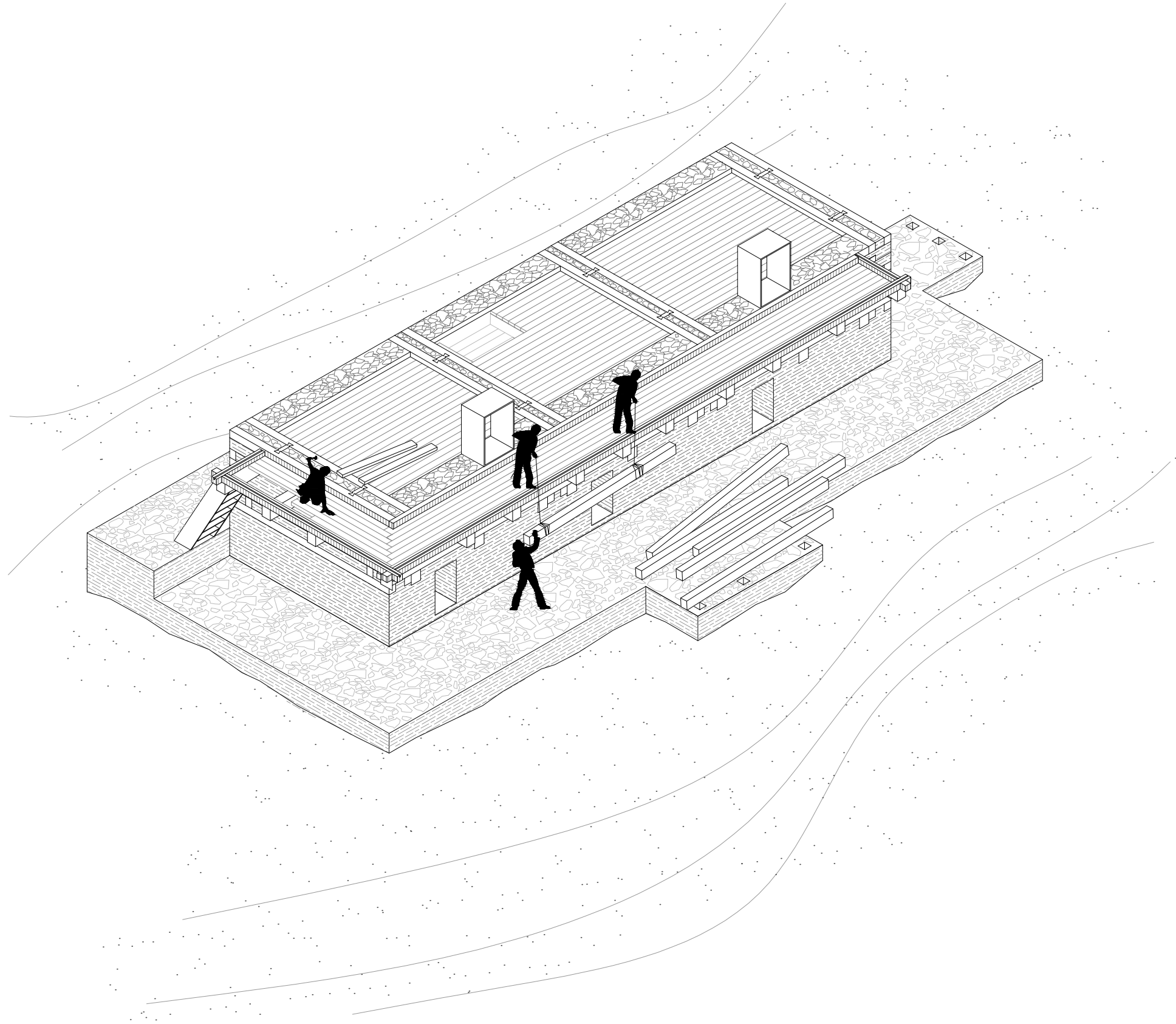
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ARCHITECTURE



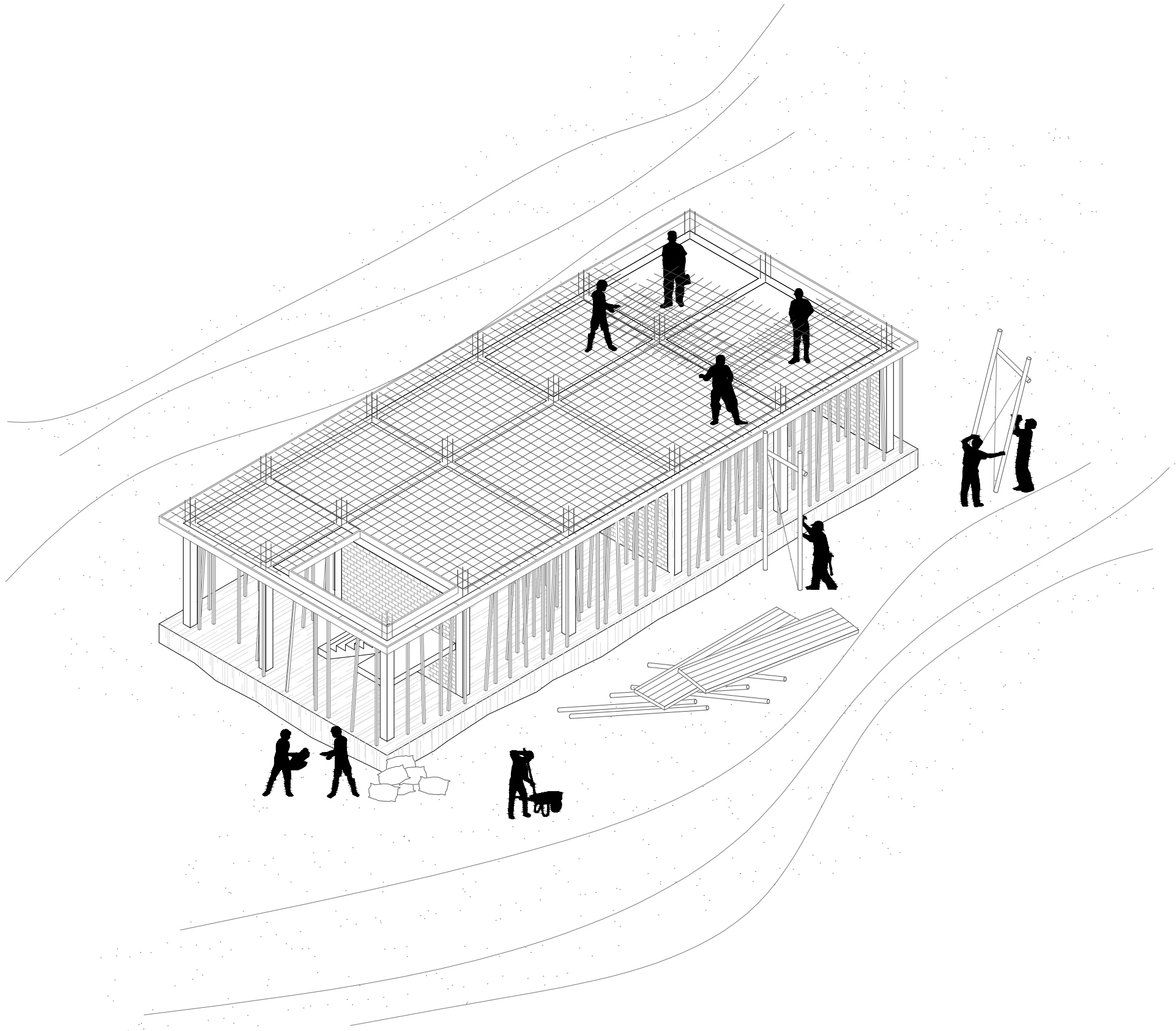
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ARCHITECTURE



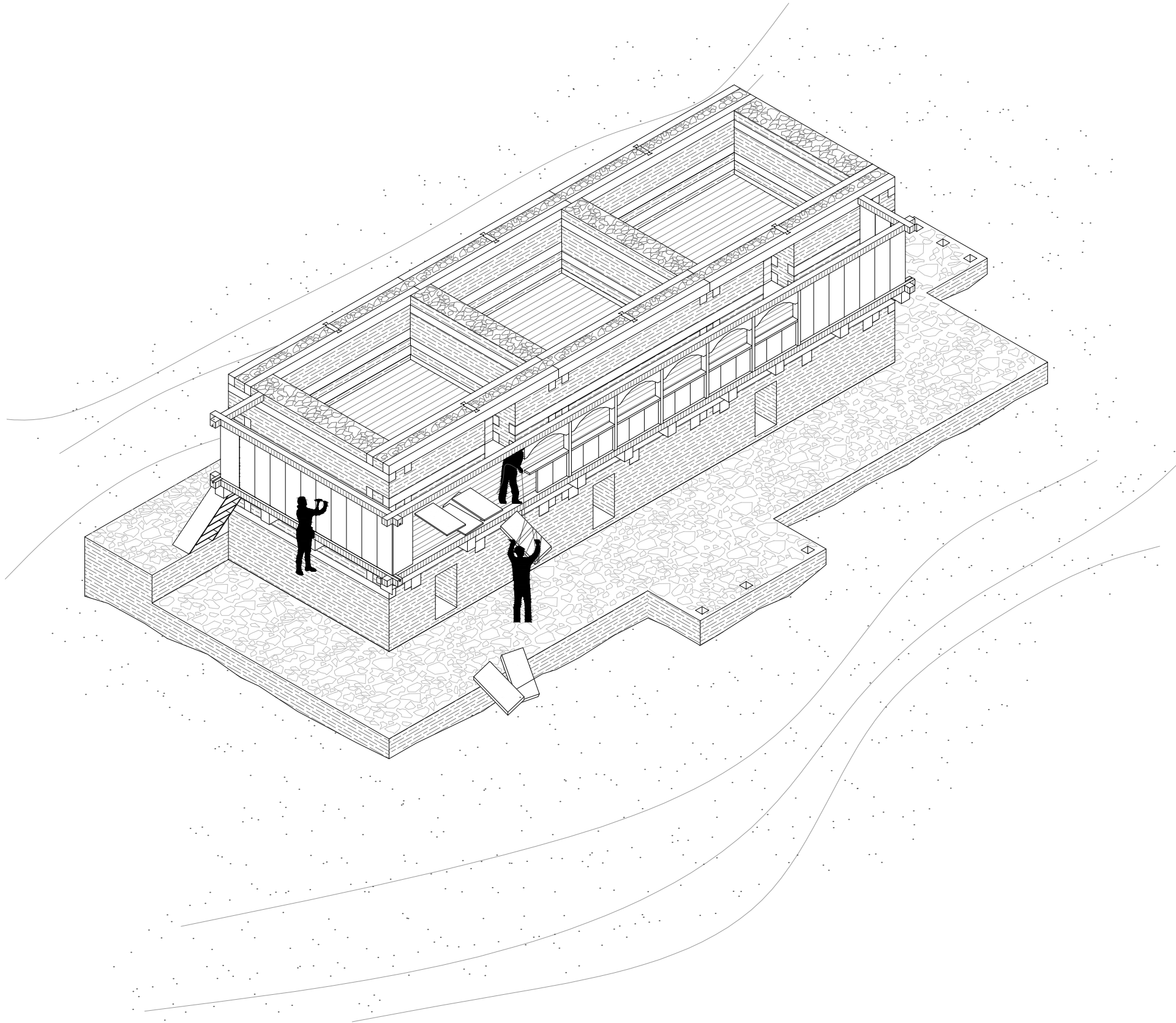
GRAND VERNACULAR
ARCHITECTURE



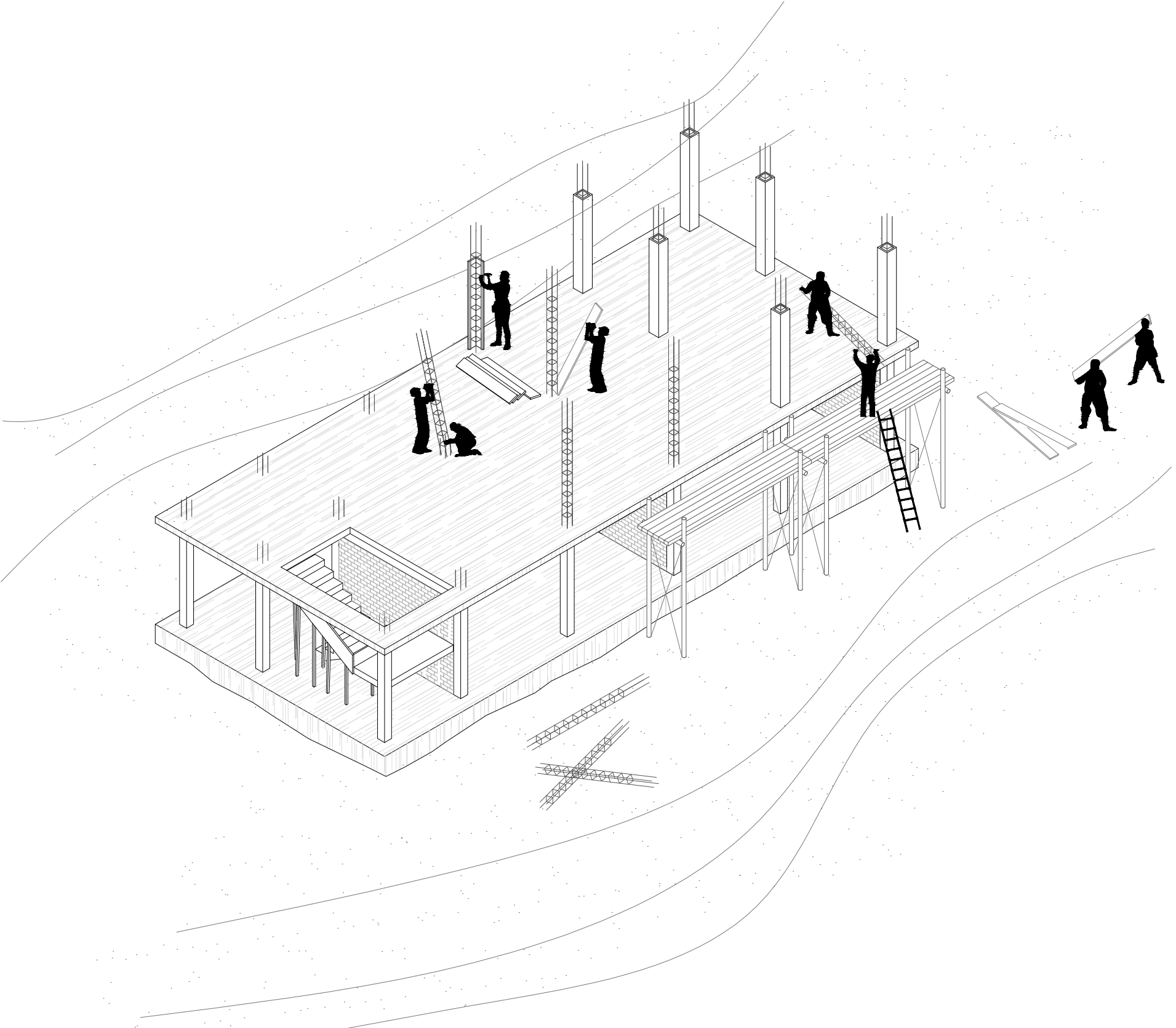
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ARCHITECTURE



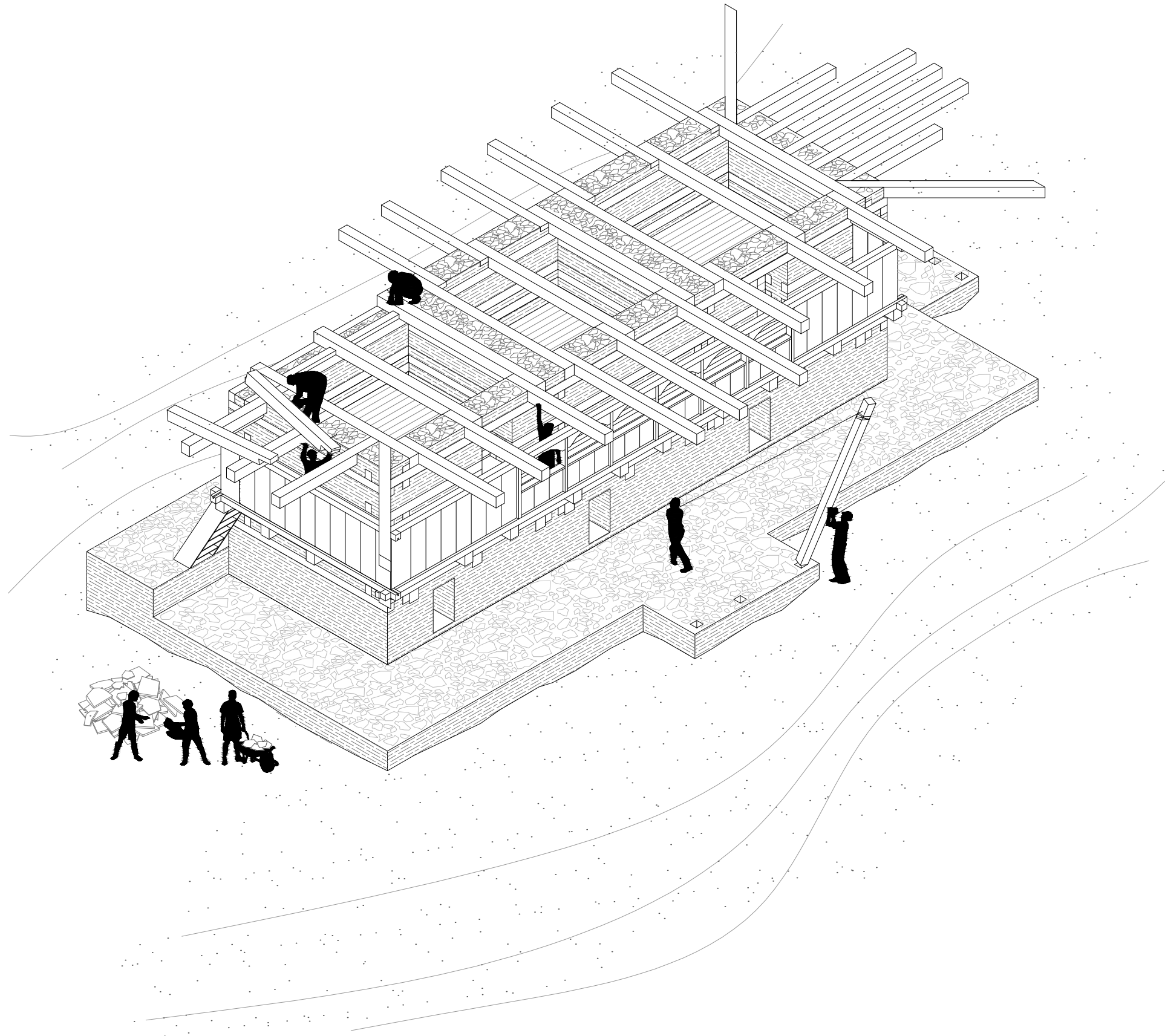
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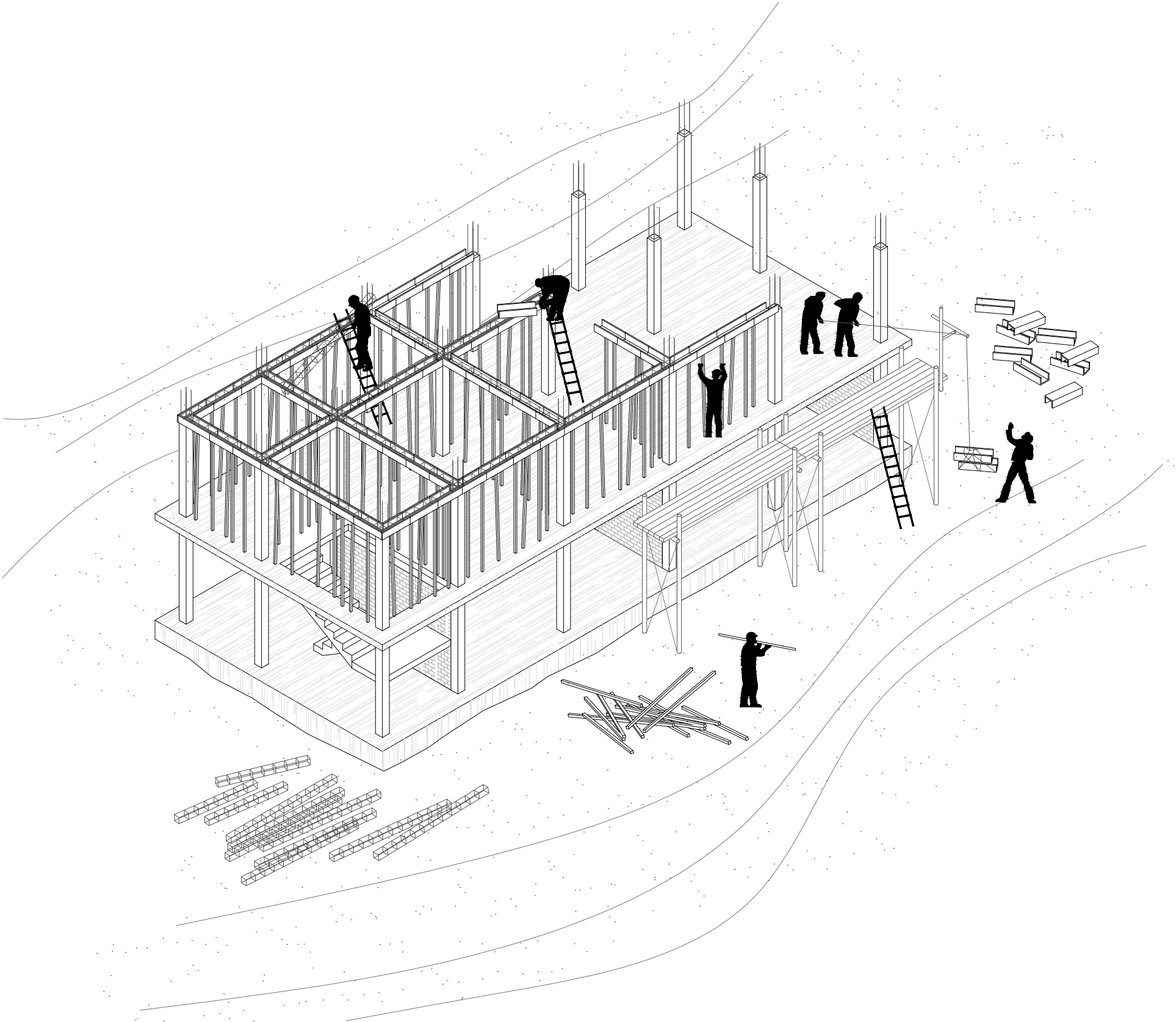
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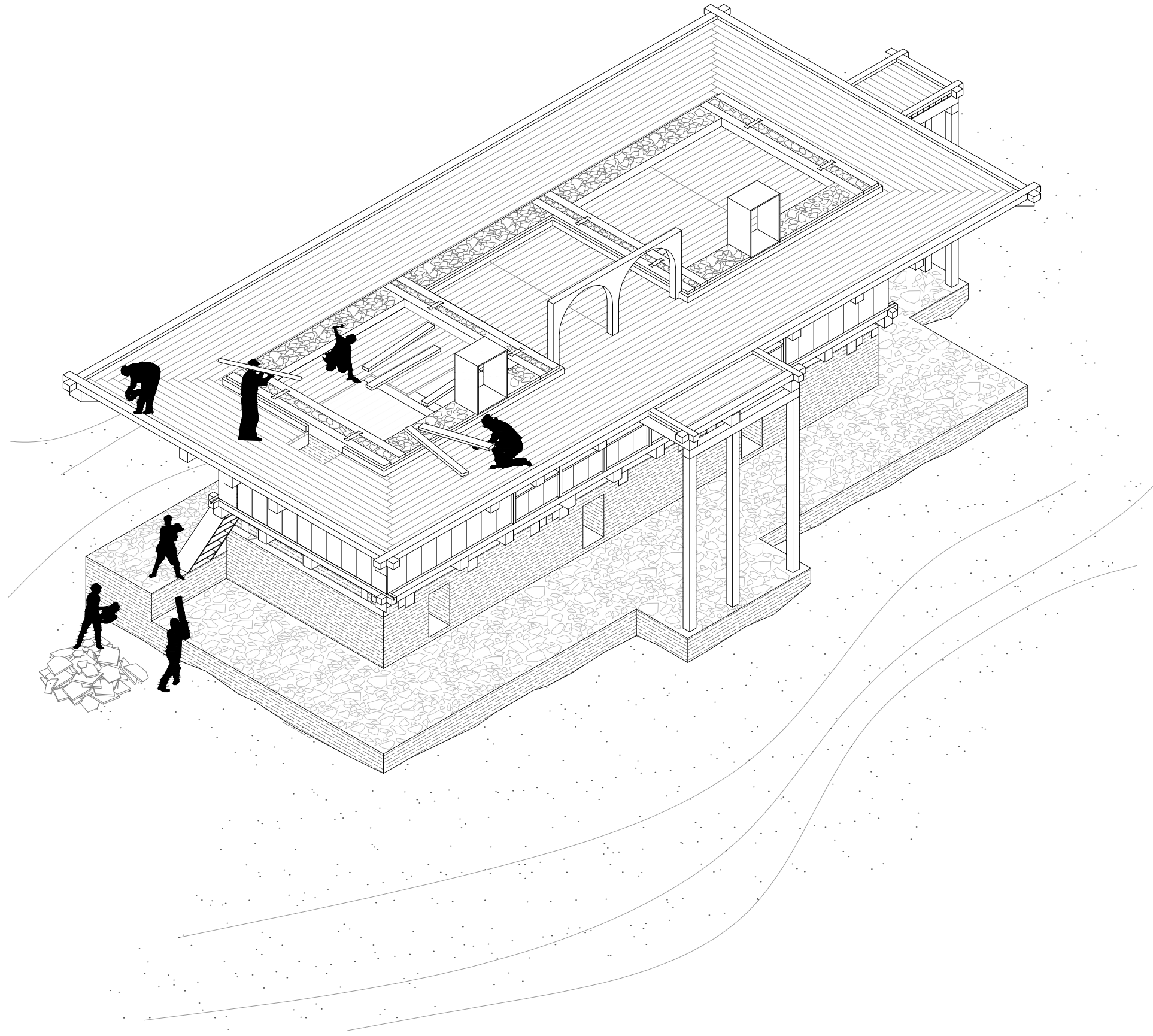
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ARCHITECTURE



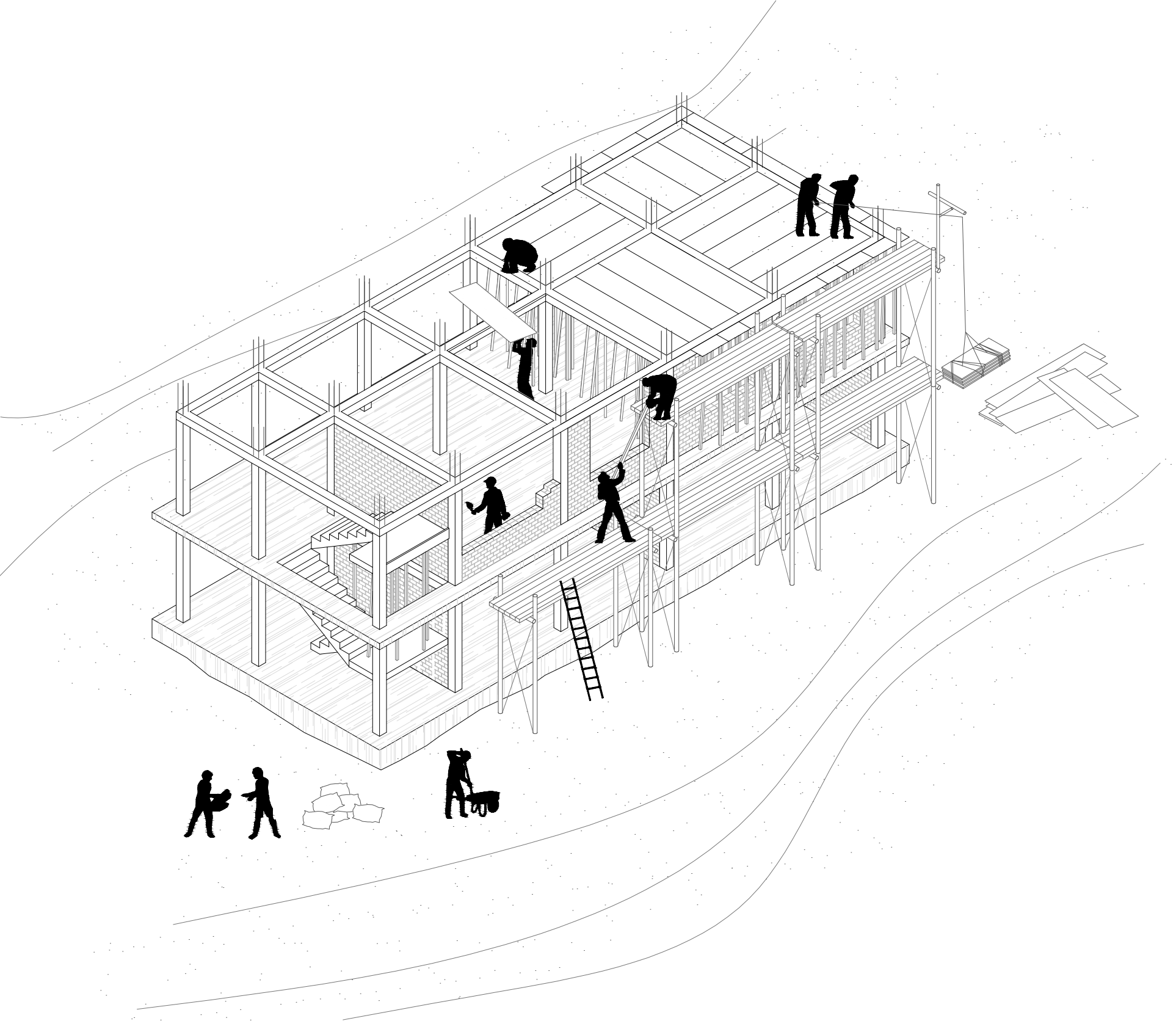
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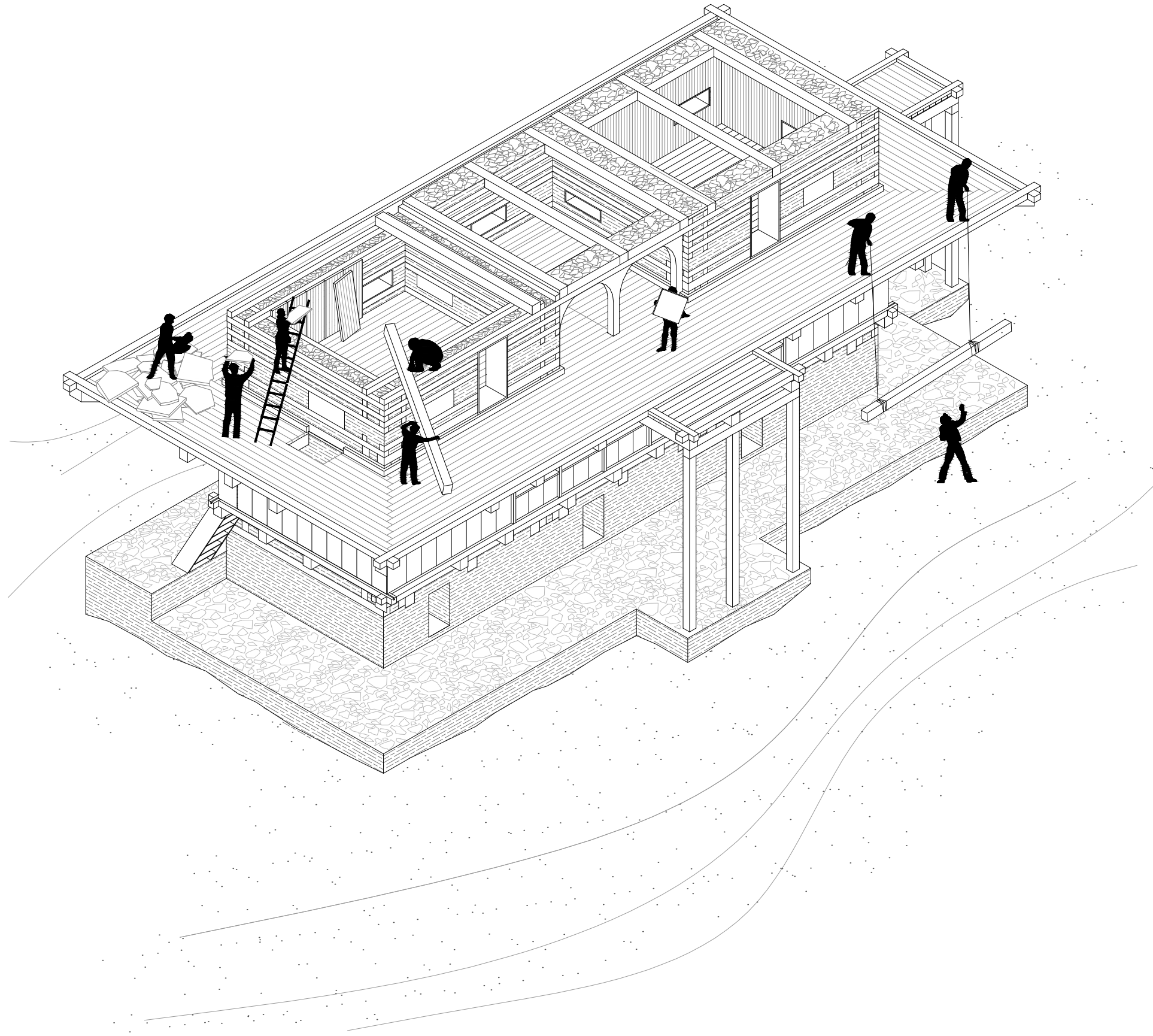
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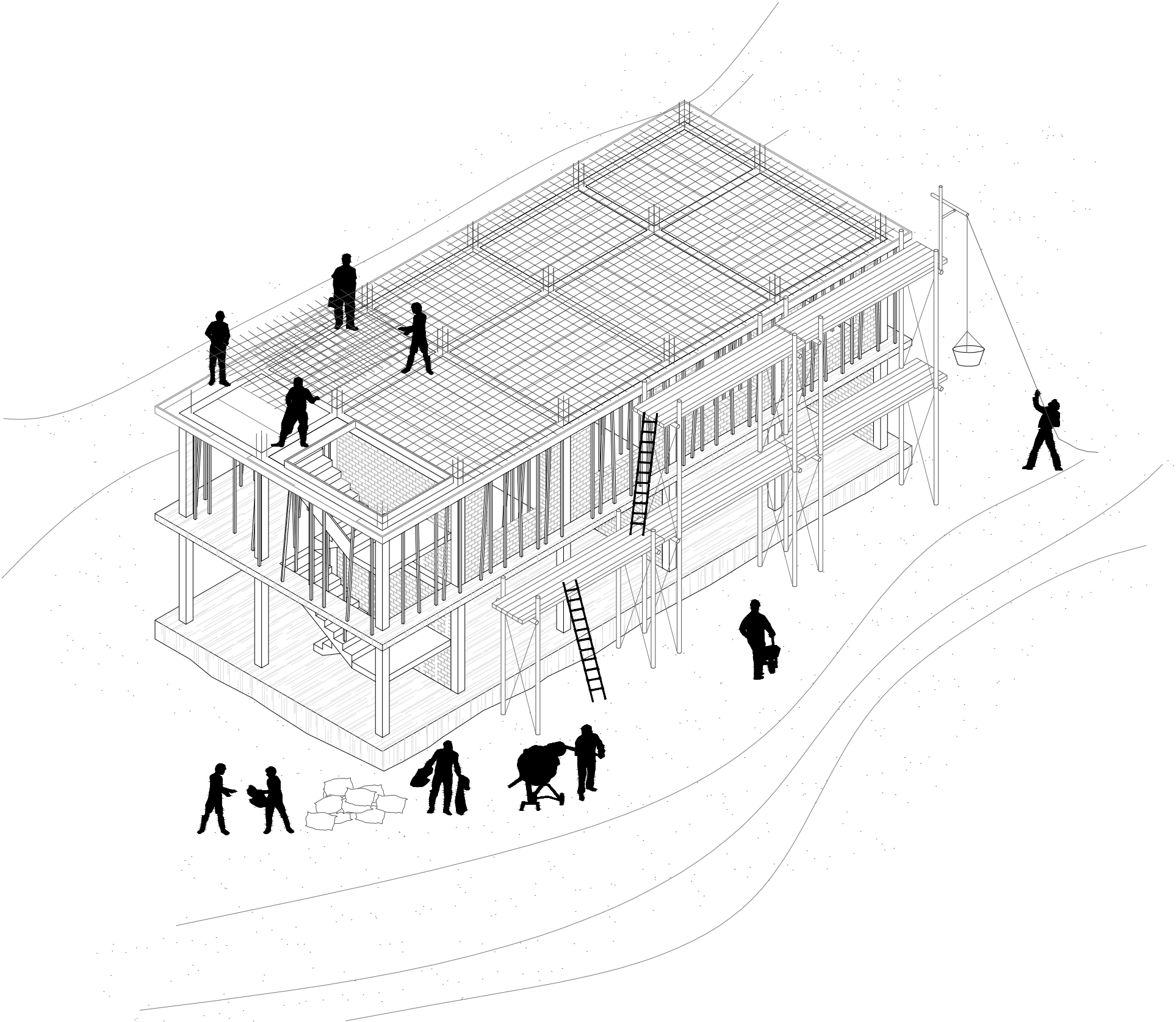
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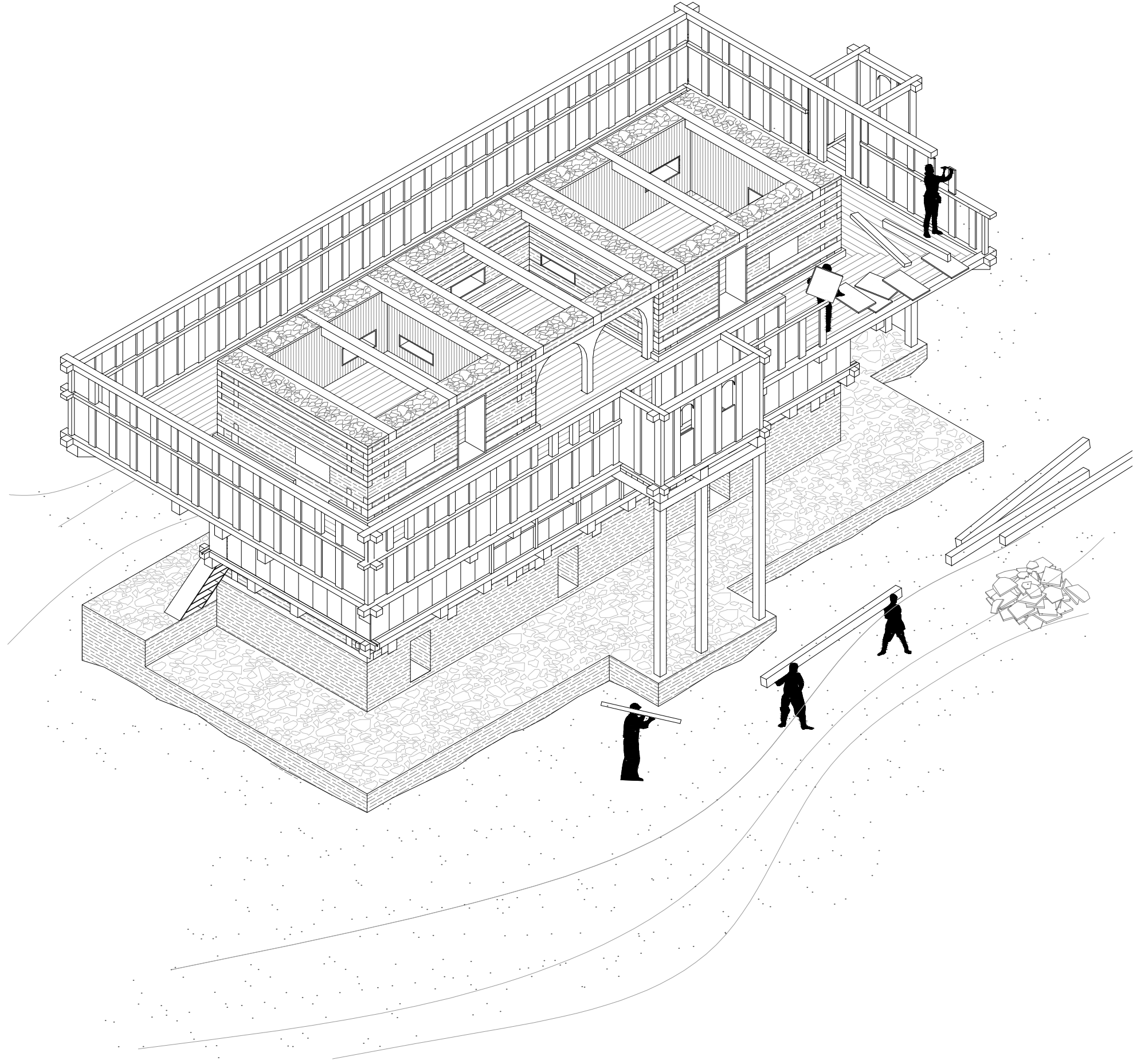
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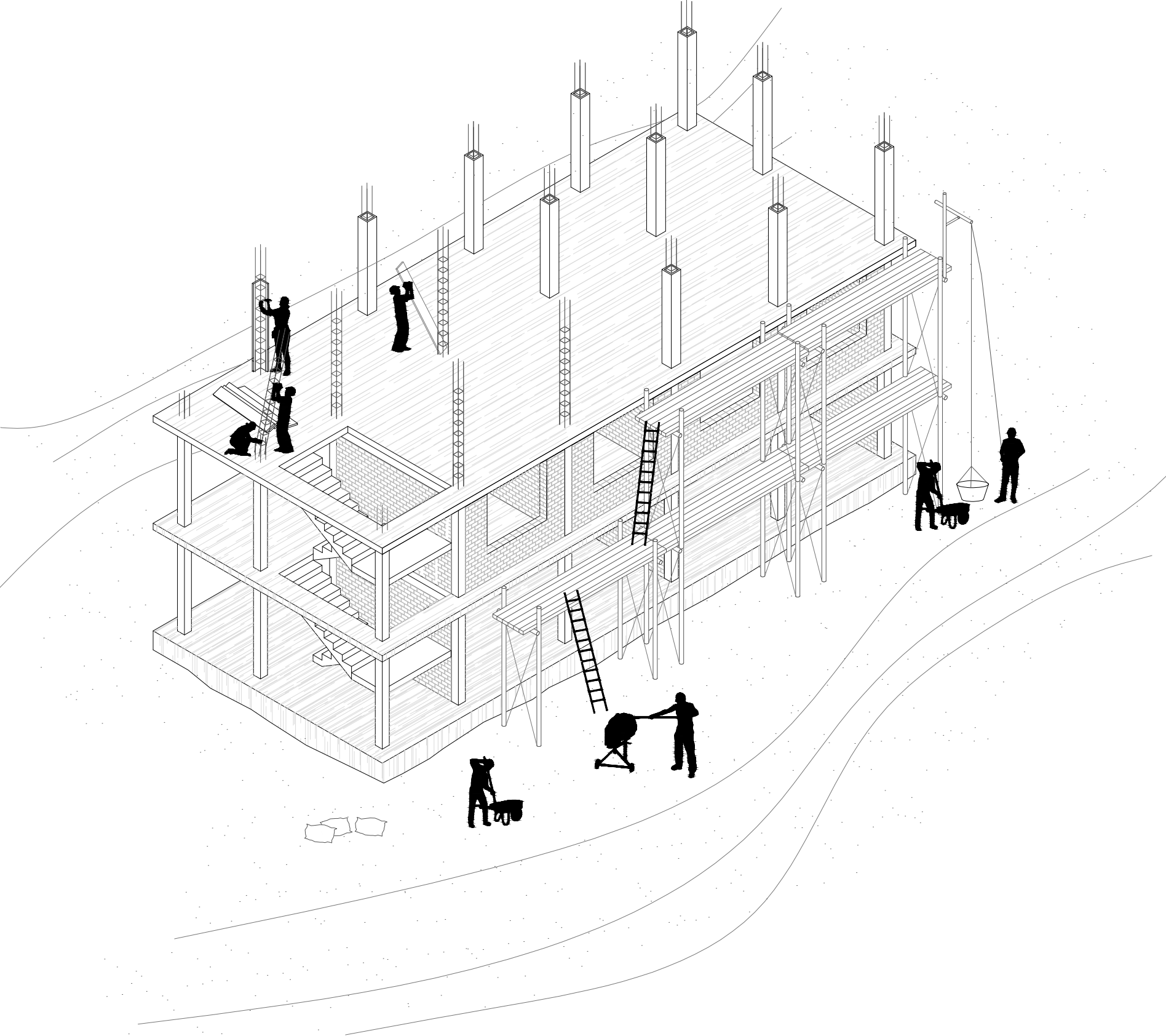
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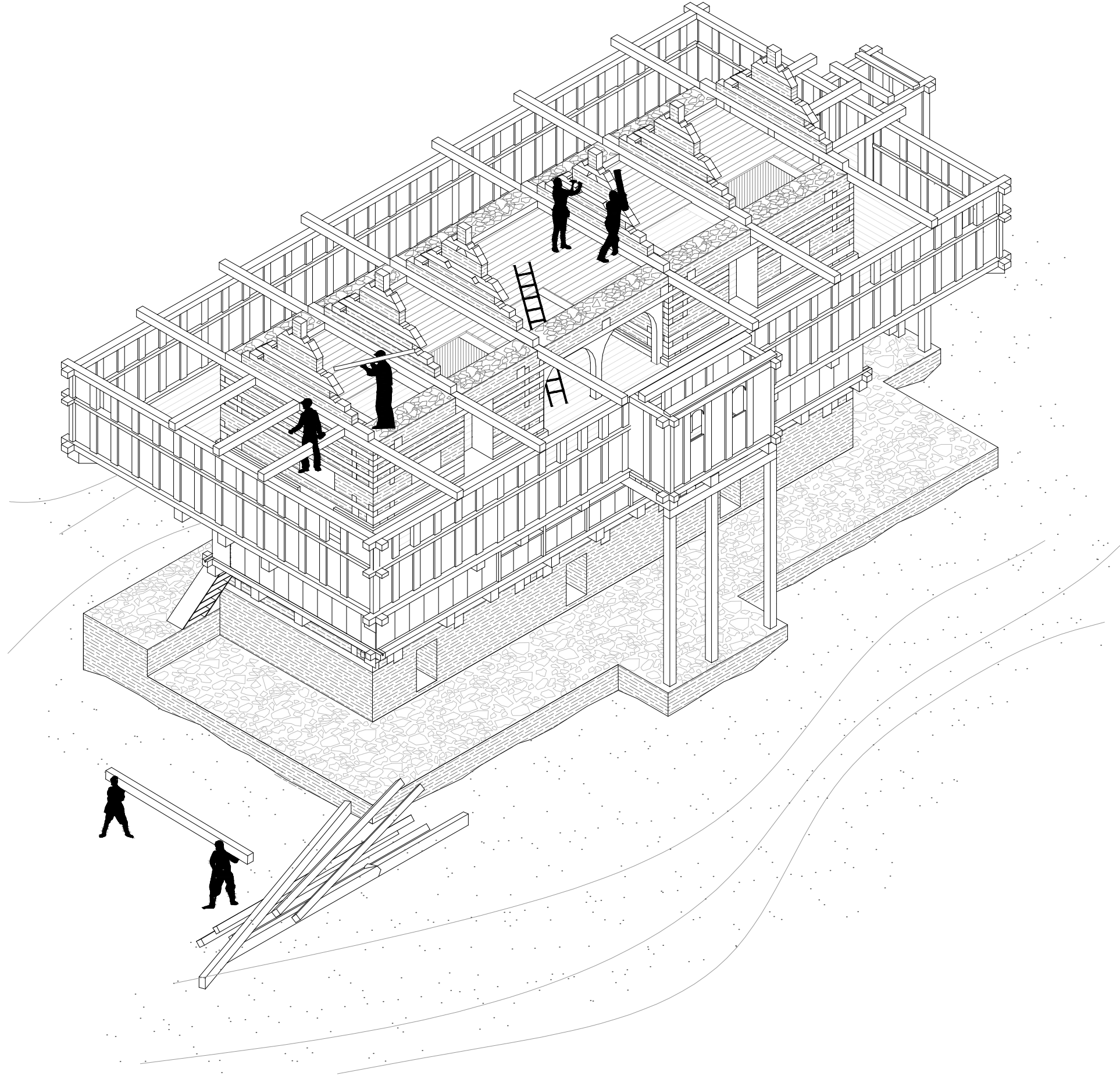
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ARCHITECTURE



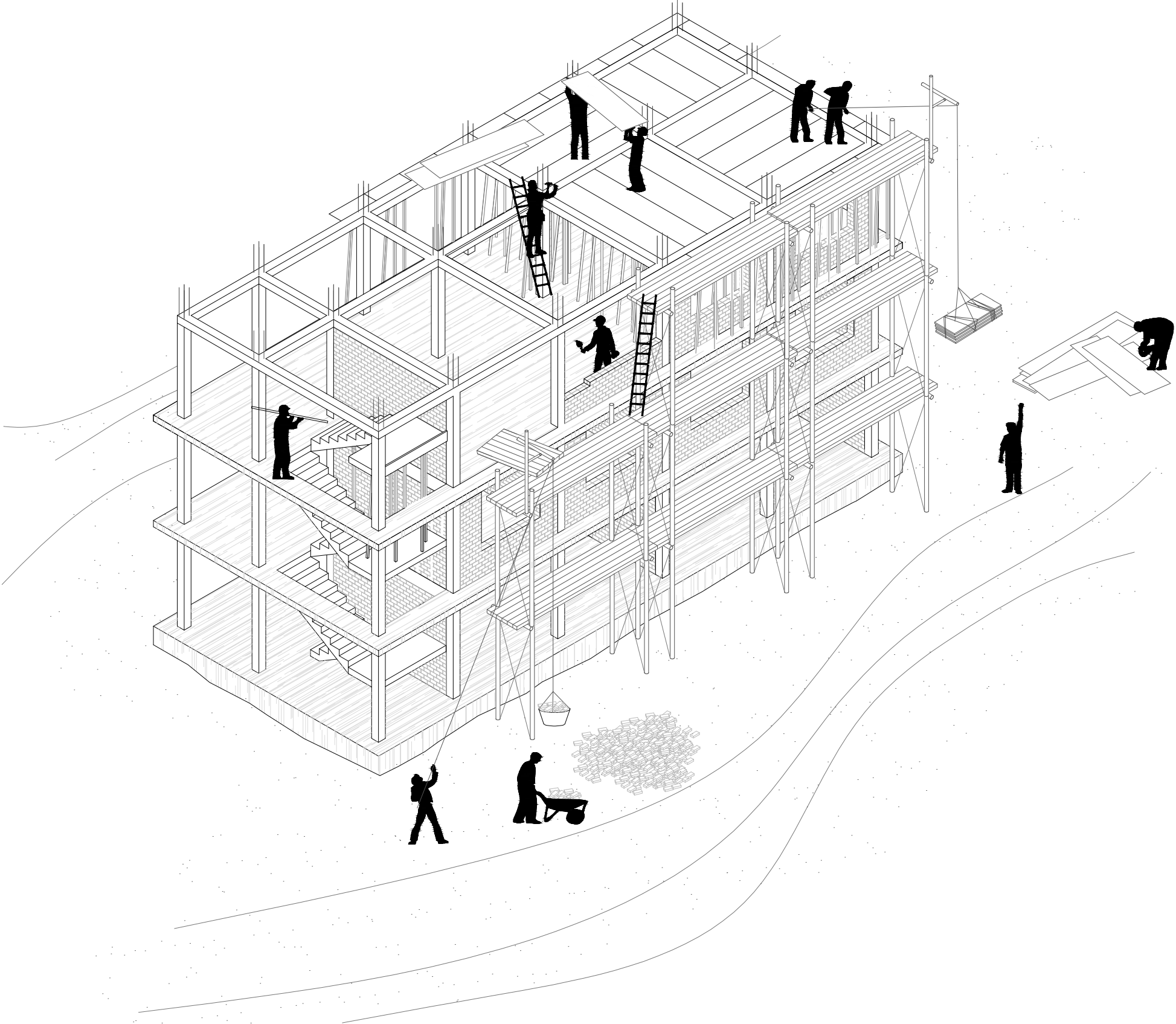
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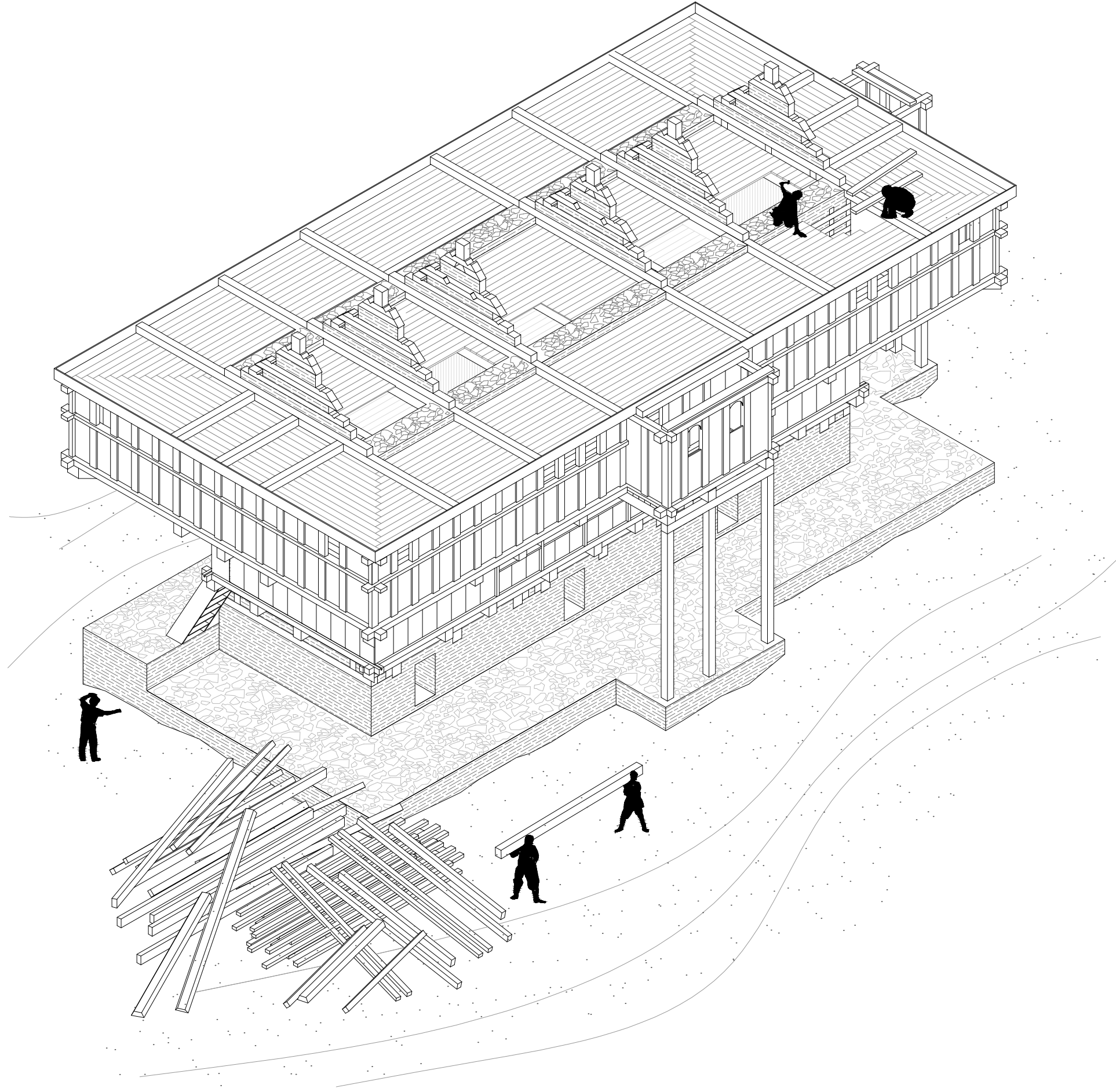
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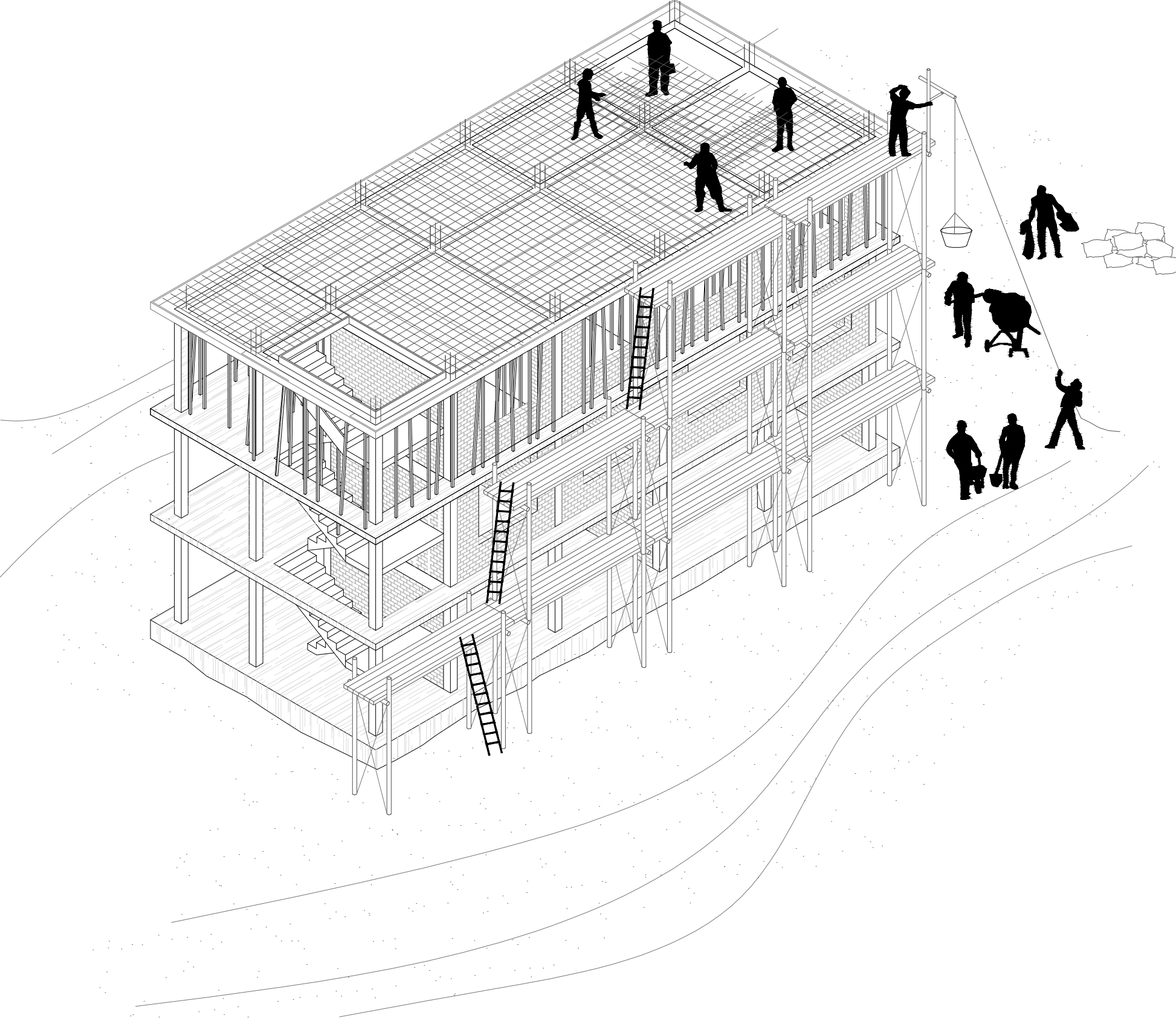
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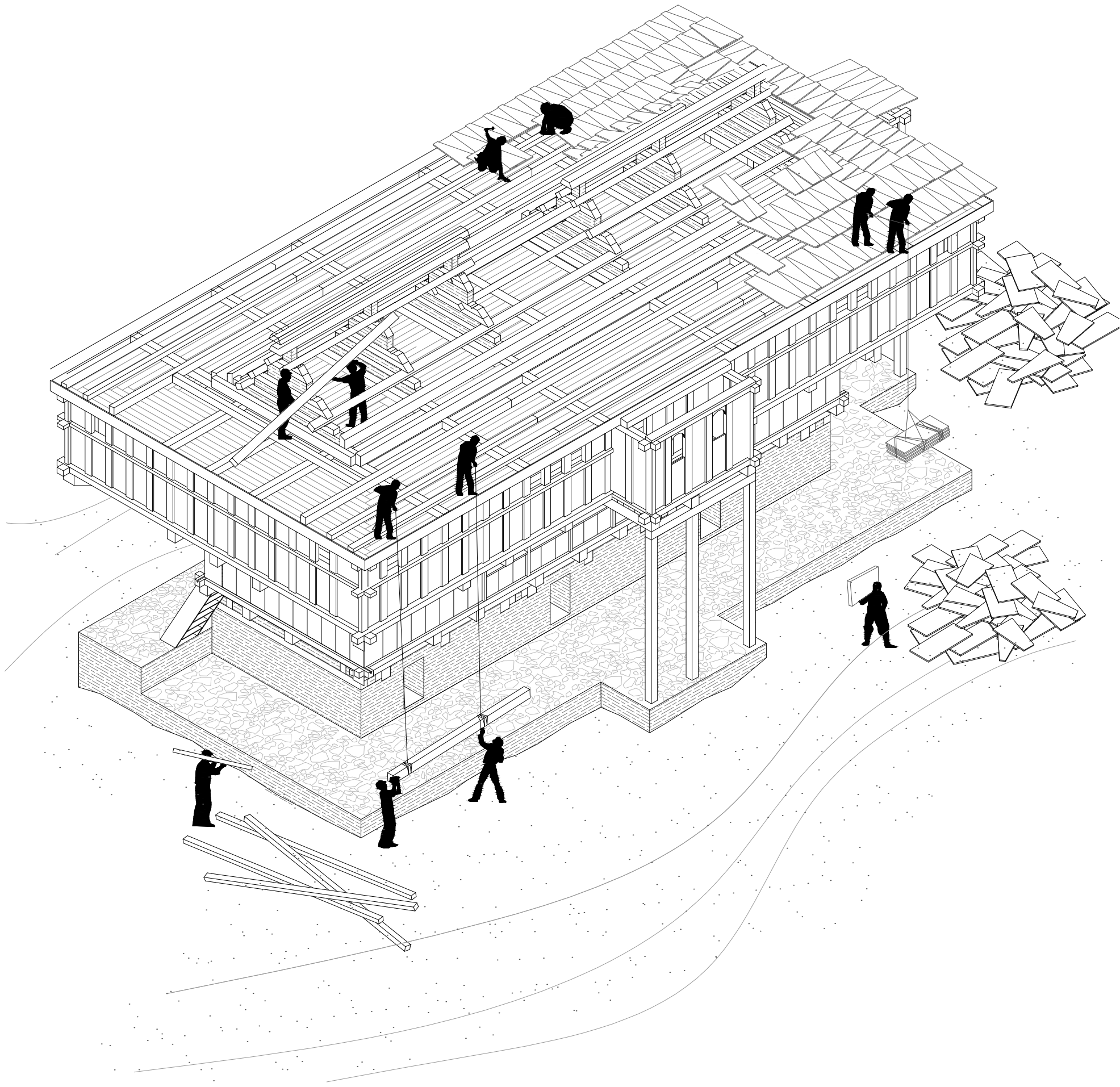
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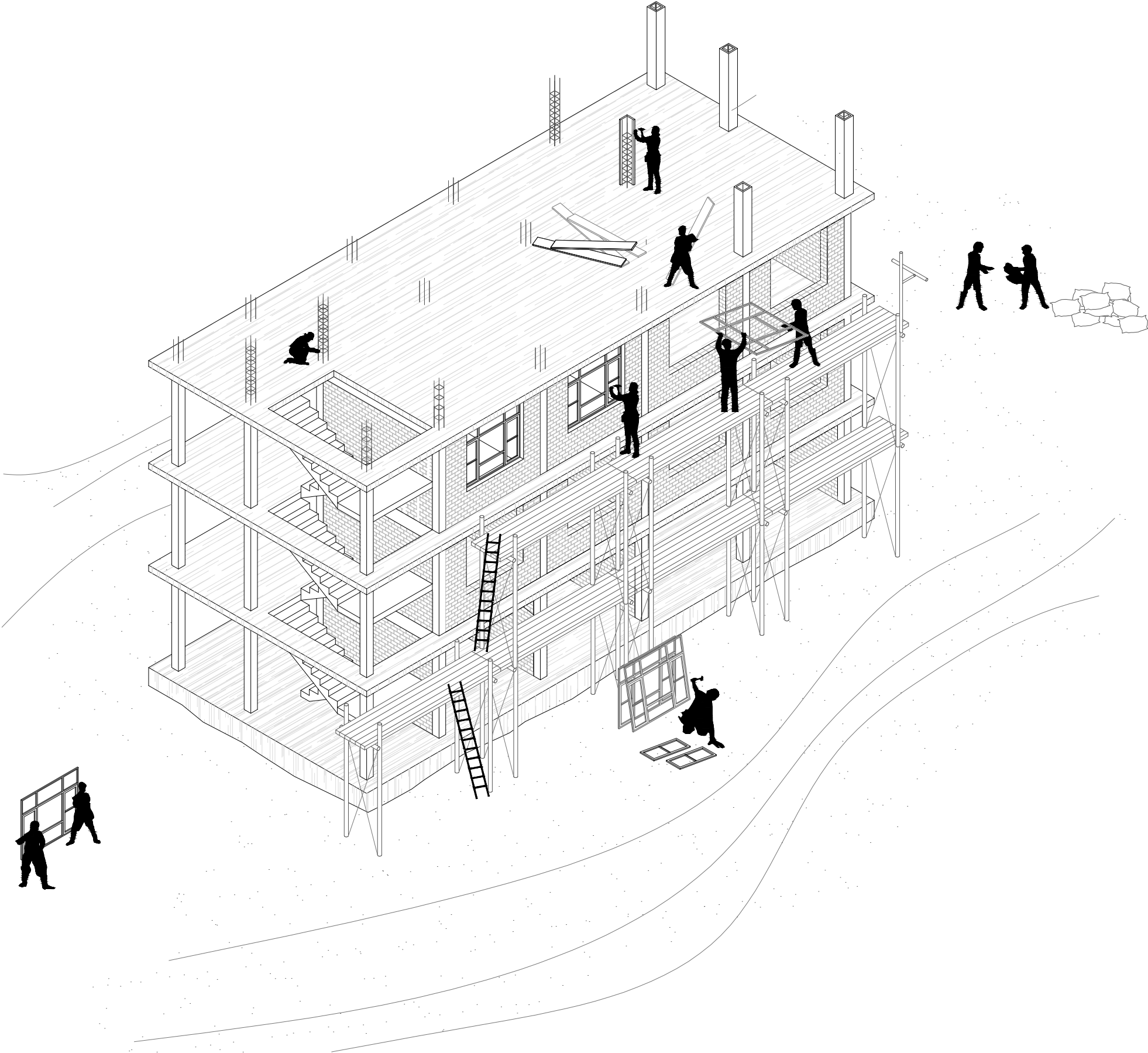
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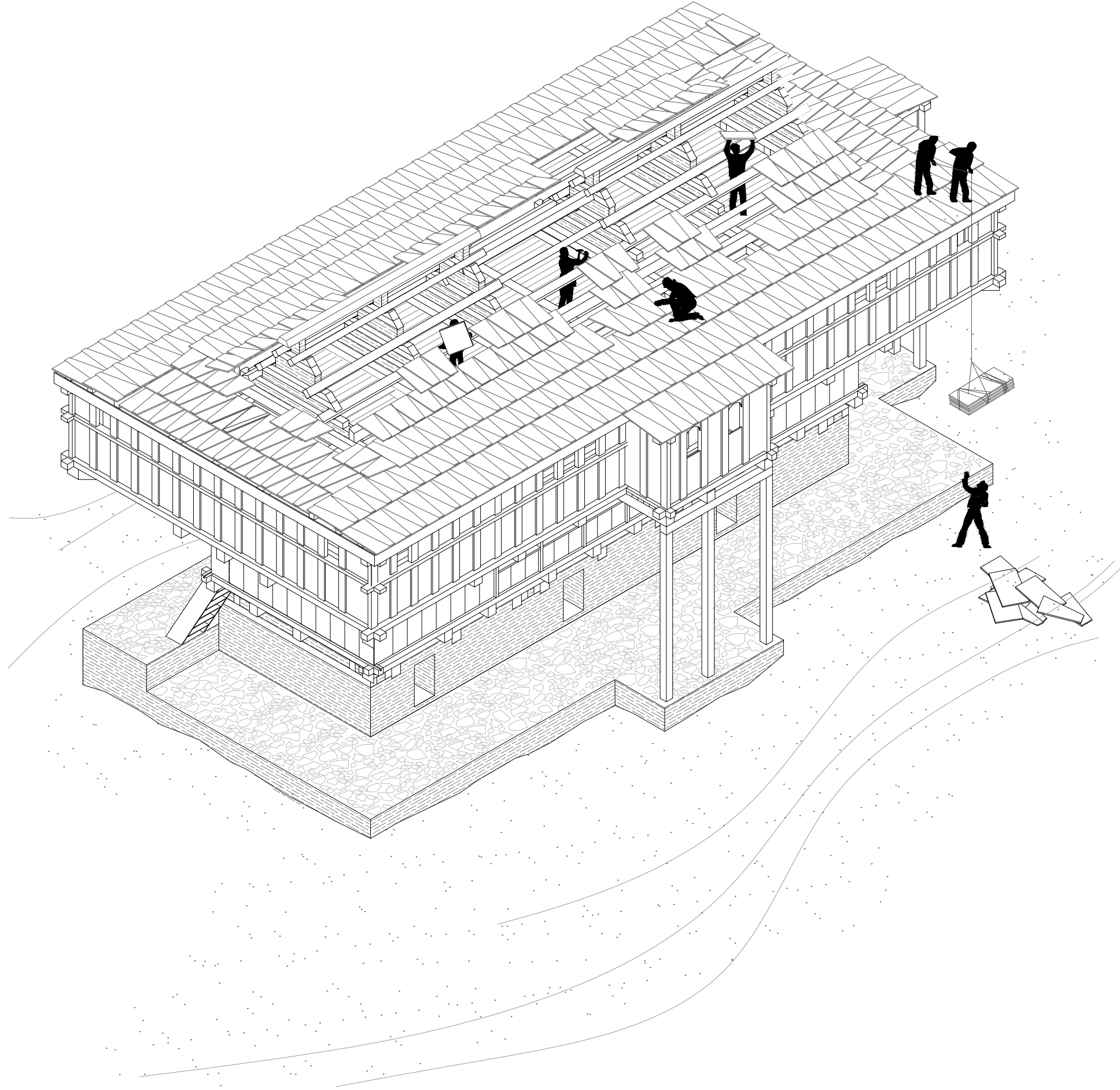
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ARCHITECTURE



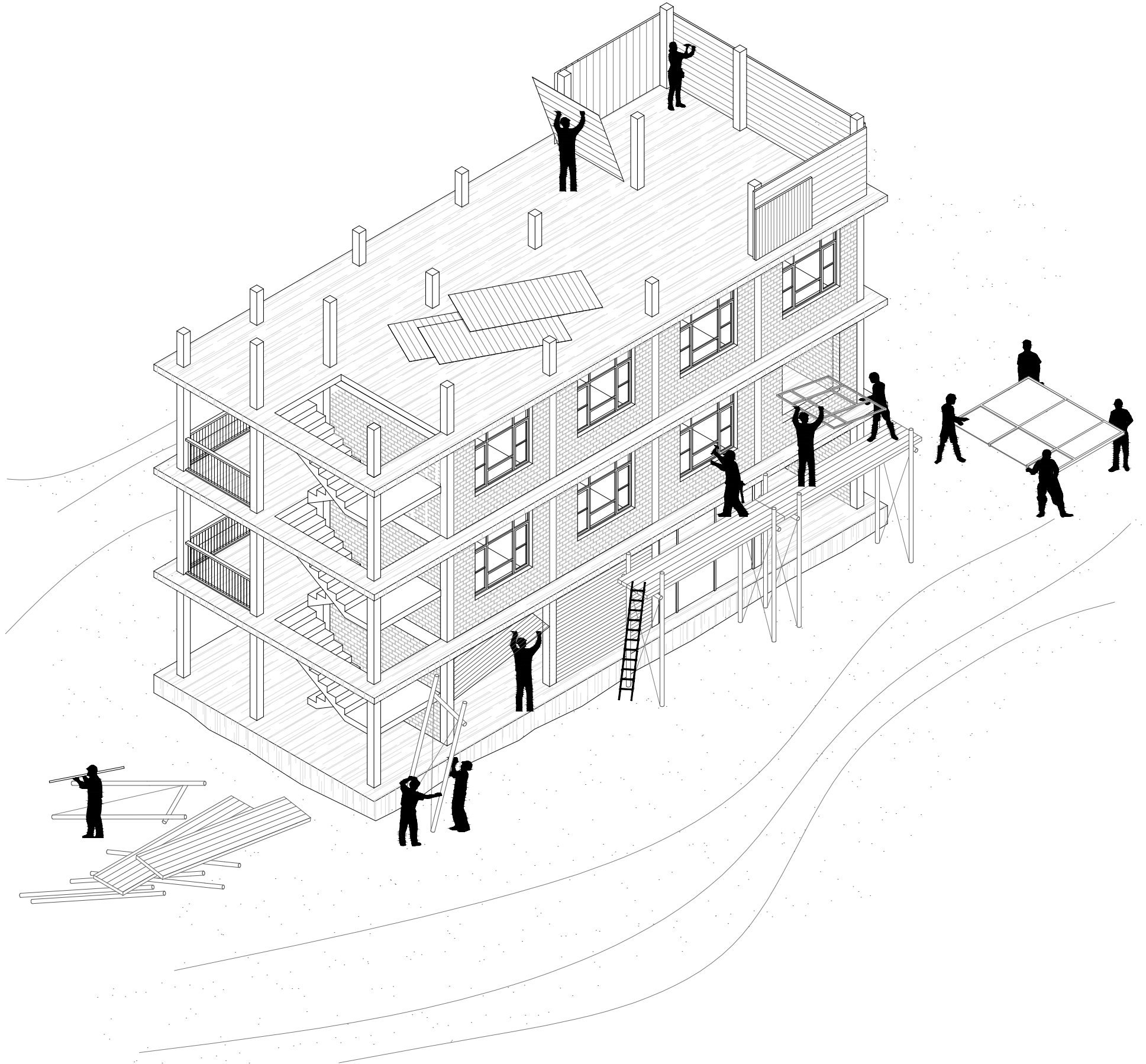
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ARCHITECTURE



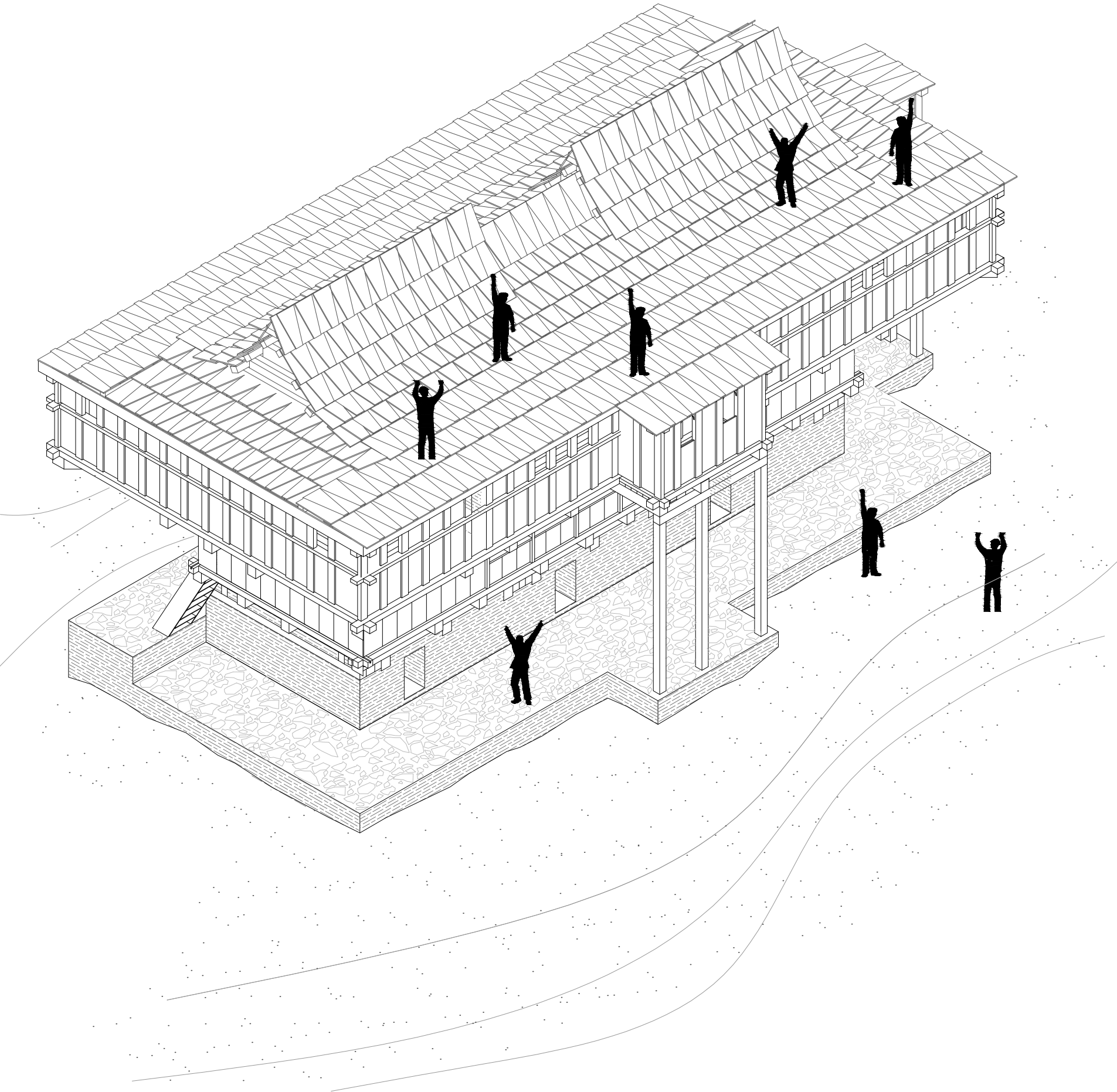
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ARCHITECTURE



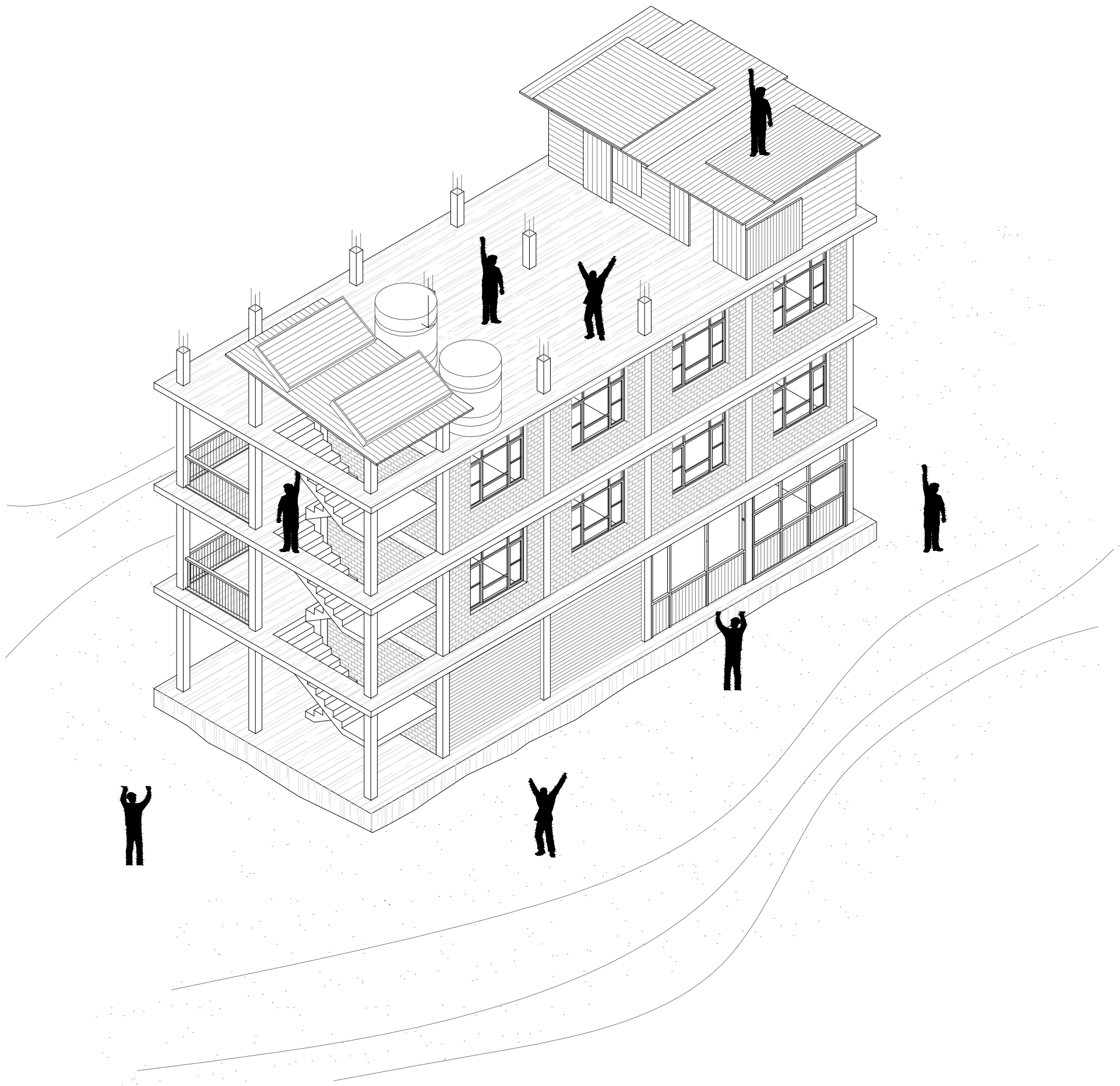
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ARCHITECTURE



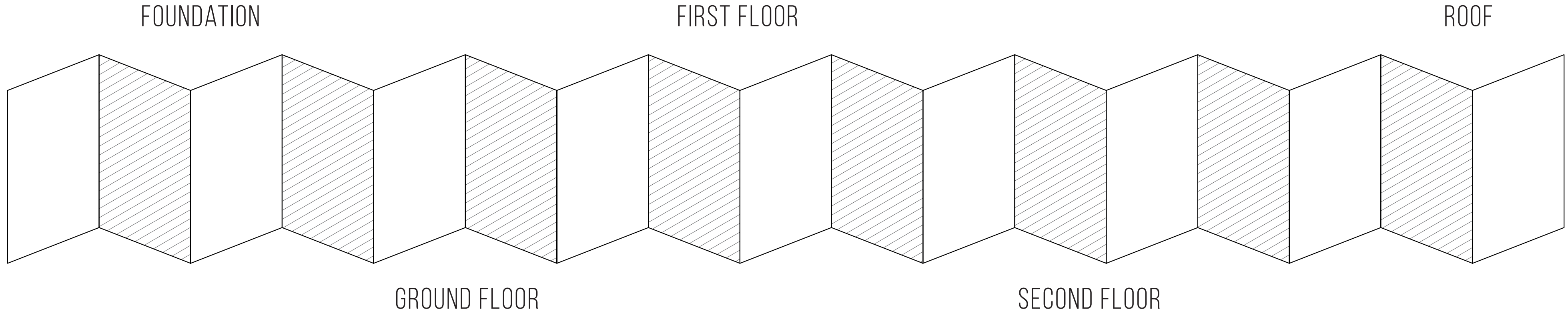
GRAND VERNACULAR
ARCHITECTURE



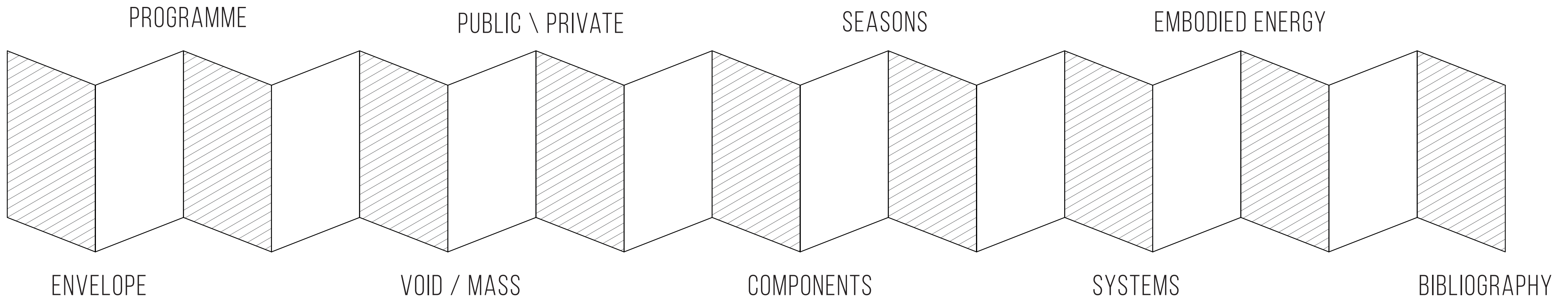
ORDINARY VERNACULAR
ARCHITECTURE



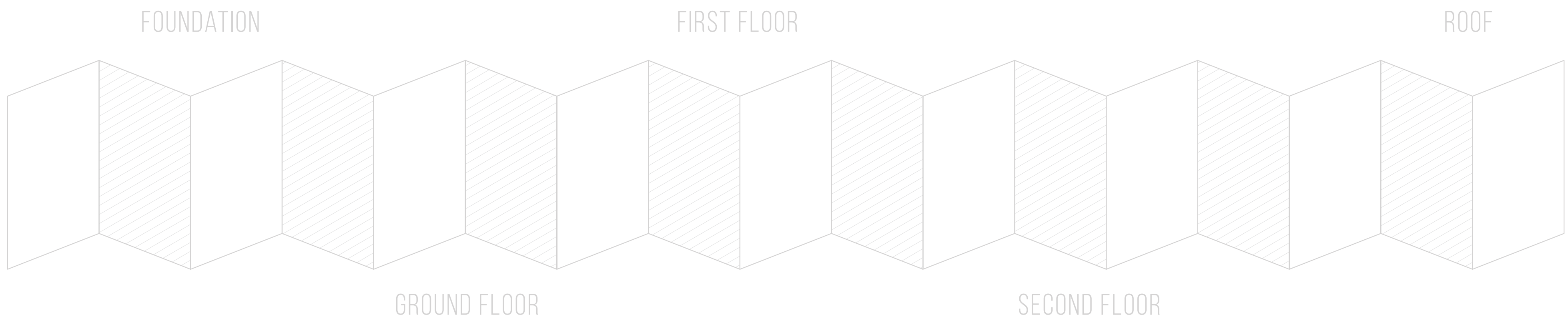
**SIDE A
CONSTRUCTION
PROCESS**



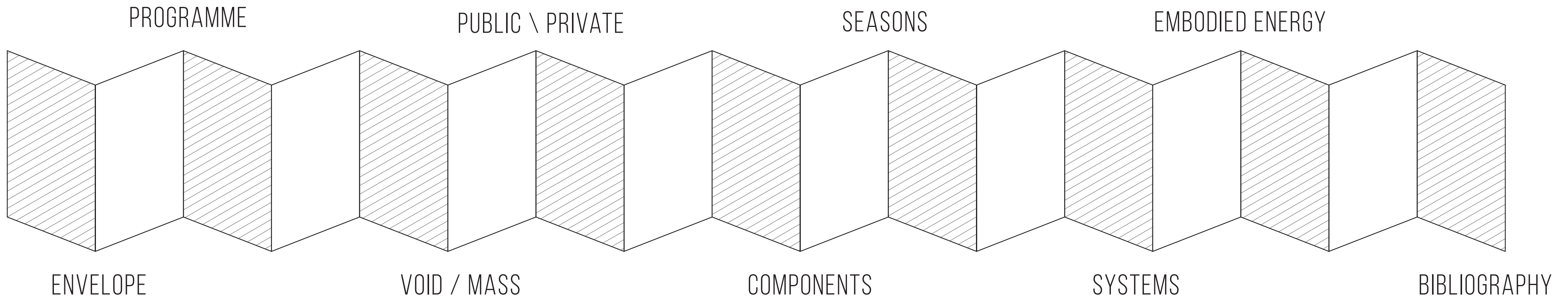
**SIDE B
BUILDING
ANALYSIS**



SIDE A
CONSTRUCTION
PROCESS

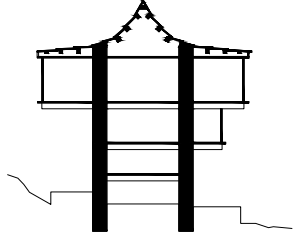


SIDE B
BUILDING
ANALYSIS





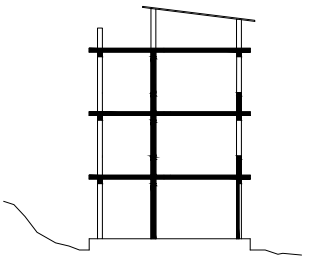
RESULTS



A. GRAND VERNACULAR

342 M²

(70% COVERED OUTSIDE + 30% INTERIOR)



B. ORDINARY VERNACULAR

331 M²

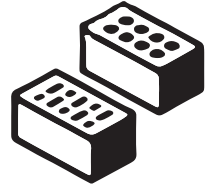
(30% COVERED OUTSIDE + 70% INTERIOR)

A ≈ B

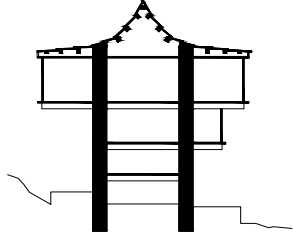
RESULTS



SPACES



MATERIALS



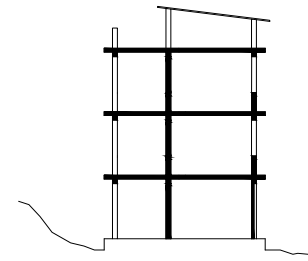
A. GRAND VERNACULAR

342 M²

(70% COVERED OUTSIDE + 30% INTERIOR)

630 M³

(144M³ WOOD + 490M³ STONE)



B. ORDINARY VERNACULAR

331 M²

(30% COVERED OUTSIDE + 70% INTERIOR)

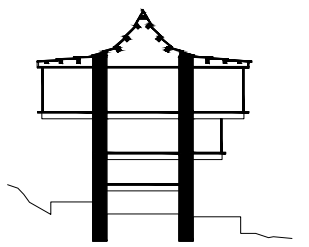
290 M³

(70M³ SAND + 140M³ AGGREGATE
+ 170M³ CEMENT + 0.5M³ STEEL + 61,5M³ BRICKS)

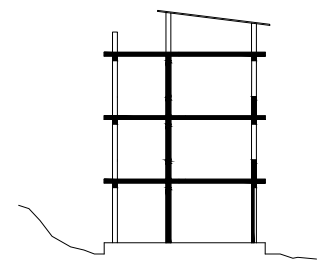
A ≈ B

A ≈ 2B

RESULTS



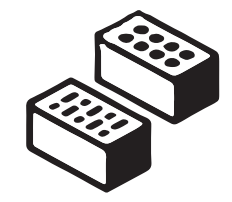
A. GRAND VERNACULAR



B. ORDINARY VERNACULAR



SPACES



MATERIALS



EMBODIED ENERGY

342 M²

(70% COVERED OUTSIDE + 30% INTERIOR)

331 M²

(30% COVERED OUTSIDE + 70% INTERIOR)

630 M³

(144M³ WOOD + 490M³ STONE)

290 M³

(70M³ SAND + 140M³ AGGREGATE
+ 170M³ CEMENT + 0.5M³ STEEL + 61,5M³ BRICKS)

325400 MJ

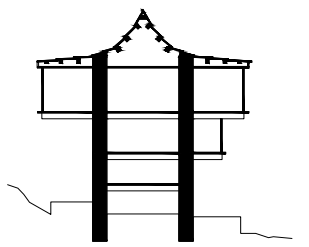
631300 MJ

A ≈ B

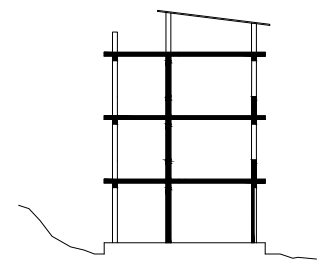
A ≈ 2B

A ≈ 1/2 B

RESULTS



A. GRAND VERNACULAR



B. ORDINARY VERNACULAR

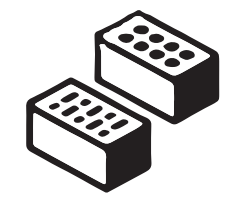


SPACES

342 M²
(70% COVERED OUTSIDE + 30% INTERIOR)

331 M²
(30% COVERED OUTSIDE + 70% INTERIOR)

A ≈ B



MATERIALS

630 M³
(144M³ WOOD + 490M³ STONE)

290 M³
(70M³ SAND + 140M³ AGGREGATE
+ 170M³ CEMENT + 0.5M³ STEEL + 61,5M³ BRICKS)

A ≈ 2B



EMBODIED ENERGY

325400 MJ

631300 MJ

A ≈ 1/2 B



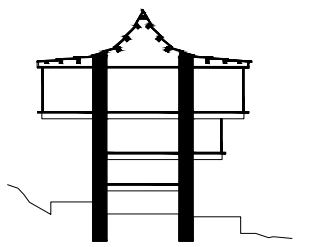
CARBON FOOTPRINT

115000 KGco₂

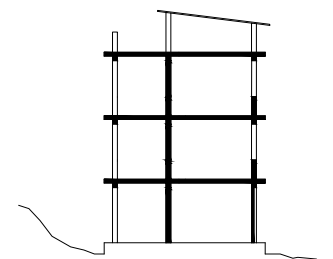
80000 KGco₂

A ≈ B + 1/2 B

RESULTS



A. GRAND VERNACULAR



B. ORDINARY VERNACULAR

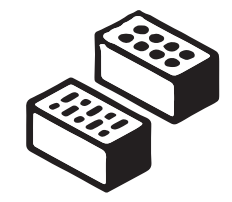


SPACES

342 M²
(70% COVERED OUTSIDE + 30% INTERIOR)

331 M²
(30% COVERED OUTSIDE + 70% INTERIOR)

A ≈ B

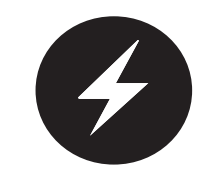


MATERIALS

630 M³
(144M³ WOOD + 490M³ STONE)

290 M³
(70M³ SAND + 140M³ AGGREGATE
+ 170M³ CEMENT + 0.5M³ STEEL + 61,5M³ BRICKS)

A ≈ 2B

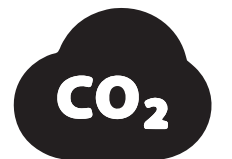


EMBODIED ENERGY

325400 MJ

631300 MJ

A ≈ 1/2 B



CARBON FOOTPRINT

115000 KGco₂

80000 KGco₂

A ≈ B + 1/2 B



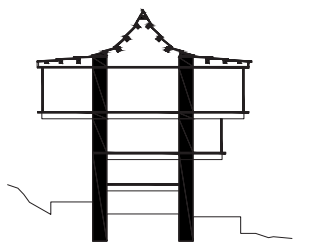
CLIMATE

U_{HORIZ} = 0.24 W/M²K

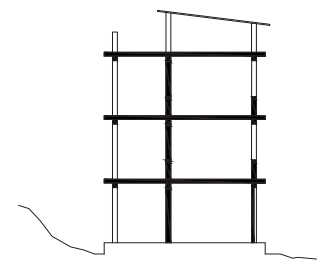
U_{HORIZ} = 2.00 W/M²K

U_A ≈ 1/8 U_B

RESULTS



A. GRAND VERNACULAR



B. ORDINARY VERNACULAR

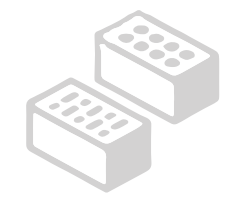


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342 M²
(70% COVERED OUTSIDE + 30% INTERIOR)

331 M²
(30% COVERED OUTSIDE + 70% INTERIOR)

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MATERIALS

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(144M³ WOOD + 490M³ STONE)

290 M³
(70M³ SAND + 140M³ AGGREGATE
+ 170M³ CEMENT + 0,5M³ STEEL + 61,5M³ BRICKS)

A ≈ 2B

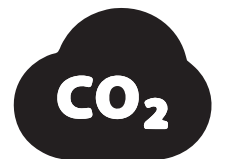


EMBODIED ENERGY

325400 MJ

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A ≈ 1/2 B



CARBON FOOTPRINT

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A ≈ B + 1/2 B



CLIMATE

U_{HORIZ} = 0.24 W/M²K

U_{HORIZ} = 2.00 W/M²K

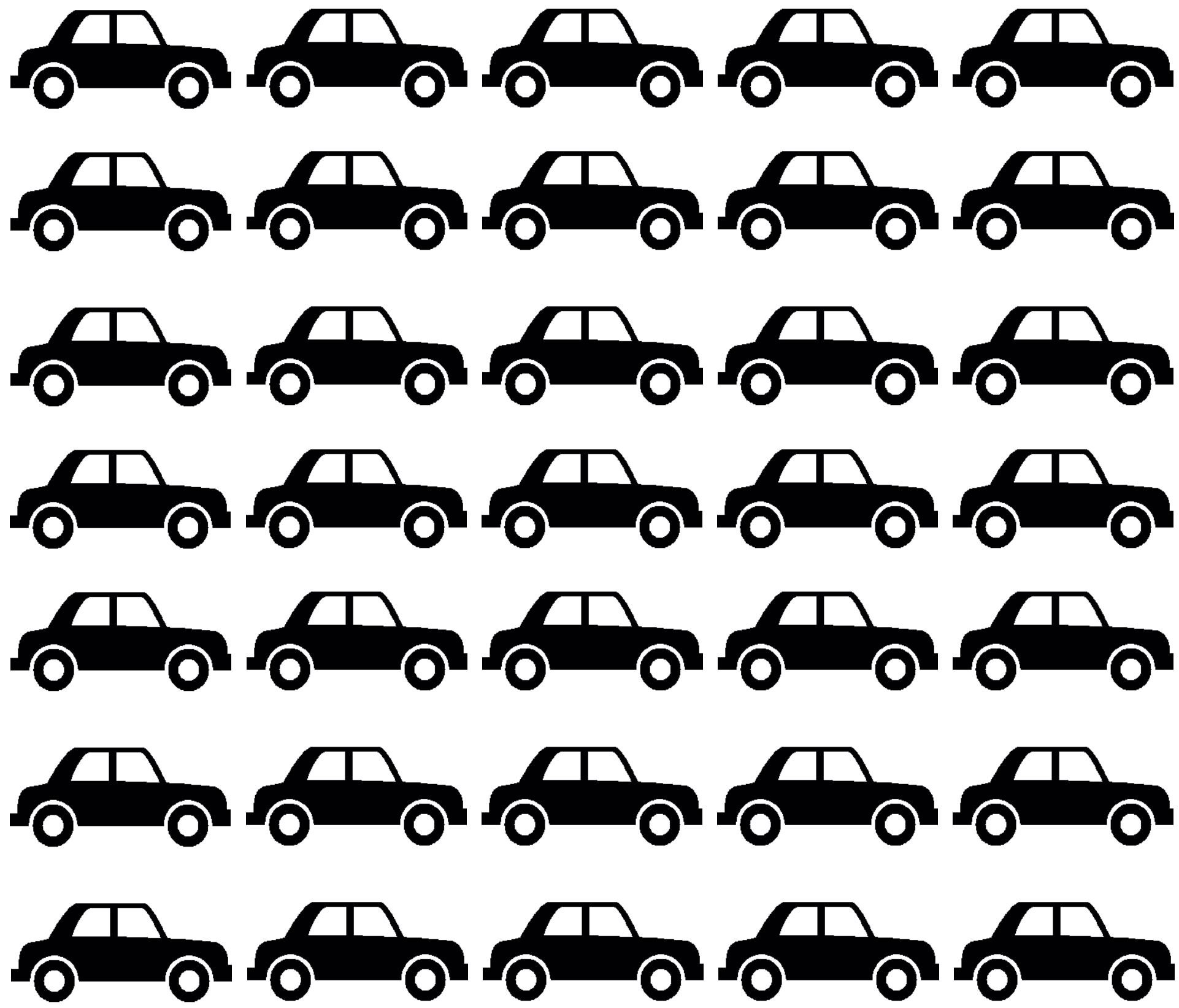
U_A ≈ 1/8 U_B



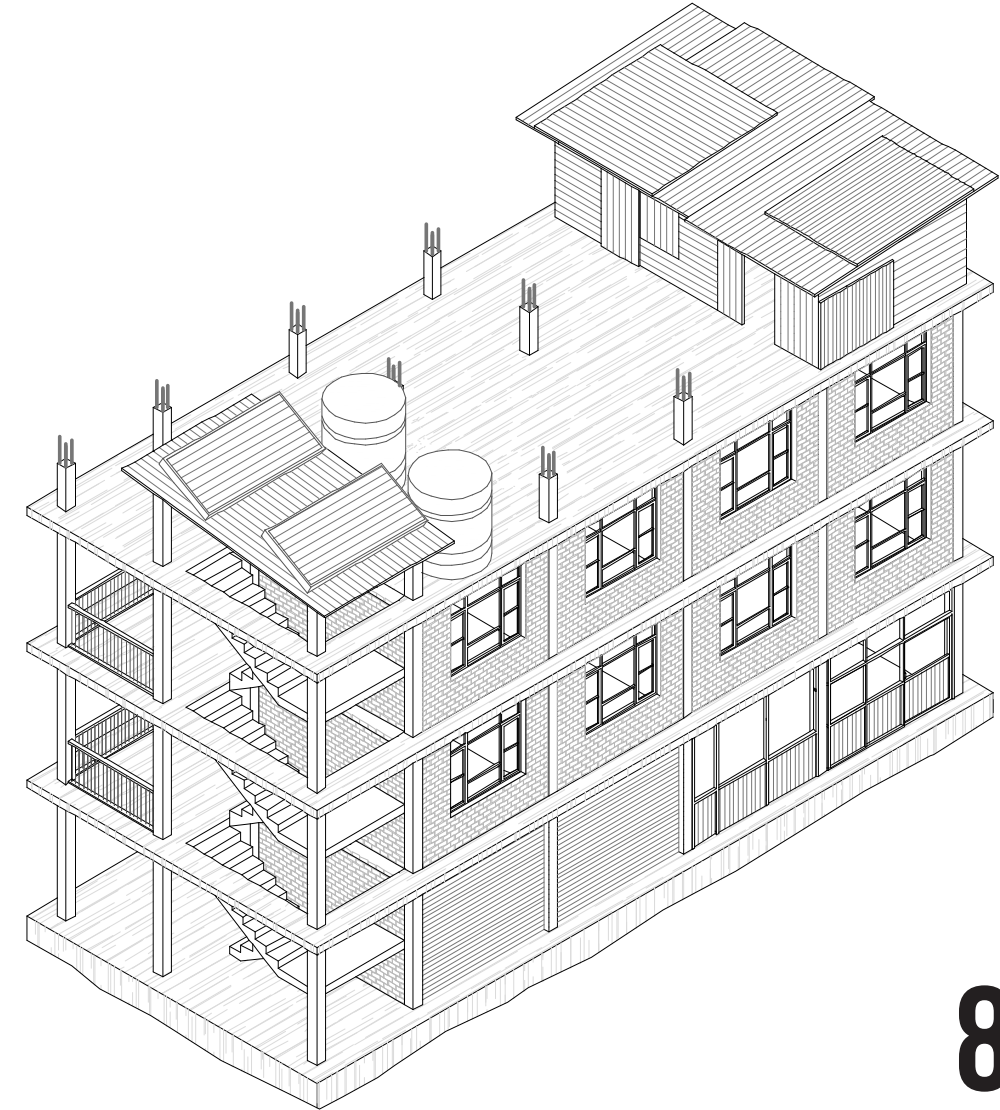
1 CAR X 12.500 KM

=

2.3 TON_{CO2}

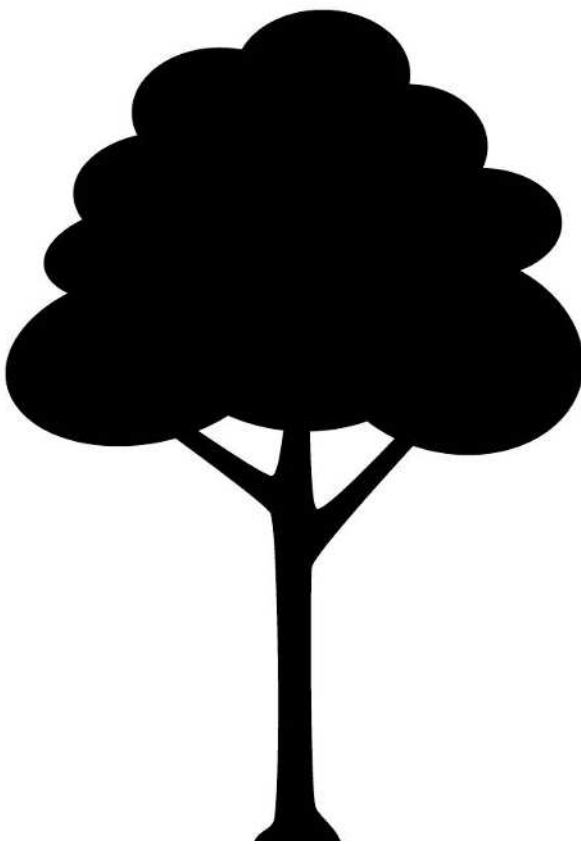


=



80 TON_{CO2}

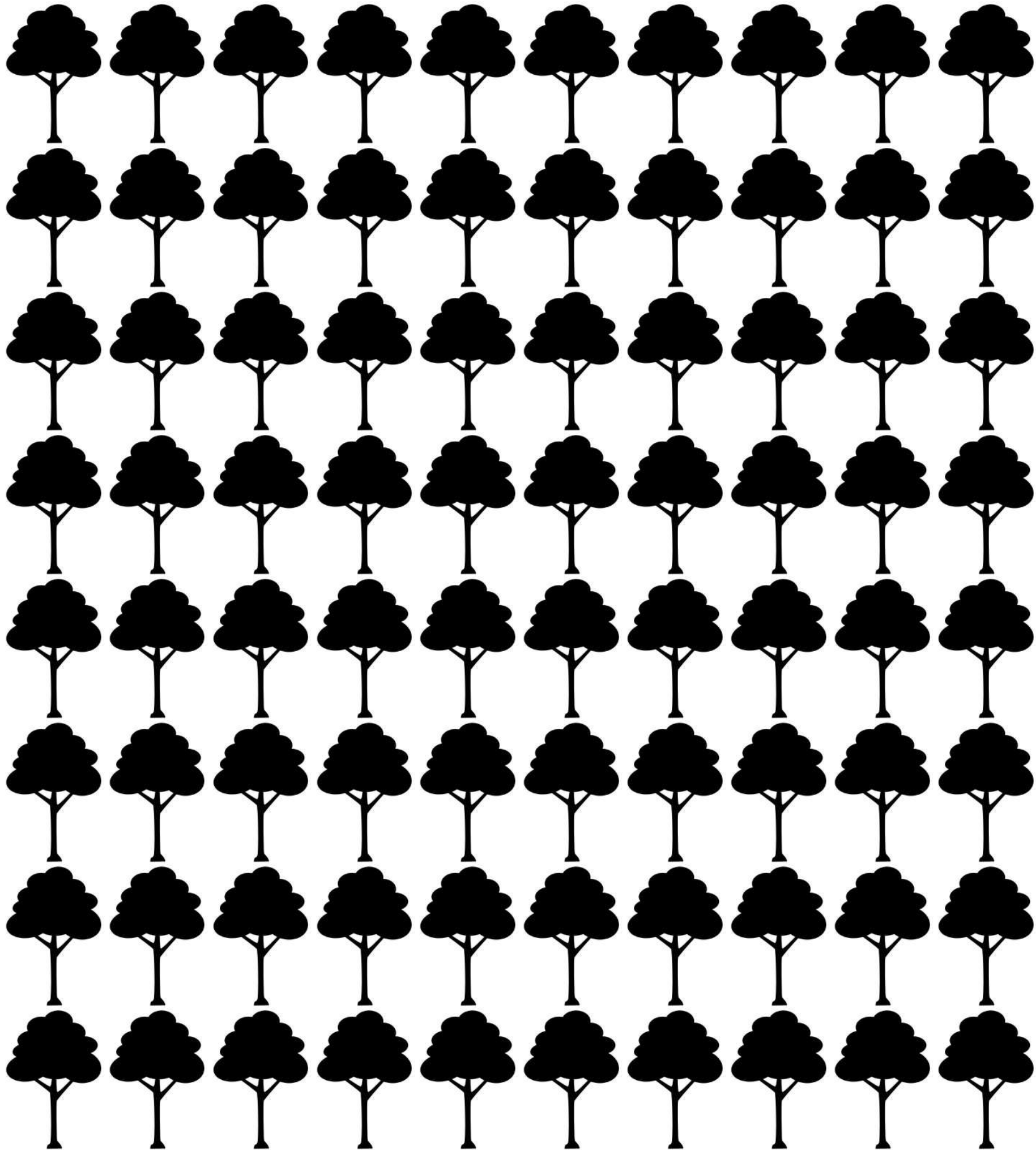
35 CAR X 12.500 KM



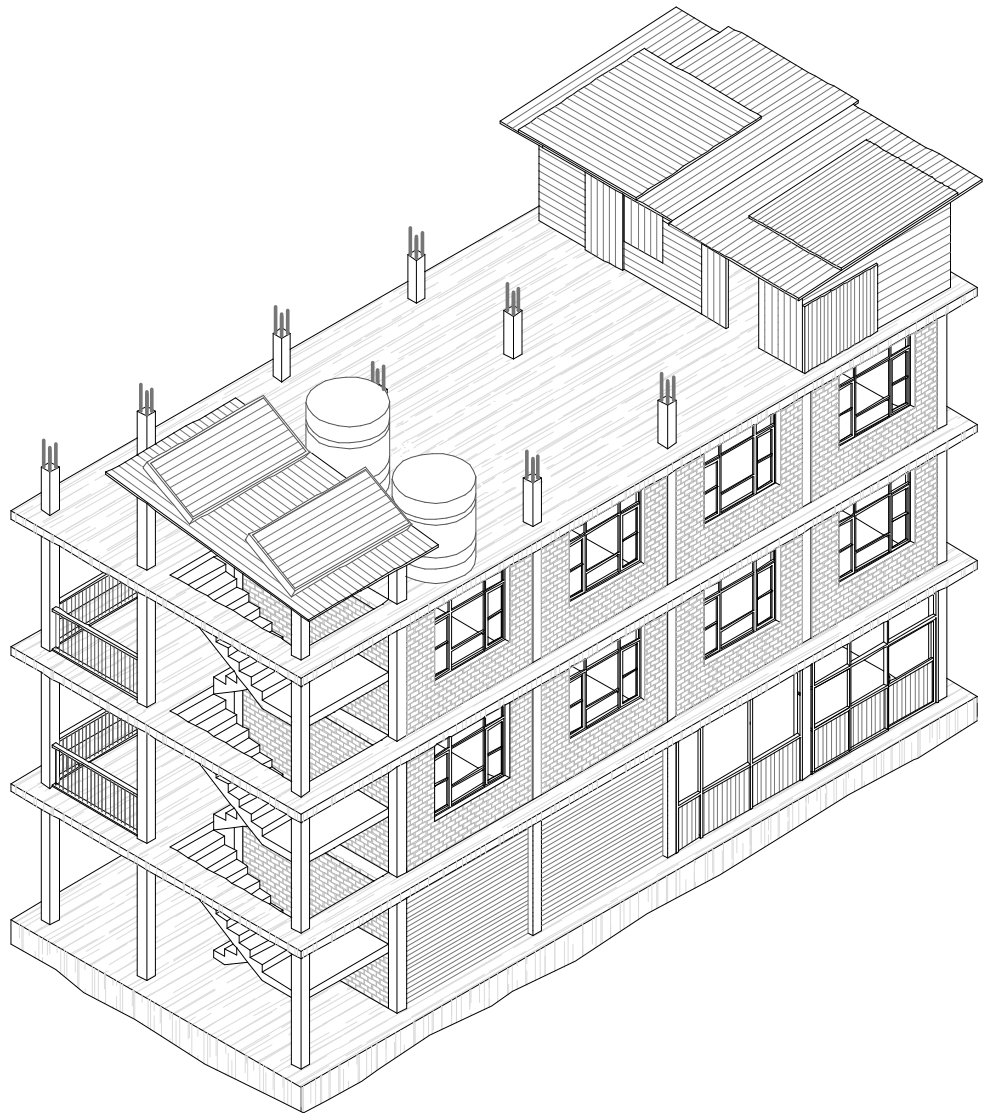
1 TREE X 50 YEARS

=

- 1 TONCO₂

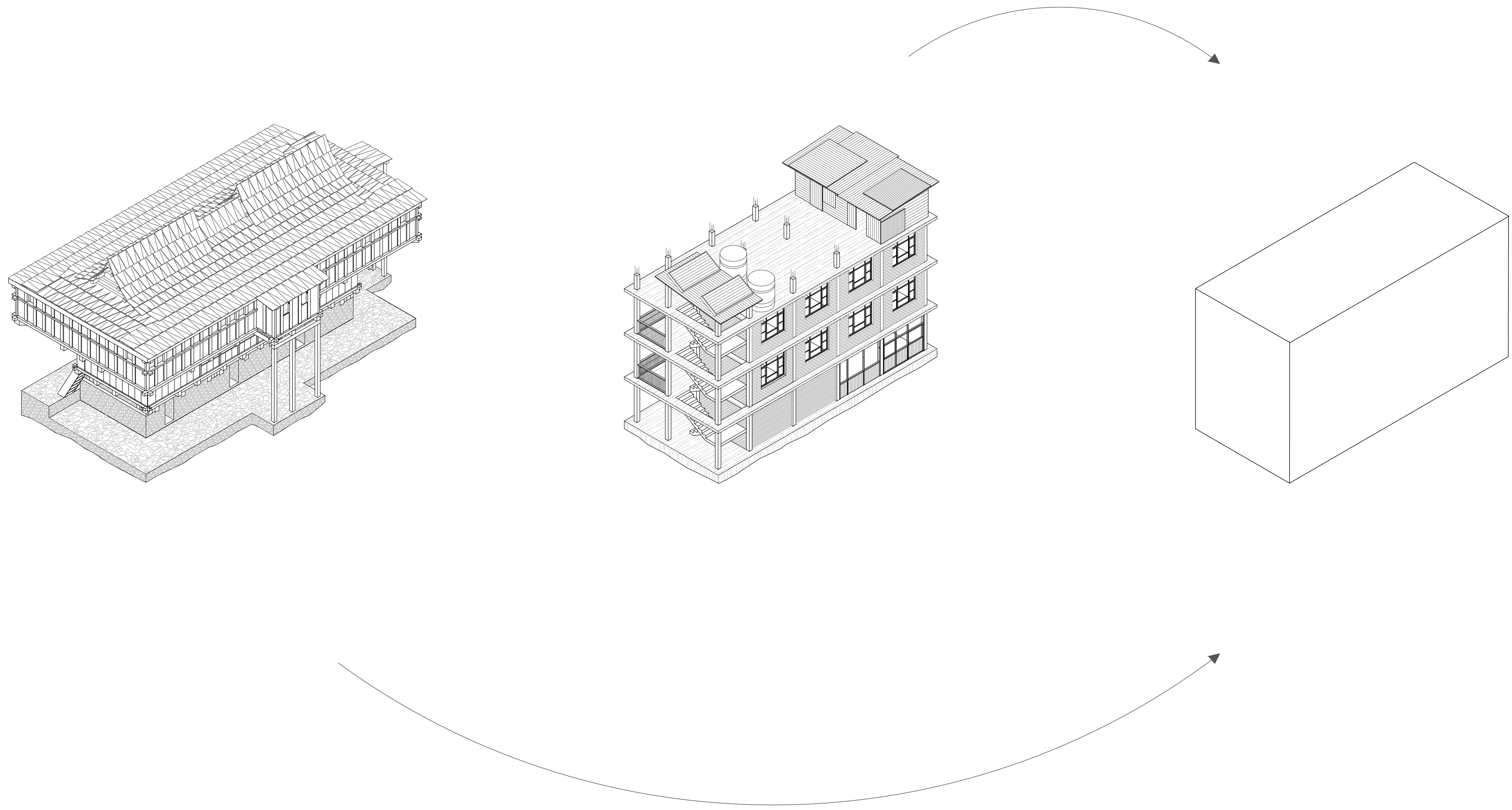


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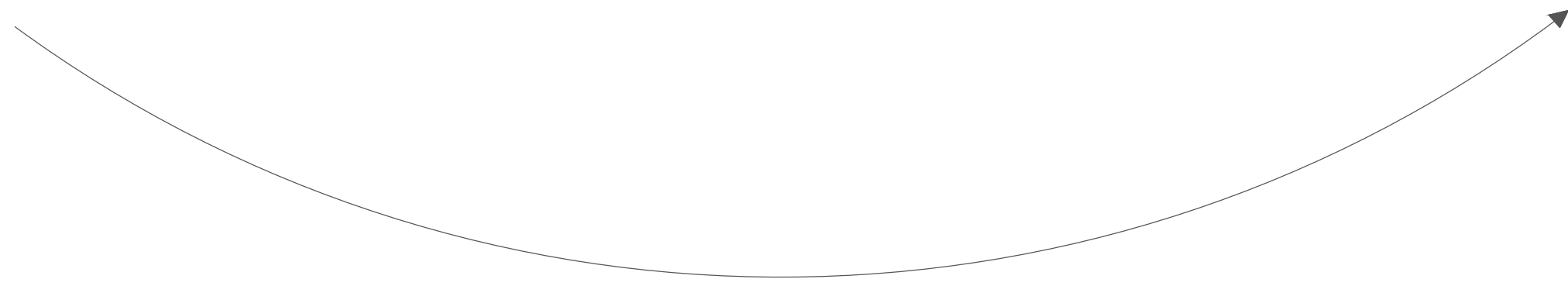
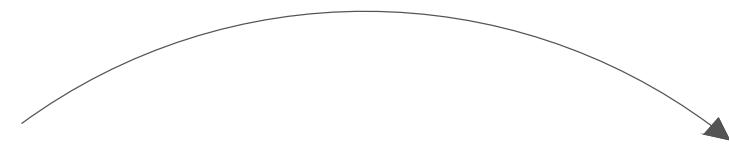
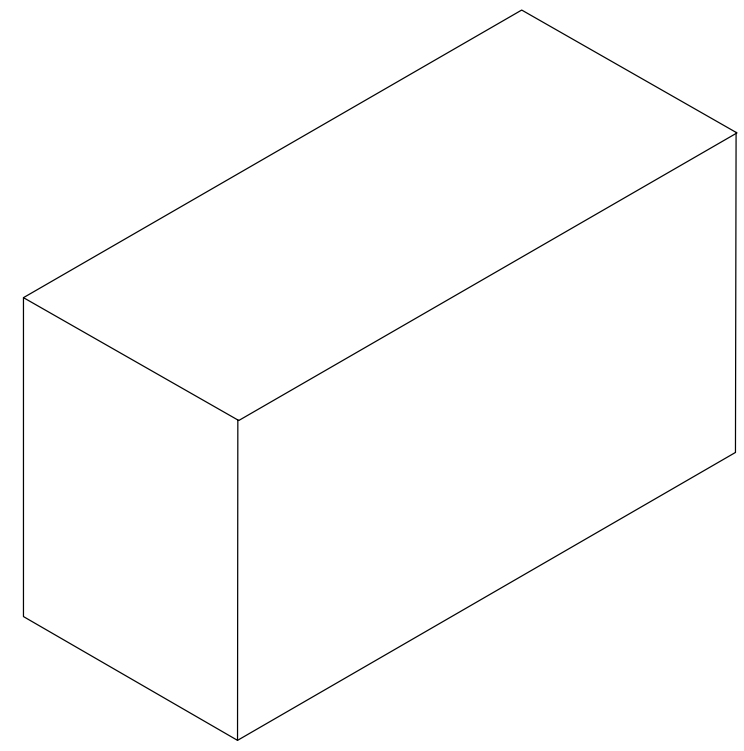
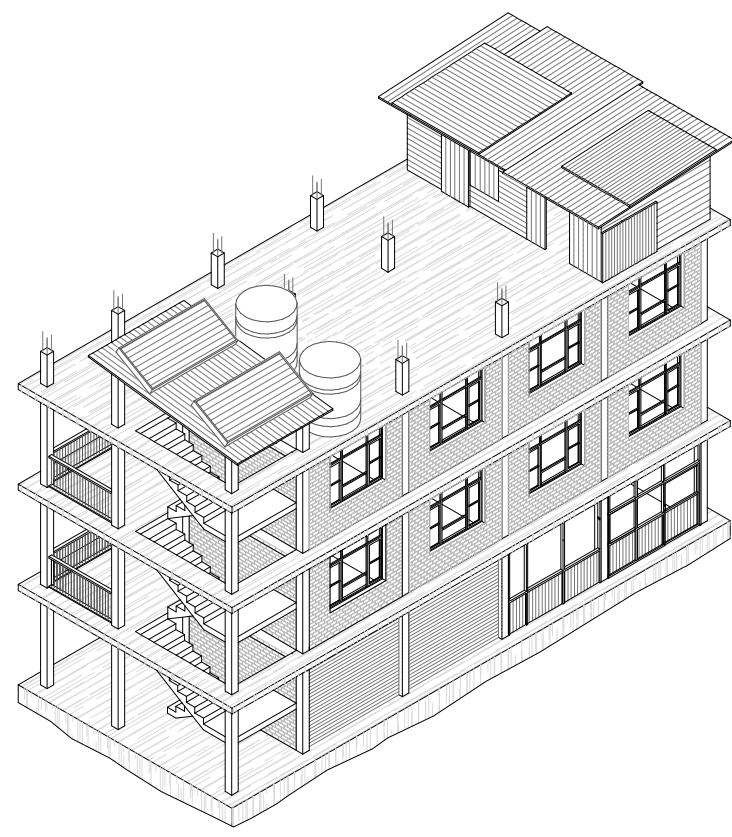
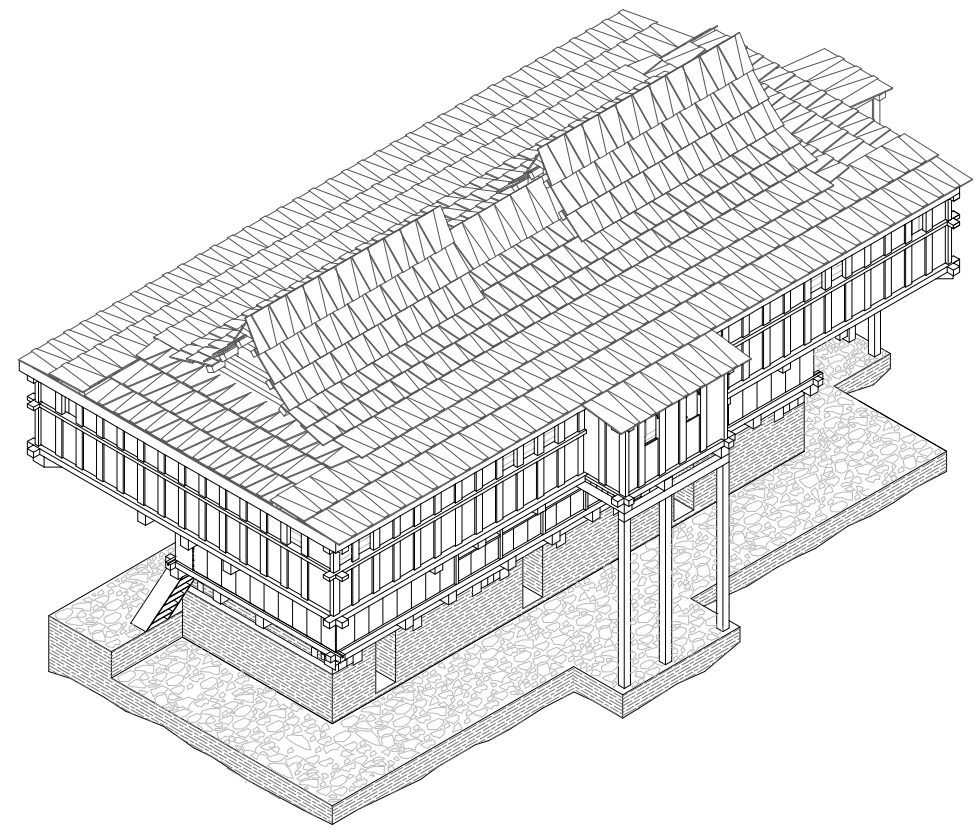


80 TREES X 50 YEARS

FROM RESEARCH TO DESIGN
TOWARDS A NEW CONTEMPORARY VERNACULAR



TO WHICH EXTENT THE **ARCHETYPICAL QUALITIES** OF THE HIMALAYAN **VERNACULAR ARCHITECTURE** SHOULD BE EMBODIED IN **NEW SUSTAINABLE DESIGNS**?



EXPLICITNESS

MODULARITY

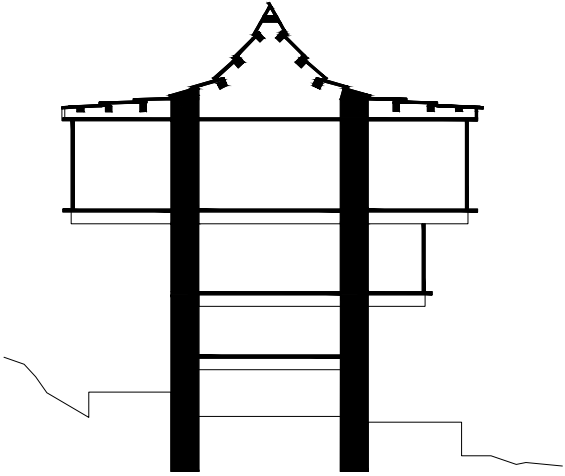
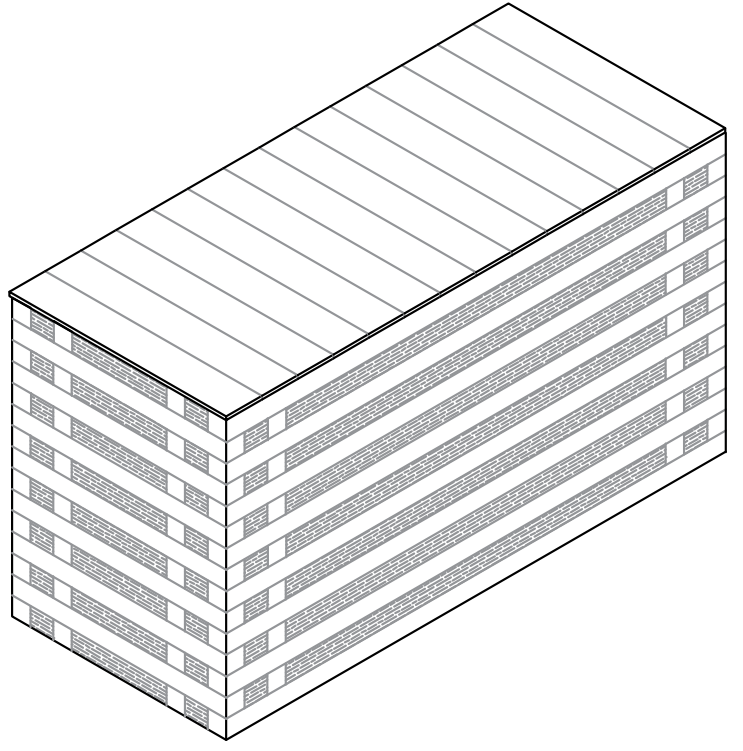
FEASIBILITY

FLEXIBILITY

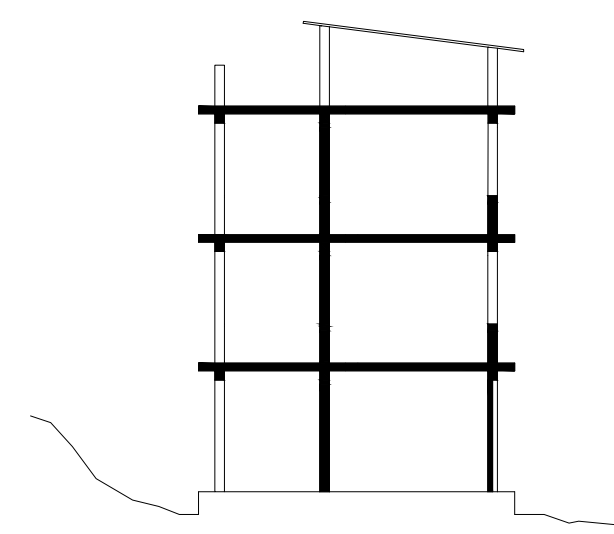
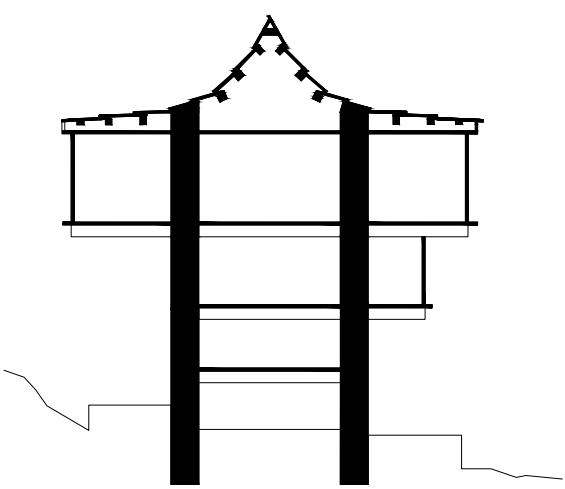
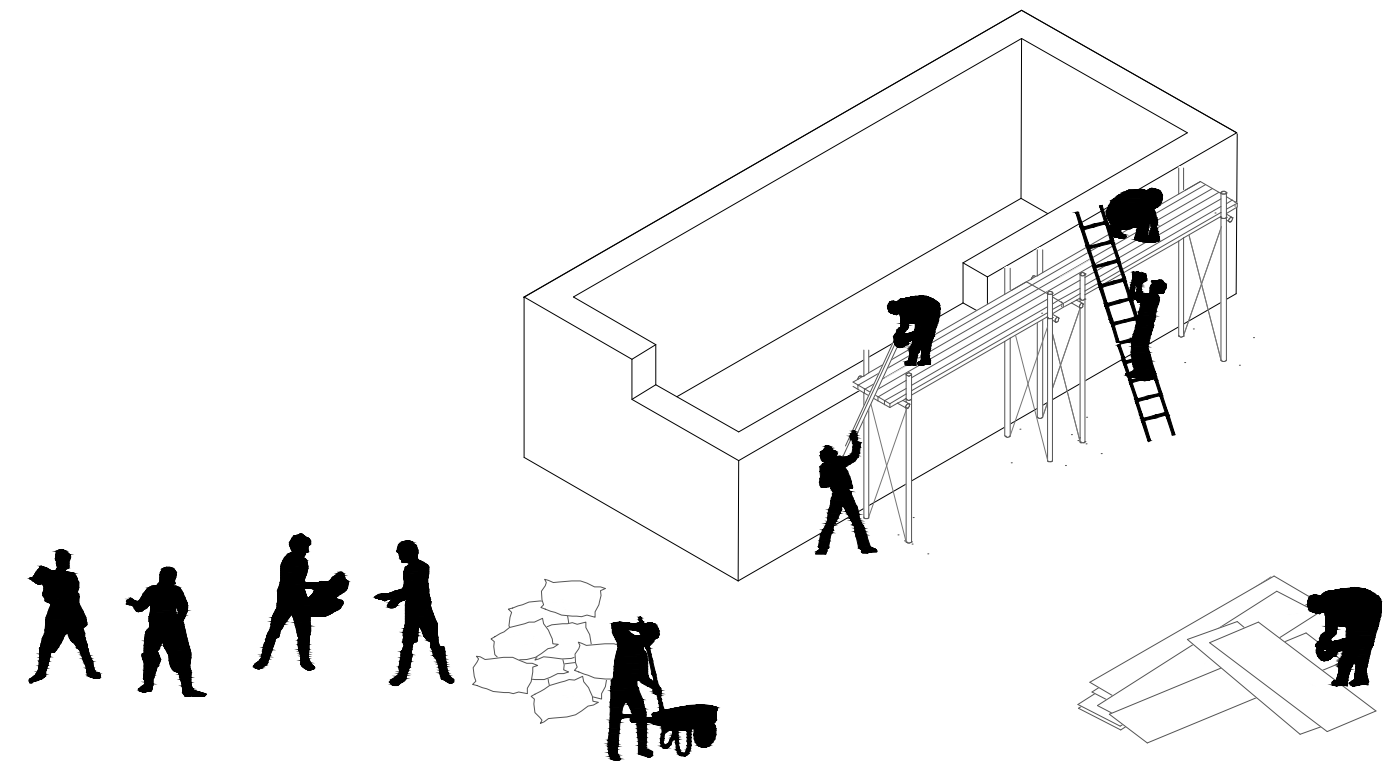
INCREMENTALITY

REPRODUCIBILITY

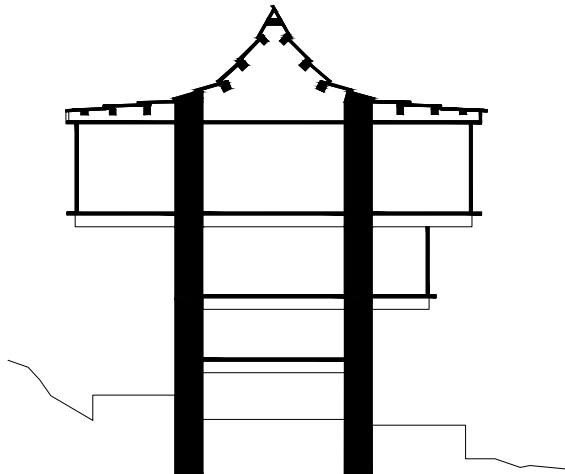
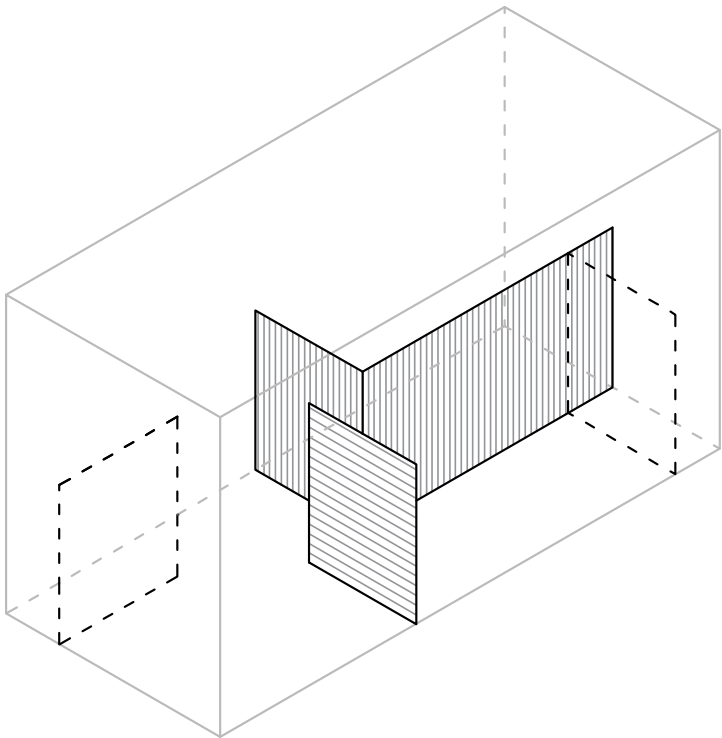
INSPIRED BY GRAND VERNACULAR
EXPLICITNESS
UNDERSTANDABLE CONSTRUCTION



INSPIRED BY BOTH GRAND & ORDINARY VERNACULAR
FEASIBILITY
FAMILY-RUN CONSTRUCTION + SIMPLE TOOLS



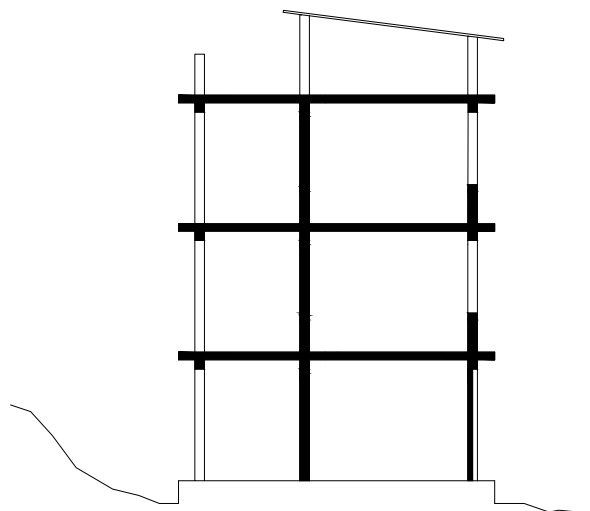
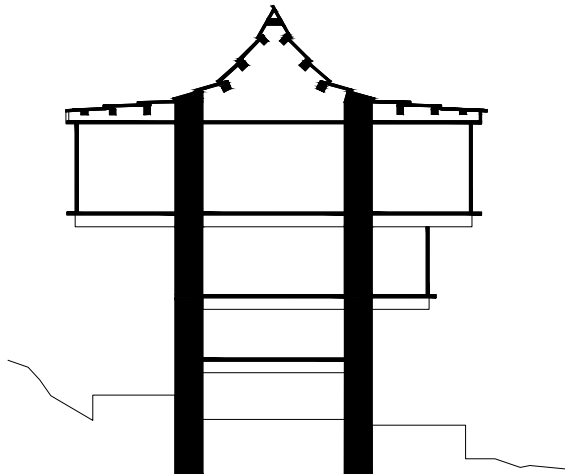
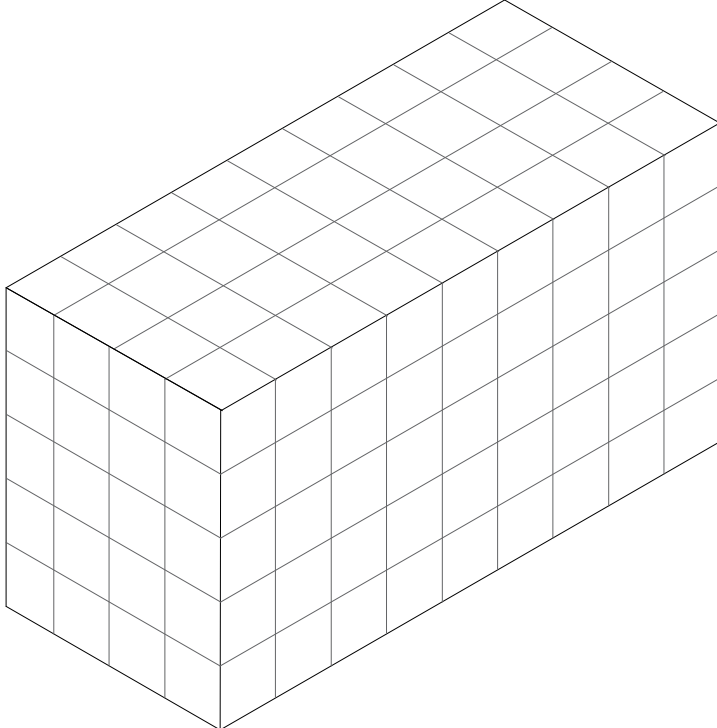
INSPIRED BY GRAND VERNACULAR
FLEXIBILITY
NON-TYPIFIED SPACES



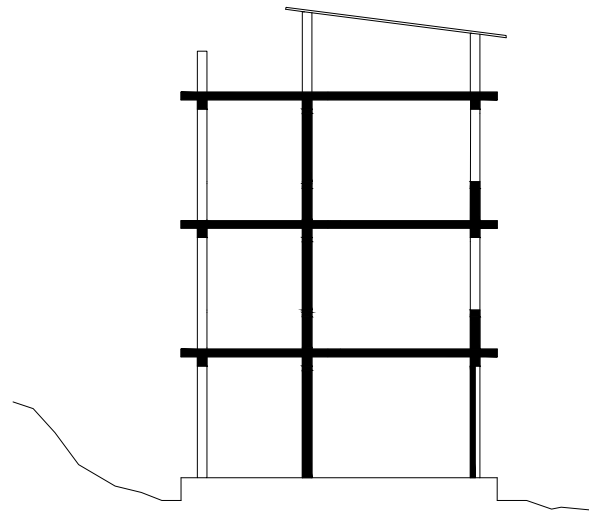
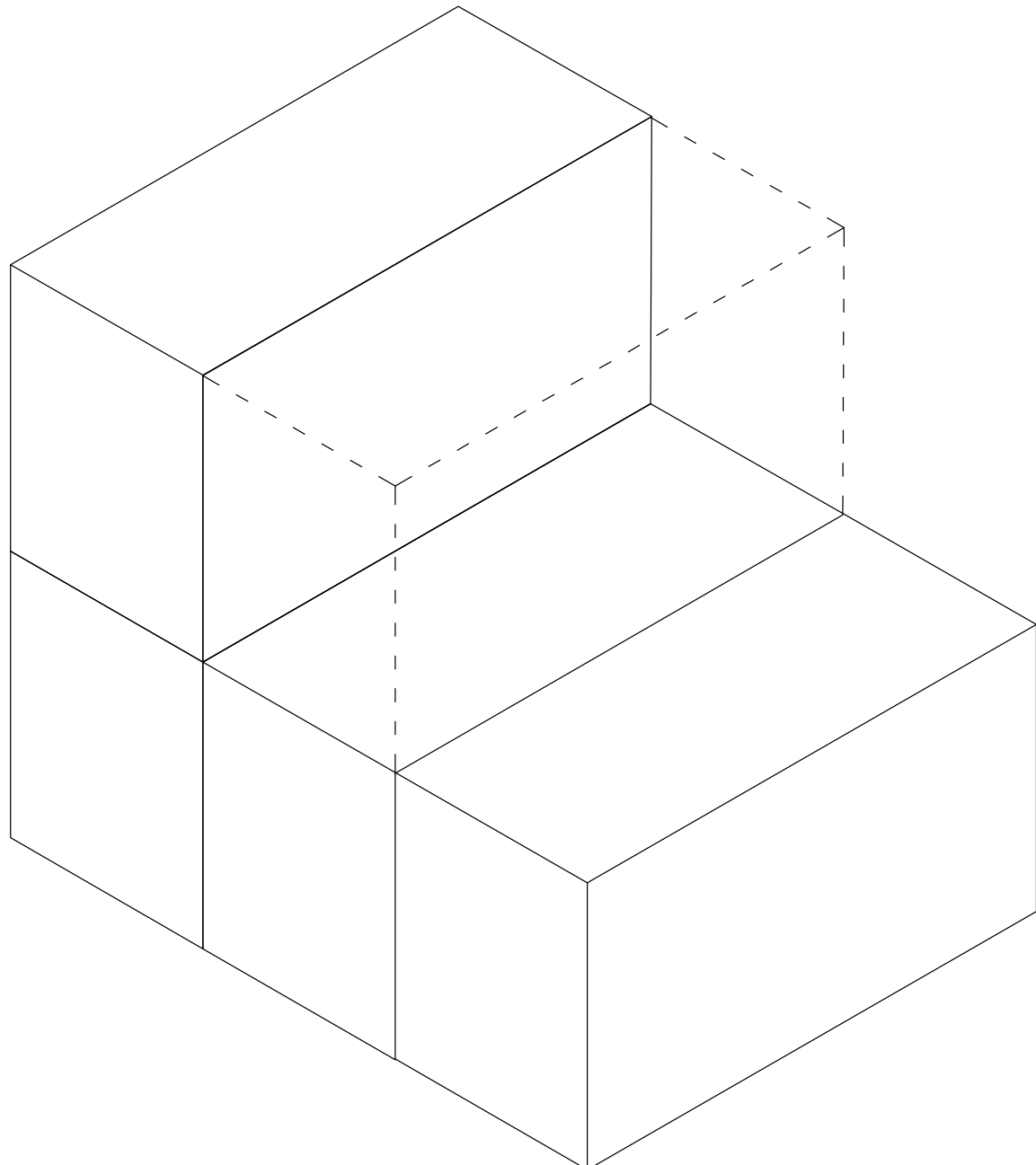
INSPIRED BY BOTH GRAND & ORDINARY VERNACULAR

MODULARITY

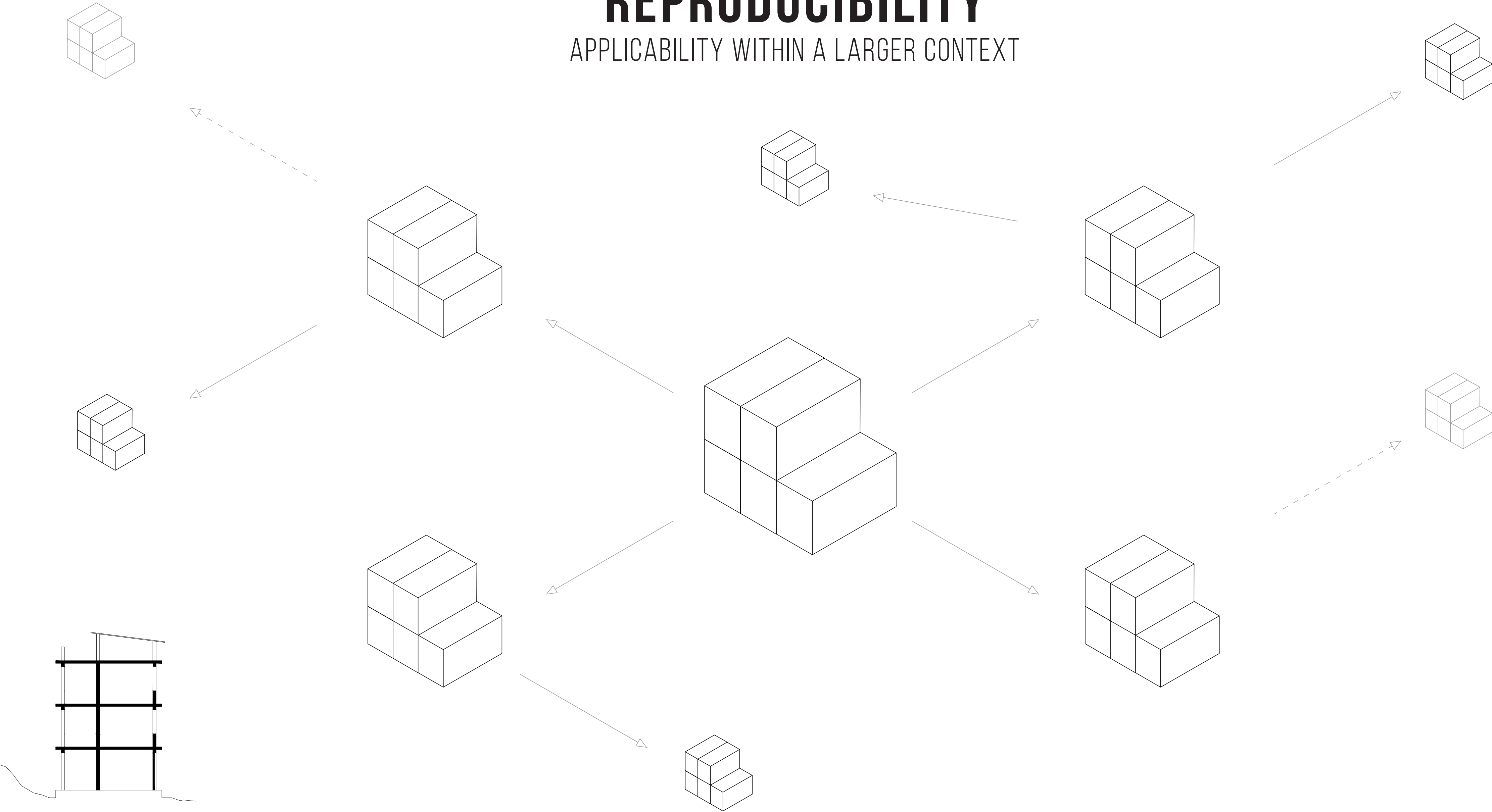
ONE PROJECT, ONE DETAIL



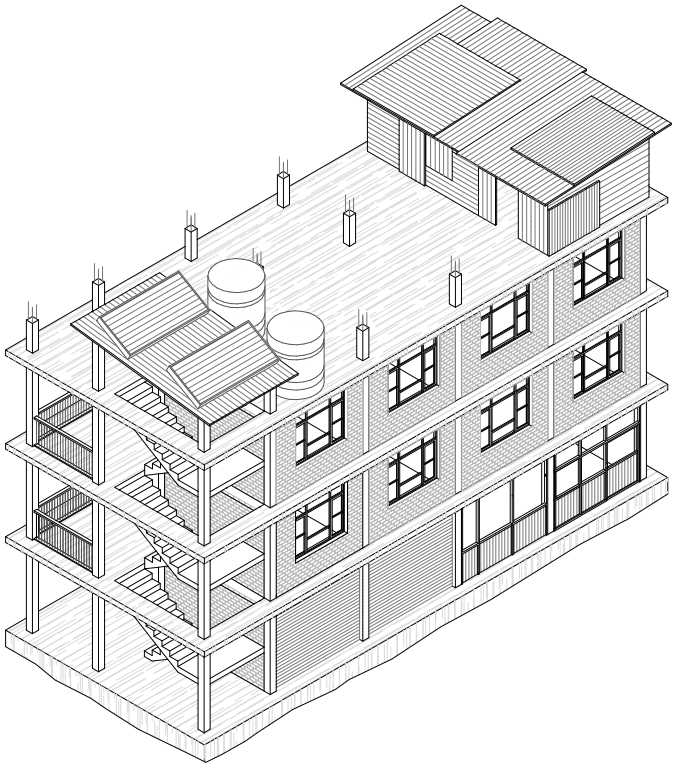
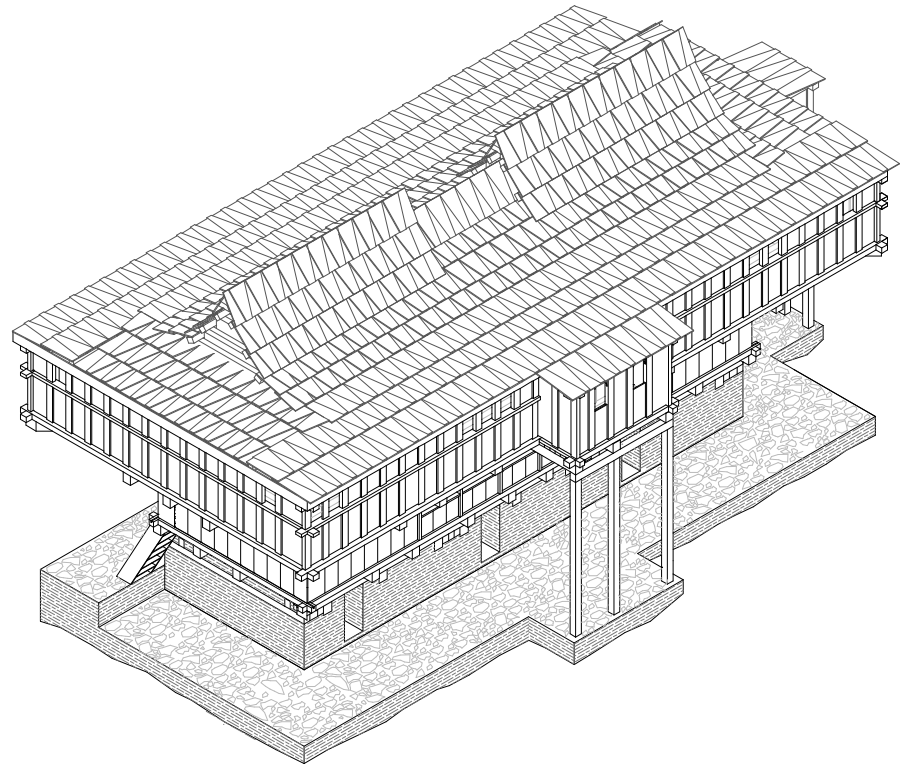
INSPIRED BY ORDINARY VERNACULAR
INCREMENTALITY
POSSIBILITY OF FUTURE EXPANSIONS



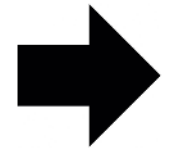
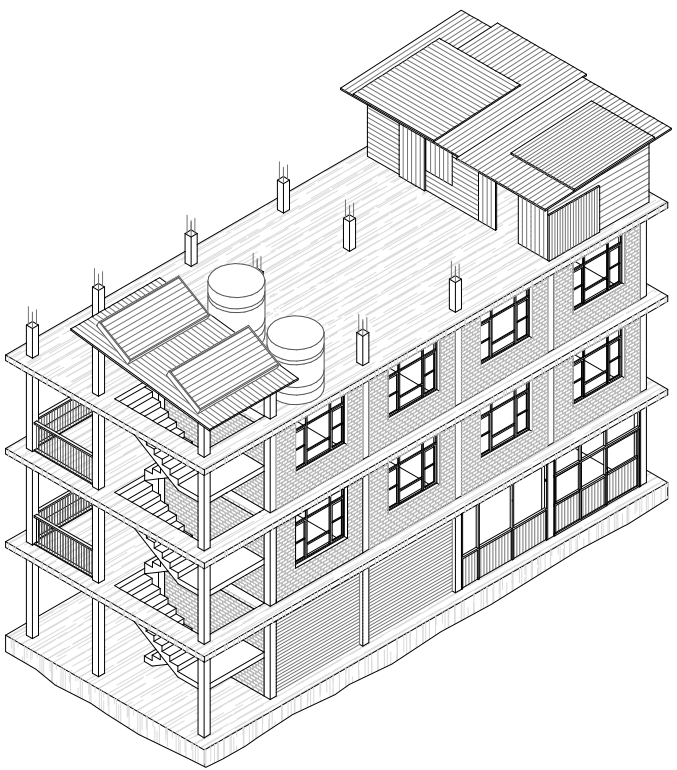
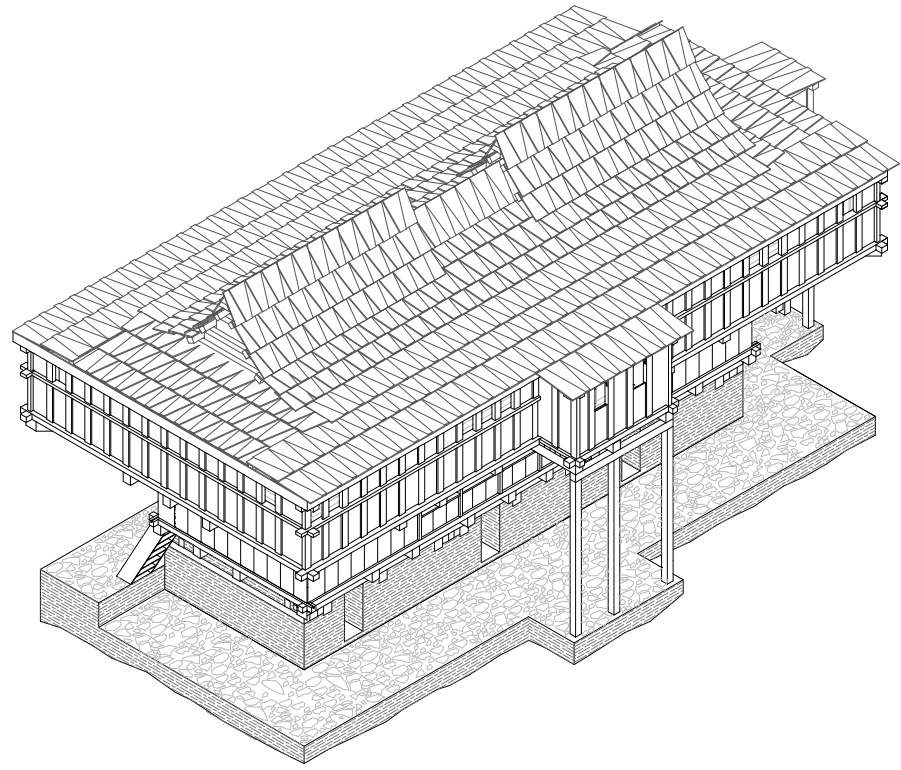
INSPIRED BY ORDINARY VERNACULAR
REPRODUCIBILITY
APPLICABILITY WITHIN A LARGER CONTEXT



VERNACULAR
BUILT ENVIRONMENT



VERNACULAR
BUILT ENVIRONMENT



ARCHETYPICAL
QUALITIES

REPRODUCIBILITY

INCREMENTALITY

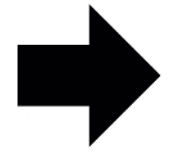
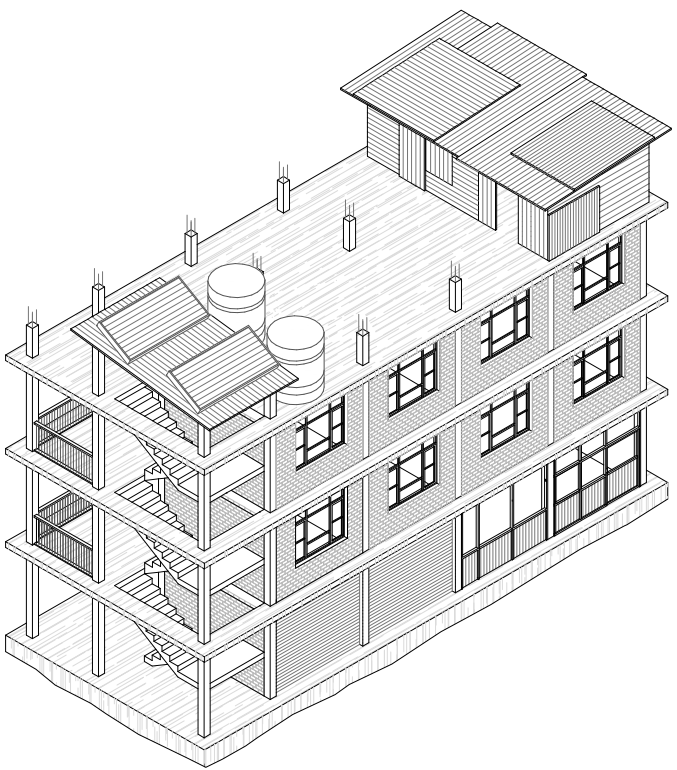
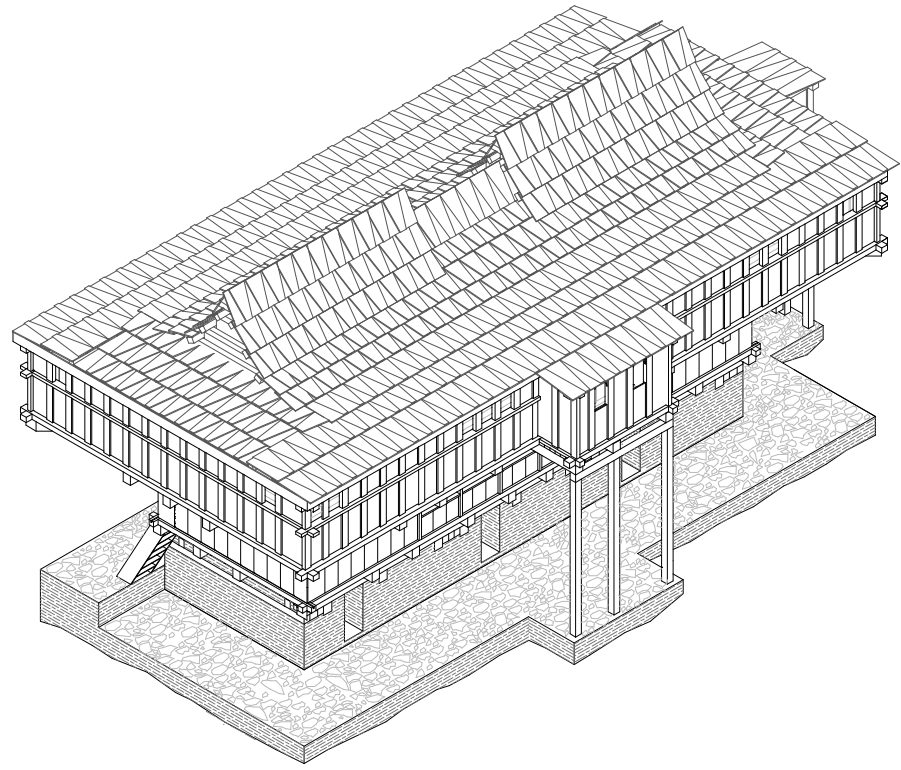
MODULARITY

FLEXIBILITY

FEASIBILITY

EXPLICITNESS

VERNACULAR
BUILT ENVIRONMENT



ARCHETYPICAL
QUALITIES

REPRODUCIBILITY

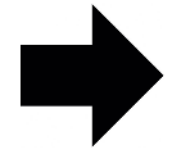
INCREMENTALITY

MODULARITY

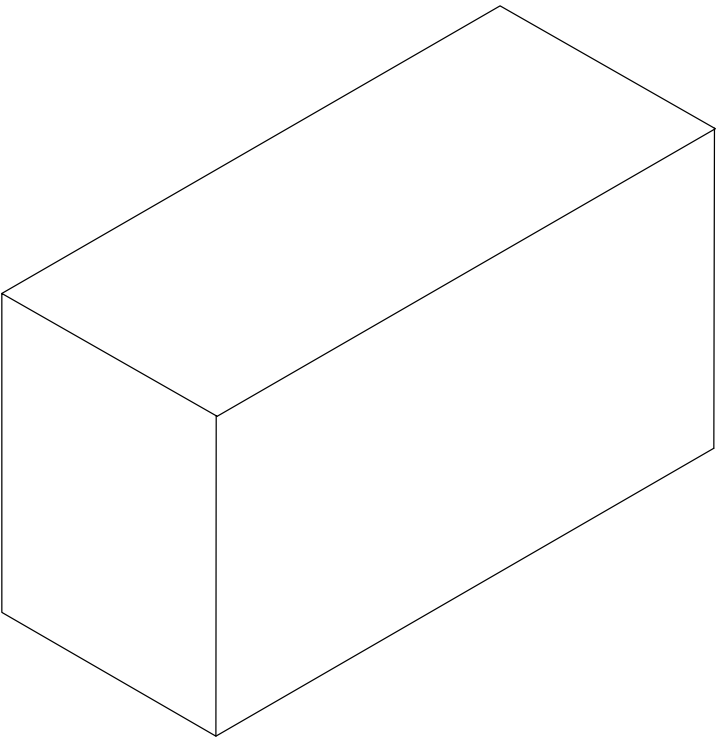
FLEXIBILITY

FEASIBILITY

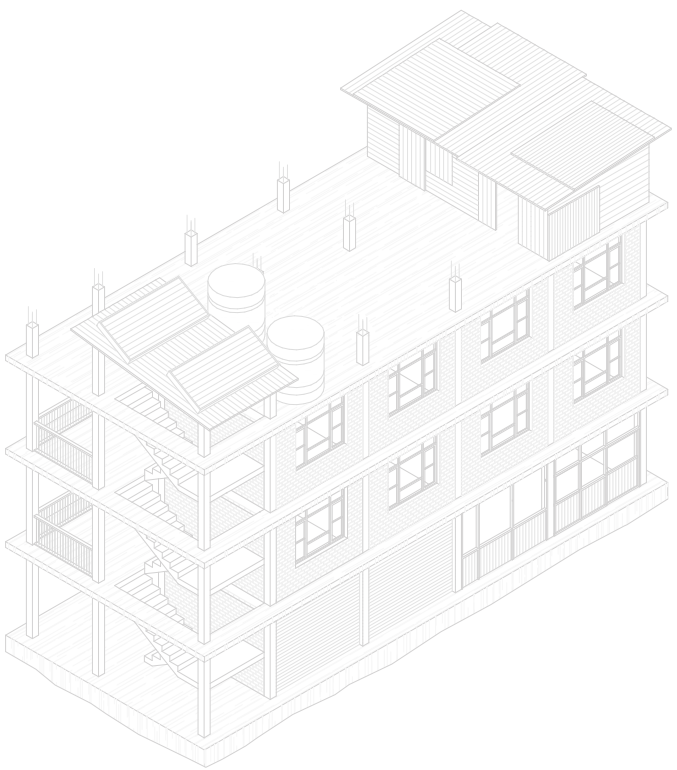
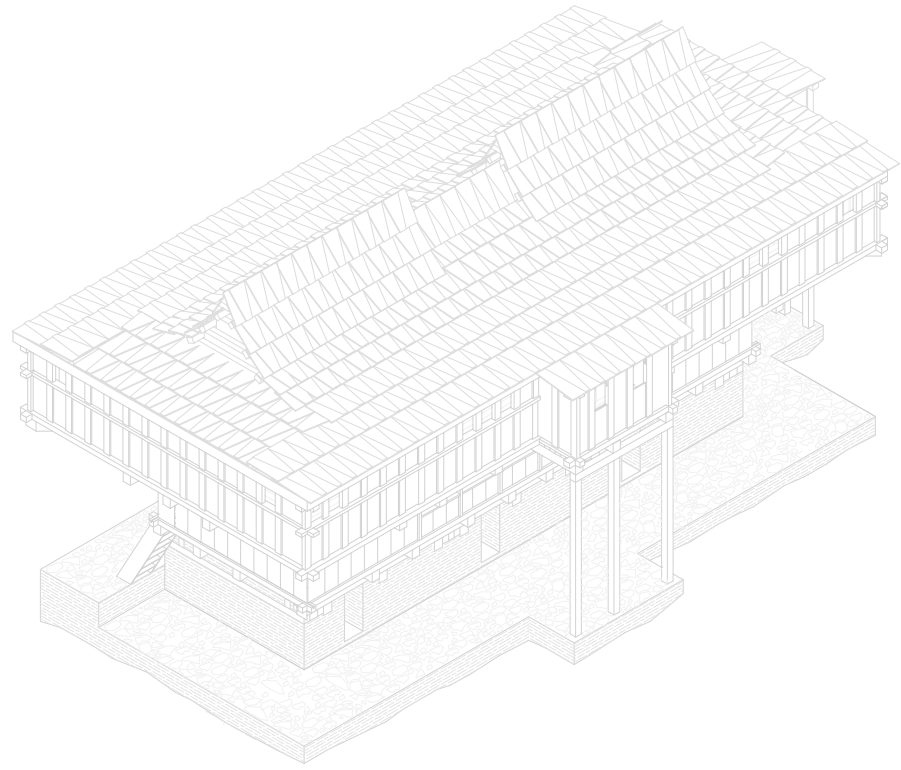
EXPLICITNESS



NEW
ARCHITECTURE



VERNACULAR
BUILT ENVIRONMENT



ARCHETYPICAL
QUALITIES

REPRODUCIBILITY

INCREMENTALITY

MODULARITY

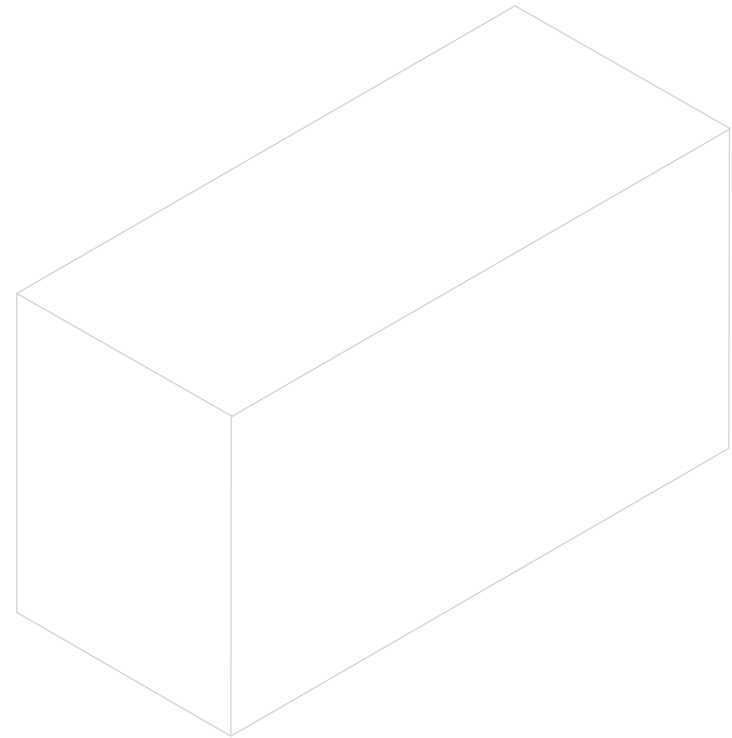
FLEXIBILITY

FEASIBILITY

EXPLICITNESS



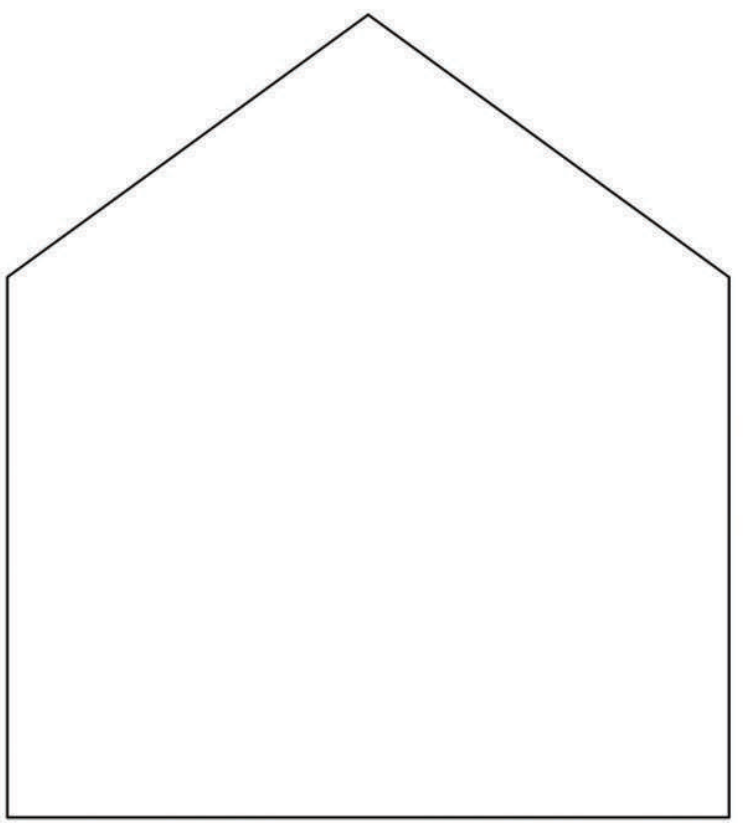
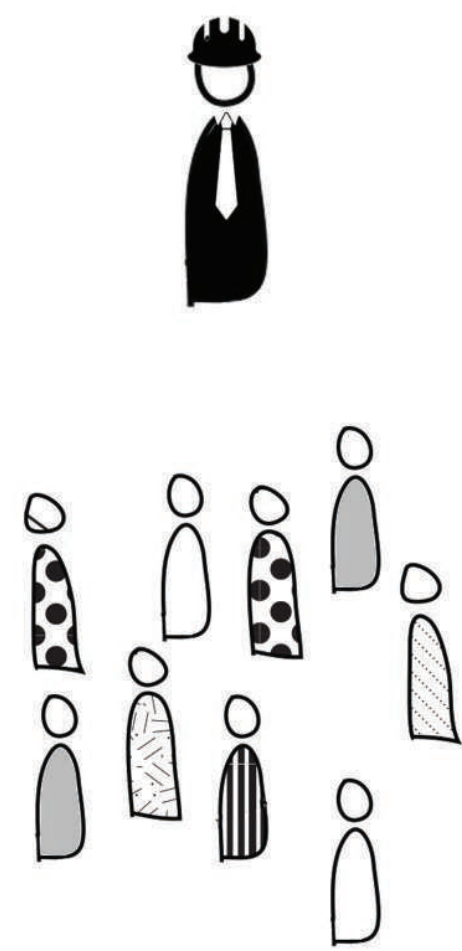
NEW
ARCHITECTURE



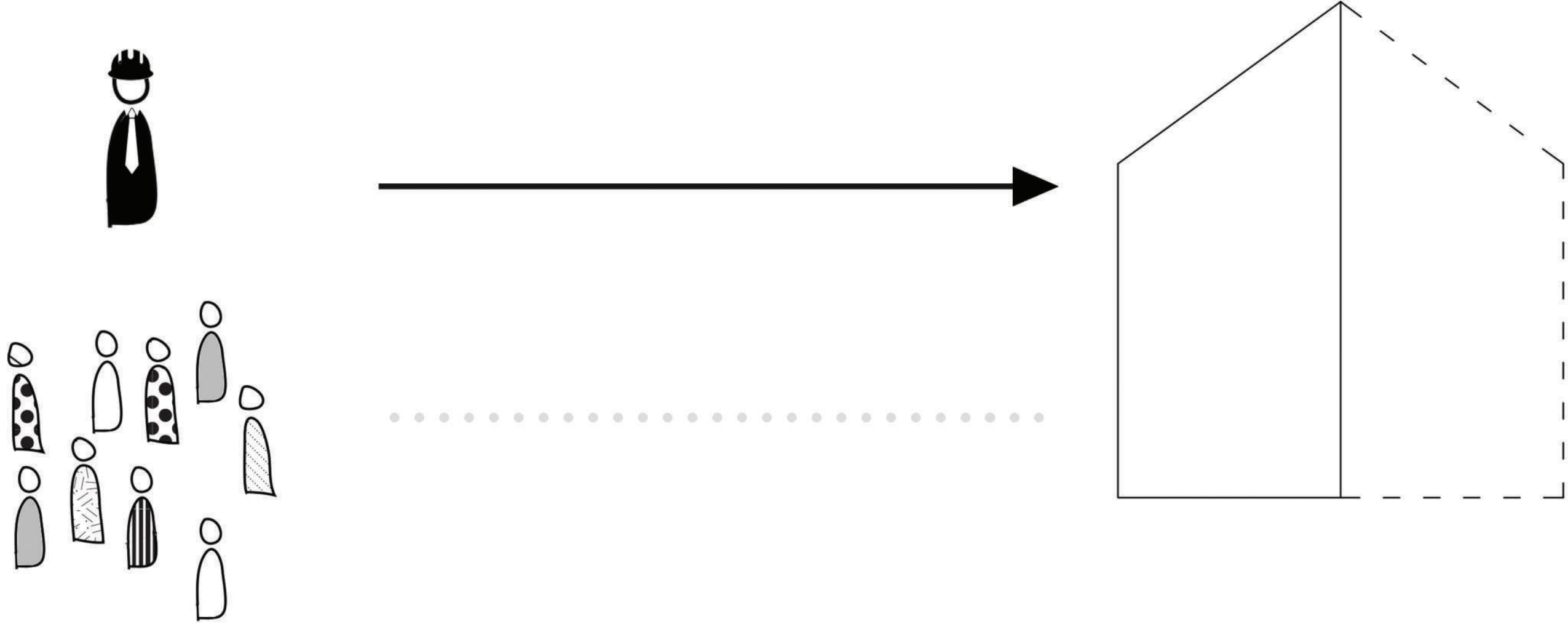
WHAT IS THE ROLE OF THE ARCHITECT?



STANDARD PRACTICE

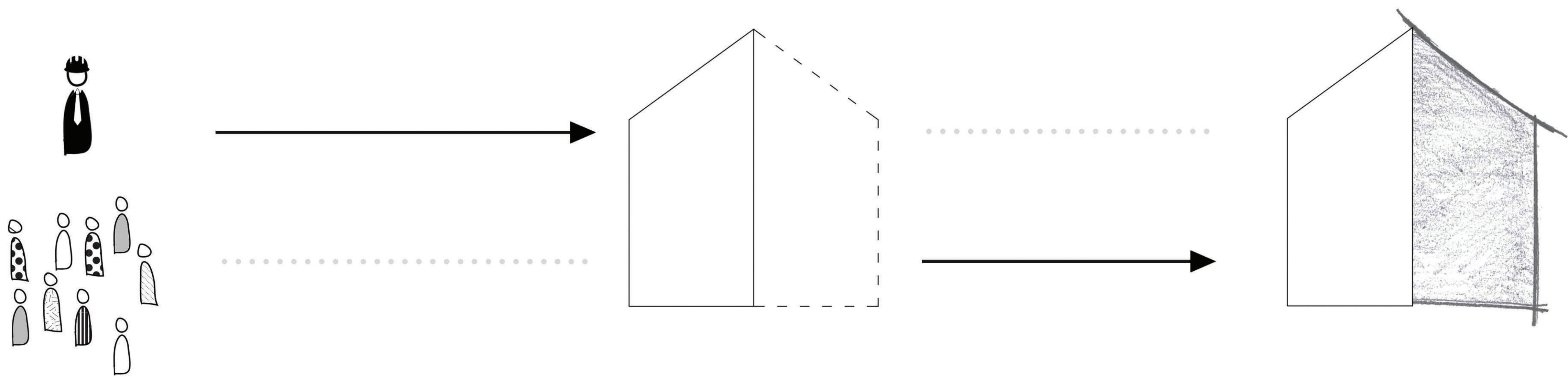


ARCHITECT DESIGN 100% OF THE BUILDING

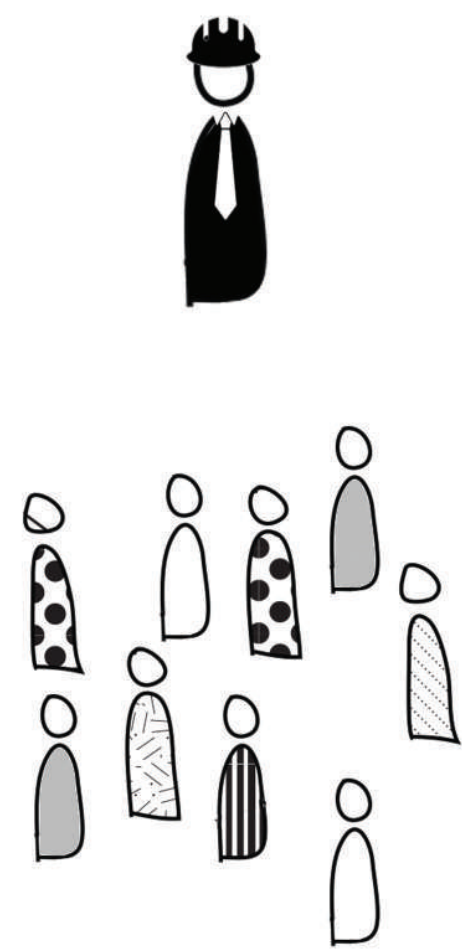


ARCHITECT BRINGS THE COMMUNITY INTO THE PROCESS

INCREMENTAL PRACTICE

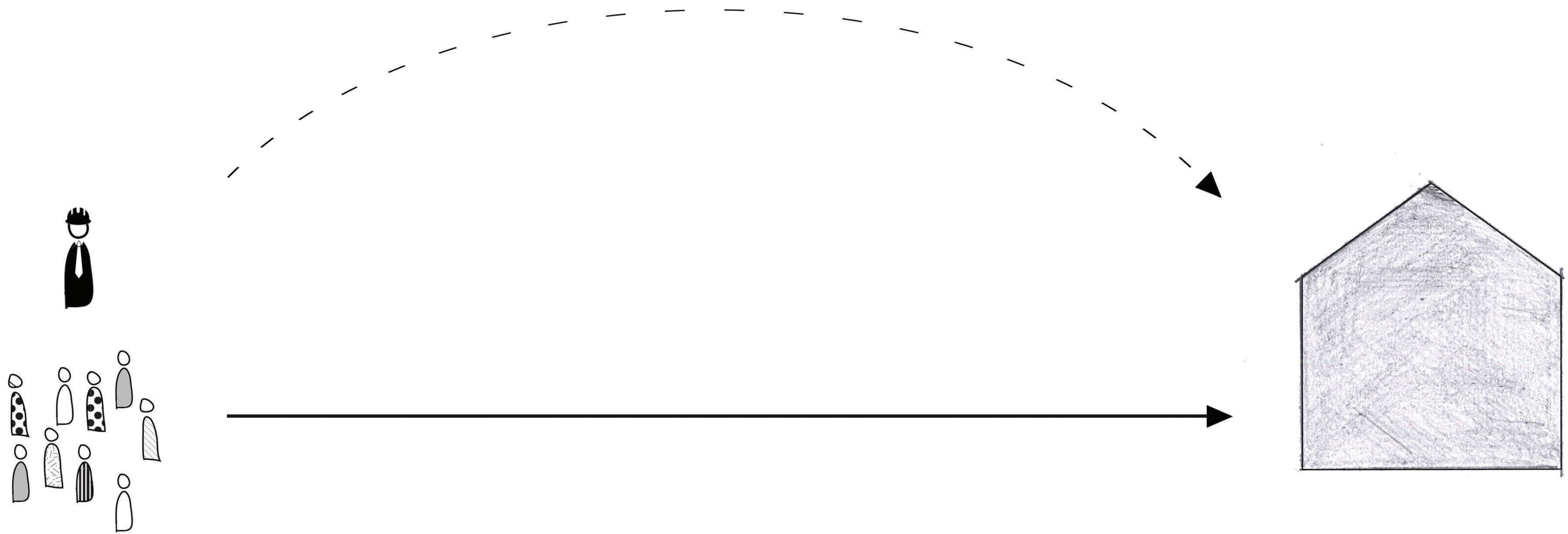


USERS COMPLETE THE DESIGN



USERS DESIGN 100% OF THE BUILDING

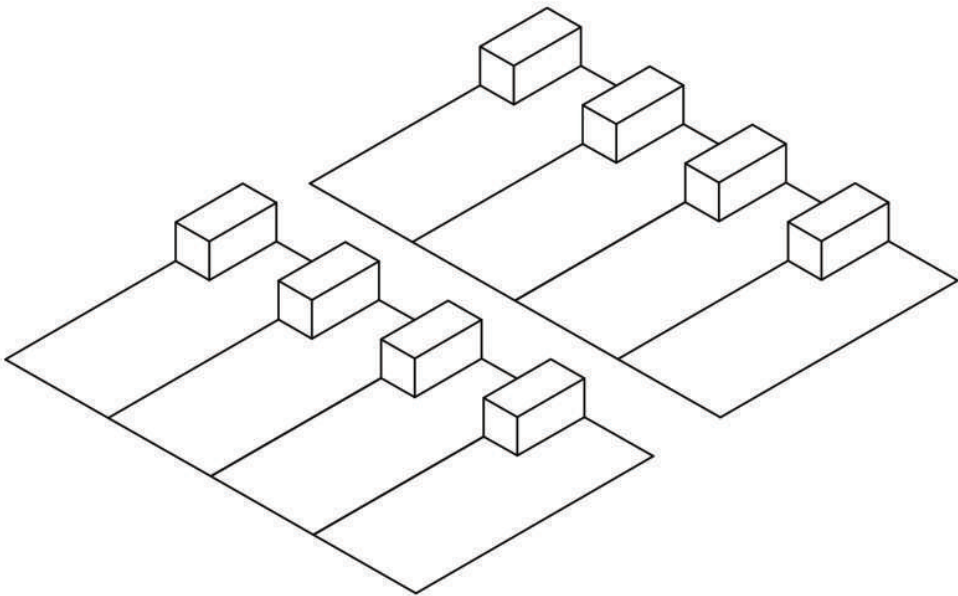
VERNACULAR PRACTICE



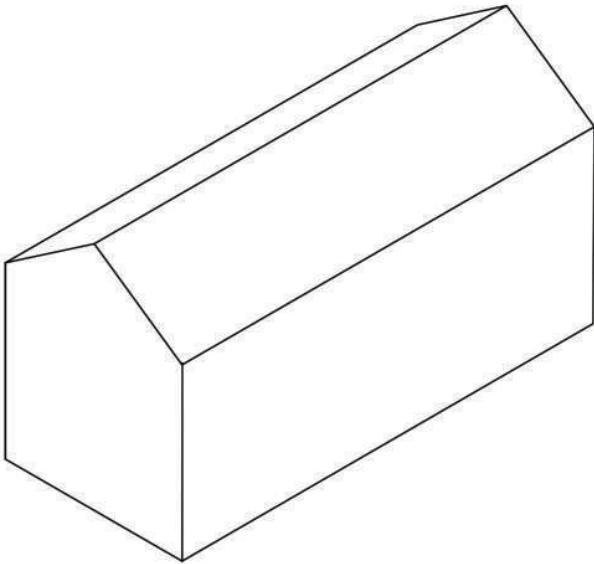
ARCHITECT CAN (INDIRECTLY) INFLUENCE THE TREND

HOW?

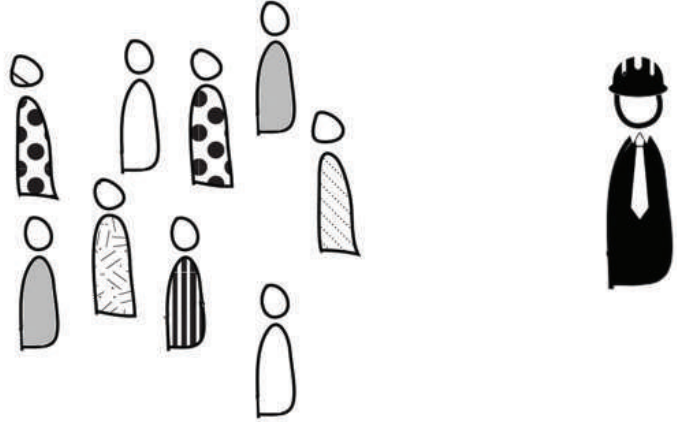
THREE STRATEGIES:



SITE AND SERVICE

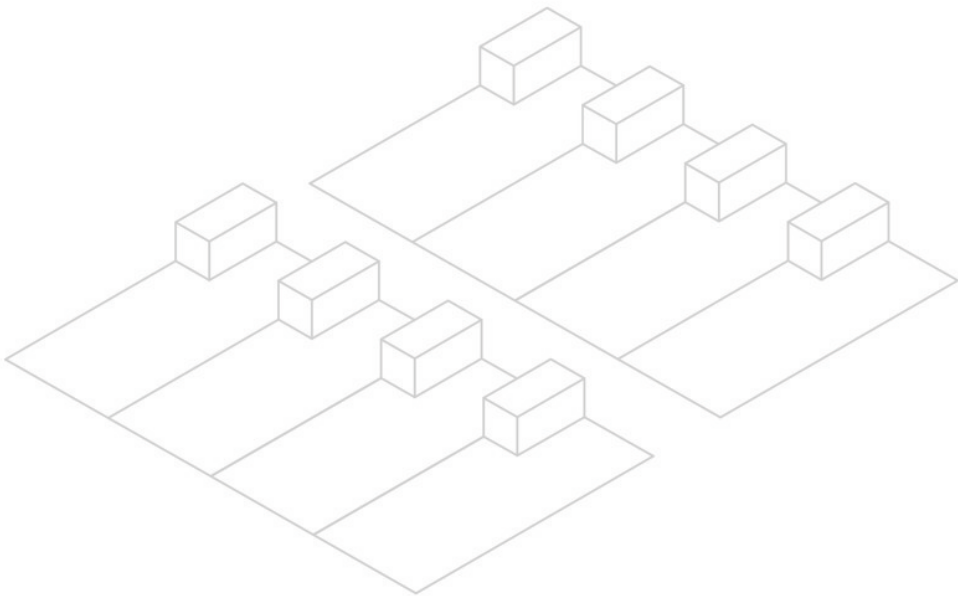


SHOWCASE

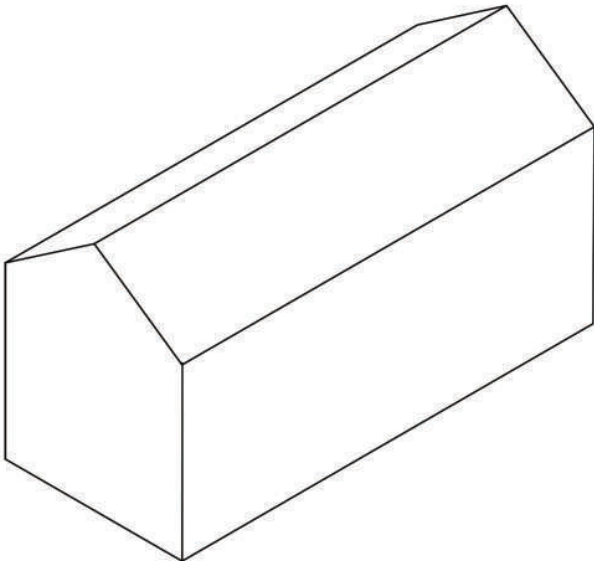


TRAINING

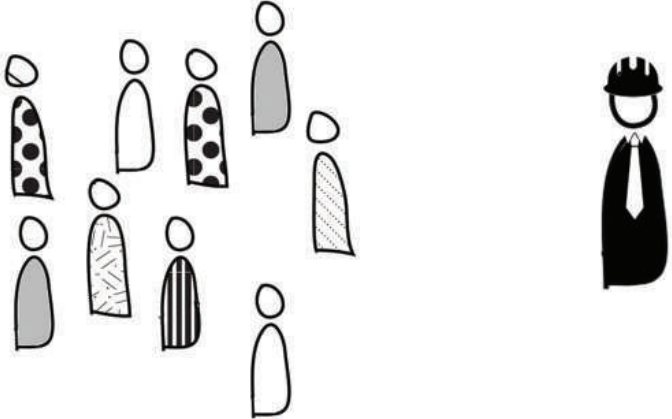
FOUR STRATEGIES:



SITE AND SERVICE

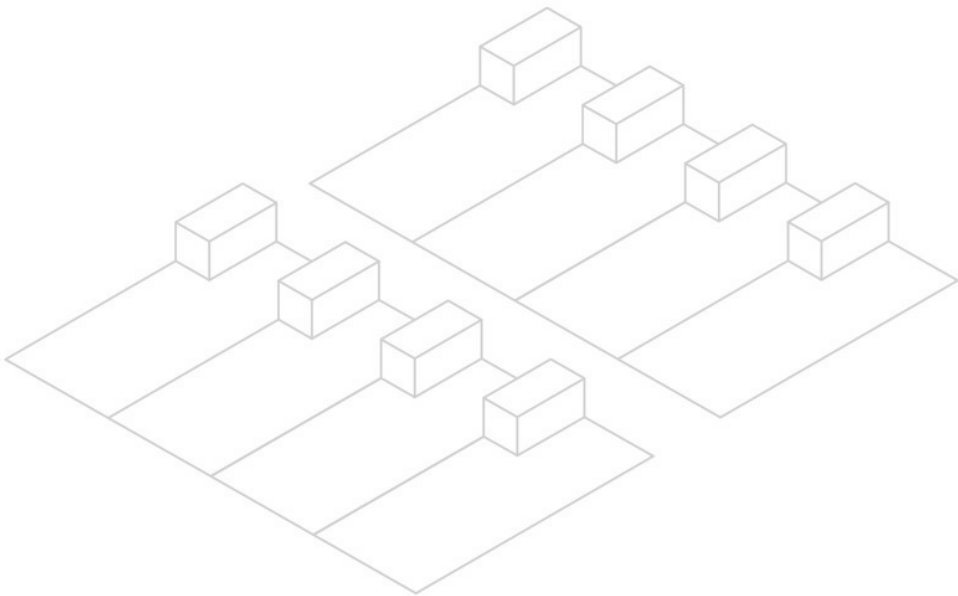


SHOWCASE

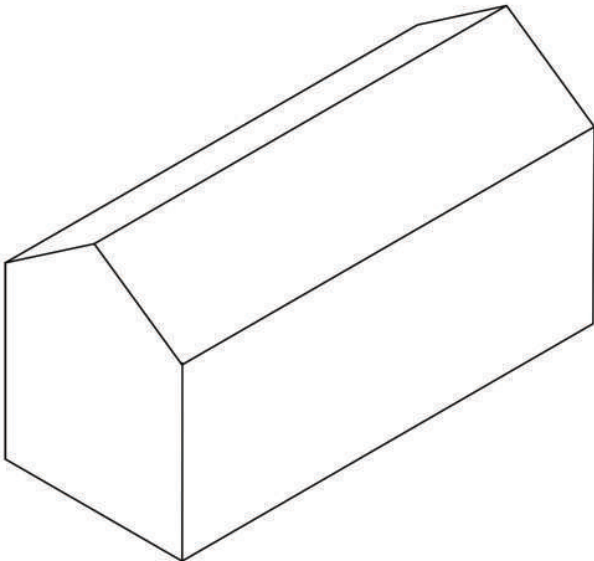


TRAINING

FOUR STRATEGIES:



SITE AND SERVICE

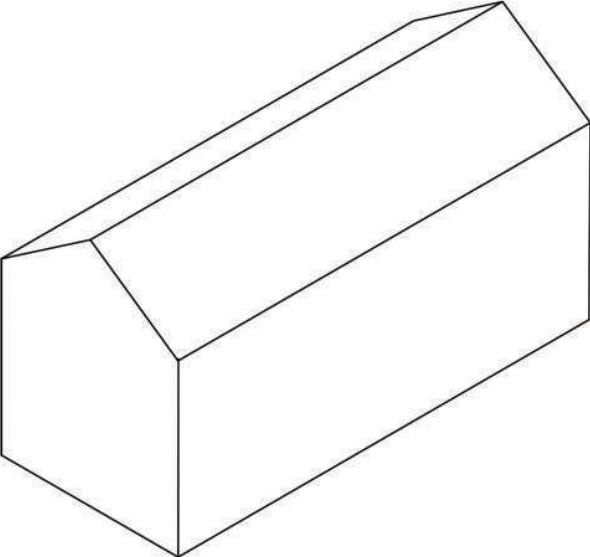


SHOWCASE

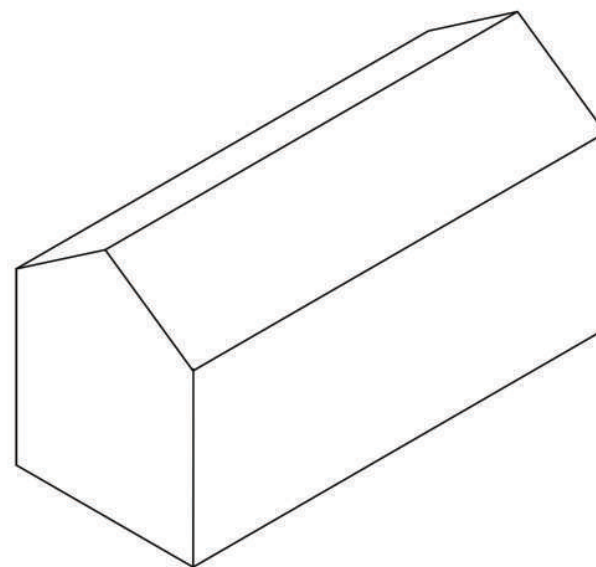


TRAINING

FOUR STRATEGIES:



SHOWCASE



SHOWCASE

=

PILOT PROJECT WITH A PEDAGOGICAL FUNCTION

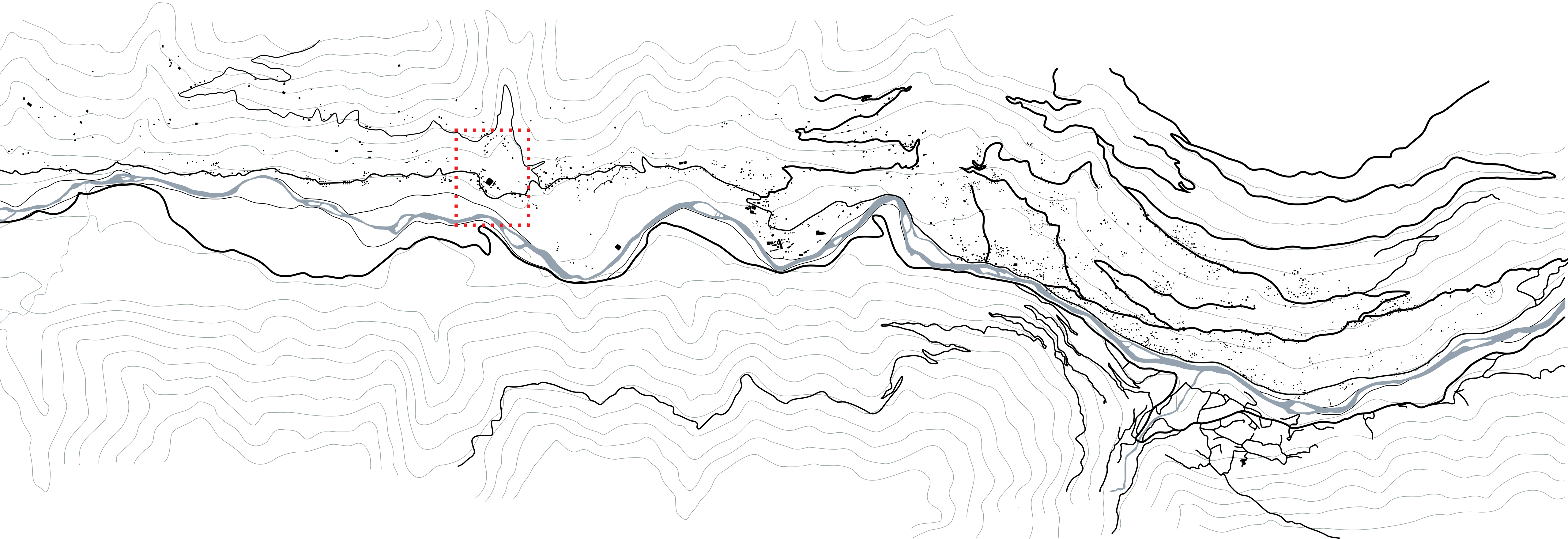
HOW TO **INTEGRATE**
ARCHETYPICAL QUALITIES INSPIRED BY VERNACULAR ARCHITECTURE
IN A SHOWCASE BUILDING?

HOW TO **COMBINE**
GENERIC ARCHETYPICAL QUALITIES INSPIRED BY VERNACULAR ARCHITECTURE
WITH **SPECIFIC REQUIREMENTS** IN A SHOWCASE BUILDING?





WHY THE DAGPO SCHOOL IS A PERFECT SHOWCASE ARCHITECTURE?

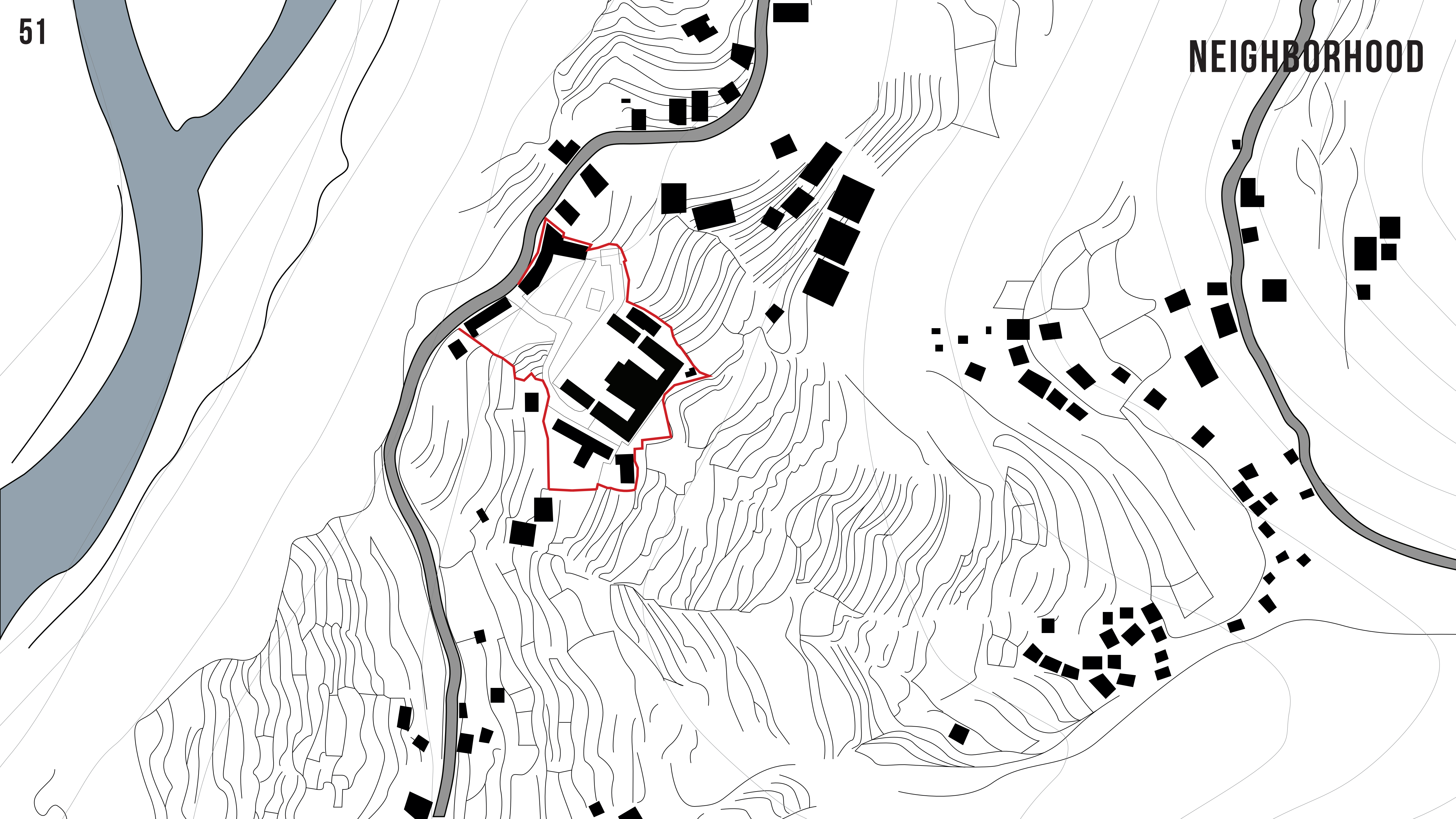


MANALI
10,000 POP

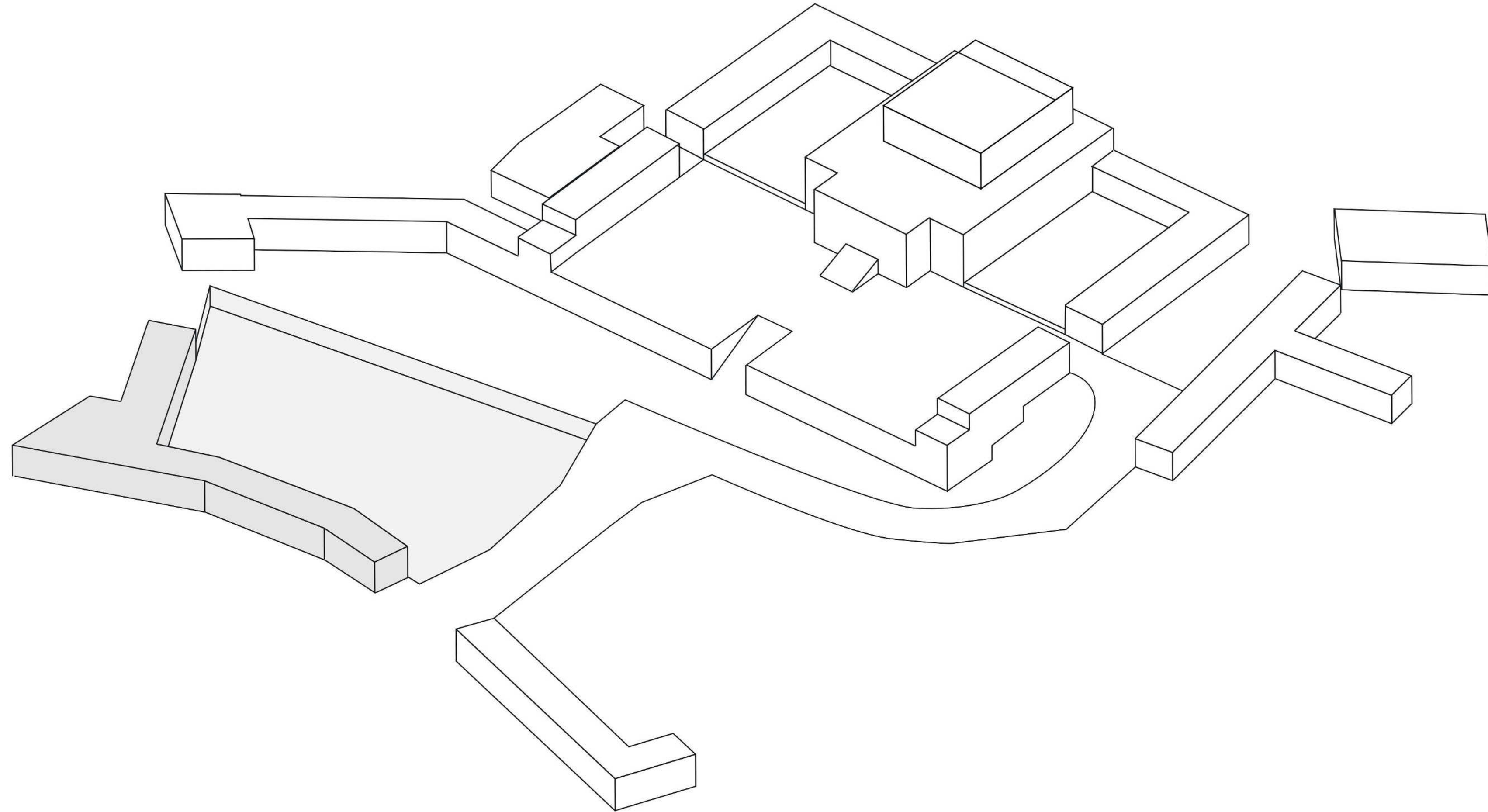


KULLU
20,000 POP



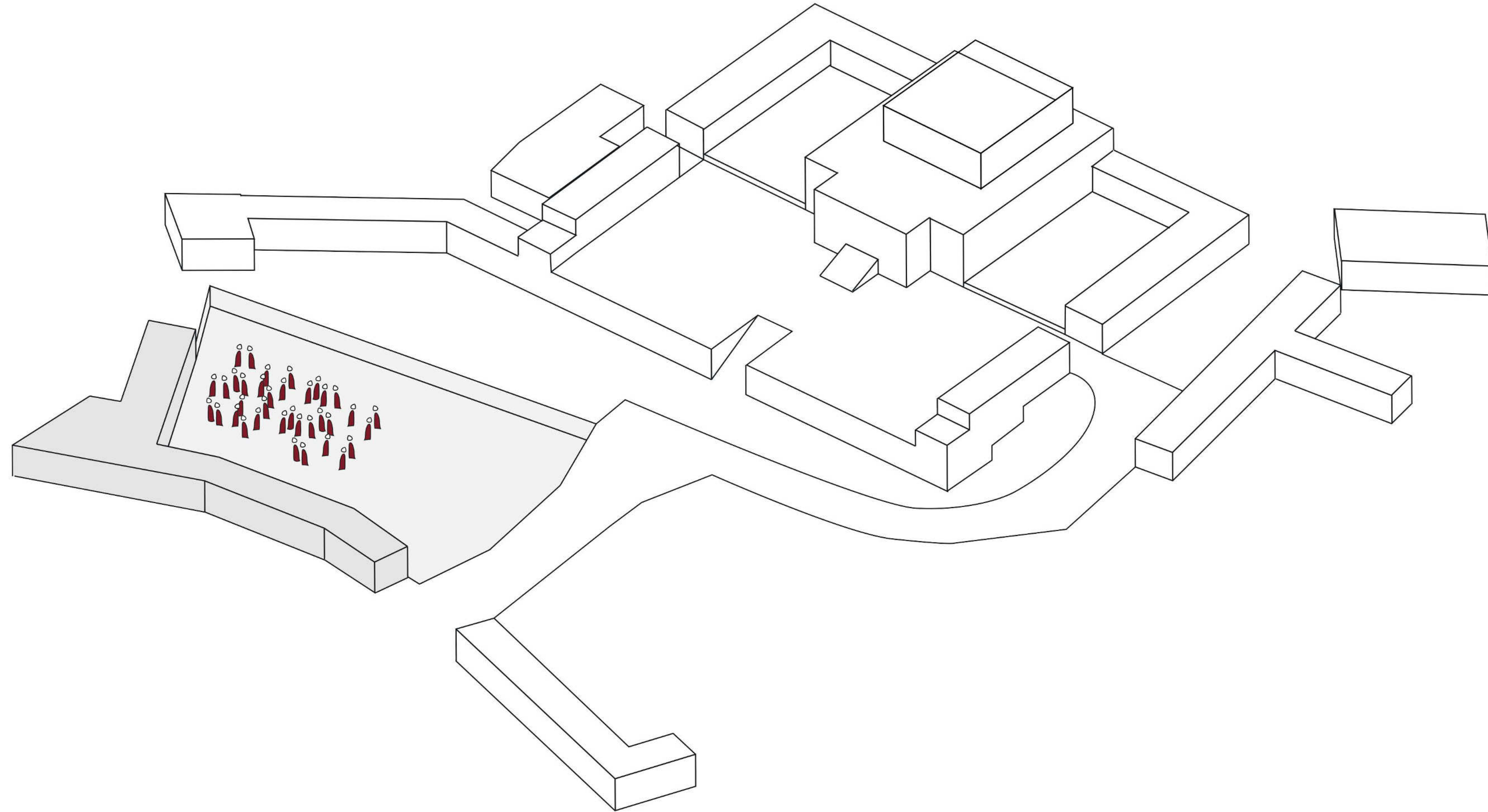


1.
LINKS A LARGE
VARIETY OF USERS



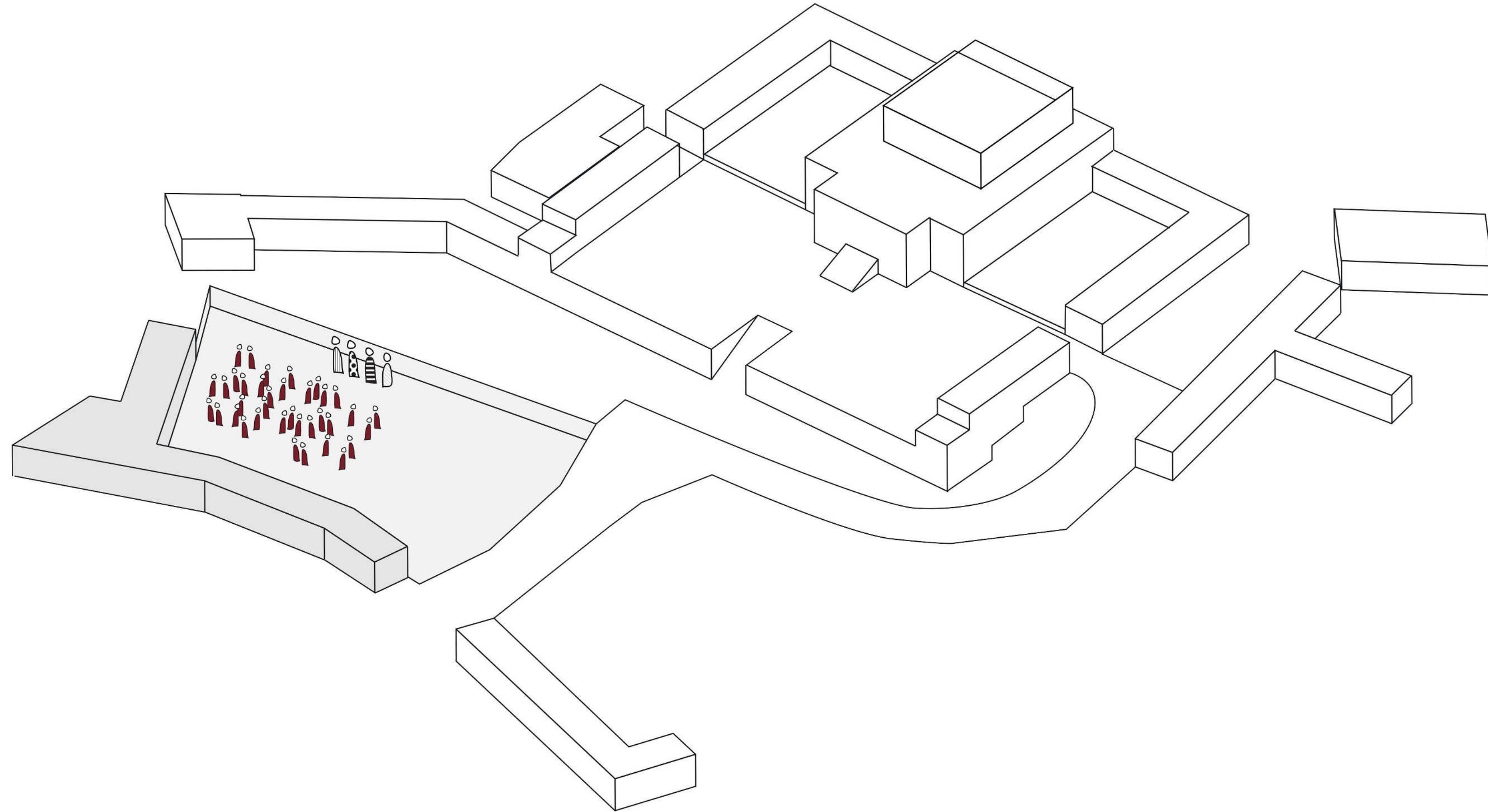
1.
LINKS A LARGE
VARIETY OF USERS

LITTLE MONKS



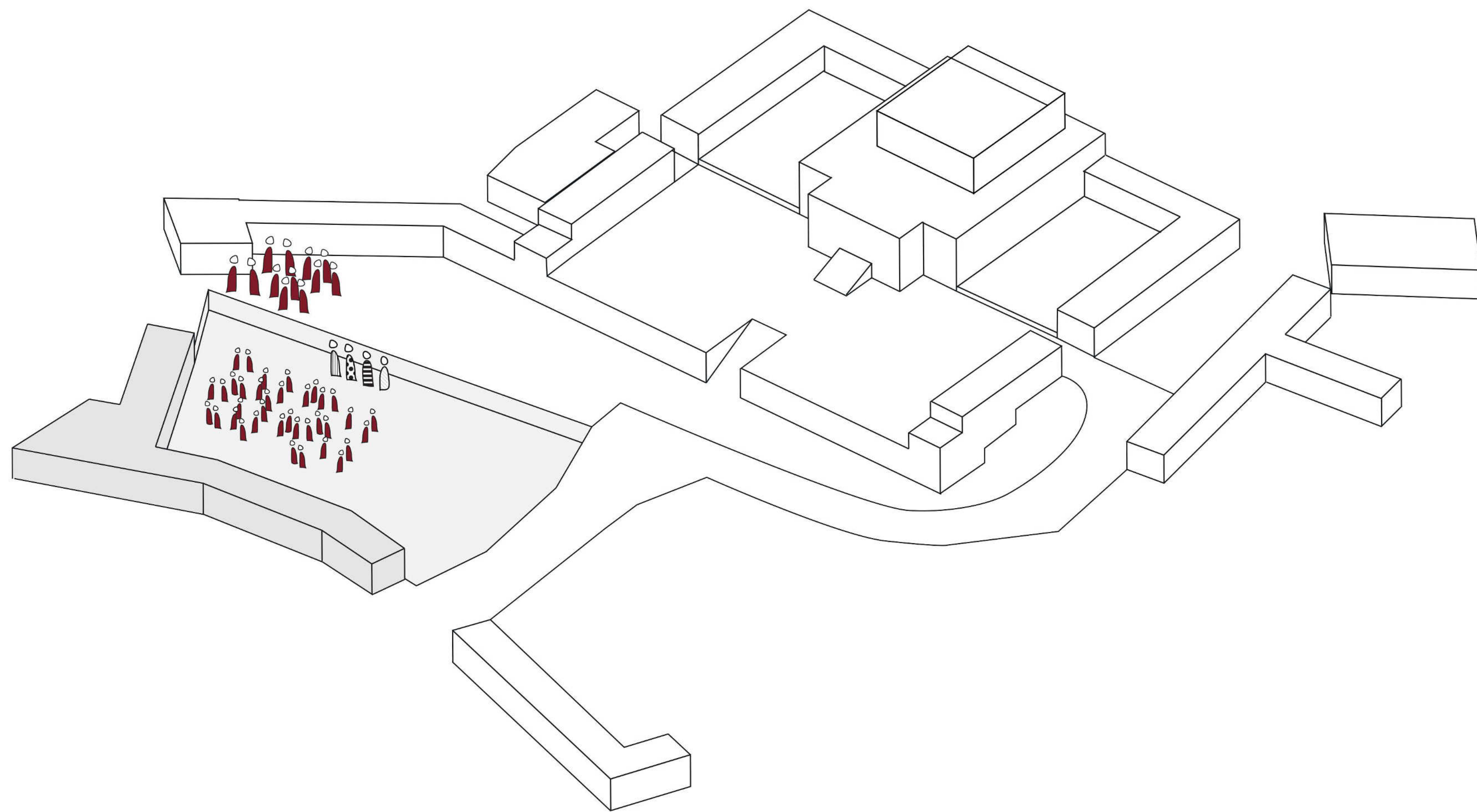
1.
LINKS A LARGE
VARIETY OF USERS

LITTLE MONKS TEACHERS



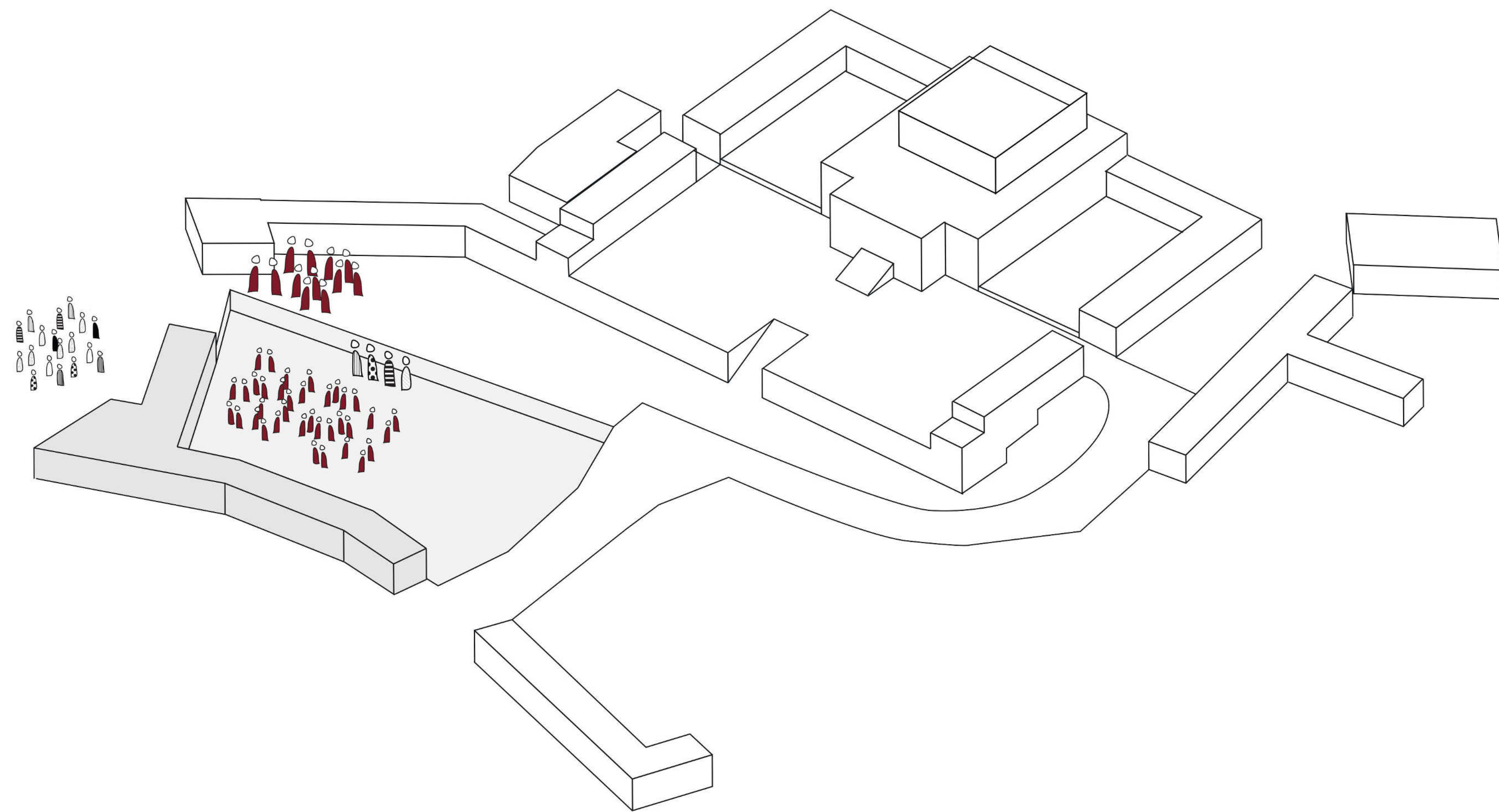
1.
LINKS A LARGE
VARIETY OF USERS

LITTLE MONKS TEACHERS MONKS



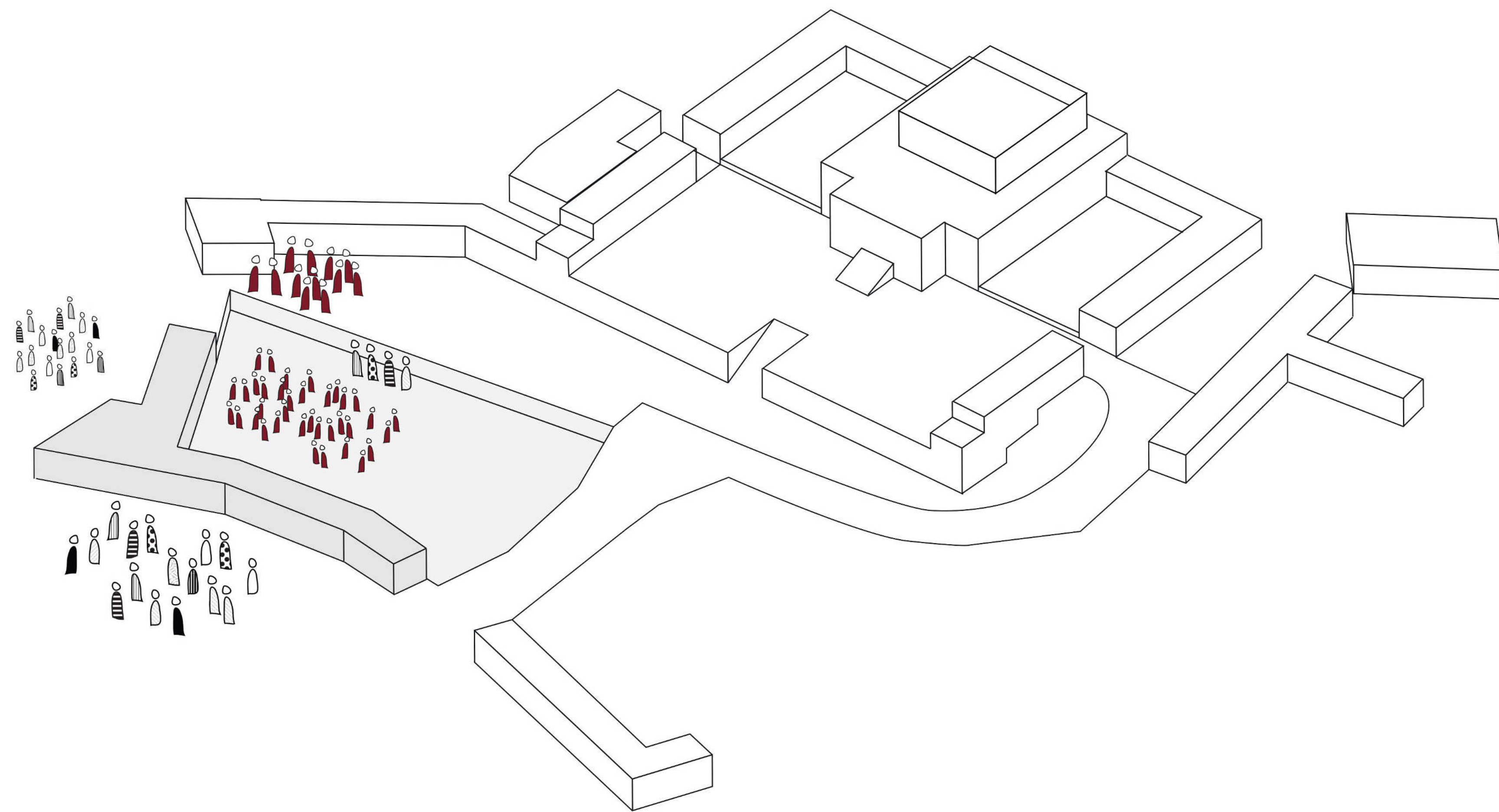
1.
LINKS A LARGE
VARIETY OF USERS

LITTLE MONKS TEACHERS MONKS CHILDREN



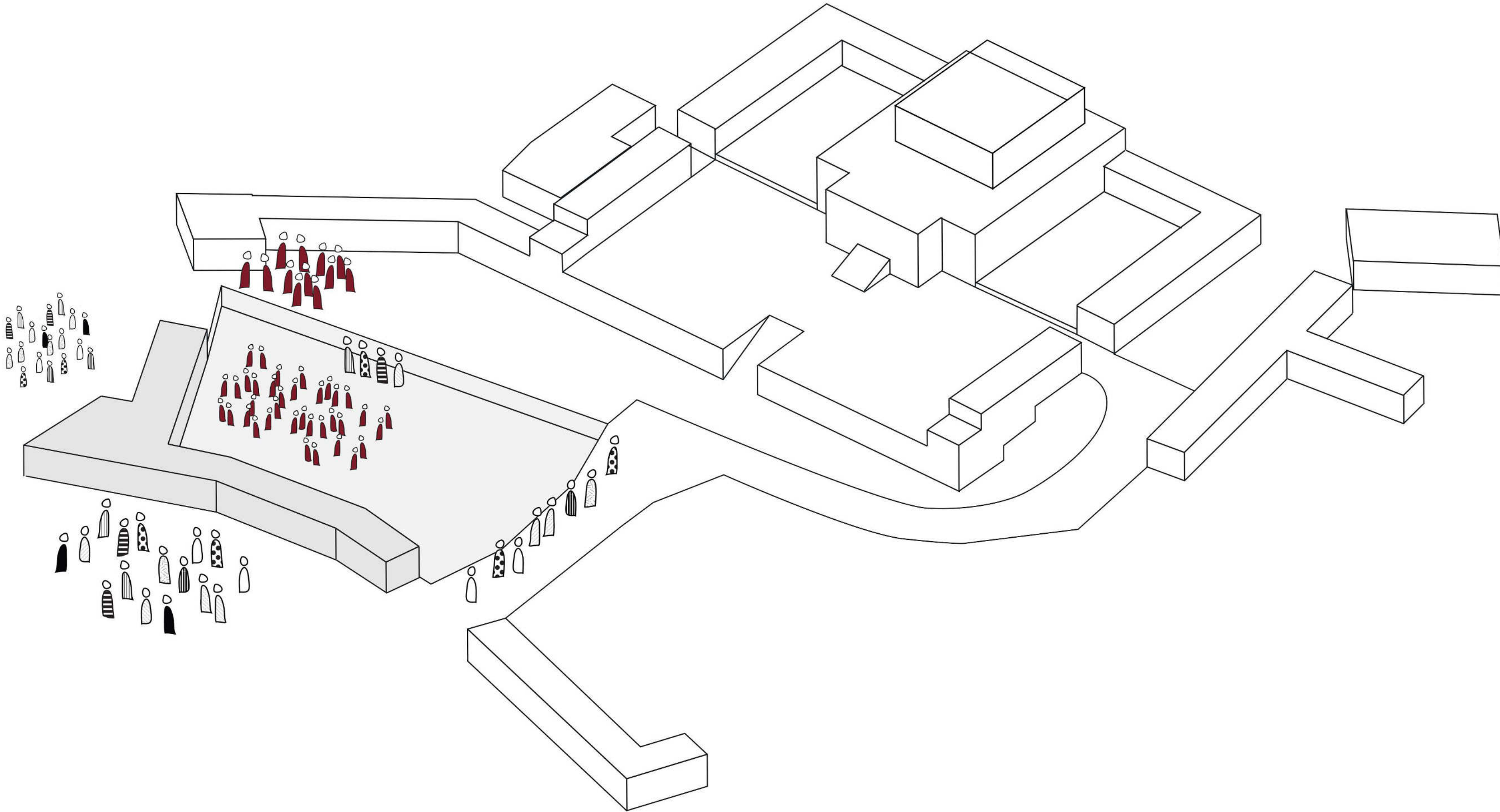
1.
LINKS A LARGE
VARIETY OF USERS

LITTLE MONKS TEACHERS MONKS CHILDREN VILLAGERS



1.
LINKS A LARGE
VARIETY OF USERS

LITTLE MONKS TEACHERS MONKS CHILDREN VILLAGERS TOURISTS



2.
IT EMBODIES THE ISSUES
OF THE LOCAL BUILT ENVIRONMENT



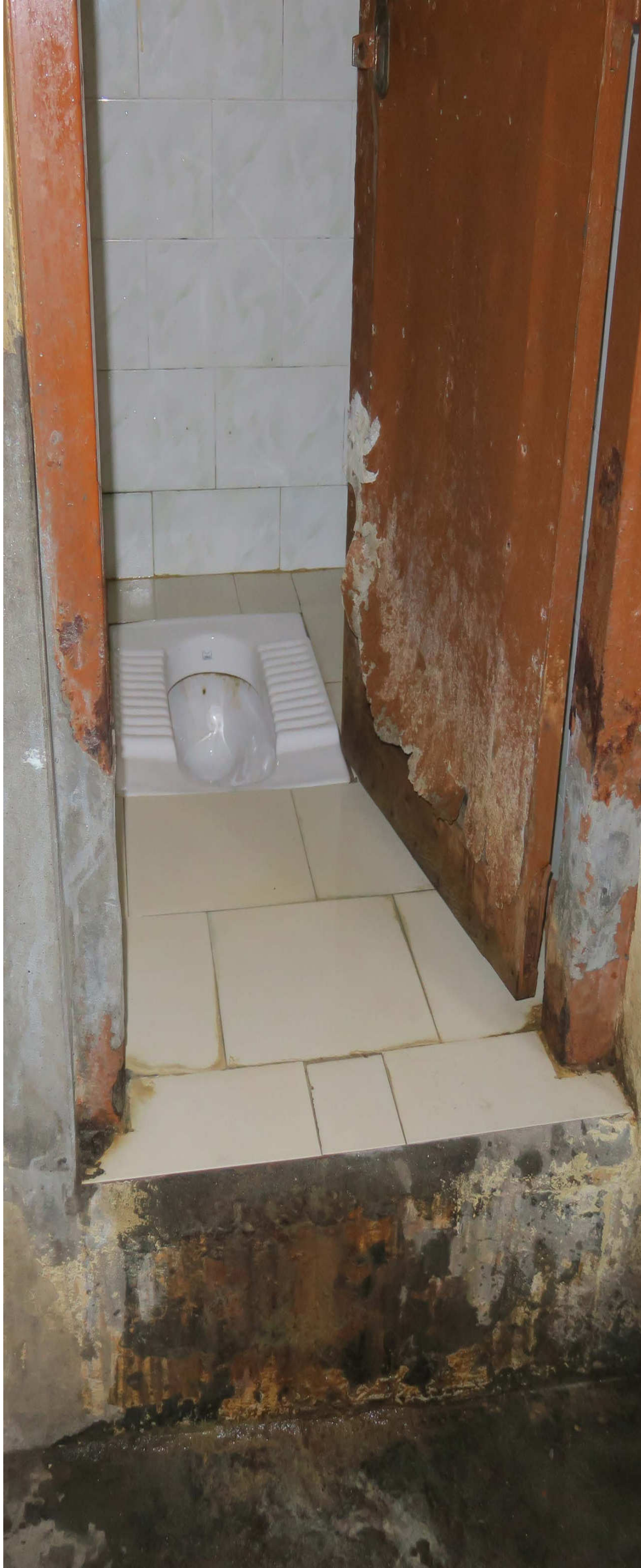
2.
IT EMBODIES THE ISSUES
OF THE LOCAL BUILT ENVIRONMENT



3.
IT'S A URGENT SITUATION
NO SAFETY / NO HEATING SYSTEM



3.
IT'S A URGENT SITUATION
NO SAFETY / NO HEATING SYSTEM



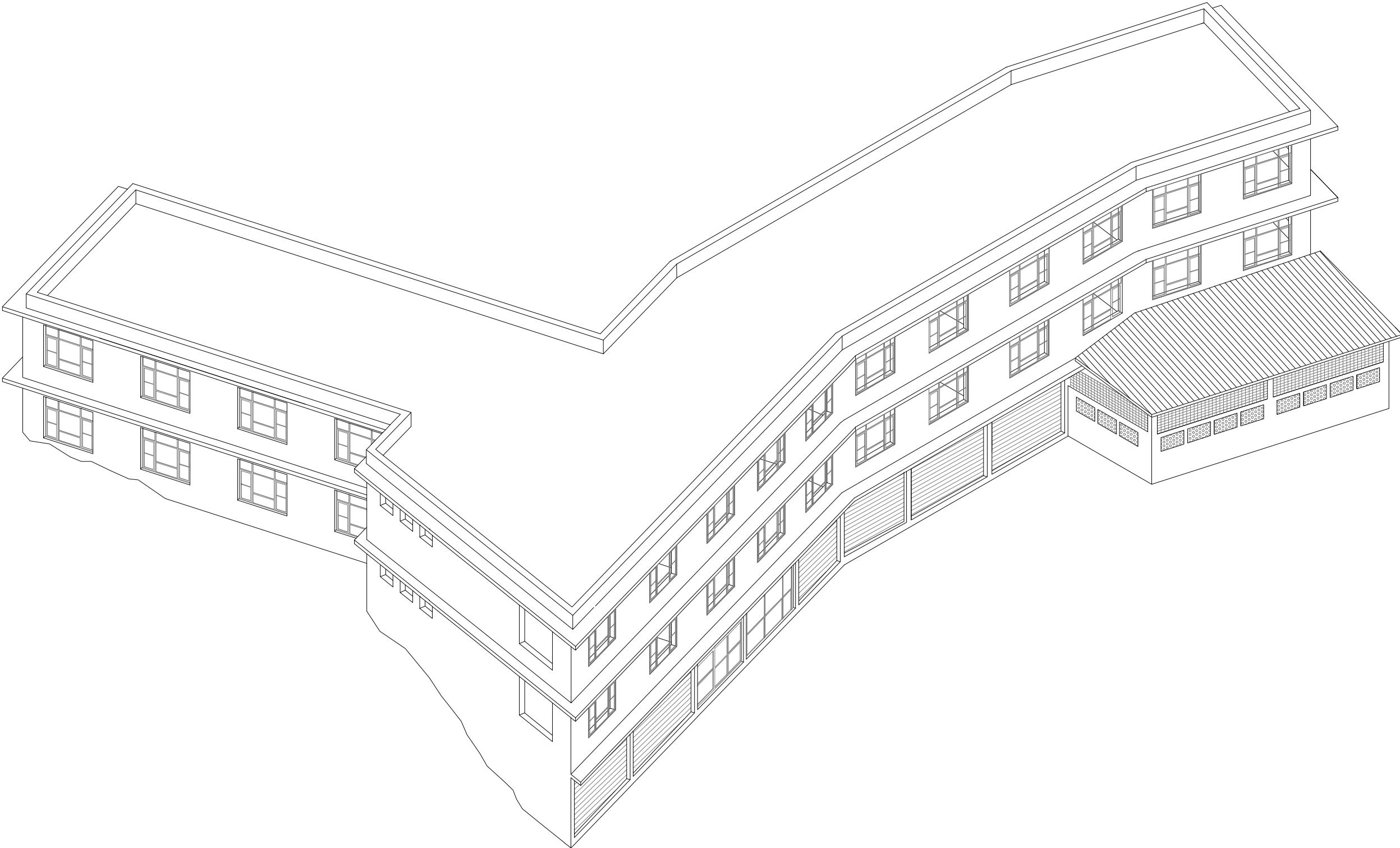
3.

IT'S A URGENT SITUATION
NO SAFETY / NO HEATING SYSTEM

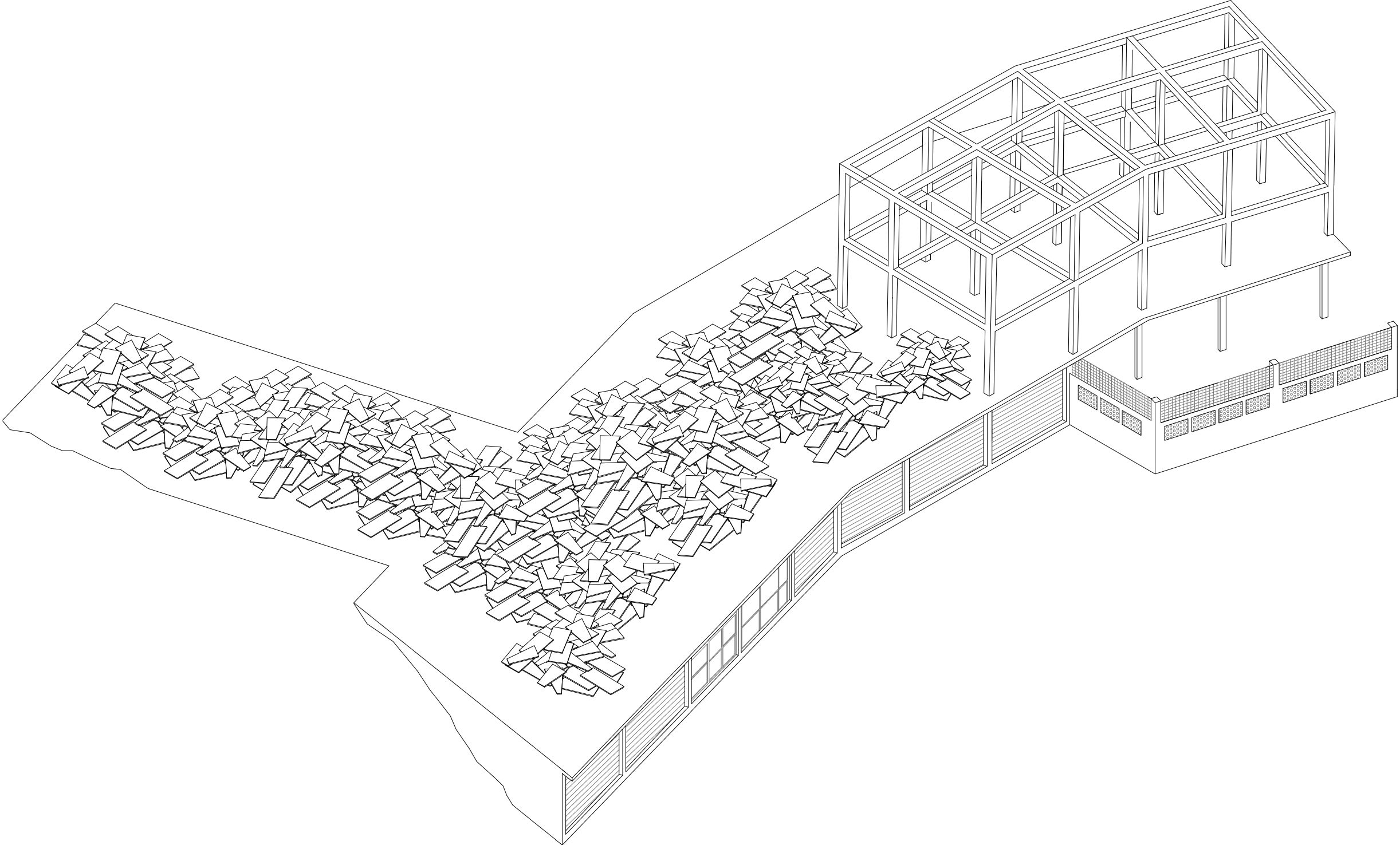


STRATEGY

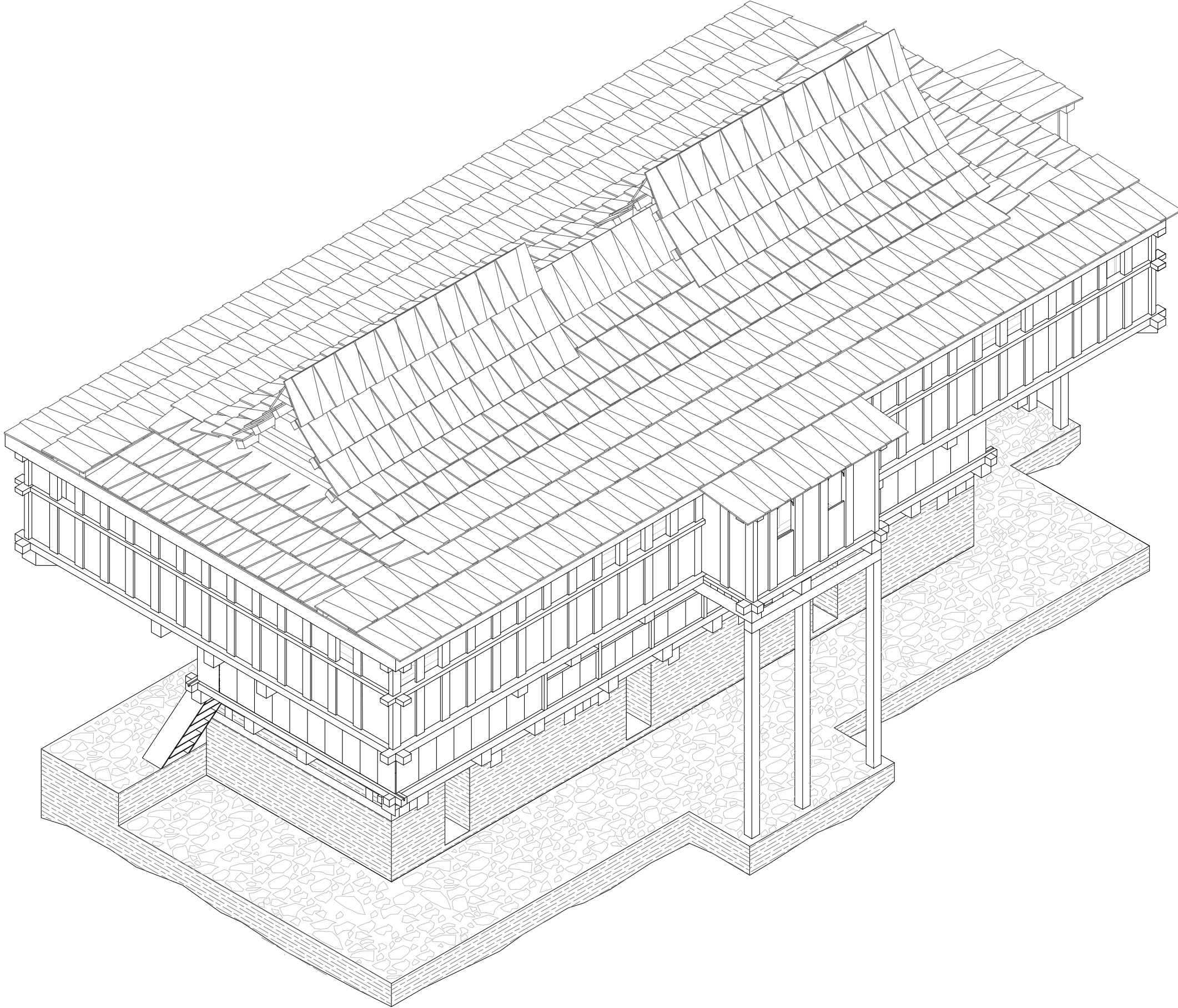
EXISTING STRUCTURE



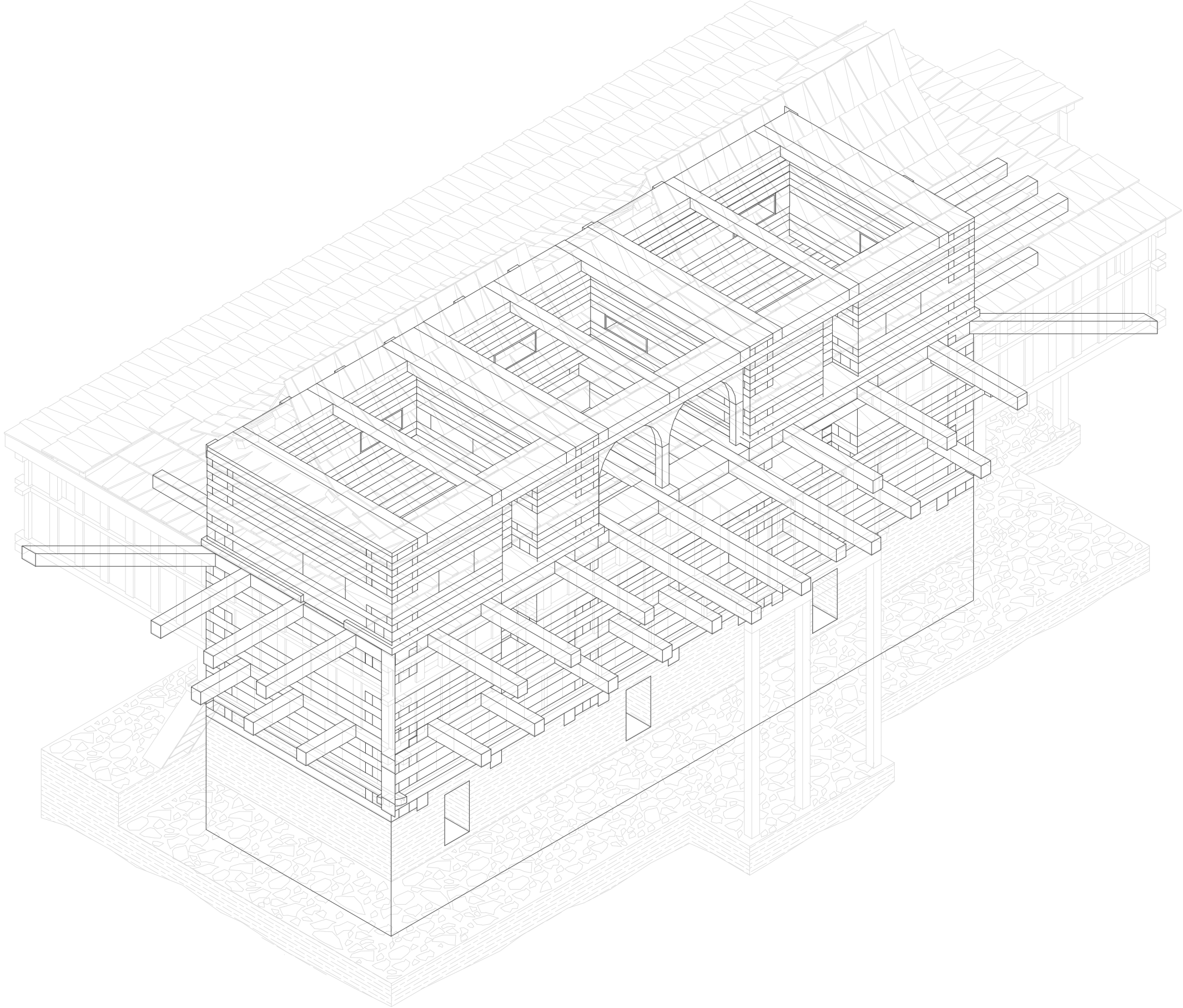
PARTIAL DEMOLITION

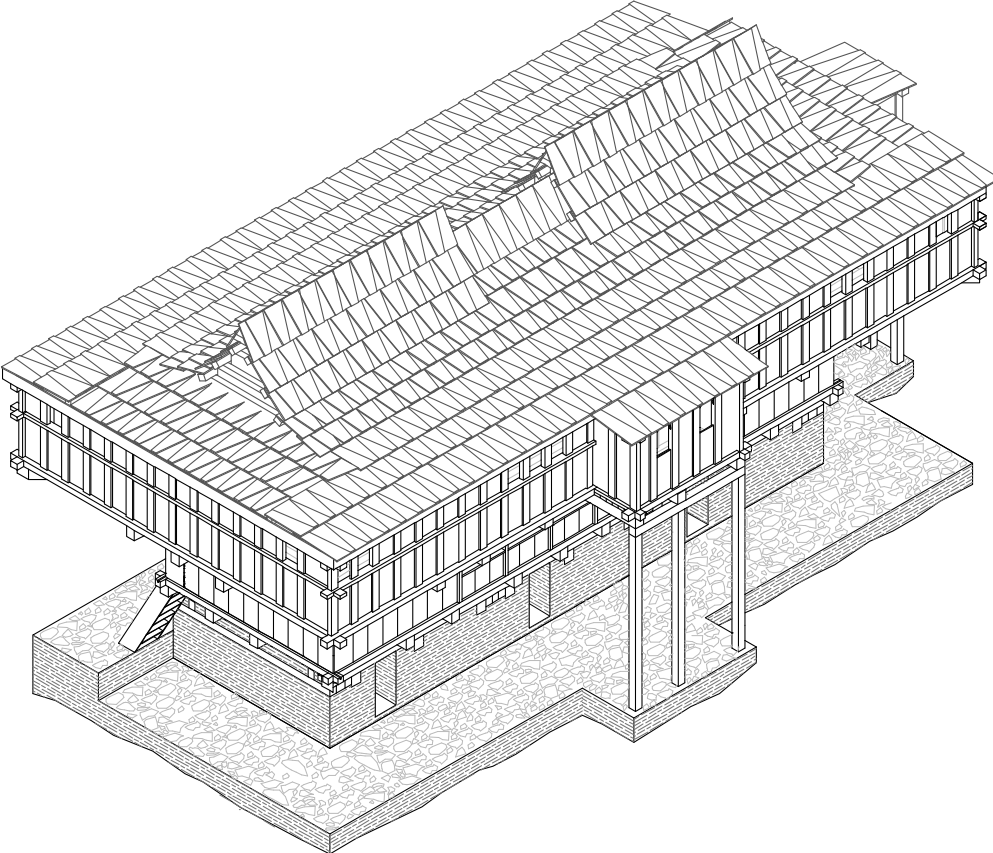


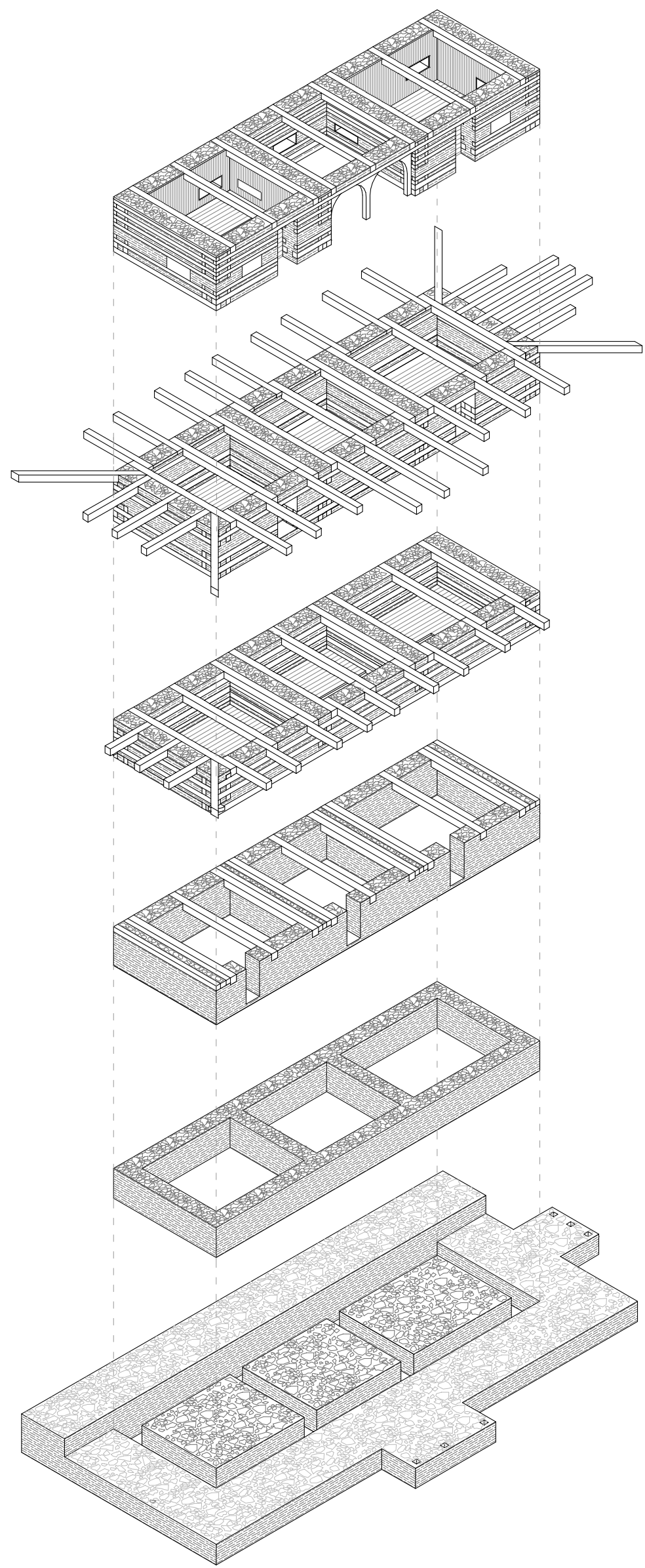
INSPIRATION BY LOCAL *GRAND VERNACULAR* ARCHITECTURE

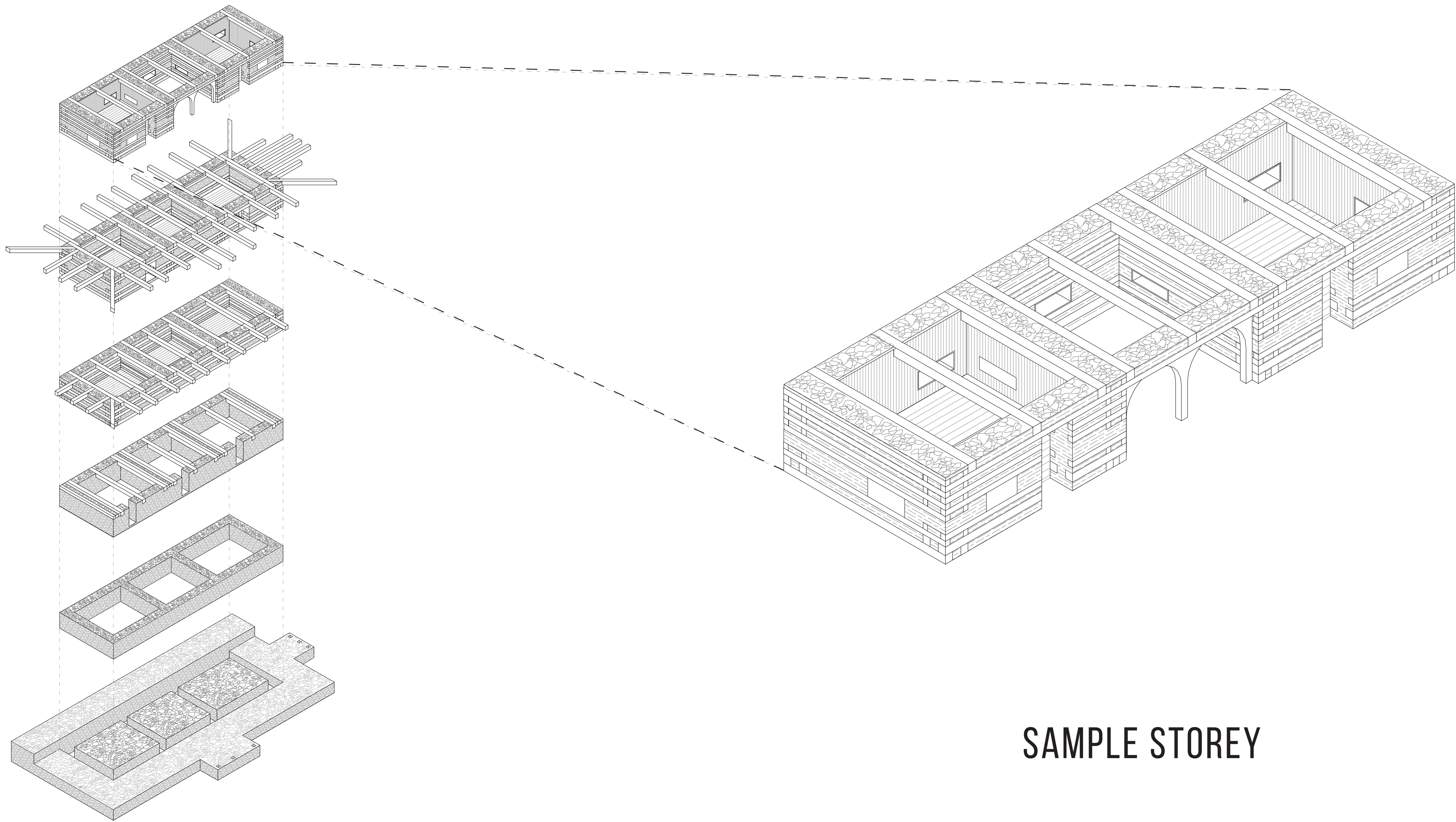


CONSTRUCTION TECHNIQUE OF THE CENTRAL CORE

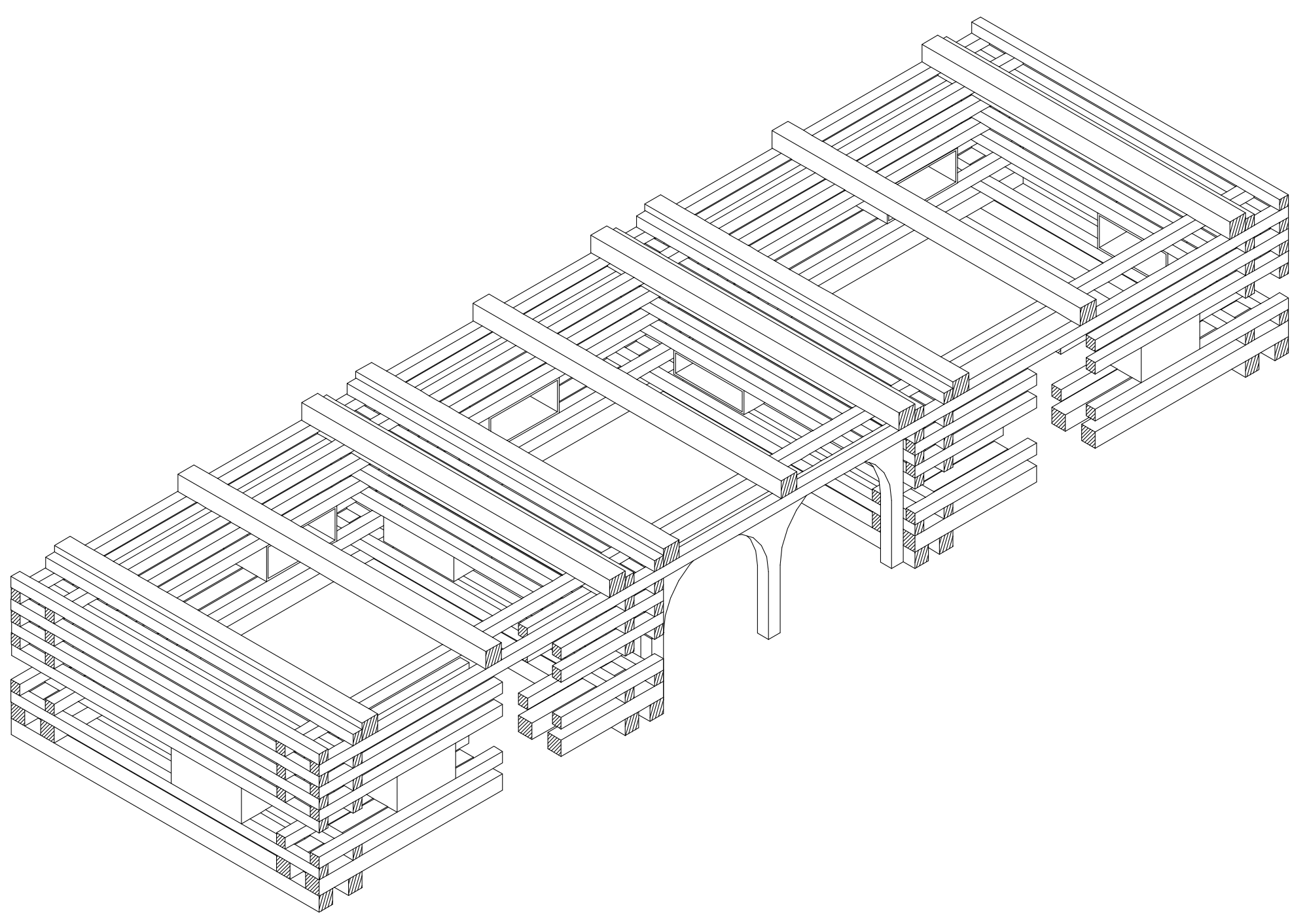
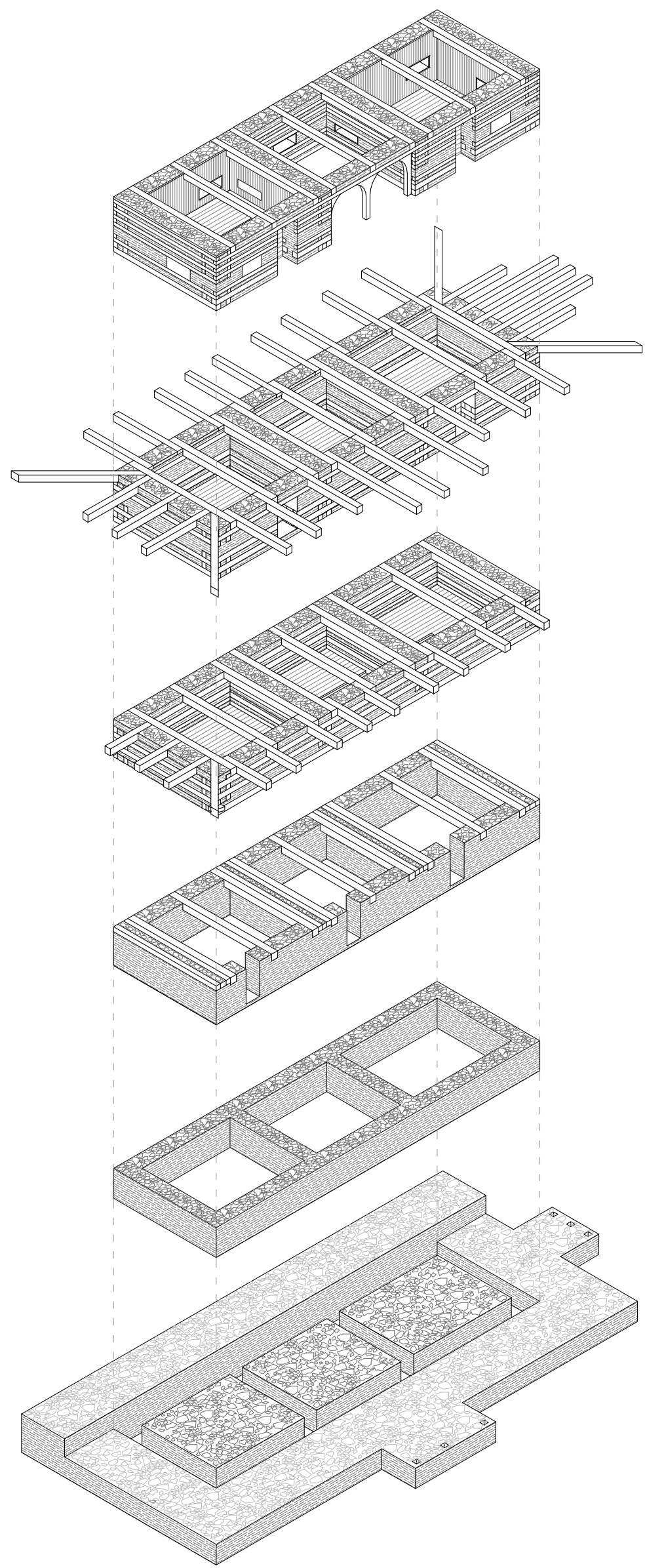




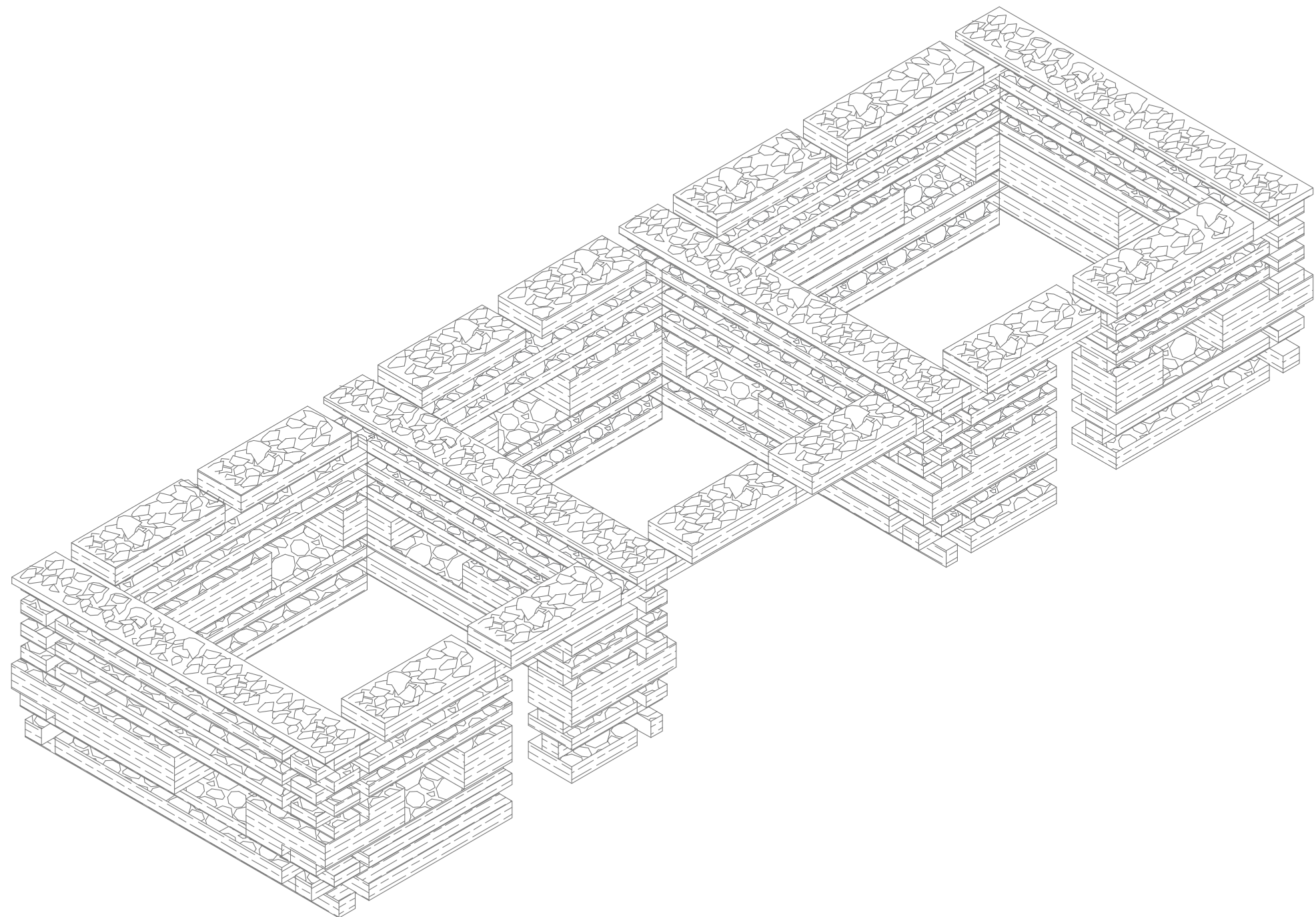
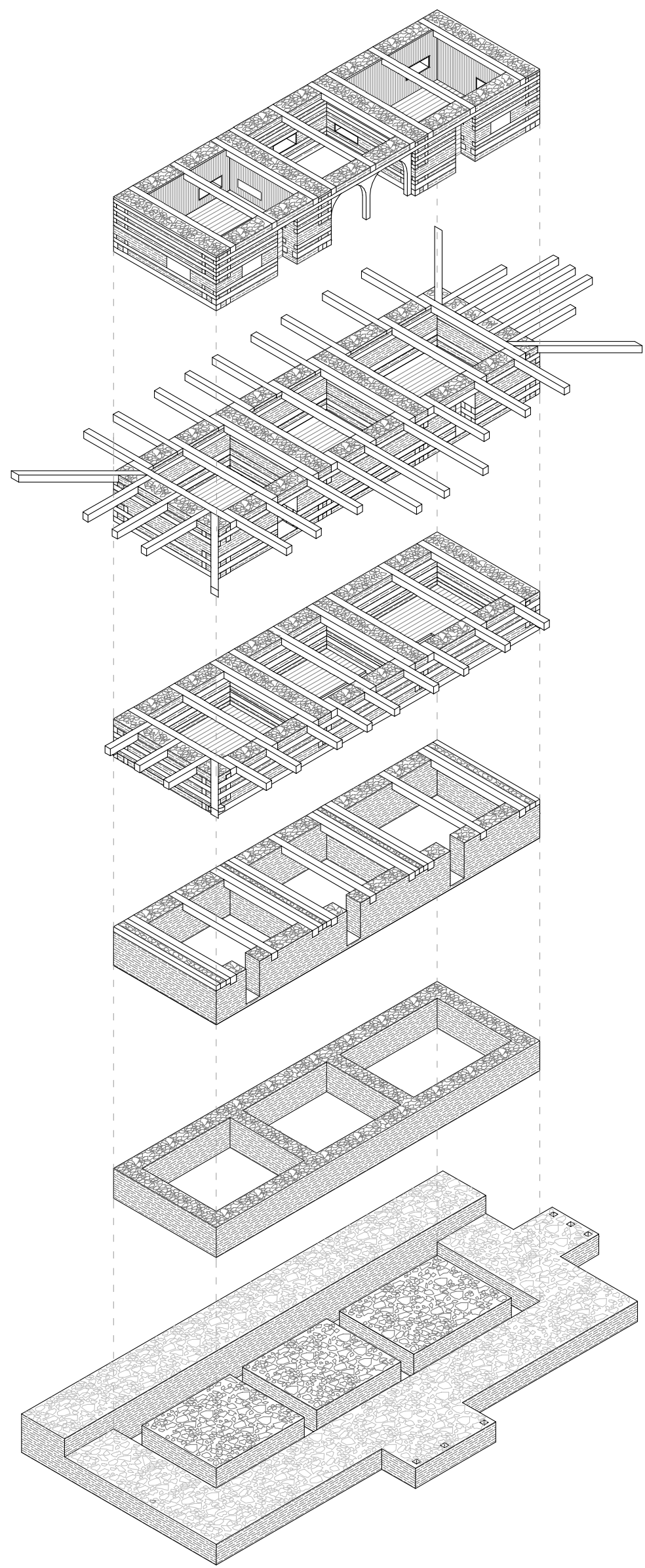




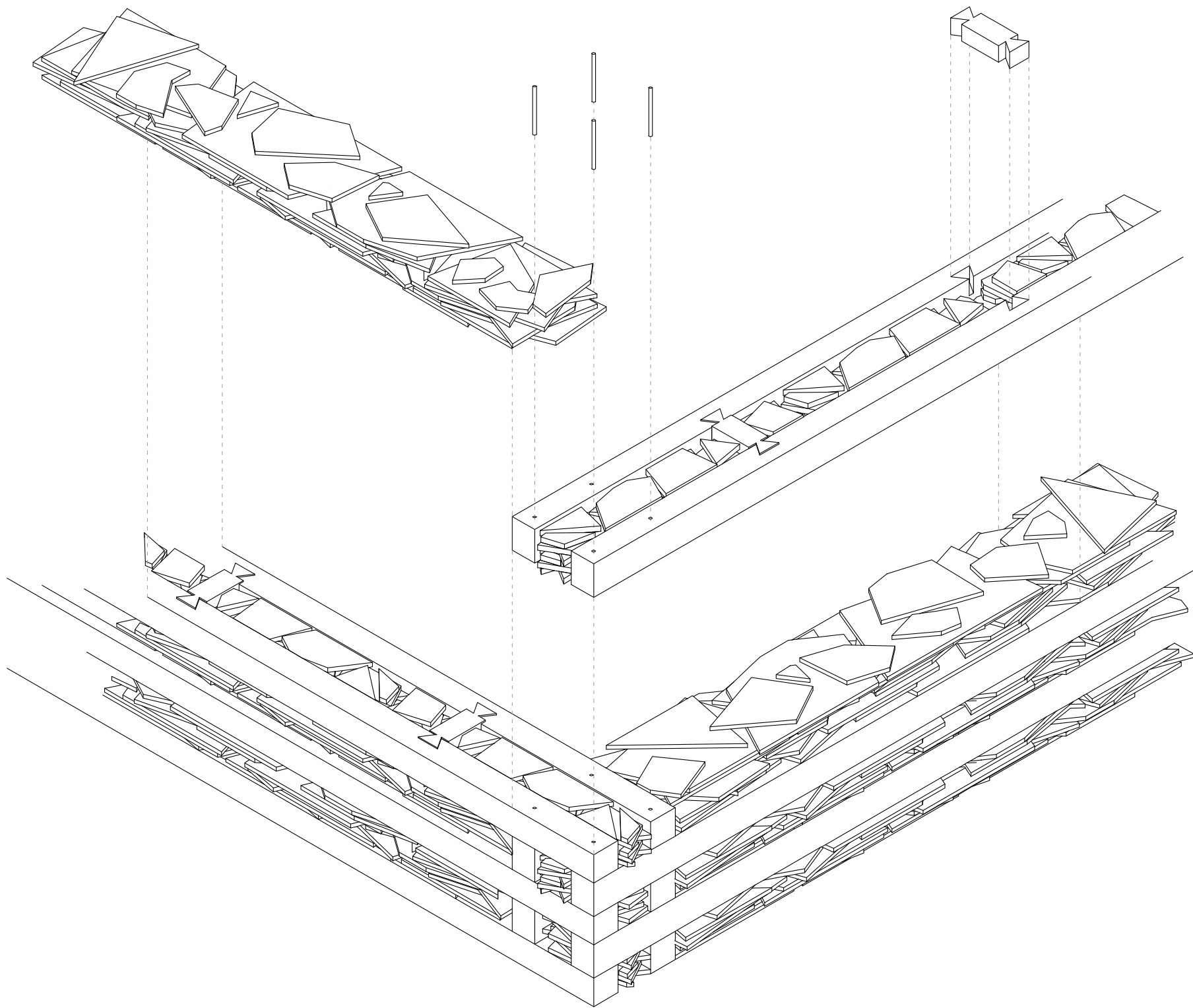
SAMPLE STOREY



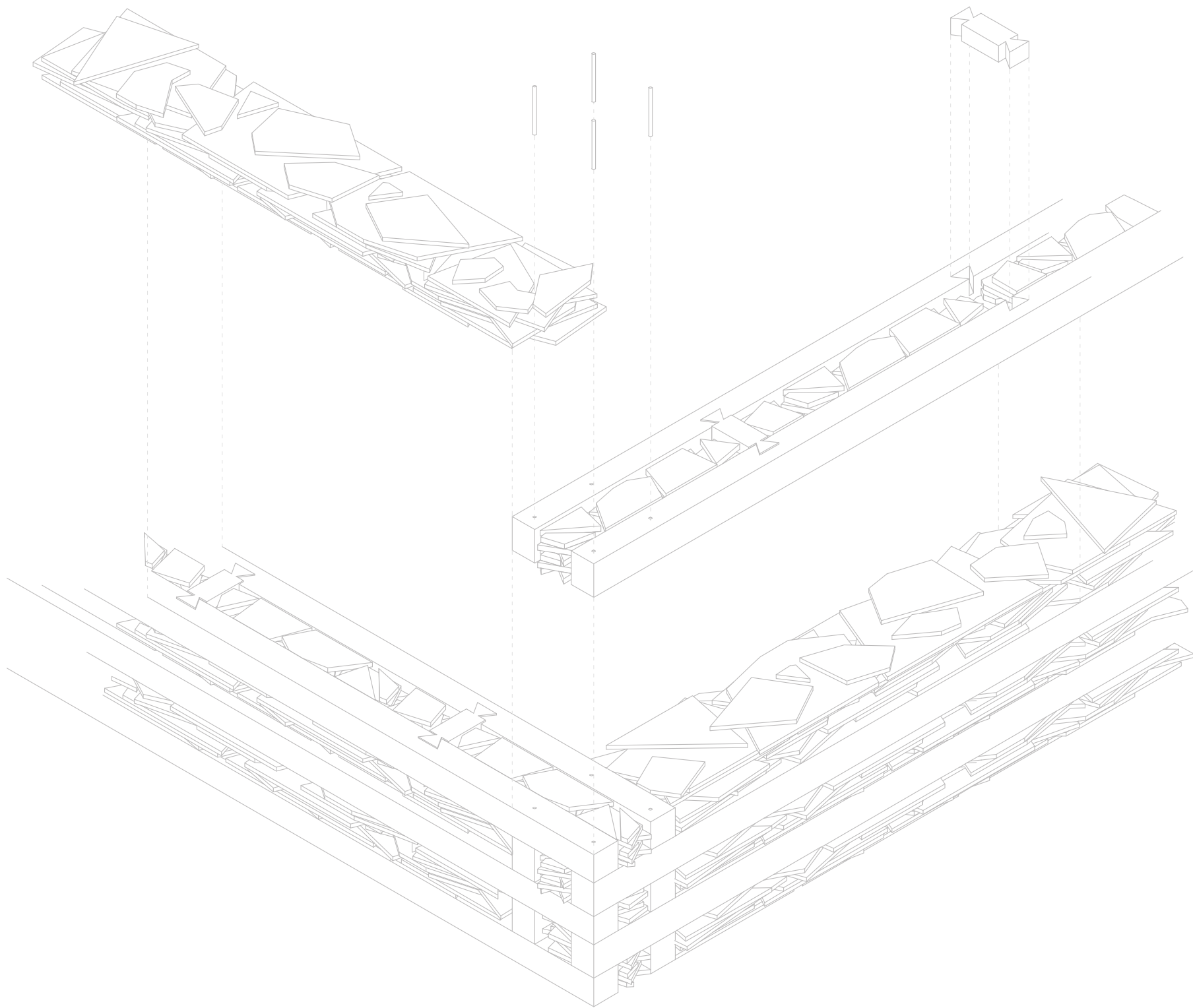
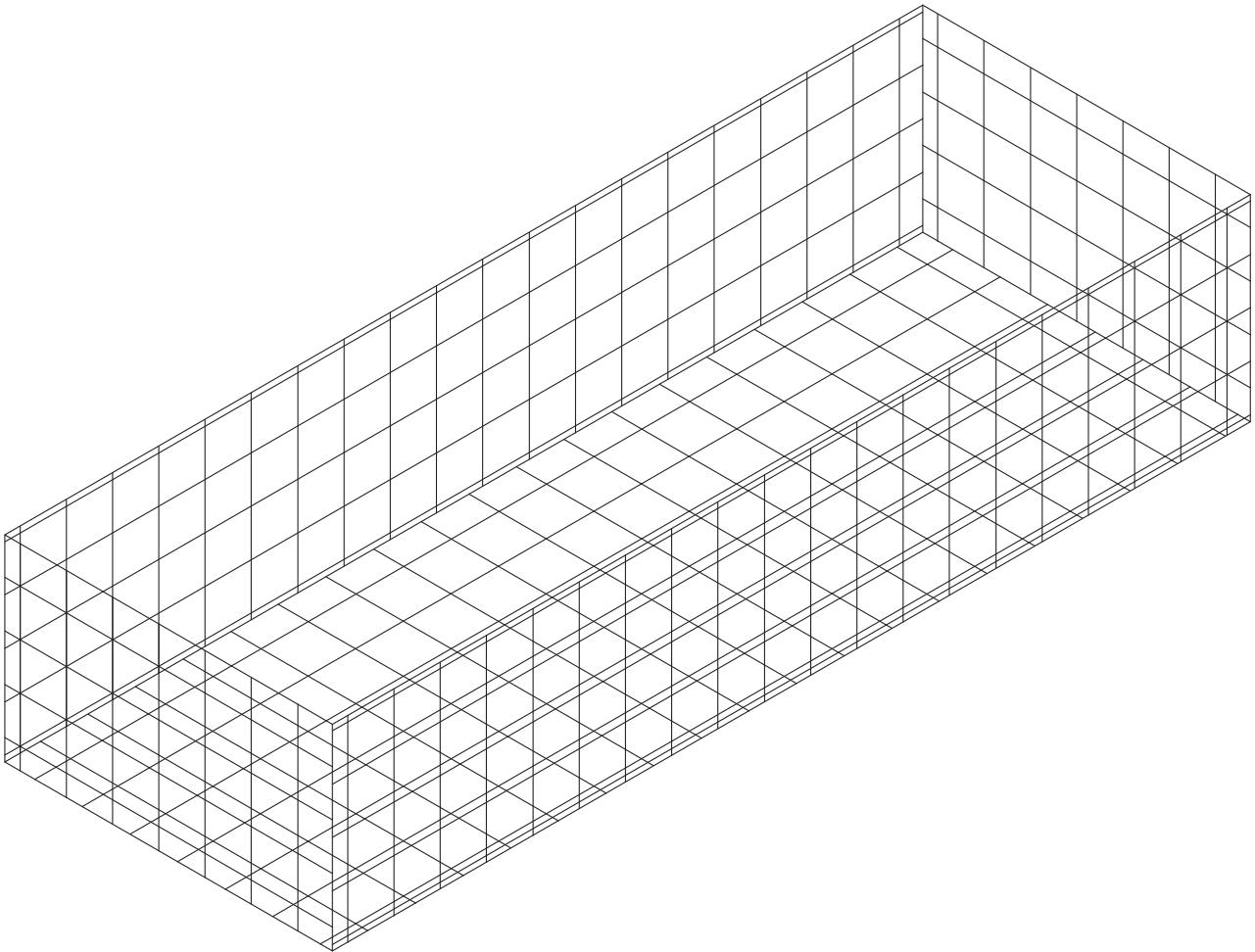
TIMBER FRAME



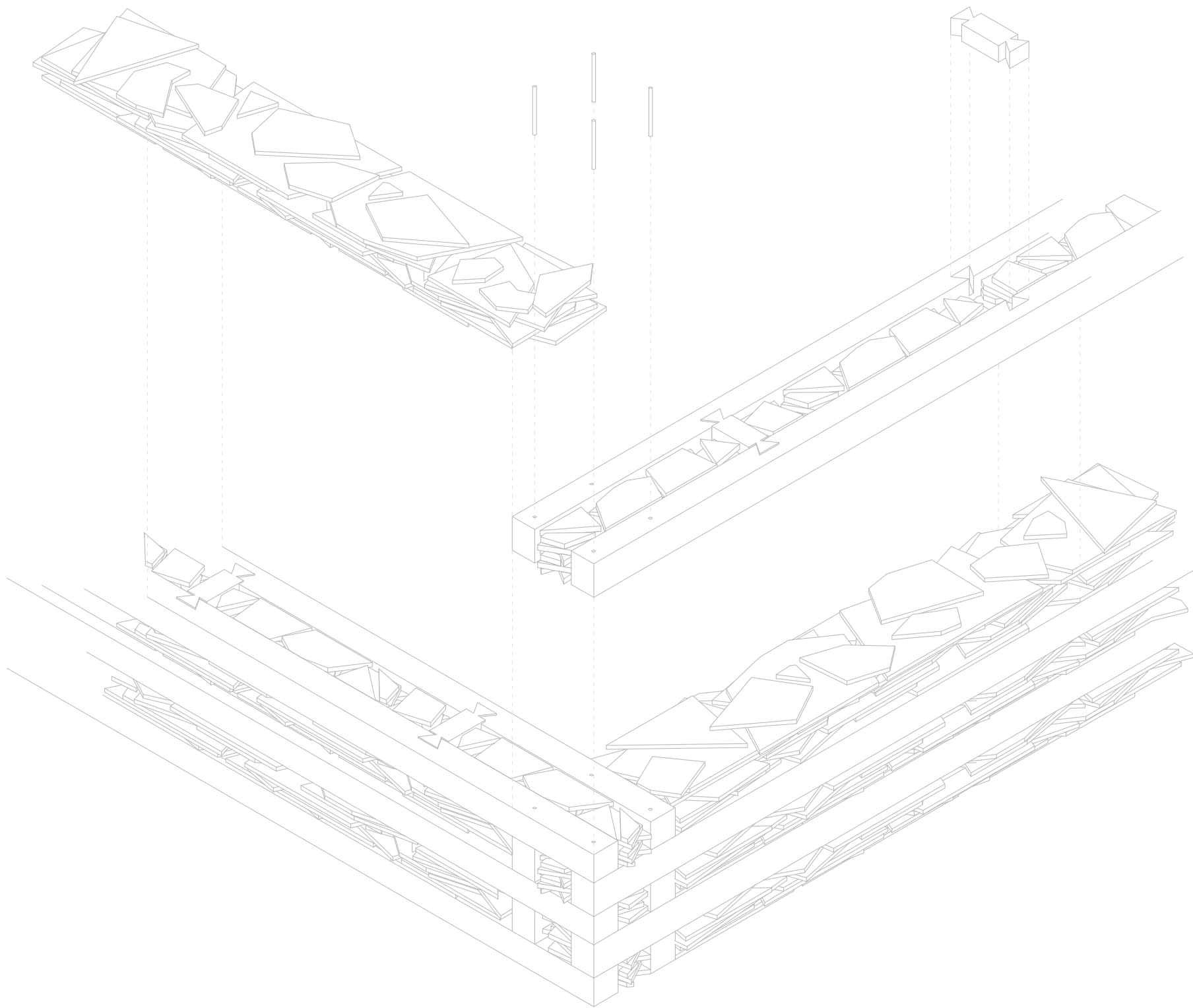
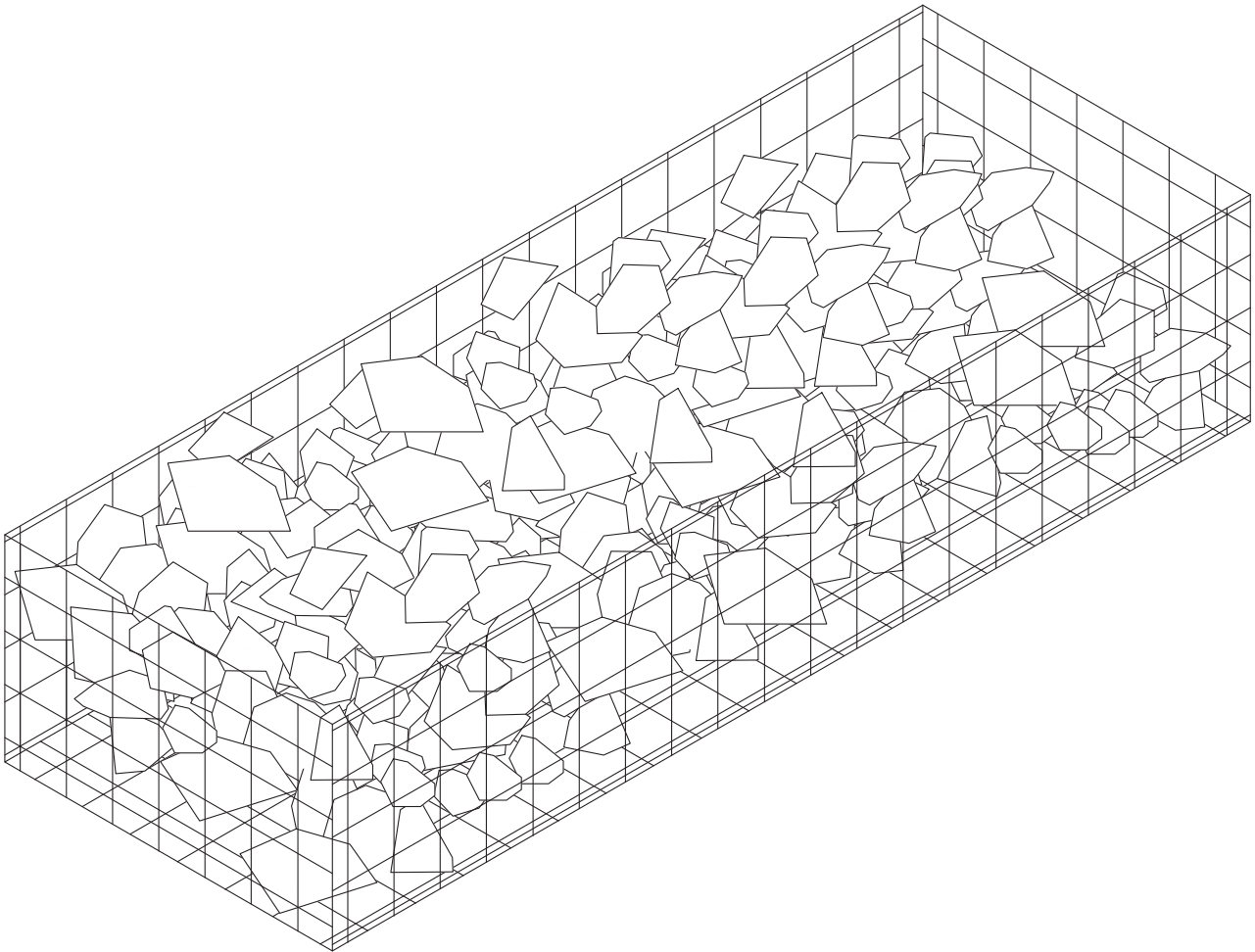
STONES INFILL



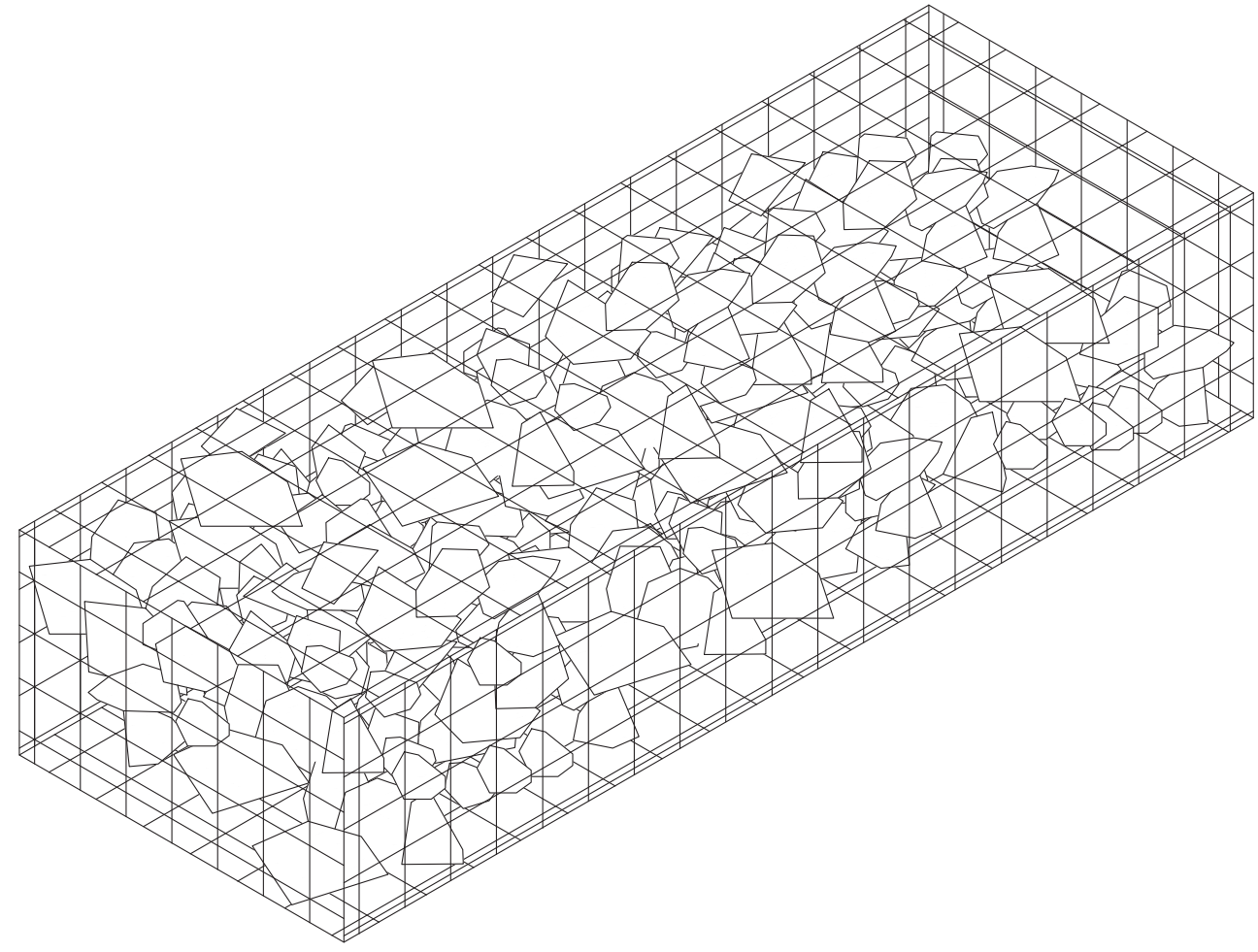
KATH-KHUNI CONSTRUCTION



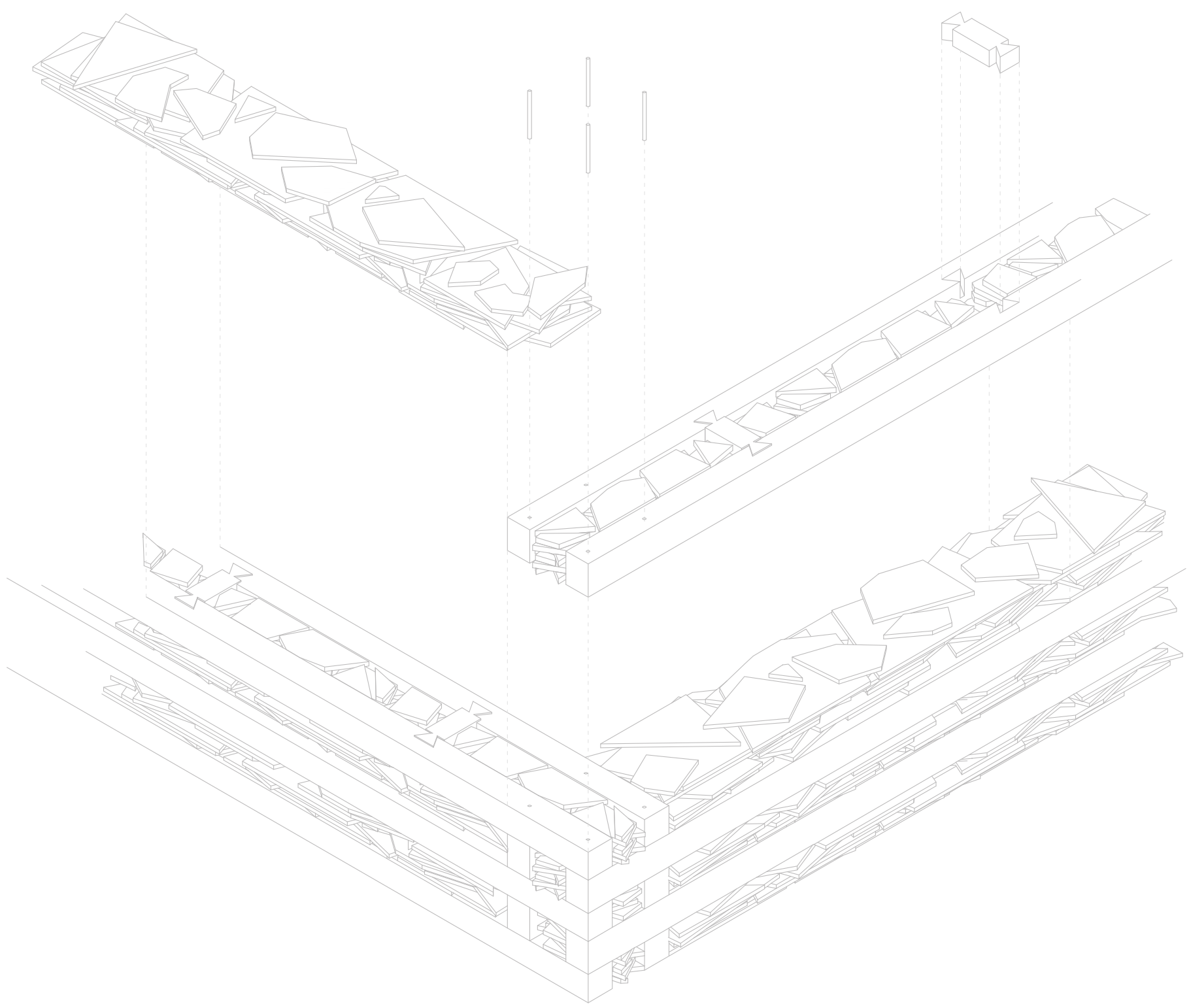
KATH-KHUNI CONSTRUCTION



KATH-KHUNI CONSTRUCTION

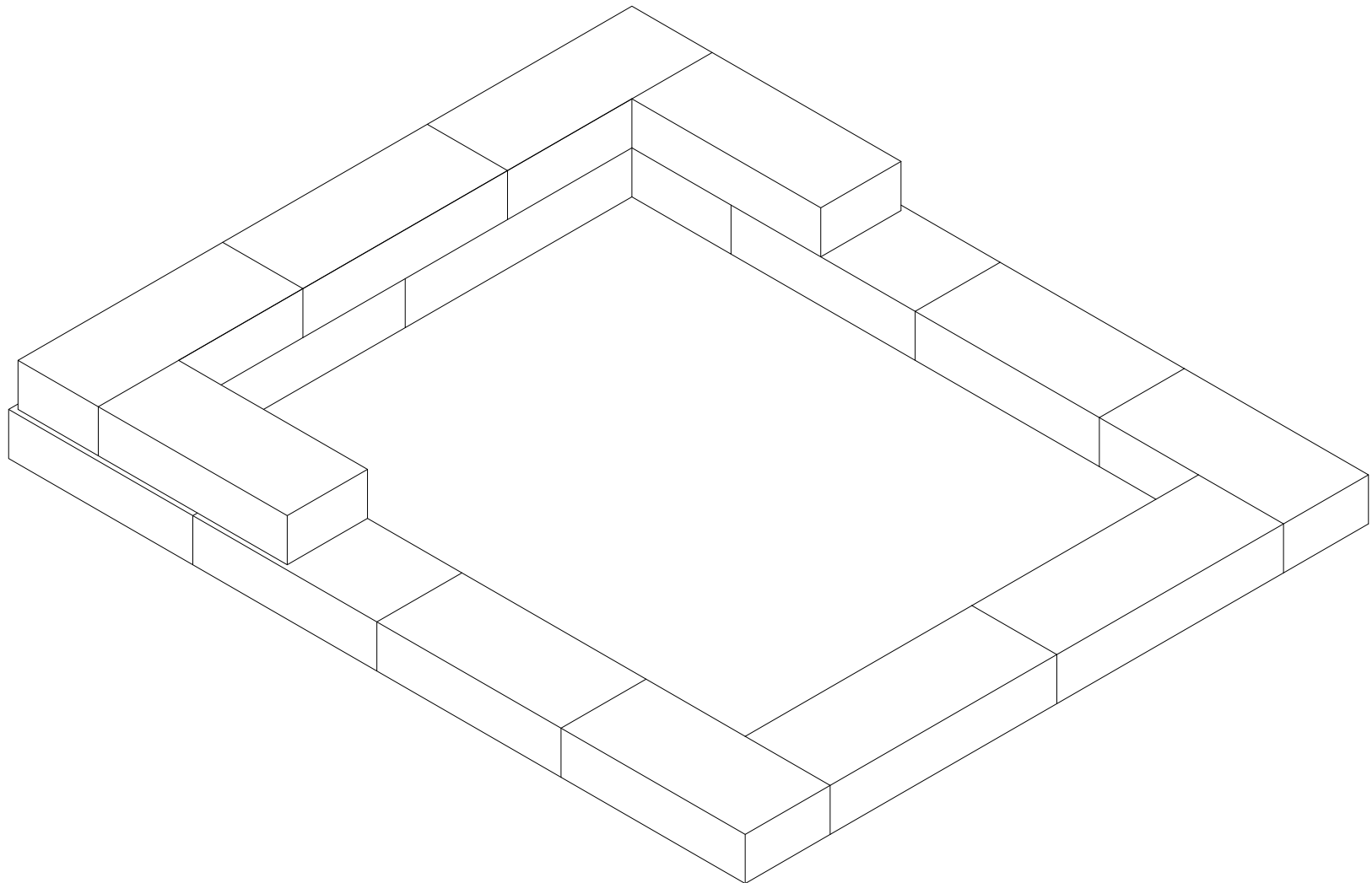


GABION BOX

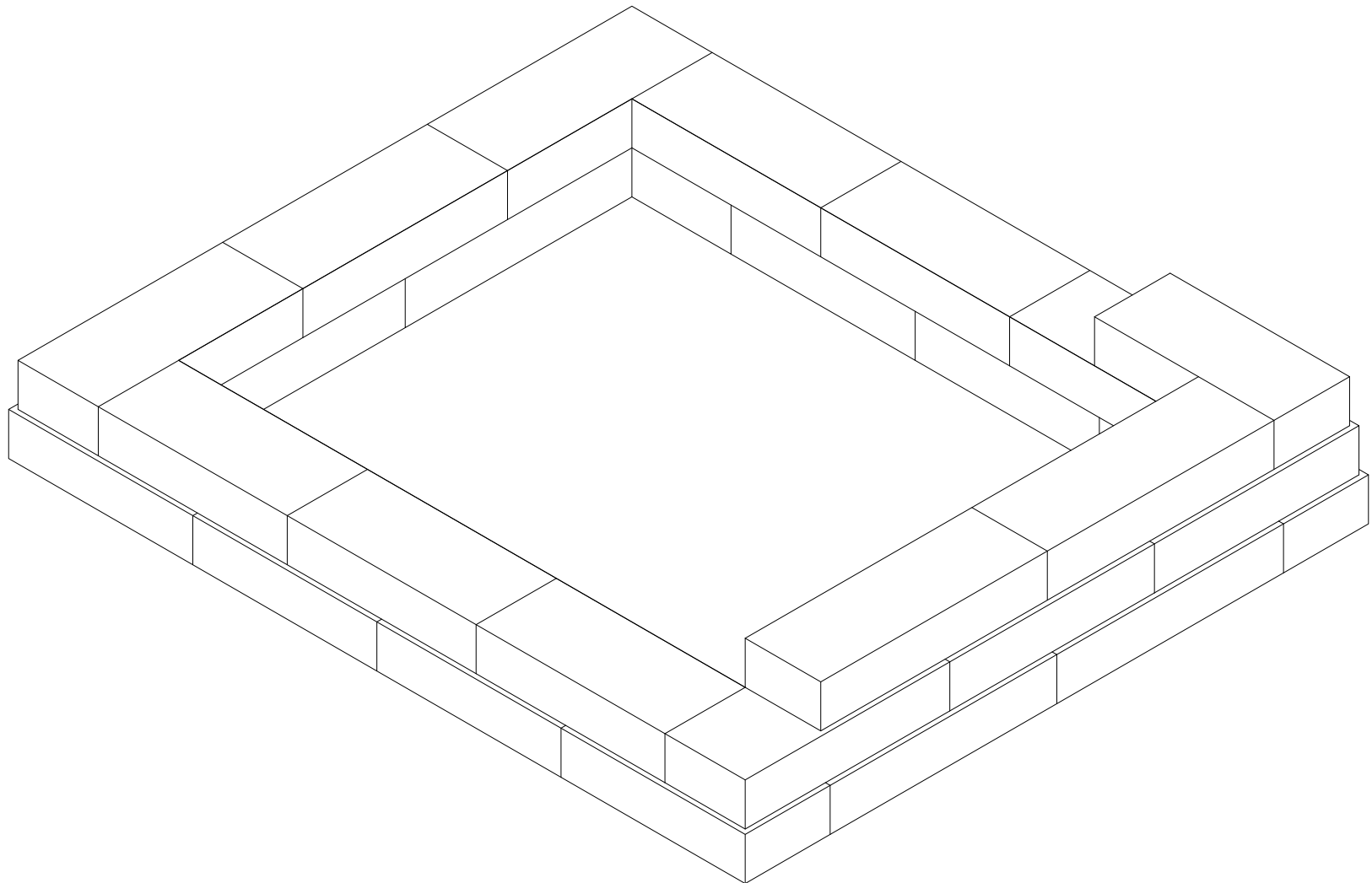


KATH-KHUNI CONSTRUCTION

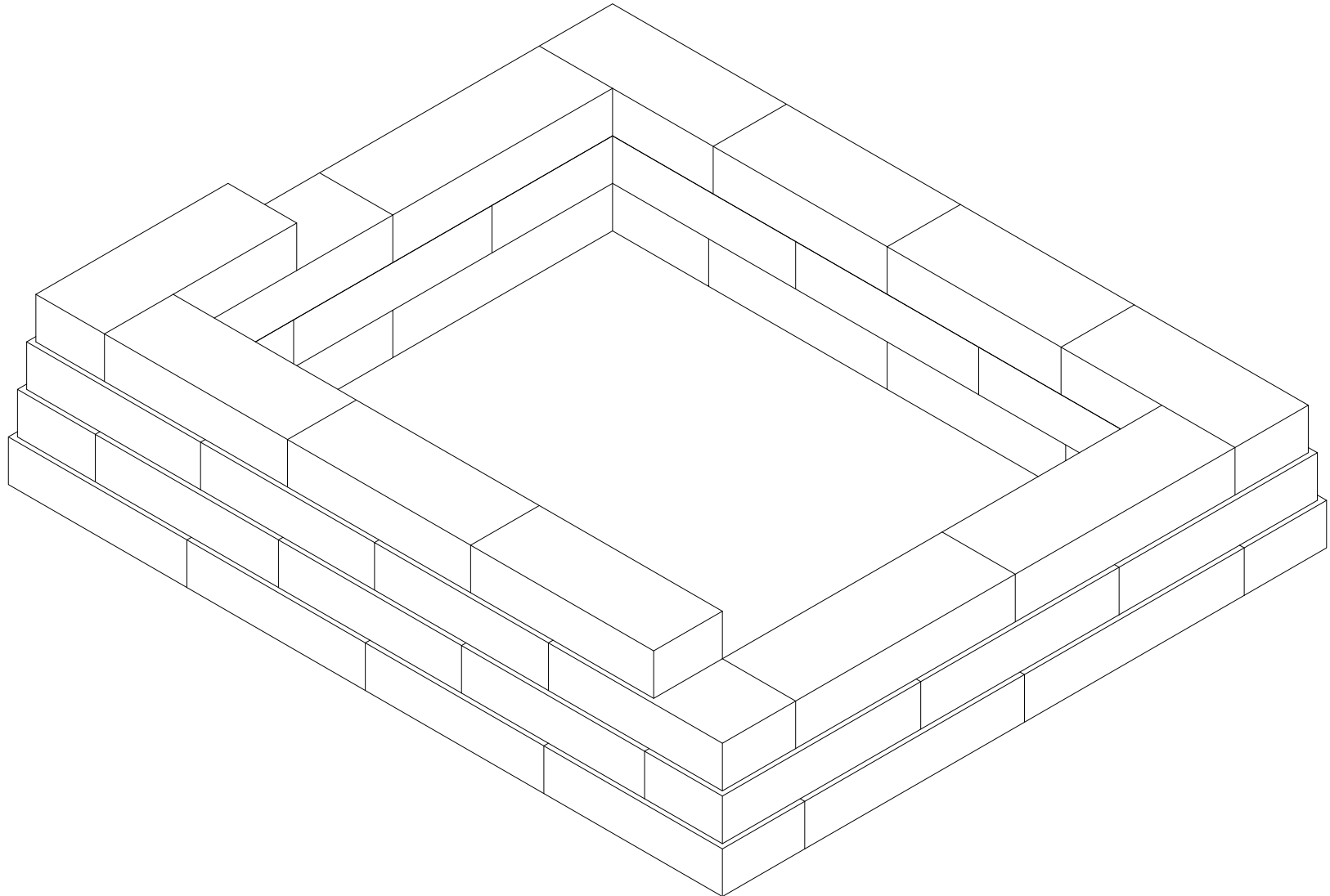
GABION COMPOSITION



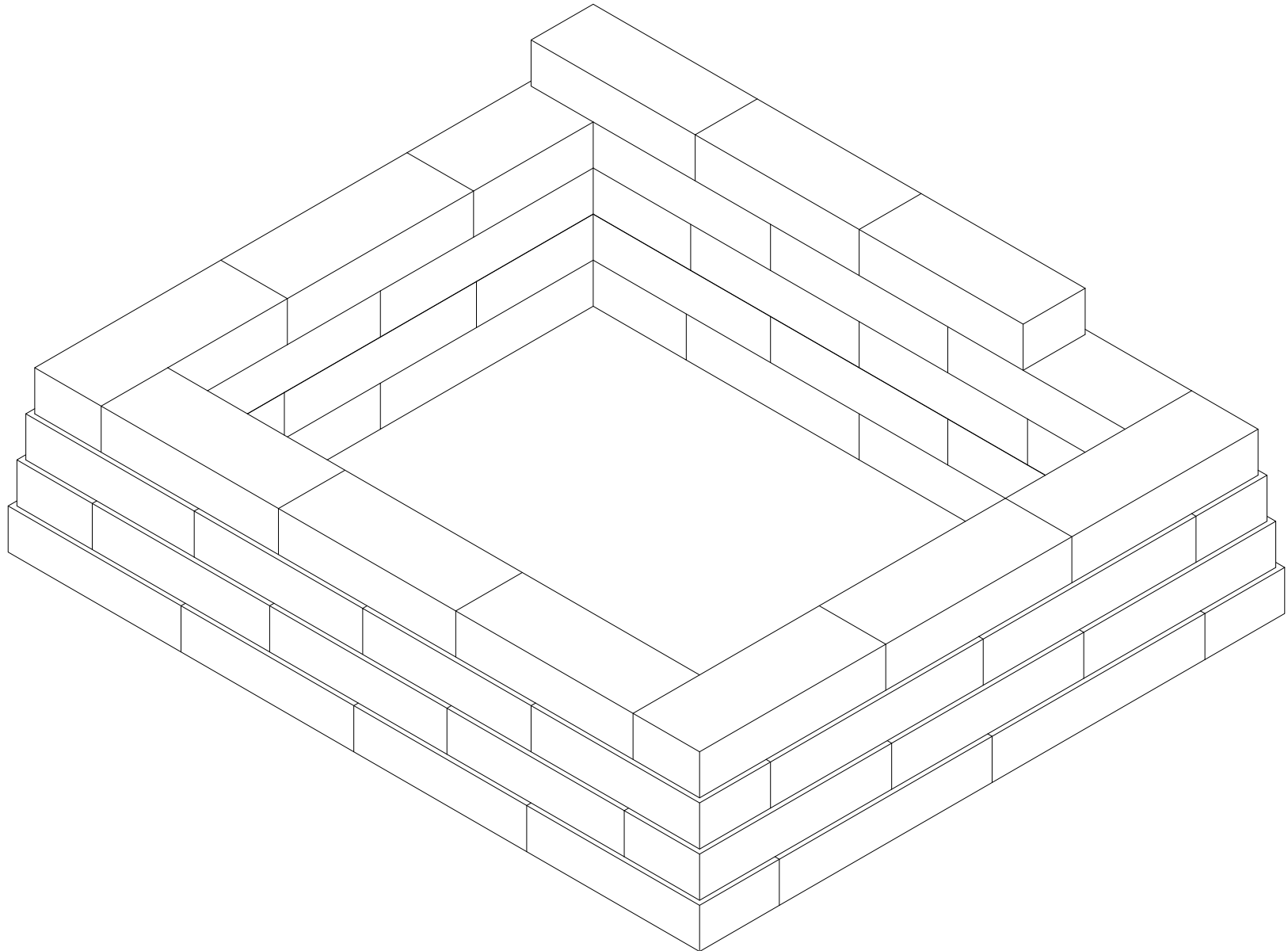
GABION COMPOSITION



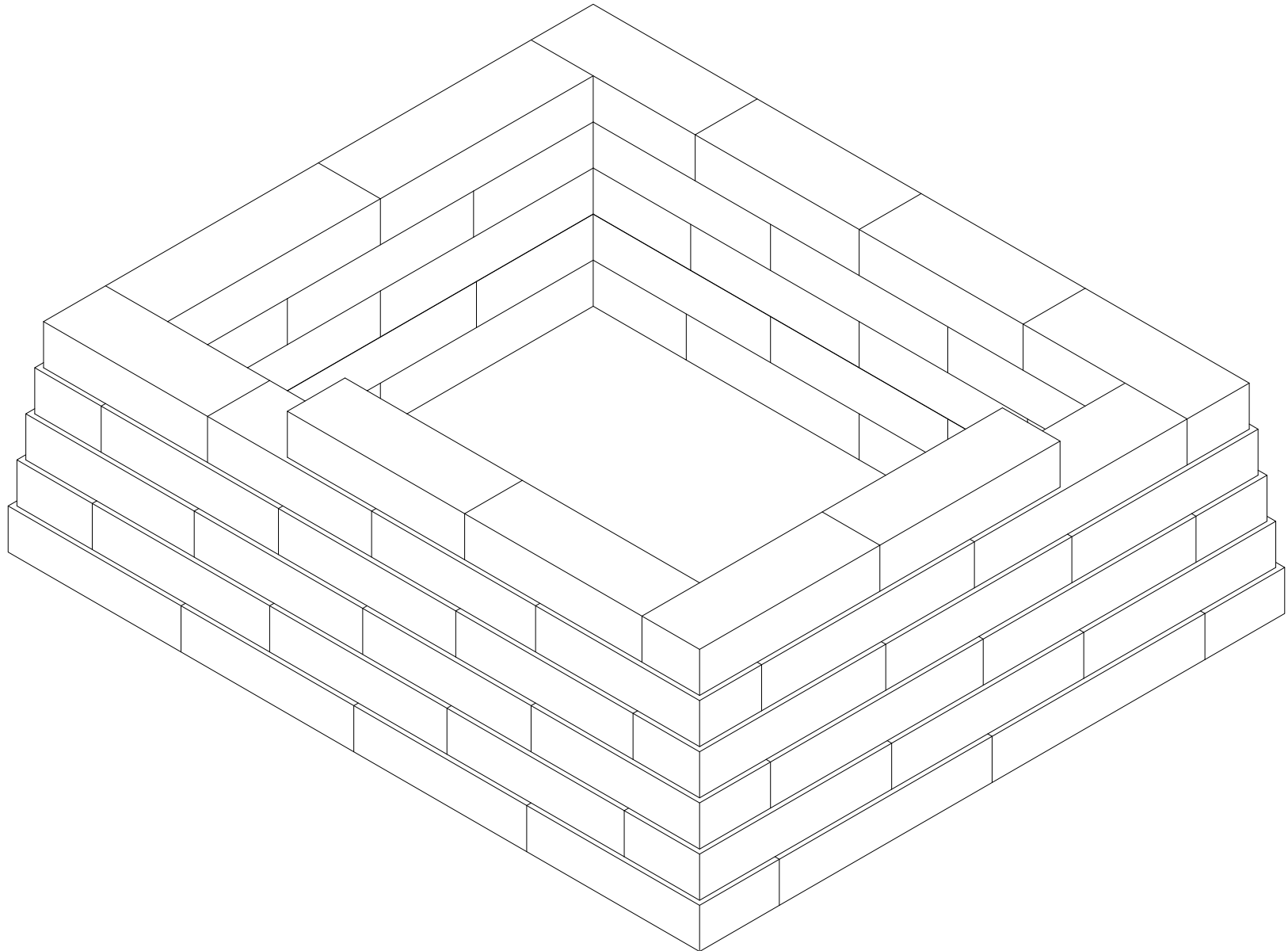
GABION COMPOSITION



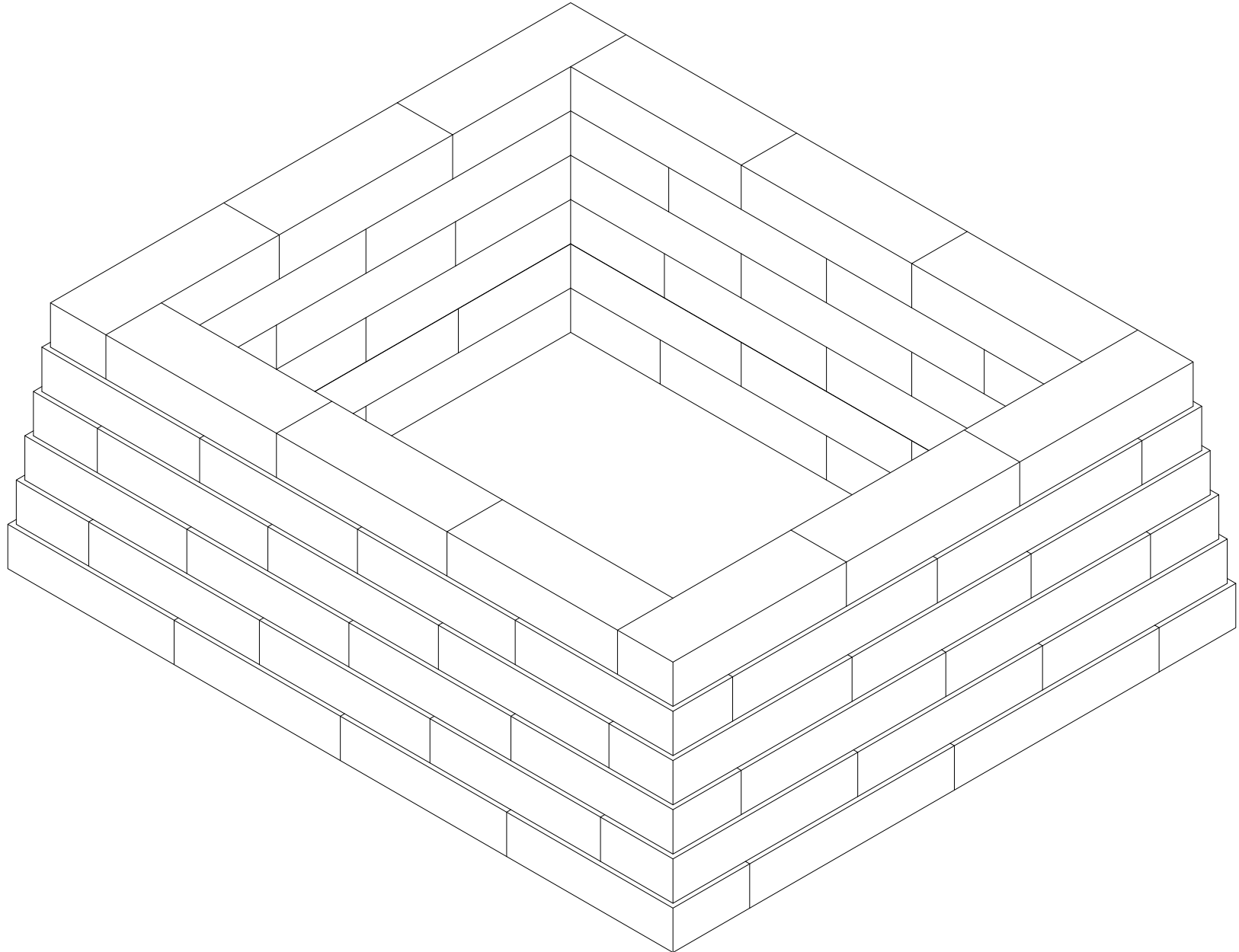
GABION COMPOSITION



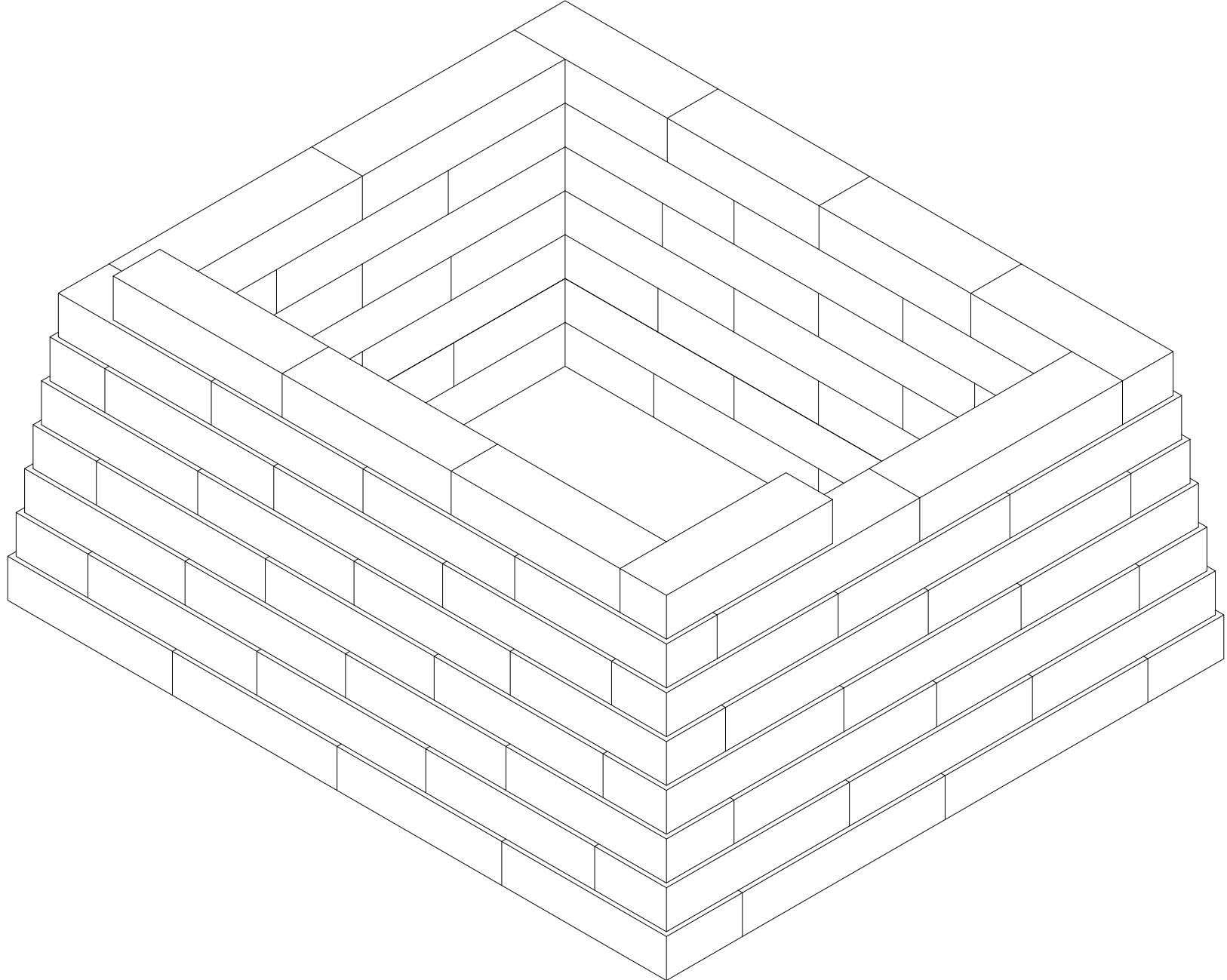
GABION COMPOSITION



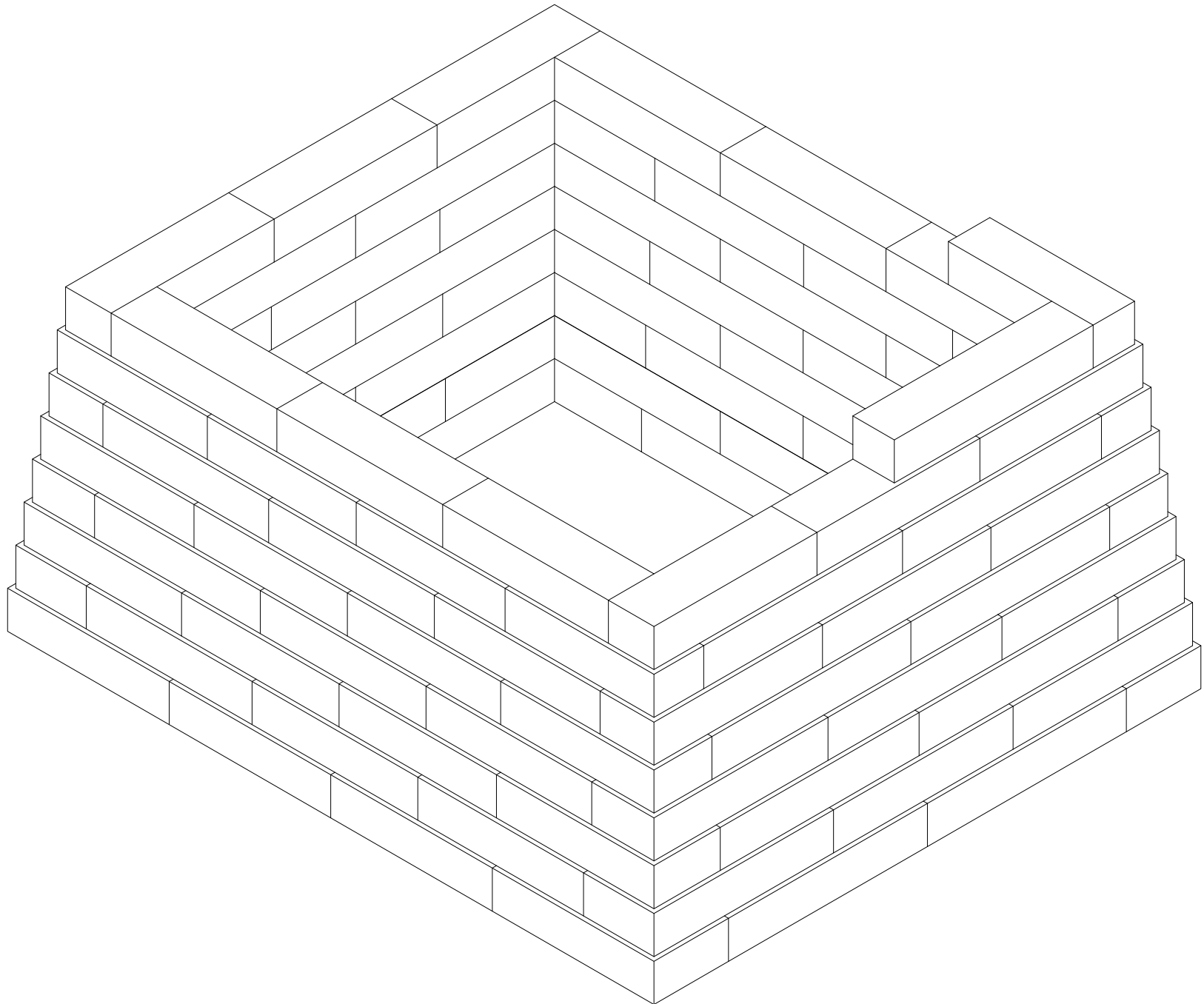
GABION COMPOSITION



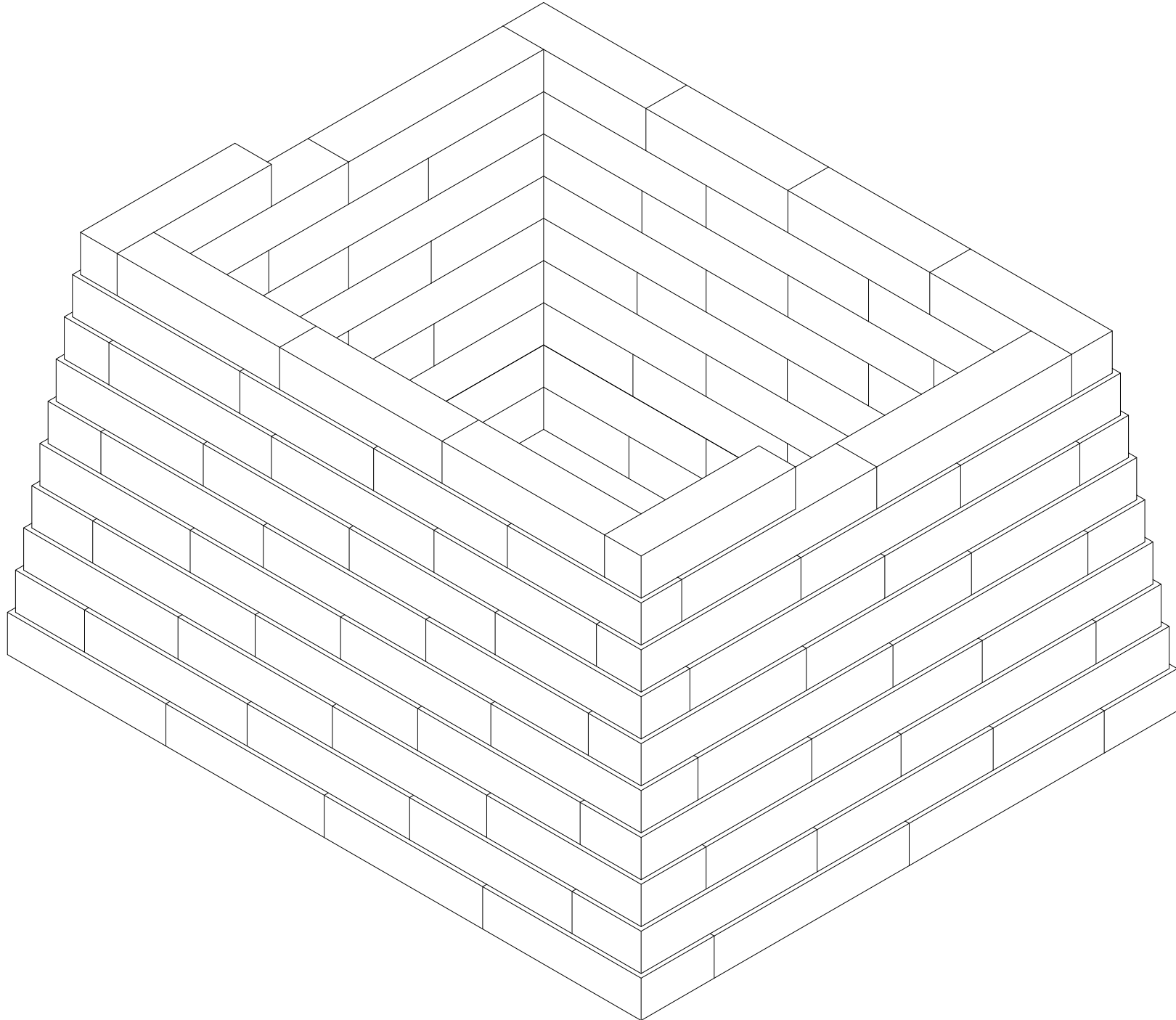
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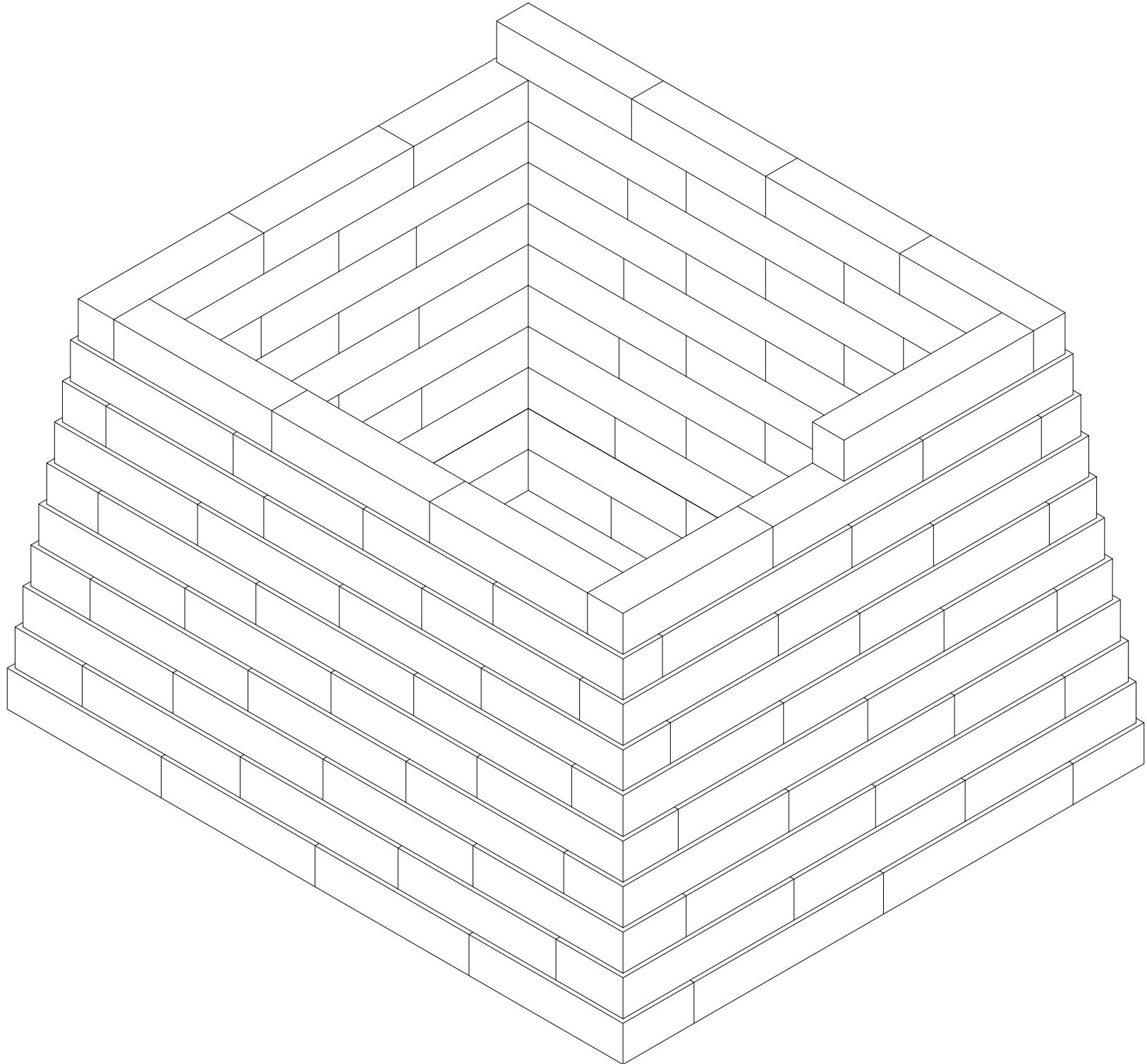
GABION COMPOSITION



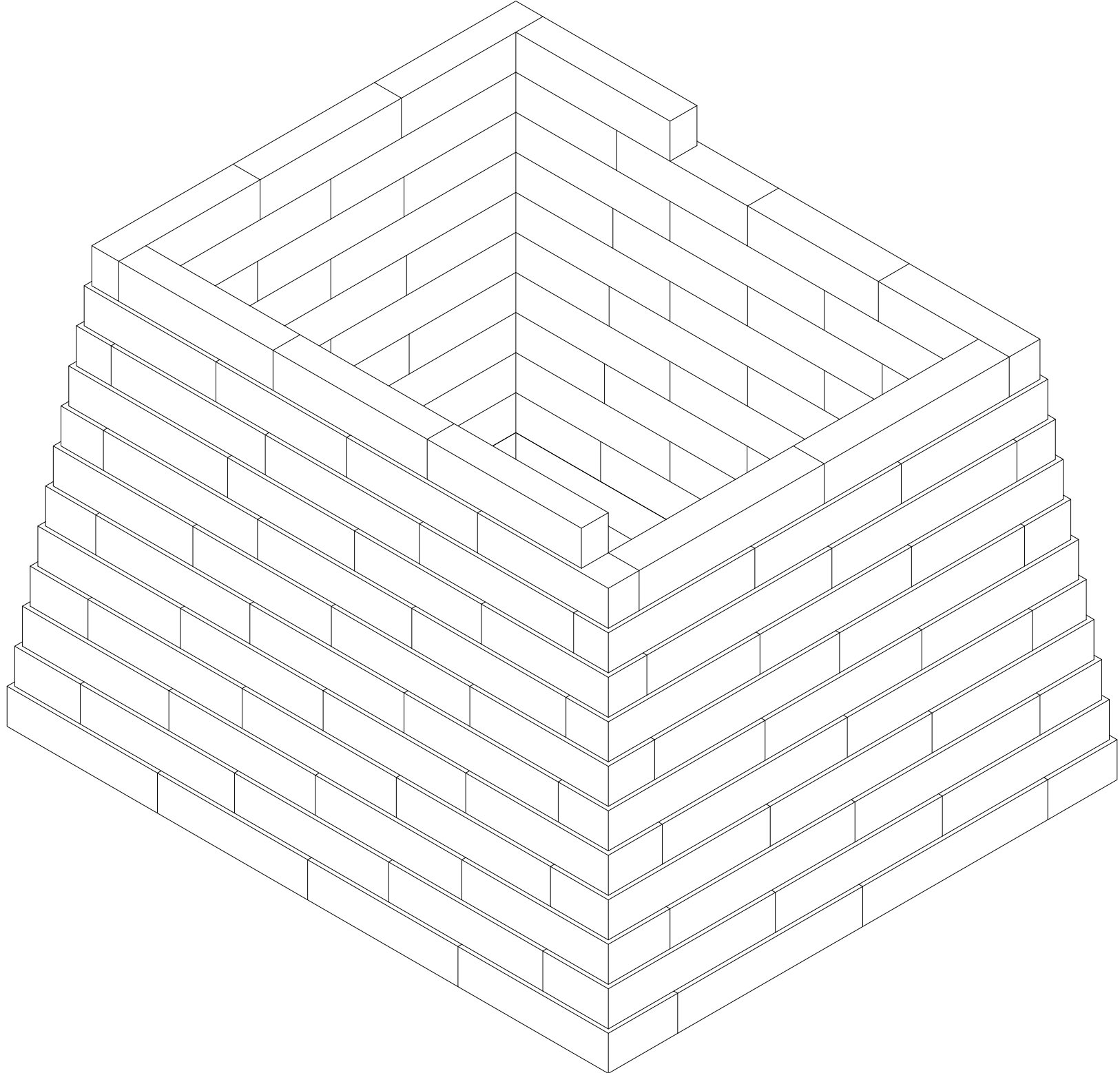
GABION COMPOSITION



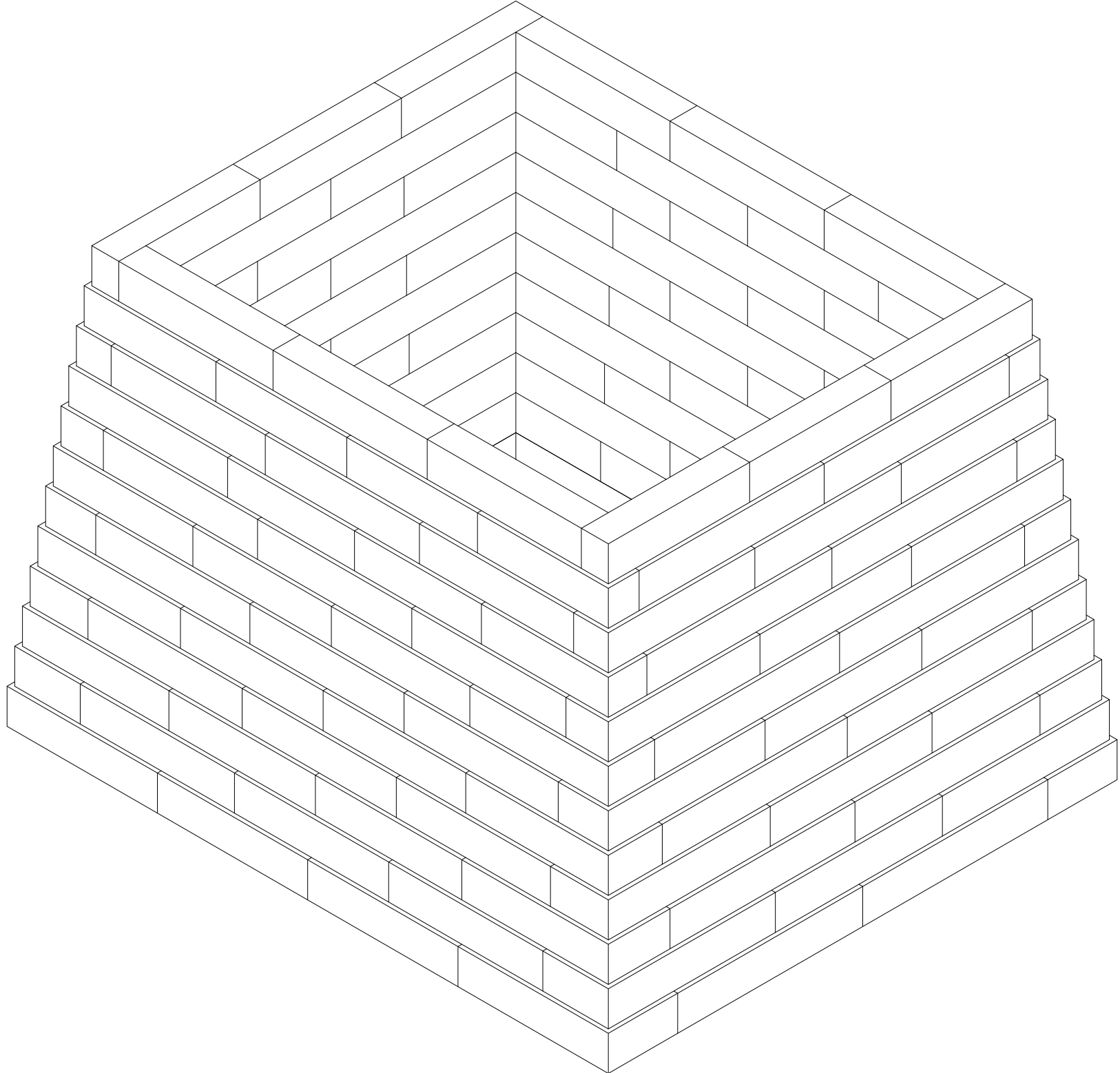
GABION COMPOSITION



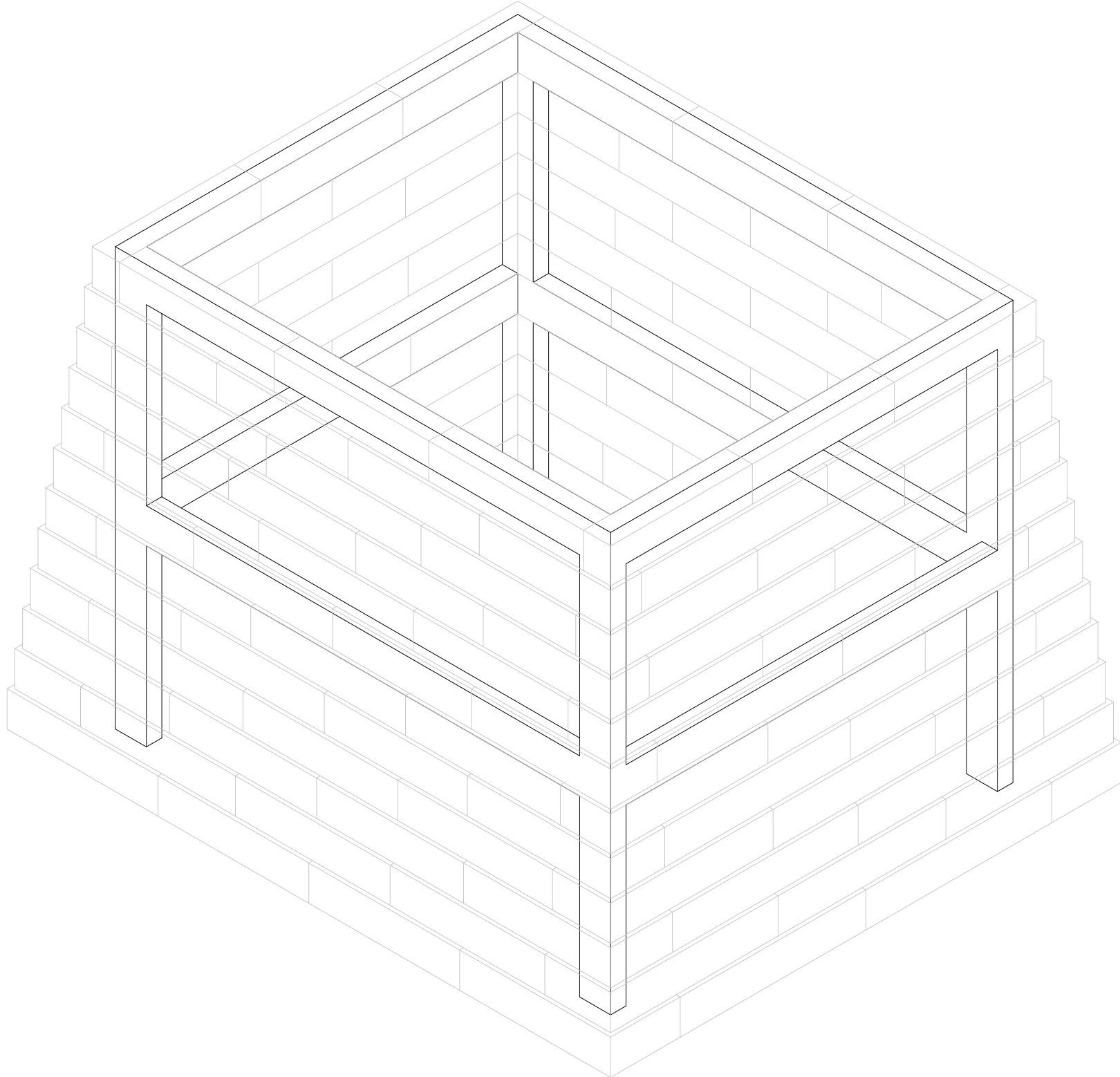
GABION COMPOSITION



GABION COMPOSITION



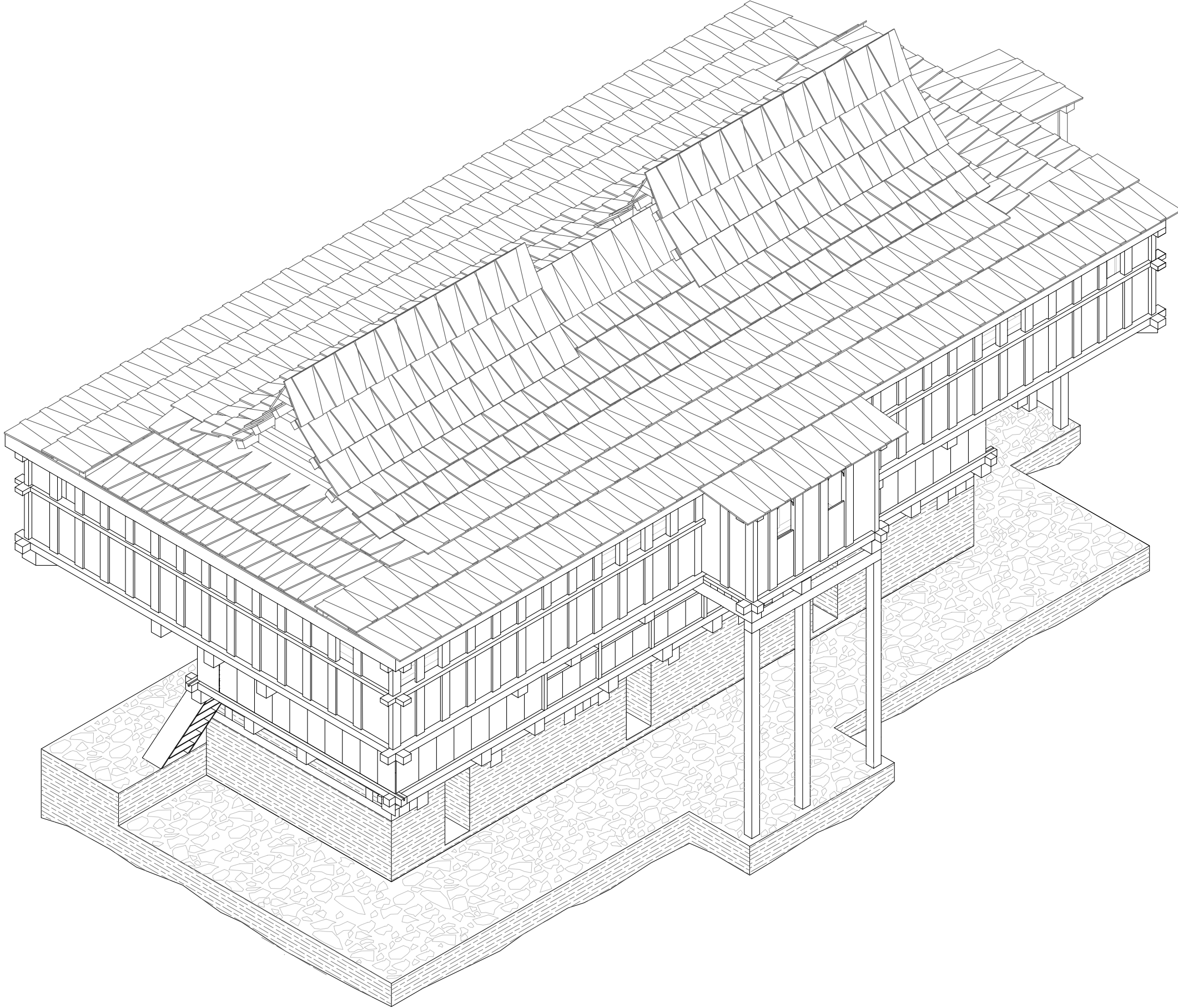
INTERNAL STRUCTURE



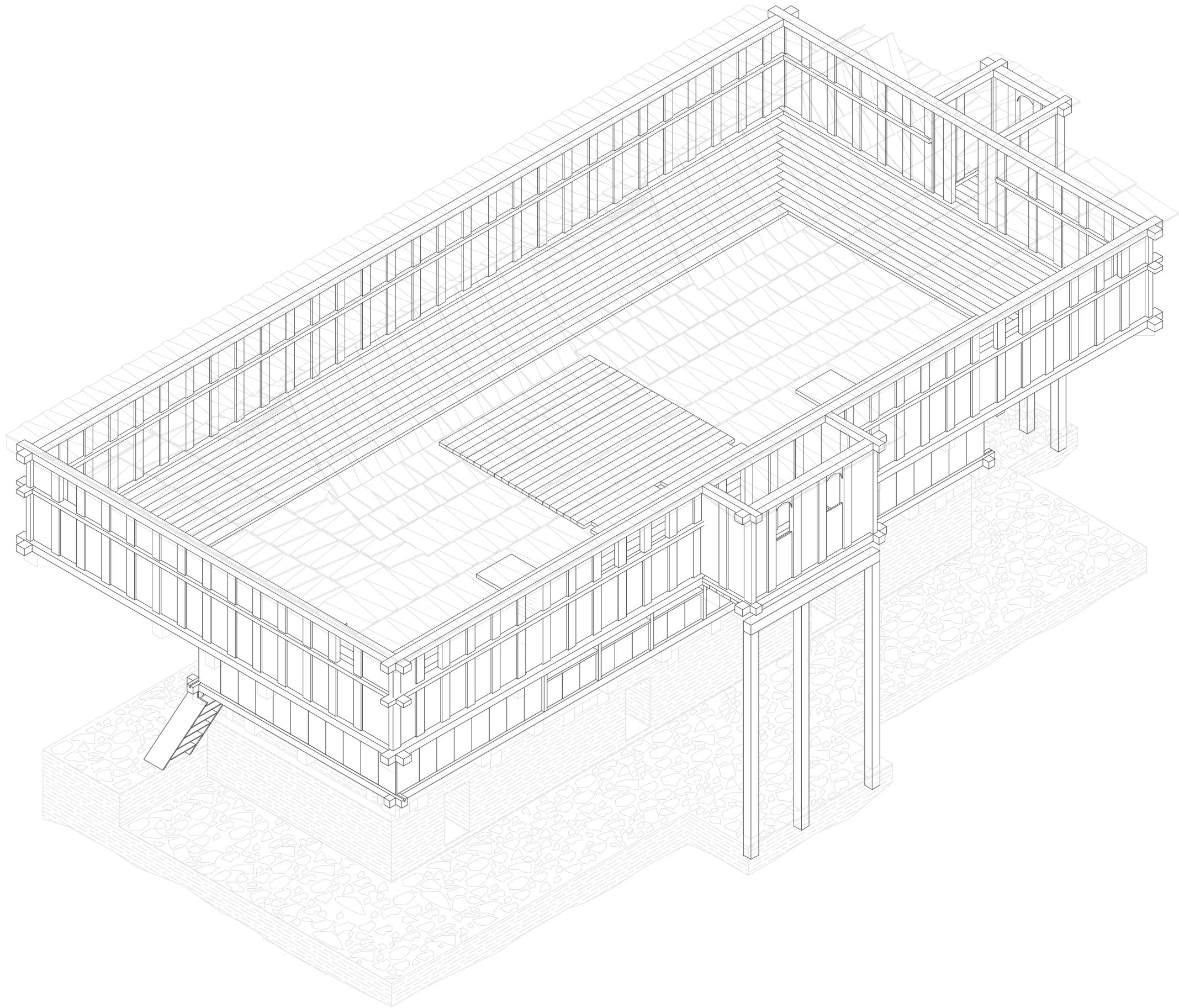


WHAT ABOUT THE THERMAL PROPERTIES OF A GABION WALL?

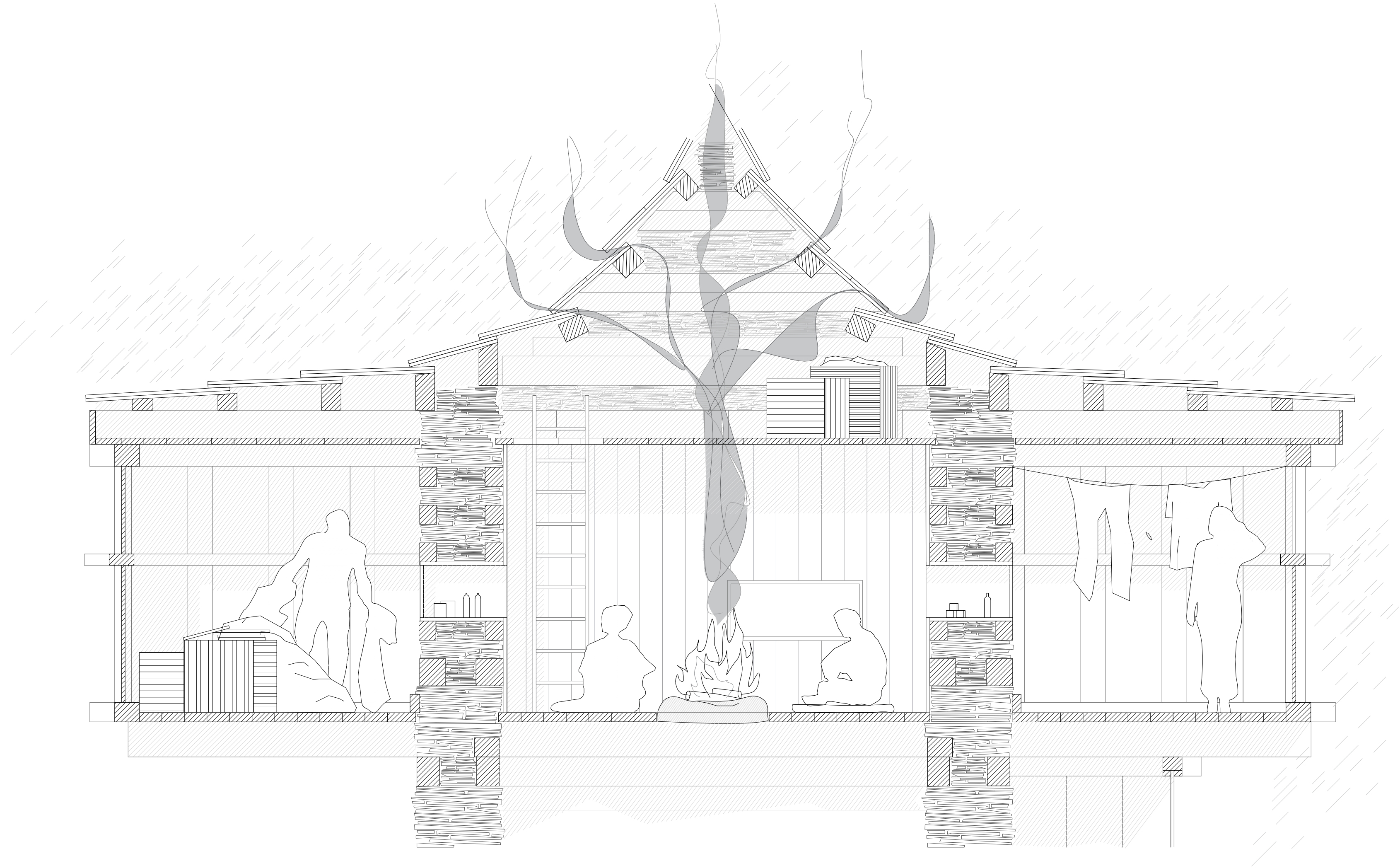
INSPIRATION BY LOCAL *GRAND VERNACULAR* ARCHITECTURE
ONCE AGAIN



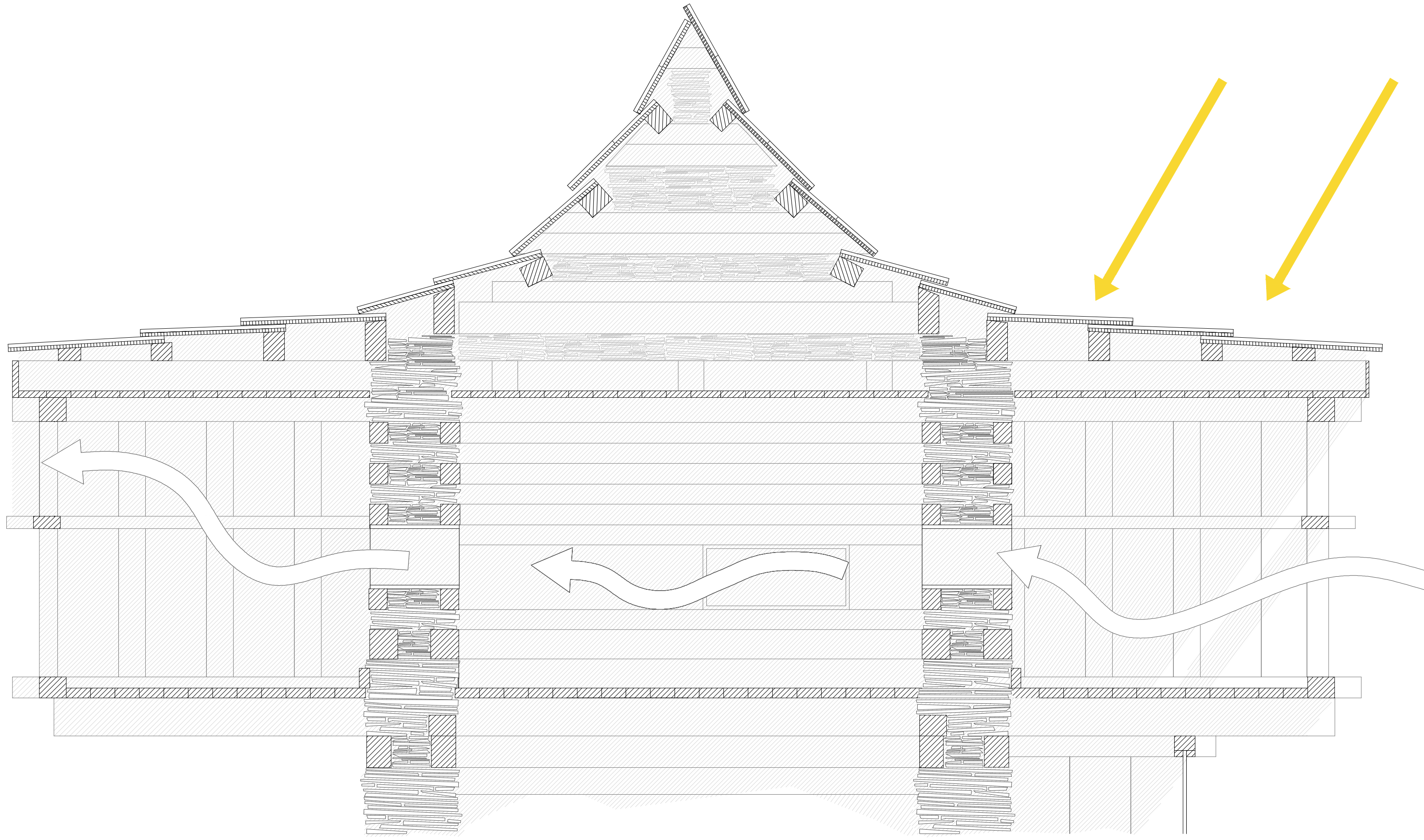
COMPOSITION OF THE VERANDAH



PROTECTION OF THE CENTRAL CORE / INNER SPACES

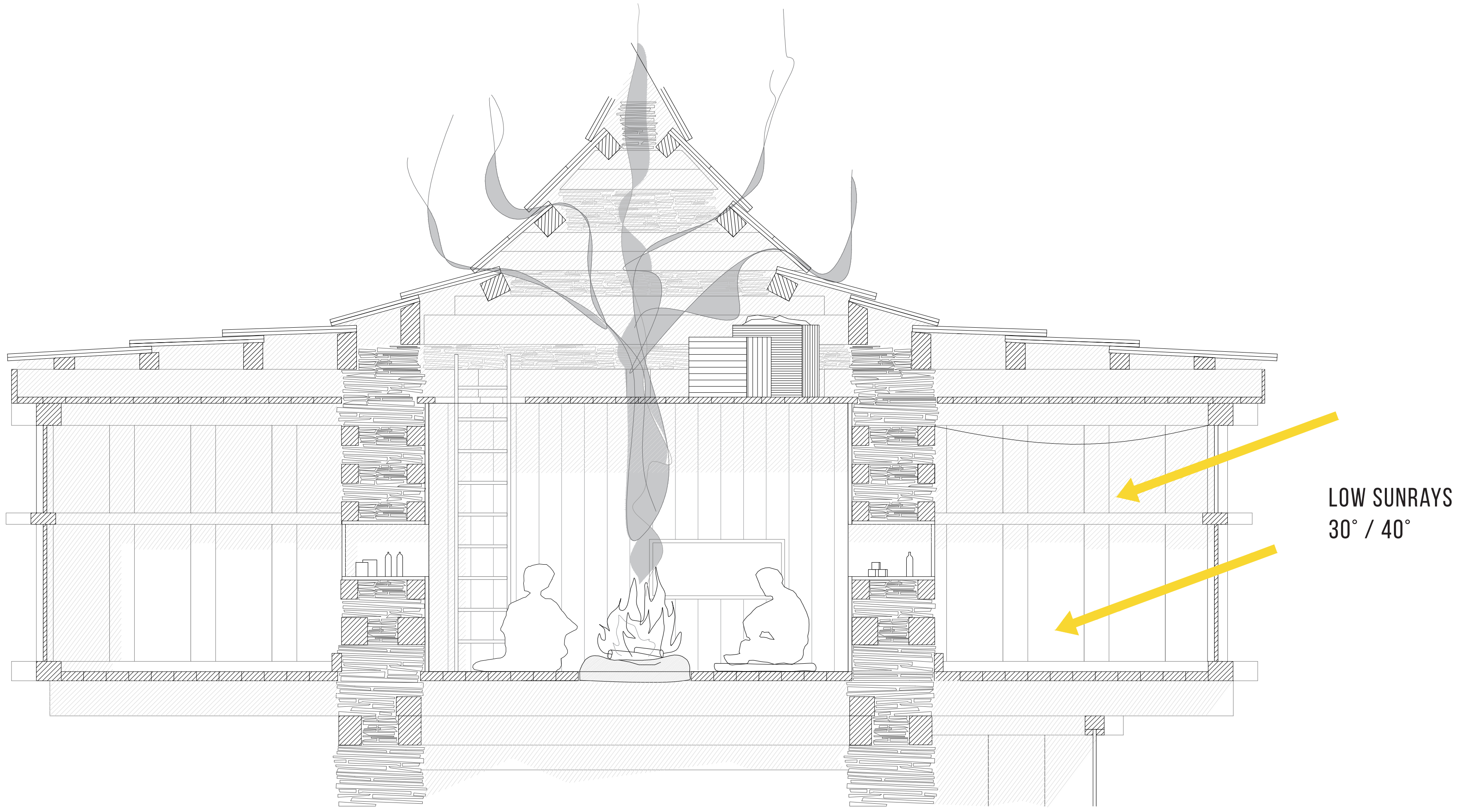


SUMMER
THE CENTRAL CORE IS SHADOWED

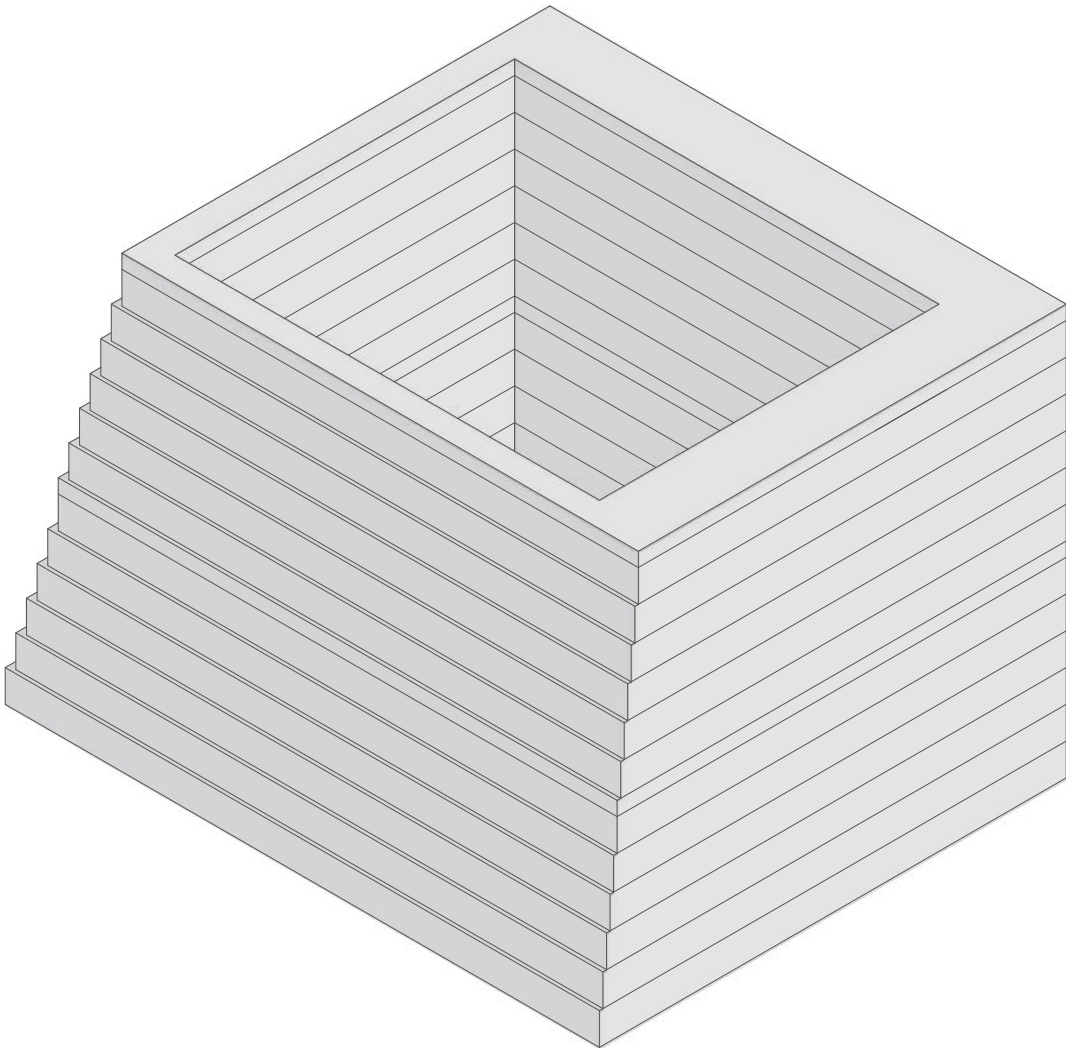


HIGH SUNRAYS
80° / 70°

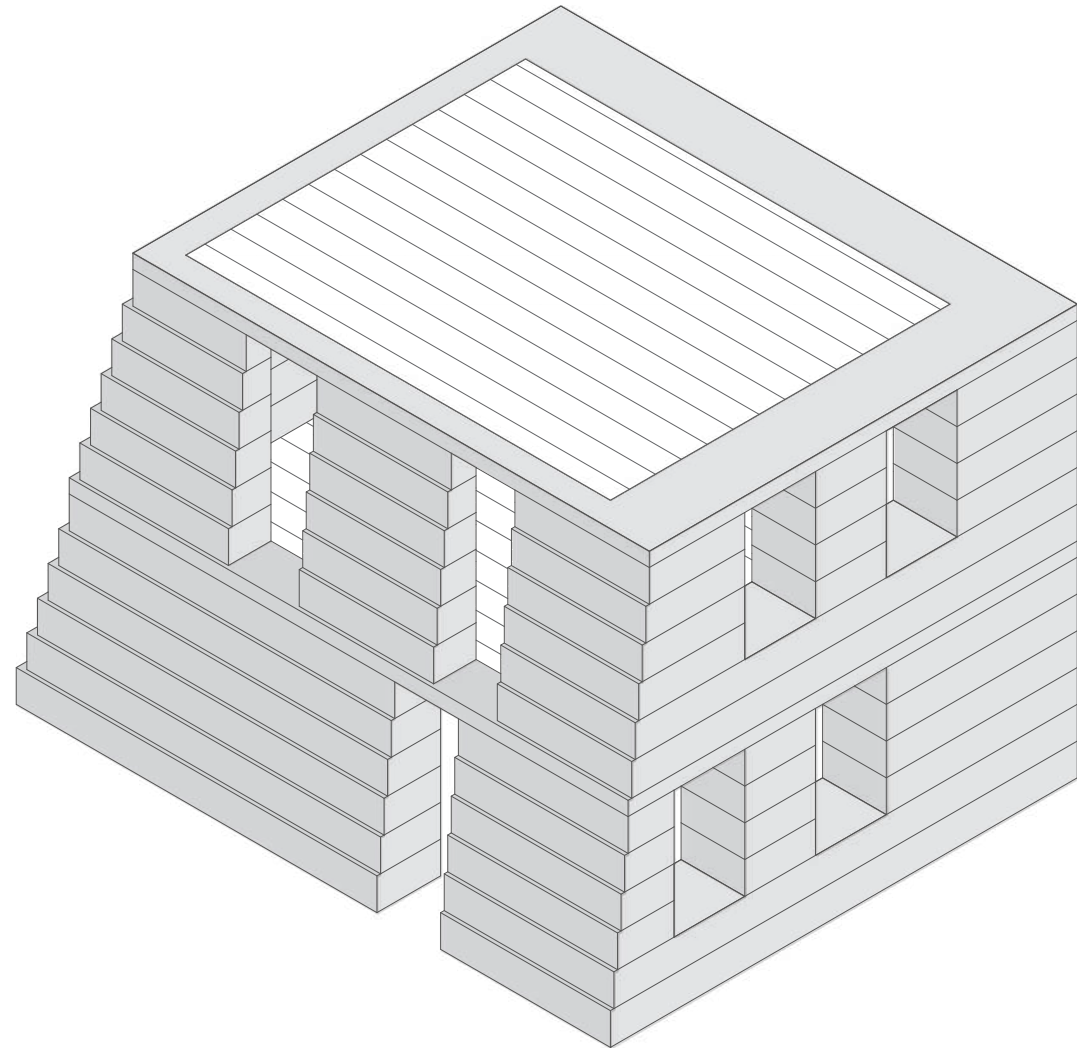
WINTER
CENTRAL CORE HEATED BY THE SUN



THE PRINCIPLE OF **THERMAL MASS** FOR A **SOLAR PASSIVE DESIGN**

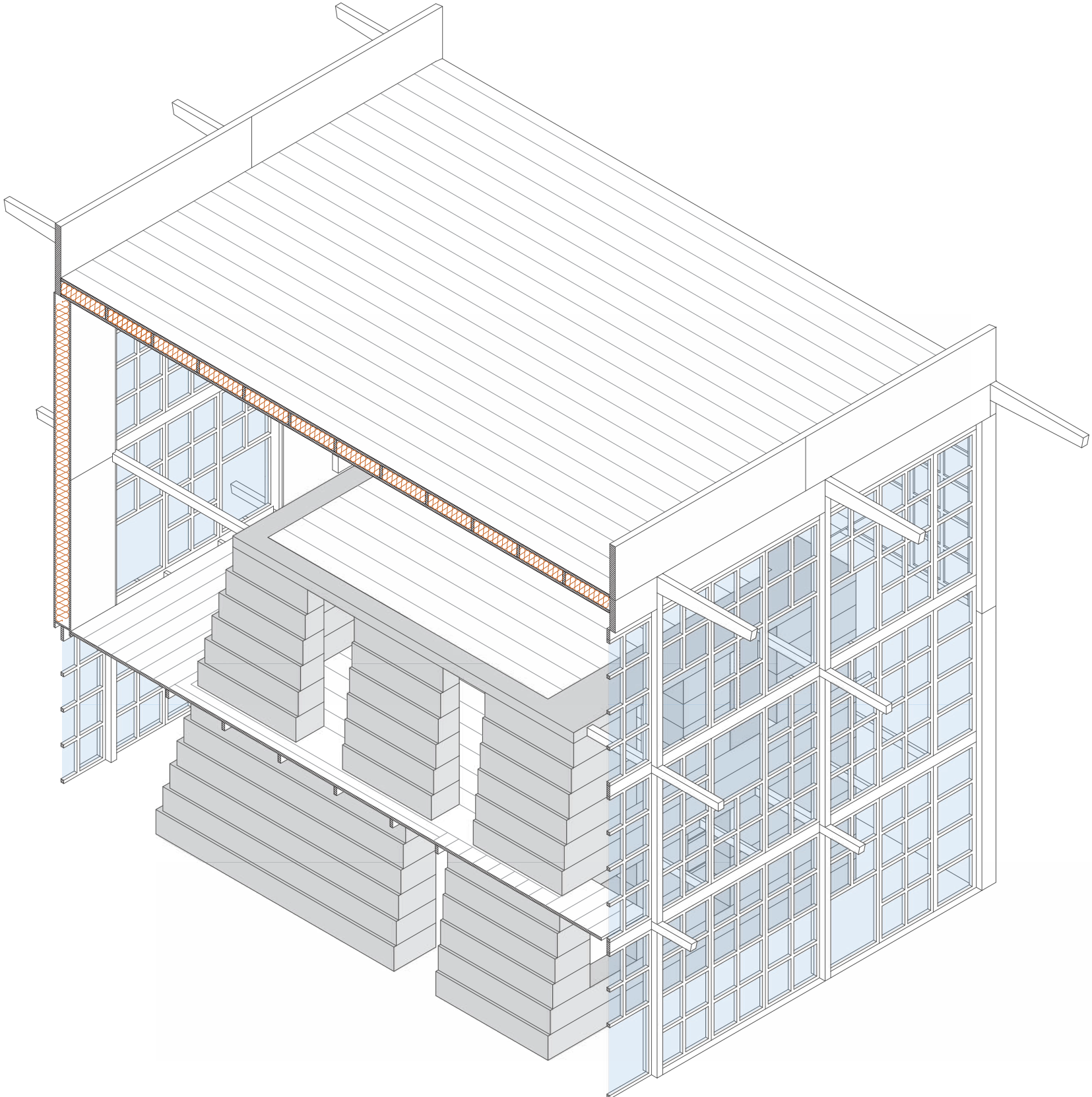


THE PRINCIPLE OF **THERMAL MASS** FOR A **SOLAR PASSIVE DESIGN**



CENTRAL CORE

THE PRINCIPLE OF **THERMAL MASS** FOR A **SOLAR PASSIVE DESIGN**

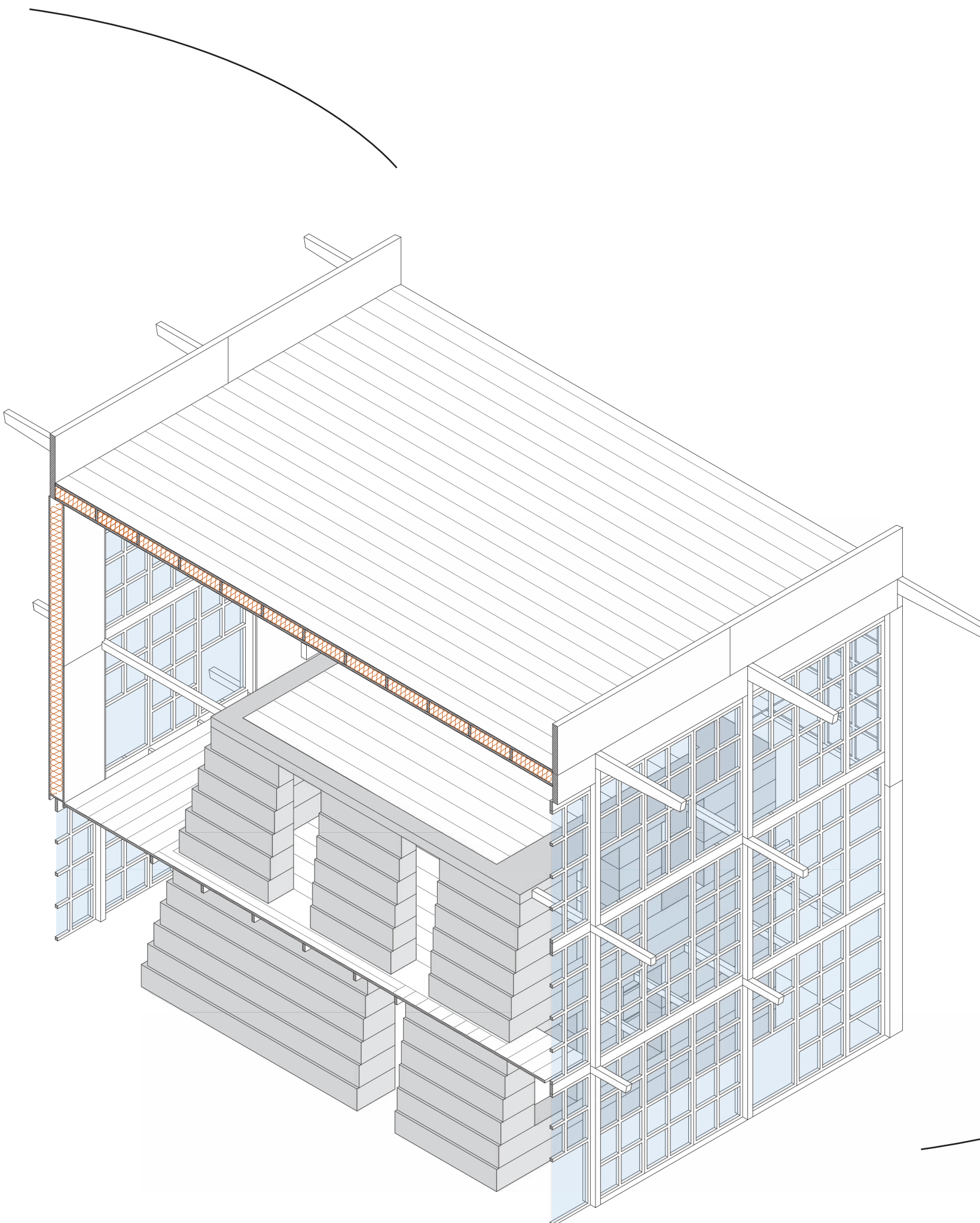


SHELL
+
CENTRAL CORE

THE PRINCIPLE OF **THERMAL MASS** FOR A **SOLAR PASSIVE DESIGN**

INSULTATED ROOF

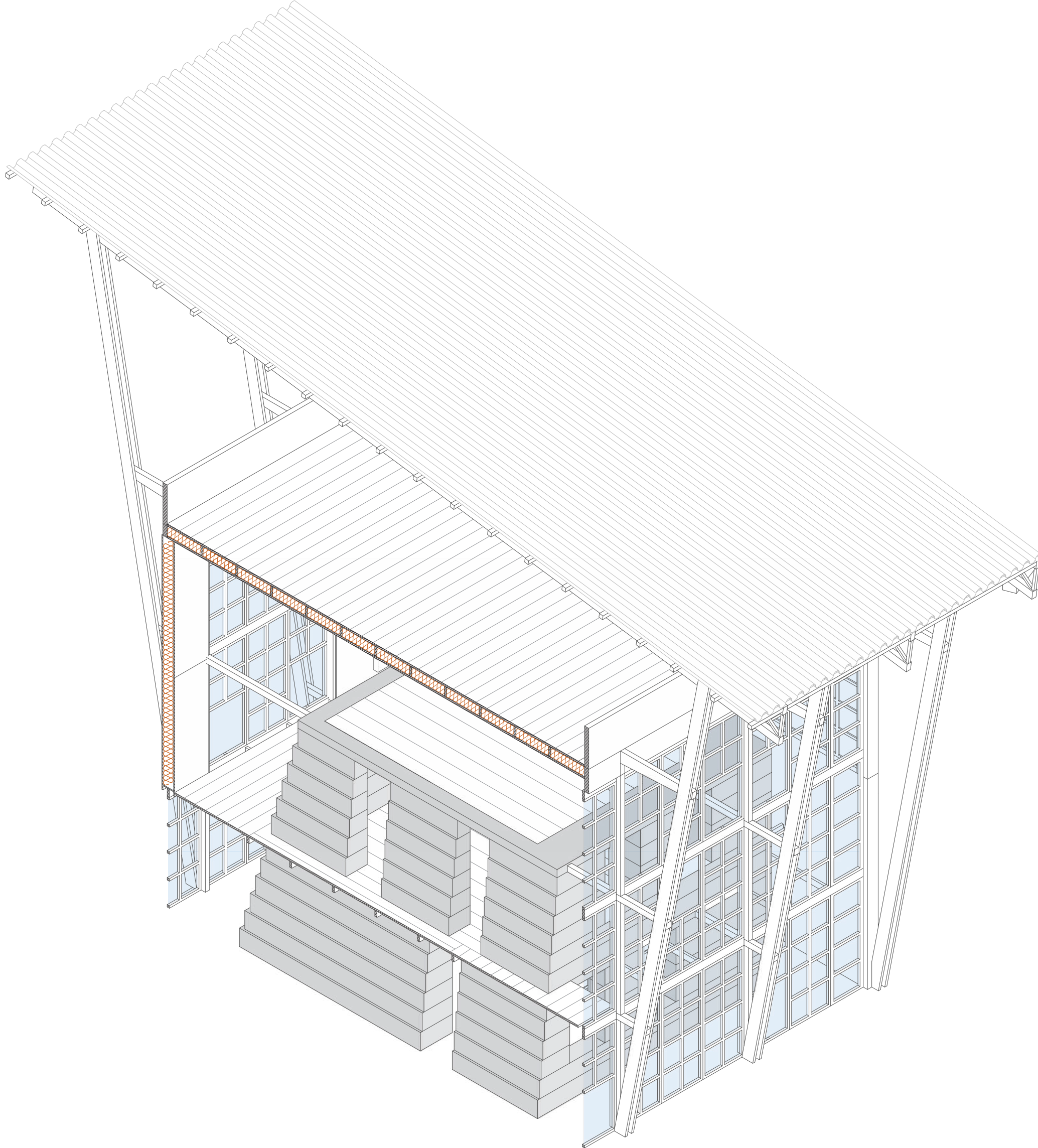
INSULTATED NORTH FAÇADE



SHELL
+
CENTRAL CORE

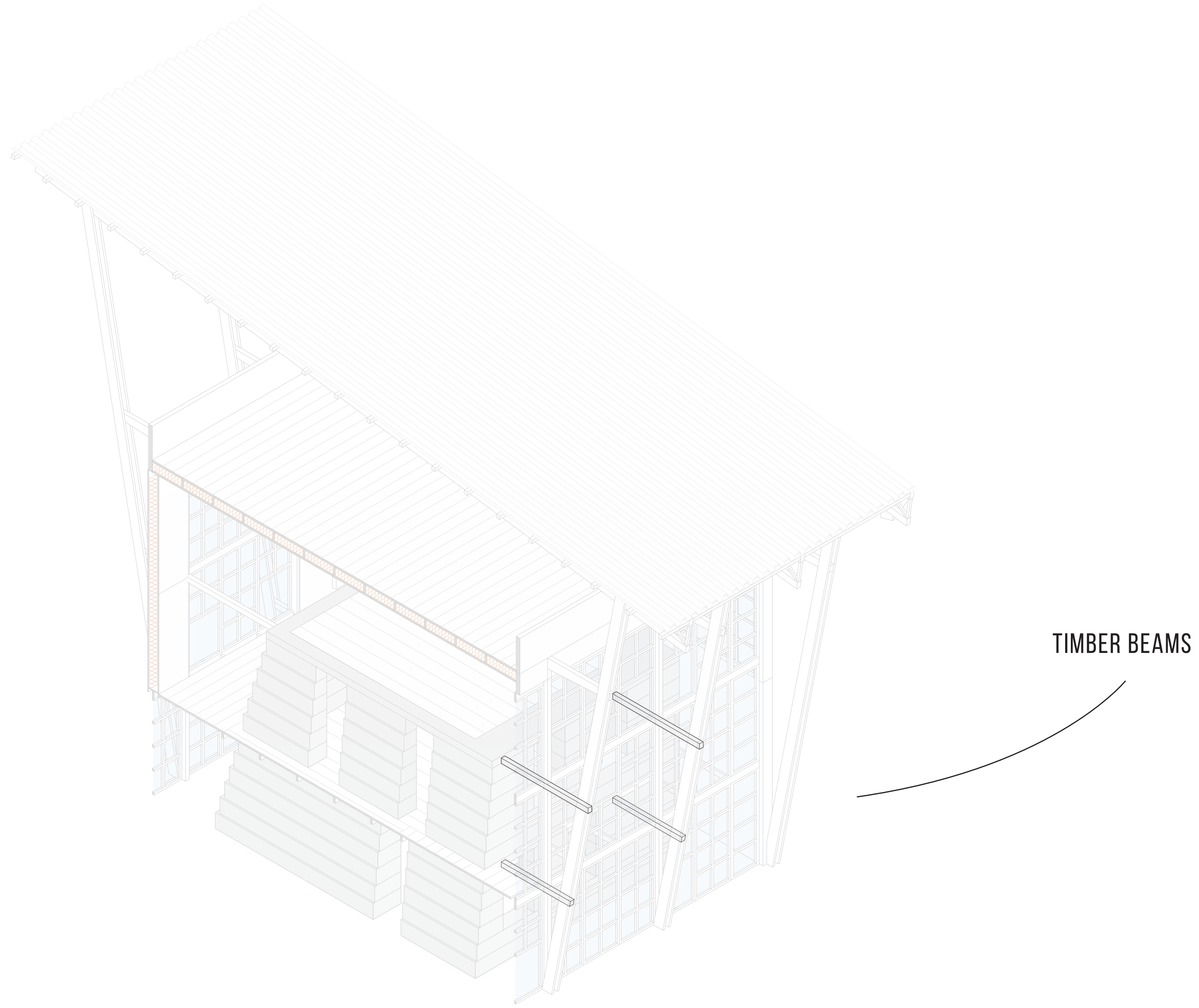
GLAZED SOUTH FAÇADE

THE PRINCIPLE OF **THERMAL MASS** FOR A **SOLAR PASSIVE DESIGN**

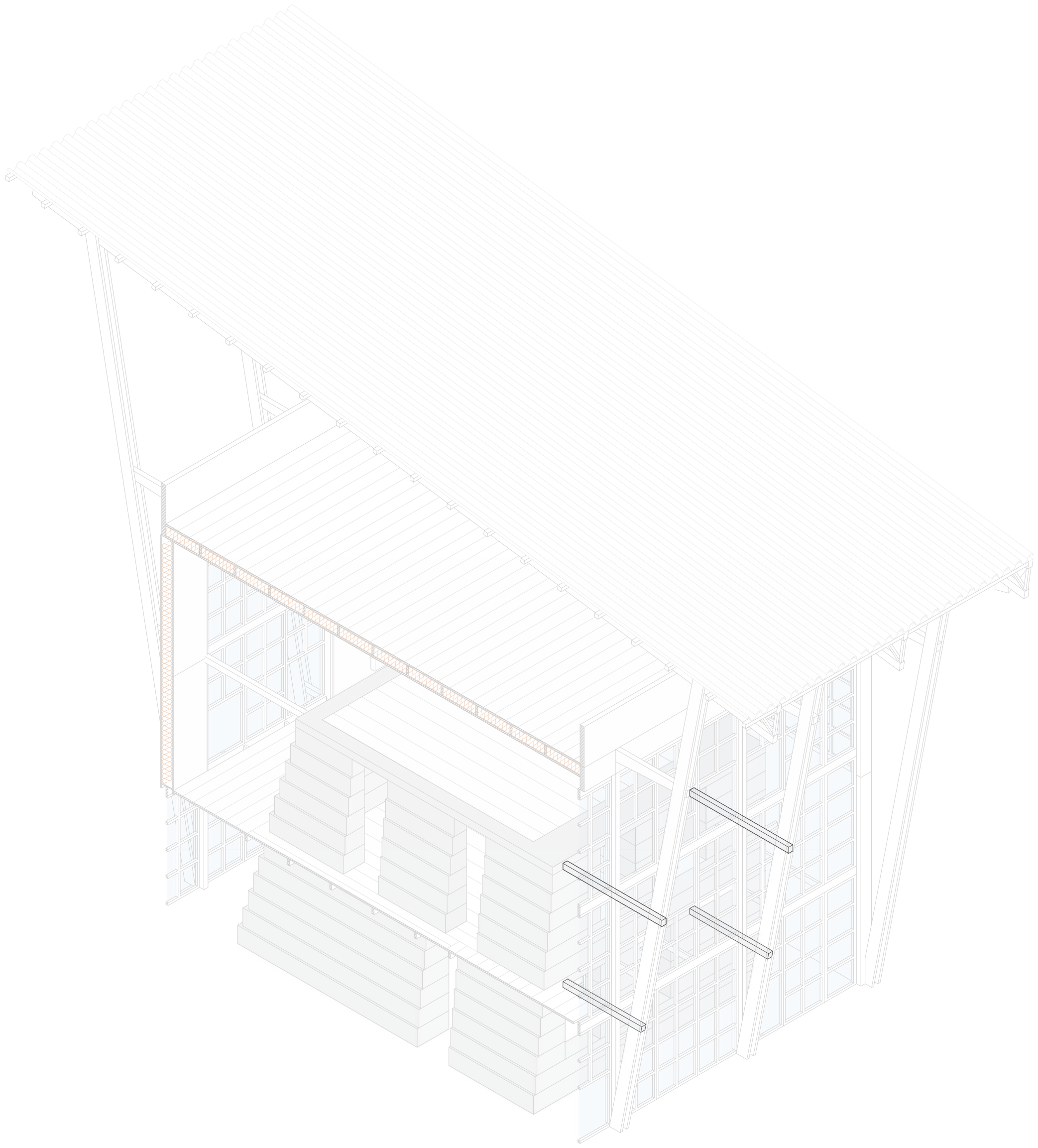


LIGHT ROOF
+
TIMBER/GLASS SHELL
+
CENTRAL CORE

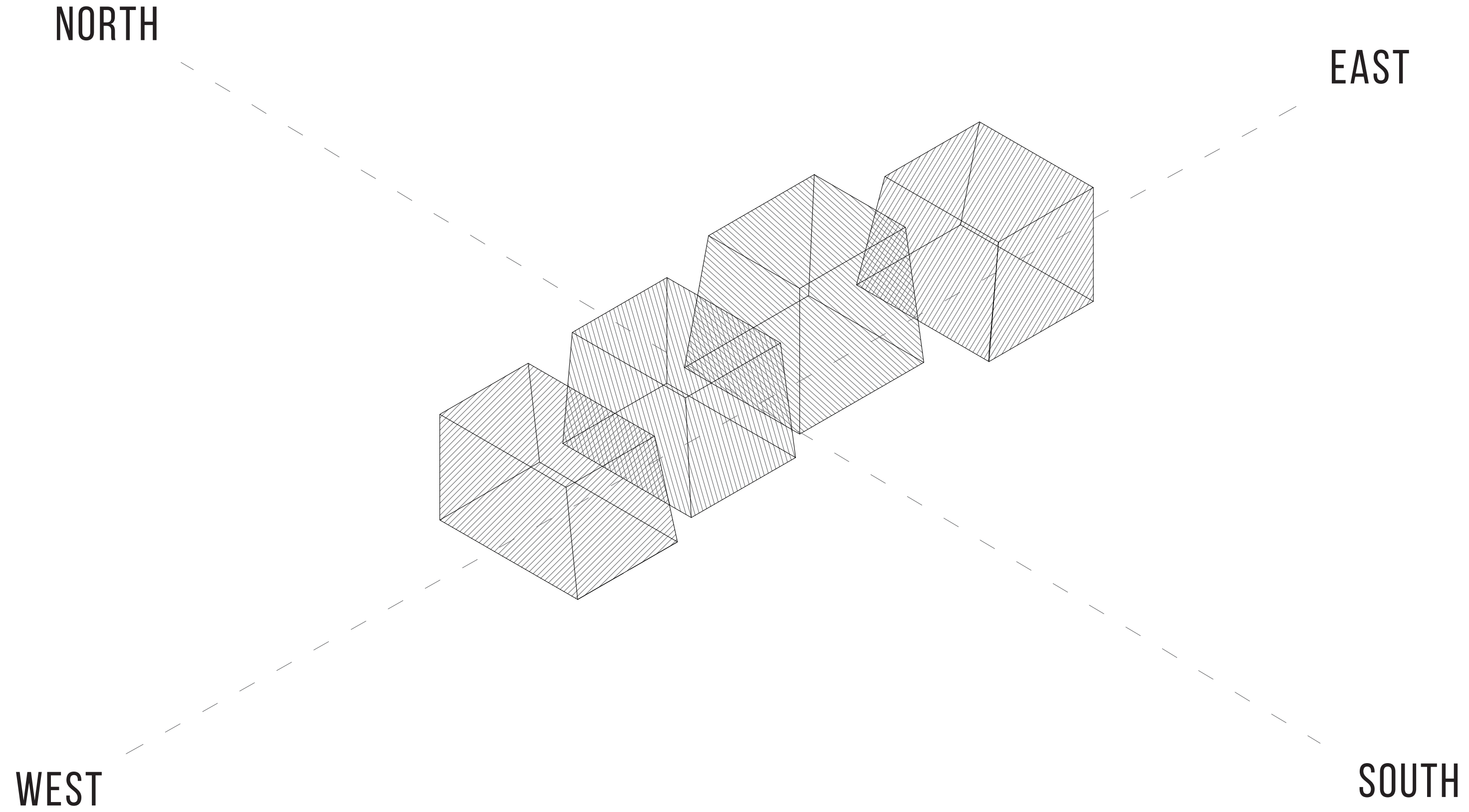
TREE COMPONENTS / ONE STRUCTURE



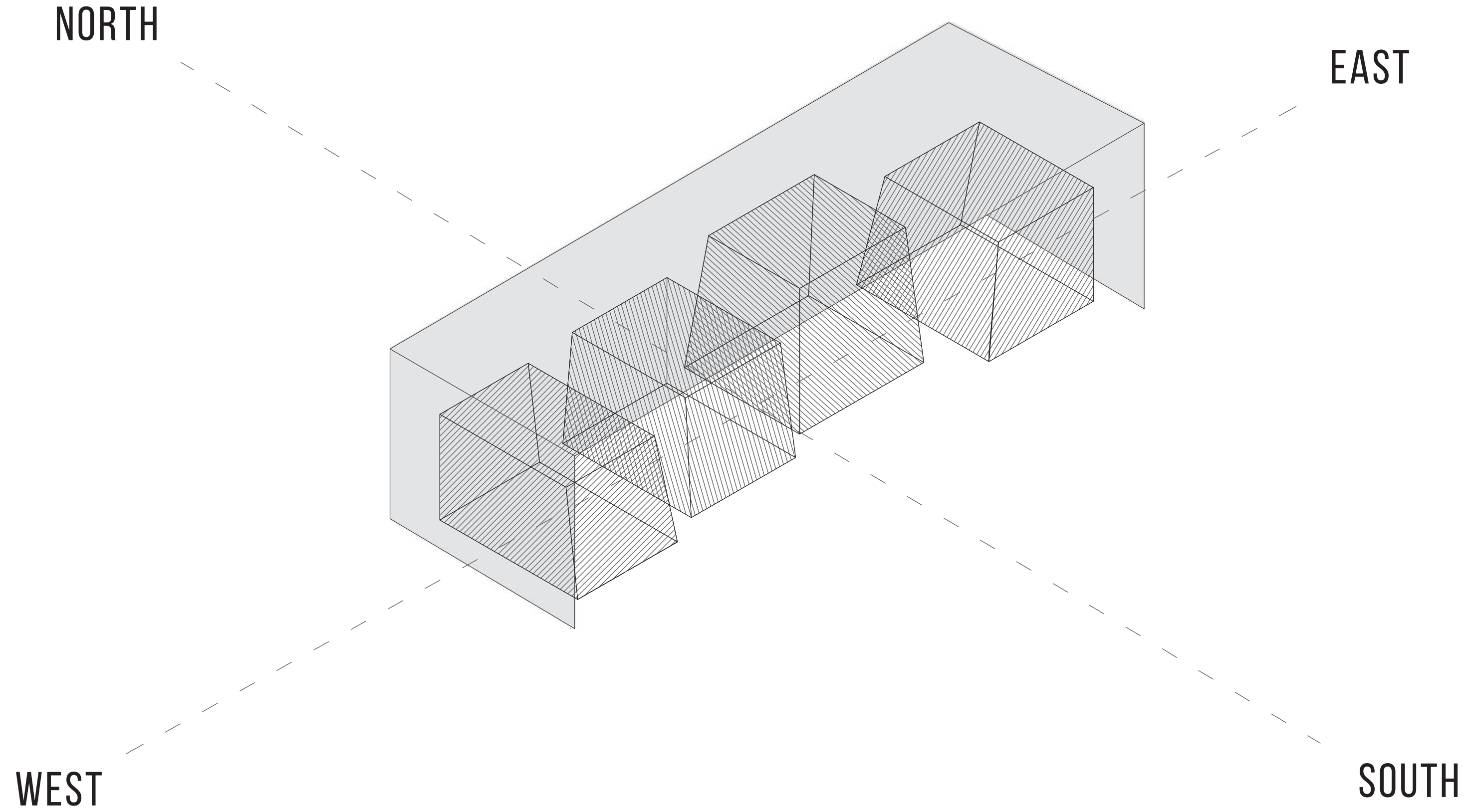
TREE COMPONENTS / ONE STRUCTURE



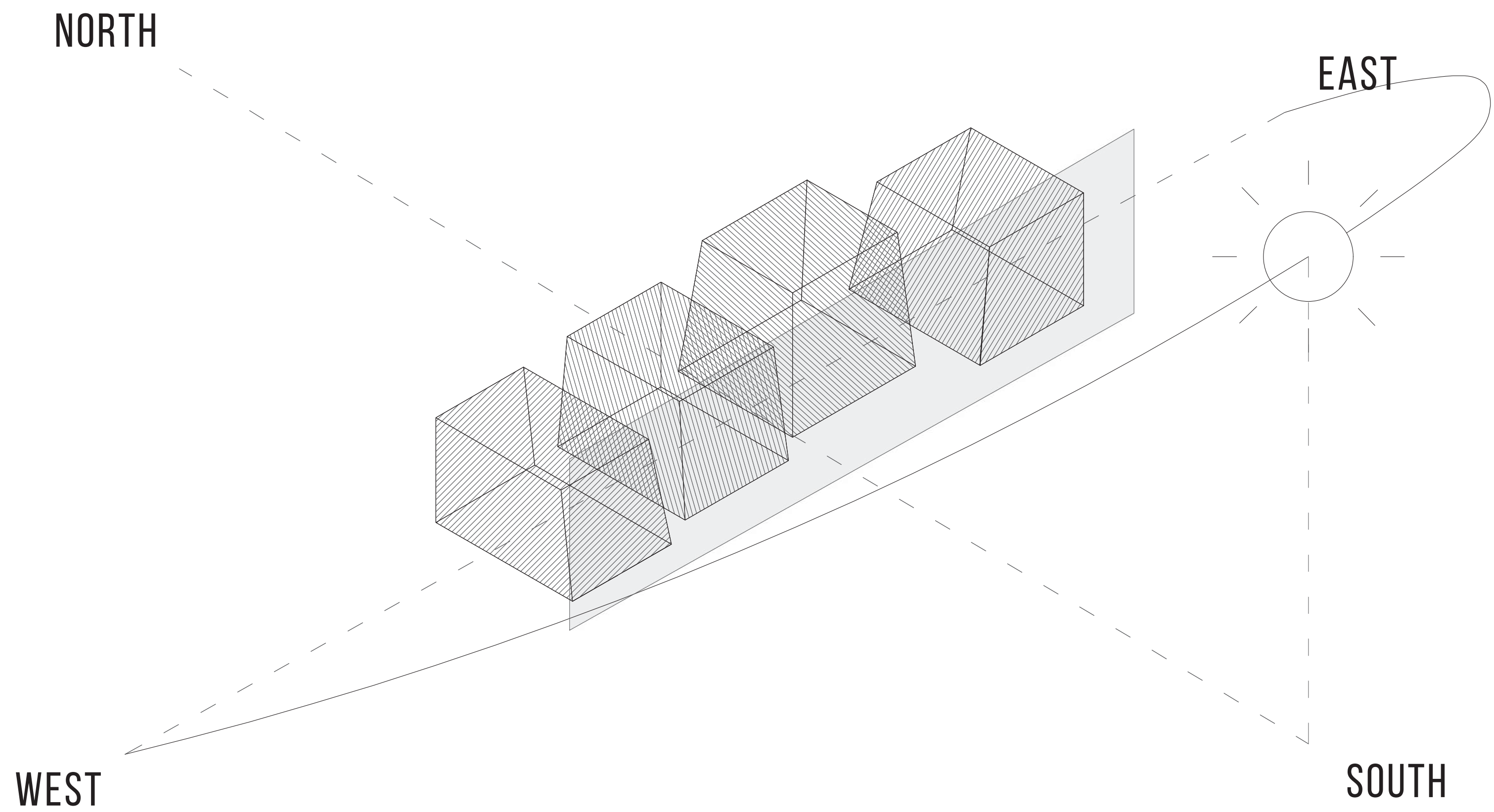
LINEAR SEQUENCE OF VOLUMES



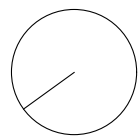
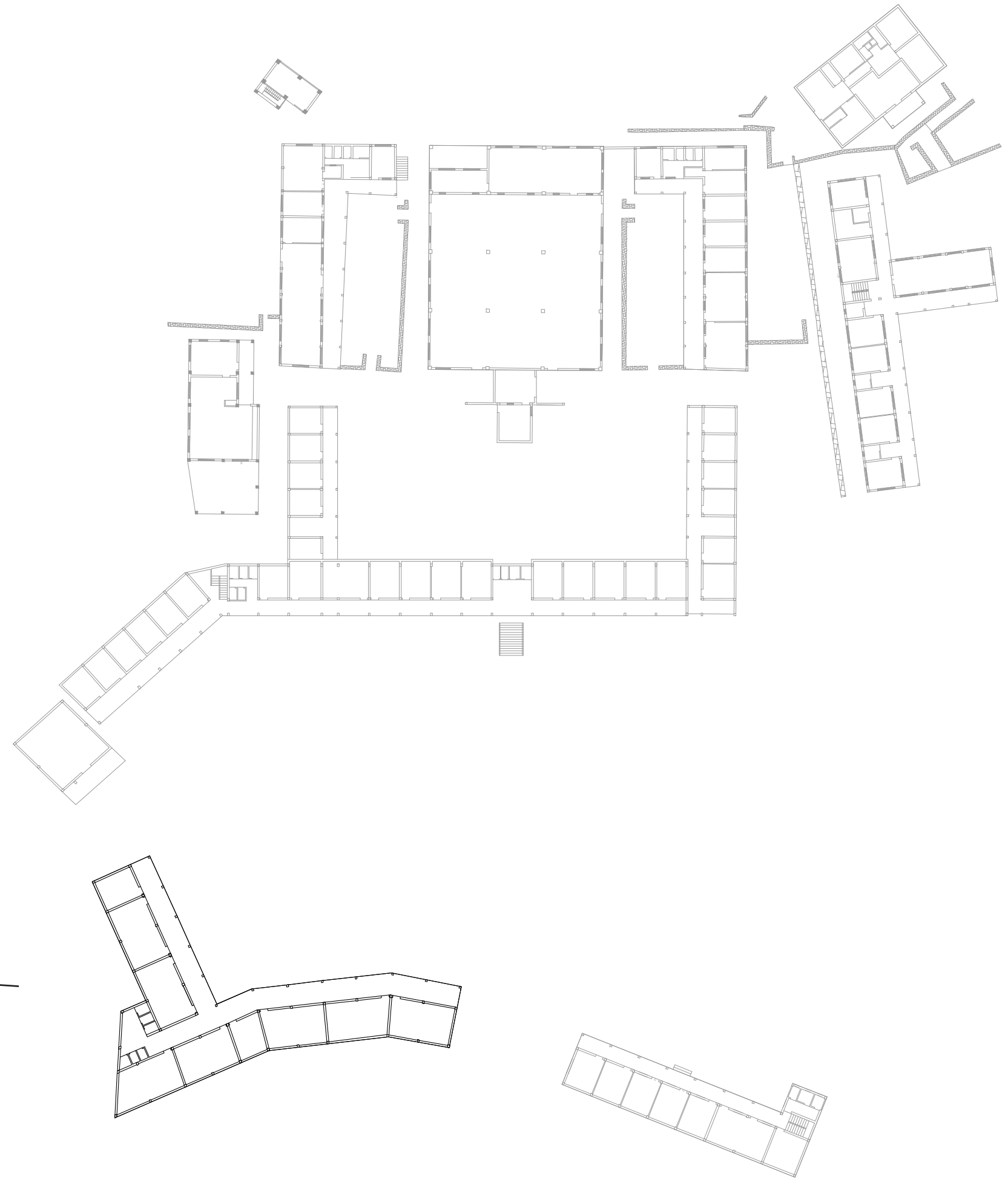
LINEAR SEQUENCE OF VOLUMES



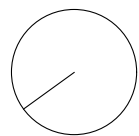
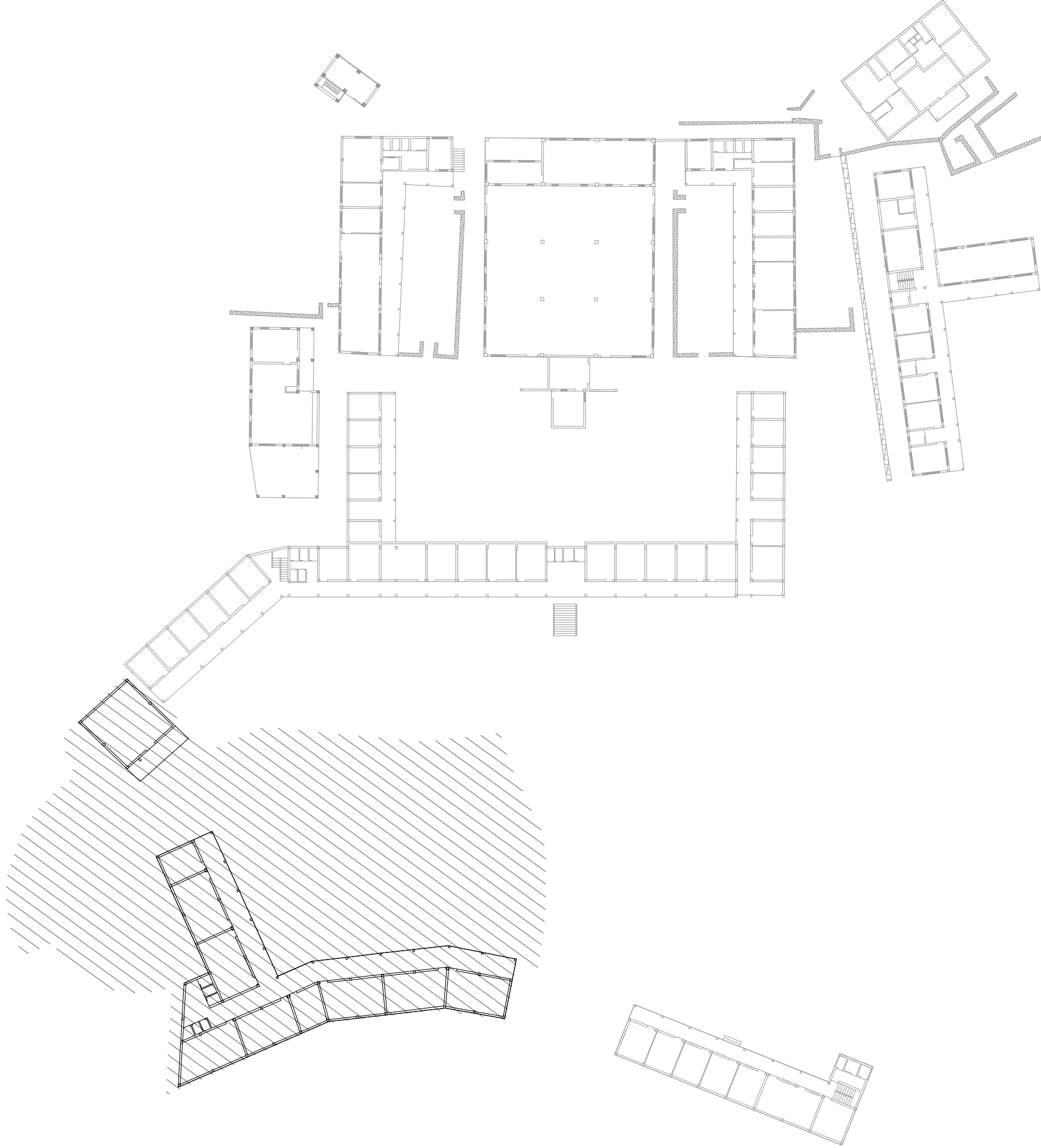
LINEAR SEQUENCE OF VOLUMES



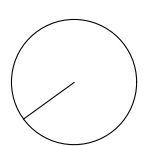
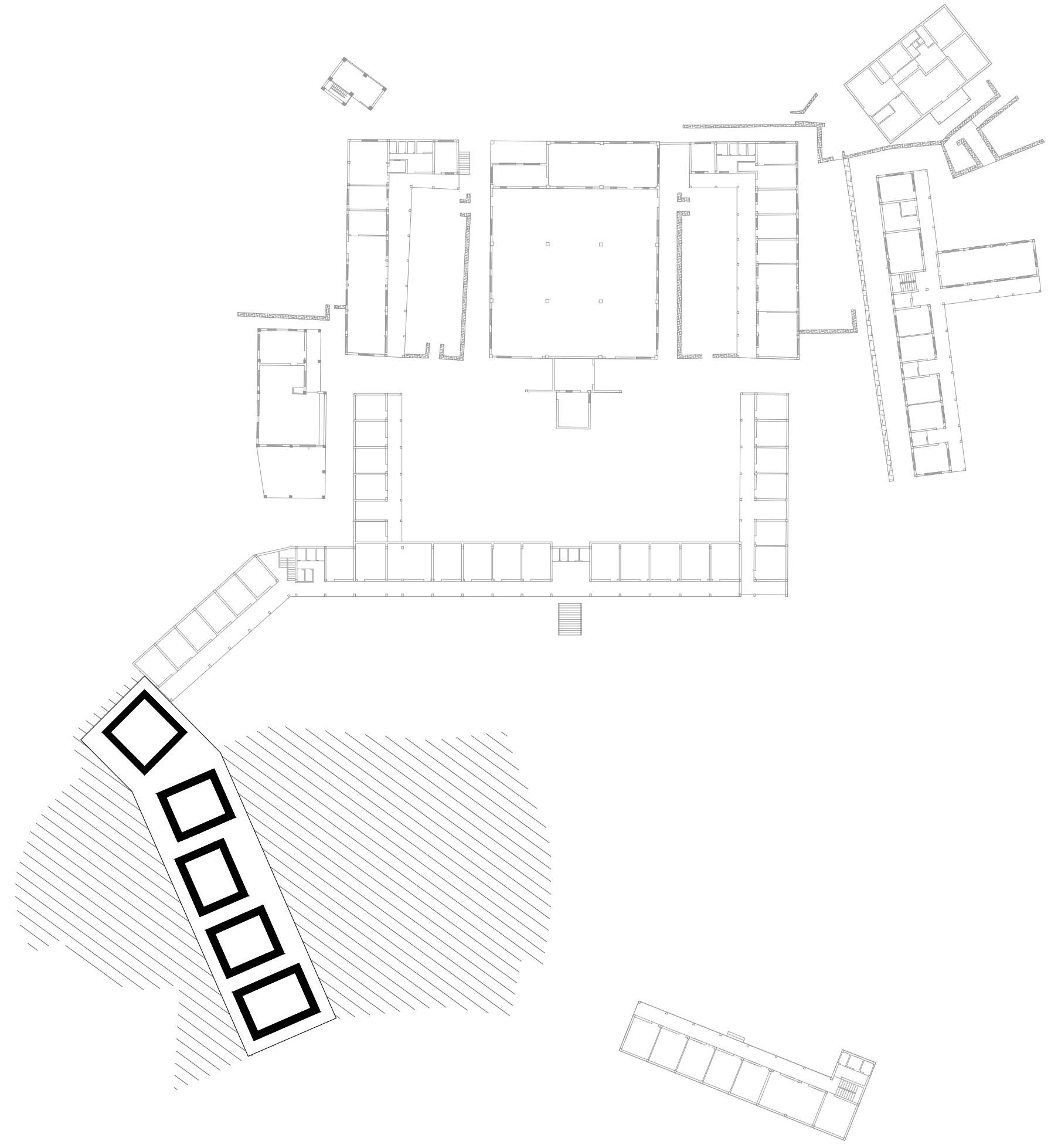
SCHOOL BUILDING



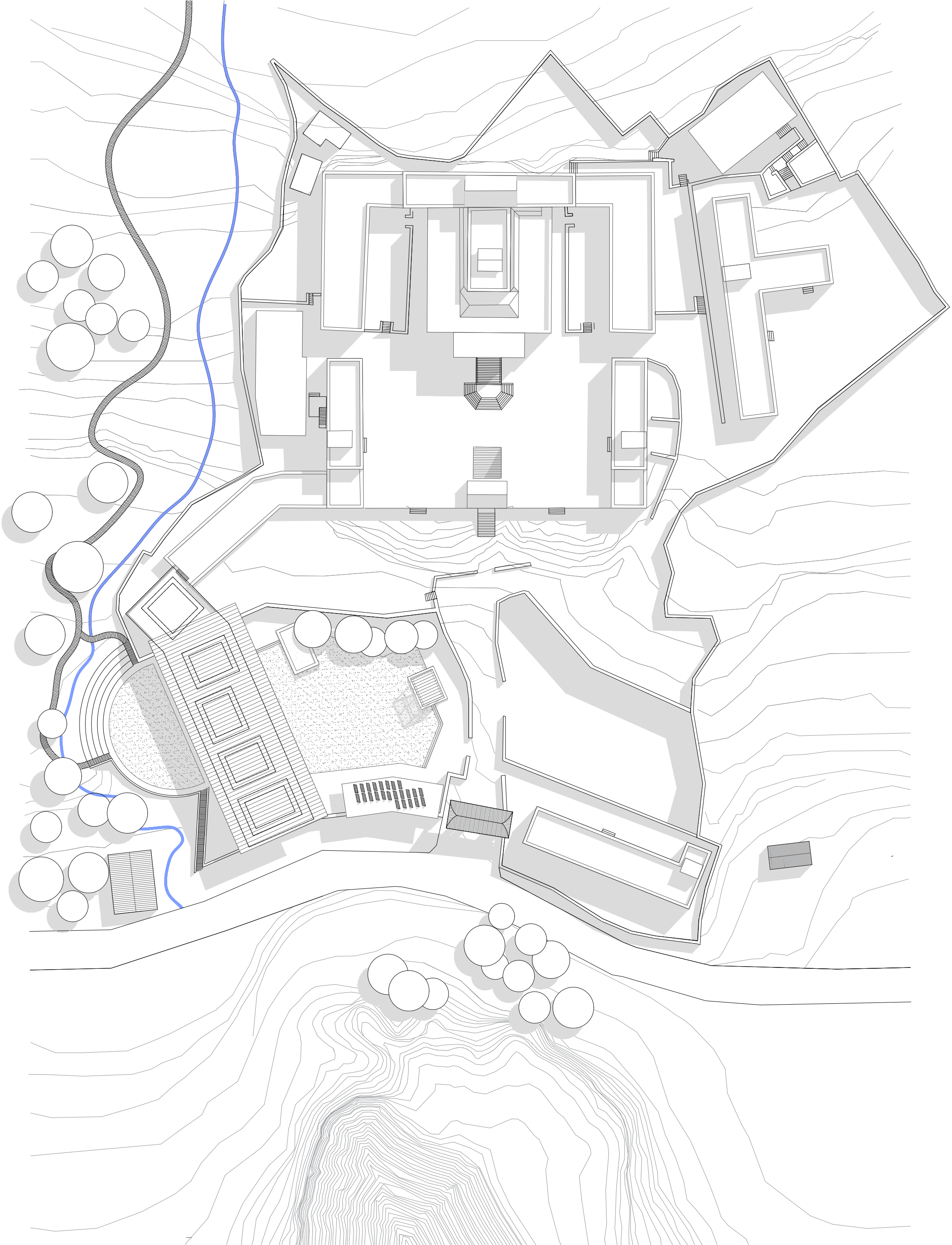
EXISTING SITUATION

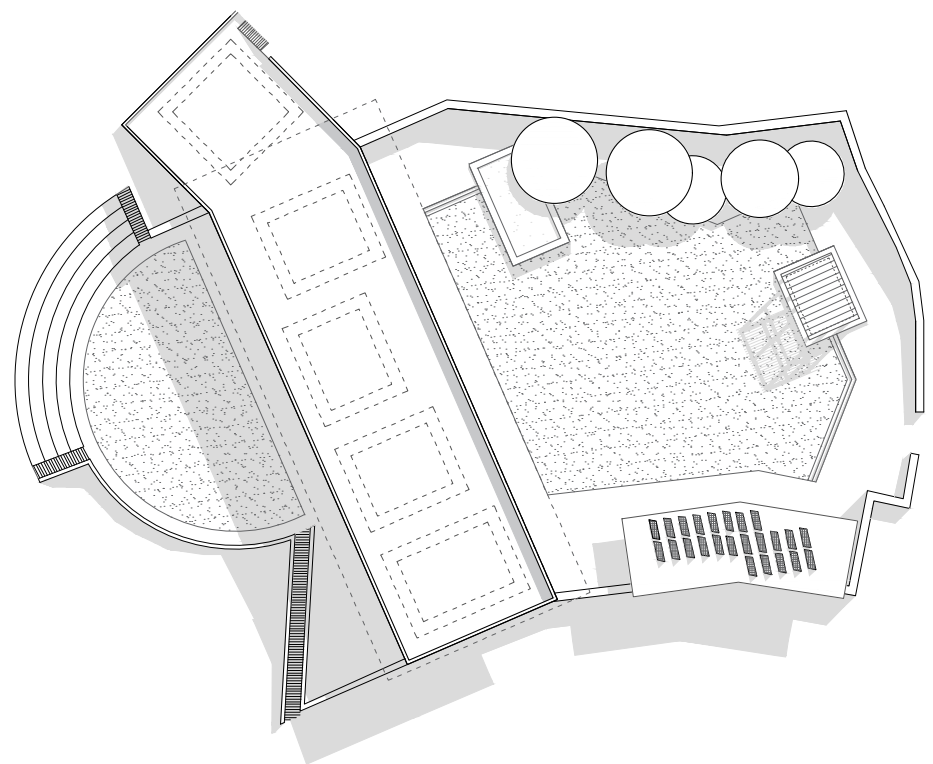


AREA OF INTERVENTION

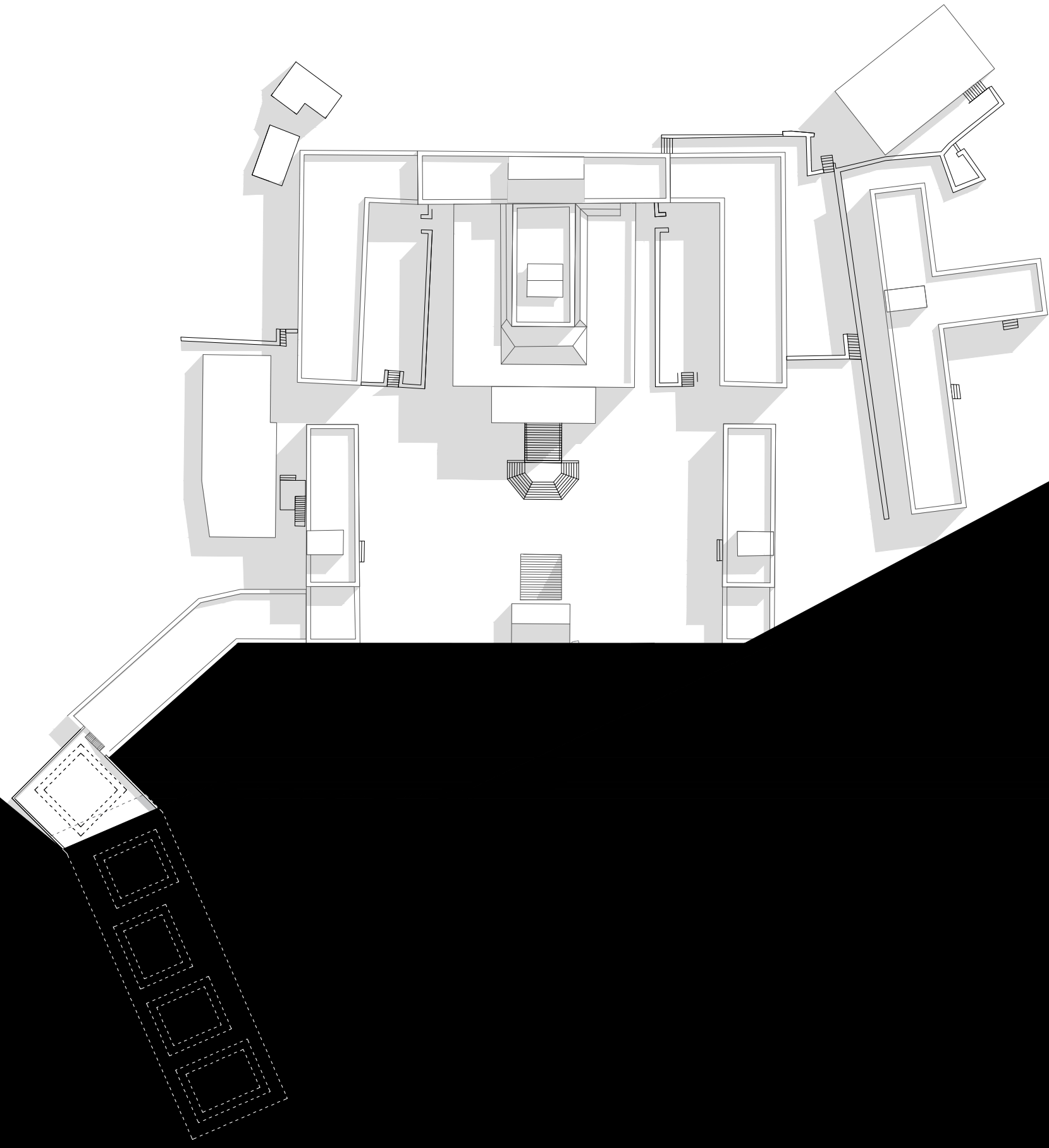


NEW ADDITION

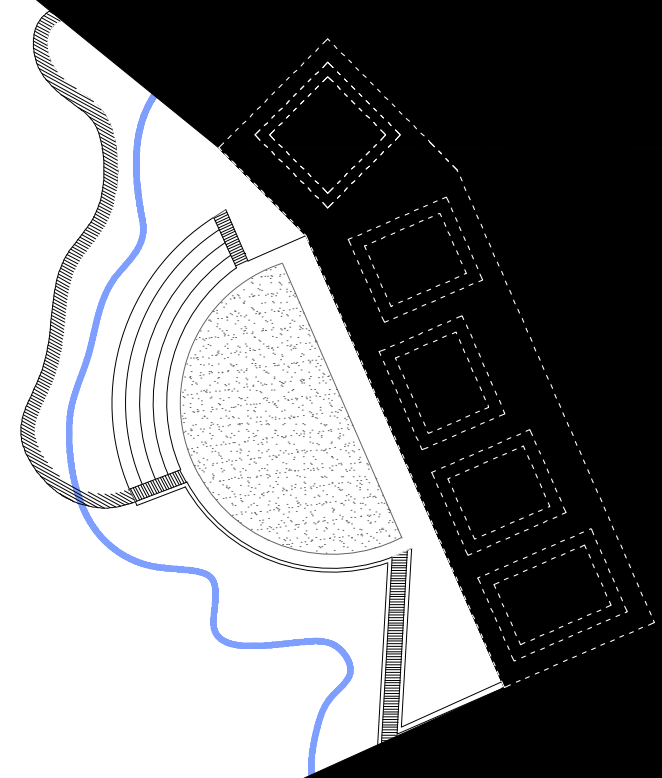




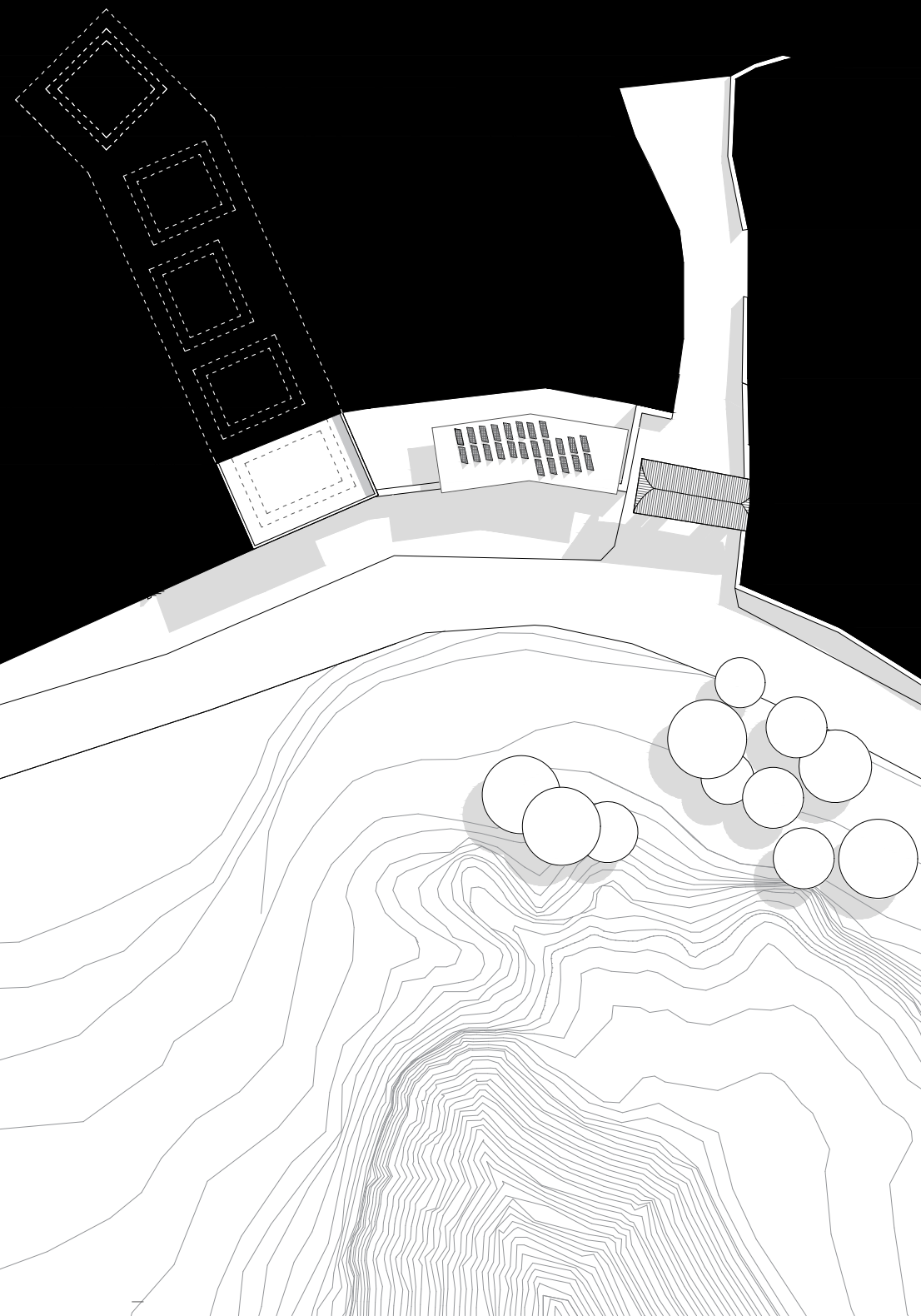
NEW CHAPEL
AS LINK TO MONASTERY

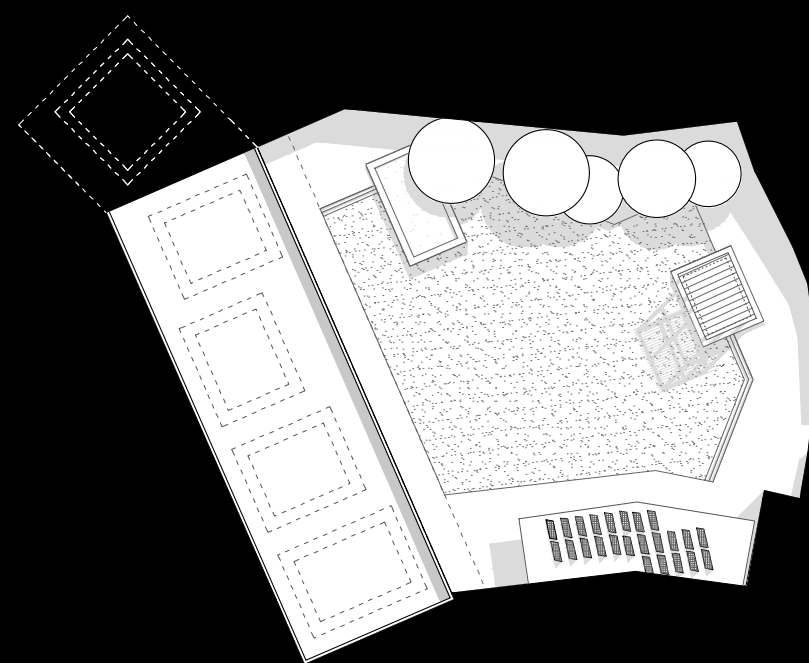


AMPHITHEATRE
AS LINK TO LOCAL COMMUNITY



COMMUNITY CENTER
TRAINING CENTER AND MEDICAL POST

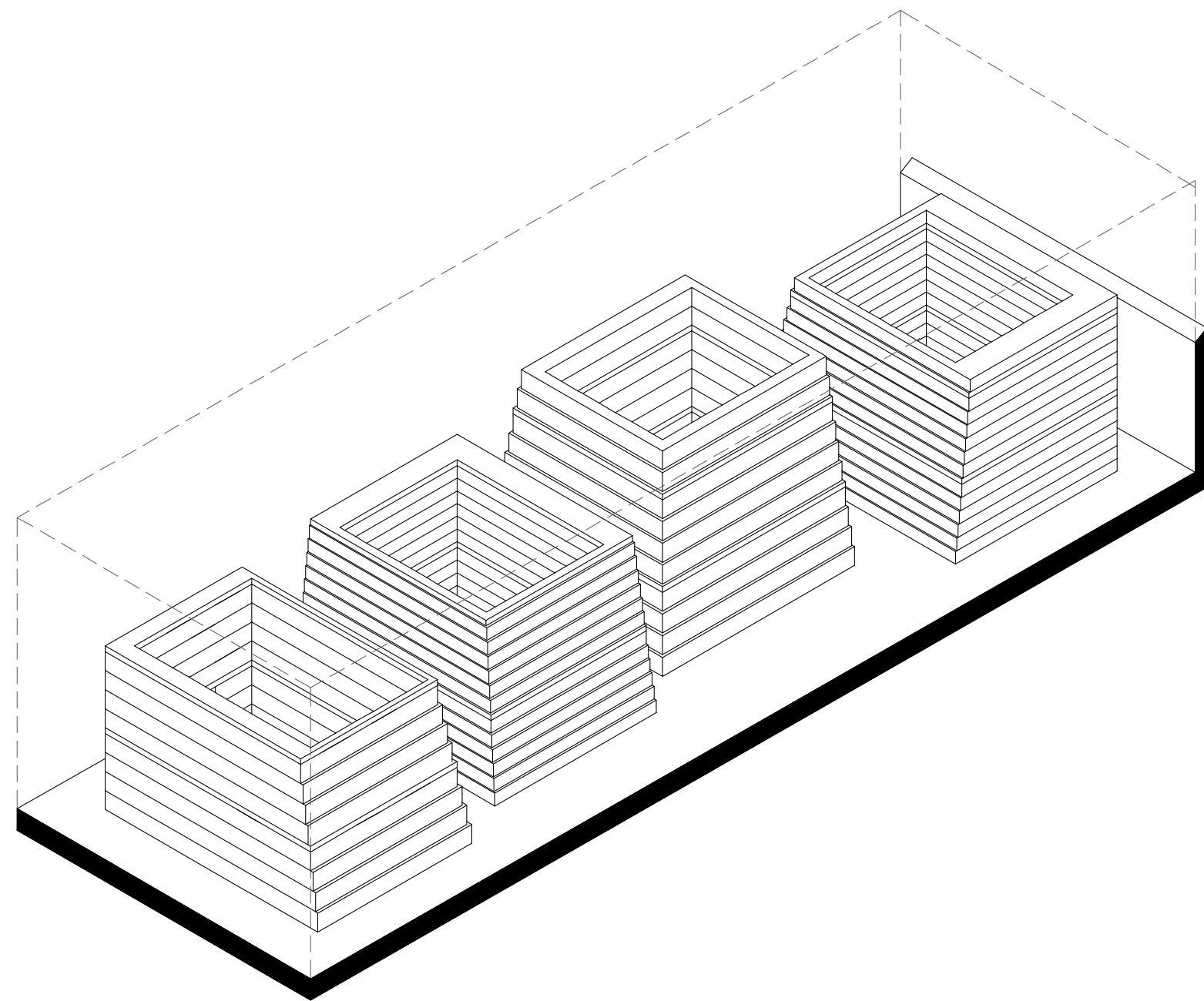




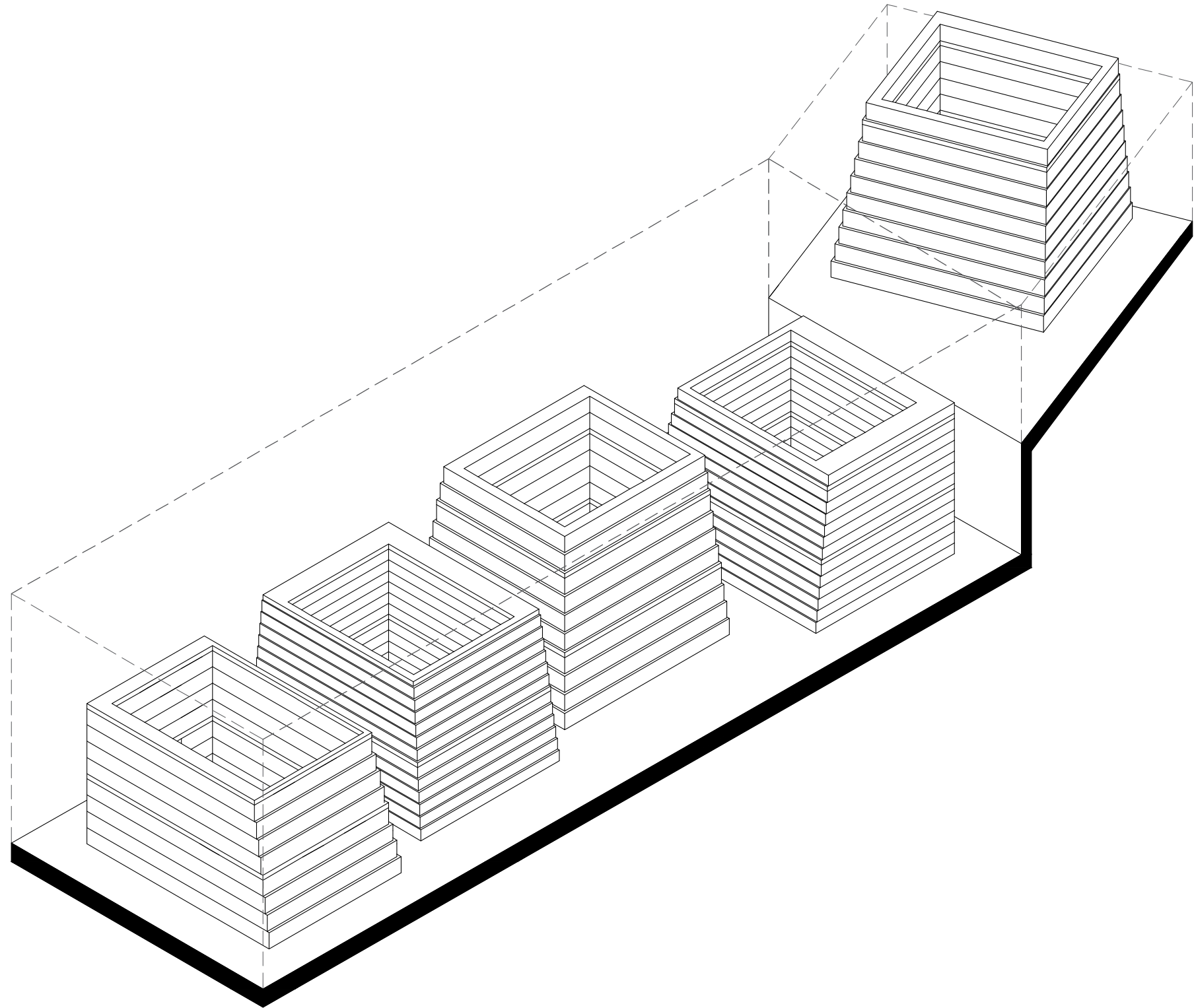
PLAYGROUND
AS SPACE FOR THE SCHOOL

THE BUILDING





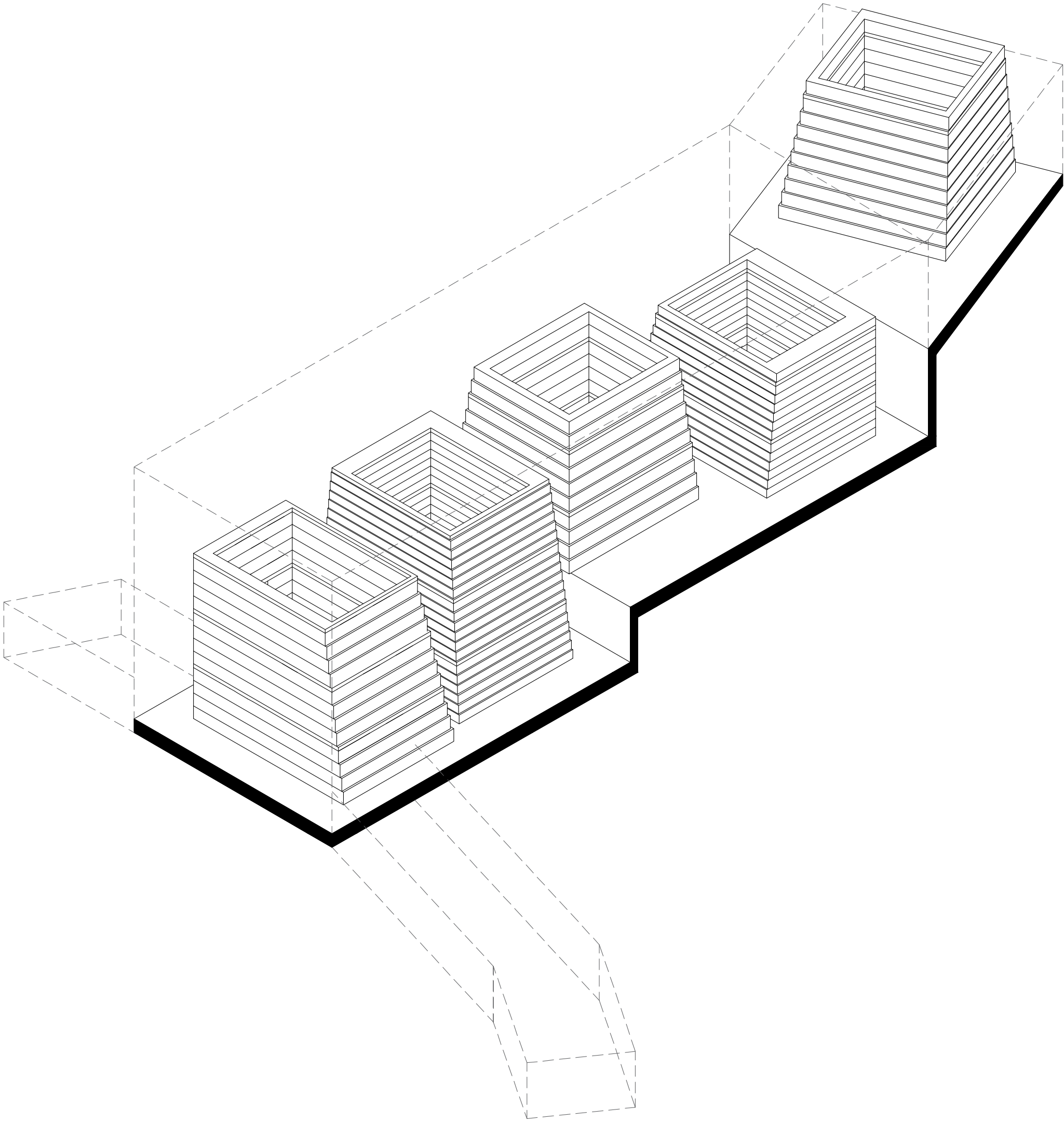
SCHOOL



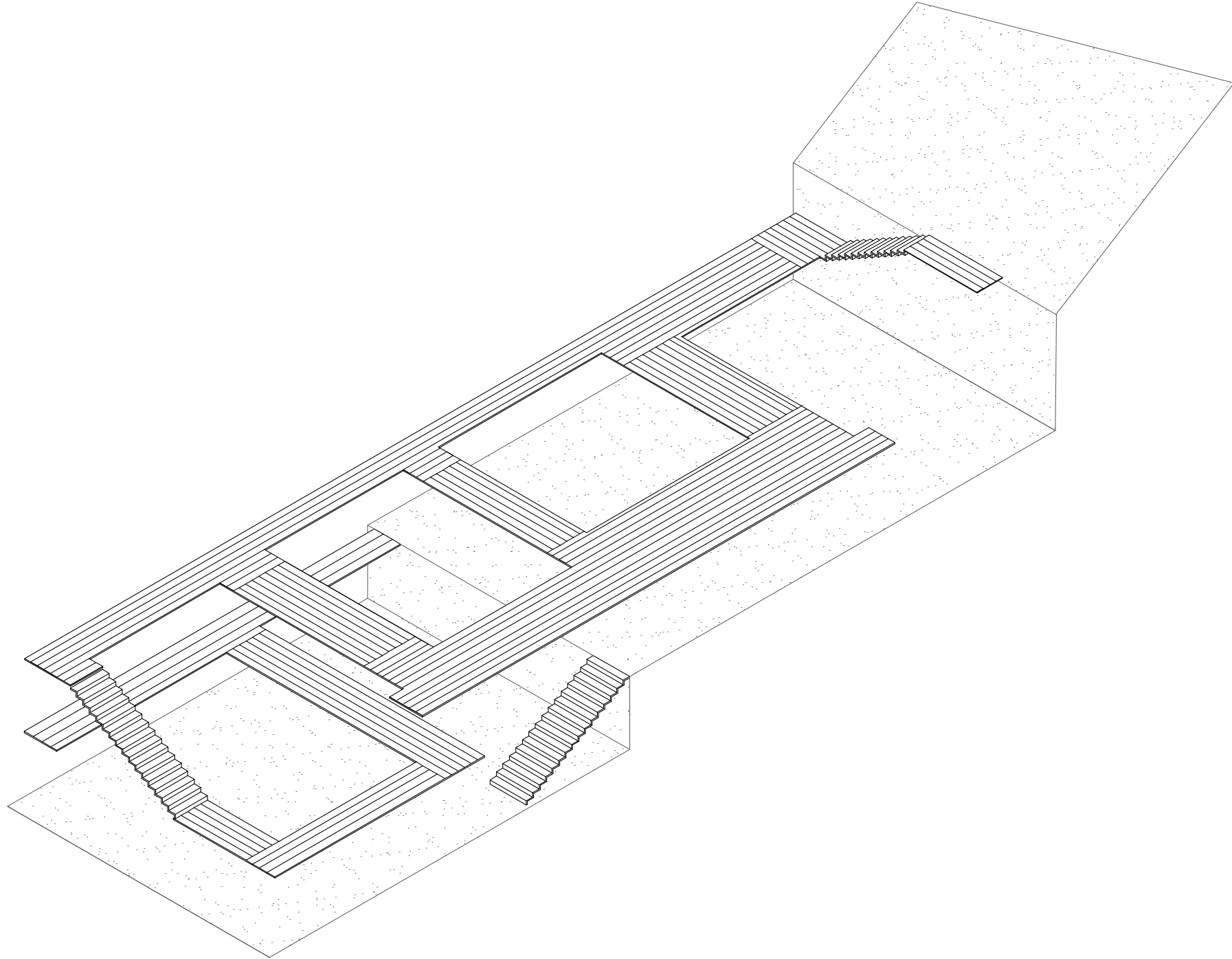
MONK'S CHAPEL

+

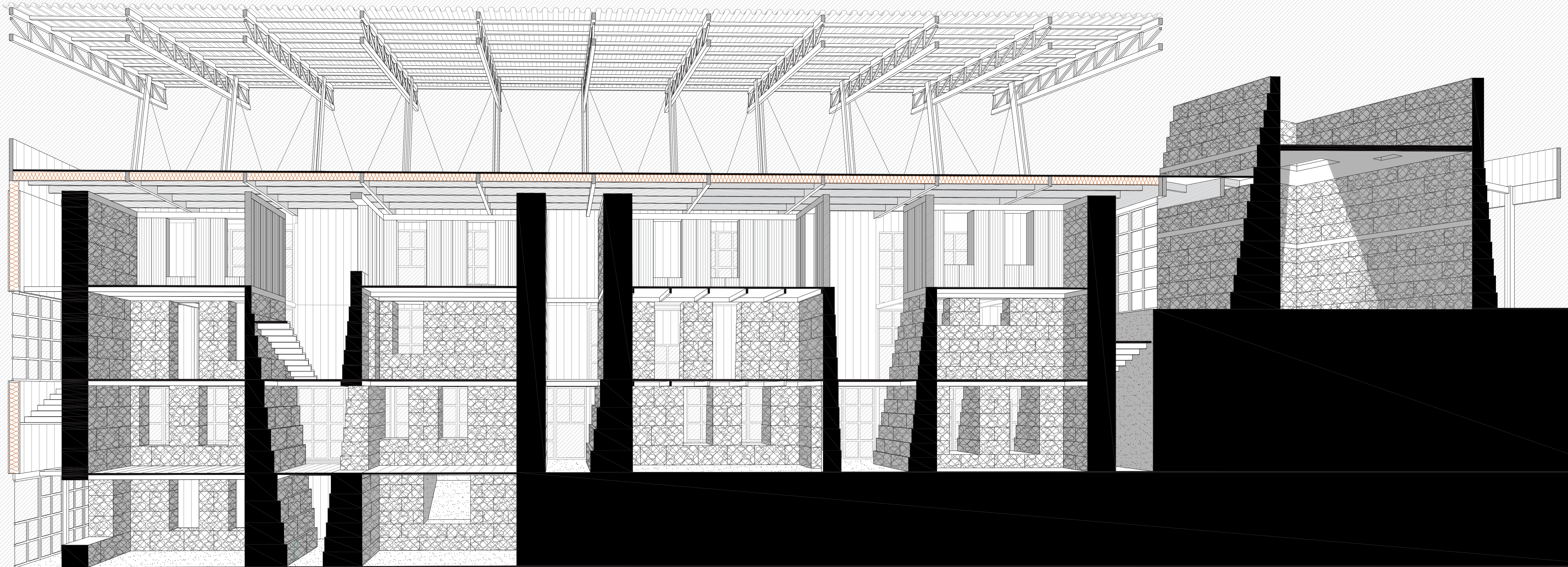
SCHOOL



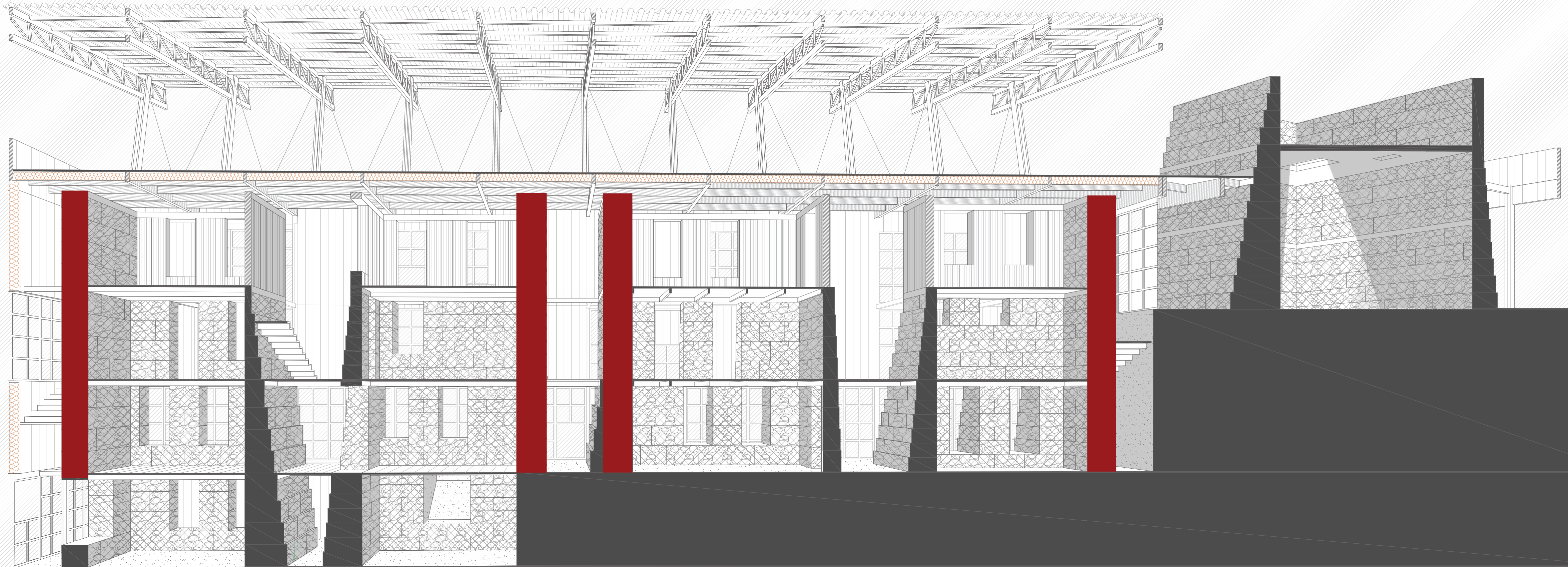
MONK'S CHAPEL
+
SCHOOL
+
COMMUNITY CENTER



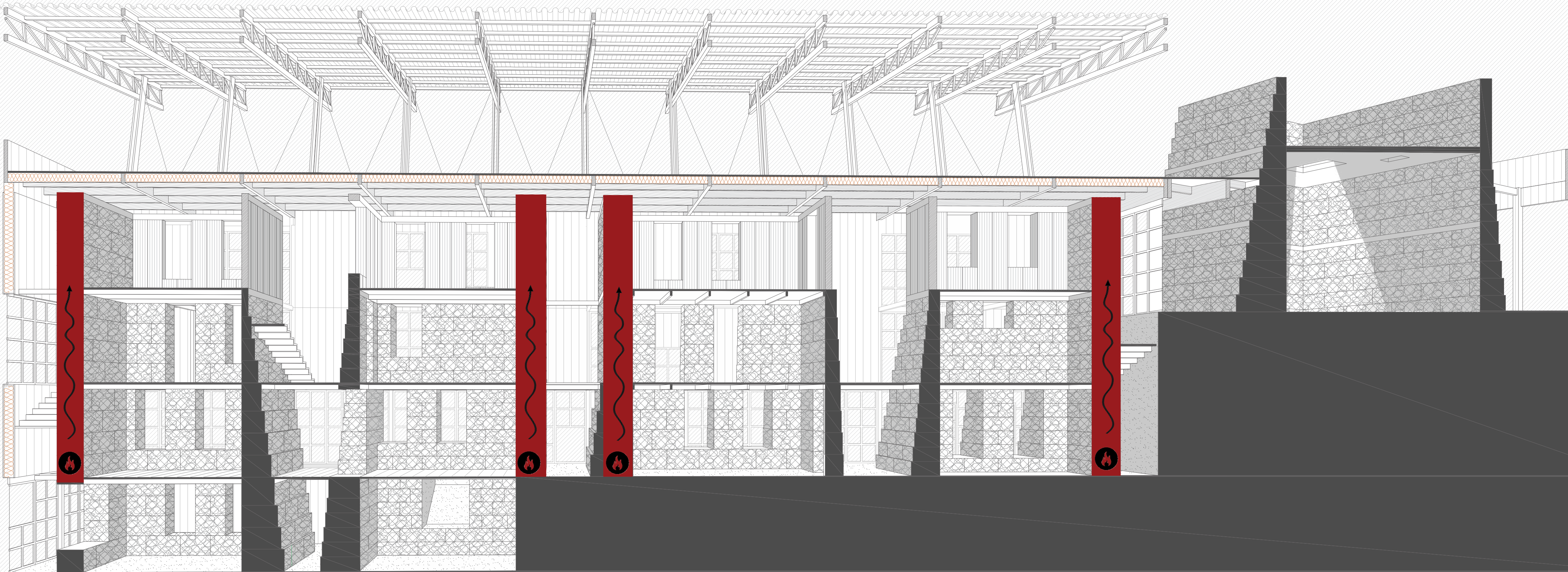
MEDIATOR



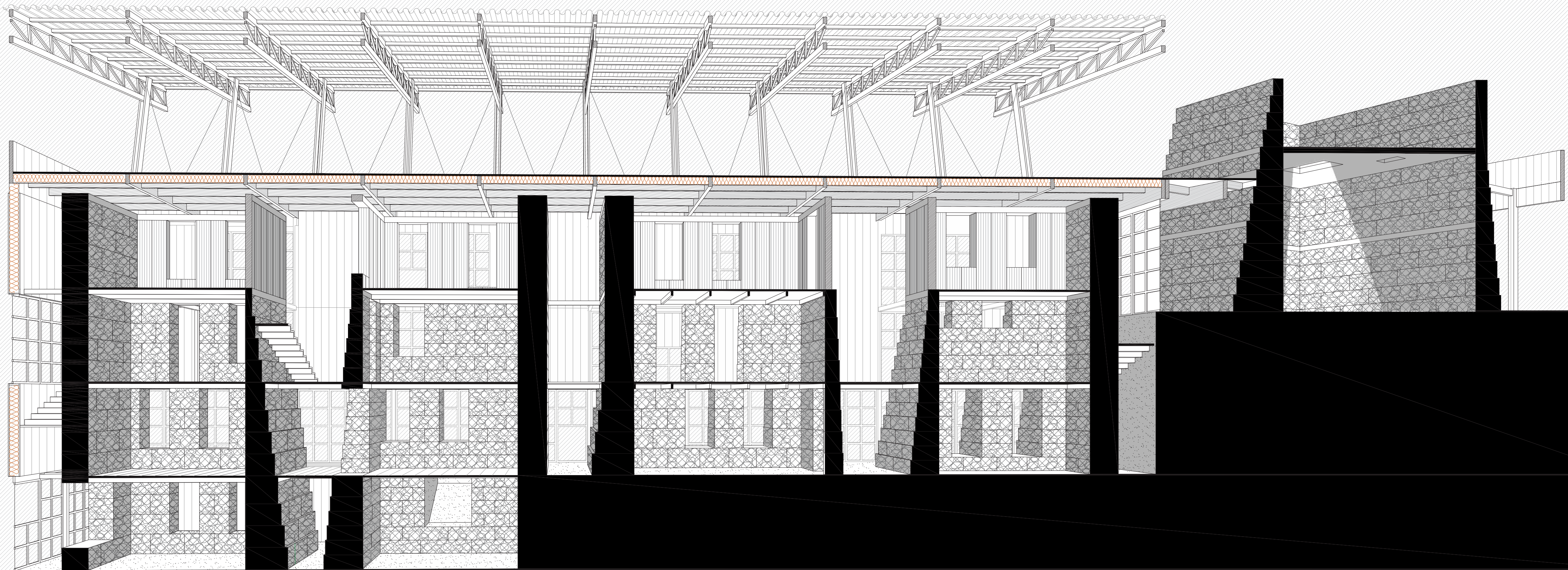
LONGITUDINAL SECTION



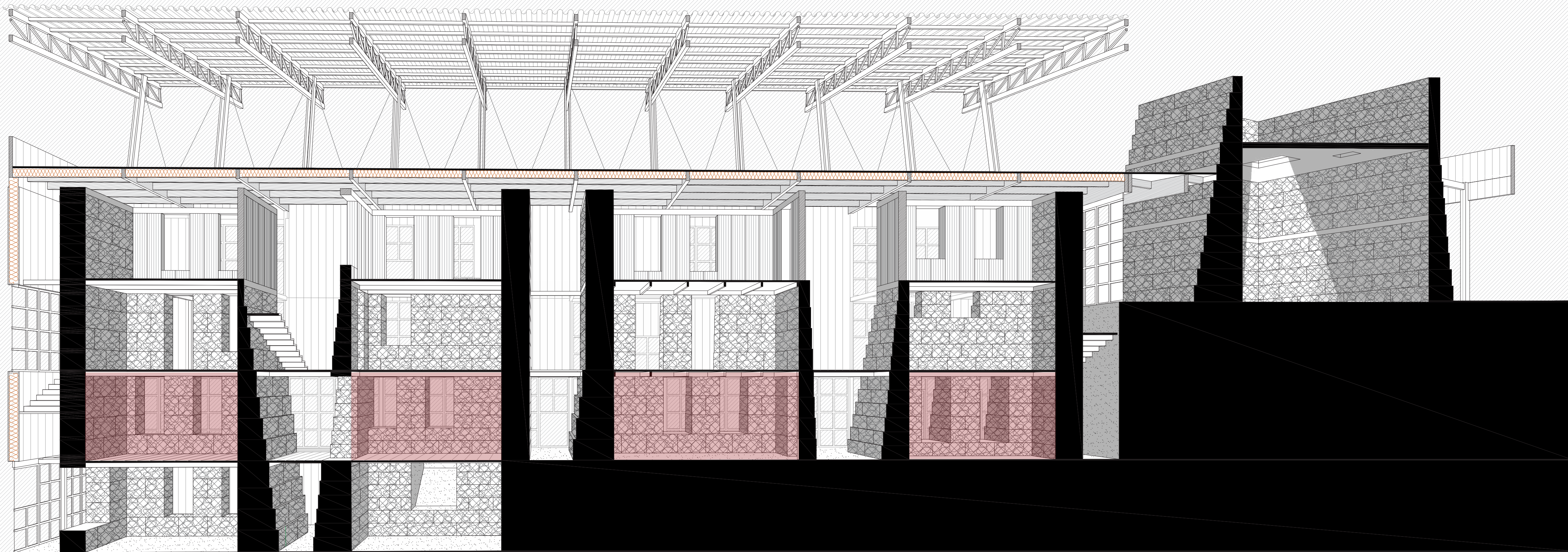
RADIANT WALLS



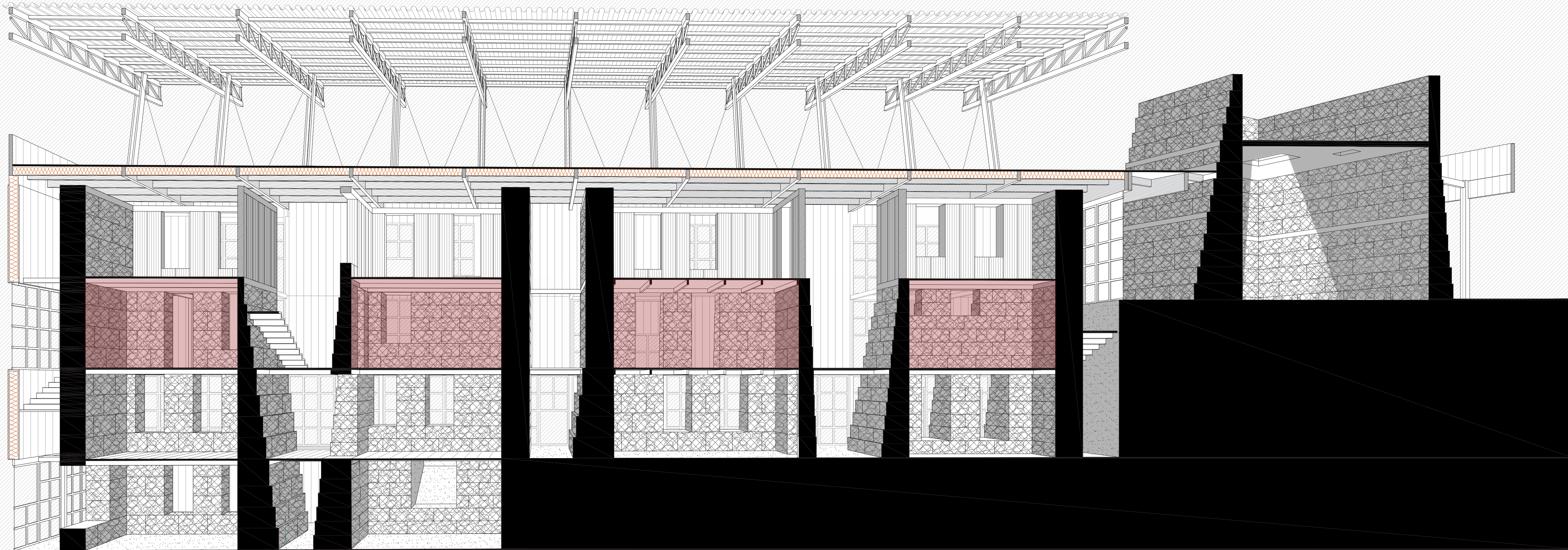
FIREPLACES AT THE GROUND FLOOR



DAILY ROUTINE / HEIGHT



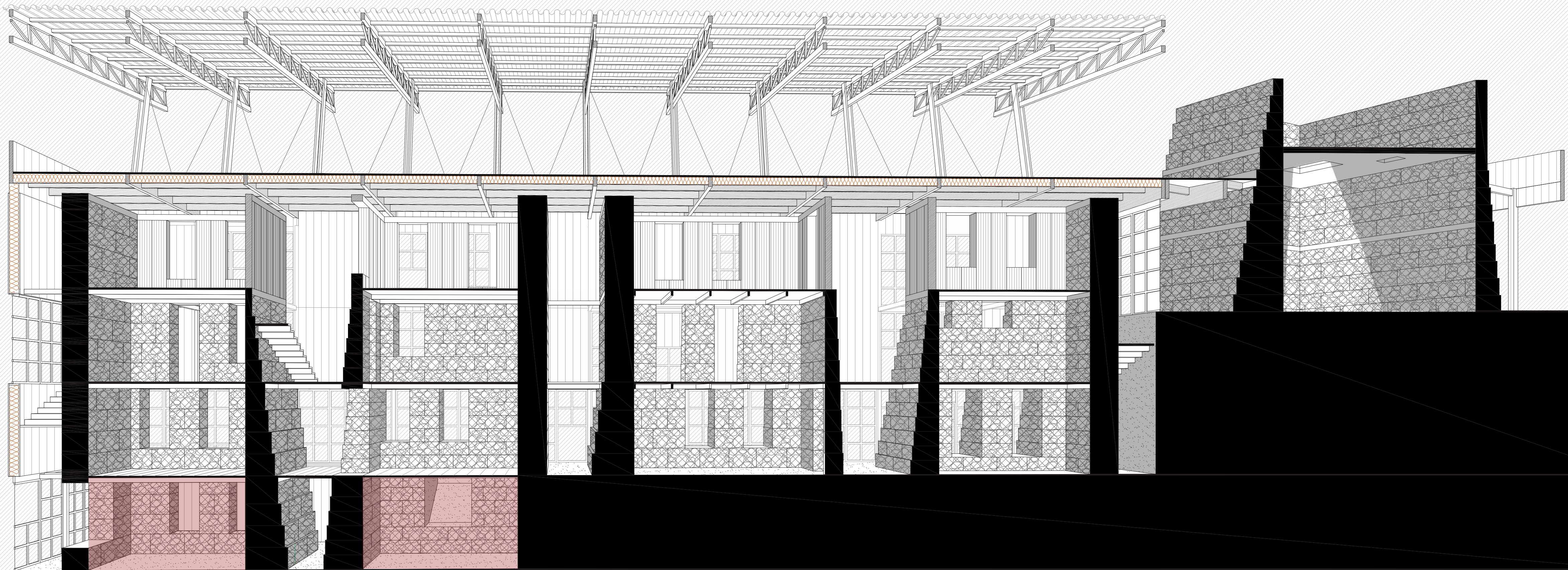
MORNING AT THE GROUND FLOOR
CLASSROOMS



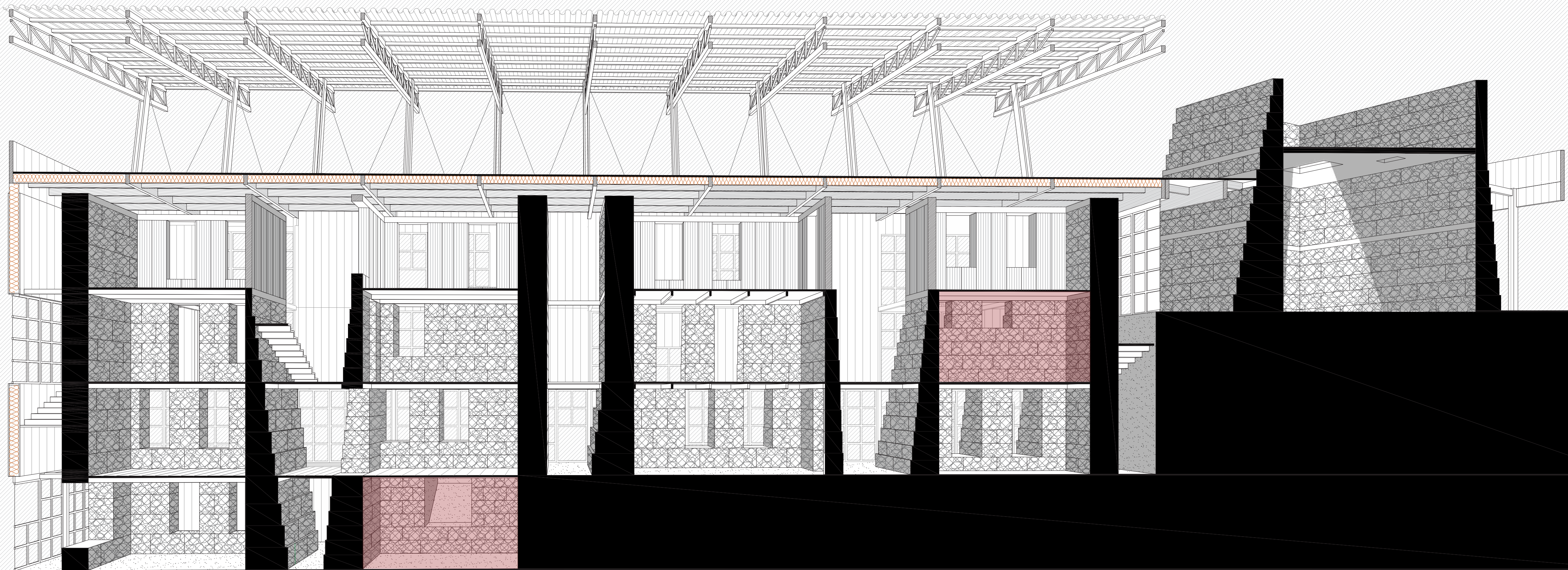
AFTERNOON AT THE FIRST FLOOR
LEISURE SPACE / LIBRARY / TEACHER'S ROOMS



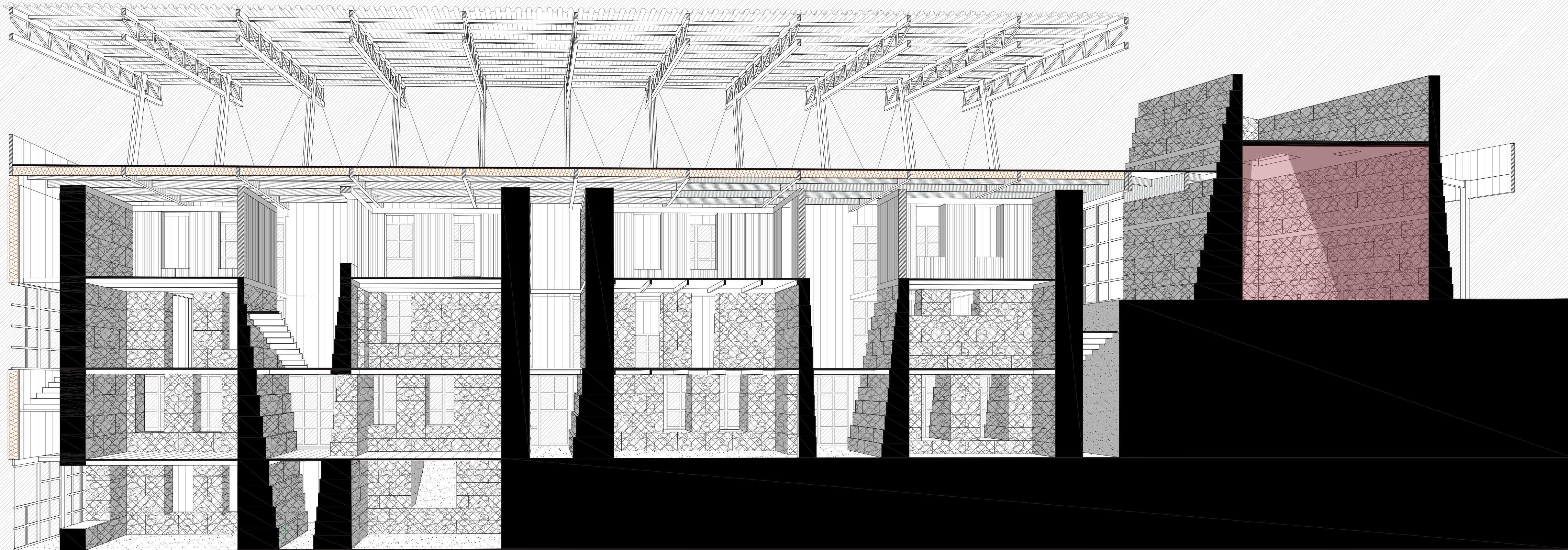
NIGHT AT THE SECOND FLOOR
CHILDREN'S BEDROOMS



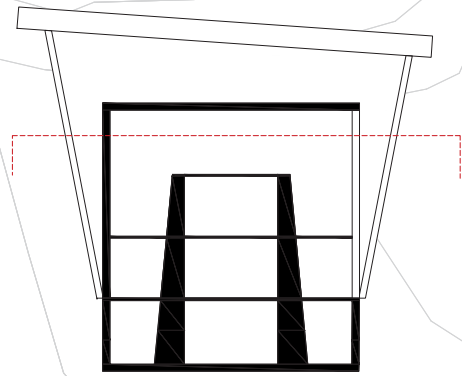
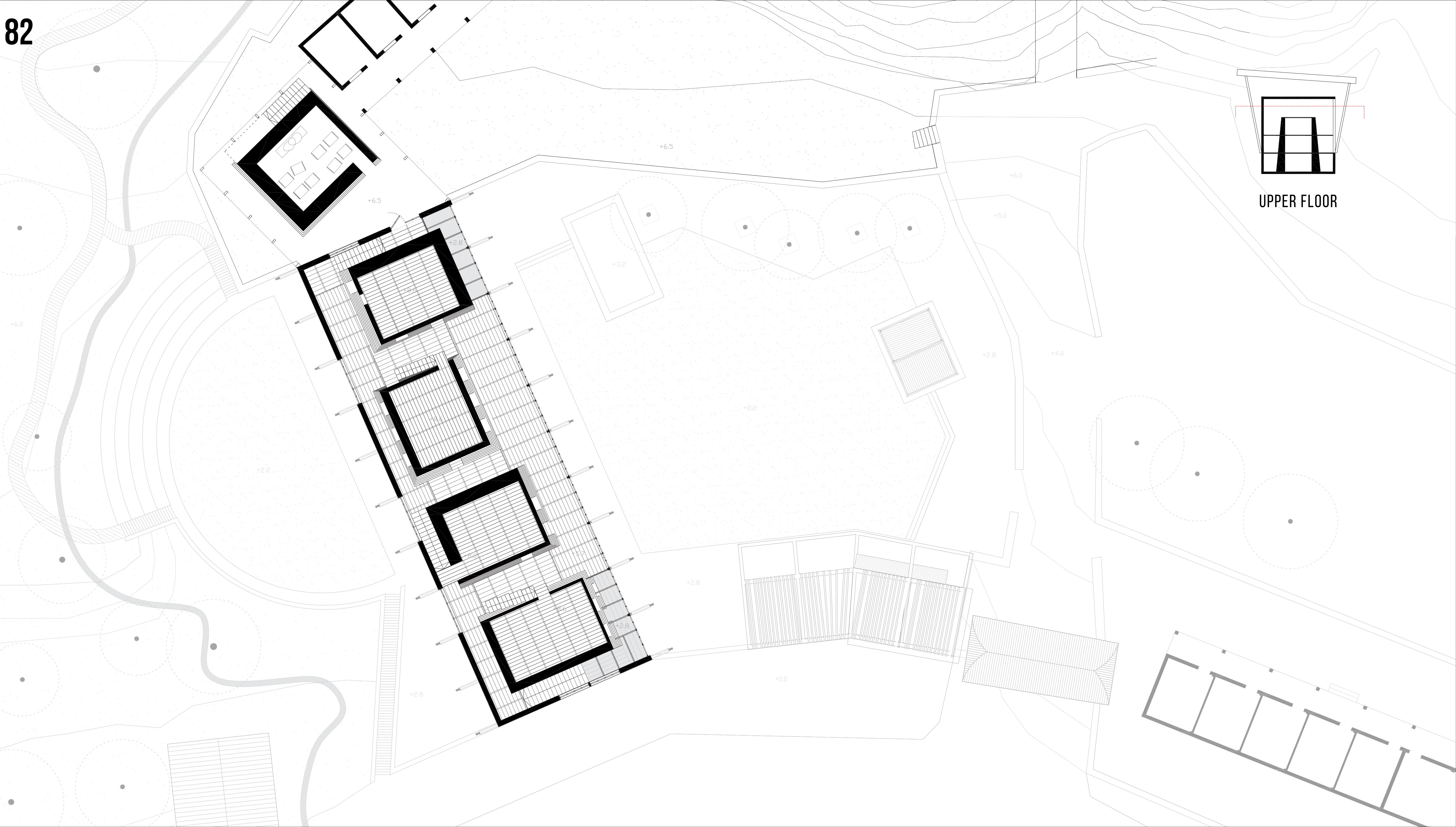
BASEMENT
CLASSROOMS FOR COMMUNITY



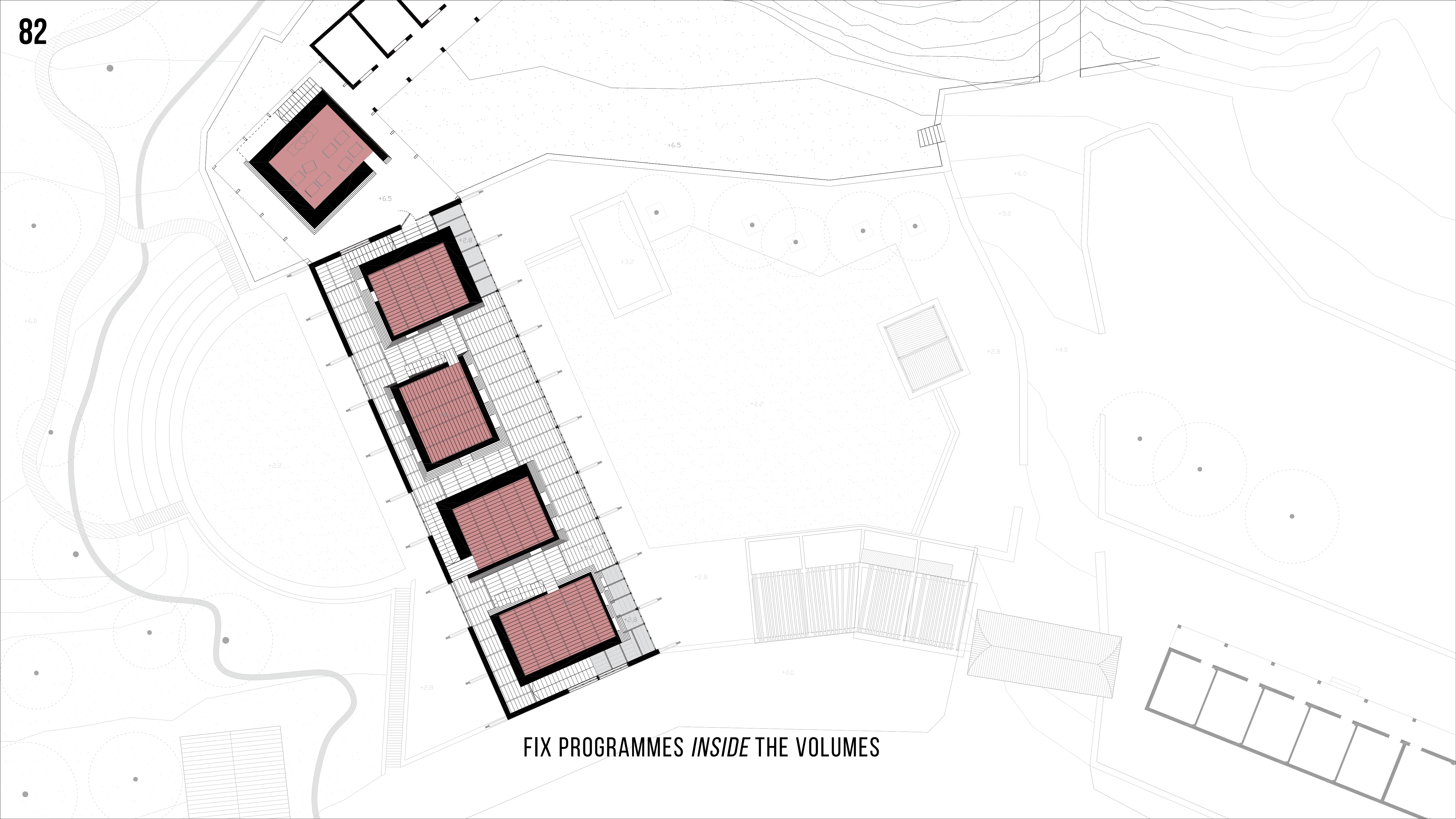
BASEMENT
TOILETS AND SHOWERS



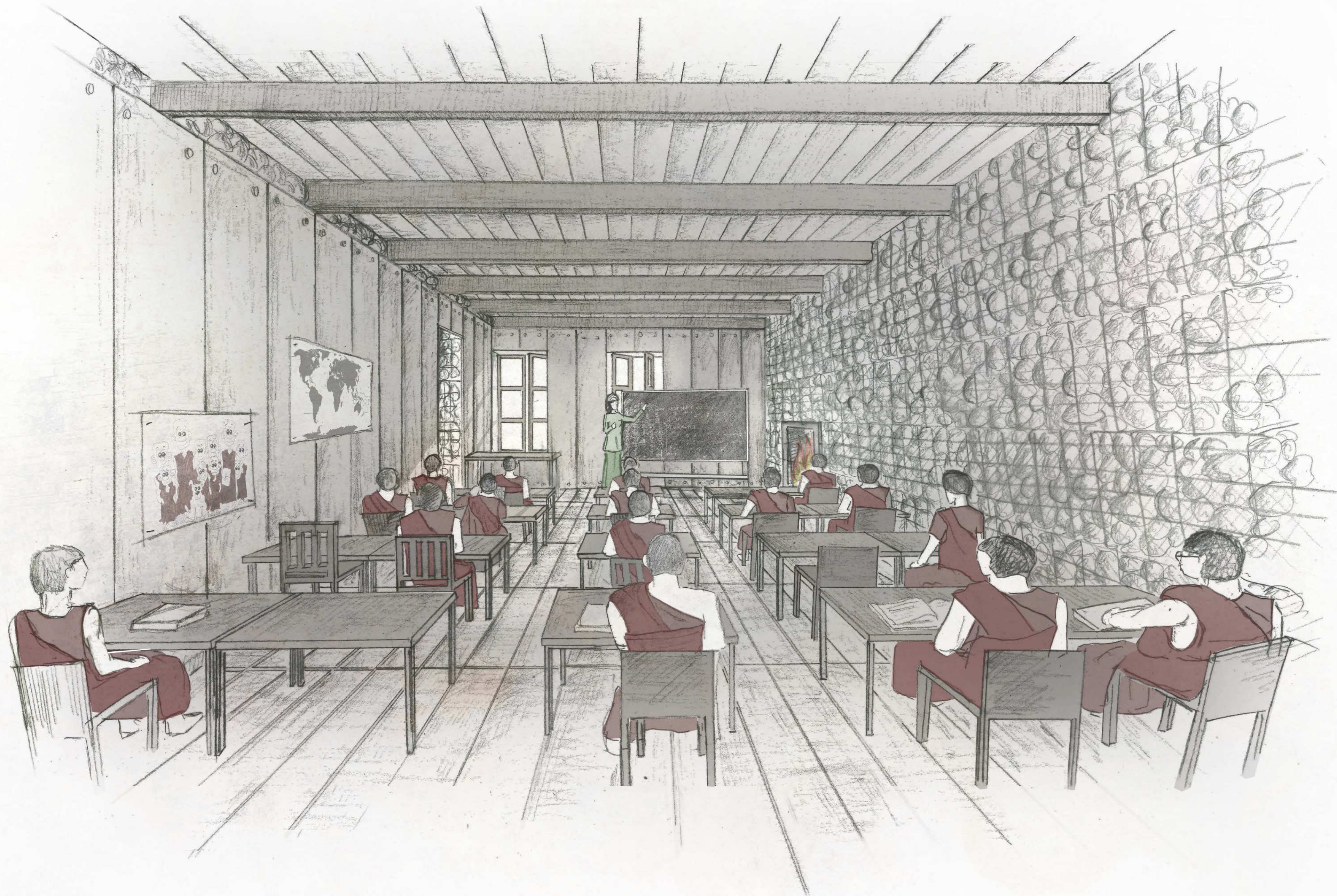
SEMI-COVERED EXTERIOR
MONK'S CHAPEL + MEDITATION SPACE

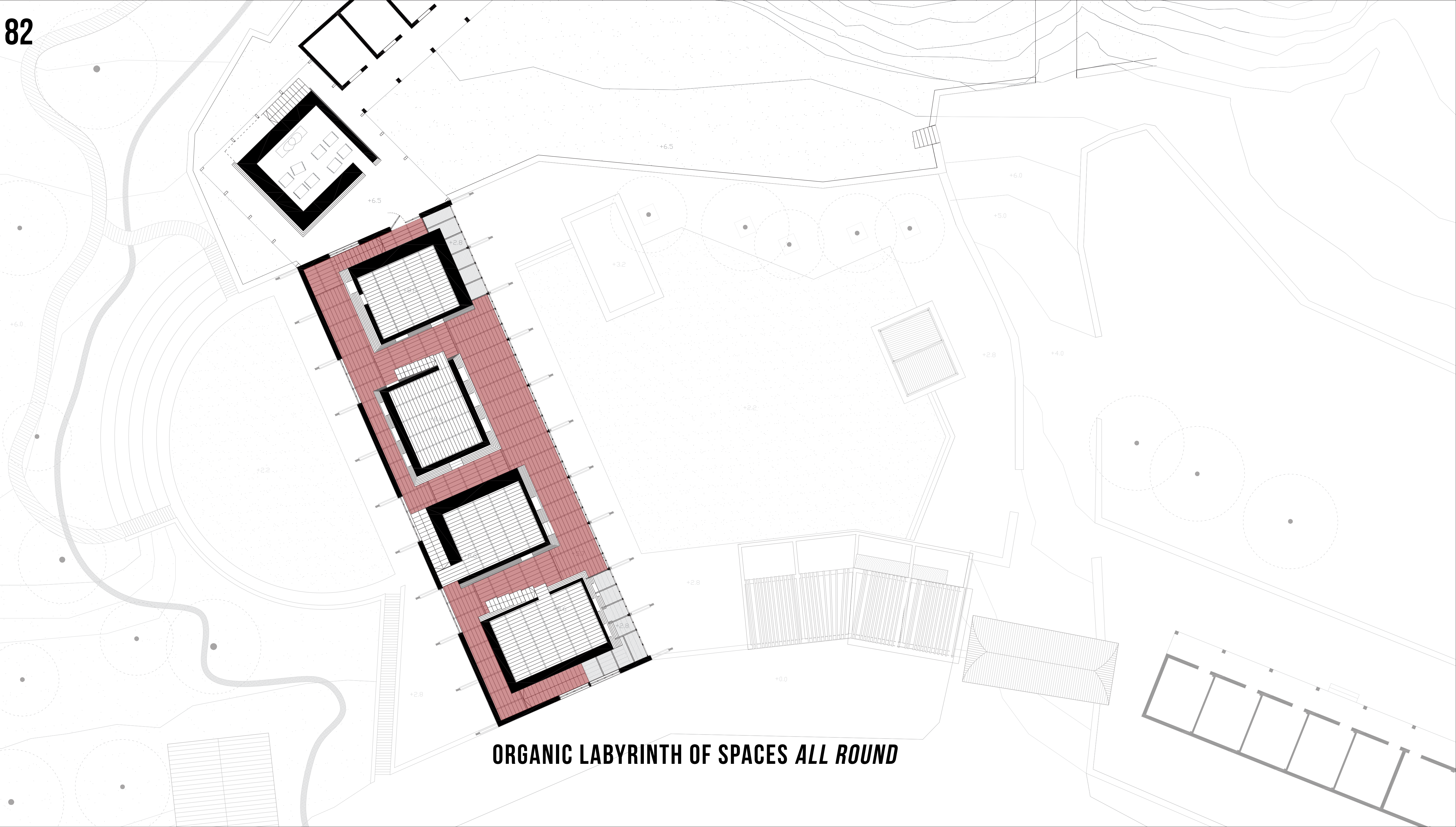


UPPER FLOOR

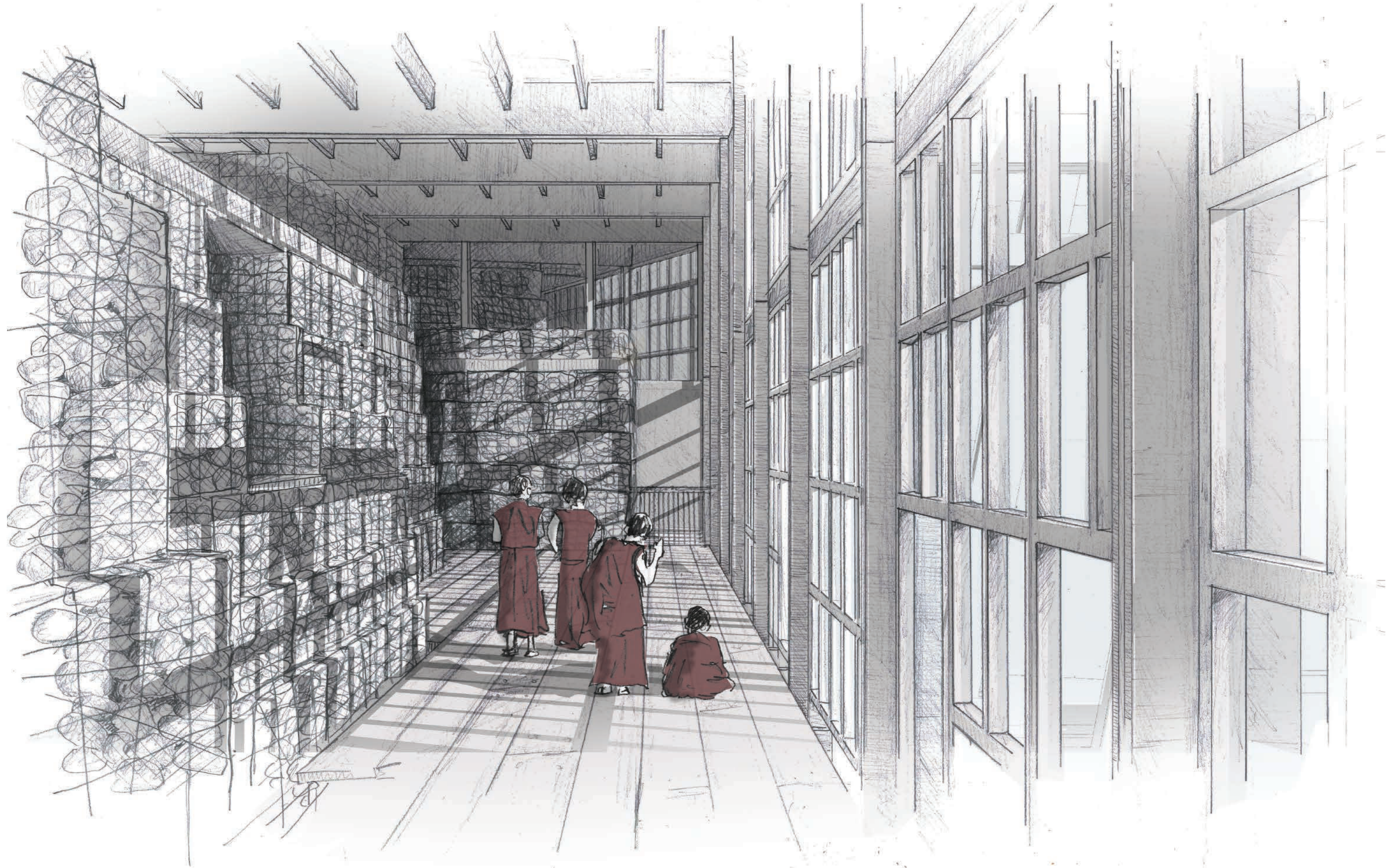


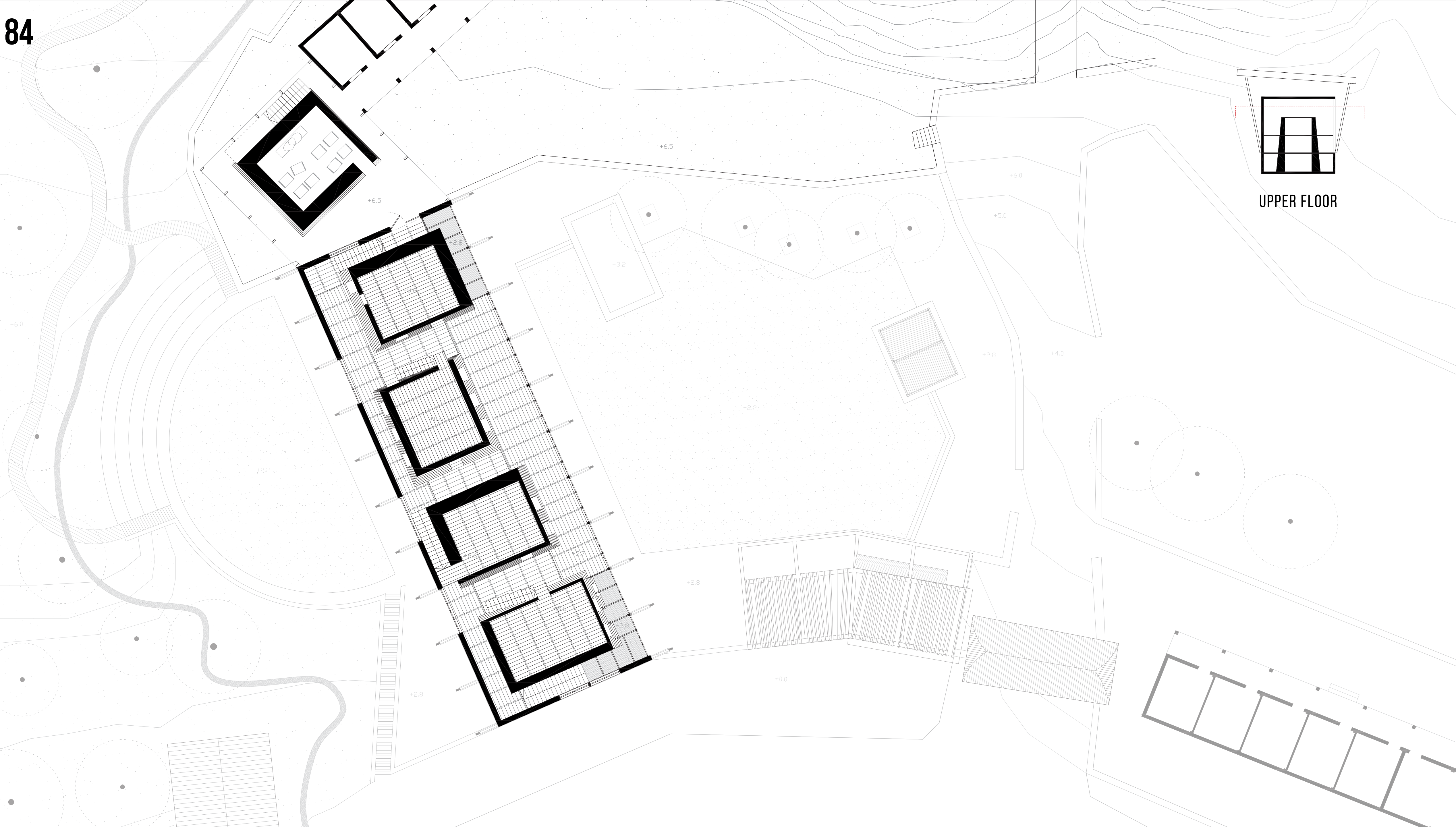
FIX PROGRAMMES *INSIDE* THE VOLUMES

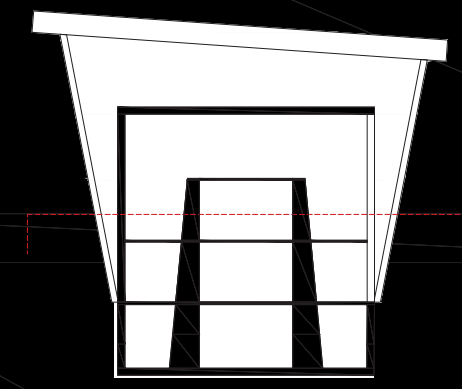




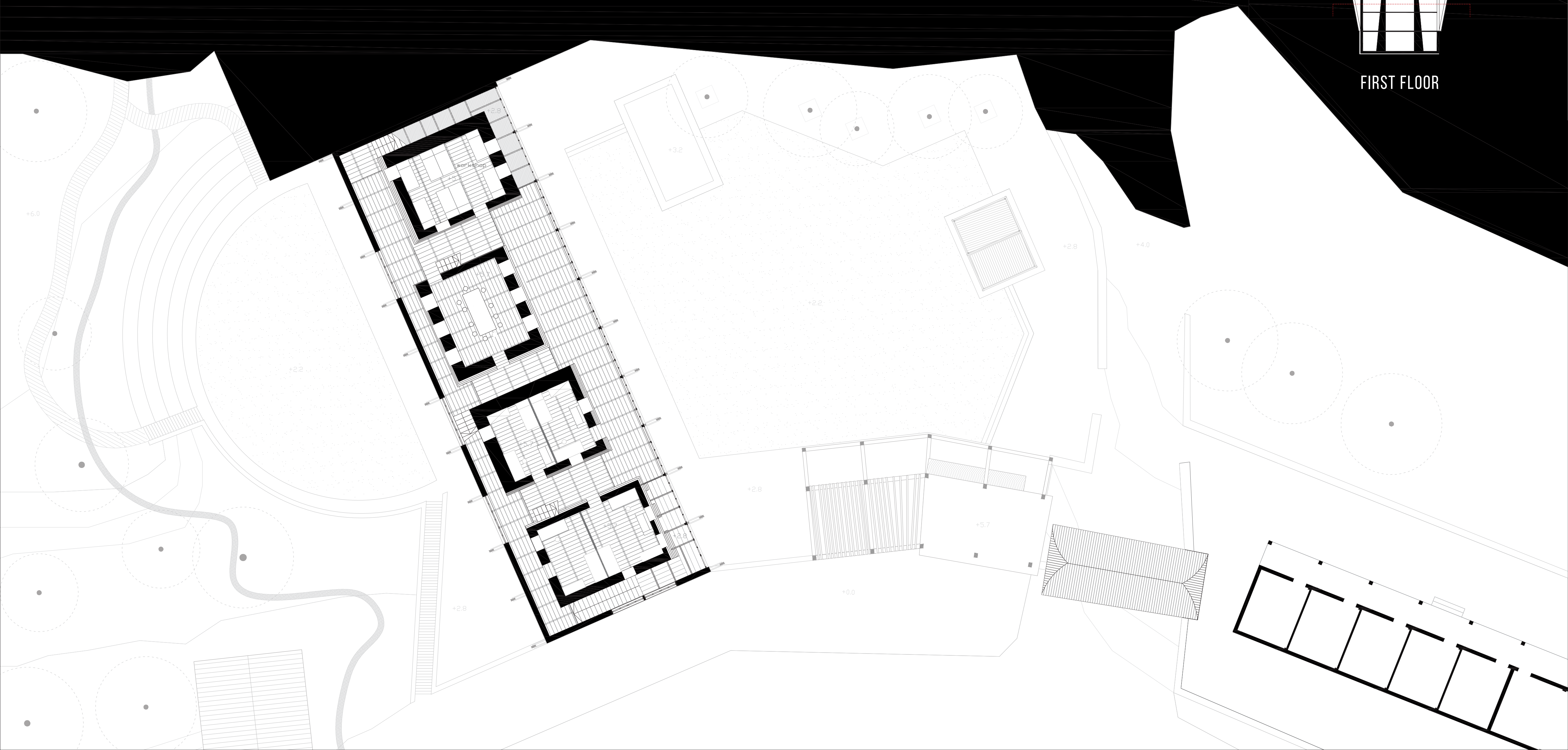
ORGANIC LABYRINTH OF SPACES *ALL ROUND*

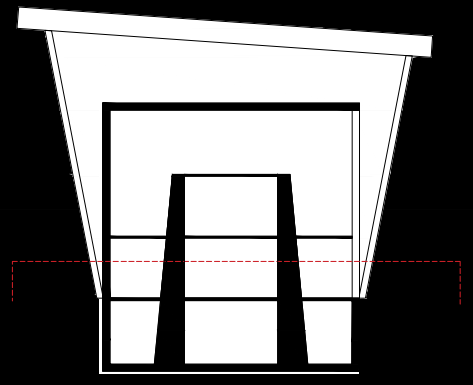




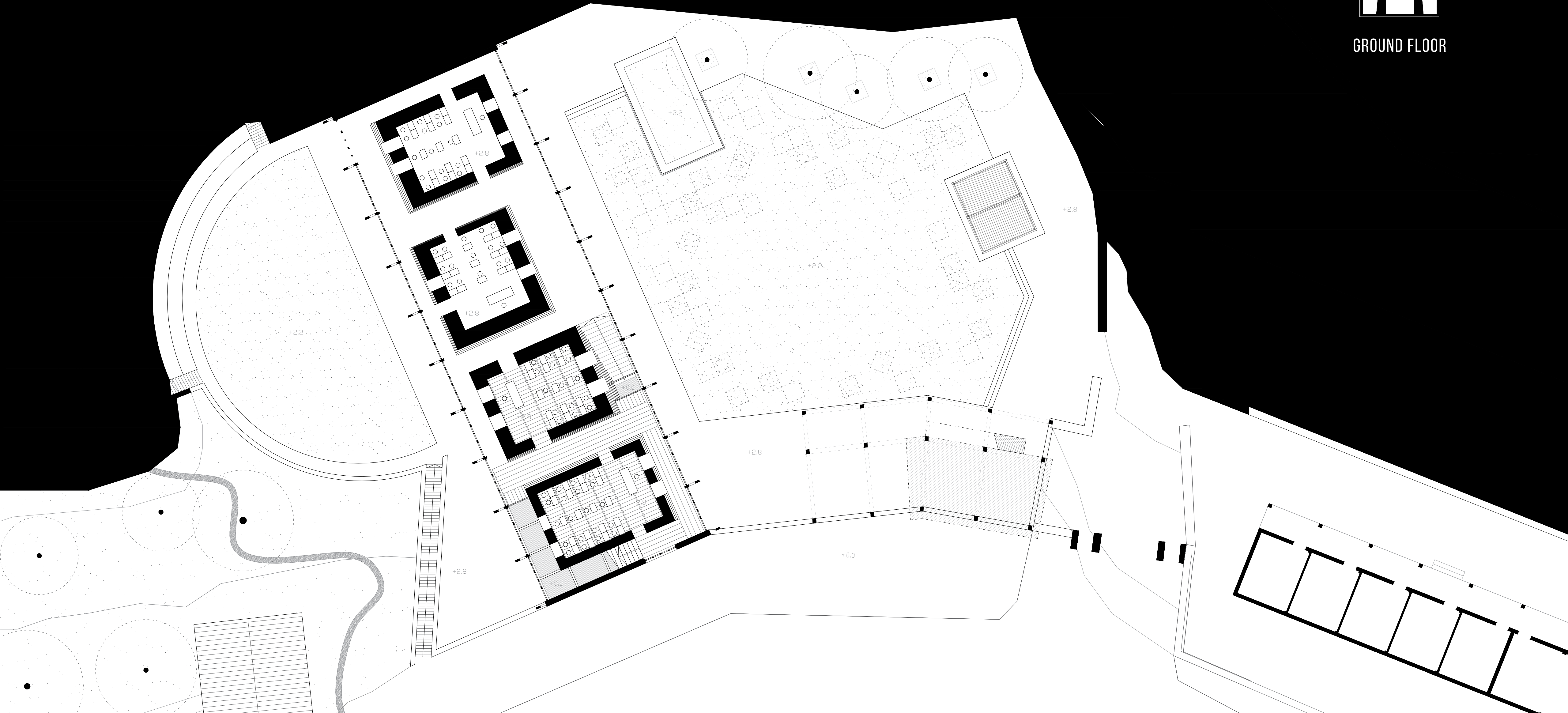


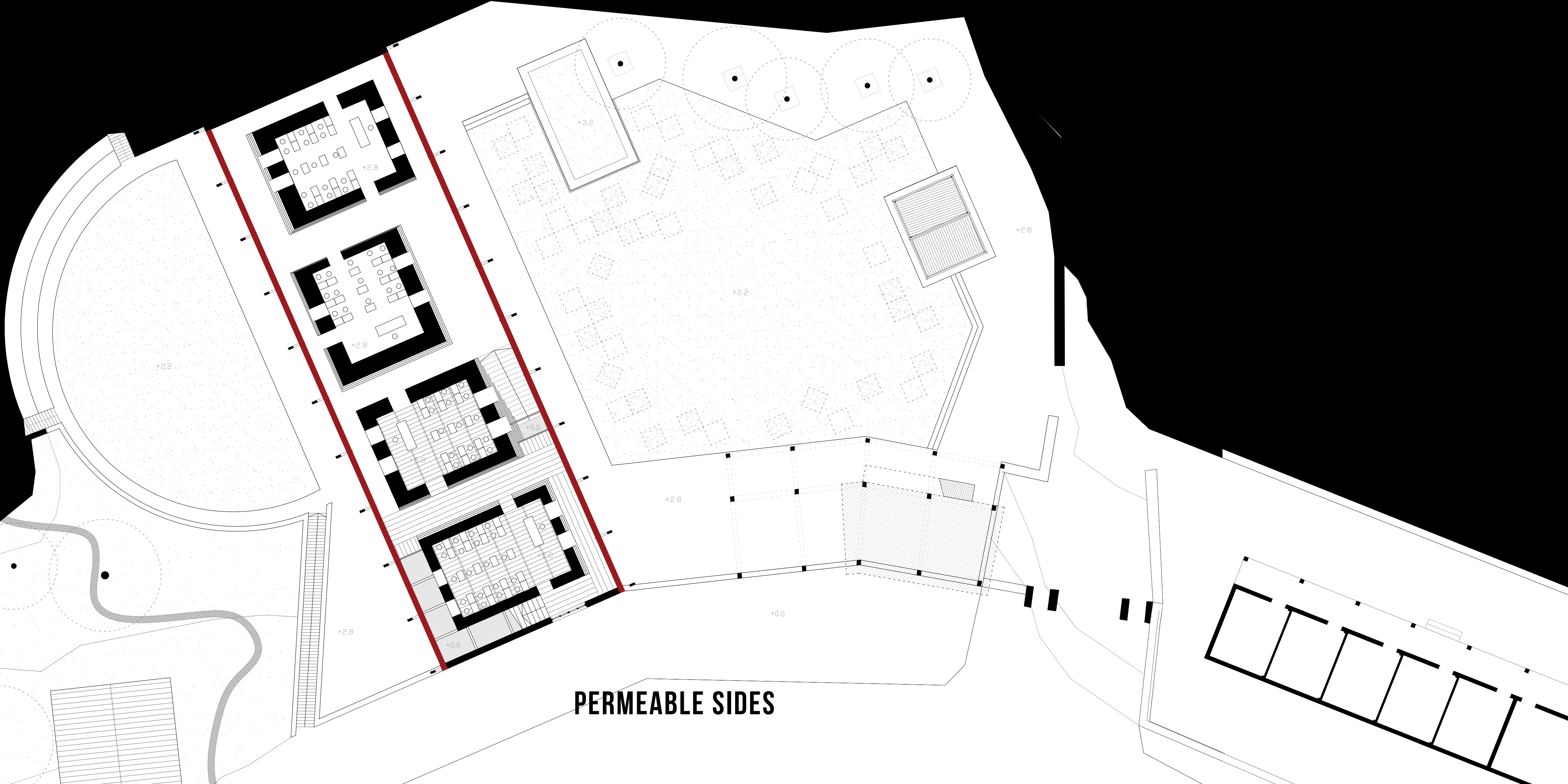
FIRST FLOOR





GROUND FLOOR

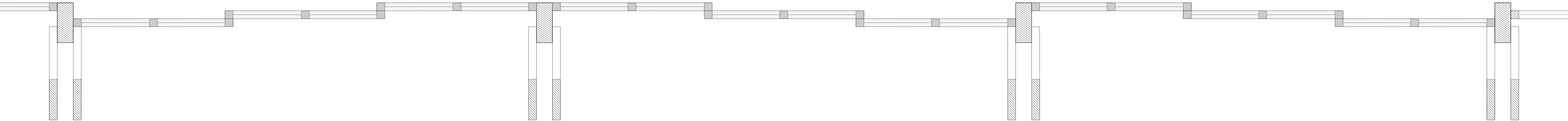




PERMEABLE SIDES

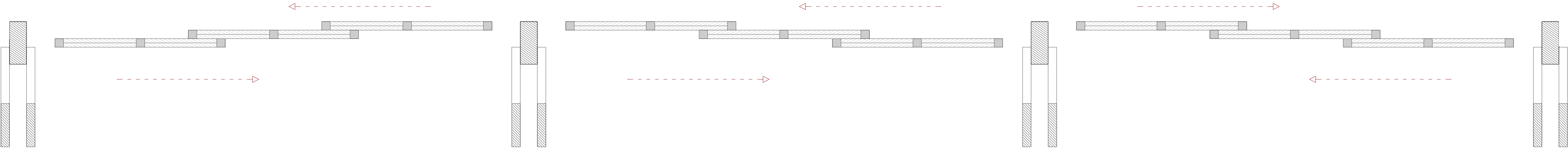
INTERIOR

EXTERIOR

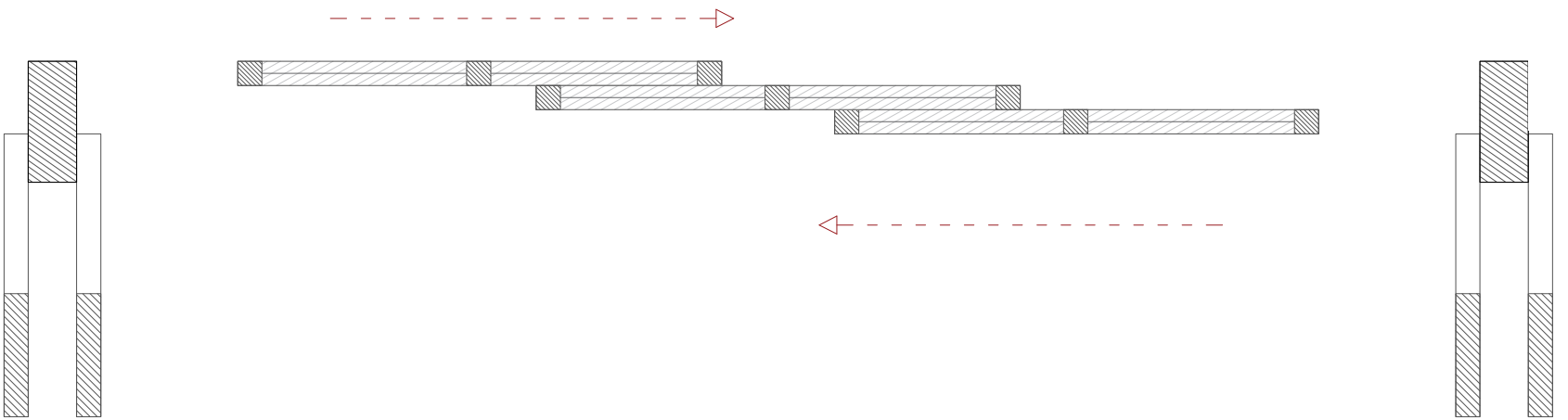
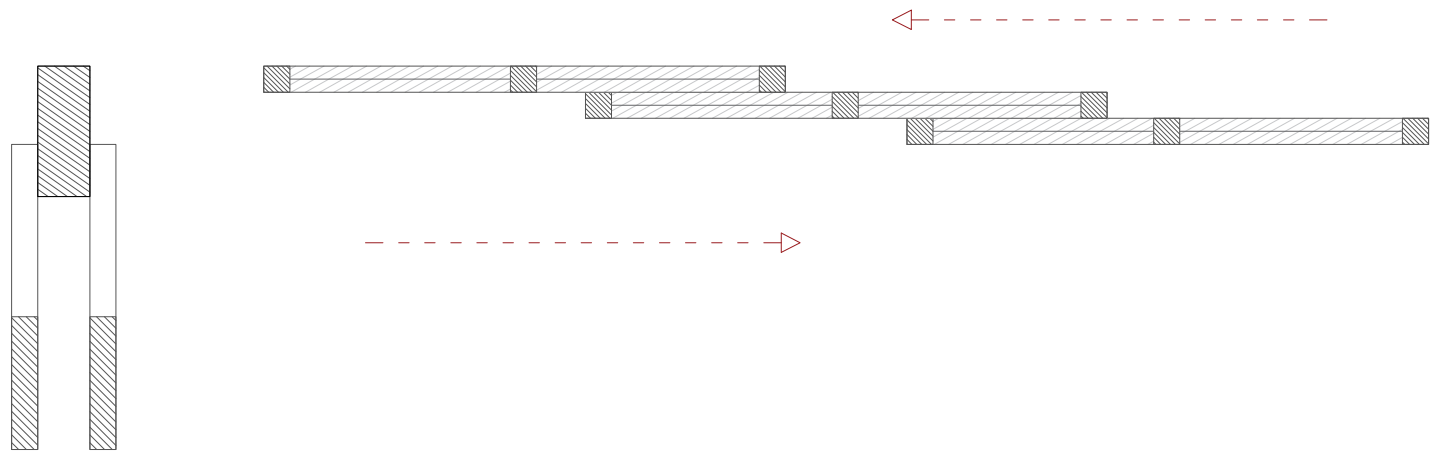
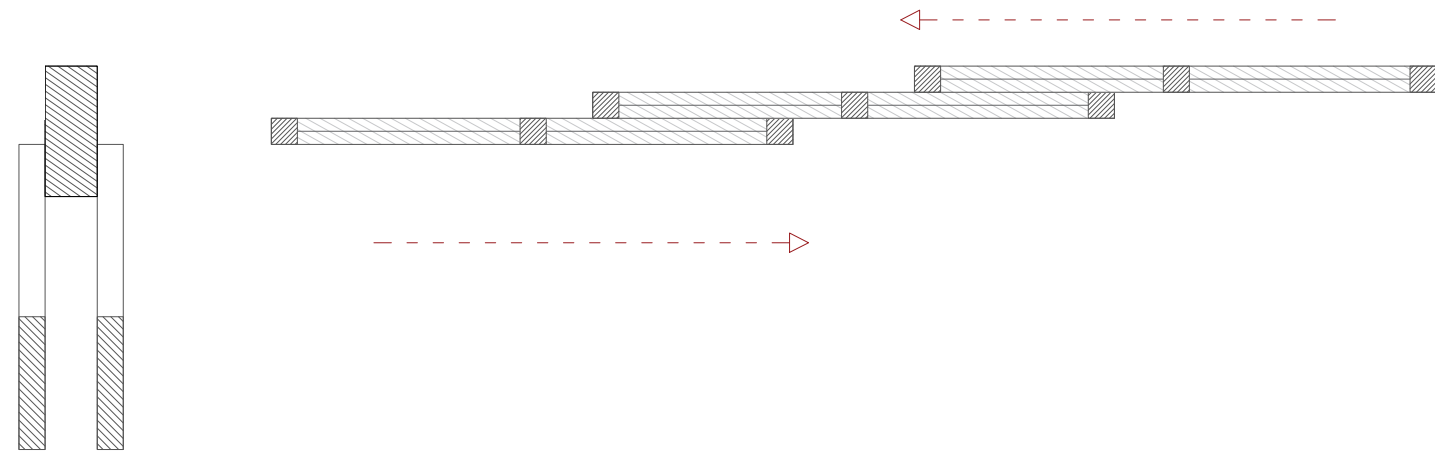


INTERIOR

EXTERIOR

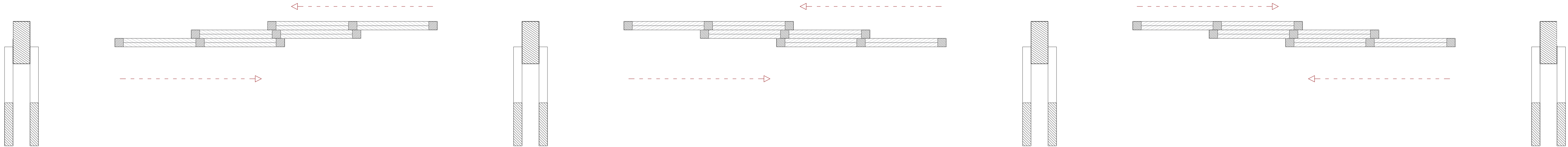


INTERIOR



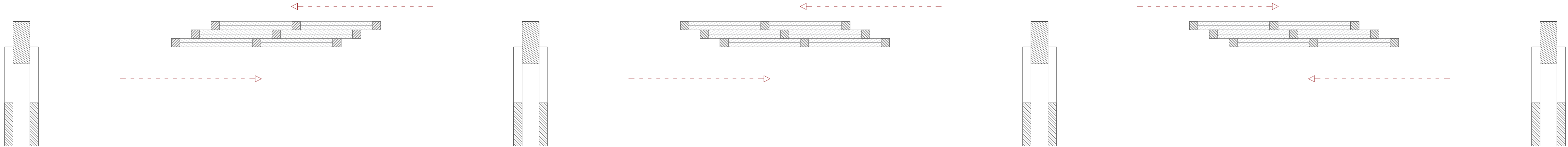
EXTERIOR

INTERIOR



EXTERIOR

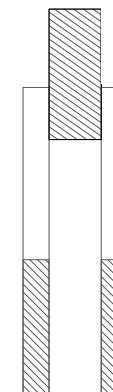
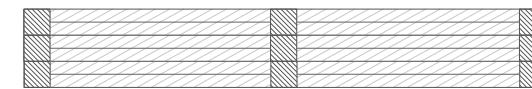
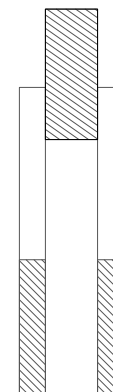
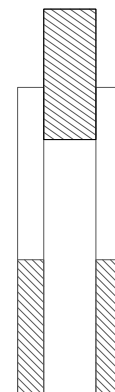
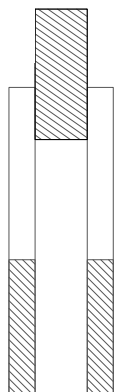
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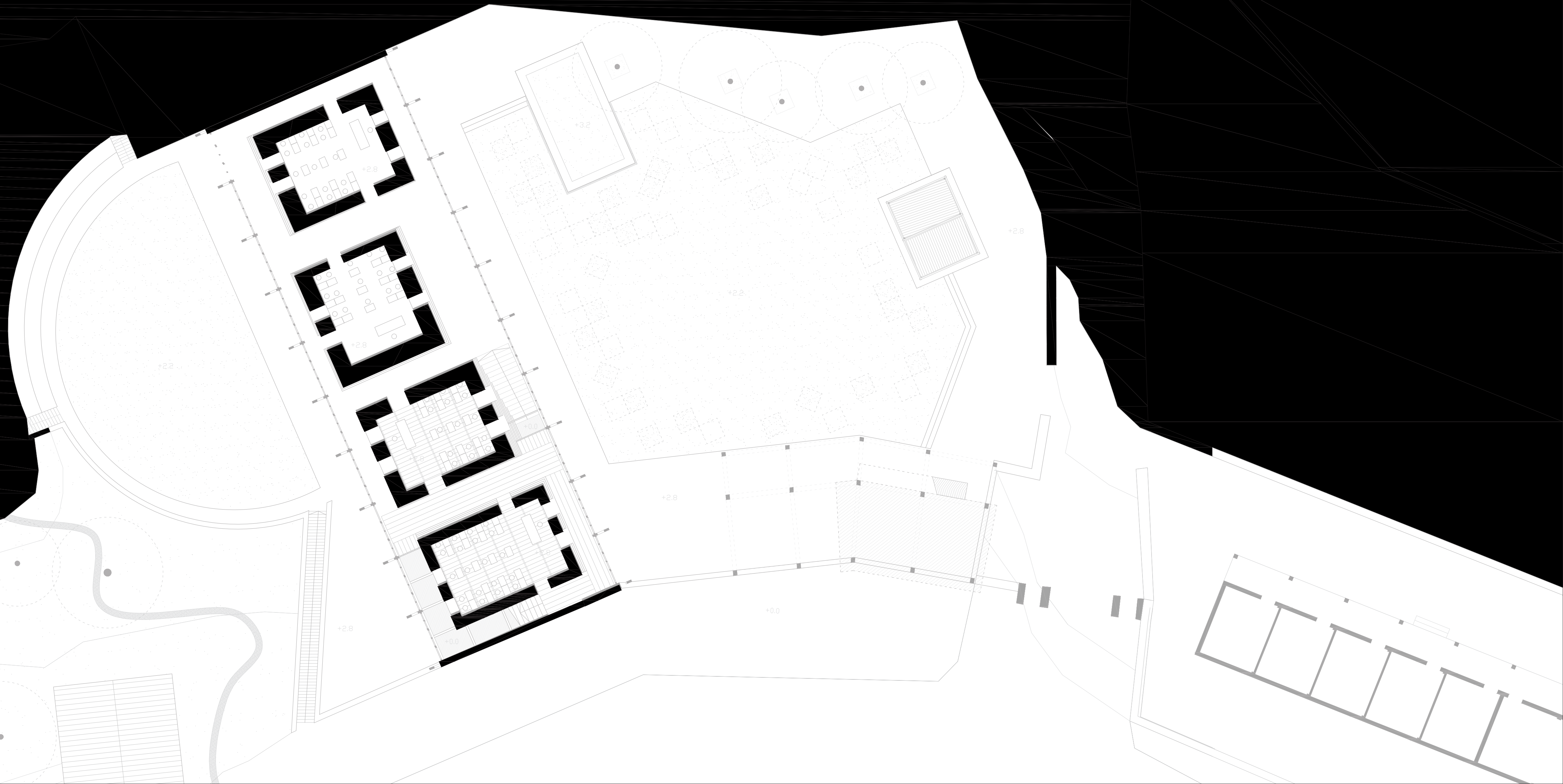


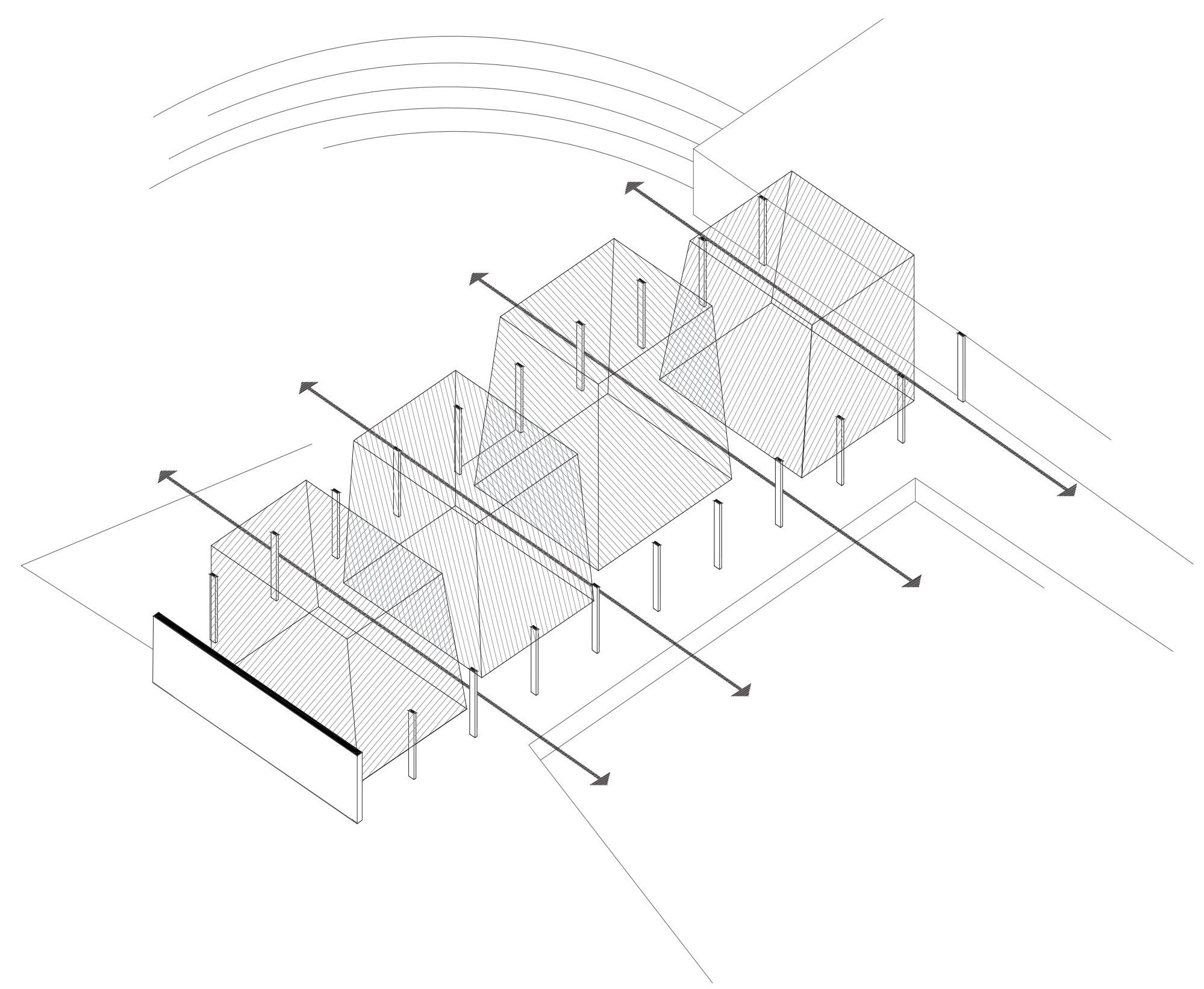
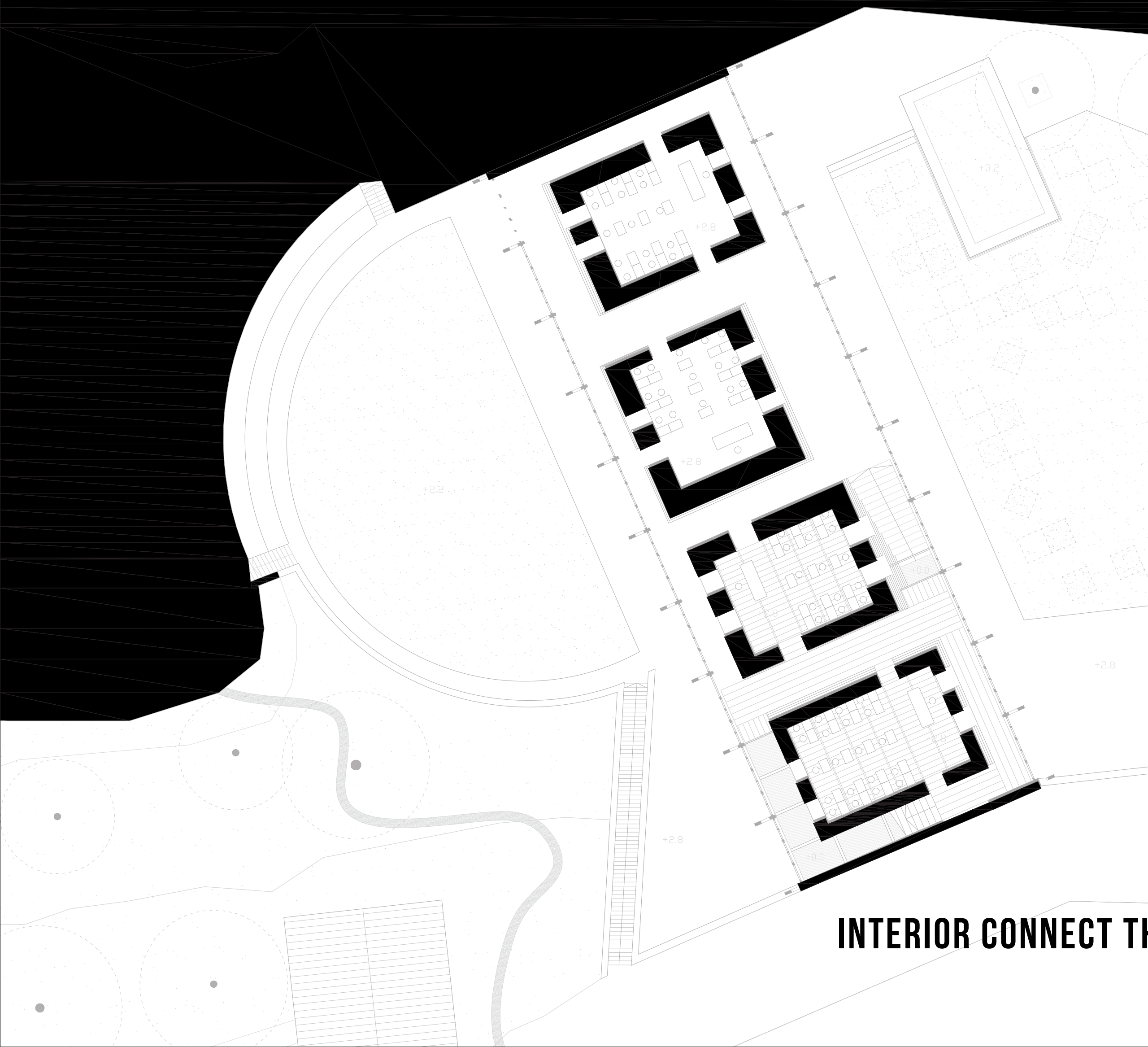
EXTERIOR

INTERIOR

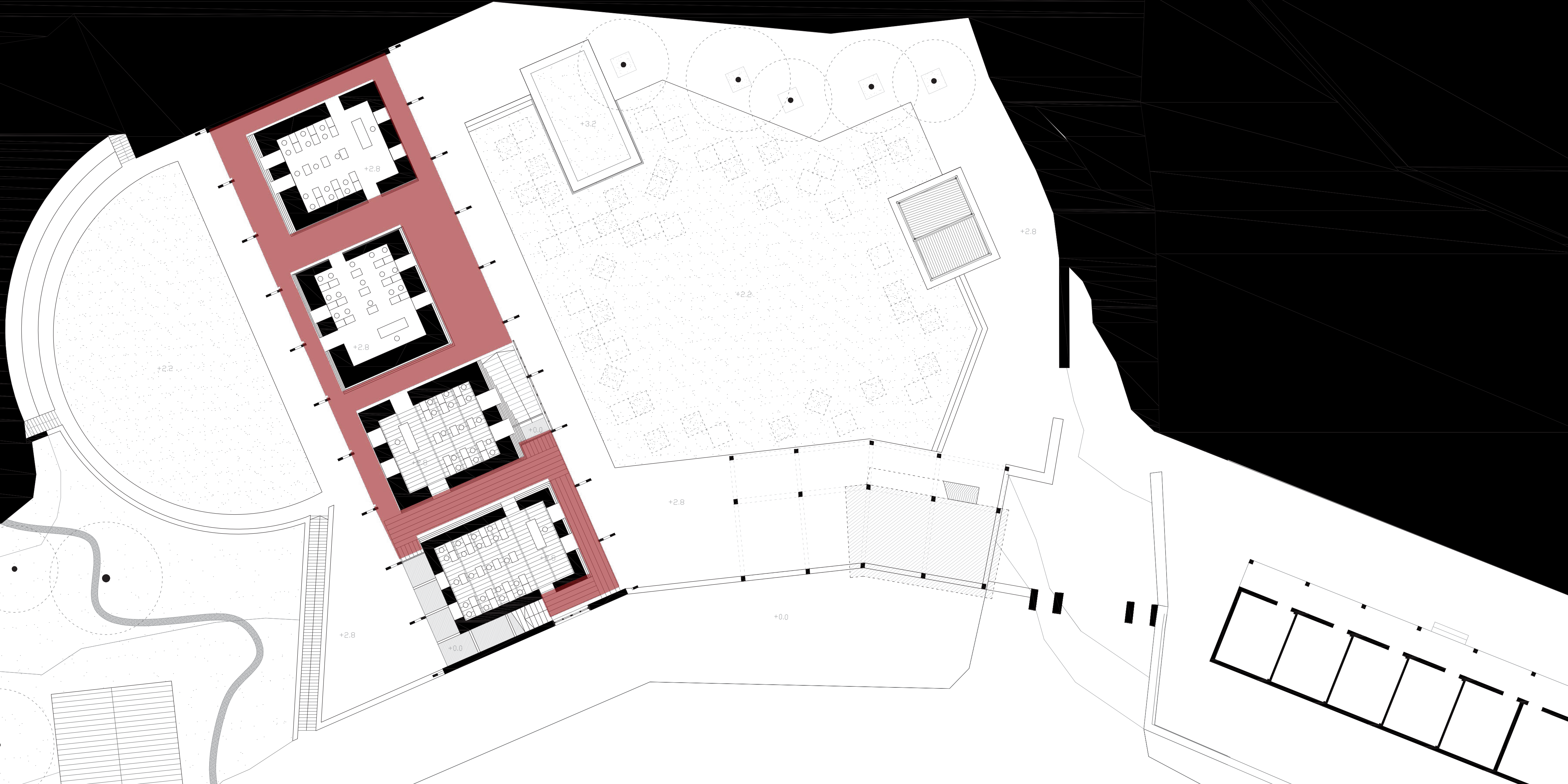
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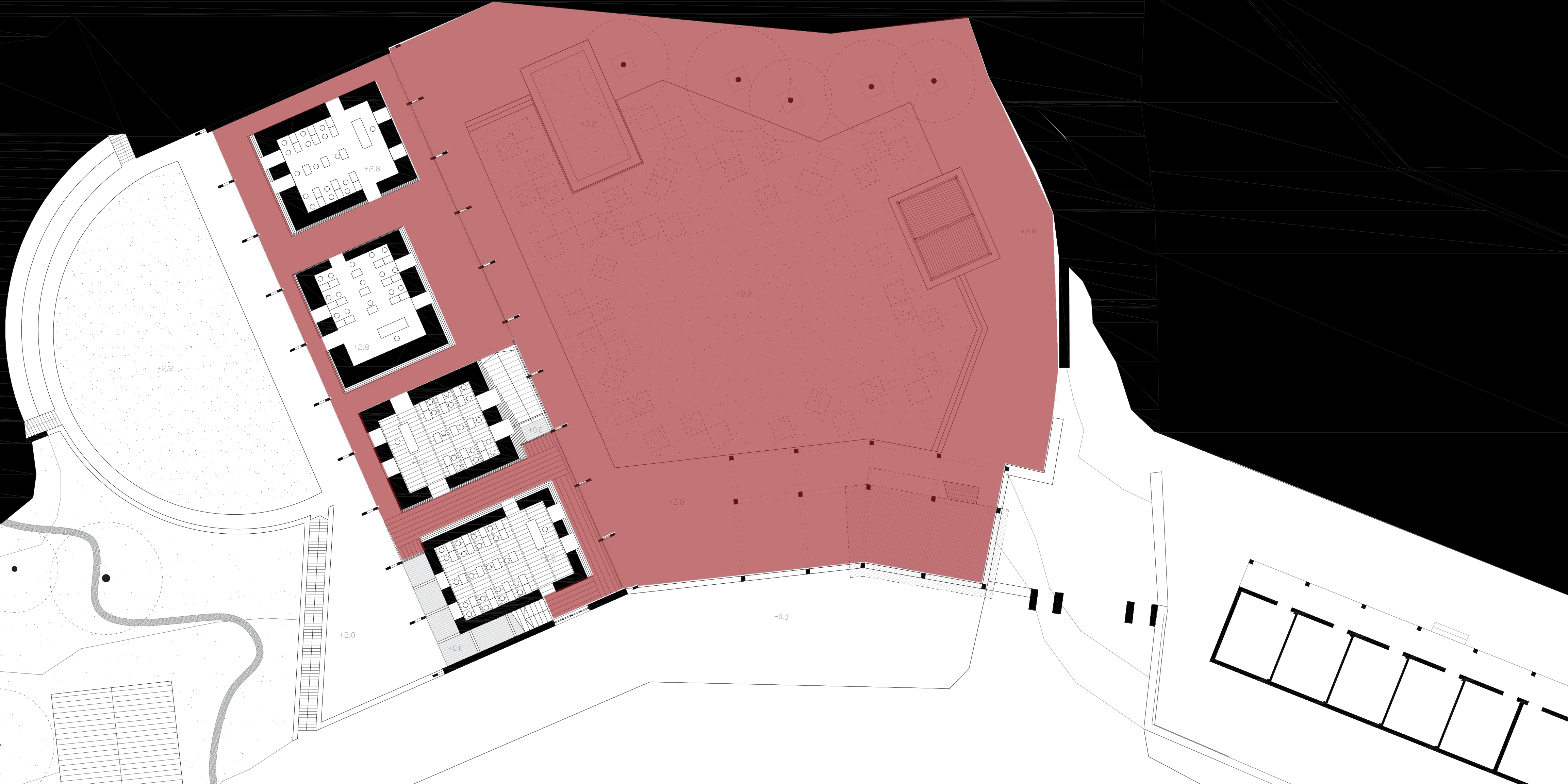


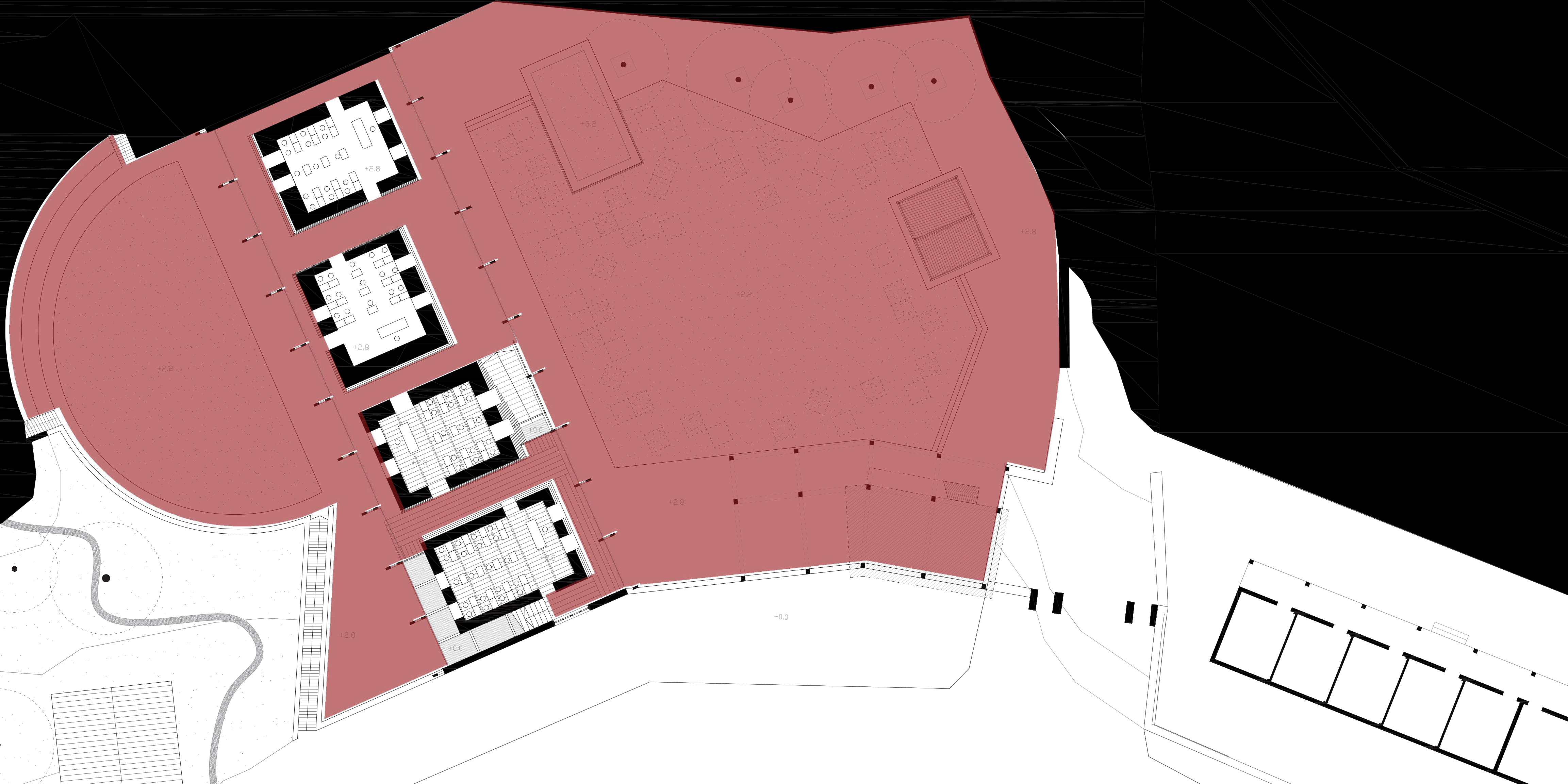




INTERIOR CONNECT THE TWO REALMS

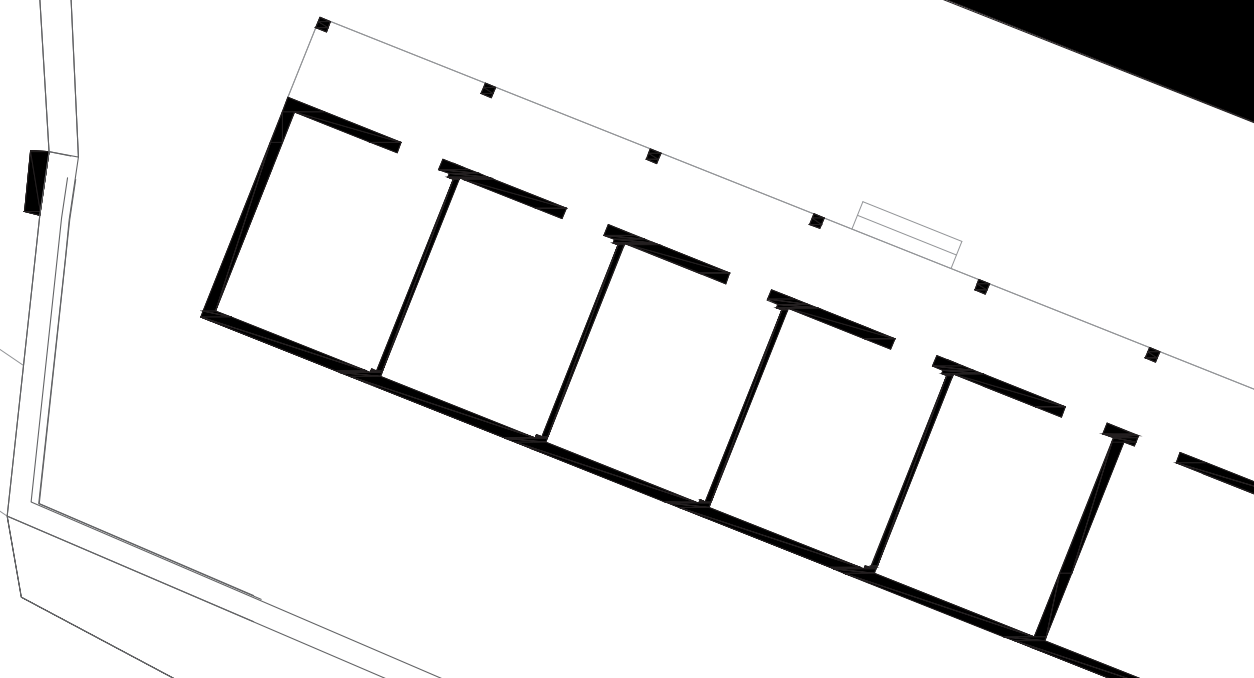




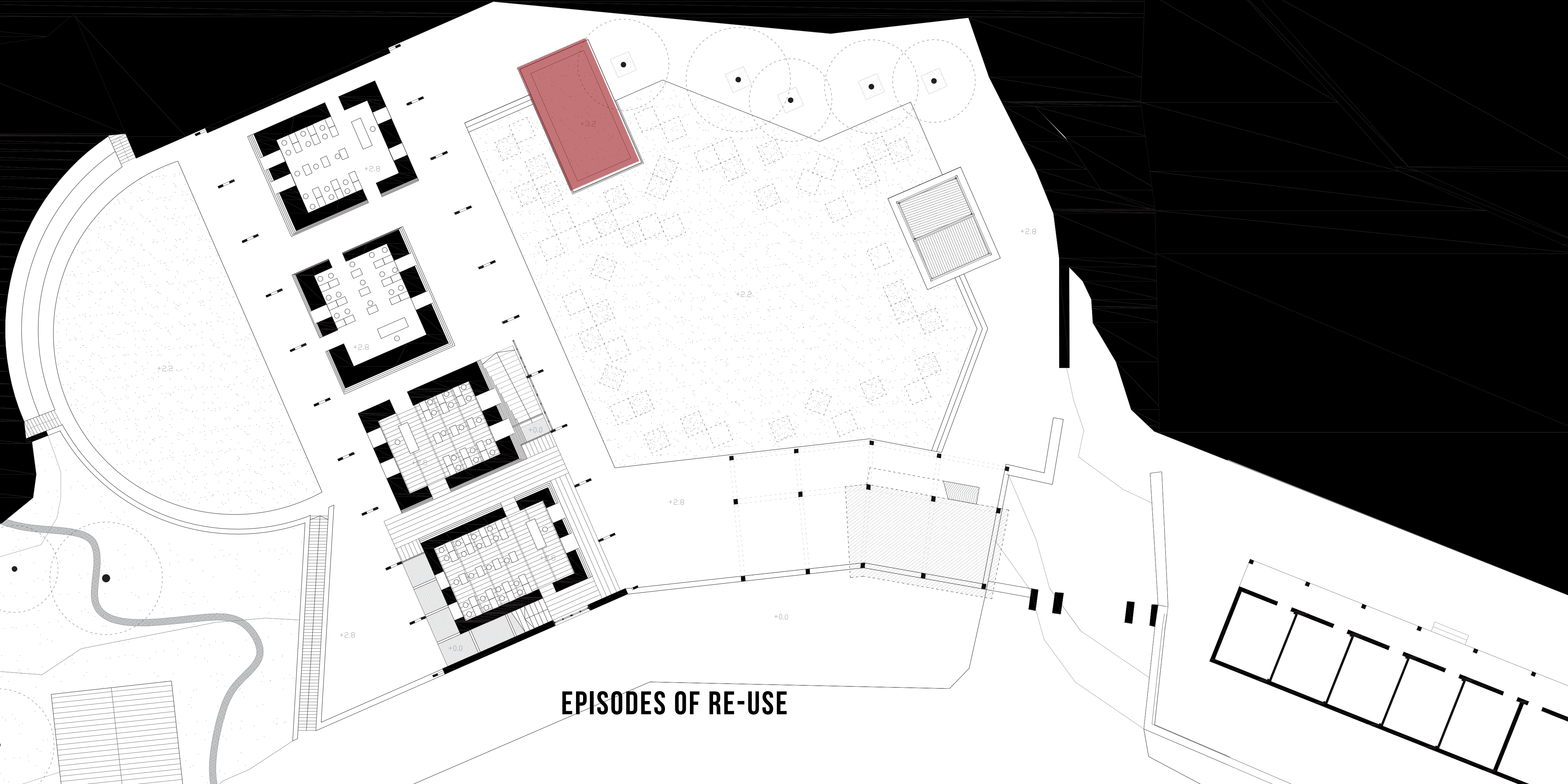
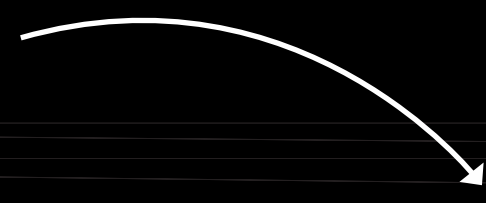




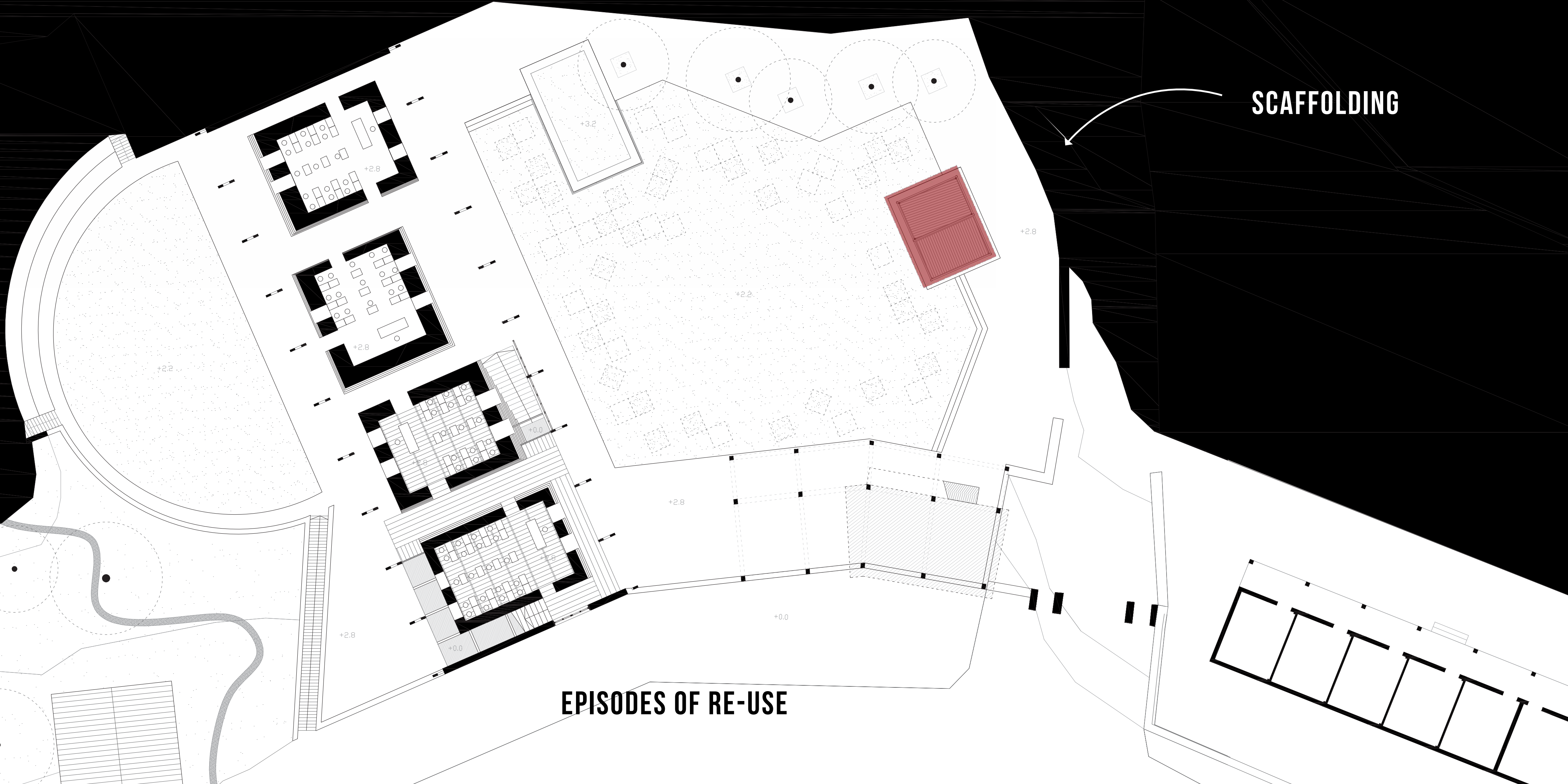
WALKABLE PATH / VERANDAH



SAND

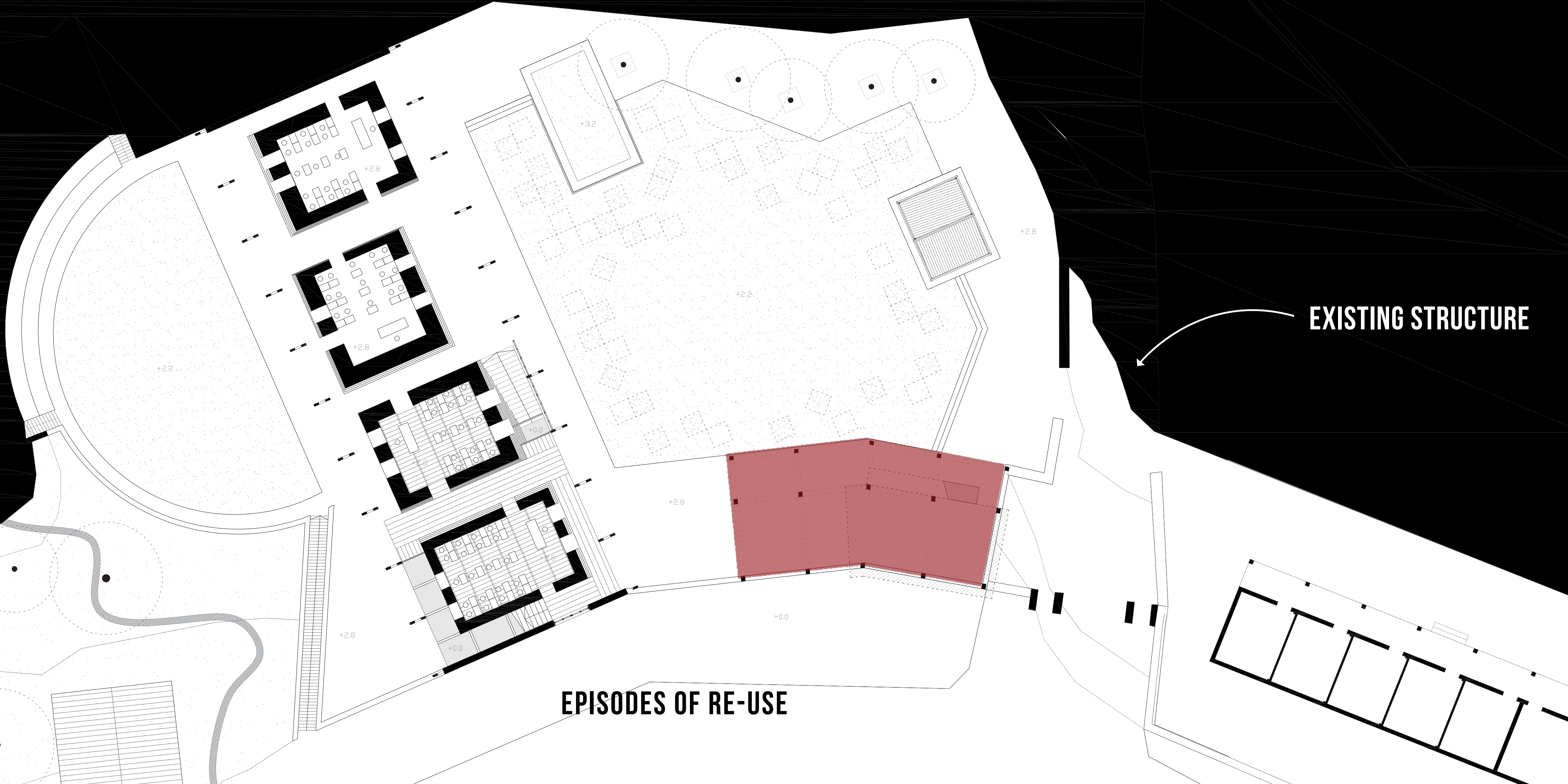


EPISODES OF RE-USE



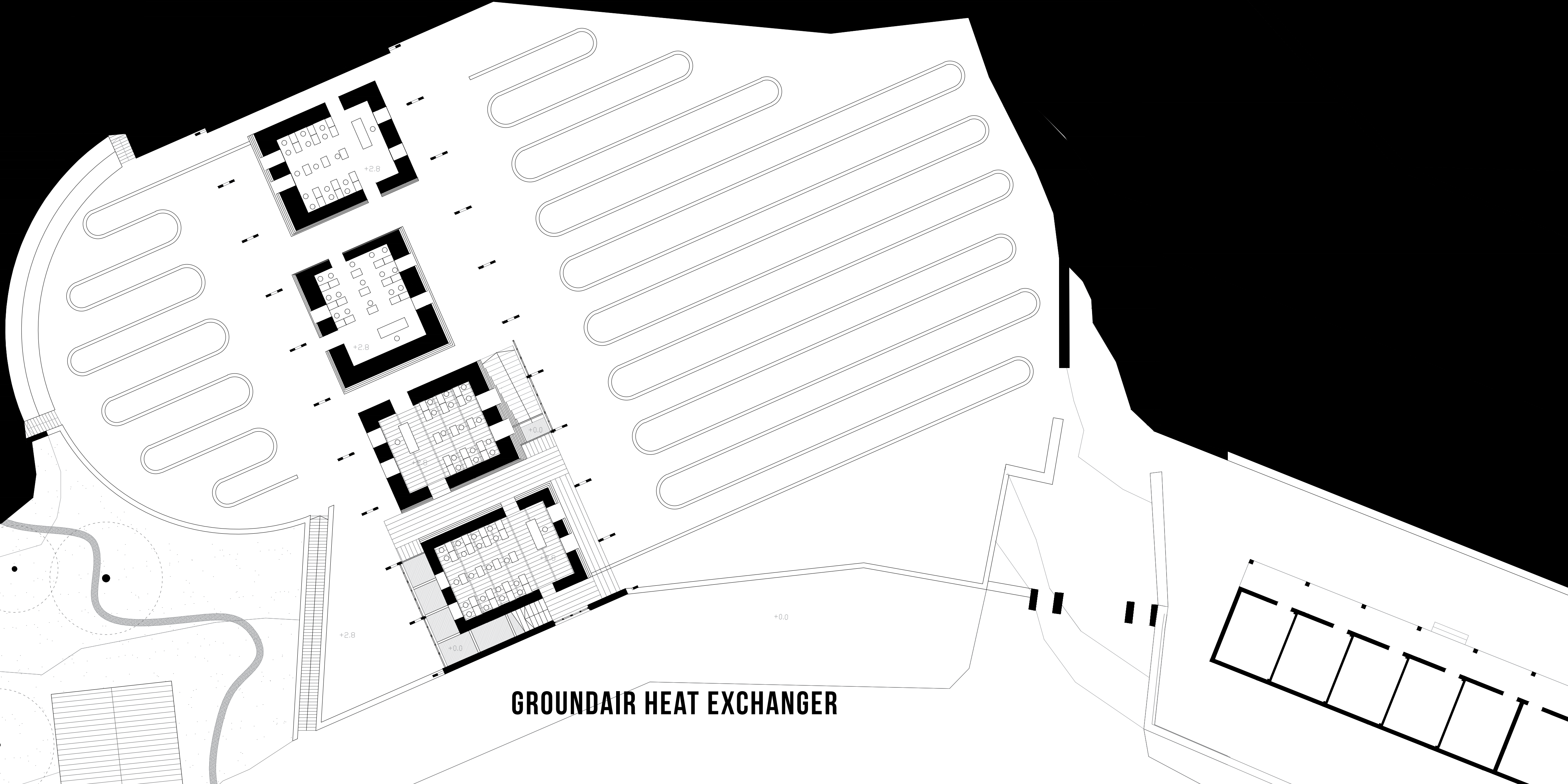
SCAFFOLDING

EPISODES OF RE-USE



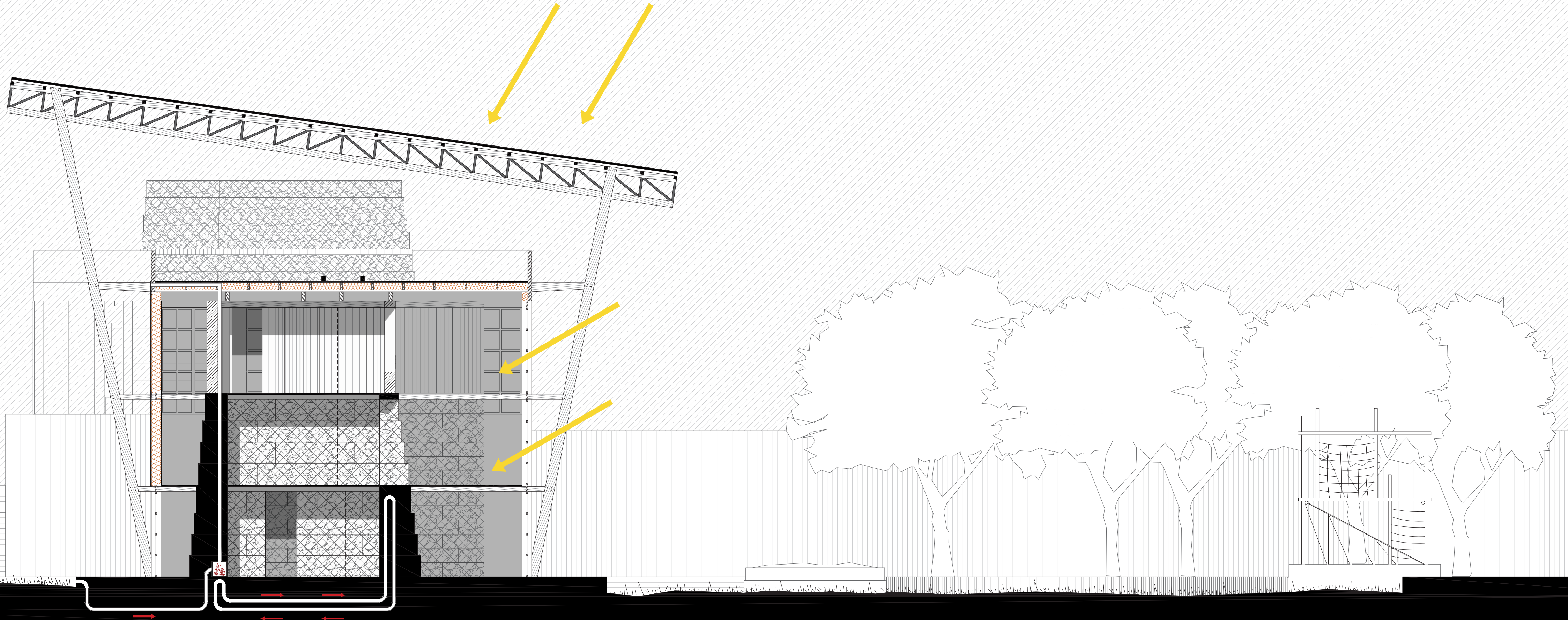
EPISODES OF RE-USE

EXISTING STRUCTURE



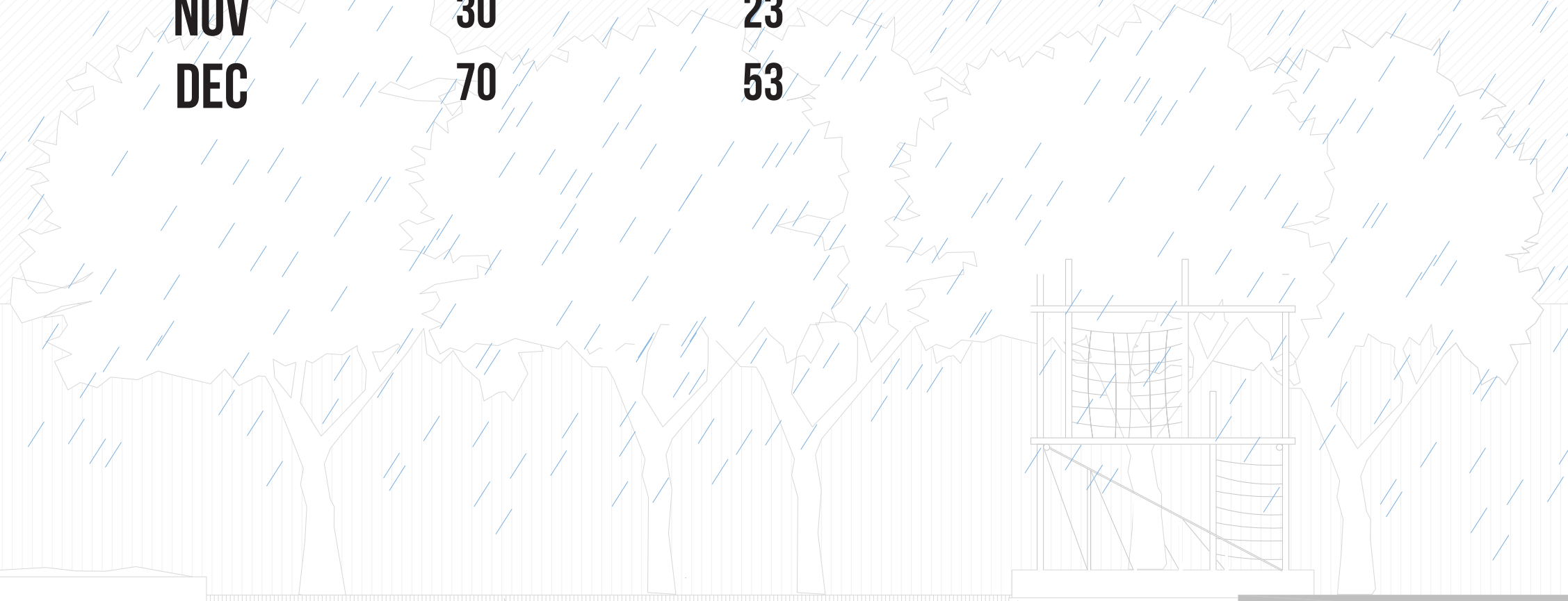
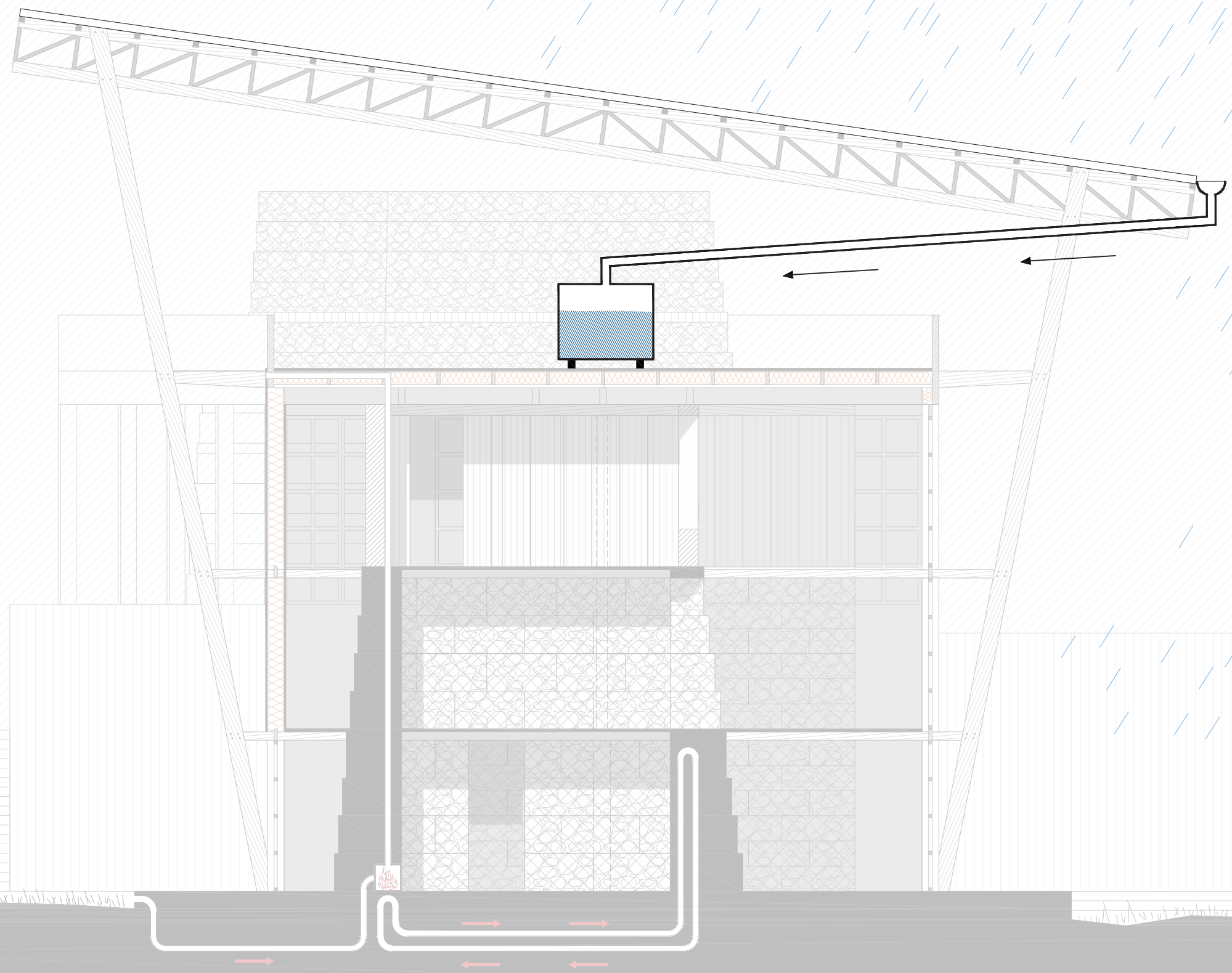
GROUND AIR HEAT EXCHANGER

CROSS SECTION



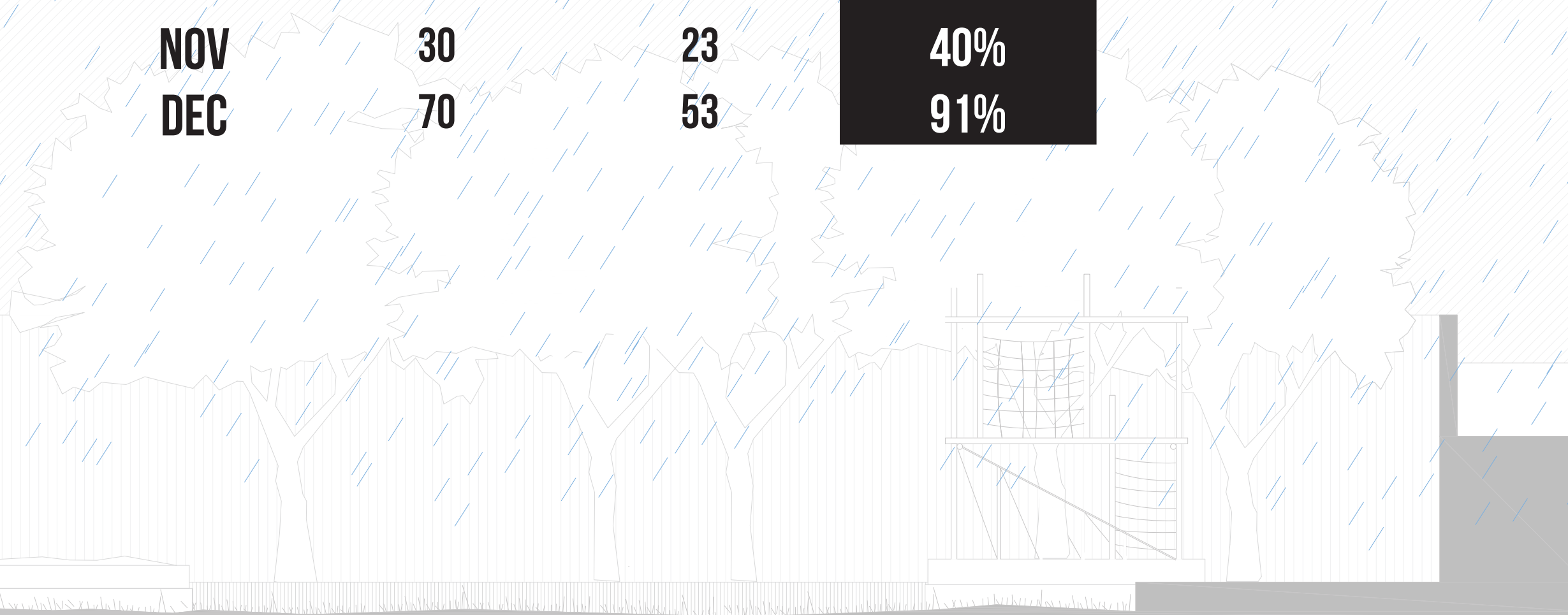
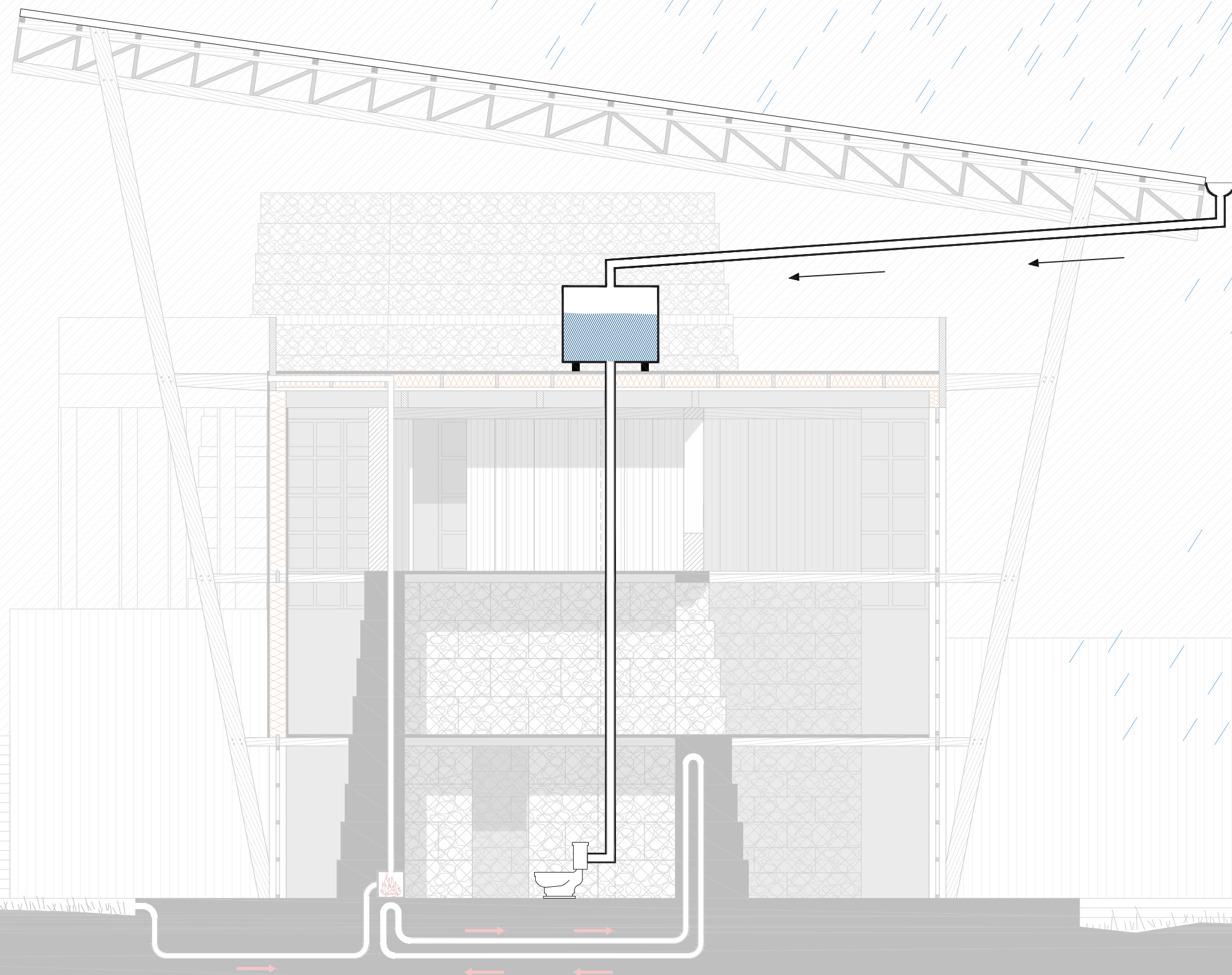
WATER MANAGEMENT

MONTH	MM OF RAIN	M3 COLLECTED
JAN	120	91
FEB	190	144
MAR	210	159
APR	140	106
MAY	110	83
JUN	140	106
JUL	290	220
AUG	250	190
SEP	130	98
OCT	40	30
NOV	30	23
DEC	70	53

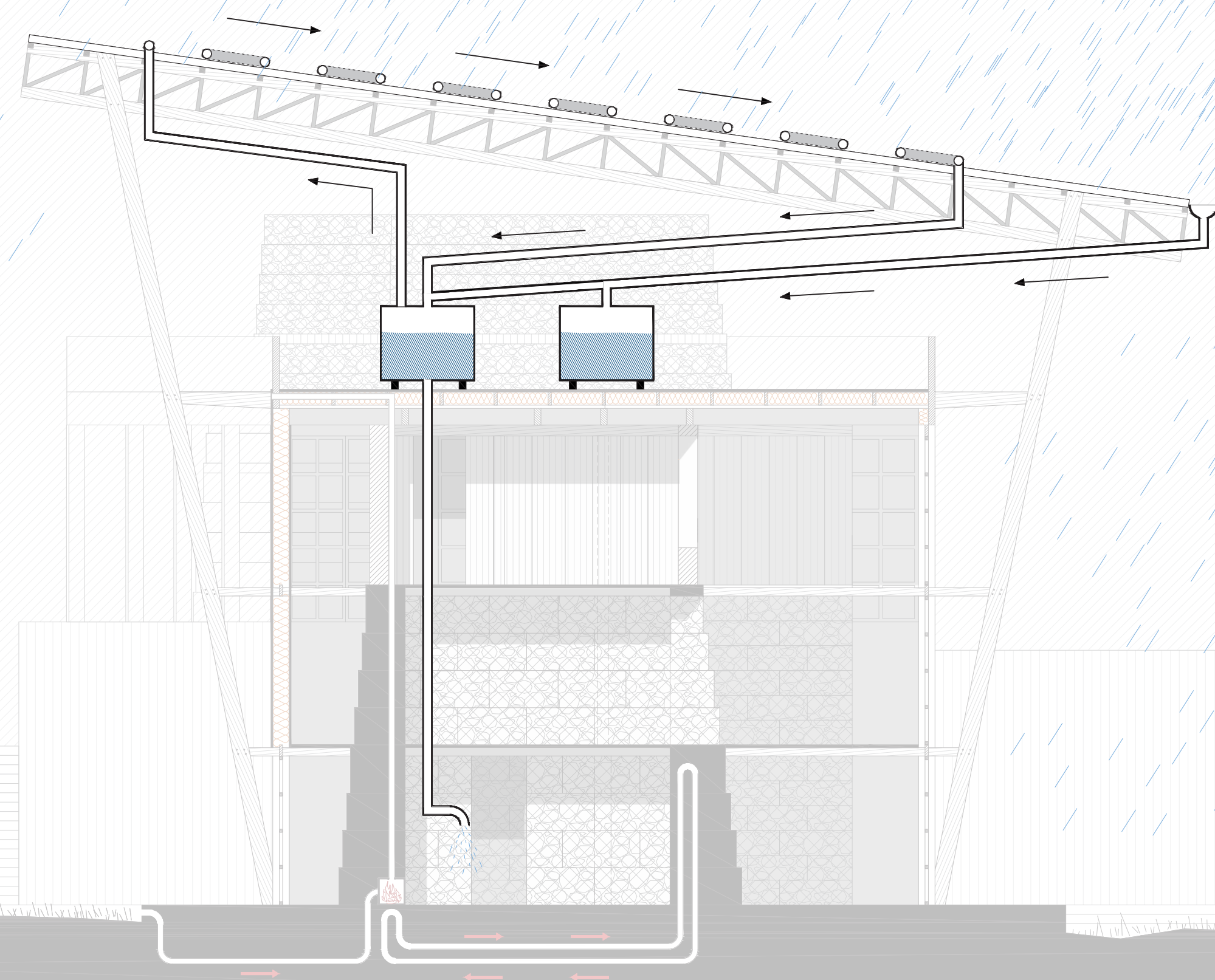


WATER MANAGEMENT

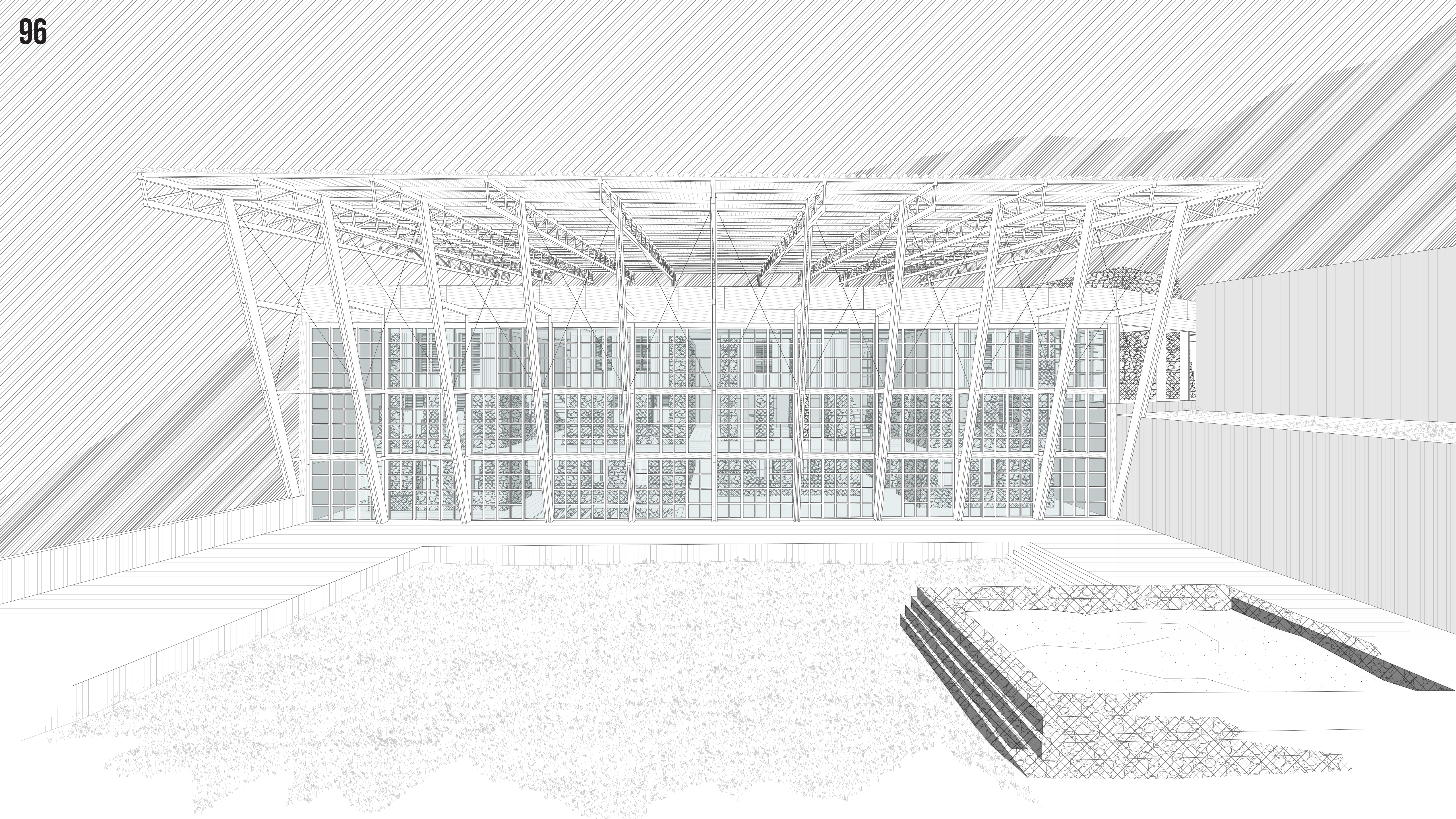
MONTH	MM OF RAIN	M3 COLLECTED	FOR TOILETS
JAN	120	91	100%
FEB	190	144	100%
MAR	210	159	100%
APR	140	106	100%
MAY	110	83	100%
JUN	140	106	100%
JUL	290	220	100%
AUG	250	190	100%
SEP	130	98	100%
OCT	40	30	52%
NOV	30	23	40%
DEC	70	53	91%

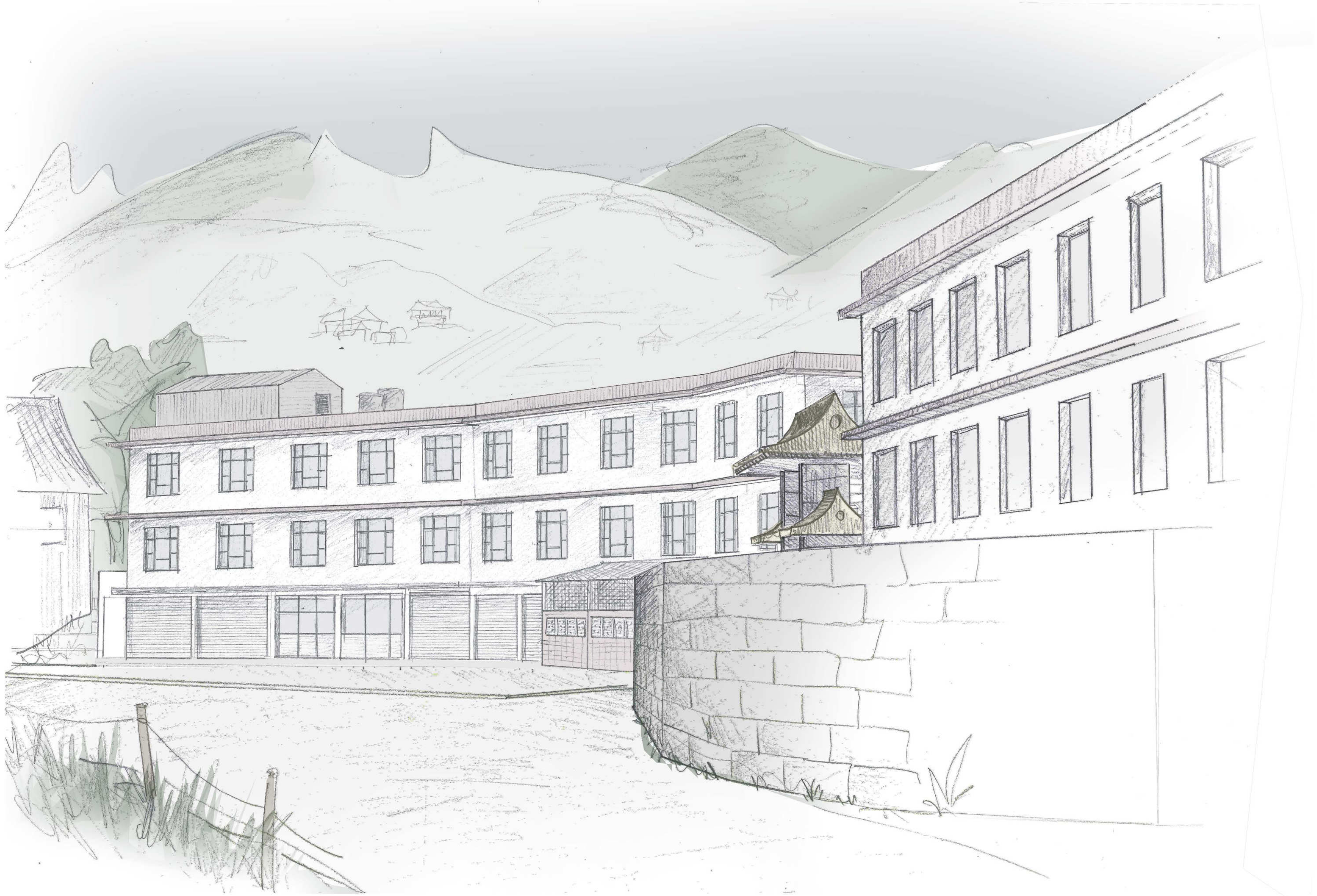


WATER MANAGEMENT



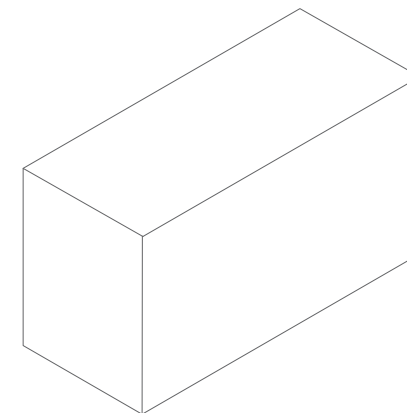
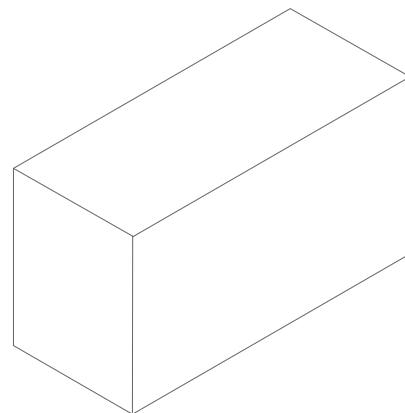
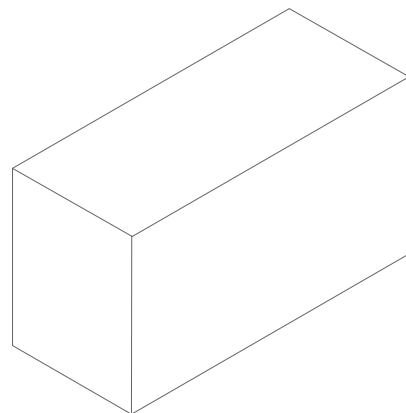
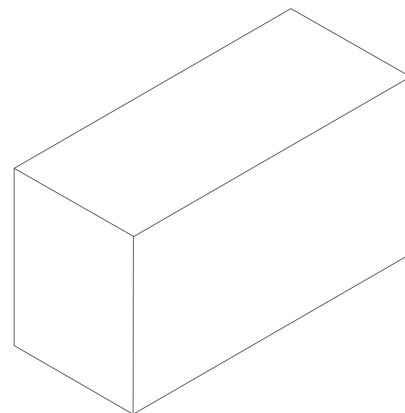
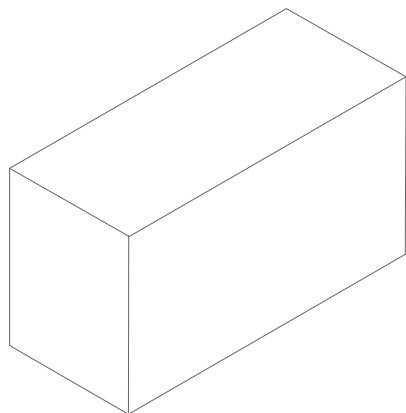
MONTH	MM OF RAIN	M3 COLLECTED	FOR TOILETS	FOR SHOWERS
JAN	120	91	100%	23%
FEB	190	144	100%	61%
MAR	210	159	100%	72%
APR	140	106	100%	34%
MAY	110	83	100%	18%
JUN	140	106	100%	34%
JUL	290	220	100%	>100%
AUG	250	190	100%	94%
SEP	130	98	100%	28%
OCT	40	30	52%	0%
NOV	30	23	40%	0%
DEC	70	53	91%	0%



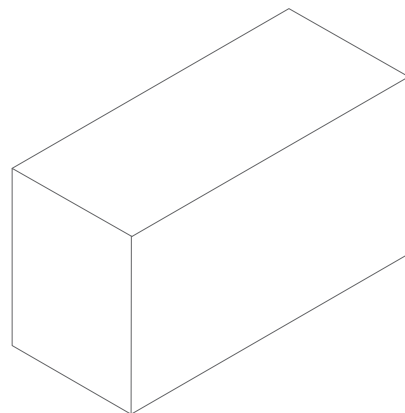
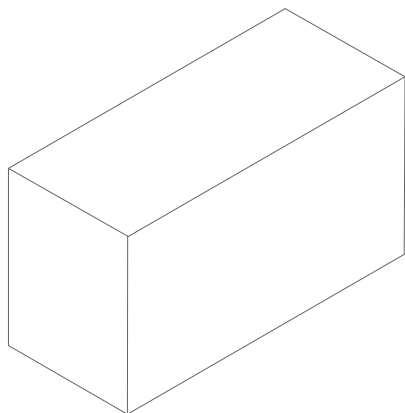
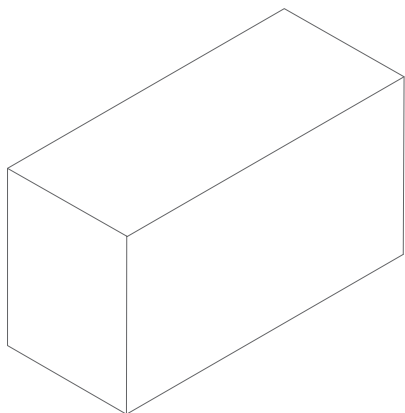
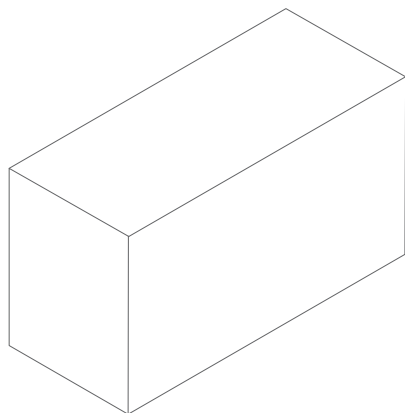
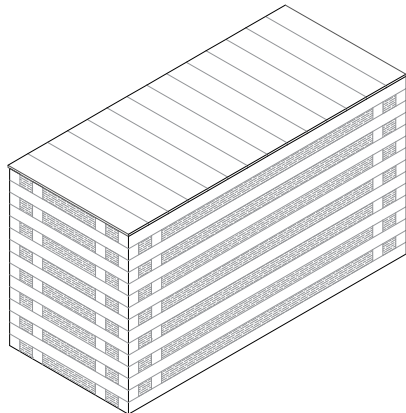




QUALITIES

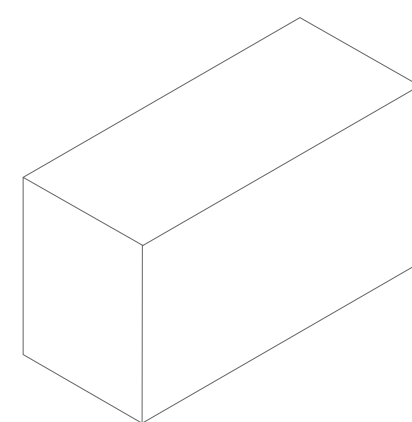
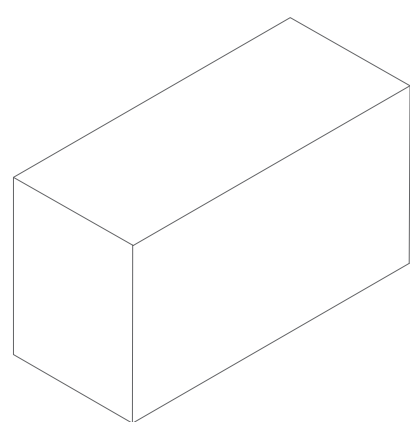
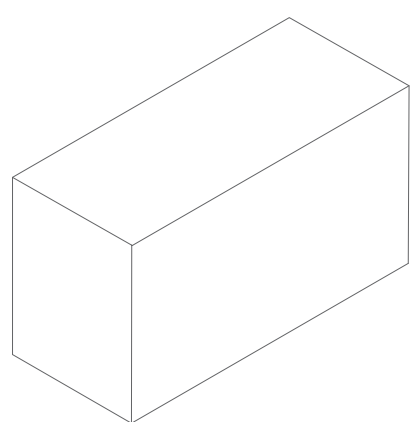
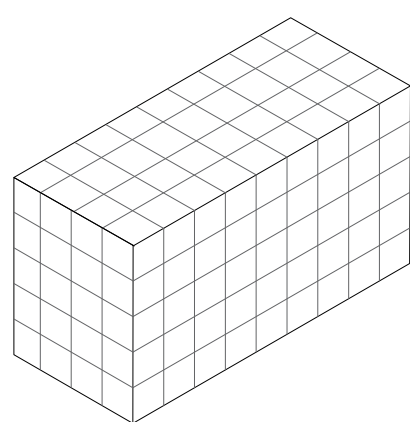
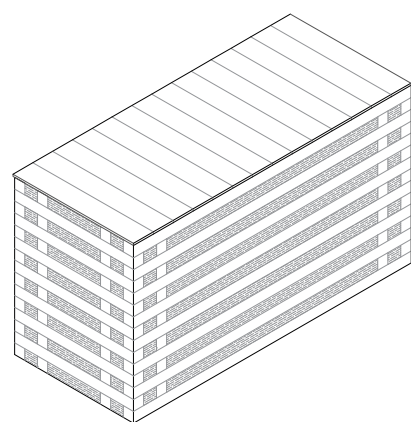


QUALITIES



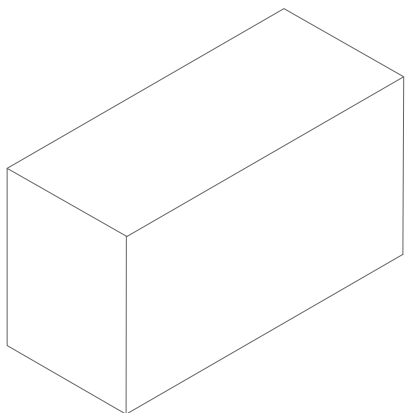
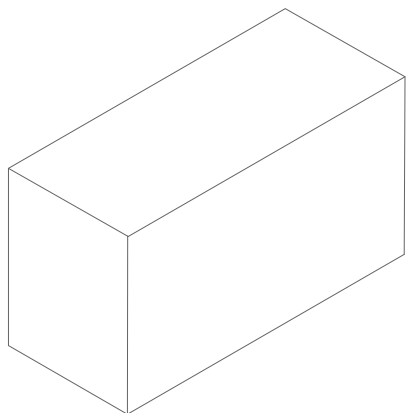
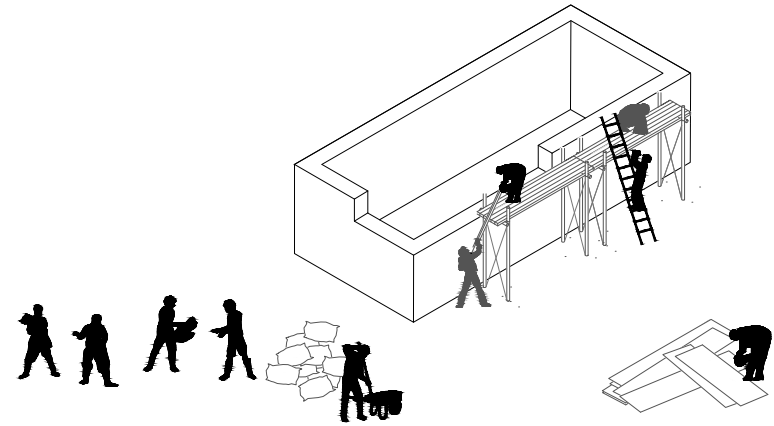
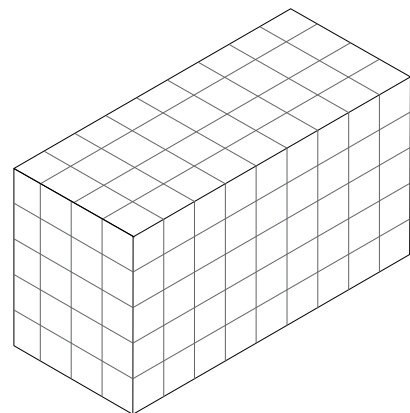
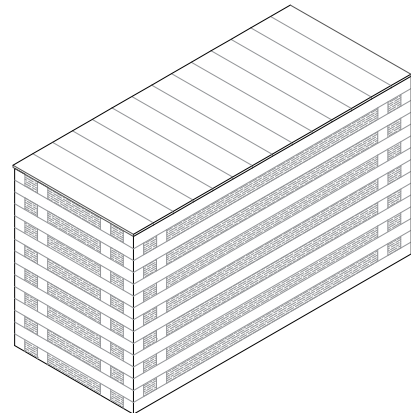
EXPLICITNESS

QUALITIES



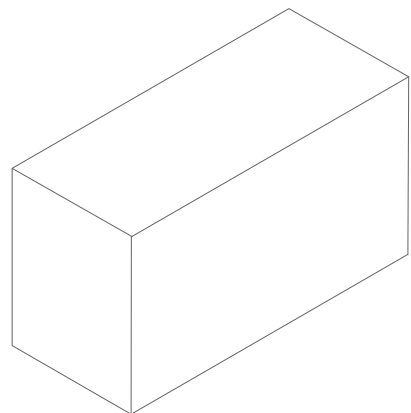
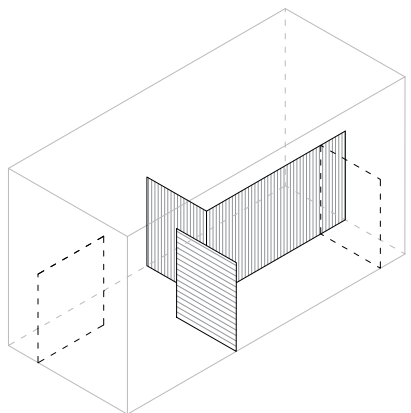
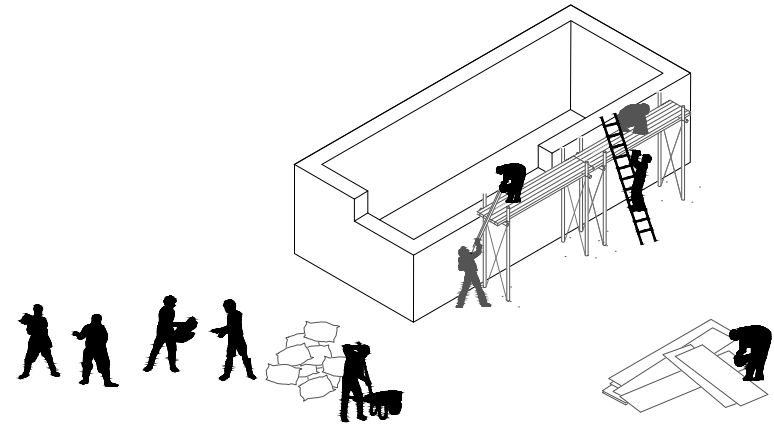
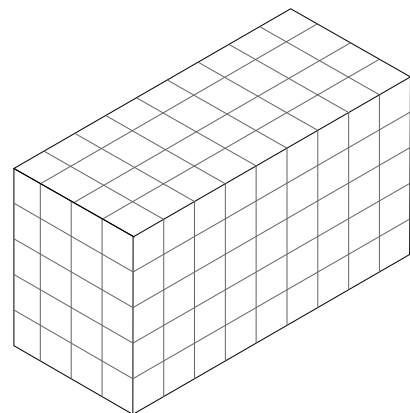
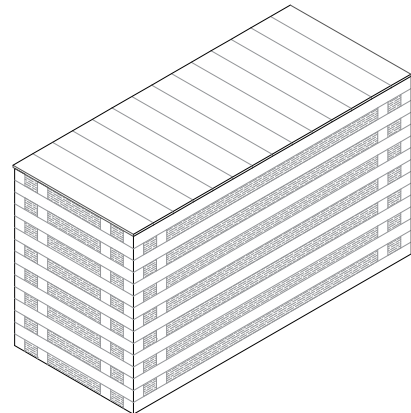
MODULARITY

QUALITIES

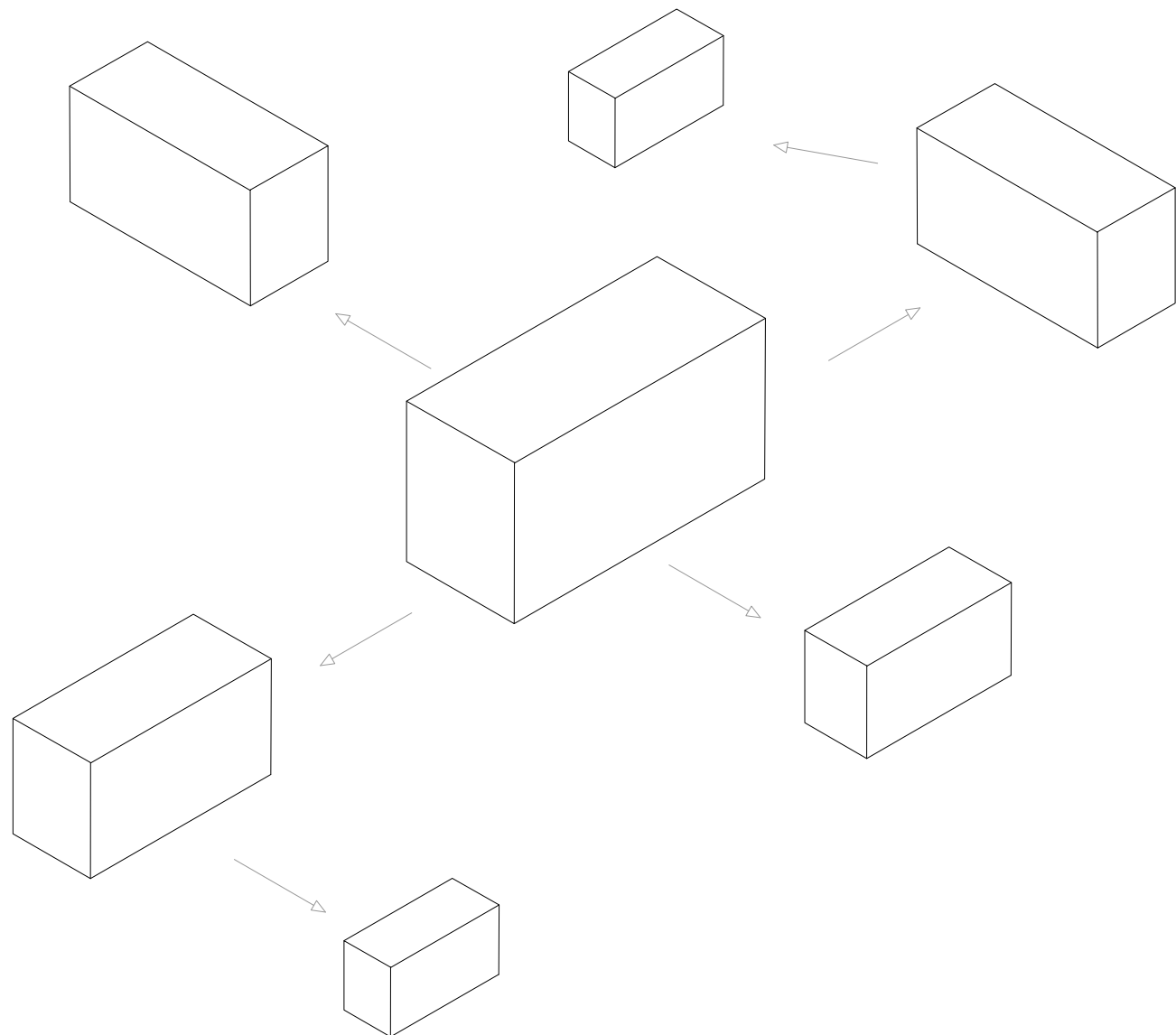
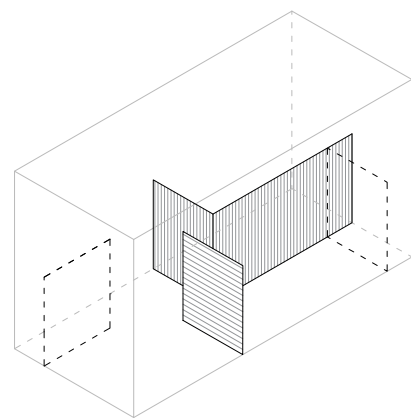
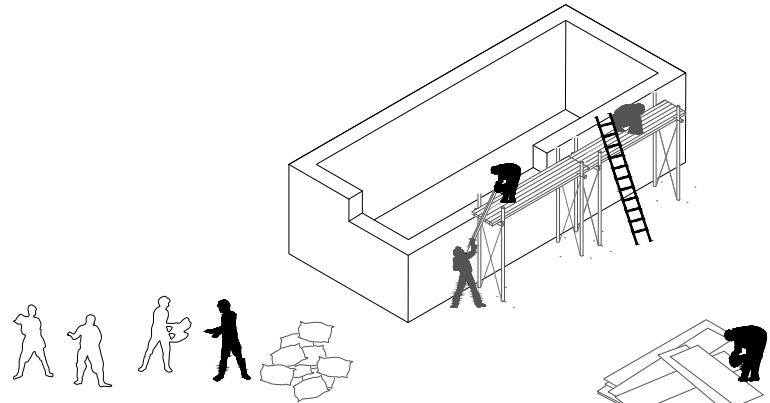
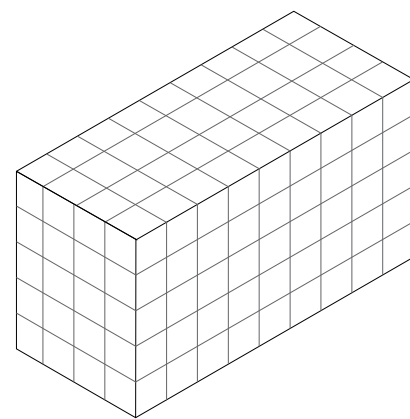
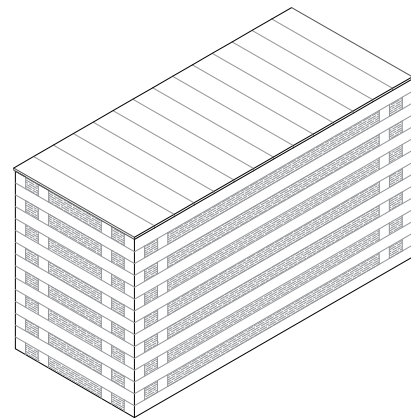


FEASIBILITY

QUALITIES



FLEXIBILITY



REPRODUCIBILTY

*“HOW DIFFICULT IS FOR US ARCHITECTS [...] TO ACHIEVE A RESULT AS NATURAL AS THAT OF ‘**ARCHITECTURE WITHOUT ARCHITECTS**’ THAT FARMERS AND MEN OF SEA HAVE ALWAYS BUILT WITH CONTENT UNAWARENESS.”*

GIO PONTI

THANK YOU

