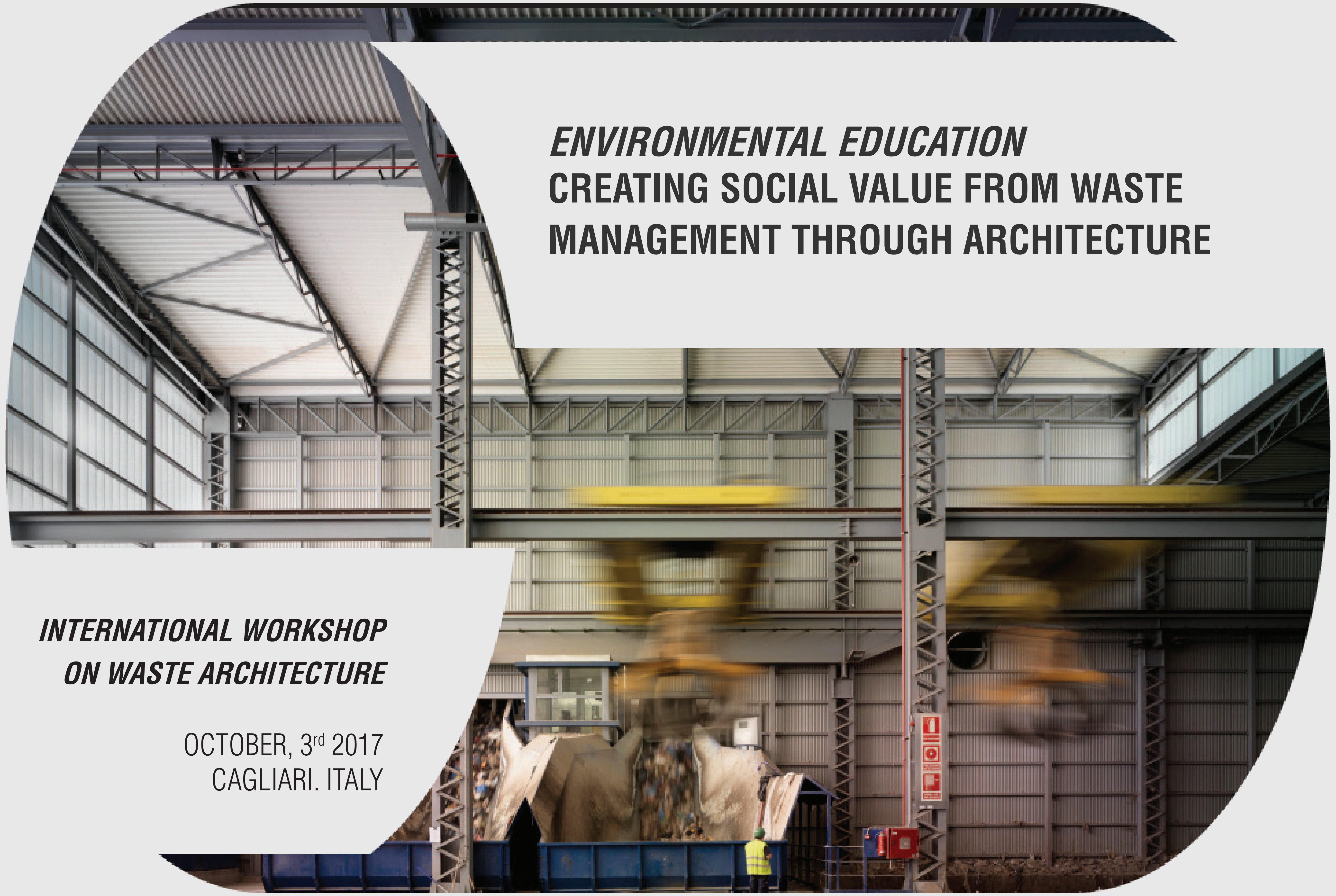
WASTE ARCHITECTURE PLATFORM

ENVIRONMENTAL EDUCATION
CREATING SOCIAL VALUE FROM WASTE MANAGEMENT THROUGH ARCHITECTURE



INTERNATIONAL WORKSHOP ON WASTE ARCHITECTURE

OCTOBER, 3rd 2017
CAGLIARI. ITALY


where does our
waste go?

infrastructure

cities are sustained by **infrastructure**

the invisible background of contemporary society

classic term

a funcional object of supply or service

contemporary term

support for actions

a place to construct realities

the architecture of territory in the metropolis

they become visible → **footprints** left by the human being on earth, witnesses of passing time which define the specific reality of a singular place

↓

HOW?

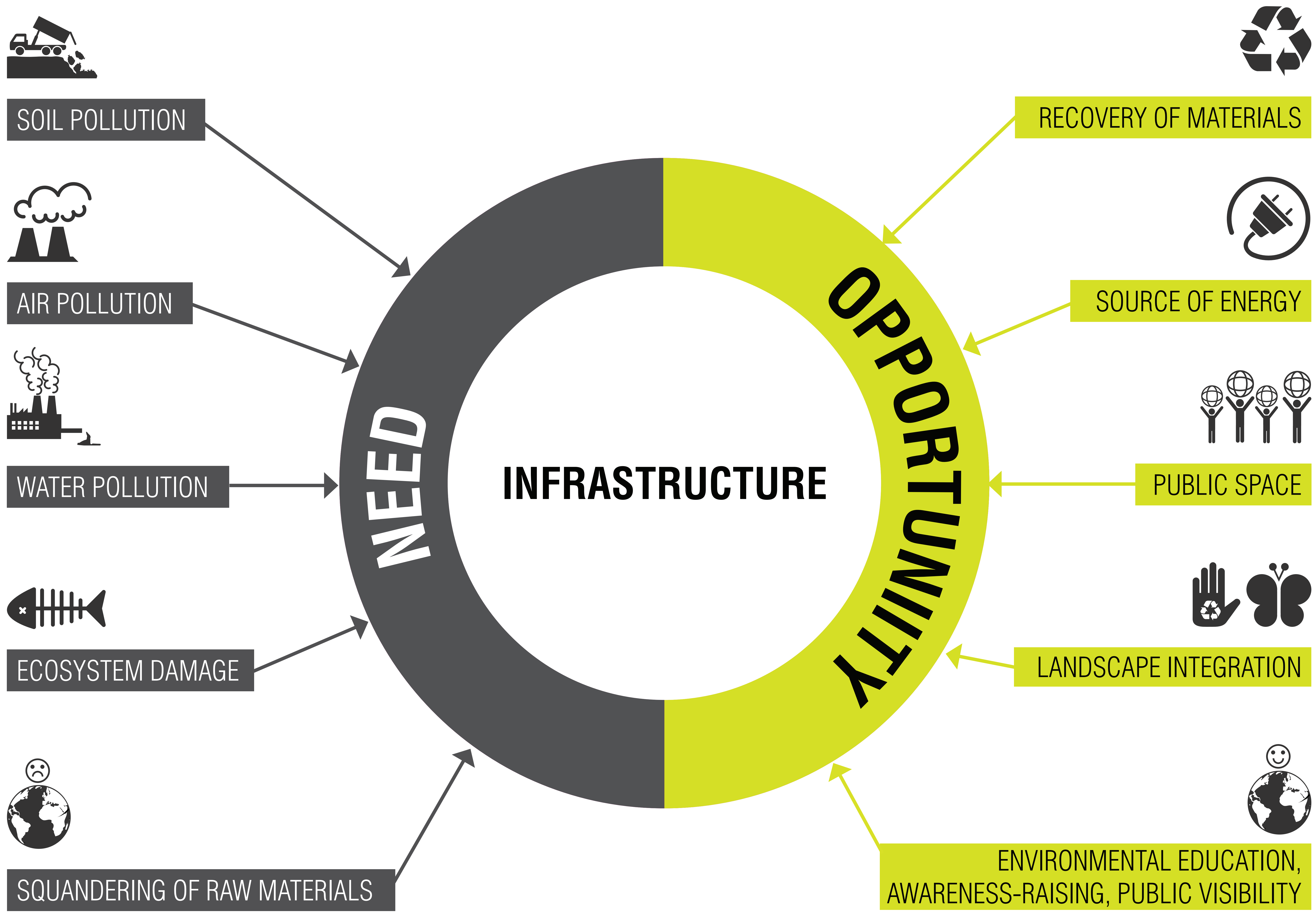
↓

design

support tool to give a response to the human being needs

the quality of design affects

the quality of our lives


SOIL POLLUTION
AIR POLLUTION
WATER POLLUTION
ECOSYSTEM DAMAGE
SQUANDERING OF RAW MATERIALS
NEED
INFRASTRUCTURE
OPPORTUNITY
RECOVERY OF MATERIALS
SOURCE OF ENERGY
PUBLIC SPACE
LANDSCAPE INTEGRATION
ENVIRONMENTAL EDUCATION,
AWARENESS-RAISING, PUBLIC VISIBILITY

VALENCIA WASTE TREATMENT PLANT

[redacted]

THE LANDSCAPE

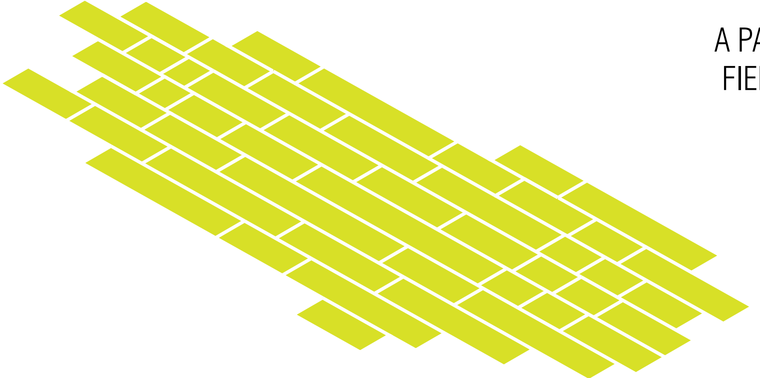
WASTE & ENERGY

WASTE TREATMENT PROCESS

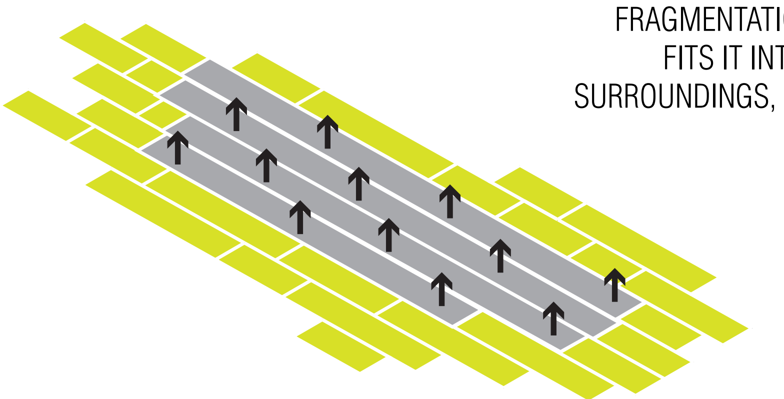
ENVIRONMENTAL EDUCATION

THE LANDSCAPE OF VALENCIA

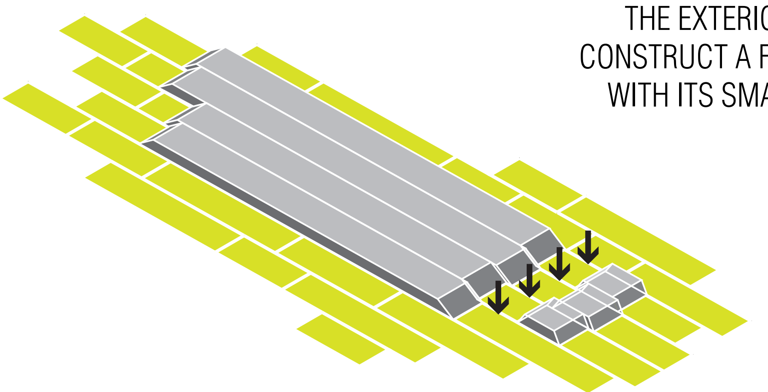

A PATTERN OF CROP FIELDS



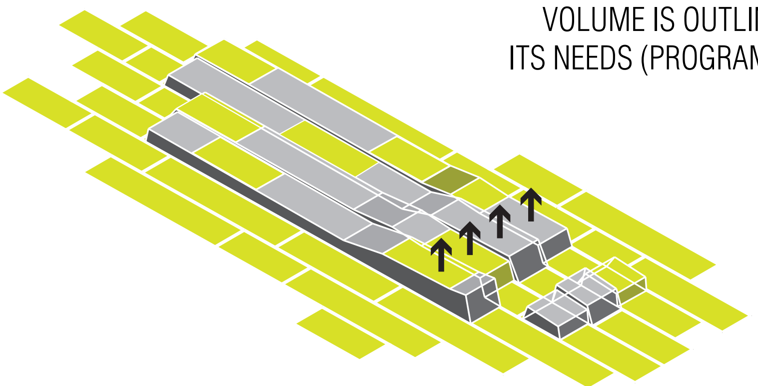
A PATTERN OF ROLLING FIELDS OF CROPS AND ORCHARDS



FRAGMENTATION INTO 4 BANDS FITS IT INTO ITS IMMEDIATE SURROUNDINGS, SCALE, COLOURS AND TEXTURES



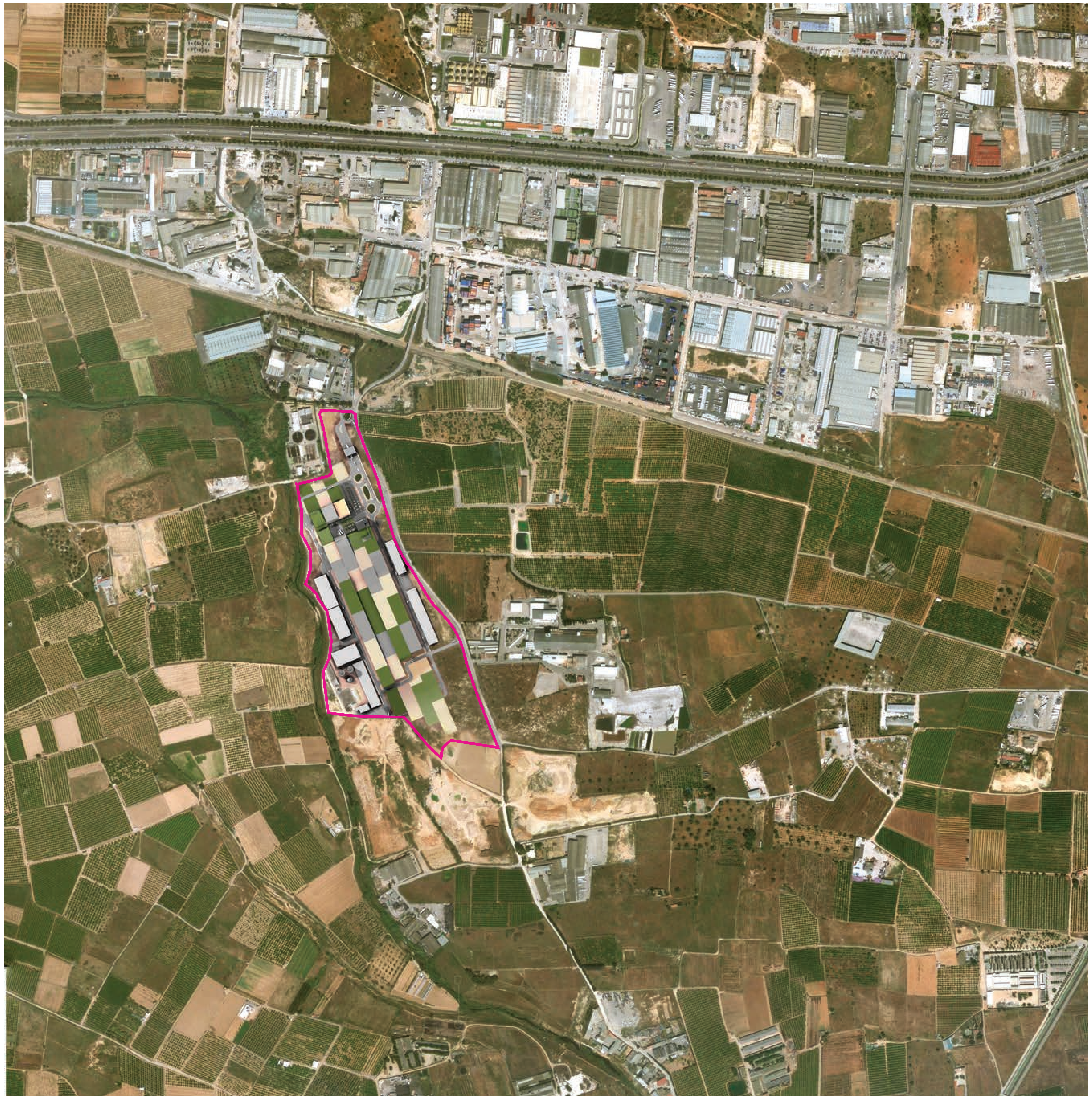
WE LIFT UP THE VOLUME TO ORGANIZE THE EXTERIOR SPACES AND TO CONSTRUCT A FRAGMENT OF CITY WITH ITS SMALL ACCESS PLAZA



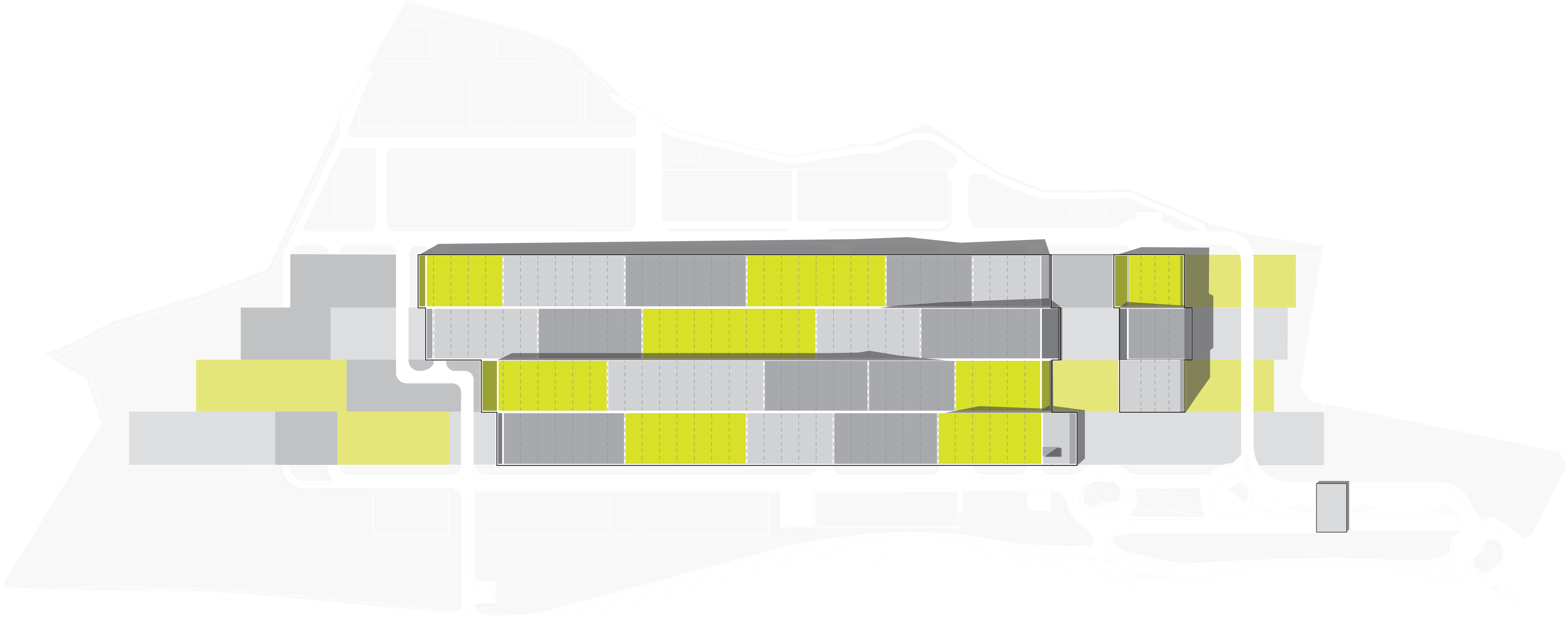
VOLUME IS OUTLINED ACCORDING TO ITS NEEDS (PROGRAMME, USE, NATURAL LIGHT...)

THE LANDSCAPE OF VALENCIA

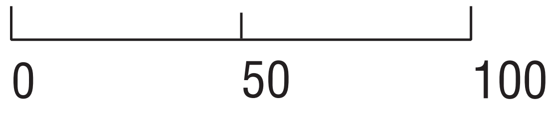
A PATTERN OF CROP FIELDS



CONCEPT DIAGRAMS



OVERALL ROOF PLAN

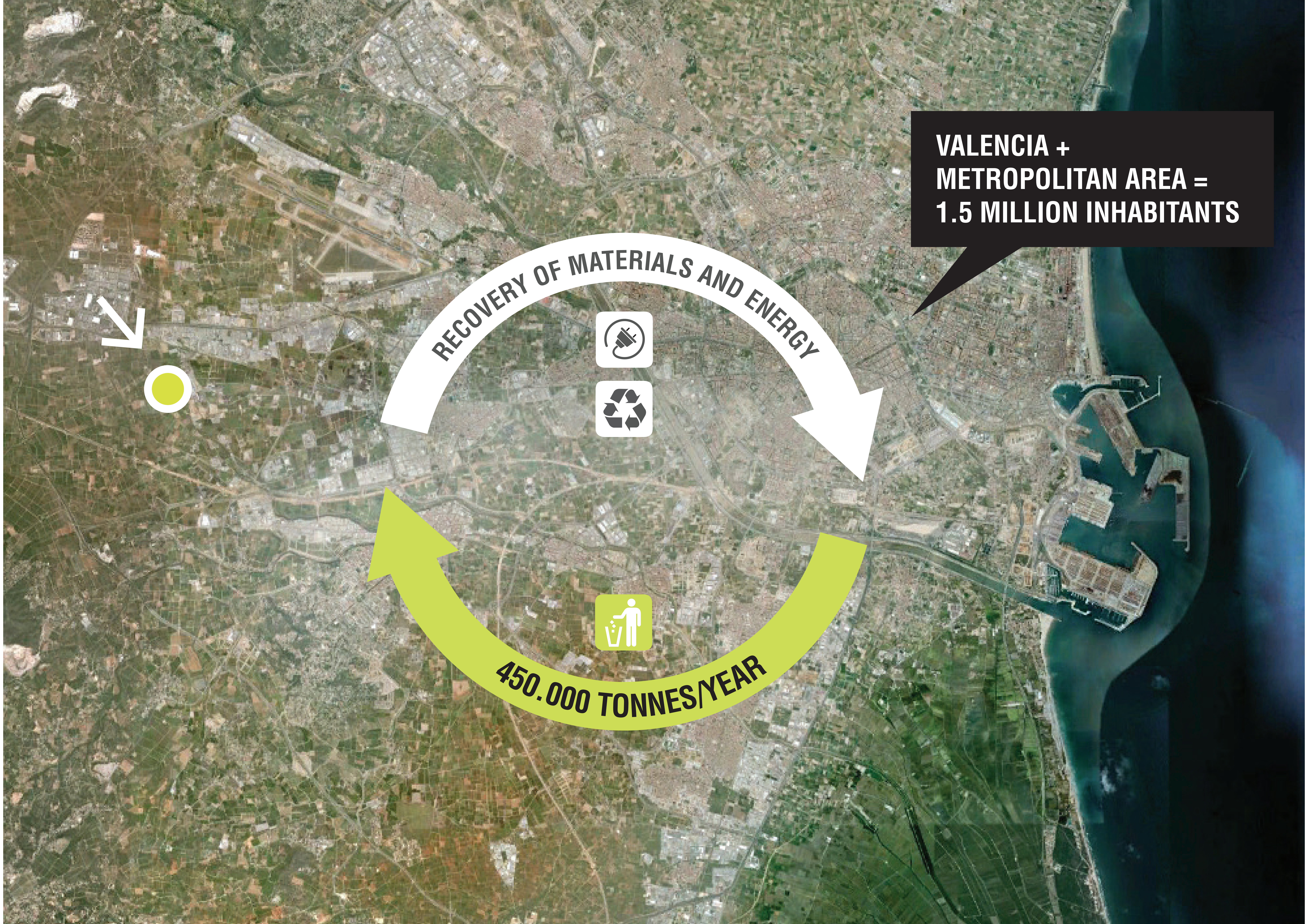


THE LANDSCAPE

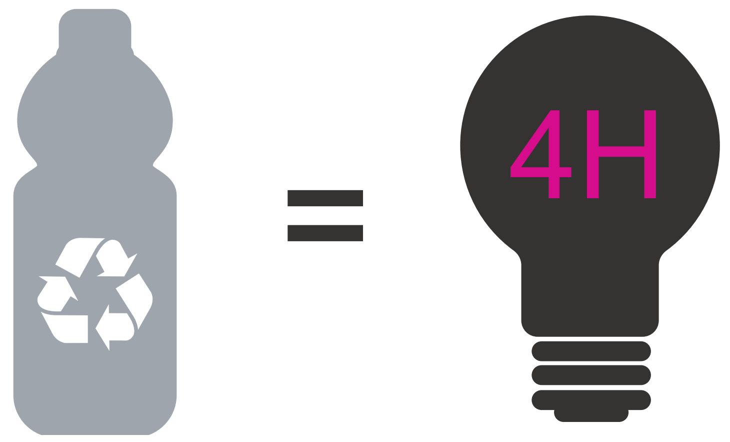
WASTE & ENERGY

WASTE TREATMENT PROCESS

ENVIRONMENTAL EDUCATION


VALENCIA +
METROPOLITAN AREA =
1.5 MILLION INHABITANTS
RECOVERY OF MATERIALS AND ENERGY
450.000 TONNES/YEAR

VALENCIA



RECYCLING ONE PLASTIC BOTTLE CAN SAVE ENOUGH ENERGY TO POWER A **100-WATT** LIGHT BULB FOR **FOUR HOURS.**

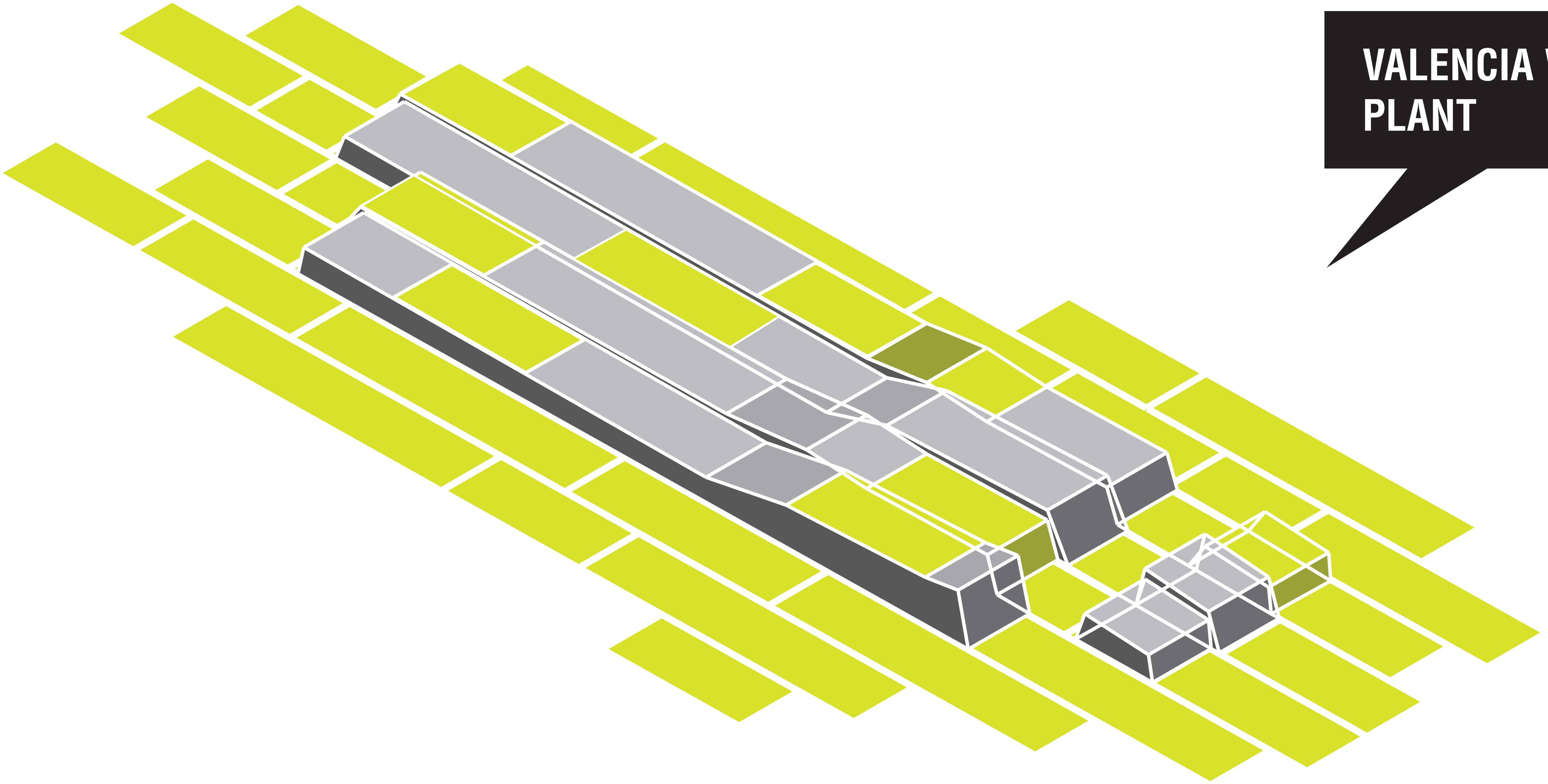
EACH SPANIARD GENERATES

± 500 kg

OF WASTE ANNUALLY

> 24.000.000 tonnes
of municipal solid waste are produced every year in Spain

El PAÍS, 11 ABRIL 2011



VALENCIA WASTE TREATMENT PLANT

1.500.000
POPULATION SERVED

all kinds
WASTE TYPES

450.000 t/year
MUNICIPAL SOLID WASTE

205.000 t/year
CAPACITY OF COMPOST

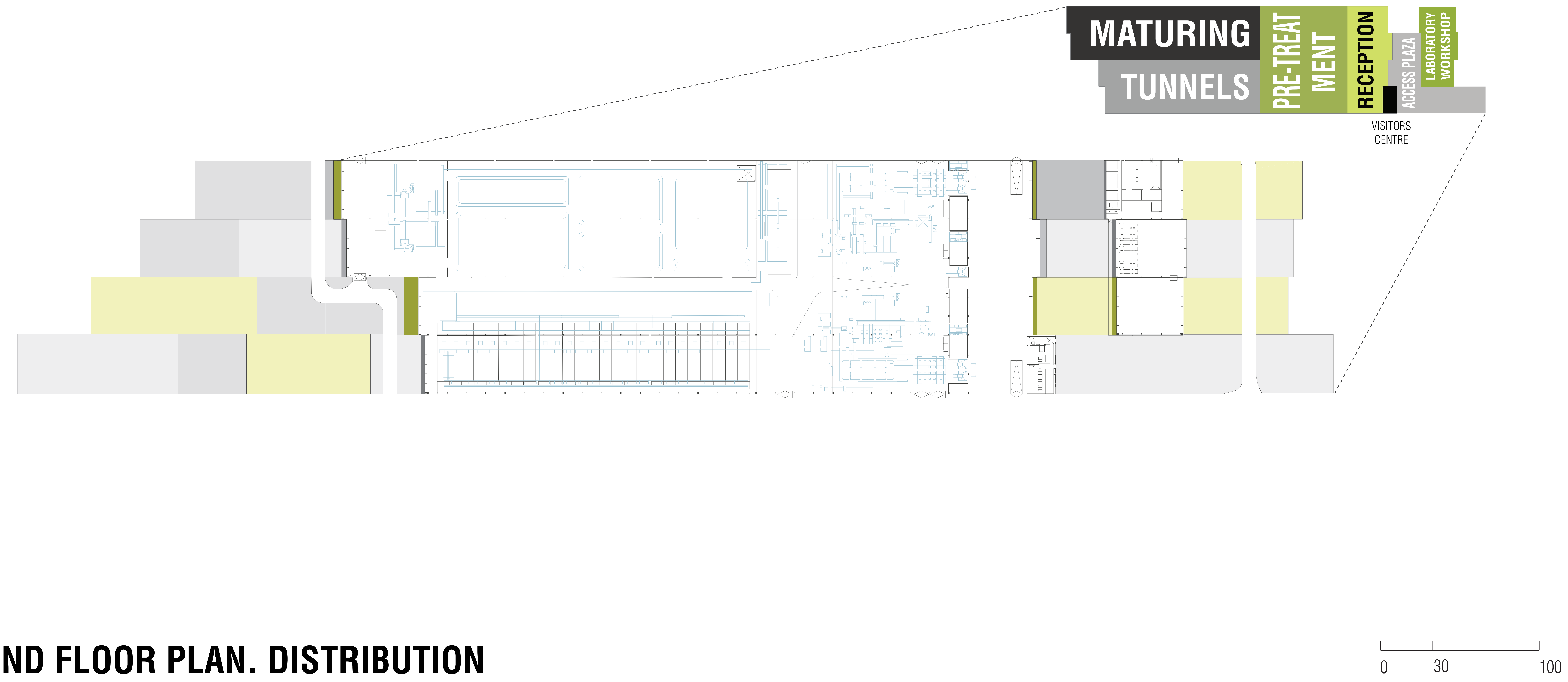
< 47%
PRODUCTION OF REJECTED MATERIALS

THE LANDSCAPE

WASTE & ENERGY

WASTE TREATMENT PROCESS

ENVIRONMENTAL EDUCATION

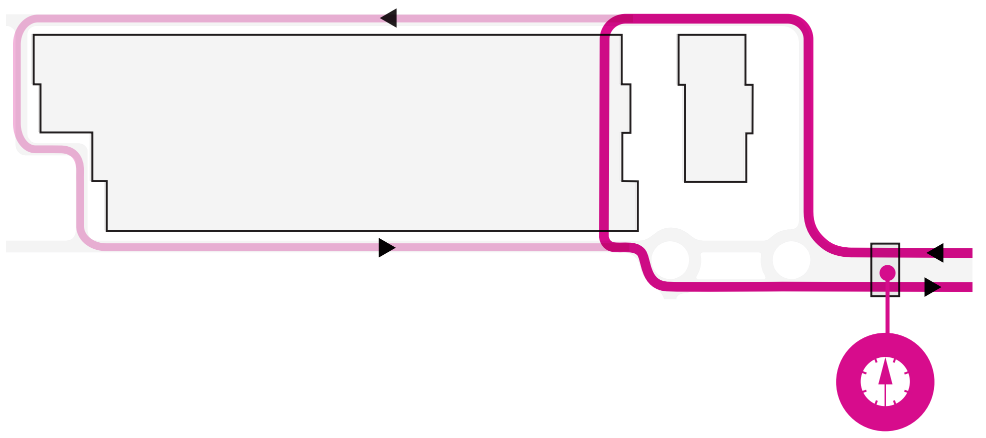


GROUND FLOOR PLAN. DISTRIBUTION

ACCESS AND CIRCULATION

MAIN PERIMETER LOOP / WASTE TRUCK

SUPPORTING LOOP / MAINTENANCE SERVICE



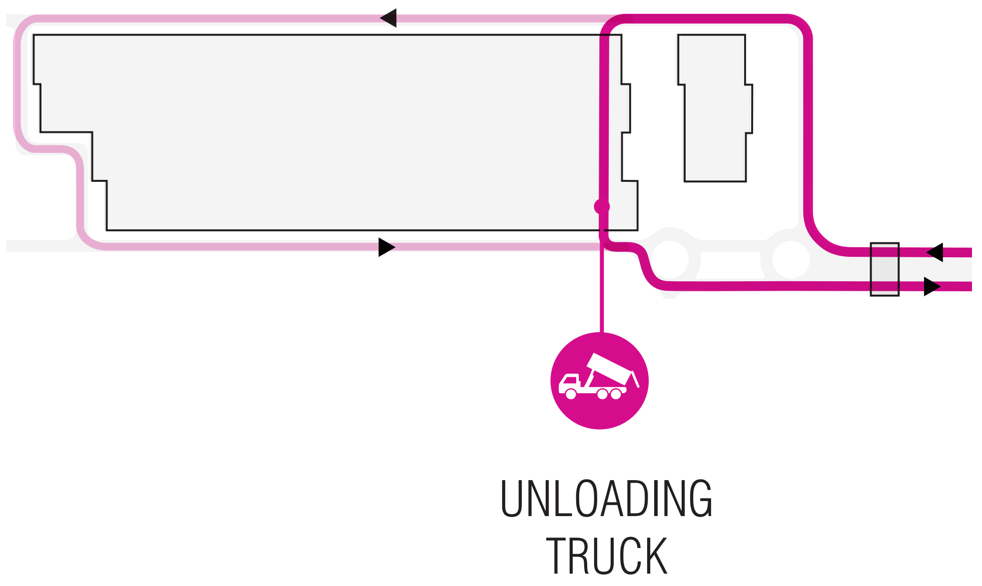
CONTROL AND WEIGHT

CONTROL AND WEIGHT

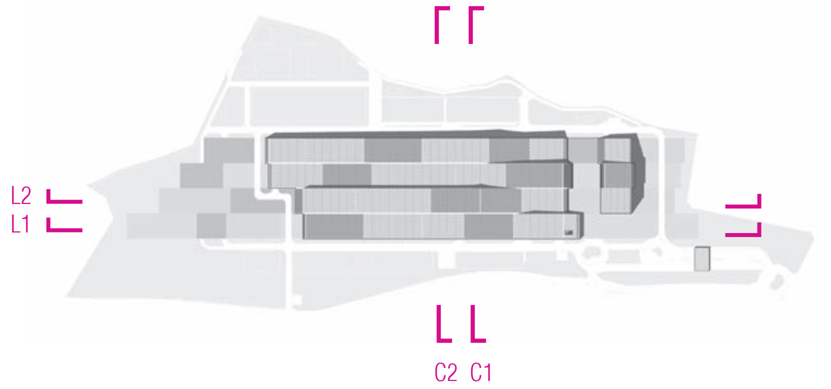
ACCESS AND CIRCULATION

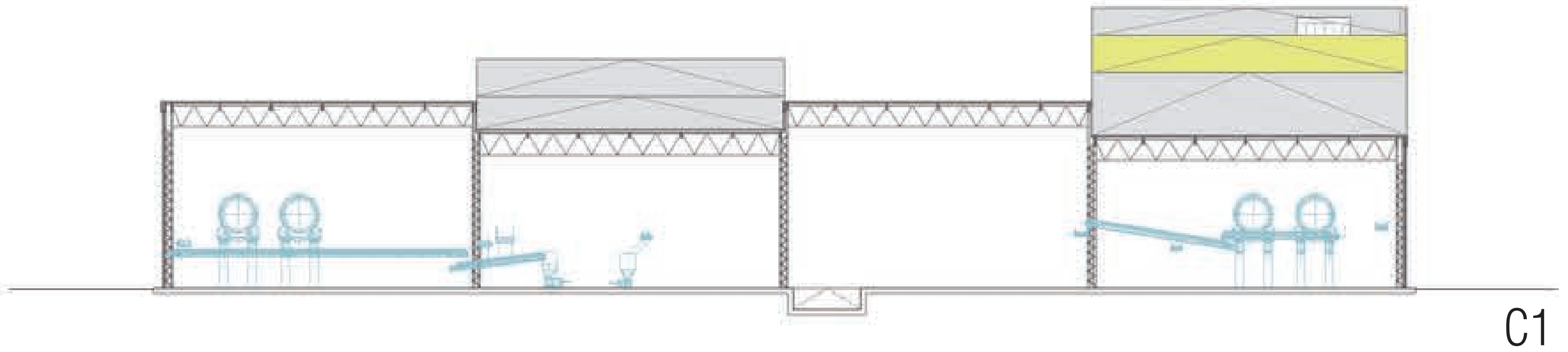
MAIN PERIMETER LOOP / WASTE TRUCK

SUPPORTING LOOP / MAINTENANCE SERVICE

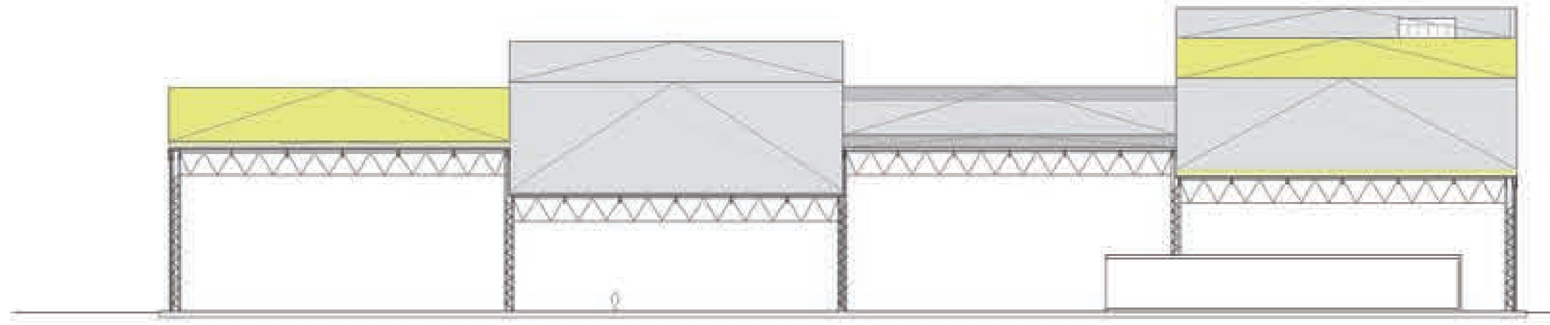


UNLOADING TRUCK

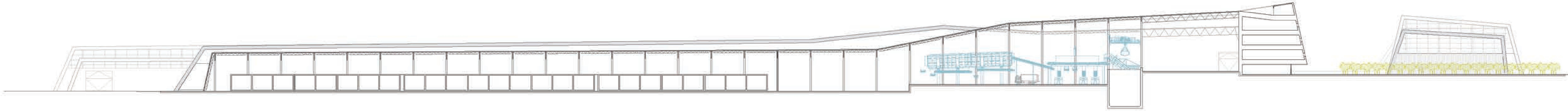




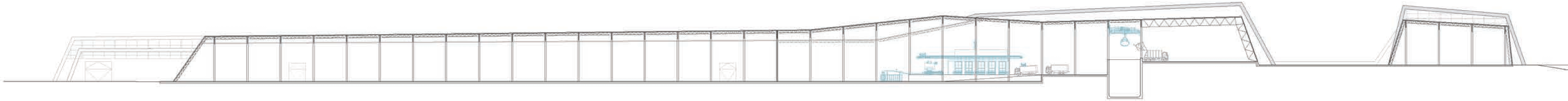
C1



C2



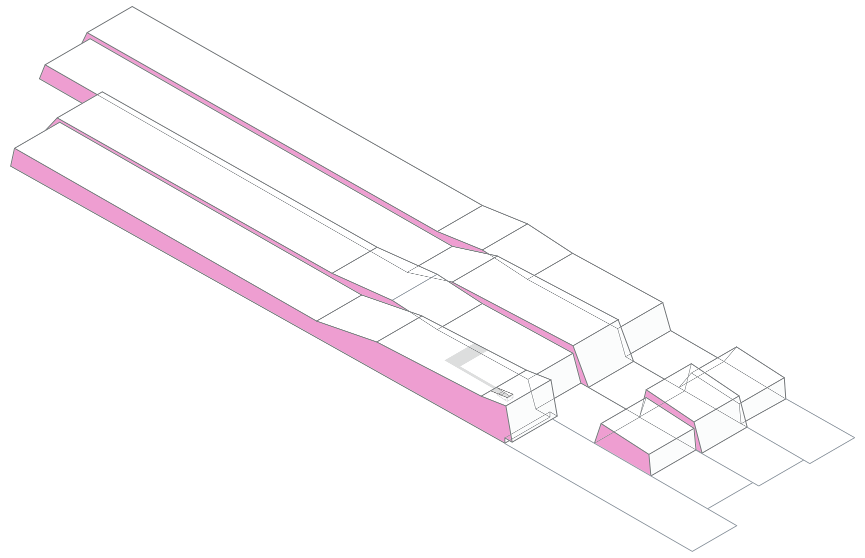
T1

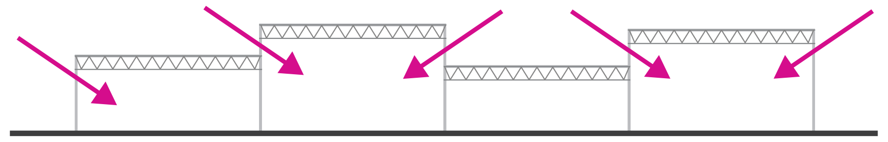


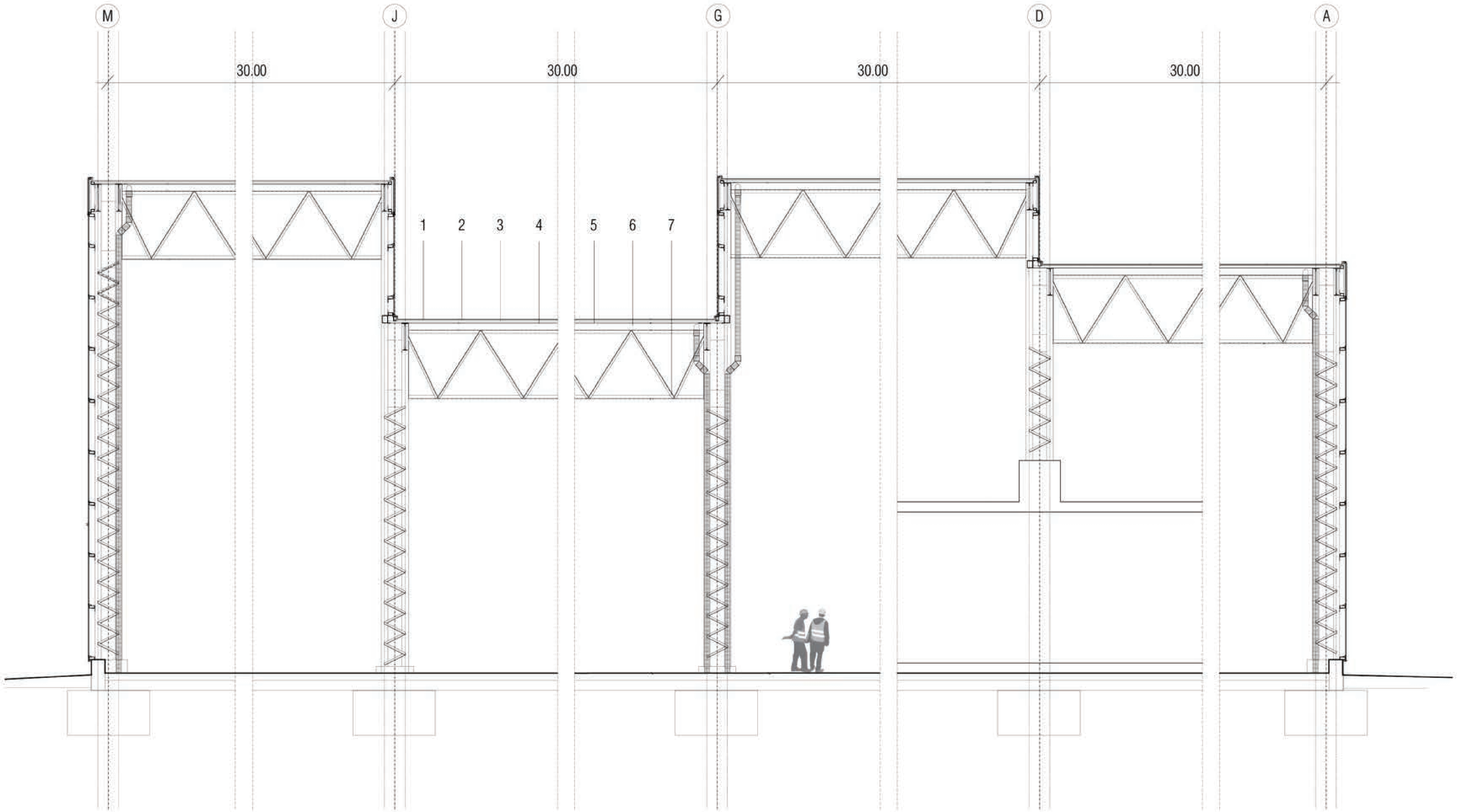
T2

MAIN PROCESS BUILDING. SECTIONS

NATURAL LIGHTING







1 COLOURED WATERPROOFING MEMBRANE (1.2 mm)
2 GEOTEXTILE FILM
3 EXTRUDED POLYSTYRENE PANEL (3 mm)
4 VAPOUR BARRIER
5 FRETTED STRUCTURAL SHEETING
6 PURLIN
7 MAIN TRUSS

MAIN PROCESS BUILDING. CONSTRUCTION DETAIL

RECYCLED POLYCARBONATE

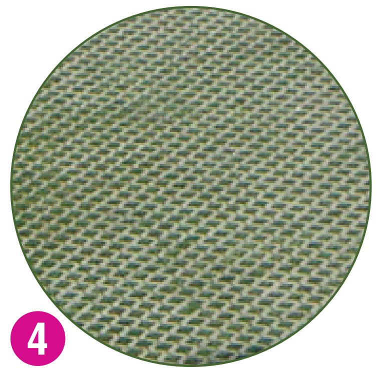
NATURAL LIGHTING

GLASS

NATURAL LIGHTING

WATERPROOFING MEMBRANE

COLOURED ROOF



ECOLOGICAL PAVEMENT

COLOUR BAND ON THE GROUND
CONTINUITY OF THE BUILDING

GRAVEL

COLOUR BANDS ON THE GROUND

CONTINUITY OF THE BUILDING

MATERIALS

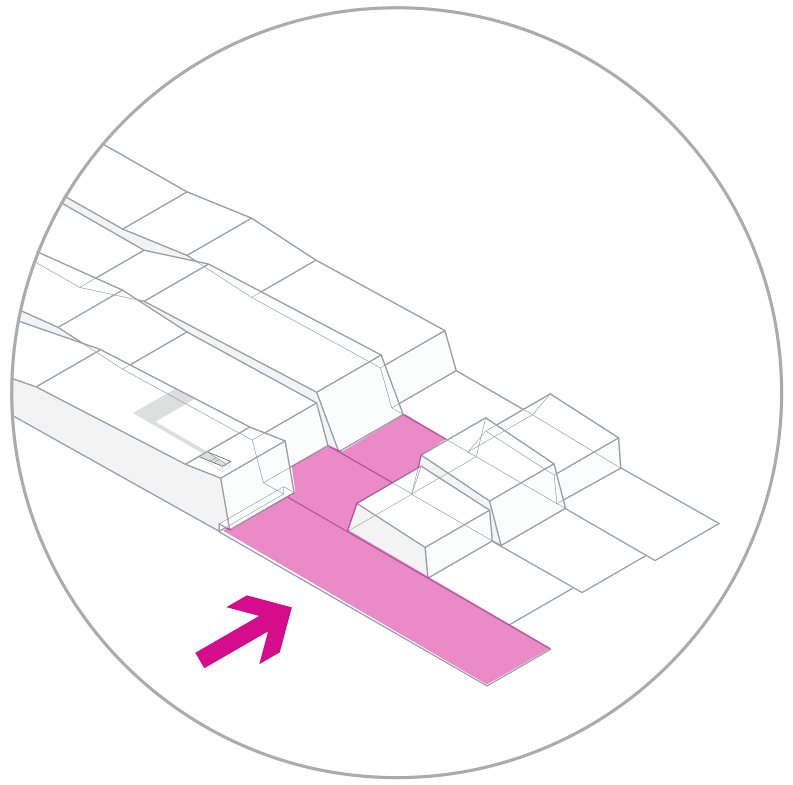
THE LANDSCAPE

WASTE & ENERGY

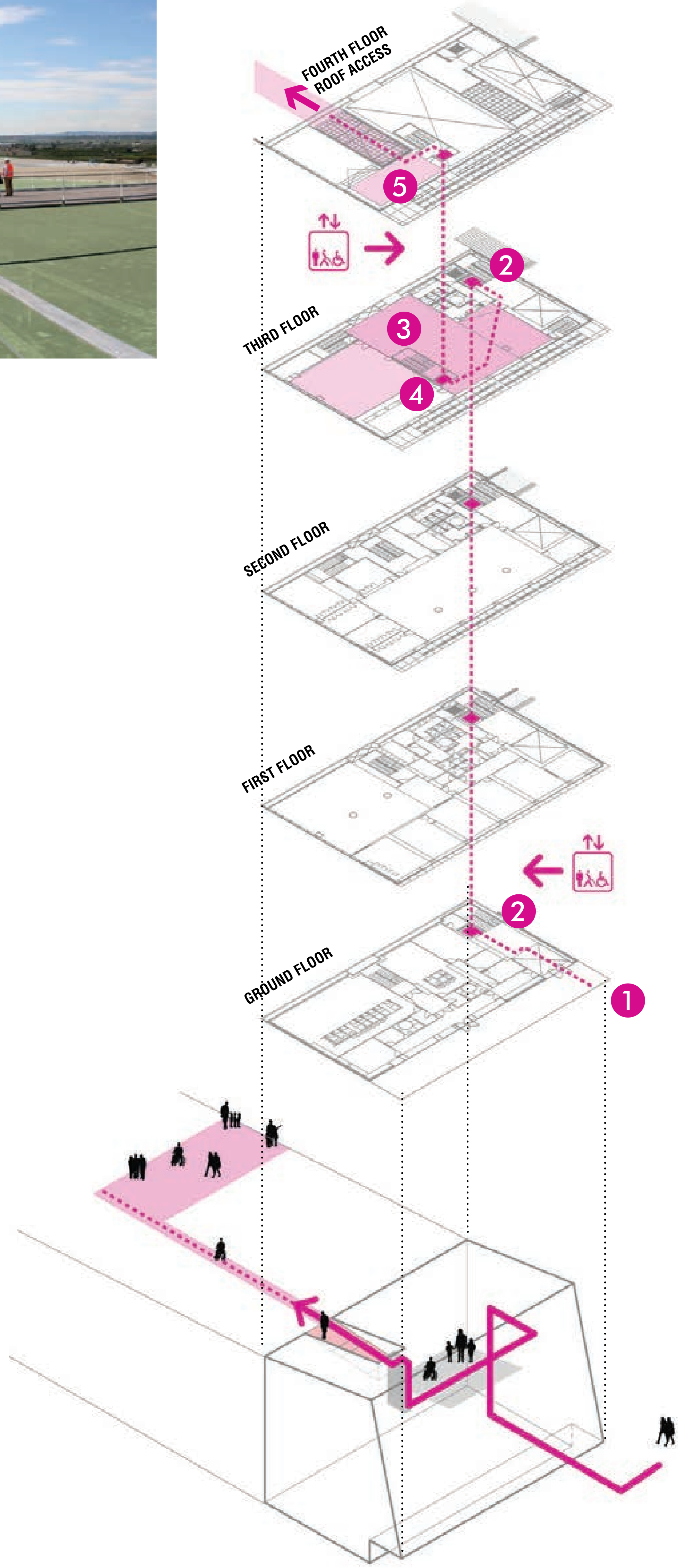
WASTE TREATMENT PROCESS

ENVIRONMENTAL EDUCATION

PUBLIC FACILITY



ACCESS PLAZA



VISITORS CENTRE

1. ACCESS PLAZA
2. LIFT
3. EDUCATIVE CENTRE
4. PLATFORM LIFT
5. ROOF ACCESS

VISITORS CENTRE

VISITORS CENTRE

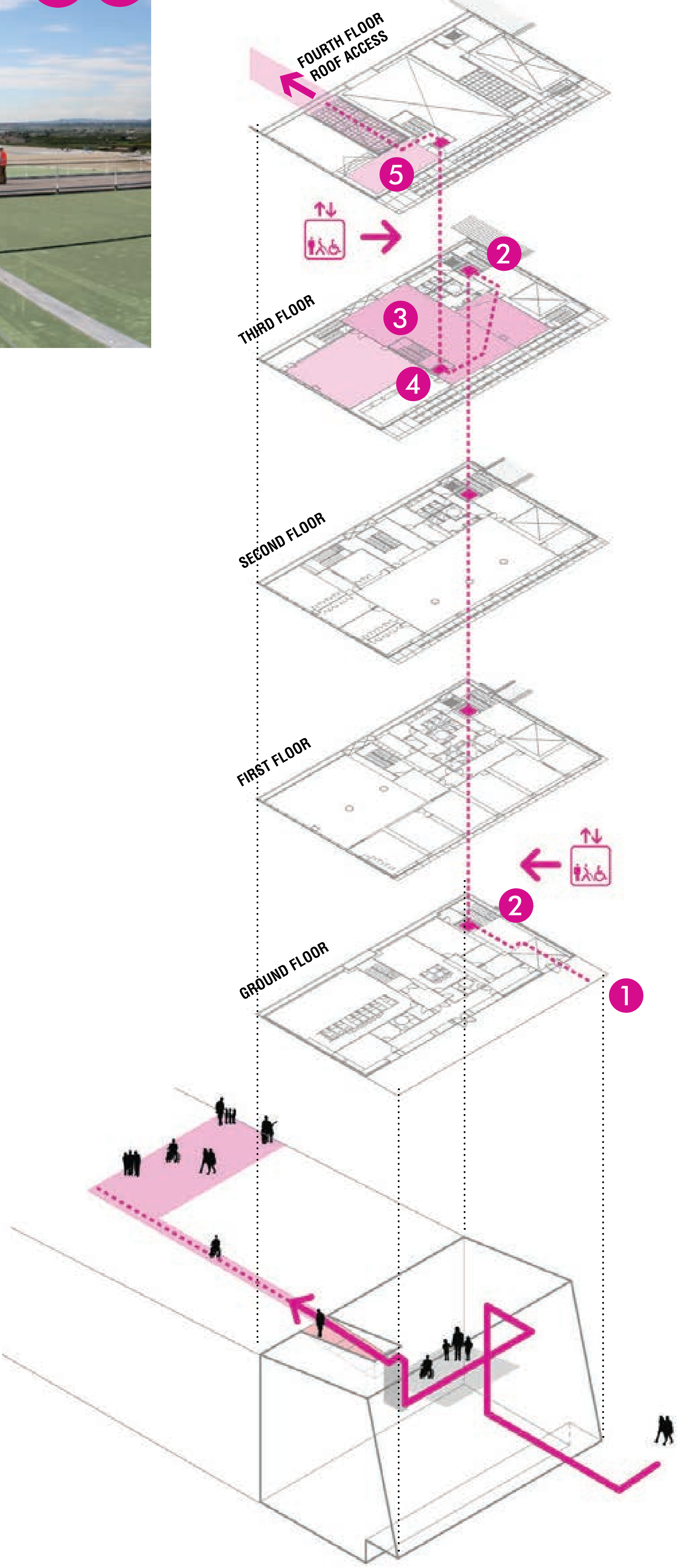
1 ACCESS PLAZA

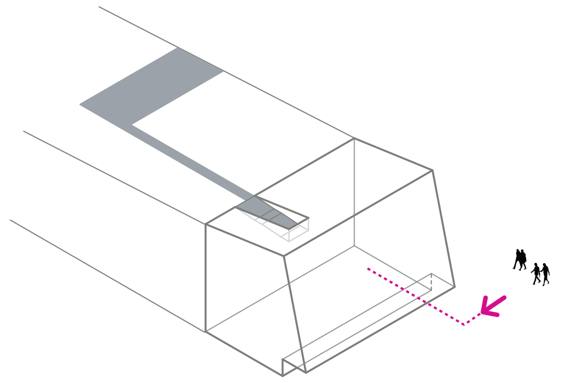
2 LIFT

3 EDUCATIVE CENTRE

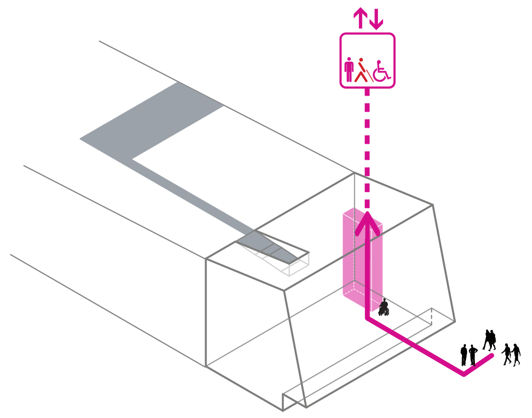
4 PLATFORM LIFT

5 ROOF ACCESS

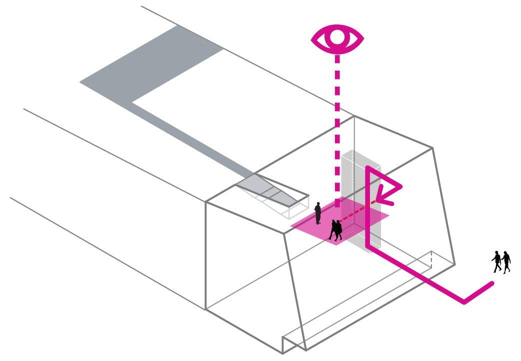




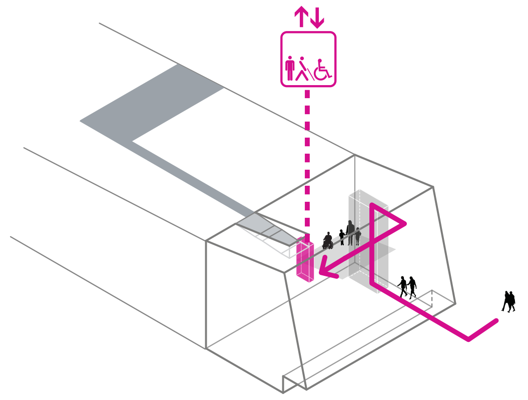
ACCESS PLAZA



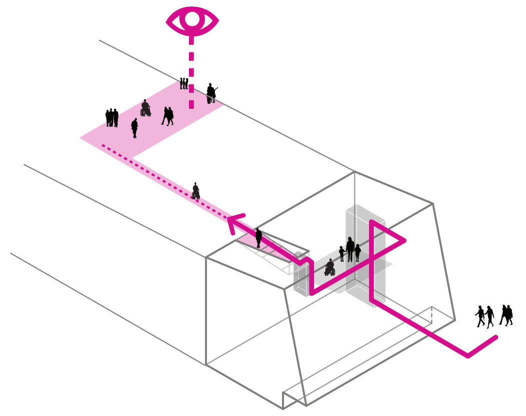
LIFT



EDUCATIONAL AREA
OBSERVATORY

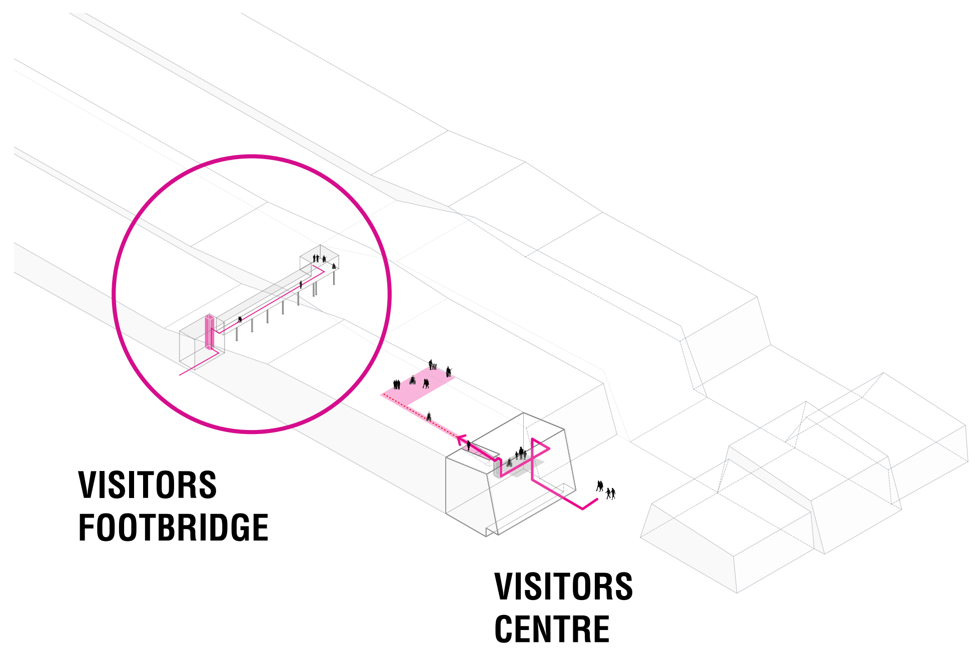


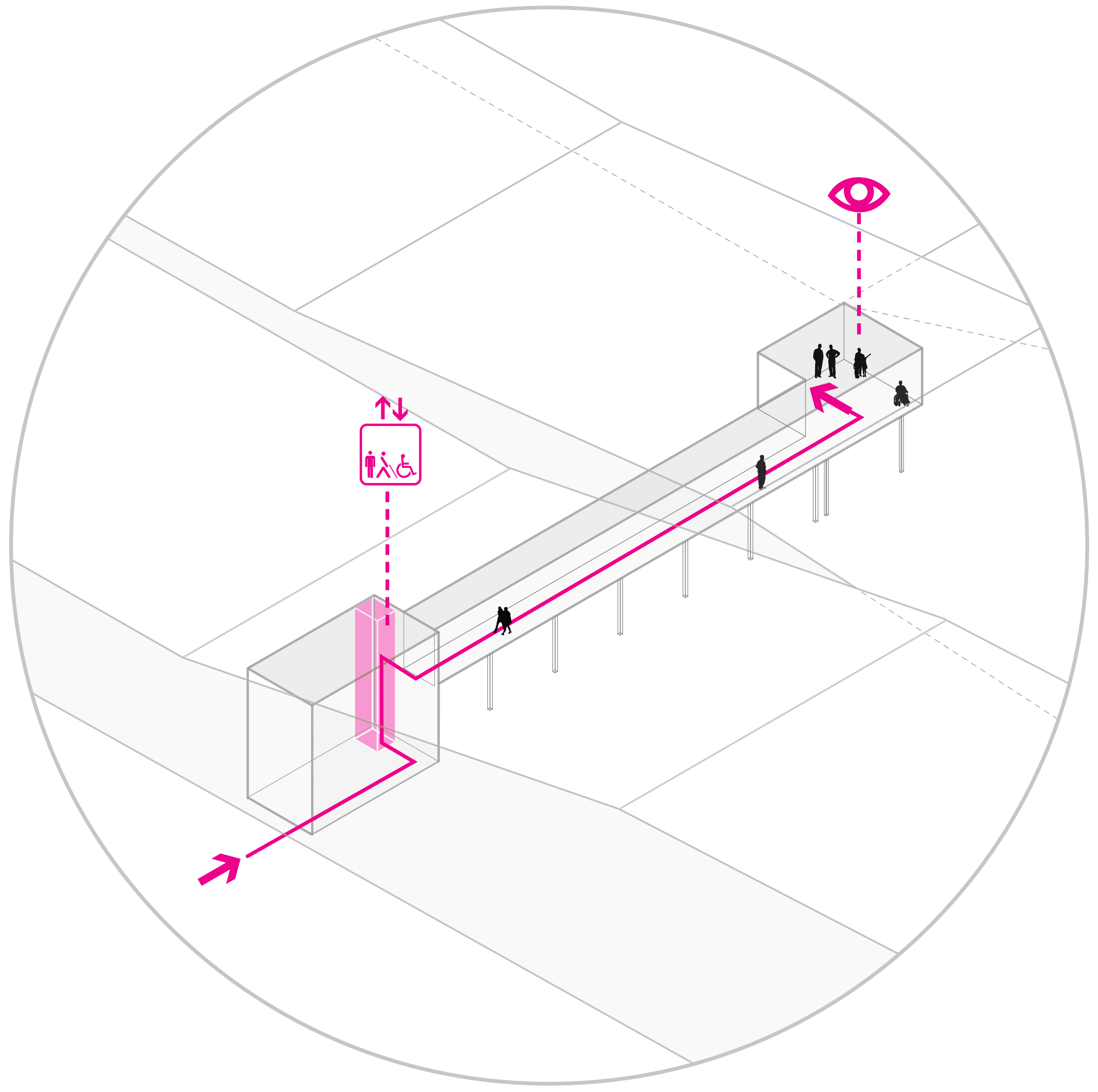
MOBILE PLATFORM



ROOF ACCESS
OBSERVATORY

VISITORS CENTRE





VISITORS FOOTBRIDGE

RESEARCH

social and educational issues

EARLY DESIGN STAGES
2 roundtables with local neighbourhood associations and politicians

+ later open feedback to the architects’ design work

PARTICIPATION

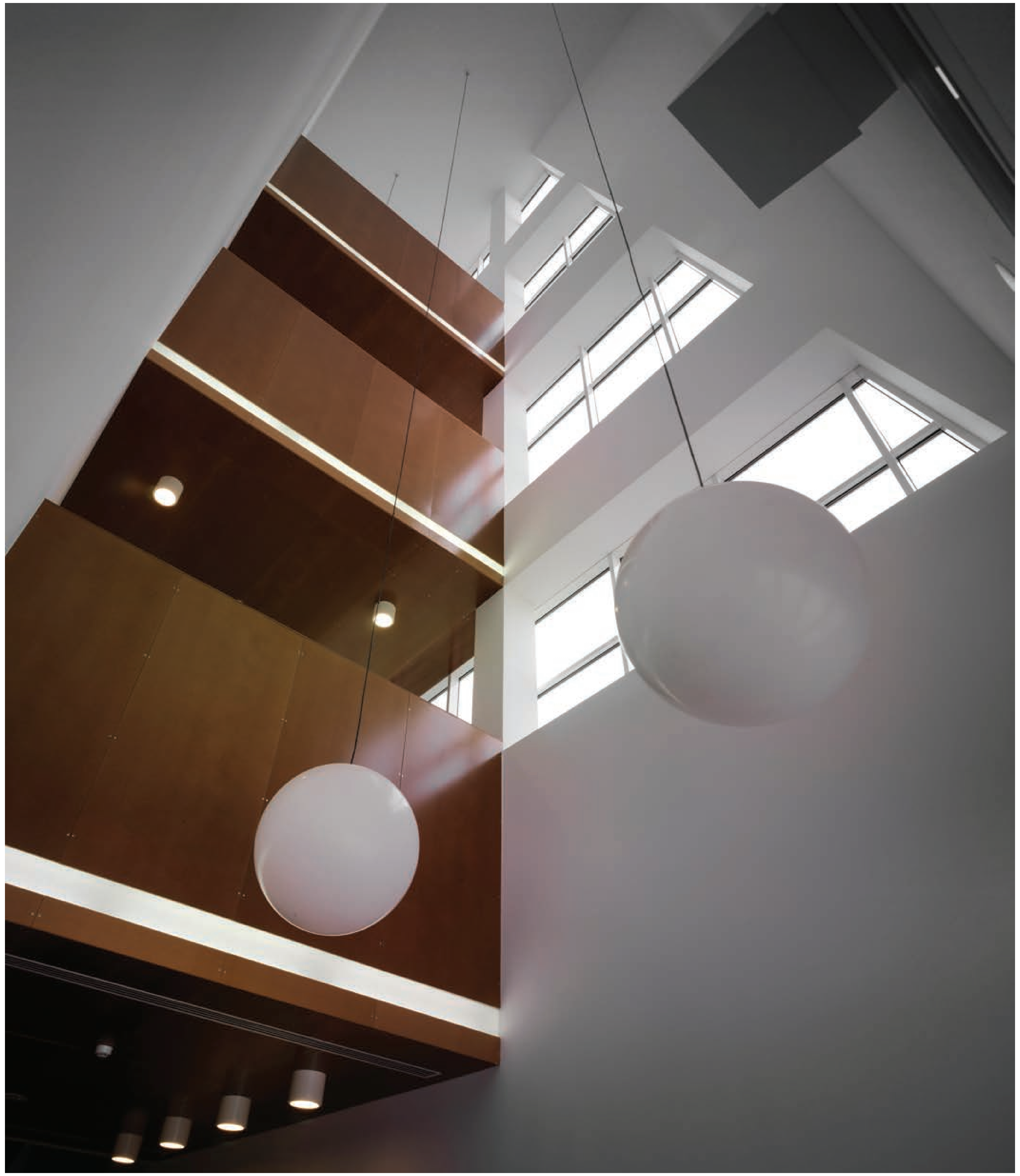
DESIGN PROCESS

During the design process, the architects attended several **meetings with local farmers, neighbourhood associations and politicians** to discuss the potential impact of this facility in the vicinity. The formers had great interest in the final image and the landscape integration of the building to preserve the beauty and representativeness of the surrounding crop fields.

Thus, architects were in **close contact** with them to keep them **involved in the design process through open feedbacks** to the architects work.

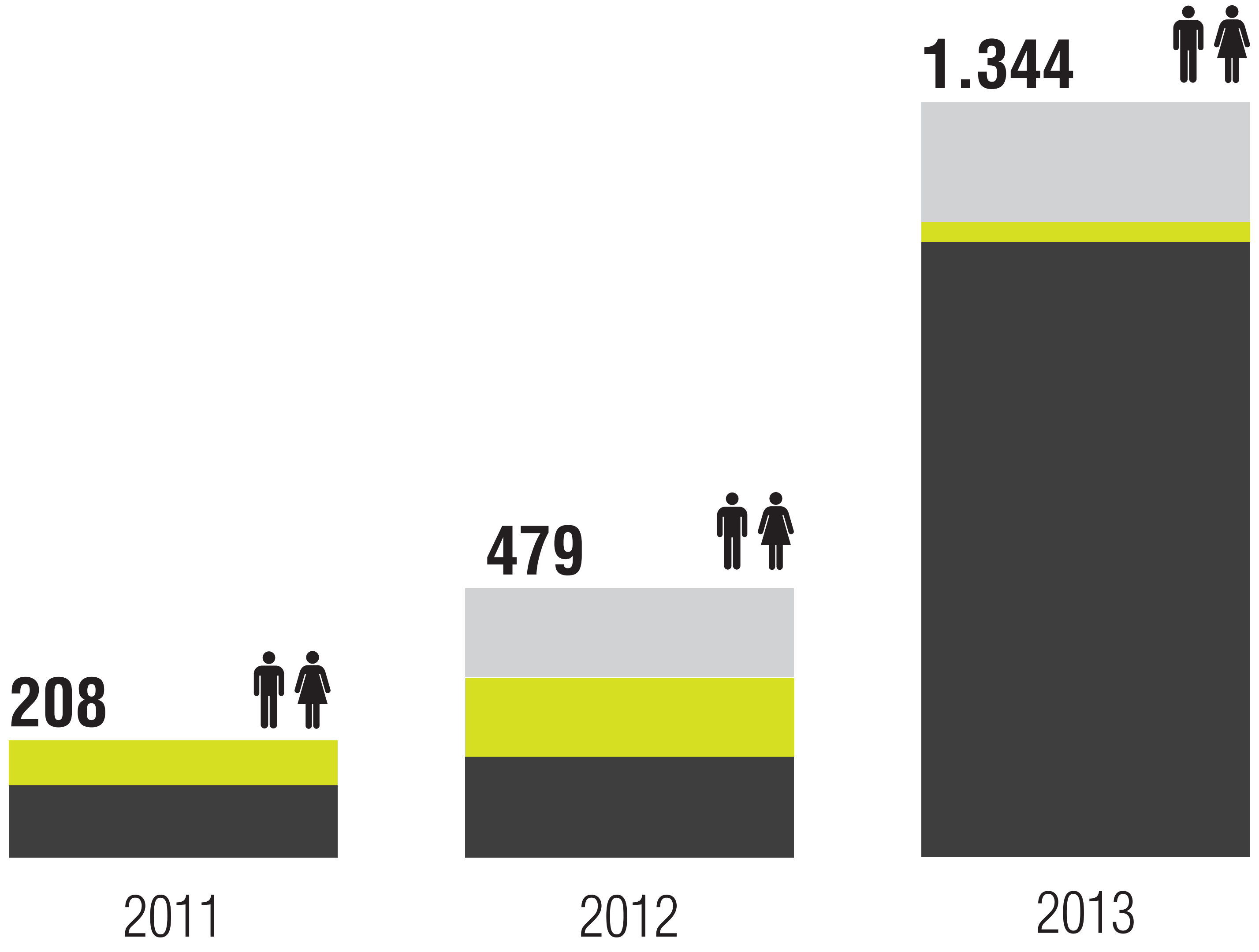
In contrast, politicians had more interest on the energy and social-related impact of the facility and contributed to the dissemination of the plant operation as **educational tool.**

REASEARCH + PARTICIPATION



VISITOR CENTRE. EXHIBITION HALL AND MAIN ENTRANCE

SOCIAL EDUCATIONAL ISSUES



DURING THE FIRST 3 YEARS IT HAS RECEIVED **2.031 VISITORS**

1.402 PRIMARY AND SECONDARY SCHOOL VISITORS
259 UNIVERSITY STUDENTS AND RESEARCHERS
370 VISITORS FROM COMPANIES AND PUBLIC ORGANIZATIONS SO FAR, PROVING THE EDUCATIONAL ASSET OF THIS PROJECT AND HOW IT CONTRIBUTES TO THE ENGAGEMENT OF VALENCIA SOCIETY WITH WASTE GENERATION AND ENVIRONMENTAL ISSUES.

CREATING SOCIAL VALUE FROM WASTE MANAGEMENT

VISITORS CENTRE

INSTITUTIONS

TÉCNICOS CONSELLERÍA DE CENTRO DE EDUCACIÓN MEDIOAMBIENTAL DE LA COMUNIDAD VALENCIANA (CEACV)
CENTRE FOR ENVIRONMENTAL EDUCATION

CURSO DE GESTIÓN AMBIENTAL EN LA EMPRESA
ENVIRONMENTAL MANAGEMENT COURSE

AJUNTAMENTS DE PUÇOL, PUIG Y RAFELBUÑOL
LOCAL GOVERNMENTS

UNIVERSITIES

UNIVERSITAT DE VALENCIA. INGENIERÍA AMBIENTAL
UNIVERSITY OF VALENCIA. ENVIRONMENTAL ENGINEERING

UNIVERSITAT POLITÉCNICA DE VALENCIA. INGENIERÍA QUÍMICA
POLYTECHNIC UNIVERSITY OF VALENCIA. CHEMICAL ENGINEERING

ESCUELA DE ARTE Y SUPERIOR DE DISEÑO (EASD). VALENCIA
THE SCHOOL OF ART AND HIGHER STUDIES OF DESIGN OF VALENCIA

SECONDARY SCHOOLS

COLEGIO INTERNACIONAL. LEVANTE
IES FEDERICA MONTSENY. BURJASSOT
COLEGIO CUMBRES DE GODELLA
INSTITUTO JOSÉ BALLESTER. VALENCIA
CEIP VALENCIA

ELDERLY

RESIDENCIA DE TERCERA EDAD. MONTCADA
RETIREMENT HOME

OTHERS

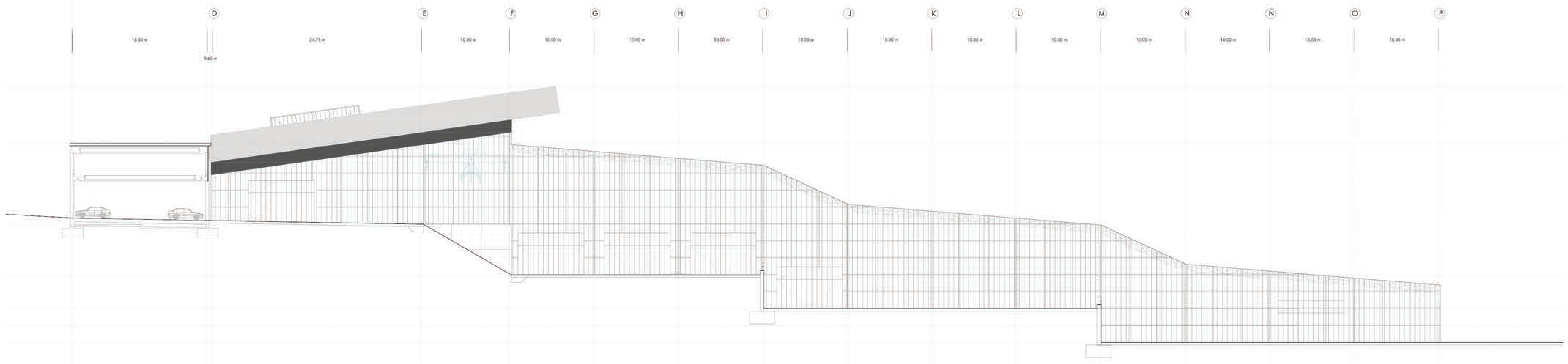
VOLUNTARIAT AMBIENTAL
ENVIRONMENTAL VOLUNTEERS

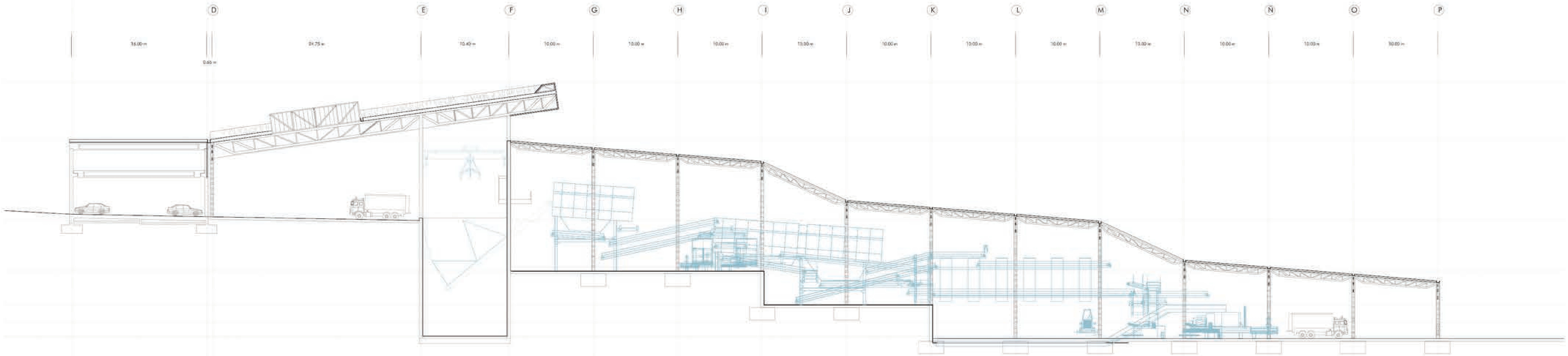
CRUZ ROJA ESPAÑOLA
RED CROSS


ENVIRONMENTAL EDUCATION. VISITOR CENTRE

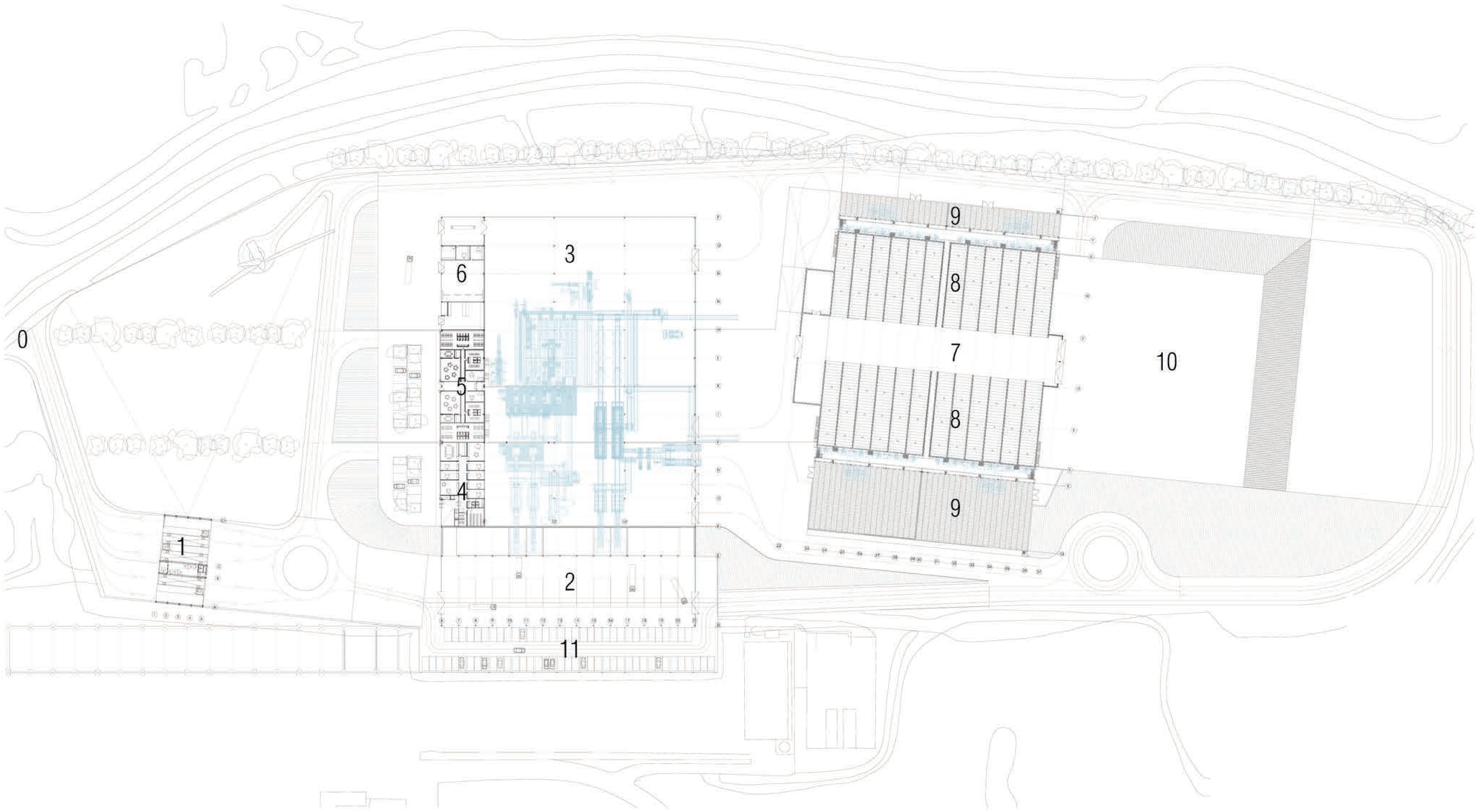
MADRID WASTE TREATMENT PLANT

[redacted]



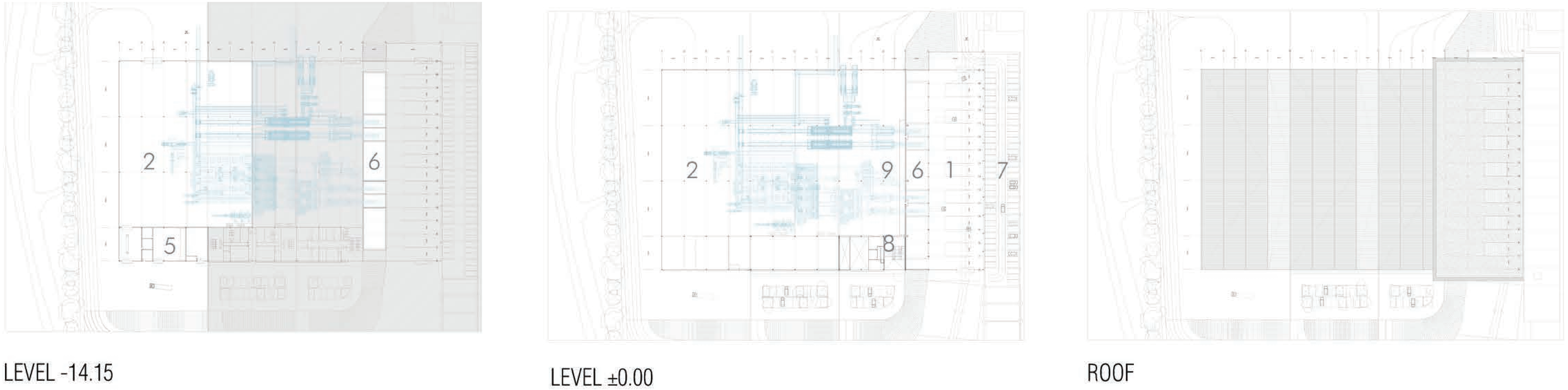


WEST ELEVATION. LONGITUDINAL SECTION



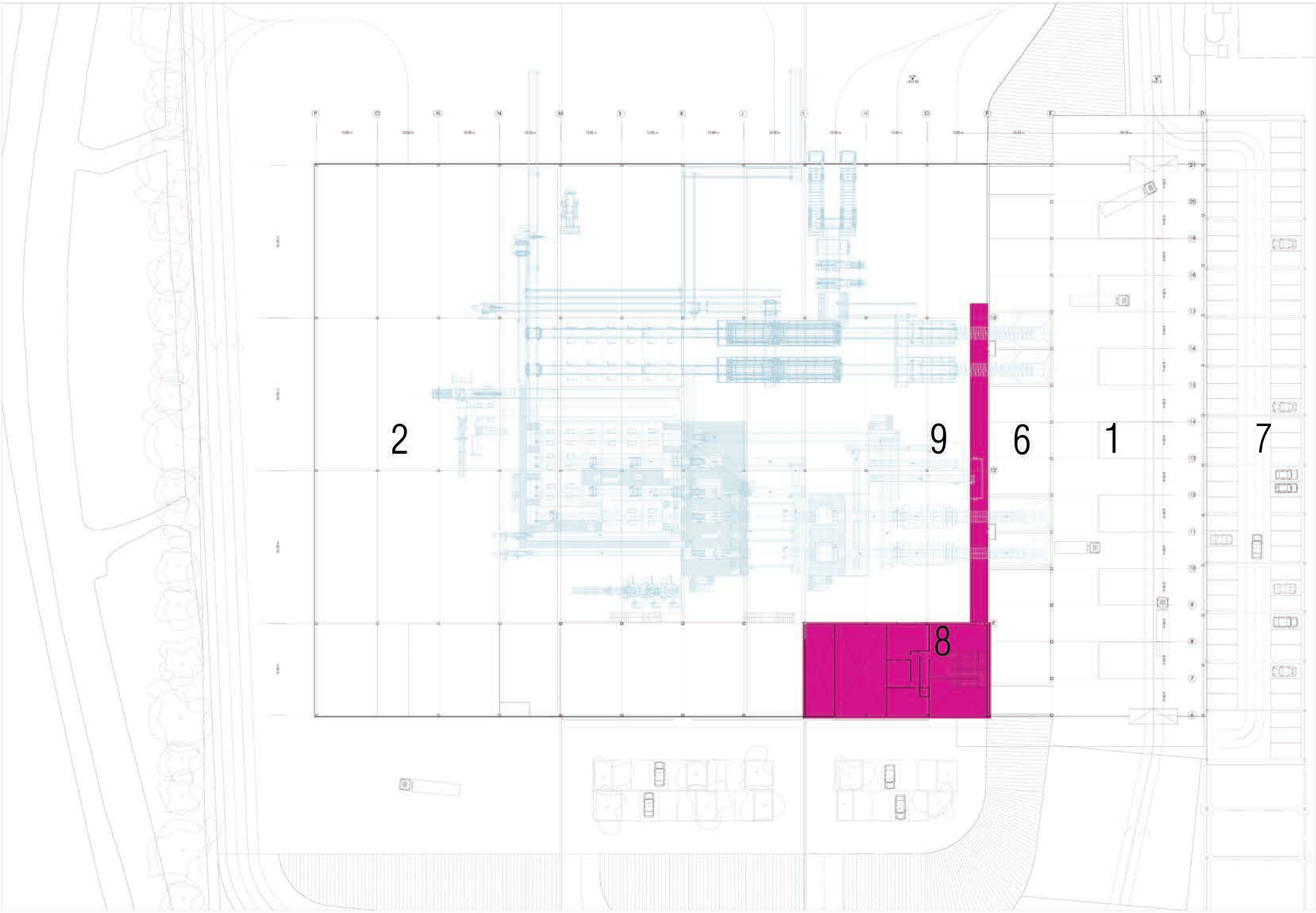
GROUND FLOOR PLAN

0_ACCESS
1_CONTROL AND WEIGHING POST
2_RECEPTION BUILDING
3_MAIN TREATMENT BUILDING
4_OFFICES
5_CHANGING ROOMS
6_WORKSHOPS
7_FERMENTATION BUILDING
8_TUNNELS
9_BIOFILTERS
10_DISTRIBUTION AREA
11_PARKING



MAIN PROCESS BUILDING. FLOOR PLANS

1_RECEPTION BUILDING
2_MAIN TREATMENT BUILDING
3_OFFICES
4_CHANGING ROOMS
5_WORKSHOPS
6_PIT
7_PARKING
8_START OF VISITOR TOUR
9_CORRIDOR FOR VISITORS



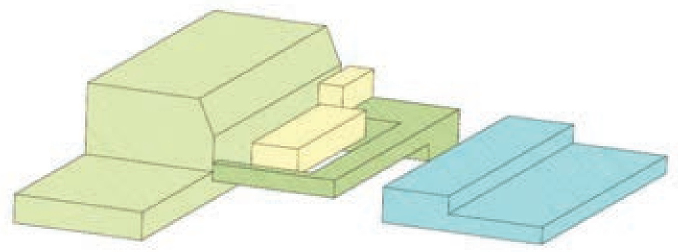
MAIN PROCESS BUILDING. LEVEL ±0.00

1_RECEPTION BUILDING
2_MAIN TREATMENT BUILDING
3_OFFICES
4_CHANGING ROOMS
5_WORKSHOPS
6_PIT
7_PARKING
8_START OF VISITOR TOUR
9_CORRIDOR FOR VISITORS

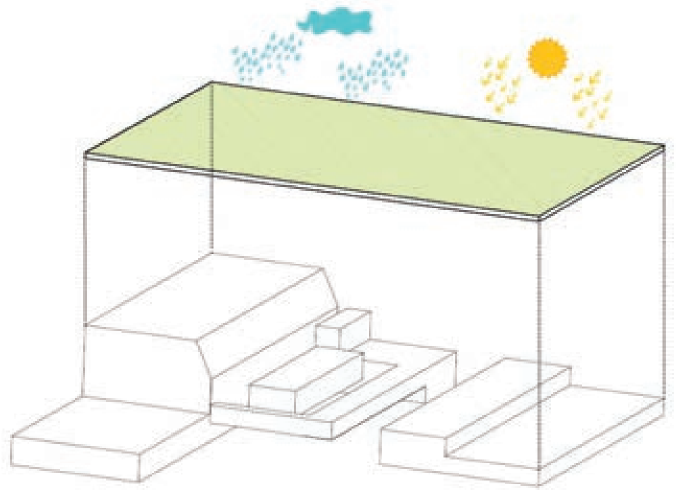
MALLORCA WASTE INCINERATION PLANT

[redacted]

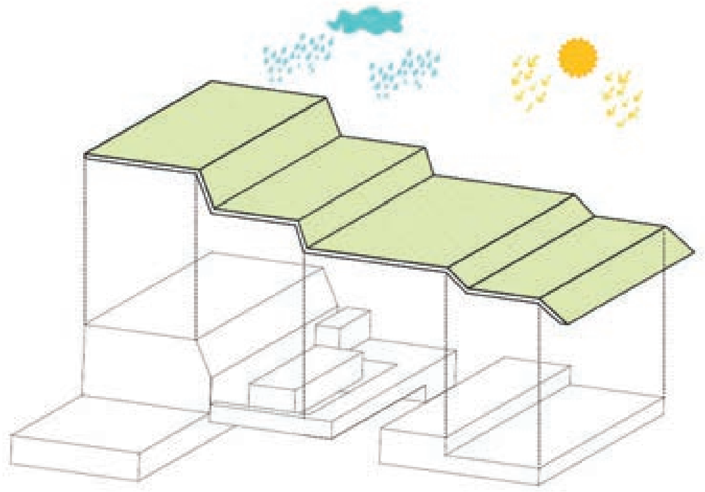
PALMA DE MALLORCA



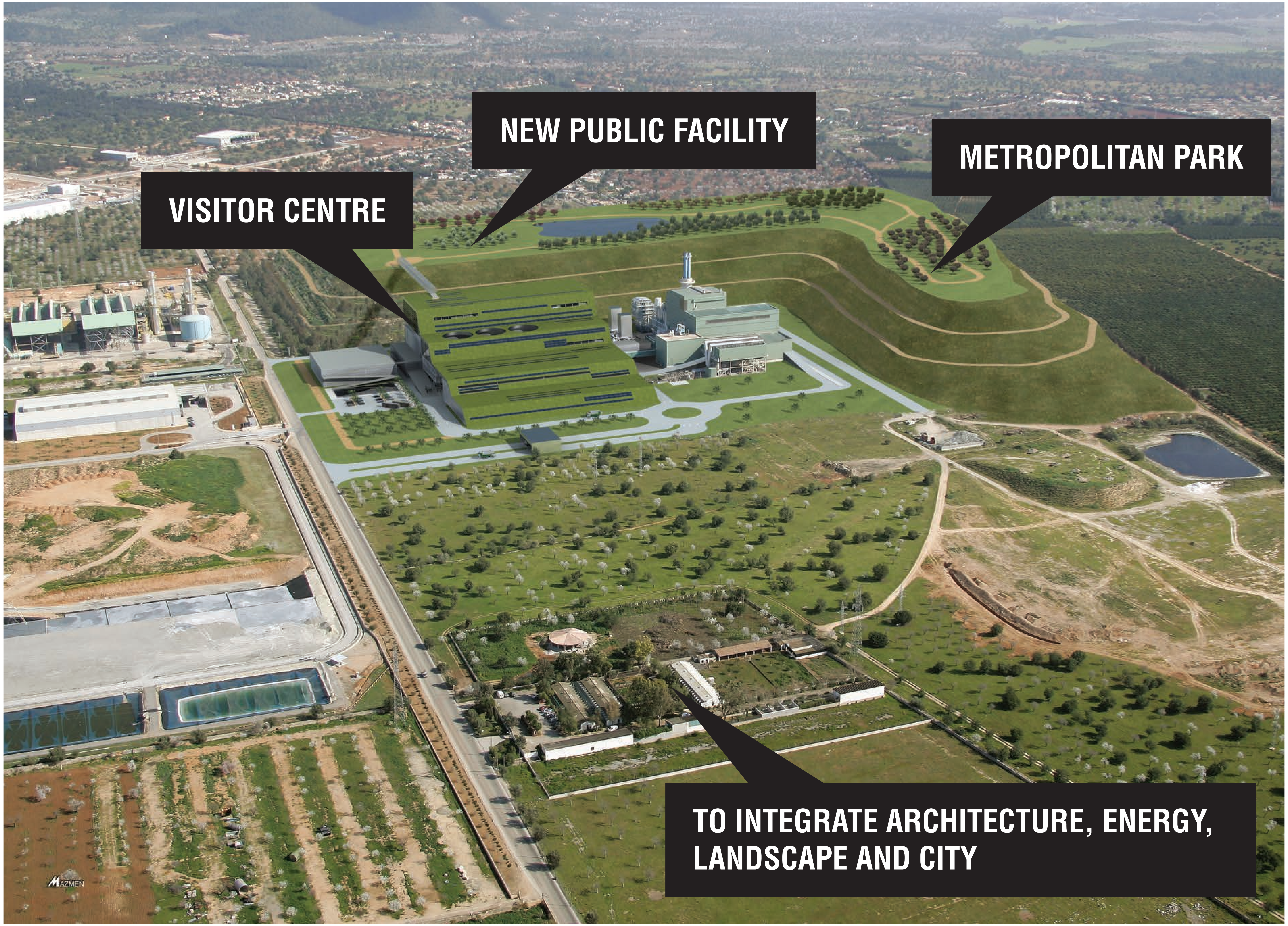
COMPACT VOLUMES



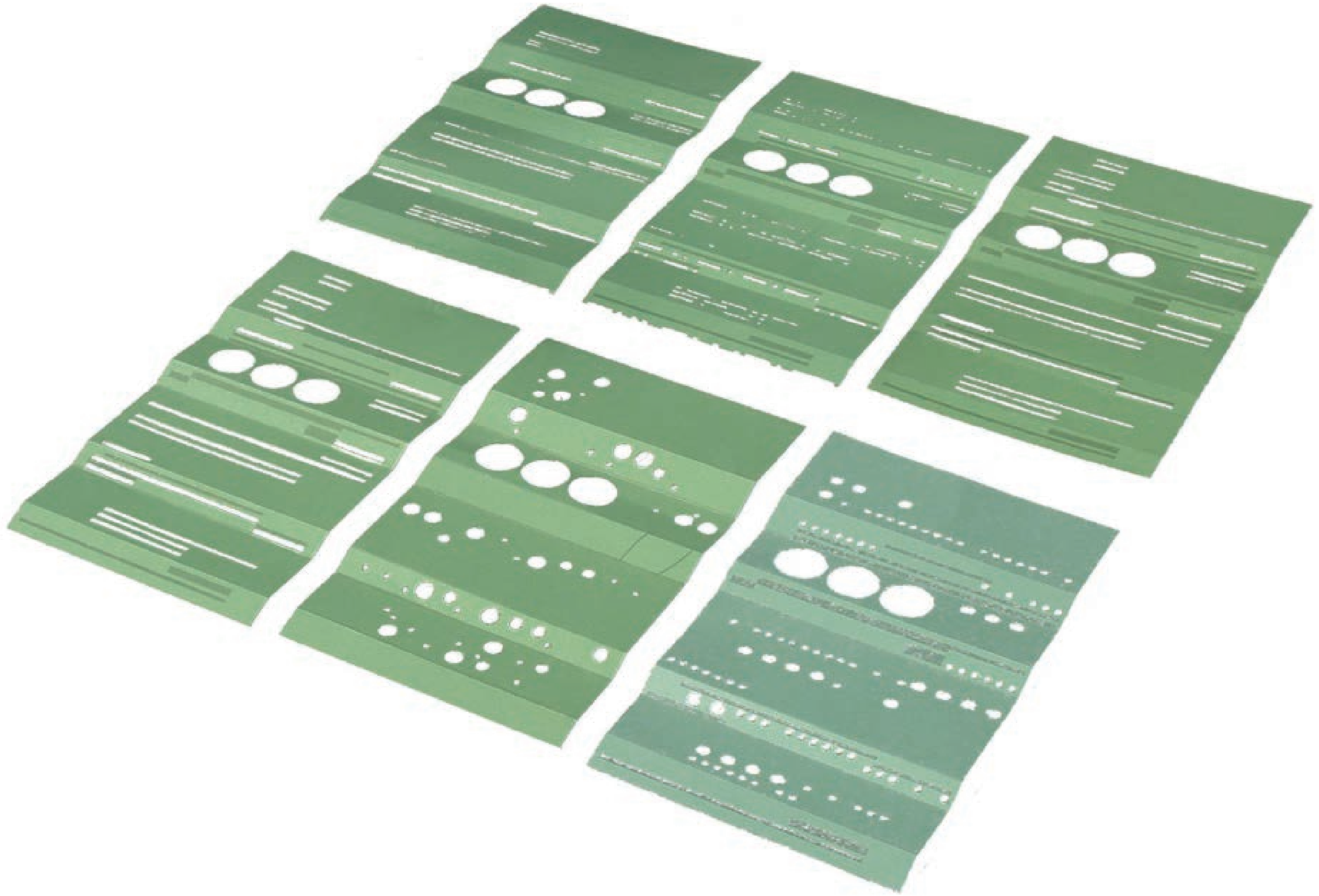
UNIQUE ROOF

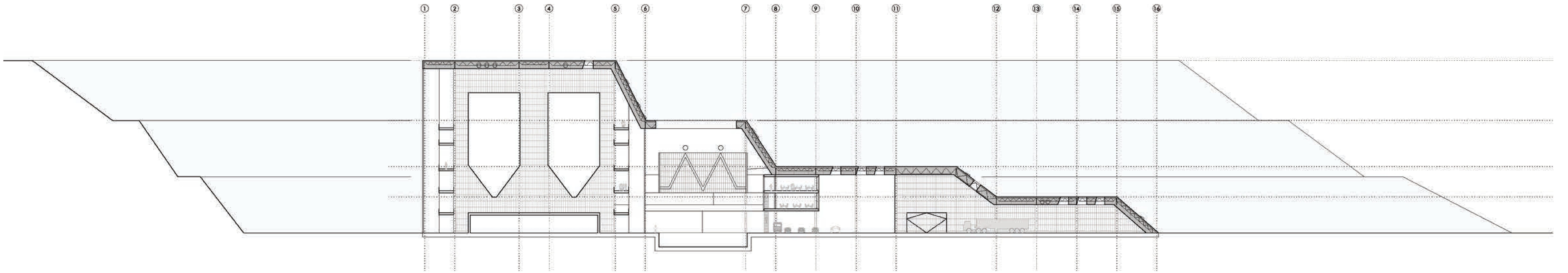


ADAPTATION ROOF



AERIAL VIEW BEFORE / AFTER

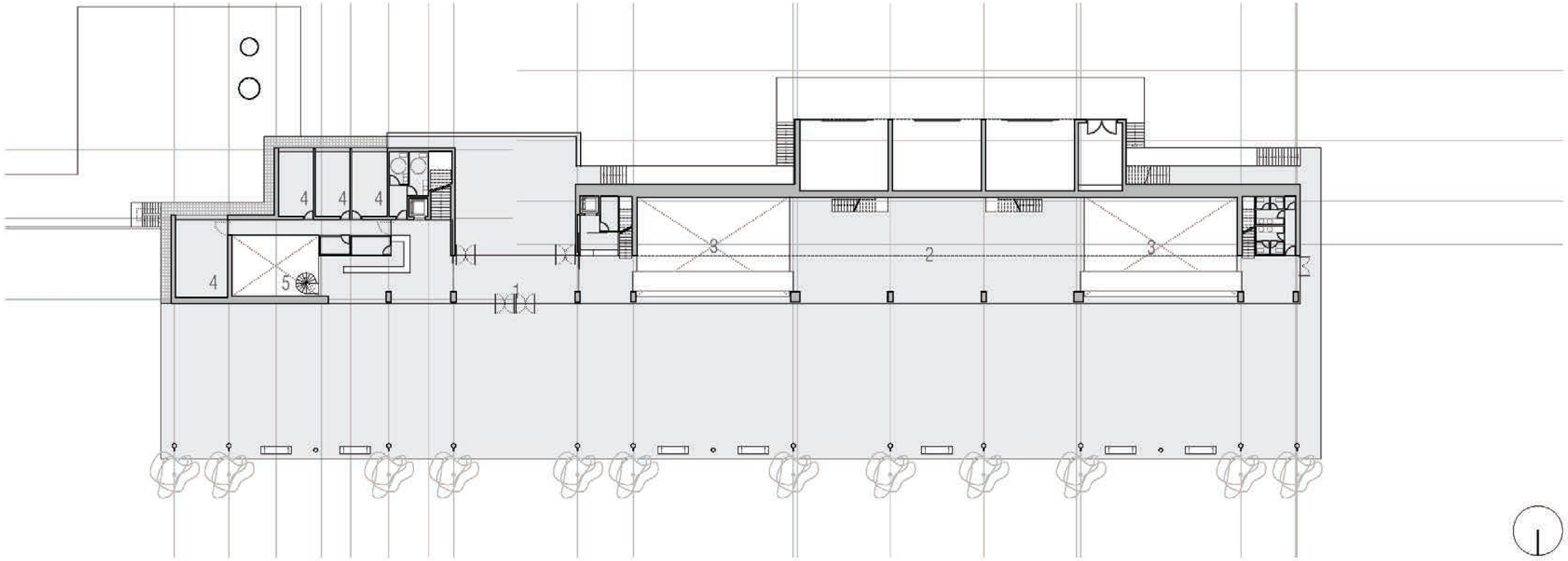




CROSS SECTION AND ROOF STUDY

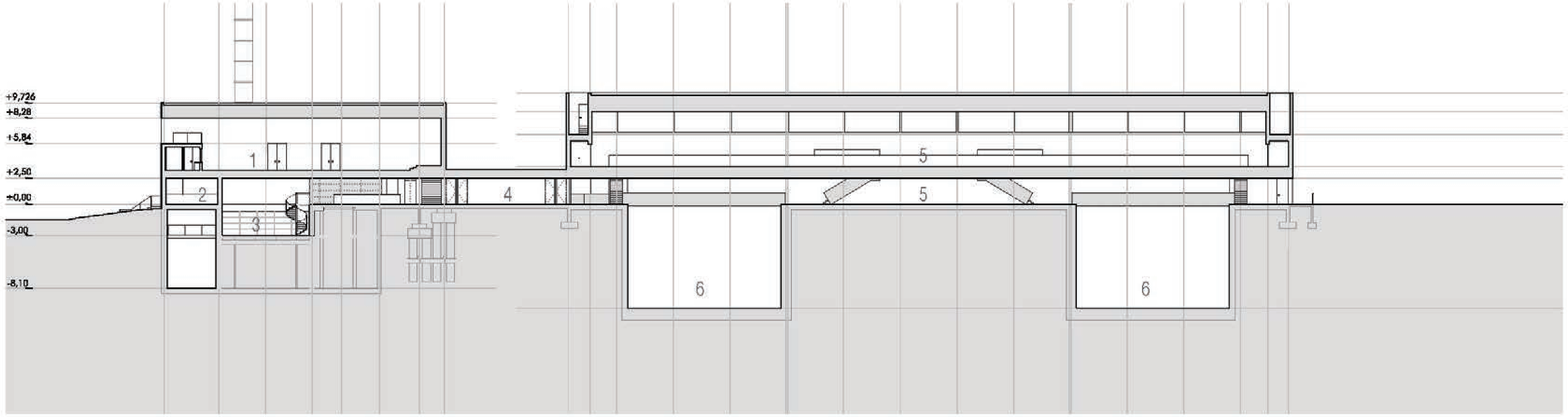
ENVIRONMENTAL TECHNOLOGY CENTRE IN VALDEMINGÓMEZ

[redacted]



1_ENTRANCE
2_EXHIBITION GALLERY
3_EXHIBITION PITS
4_ADMINISTRATION
5_LIBRARY

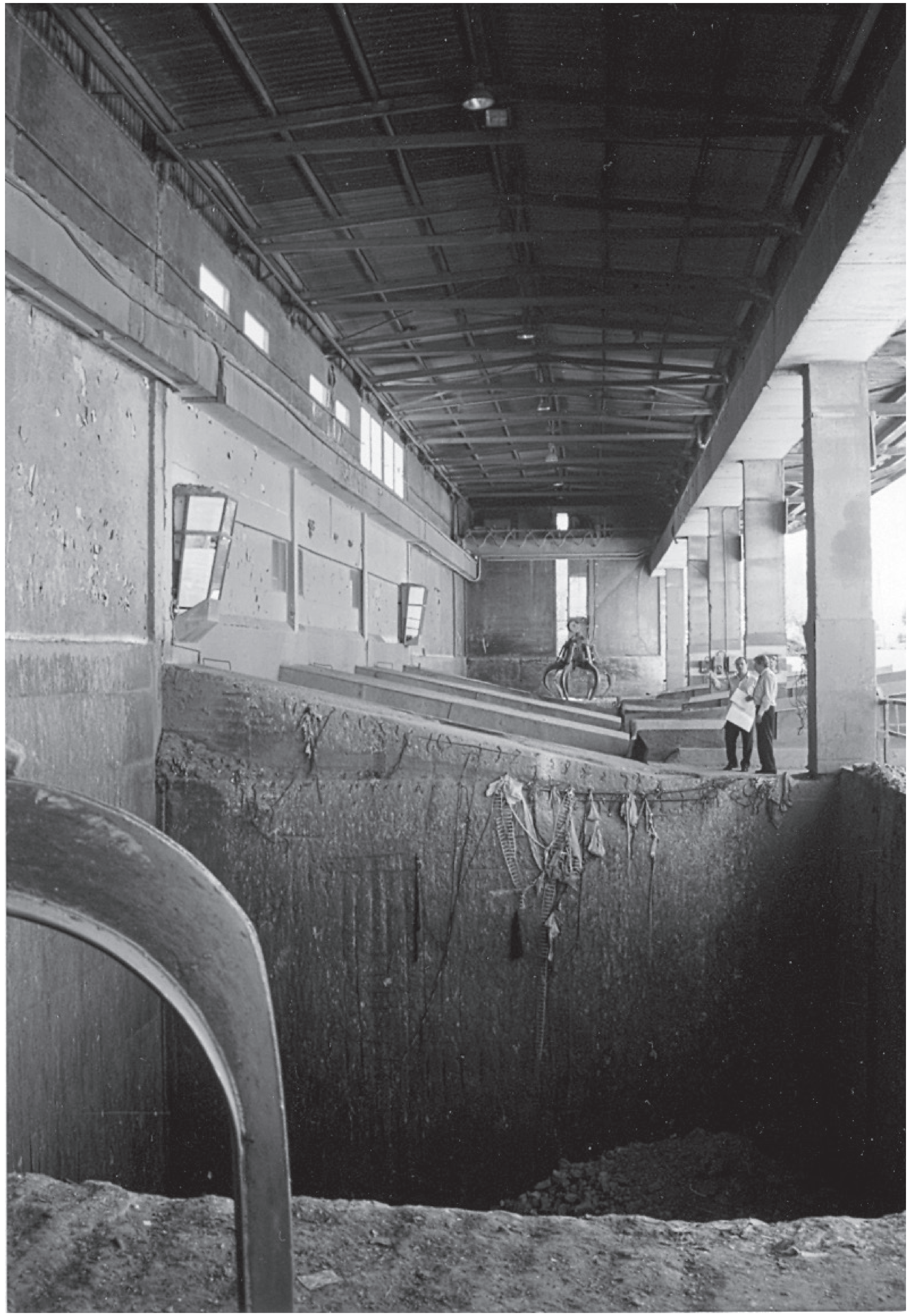
GROUND FLOOR PLAN

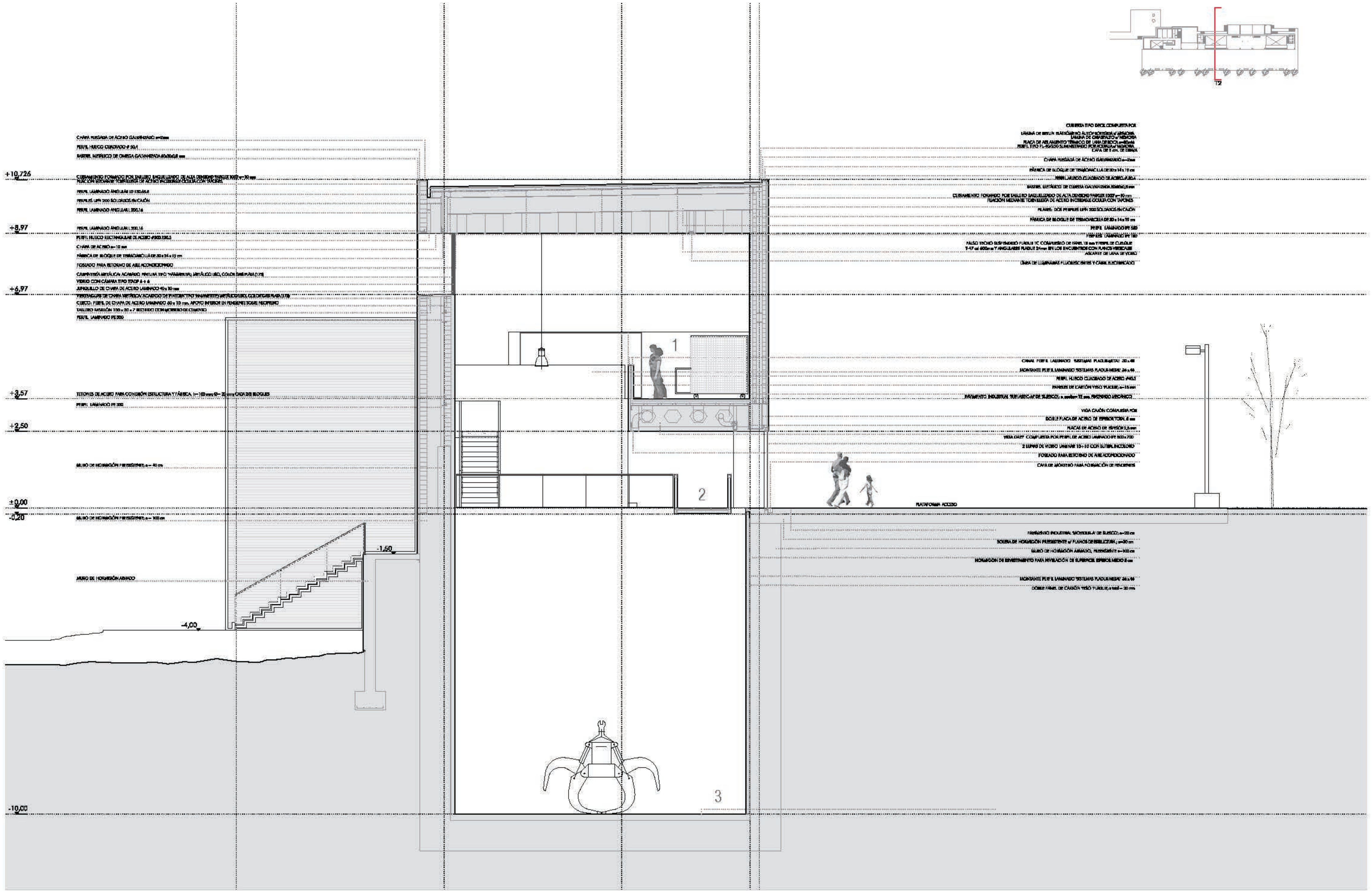


1_CONFERENCE HALL
2_MEETING ROOM
3_LIBRARY
4_ENTRANCE
5_EXHIBITION GALLERY
6_EXHIBITION PITS

LONGITUDINAL SECTION

FLOOR PLAN AND SECTION





1_EXHIBITION GALLERY
2_FOOTBRIDGE
3_EXHIBITON PITS

CROSS SECTION

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ISRAEL ALBA
architecture can change
architecture
can.
Grazie tante per la vostra attenzione