[re]claiming the **body politik**

ursus energy recovery centre

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design strategy

_CONTENTS

_project synopsis

_'URBANIZING TECHNOLOGY' CONCEPT

Cities have become sites for massive deployments of increasingly complex and all encompassing technical systems. **Urbanizing technology** is the recovering, making and giving content to the gap between the complex space of the city and technologies. **Recovering the incompleteness** of cities means recovering a space where the work of open sourcing the urban can thrive.

Industrial decline has left vast urban voids fragmenting the district and dividing communities.
Ursus at the moment can be characterized as the **edge land** of the city. The district faces the challenge of finding a new identity between the continuation of its industrial past in a new incarnation, and a bedroom-city for those working in the central areas of Warsaw.

The urban strategy builds upon **existing synergies** on site to achieve an **industrial symbiosis** and bring socioeconomic growth to the area. It aims not only to **enhance the flow and inhabitation of public spaces** in the city, but also to **promote people's awareness** in relation to innovative and interactive ways of energy production. Ursus Factory becomes the core of renewable energy production, with a long term plan to make Warsaw a self-sufficient city and enable urban regeneration.

Conceived as an **experimental energy recovery and film centre**, the scheme proposes a building-catalyst which challenges the territory of public space and acts as a **mediator** for the integration of various community groups and the evolution of industries. The overarching intension of the project is to facilitate a conscious understanding of the often invisible systems of energy production and consumption that drive our world. With an appreciation of the **'extensions' of the body politik** coupled with a more comprehensive education concerning energy efficiency criteria, the scheme unfolds a collective sense of agency and understanding towards these issues, both in a local and wider context.

Finally, the building aims to open a debate about the **kind of bodies** that are required for political participation and for the proper functioning of sustainable economic systems. Through the proposal, the metaphor of the body politik is brought to its literal extreme, by illustrating how **the achievement of sustainable futures will require the production of new bodies**; bodies that can be productively mobilized within the public space as active agents in the process of energy and cultural production. Creating and enabling the use of new technologies is therefore reindustrialization's strategy central point. However, the emergency of a **'cultural re-industrialisation'** which educates/'fabricates' active citizens and unfolds within the field conditions of the urban is also crucial for the achievement of a truly sustainable future.

_arch. discussion

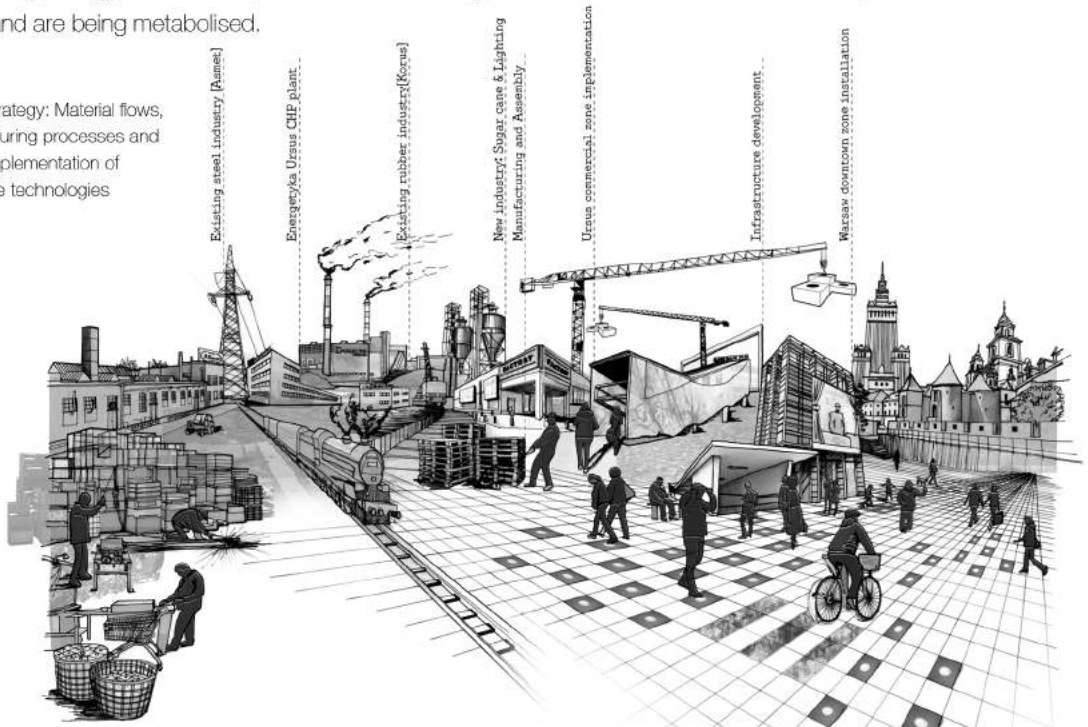
_'URBANIZING TECHNOLOGY' CONCEPT

Cities have become sites for massive deployments of increasingly complex and all encompassing technical systems. Cities talk back; they don't allow anything simply to happen. According to Sassen, "the city is a hacker of spaces, of technologies, of individual self interest". There is a need to **recover this gap** between the complex space of the city and technologies; there is an invisibility that attaches to that gap. **Urbanizing technology** is the recovering, making, constituting and giving content to that gap. **Recovering the incompleteness** of cities means recovering a space where the work of **open sourcing the urban** can thrive.

Urban public spaces and the activities which occur in them constantly generate disorder, spontaneity, risk and change, while offering possibilities for actions and a richness of experiences. My main concerns have been primarily oriented towards addressing **urban voids** and **spaces of decline** in the cityscape. Our actions in space can be as Lefebvre's argues that of **'a social product'** and that this constant 'social production' of urban space is fundamental to the **'reproduction of society'**, and furthermore to the spatial practices and perceptions we must experience.

In reference to the philosophy of Henri Lefebvre, the Urban Strategy interpreted the heterogeneity of cities and their **'creative surplus'** as a source for the revolutionary transformation of society. It concerned not only the need for **interactive ways of generating energy** to achieve optimum self sufficiency, but also introduced a **new landscape** in which social encounters take place and are being metabolised.

Below:
Urban Strategy: Material flows, manufacturing processes and spatial implementation of interactive technologies



_[RE]CLAIMING THE SITE

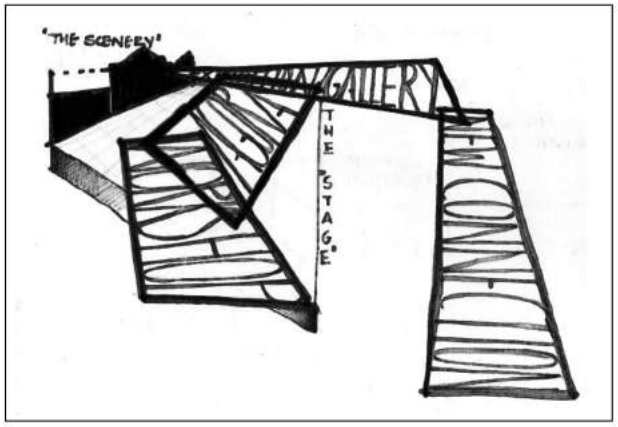
Adjacent to Ursus train station and railway lines, the chosen site is seen as a **public gateway** from the community to the industrial practices on the north of the area and vice versa. Surrounded by a steel factory (ASMET) and a derelict historic iron foundry on the north, the site forms **a stage where field conditions take place.**

Lefebvre makes a reference to the function of the past and its projection into the future, the continuous renewal production of space, is what is excluding that of the present, 'the present is a space time yet to be created' (2002, p.217). David Lowenthal also adds that the presence of the past offers a " sense of completion, of stability, of permanence" in resistance to the rapid pace of contemporary life (Corner, 1999, p. 13). Landscape is therefore seen as a means to resist the homogenization of the environment while also heightening local attributes and a collective sense of place. **"Field conditions"**, Allen underlines, "are **bottom-up phenomena**, defined not by overarching geometrical schemas but by intricate local connections. **Interval, repetition, and seriality are key concepts.** Form matters, but not so much the forms of things as the forms between things" (1999, p. 92).

In reference to Michel Serres, the field condition implies an architecture that admits change, accident and improvisation. It is an architecture not invested in durability, stability, and certainty, but one that leaves space for the uncertainty of the real.

Knowledge and experience structure the city spaces, Lefebvre states, but we are always exposed to memory, process and temporal fixations. This reveals the constructs of **space as a multiplicity of program**; there are always multiple happenings and processes that work simultaneously upon the human body. The rhythm of production, landscapes of exchange and knowledge based skills are not only those visible to us, but also others which **'present themselves without being present'.**

Understanding how material flows and processes produce the site, enables the exploration of variously scaled **thresholds** which extend and engage with its invisible boundaries. These proposed new thresholds, formulate and participate in Ursus **identity** as a 'becoming' that occurs through encounters between diverse social groups, economies and ecosystems.



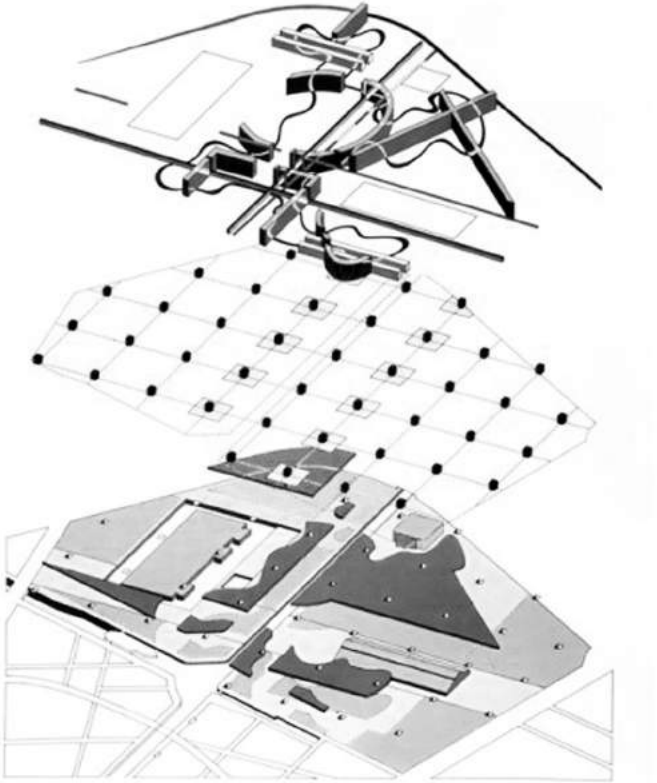
Preliminary conceptual diagram depicting the site as a stage where field conditions take place

_arch. discussion

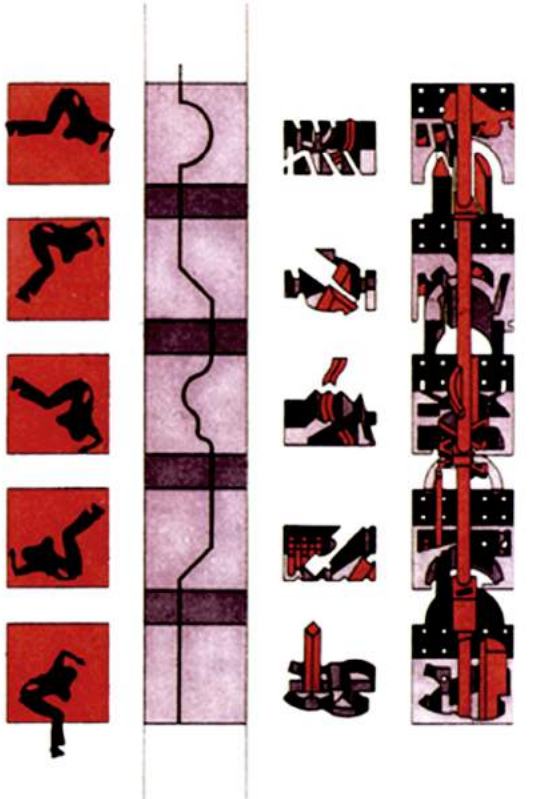
_EVENT, SEQUENCES AND SUPERIMPOSITION

My work tests the theoretical discourse of Bernard Tschumi, whose philosophy of **'event-cities'**, **'sequences'** and **superimposition**, defines the nature of urban reality and unfolds a new type of architectural documentation. The term 'event' also goes beyond the single action or activity; as Foucault put it, an event is "the moment of erosion, collapse, questioning, or problematization of the very assumptions of the setting within which a drama may take place -- occasioning the chance or possibility of another, different setting." The word 'event' can also be associated with the notion of **shock**; a shock that in order to be effective in our mediated culture, in our **culture of images**, must combine the idea of function or action with that of image. In reference to Tschumi's work at the **Parc de la Villette**, he portrays and requests from the user a self critical program of reflection and progression, one of a cultural-space narrative, where he suggests that it will release the subject to **'reinvent him or herself as a new subject'** (Tshumi, 1996).

In concern for the restoration of the body, both Tschumi and Lefebvre discuss the possibility of transformation of ephemeral intervention, through the **'extension of the human body'**.



Axonometric of 'Parc de la Villette': Points, Lines, Surfaces

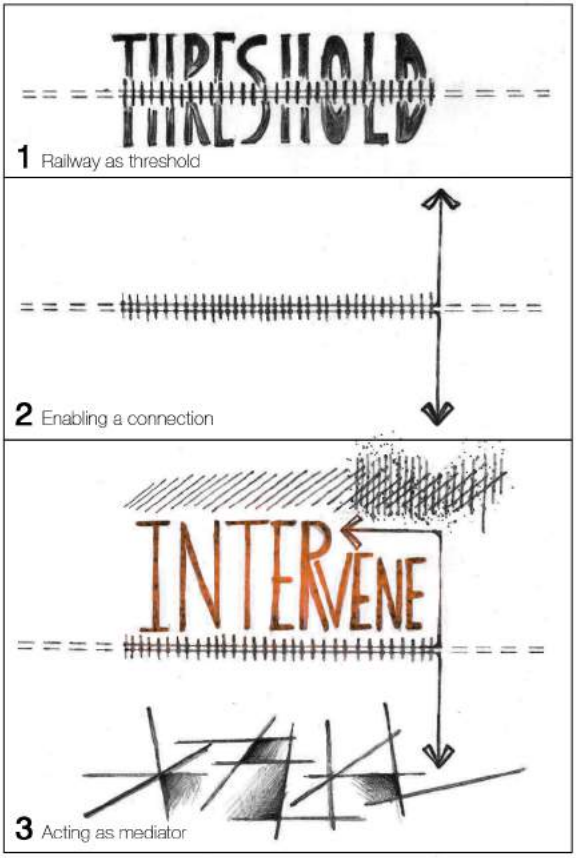


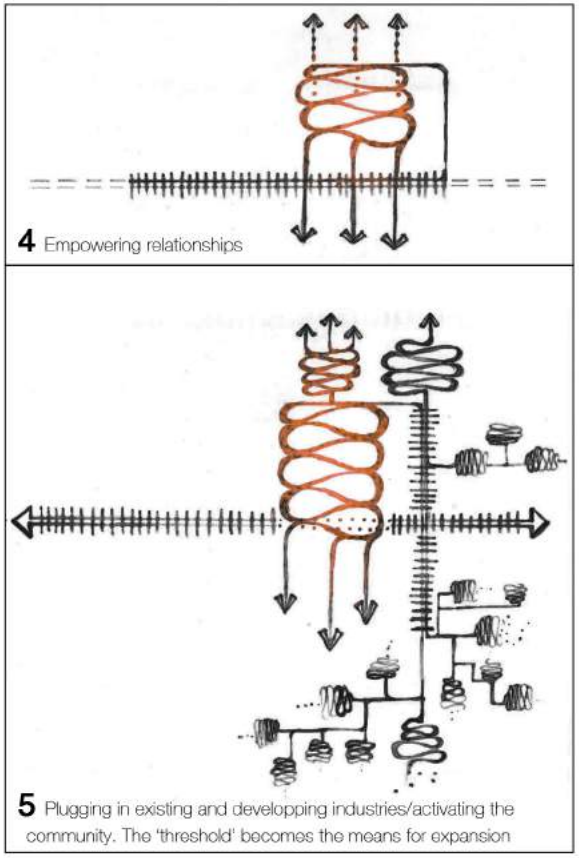
The Manhattan Transcripts: Transcribing an architectural interpretation of reality

_EVENT, SEQUENCES AND SUPERIMPOSITION

The scheme promotes the ability of **renewal**, **mutual exchange** and **[re]production** upon and within the city and its spaces. [Re]production suggests a definition of continual updated and/or proactive ability to change through 'action' upon empty, unused 'voids' that are transformed perpetually under the temporalities of society.

The building acts as a **mediator**; a filter between temporary and permanent processes that take place on site, while exploring the rhythm of event space. The objective is to create a **'permissive' place** that includes whatever is unexpected, a place that defines itself without predefining everything, that enables encounters in fusion and breaks down barriers between the energy of today and new modes of exchange, between public and renewable energy technologies. This exchange is achieved in the scheme via **transformable boundaries** which merge its internal spaces with its external ones. A questioning of these boundaries and limits evolves into a **hybridization of architectural programmes and spatial hierarchies**.





Diagrammatic representation of the intervention's development and aims

_arch. discussion

_EVENT, SEQUENCES AND SUPERIMPOSITION

Here, a parallelism with Jaques Tati's movie *Playtime* can be made. More specifically, Tati makes a strong reference to **boundaries**, **visual perception** and **perspective** in a scene which unfolds from the street level and where two neighbouring apartments, whose glass fronts granting little privacy, watch separate television broadcasts, while the composition makes them appear to be interacting. As emphasised in Playtime, my approach is a **direct response to the public realm** created by consumer-capitalism and is taken a step further in the scheme's design, which builds upon notions of both **conscious and unconscious perception of technology** and the principle of continual super-imposition of function and meaning onto space. Both the 'producers' and the 'consumers' must act as an **interconnected relative relationship;** they should never be absolute as to provide for **flexibility** and to **obtain freedom** in social sphere.

Playtime: Sequence of images illustrating residents of neighbouring apartments appear to be physically interacting via a TV screen

_[RE] COVERY AND TRANSITION

re·cov·er

1. a return to a normal state of health, mind, or strength

2. the action or process of regaining possession or control of something stolen or lost

[Oxford University Press, 2013]

Conceived as an **experimental energy recovery and film centre**, the building offers a rhetorical artefact that seeks to interrogate models of sustainability and green architecture. Corner underlines, "The term **recovery**, implies something once lost, devalued, forgotten, or misplaced is found again, retrieved, and brought forward with renewed vitality" (1999, p.10). Implied here are meanings of **repossession**, **taking control**, and the **regaining of health and normalcy**, which are all associated with land disputes and the marking of territory since antiquity. Recovery carries with it therefore a double connotation; on the one hand, one looks into **exhilarating prospects** (optimism, hope, re-emergence) and on the other hand, it implies a degree of **possession and nostalgia**; both of the fore mentioned are interrelated with regard to **landscape** and the **human body**.

The presence of film becomes a catalyst to fully immerse captives in a **play with 'rules' and 'limits'** to flux the state of mind between the **real** and **unreal** and the role of **spectator** or **spectated**.

'The cinema', thus the film centre, is 'instrumental in producing and corroborating an investment in events, in dividing temporality to elicit eventful and uneventful time' (Doanne, 2002, p. 144), while it participates in its rationalization which characterizes the industrial age. "Economy" is a fundamental value of the developed narrative film, and the efficiency of electricity is paralleled by the efficiency of narrative' (Doanne, 2002, p.162)

The building can be experienced as having three identifiable strands that evoke the passing between layers of polarized worlds; **backstage**, **transition**, **theatre/stage**. The fracturing of its tectonic evokes the qualities of **cinematic immersion**. The spectacle is constantly shifting, becoming blurred as the architecture dissipates into its immediate surrounding.

_RECOVER: WHEN THE CITY TALKS BACK

The building renders the image of a possible future where **citizens produce part of their energy requirements with their own physical activities.** Embedded in the building are several pieces of fitness furniture. Protruding stationary bikes, assorted weights and other kinetically powered mechanisms encourage residents to engage in various physical activities to both stay fit and generate energy to partly power the scheme. A **"loose fit"** is proposed between **activity** and **enclosing envelope**. **Transformable barriers** and **interconnected routes,** allow occupants to view a number of activities in the building at once, creating a dynamic and appropriately active sense of space. The building explores the architectural scale of sustainability by investigating how energy efficiency criteria can be incorporated into architectural practice itself—for example, through the design of the centre as an active energy production unit.

Furthermore, the proposal investigates the economic scale of sustainability by offering a model to **'unblackbox'** domestic and partly public **energy consumption patterns** through the use of different display devices and monitoring tools—like smart energy meters or saving energy devices—, community energy networks, and through the implementation of **'energy mortgages'** that will use energy savings to pay off house mortgages.
Electricity, as a generative form of energy in the building proposal, signifies not only a technological form of death but also a compression of time and process. "For electricity", as Doanne emphasizes, "seems to effectively annihilate delay, the distance between cause and effect, and to evoke the idea of the instantaneous" (2002, p.151).

Finally, the building addresses the neglected **socio-cultural scale of sustainability** by revealing how the two previous scales will remain ineffective unless they are followed by the inscription of a new set of habits and practices into the body politik. Through the proposal, the metaphor of the **body politik** is brought to its literal extreme, by illustrating how the achievement of sustainable futures will require the production of new bodies; bodies that can be productively **mobilized** within the public space as **active agents** in the process of energy and cultural production. As Sassen underlines, "**urbanizing technology** is one of the critical factors in contesting the deurbanizing of cities and in making cities these places that are complex and incomplete; and because they are incomplete they can keep reinventing themselves, being remade".

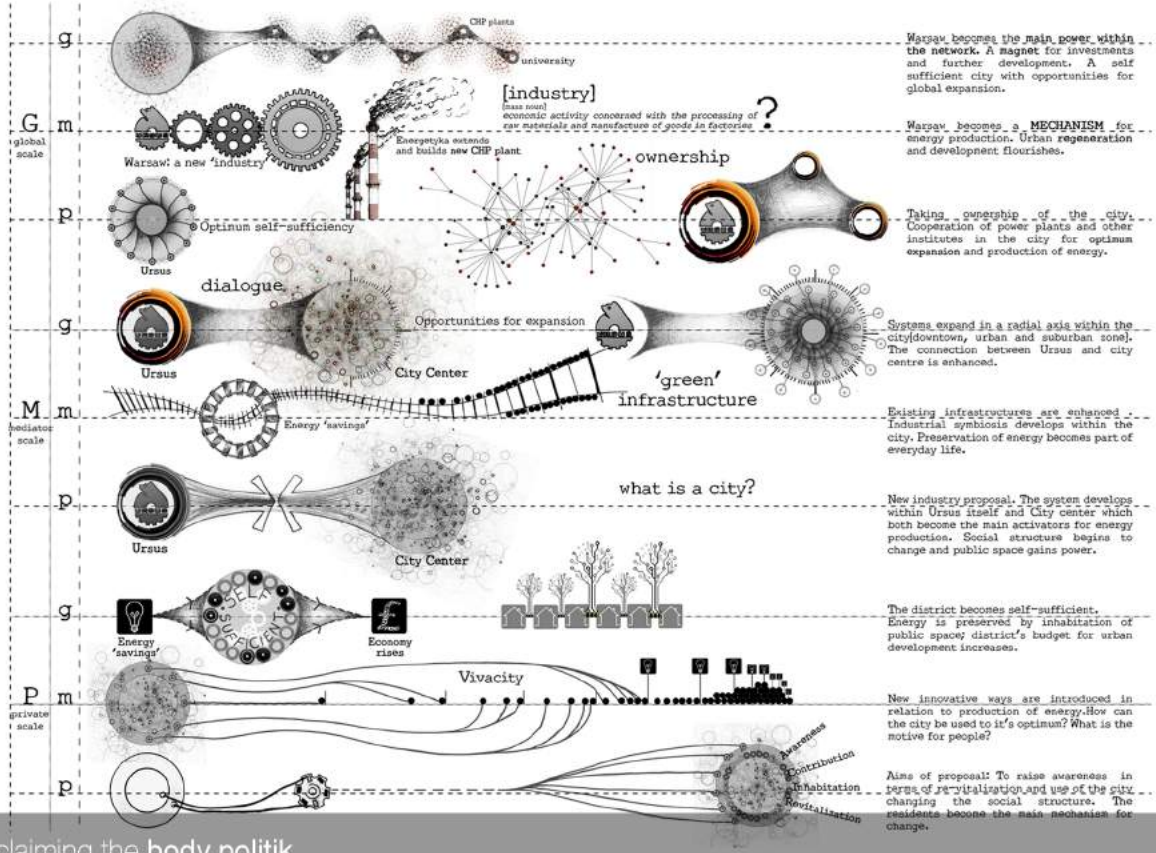
Creating and enabling the use of **new technologies** is therefore **reindustrialization's strategy central point.** However, the emergency of a **'cultural re-industrialisation'** which educates/'fabricates' active citizens and unfolds within the field conditions of the urban is also crucial for the achievement of a truly sustainable future.

_urban strategy

_'NESTED SCALES'

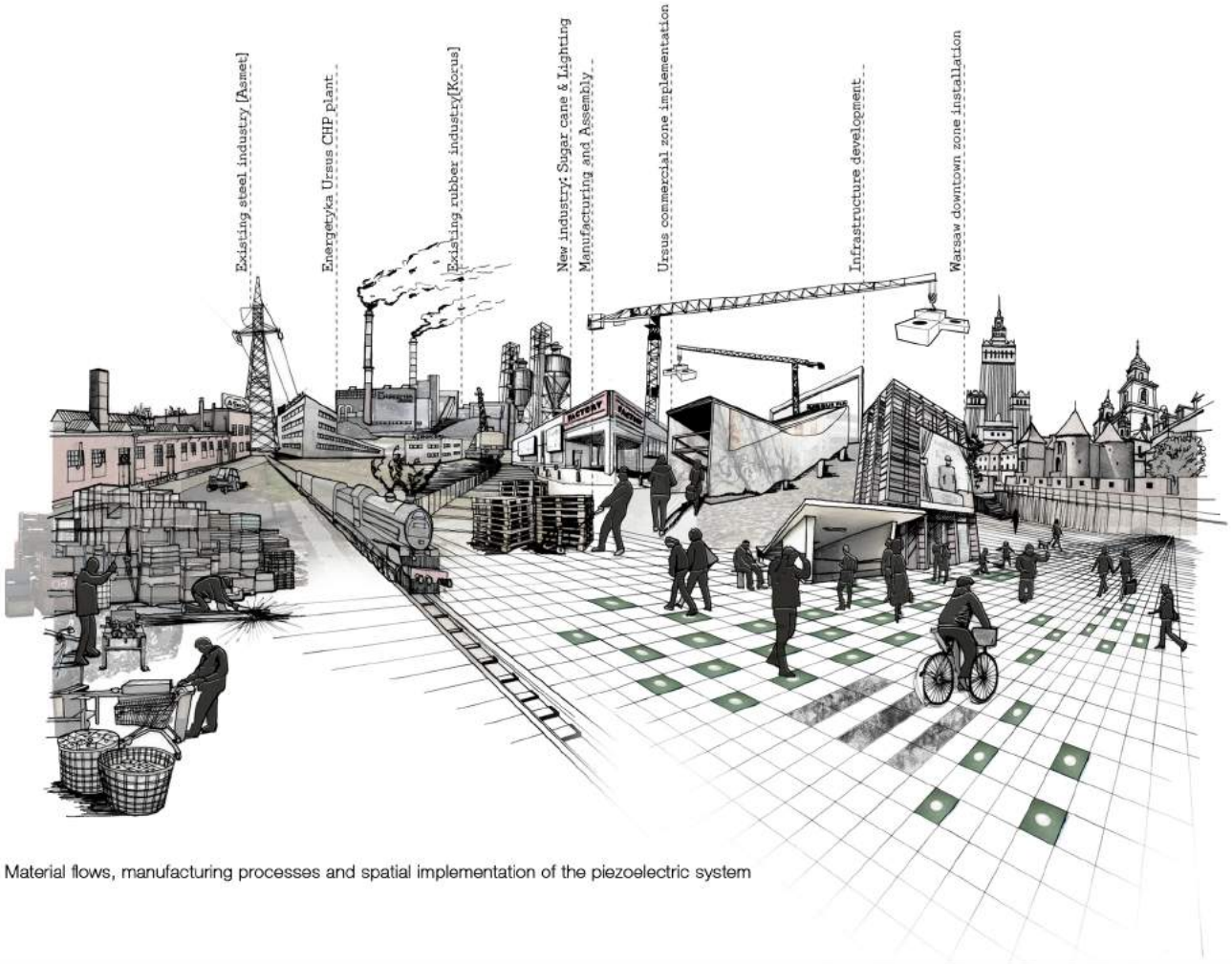
Ursus at the moment can be characterized as **the edgeland of the city**. The urban strategy proposal builds upon **existing synergies** on site to achieve an **industrial symbiosis** and bring socioeconomic growth to the area.
A brief review of history and in particular the Industrial Revolution, it's quite apparent that economic growth is inextricably linked to **energy.** As energy is tied to our economy, our future is dependent upon equitable access to energy. However, its current **production and consumption still remains a 'passive' process**, while the need for renewable/innovative ways of producing energy continues to rise. Energetyka Ursus, being the main power plant on site, has the ability and the infrastructure to provide energy to the whole area, but at the moment it doesn't, since it relies on external factors. MORE????

Based on Lefebvre's theory, the strategy interpretes the **heterogeneity of cities** and their **'creative surplus'** as a source for the **revolutionary transformation of society**. It concerns not only the need for **interactive ways of generating energy** to achieve optimum self sufficiency, but also introduces **a new landscape** in which social encounters take place and are being metabolised. Translating Lefebvre's theory into a complex diagram revealed how material flows and processes produce the site and enabled the exploration of variously scaled thresholds and invisible physical/social boundaries.



_SPATIAL APPROACH

The strategy aims to integrate Ursus within Warsaw and achieve optimum usage of the city; residents become owners of the city and social interactions begin to flourish. As Castells states 'Spatial transformation must be understood in the broader context of social transformation: space does not reflect society, it expresses it, it is a fundamental dimension of society, inseperable of the overall process of social organization and social change' (2000, p.574)



Material flows, manufacturing processes and spatial implementation of the piezoelectric system

_SOCIAL APPROACH

Alongside the nested and detailed manufacturing and recycling programme for a circular economy, a strong socioeducational agenda is another key facet of the strategy.

The social aspect is based on the optimum use of public space;this is how the residents can use their city to its optimum and be able to contribute in urban regeneration and development. For this to be accomplished, a motive for people is essential.
Education engaging with innovative ways of producing energy will occur simultaneously and often as a completly integrated package. This integration will occur in schools, in residential areas, in transport hubs and in shopping malls around the city.

The social aspect of the strategy was seen as a key to bring together diverse social groups, not only to reducing the gap between production and consumption, industrial and commercial zone, but also to enable people's understanding of energy production.

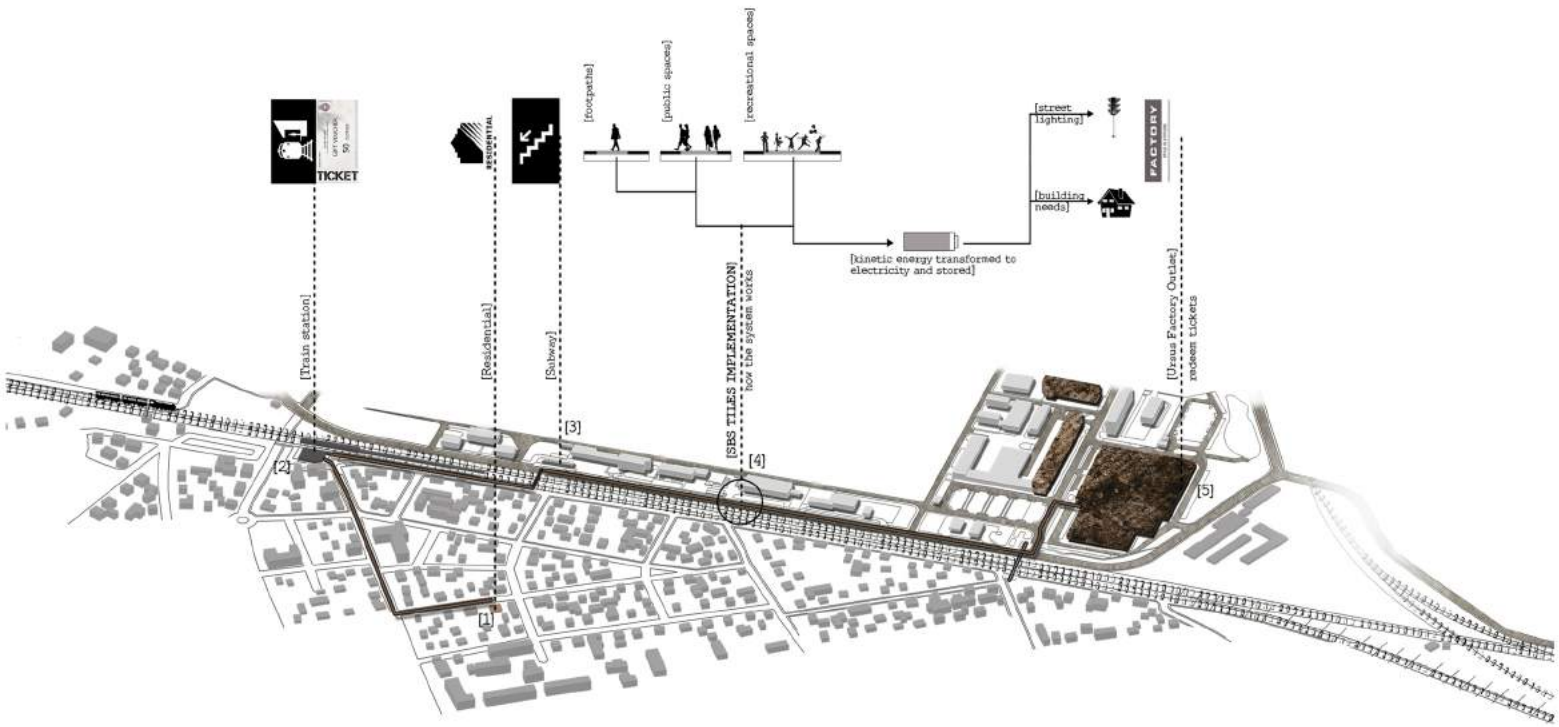
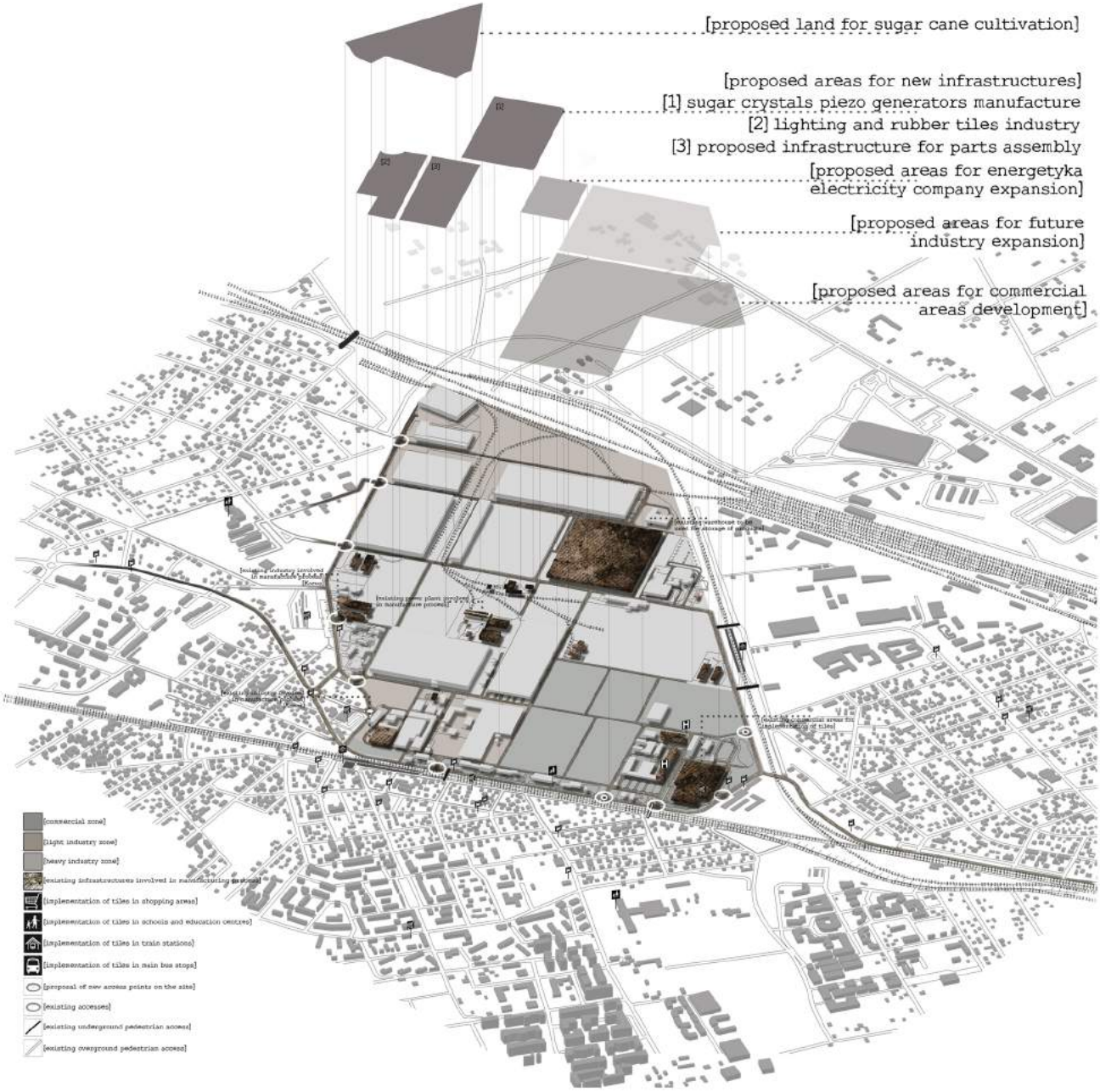


Diagram illustrating an example of the social implementation strategy

_URSUS IMPLEMENTATION



Drawing illustrating the break-down of the site into zones (commercial, light and heavy industry) and the spatial implementation of the energy system

_summary of brief

_'URSUS ENERGY EXCHANGE FACILITY'

The brief builds on the identified contxtual issues by recognizing that Ursus is in need of an intervention which mediates between the community and the growing industries, embraces and empowers all members of society.

Why is it needed?

Ursus relies upon the external; purchasing and relying on resources outside the local area and the city of Warsaw. There is a need for this to be changed especially due to its negative effect on factories and local businesses on site. Many parts of the Ursus Factory which were once vibrant parts of the area are now deprived. There is a need for **reinvigorating** and **regenerating** these buildings and the communities that surround them.

The programme will be created to **raise awareness on re-use and energy systems**, as well as and to **provide experimentation with their digital applications** (i.e on the film industry). Furthermore, it can act as a **marketing tool** to address local, regional, national and even global issues on energy. Promotion is necessary for people to **adopt a new way of living.**

Exchange

Exchange is seen as a powerful act that encourages **community action**, **regenerates the area** and **blurs the district's boundaries.**

A developped community will generate a **stronger identity**, **develop social capital** and **improve the well-being** of its citizens. By improving their well-being, exchanging knowledge and skills, while experimenting with developping technologies, the site will attract new business investments and increase the number of local businesses.

Economy

The brief is based around creating a viable, positive economic boost at the city of Warsaw, improving the city physically, visually, strengthen local communities and promote the city's cultural and industrial identity through 'exchange'. This exchange is built upon an existing regional framework and then expanded to a national scale.

The programme has the opportunity to **create jobs** for the (young) unemployed people, **allow a working platform** for skilful artists and researchers to **[re]employ skills** and volunteering opportunities.

The economic benefits concern all users; producers, retailers, artists, consumers, researchers.

Vision

The new energy exchange facility will become the **mediator** for the community at the heart of an industrial site. It will provide various interpretations of public space which will act as **a platform for possibility.**

The building will also aim to transform the mind-set of users from that of a passive, dependent society to an **active** and **self-reliant.**

Through research and education, the aim is to **[re]adapt our lives and way of living into a new model city.** By proposing this new model and utilising existing technologies in a creative way, will transform not only lifestyles, but also communities and whole areas within the city. The approach will set a precedent and will **[re]define a new generation of energy recovery buildings**, making Ursus an example to follow.

_summary of brief

_URSUS ENERGY EXCHANGE FACILITY

Context

Ursus has a strong **industrial heritage**. With the decline of the ZPC Ursus SA Factory and its associated industry, the city has now entered a post-industrial phase. However, the **infrastructure** that was required to support industry largely remains in place, with huge **void sites**, where warehouses or storage areas once stood and **derelict industrial buildings**; making the site more of a **machine culture** rather than human.

After the transformation of the political system in 1989, along with industrial decline, a major part of the old plants was divided up and leased out to private tenants until 2003. Currently, developers are planning to restructure part of the land occupied by the old factories in the New Town of Ursus – a residential district with fully developed social facilities for 30,000 inhabitants. The district faces the challenge of finding **a new identity** between the continuation of its industrial past in a new incarnation, and a bedroom-city for those working in the central areas of Warsaw.

A major challenge that Poland faces at the moment is **unemployment**, reaching 12.4%, while some of the problems in Ursus include the growing rate of occupational inactivity, the ageing population, the competing attraction of central Warsaw and environmental threats.

Function

The energy recovery and film centre should respond/build on the existing context. The building should:

- address the present spatial issues in the city by **questioning the role of 'public social space'**
- promote **awareness of energy production** and saving through **interaction with public space**
- provide **educational amenities** for local people, workers, students, visitors. Such amenities will specialize in prominent fields within the city such as film, art and technology
- create **job opportunities** in the industrial and cultural sector
- support further scientific and aesthetic development **research in energy systems** with the simultaneous development of the derelict building as a research and technology centre
- **collaborate with existing industries** (i.e ASMET) to utilize waste creatively
- increase the opportunity for the **exchange of knowledge and skills** to promote shared experiences and memories
- **provide a model to disengage domestic and partly public energy consumption patterns** and a catalyst for retail, to spark an economic revival
- **enhance communication** between the industrial, commercial and residential sectors
- **embody sustainable principles** to act as a precedent for future designs within the city and region
- **encourage a sustainable way of living and well-being**
- **reconnect the producer with the consumer**, unlike the existing consumerist system
- **support a range of functions** that utilise different spaces both inside and outside the standard operating hours in order to be accessible and inclusive to a wide range of people
- **promote** the use of innovative, **cradle-to-cradle technologies** in their construction and maintenance and the processes and functions within
- **support and collaborate with developing industries and economies** on site (such as the lighting industry)

_summary of brief

_ENERGY AS A CREATOR OF SOCIAL BONDS

Key Spaces

The overall building size will be between 2000 to 3000m². There should be a mix of small/ medium/large-sized spaces, and a mix of private/semipublic/public spaces, as appropriate.

Productive Space: 37%
The primary space in the building involves active production of energy through physical activities and initial material processing, intermediate stages of processing or assembly/finishing/packaging for domestic use.

Exchange/Education Space: 35%
This space involves public interaction through the exchange of knowledge and skills. Moreover, this includes 'public interface' to exhibit produce or educate primary, secondary or tertiary users.

Ancillary Spaces: 28%
Toilets and changing facilities, administration and plant room. Circulation and suitable storage space is also required.

Funding

Poland is currently receiving large amounts of EU funding as part of the 2007-2013 as part of the European Cohesion Policy. A likely source of funding would be the European Social Fund (ESF) and the European Regional Development Fund (ERDF) which support projects across Poland and Europe to promote social and economic cohesion. Over 10 billion has been made available for investments in 'Human Capital', 'Innovative Economy' and 'Technical Assistance' from the European Social Fund.

Other possible sources of funding:

Participatory funding:
Community trusts and cooperative networks, international synergies (industrial ecology solutions)

Institutions:
University of Warsaw, Warsaw University of Technology

Critique

The building brief identifies the socioeconomic resources in the city. It also, along with the briefing document is successful in identifying spatial conditions, such as the existing industries and urban voids on site. It does however, lack progressive consideration of the **developing industries and economies** which may hold a potential for reindustrialization. For example reuniting the separation between the city's **technological growing sector** and the **manual workforce** has the potential to modernize and increase the industry's efficiency.
There also needs to be a further discussion about the types of skills which exist and the skills which are required to establish new ventures.
Furthermore, the brief could have expanded on questioning the **role of the local population** in the actual construction of the building, as a starting point for social interaction.

_brief development

_URSUS ENERGY RECOVERY AND FILM CENTRE

Function

The building provides recreational activities for promoting well-being, as well as educational facilities to improve, modernize and urbanize technologies linked with energy production and consumption. The skills taught are applicable for the manufacture of products like stationary bikes, assorted weights, furniture and lighting devices. Some of the provided facilities promote the use of prototyping design and manufacturing technology. Acting as a basis of community education and training, the workshops work collaboratively with ASMET, the aluminium factory and with the new research centre for renewable technologies proposed in the old derelict building The building also provides a temporary media gallery and exhibition space to relate to the adjacent train station, working as an advertising means to bring people into the centre. Being a catalyst for the surrounding area via uniting the community with the industrial processes on the north of the site, the scheme also hosts an internal and external film centre. This reinforces the building's role, as a gathering place, while it becomes the means to record the 'formed image' of the body's politic and project the impacts of urbanizing technology.

Aims

Promote and facilitate a conscious understanding of the production and consumption of energy, bring together various groups of people, showcase and contribute to the urbanization of growing technologies.

Spatial areas

Basement

Changing Rooms (Male/Female)	111 m²
Plant room	166 m²
Circulation	127 m²
Basement Total Space:	**404 m²**

Ground Floor

Administration	104 m²
Energy recovery gym	388 m²
Workshops	236 m²
W.C.	40 m²
Cafe	9 m²
Circulation	339 m²
Film Centre	300 m²
Ground Floor Total Space:	**1416 m²**

First Floor

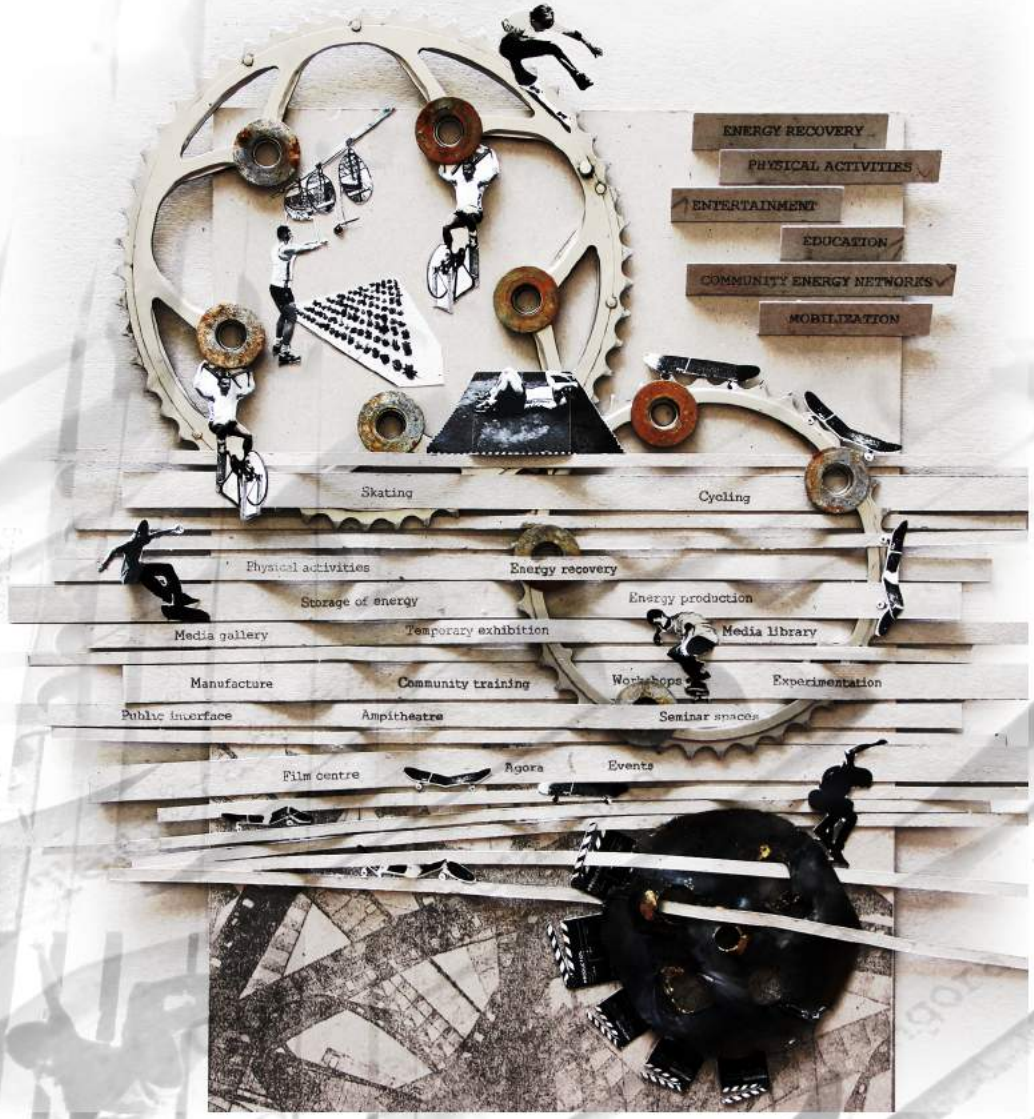
Administration	102 m²
Media Library/Resource space	228 m²
Media Gallery	230 m²
W.C.	40 m²
Kitchen/Eatery	36 m²
Circulation	367 m²
First Floor Total Space:	**1003 m²**

Total: **2823 m²**

_brief development

_PROGRAMMATIC COLLAGE

The following conceptual collage illustrates how parts of the building's programme **interweave** with each other via people's **mobilization/physical activity** and through the introduction of new **'machines' of energy production**. These technologies, with the passage of time, start to get **embedded** and **celebrated** in the landscape to conclude, as illustrated, in the film centre, forming a projection of the body politik and a new model of sustainable living.



_site analysis

_IDENTIFYING THE SITE

The chosen site is within the, as identified from the strategy, commercial zoning area. It is currently disused and restricted from public access. The site was selected for the following reasons:

_The space is significant in Ursus Factory's history but is disused and innaccessible
_It is a central point to both the proposed commercial and industrial districts and is therefore appropriate for a catalyst building to regenerate the area
_It acts as a gateway to welcoming visitors to the area
_It is adjacent to 'Warszawa Ursus' railway station and therefore can therefore become a paradigm for its use in spreading materials and trade
_It is also surrounded by the most historic, on site, derelict iron foundry and a steel factory (ASMET)
_There are valuable robust structures and materials existing on-site

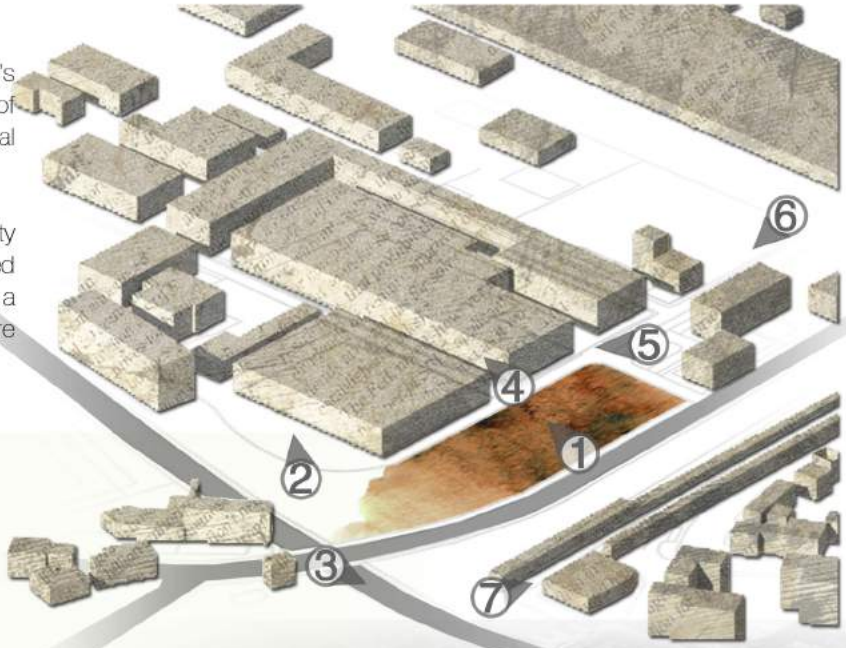
_site analysis

_SITE CONDITIONS

The following pages illustrate photographic documentation of the site and the existing structures surrounding it. All the buildings are of a similar age and therefore exhibit similar **detailing and materiality.**

The site is bordered to the south by the city's **railway**, linking Ursus with the city centre of Warsaw. **Warszawa Ursus** provides both national (PKP) and local (SKM) services.

The proximity of the railway presents an opportunity to transport sustainably raw materials to and finished products from the site, around the city and in a wider area. The site also has space for future expansion .



_SITE CONDITIONS

①

View of the site and of the buildings fronting it (ASMET on the left, derelict iron foundry on the right)

②

Side view of the aluminium foundry (ASMET)

_SITE CONDITIONS

③

⑦

④

⑤

⑥

_TOPOGRAPHIC CONDITIONS

Density

Ursus district has a variety of different densities throughout. As the figure-ground diagram clearly shows how the the mass scale industrial core is surounded by homogenous residential pockets at a very human scale. Whilst there are some dense areas, the majority of the site and indeed the rest of the district has many voids due to abandonment, demolishion and disuse.

Figure ground diagram of the area

Topography

In general, the topography of the land is relatively flat. Particularly on the industrial site with very little variation on ground levels.

Ursus has over the years developed without some sort of urban planning, resulting in the pattern of "scattered" buildings and roads/streets developing in the spaces in between the buildings. The railway is signifficant as it acts as a barrier dissecting the Ursus District in two with very little connections between the two.

The proposal should promote movement on a North-South axis, to reduce this linear emphasis created by the railway and regenerating the 'commercial' part of the site. The chosen site is flat; this means that the proposed strategy is also easily accessible to people with limited mobility. The heights of the buildings, especially the derelict iron foundry, along with a grid of straight streets work as significant landmarks and can help raise awareness of the scheme.

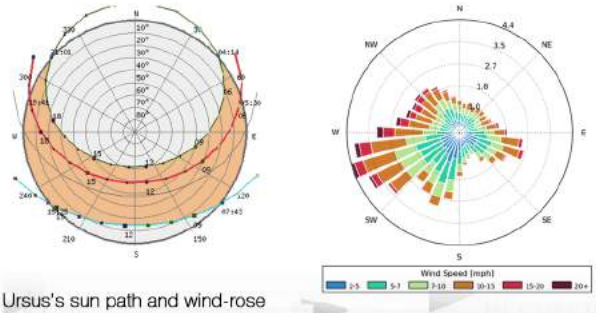
Furthermore, the platforms of the railway station opposite the site, are on an embankment several metres above the ground level. Therefore, some clear views across the railway towards the site are provided, which capture the visitor's/traveller's attention.

_ENVIRONMENTAL CONTEXT

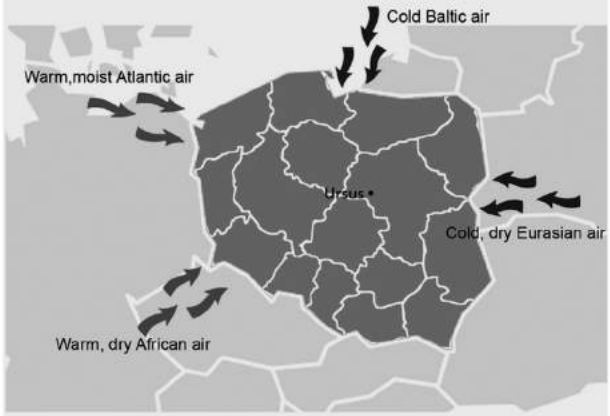
Ursus has a moderate climate of both maritime and continental elements. This is due to humid Atlantic air which collides over the whole of Poland's territory with dry air from the Eurasian interior.

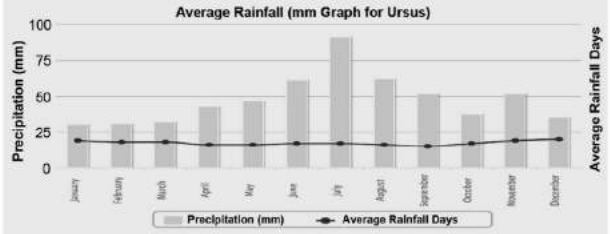
The average temperature in Ursus, ranges from -6°C to -1°C in January and from 13°C to 24°C in July.

The site is **south facing**, making the area a suitable lit space to constitute a public square. **Noise** from the main road and railway station in front of the site is also an important factor that should be taken into consideration when designing the building.



Ursus's sun path and wind-rose





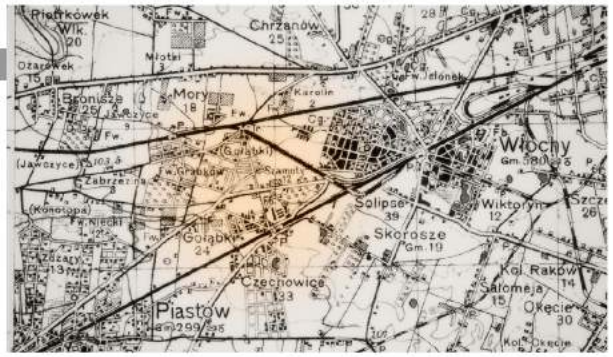
wind and rainfall conditions

_spatial issues

_HISTORICAL ISSUES

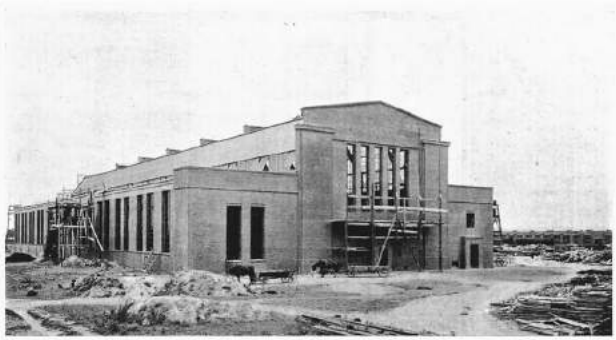
Ursus has a complex and turbulent history.
The immediate historical context is the collapse of 'really existing socialism' in Poland (1989) and the adoption of a neo-liberal, based on consumption model of city development. It has lead to a concept of 'Miasteczko Ursus' – residential district based on the 'cappuccino city' idea.
The factory, which produced tractors built in 1924-1928, employed 30, 000 people in the 70s and produced 50, 000 tractors per year.

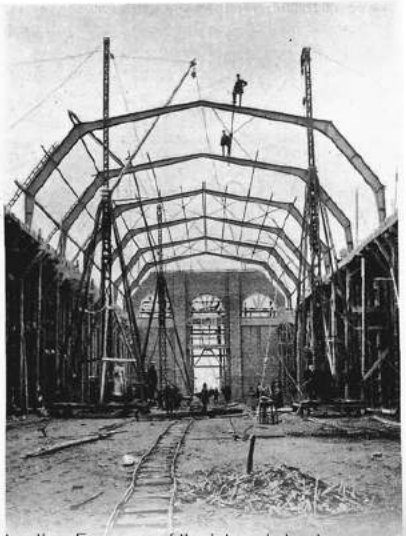
Early maps indicate the factory was situated near the train line out of Warsaw which is very underdeveloped at this point. However, the rapid development of the industry meant accommodation for the workers also had to spill out into the neighbouring land. Today we see in comparison the land surrounding the industrial enclvave has rapidly over time been swallowed up by residential developments.



Historic plan of 1938

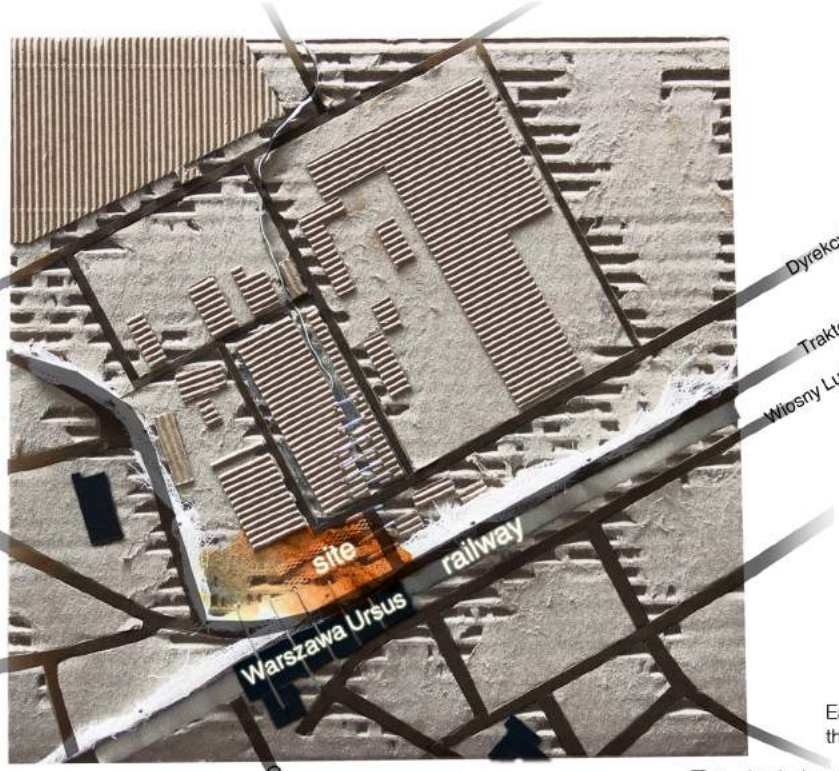

Development of the district from 1934-today


Ursus Factory under construction


Under construction_Exposure of the internal structure


Elevation of the factory 1929

_CONNECTIVITY



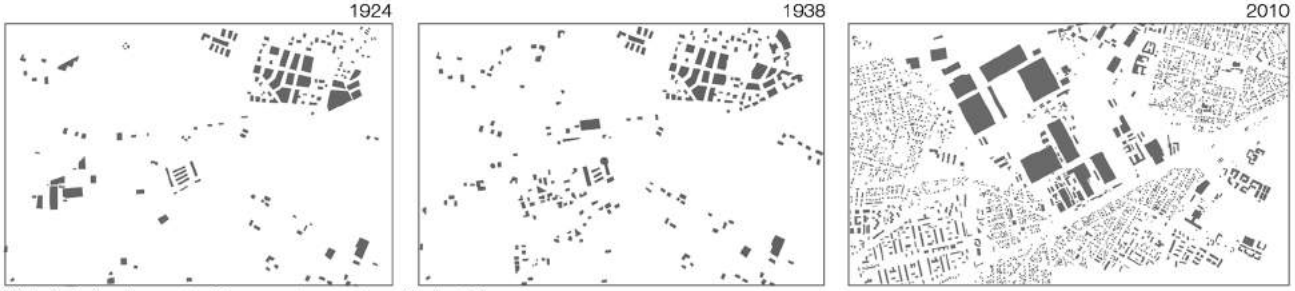
Preliminary model exploring connectivity, landmarks and field conditions

Early proposition emphasizing on connectivity between the train station and the derelict industrial buildings

The site is located at the southern side of the Ursus Factory area. Historically, this site has developped due to its function as a nodal point between trade routes to the forests, between industries and to Warsaw. The fact that it is also very close to the railway station, makes it a catalyst place to distribute knowledge and products throughout the city as well as to also enhance/activate social interactions.

KEY:

- landmarks
- industrial buildings on site
- road network
- field conditions

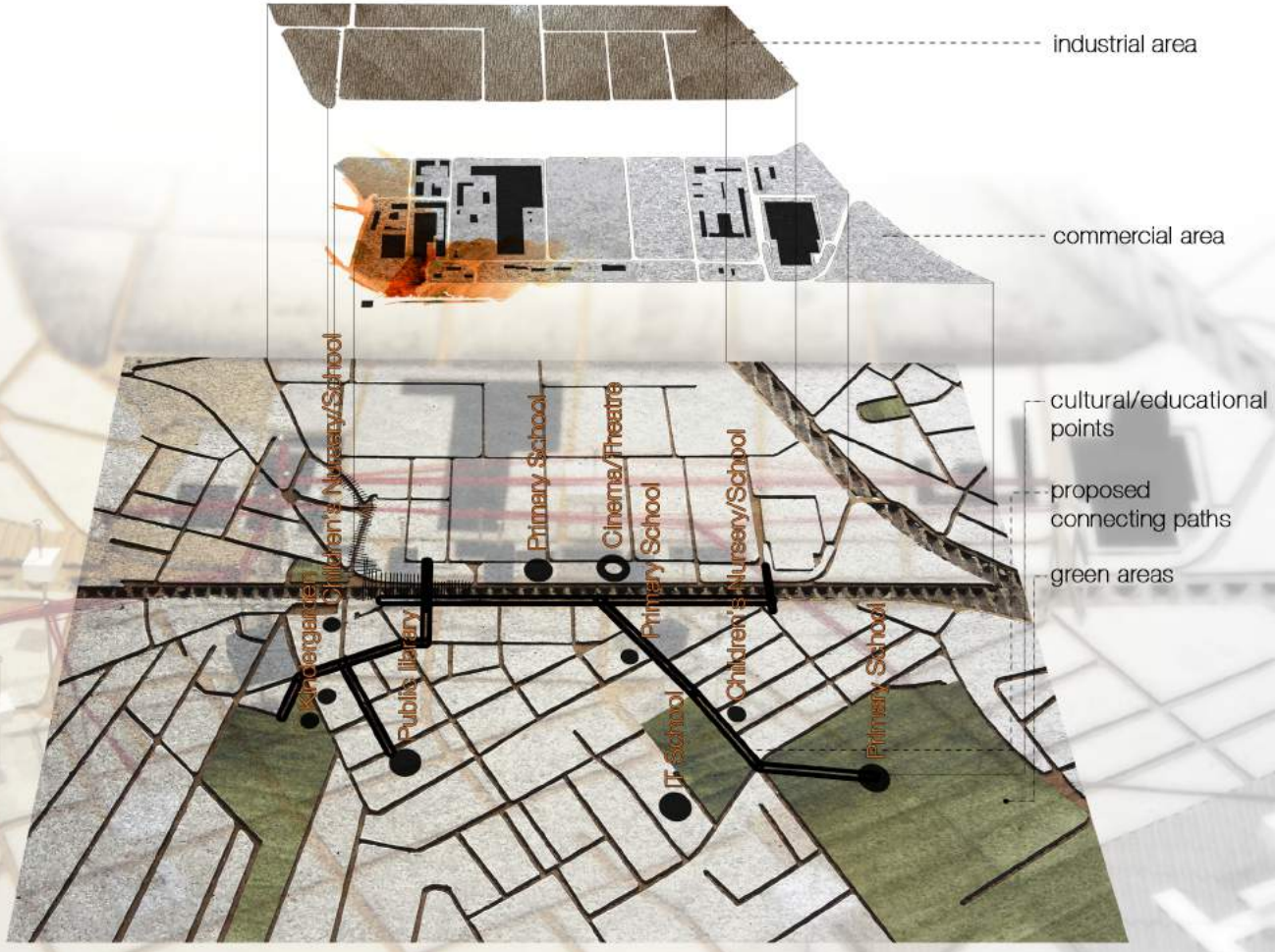


Historical development of Ursus as transport and industrial node

_spatial context

_CONNECTIVITY_MASTERPLAN

The following diagram highlights the industrial and commercial zones, as identified from the strategy, and identifies, from the land use analysis, significant connectivity/circulation axes, which connect the proposed scheme with important educational, recreational and cultural points. Moreover, these axes emphasize on the integration of the two sides, via a new proposed overground connection, while the building acts as a mediator for this to be feasible.

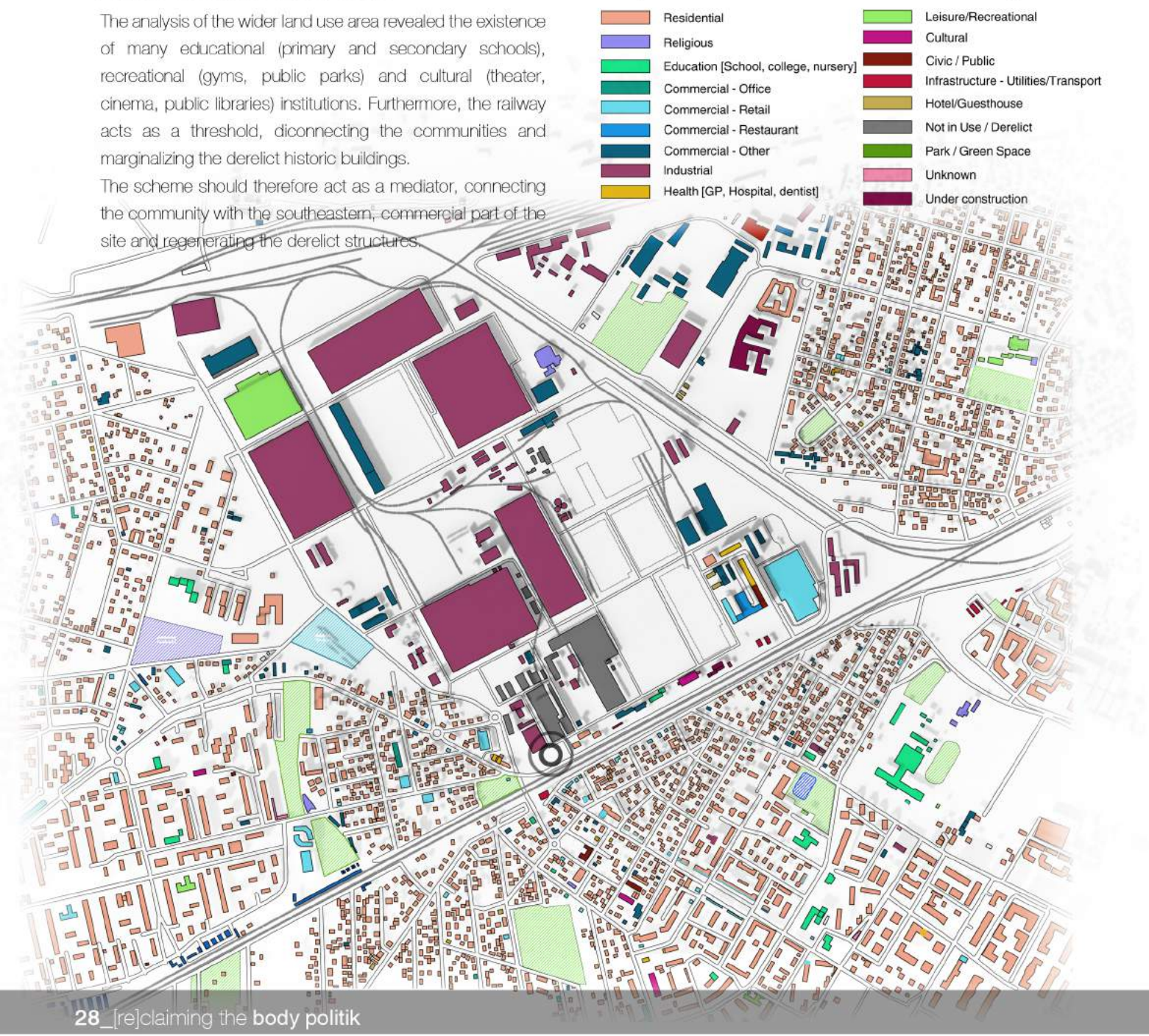


'Points and Lines'
Masterplan model_1:5000 Scale

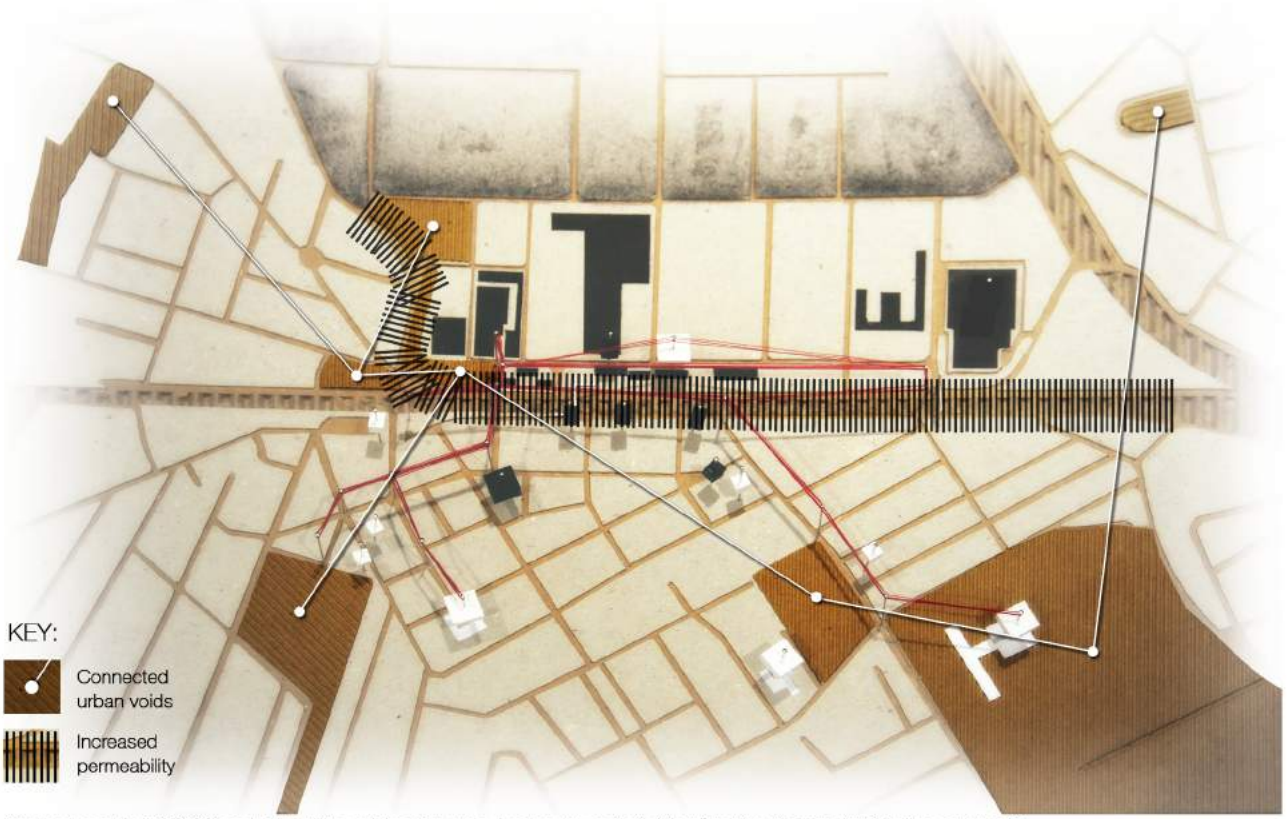
_LANDUSE MAP ANALYSIS

The analysis of the wider land use area revealed the existence of many educational (primary and secondary schools), recreational (gyms, public parks) and cultural (theater, cinema, public libraries) institutions. Furthermore, the railway acts as a threshold, diconnecting the communities and marginalizing the derelict historic buildings.

The scheme should therefore act as a mediator, connecting the community with the southeastern, commercial part of the site and regenerating the derelict structures.



_SITE SUMMARY



Physical model at 1:5000 scale illustrating site's main axes, landmarks and significant points of interest within the community

In order to address the issues noted previously, my scheme begins by considering possible interventions within the derelict urban voids that can prompt the establishment of a **cultural productive space/machine.** The scheme, utilizing existing actors on site, inserts resources for education and energy production/recovery, while it allows specialist industries (i.e renewable energy systems) to develop within the existing derelict structures and work collaboratively with the proposed intervention. The connections between these resources allow skills and knowledge to be **shared symbiotically** between users, while it enables **experimentation with new technologies.**

The proposal addresses the existing inaccessible space in-between the derelict buildings and the train station, as well as the **linear nature** of the road by promoting **permeability** from Traktorzystow Street into the adjacent street network.
By developping a functional, visible and shorter link from the site to the train station and changing the function of Traktorzystow Street the scheme aims to create a place for (social) **active exchange** and **productivity** of tomorrow's body politik.

_initial proposals

_CONNECTIVITY

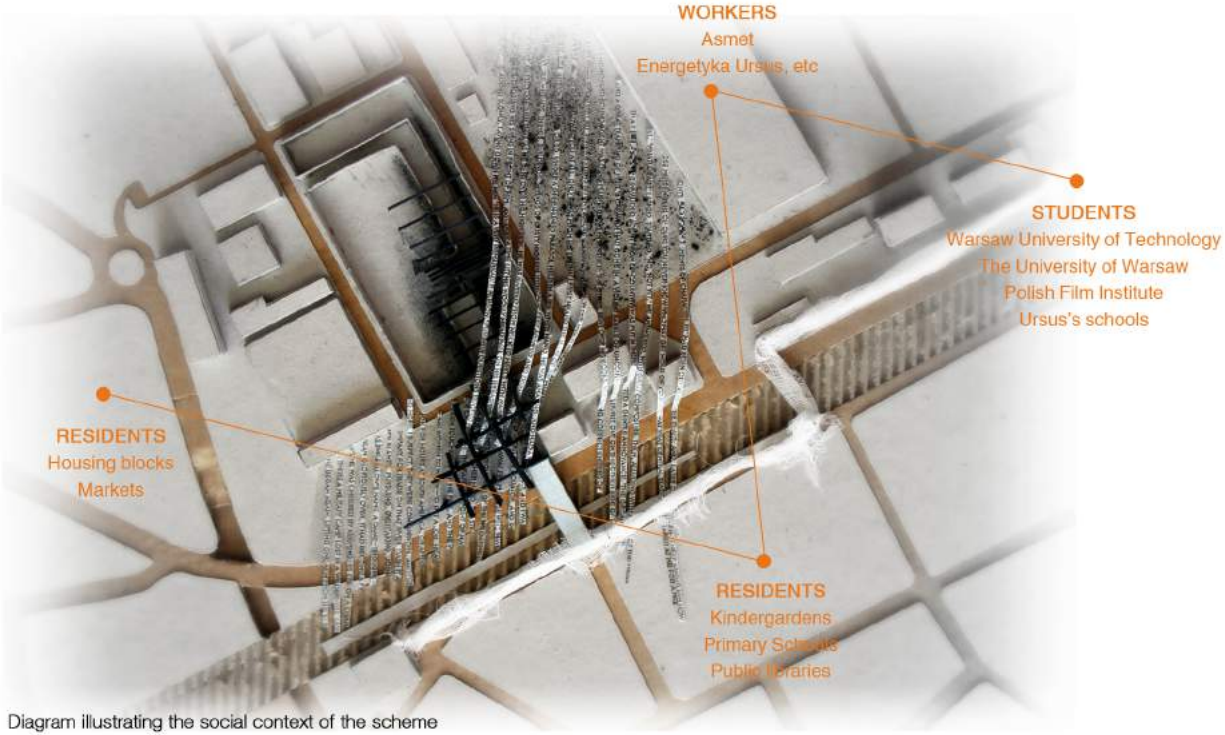
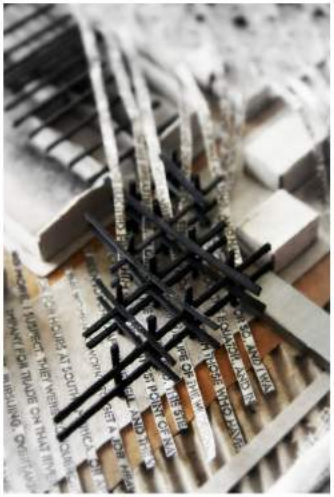


Diagram illustrating the social context of the scheme



Physical model at 1:1000 scale illustrating the intended connection between train station-derelict buildings (communal-industrial zone)

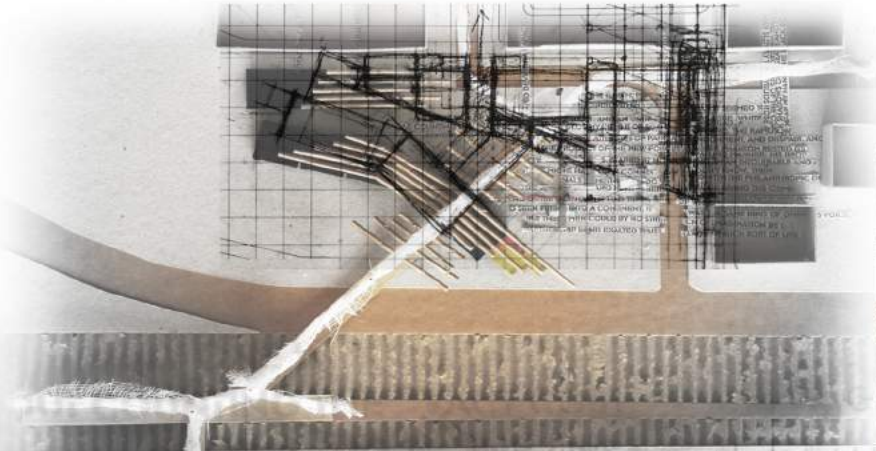
The site is a point of convergence between many **different communities and economies.** The building aims to **activate** and **bring together these communities,** while providing resources in this intermediate space, to **enable interaction, the exchange of skills/knowledge and to enhance the economy,** starting from a local scale.

The site proposal increases **permeability** on a north-south axis, challenging the linearity of Traktorzystow Street. It also aims to establish a **new connection** with the train station to facilitate movement to and from the site.

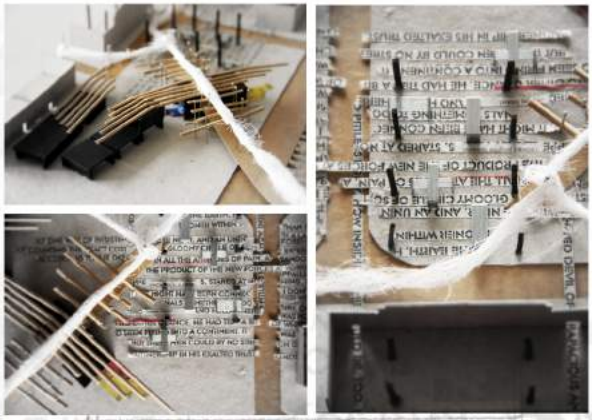
_initial proposals

_MOVEMENT AS [re]-CONNECTING FABRIC

Accessibility and **movement** from the train station to the site and vice versa, was a key issue that informed the building's design later on. Working at various scales with physical models, enabled the exploration of **existing thresholds** and revealed questions concerning the **limits of the site**, and **proximity** with surrounding structures.



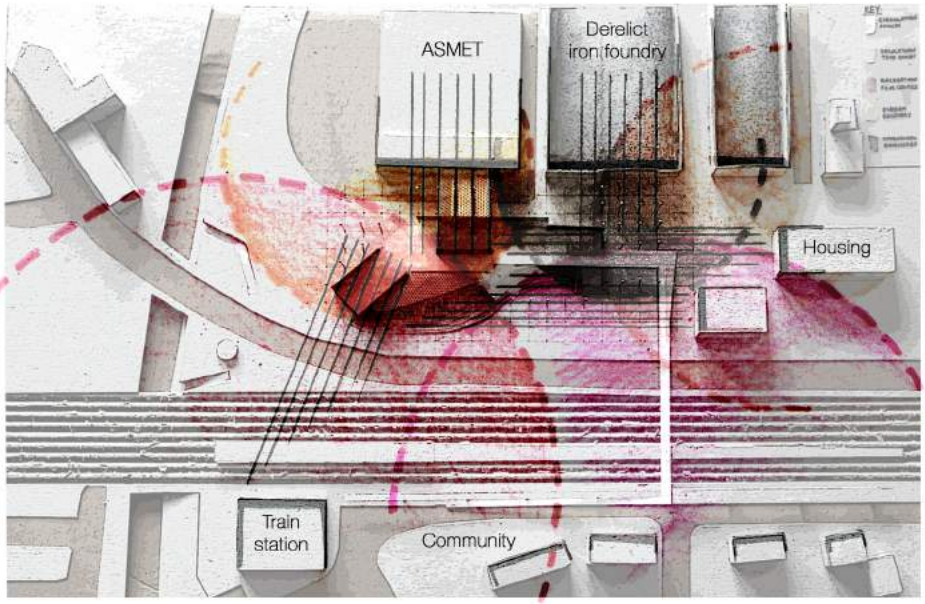
Physical model at 1:500 scale exploring a possible connection with the train station



Experimenting with the in-between field condition

Physical model at 1:200 scale exploring an alternative connection

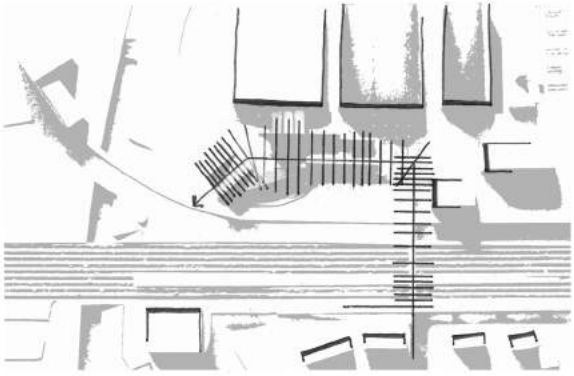
_AREAS OF INFLUENCE



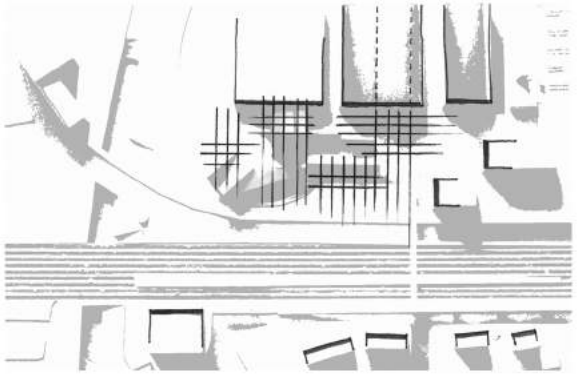
Areas of influence diagram

Analysing the site's areas of influence was key for the definition of **visibility** and **movement axes**, as well as for the detection of the landscape's **field conditions**. Moreover, the surrounding structures's **proportions** informed the design and programmatic approach.

All the forementioned acted as **forces** which shaped the building's spaces later on.



Connectivity diagram
Proposal for main movement through the building and density areas

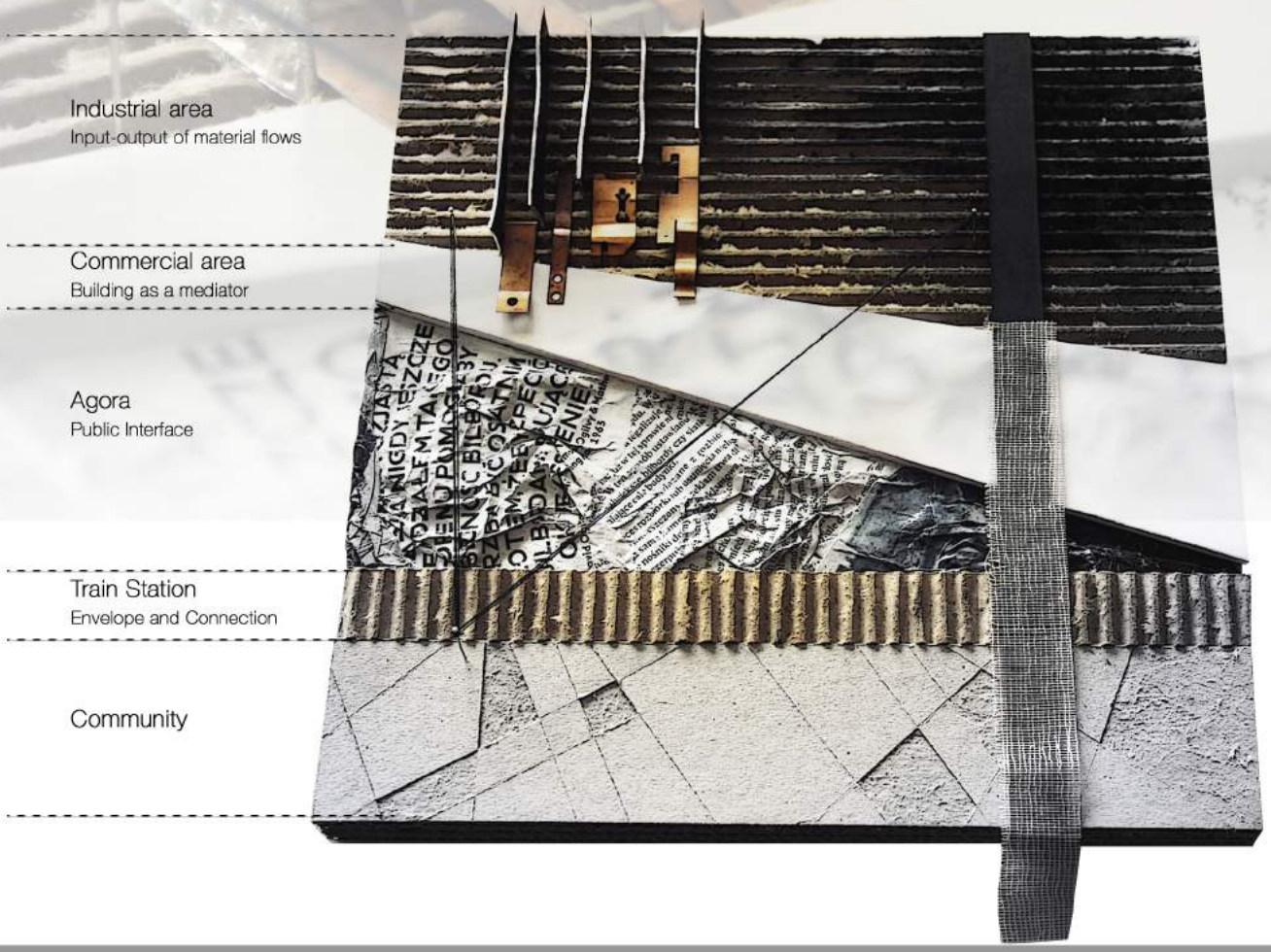


'Framing' diagram - 'Nested Scales' concept

_site proposal

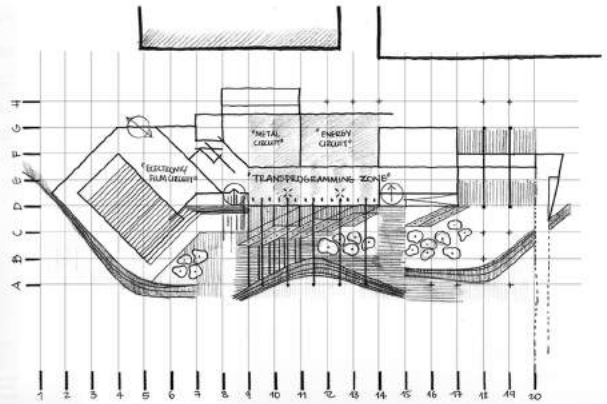
_RESPONSE TO WIDER INFLUENCES

The building acts as a **mediating device** between the oppositional parts identified in Ursus. As highlighted in the depicted model, the scheme aims to bring together, in a wider scale, Warsaw's historic **city centre** with the **periphery** of Ursus and the **University** with the **developing industries** on site via the railway. At a local scale the intervention intends to **[re]-unite the old** (established communities) with the **young** (growing communities), the **past** (industrial heritage) with the **present** (new technologies). The **'agora'** is the key public space where these realms come together, get infiltrated, 'exchange' and **symbiotically exist** with each other. Furthermore, the project looks at **facilitating movement and accessibility, enhancing the existing infrastructure**, as well as **activating and empowering the individuals** with knowledge from local sources.



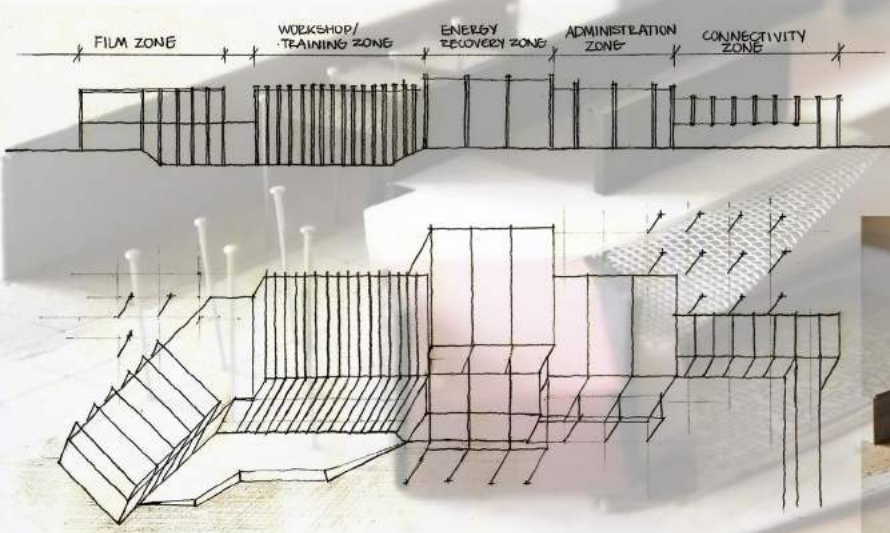
_REFINING BUILDING FORM

Physical model at 1:500 scale exploring movement and enclosure



Introducing a dynamic grid, defining activity fields and 'circuits'

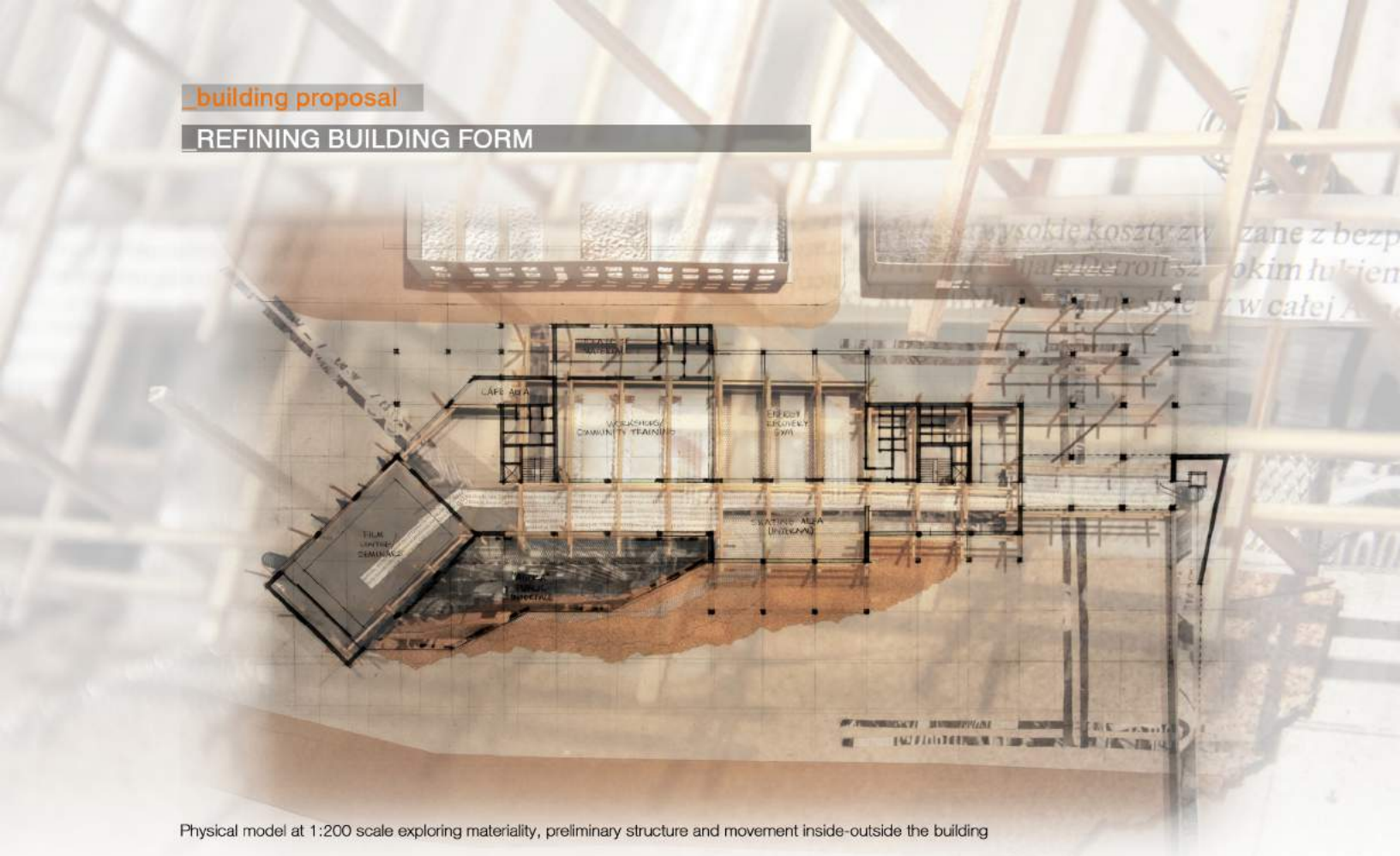
Opening up to the train station and to the community was the scheme's main priority. Preliminary, the building's functions where conceived as a **linear process**, starting from the bridge and developping around the 'agora', the main public space. Inspired by the **structural proportions** of the derelict building, a **grid** was also introduced to facilitate the unfolding of the design and express the **temporality of the construction**.



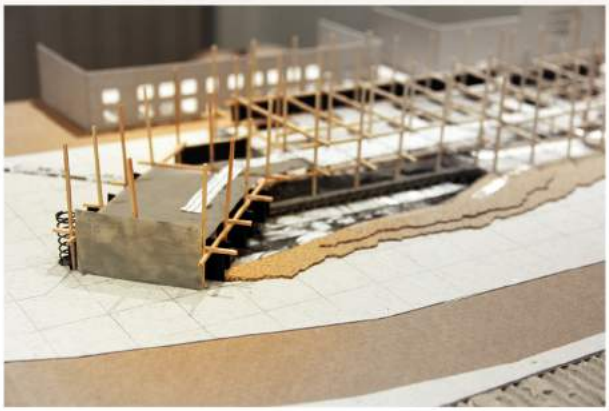
Preliminary diagrammatic zoning and axonometric of the building

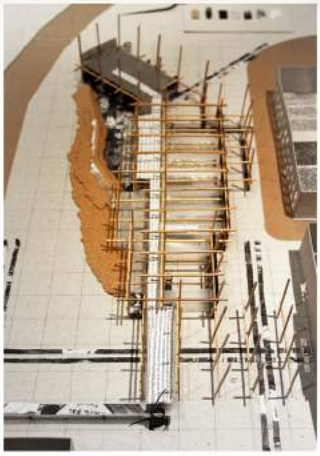
_building proposal

_REFINING BUILDING FORM



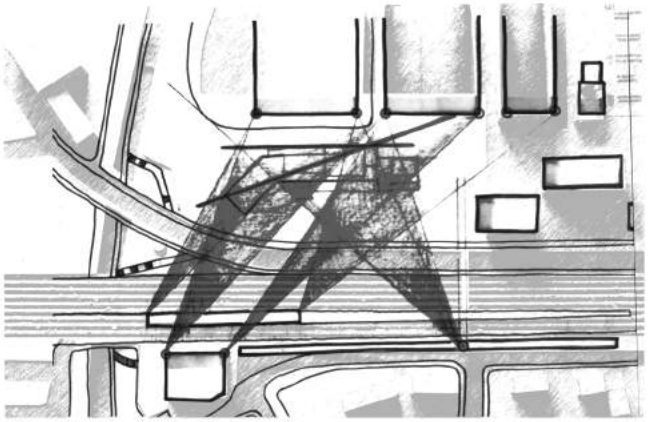
Physical model at 1:200 scale exploring materiality, preliminary structure and movement inside-outside the building





Experimenting with various materials revealed qualities which were later on embedded in the design and program of the building

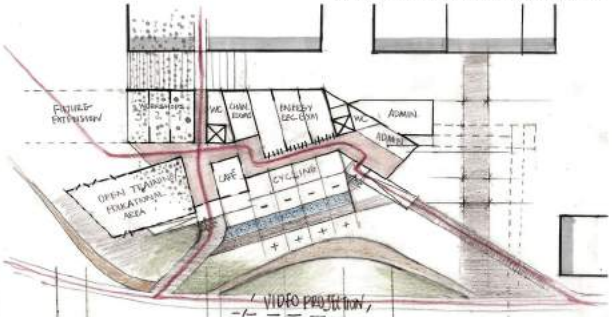
_REFINING BUILDING FORM

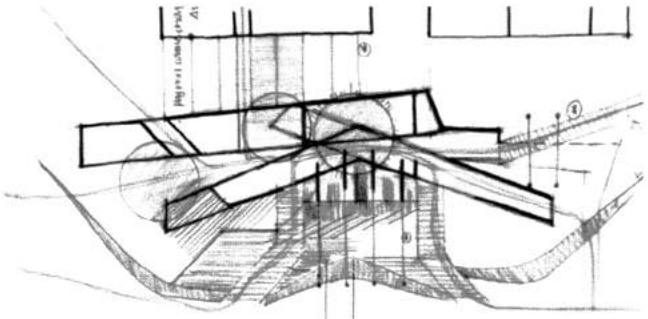


Analysing visibility axes of the area and revealing main building form

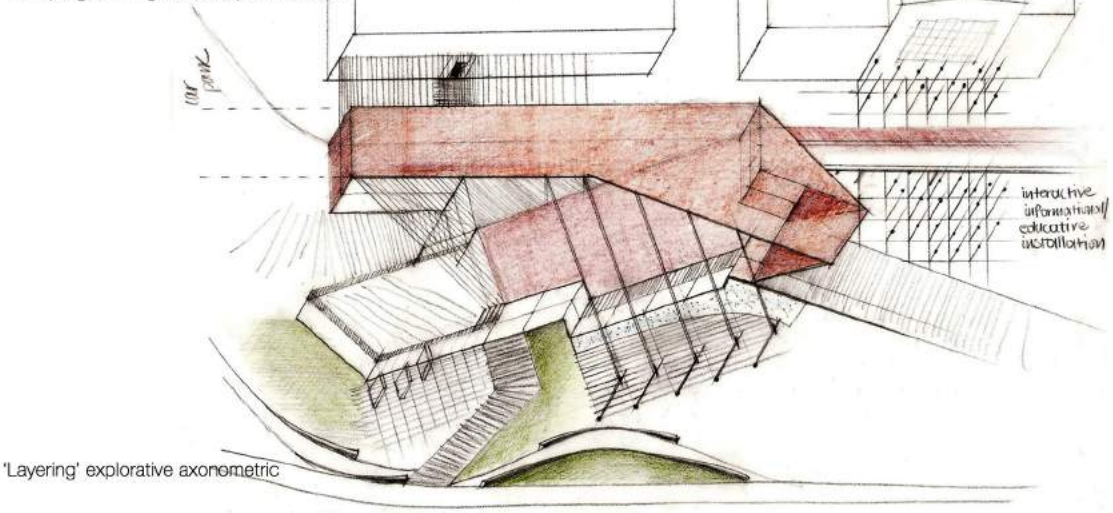
Revisiting the preliminary linear concept, revealed important visible and invisible forces which acted on the building's structure. Exploring movement and zoning within these forces, while responding to the surrounding context lead to the breaking up of the former linear structure into two symbiotically existing volumes. A second grid was introduced as a result of this separation and challenged the spatial resolution of the scheme.
The diagrams below test this collision/juxtaposition of the grids and the integration of the building's design within the landscape.

Ground Floor explorative diagram





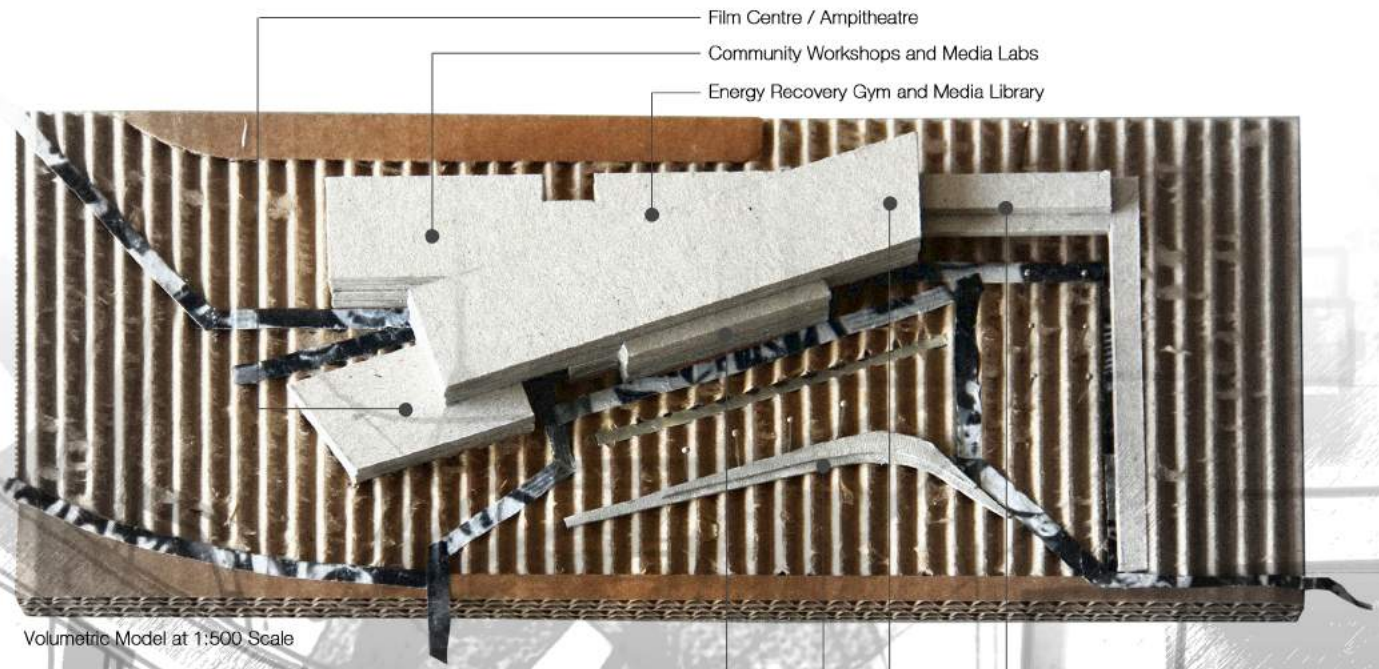
Transprogramming various space 'circuits'



'Layering' explorative axonometric

_REFINING BUILDING FORM

The concept of **routes interweaving and crossing with each other**, the **visually defined axes**, the surrounding **landscape** and the **purpose of the building**, which is an energy recovery and film centre, resulted in a form that merges with the environment and the needs of the site. The building clearly develops a **convergence 'node'** in the form of public space meeting and exhibition **platform**.



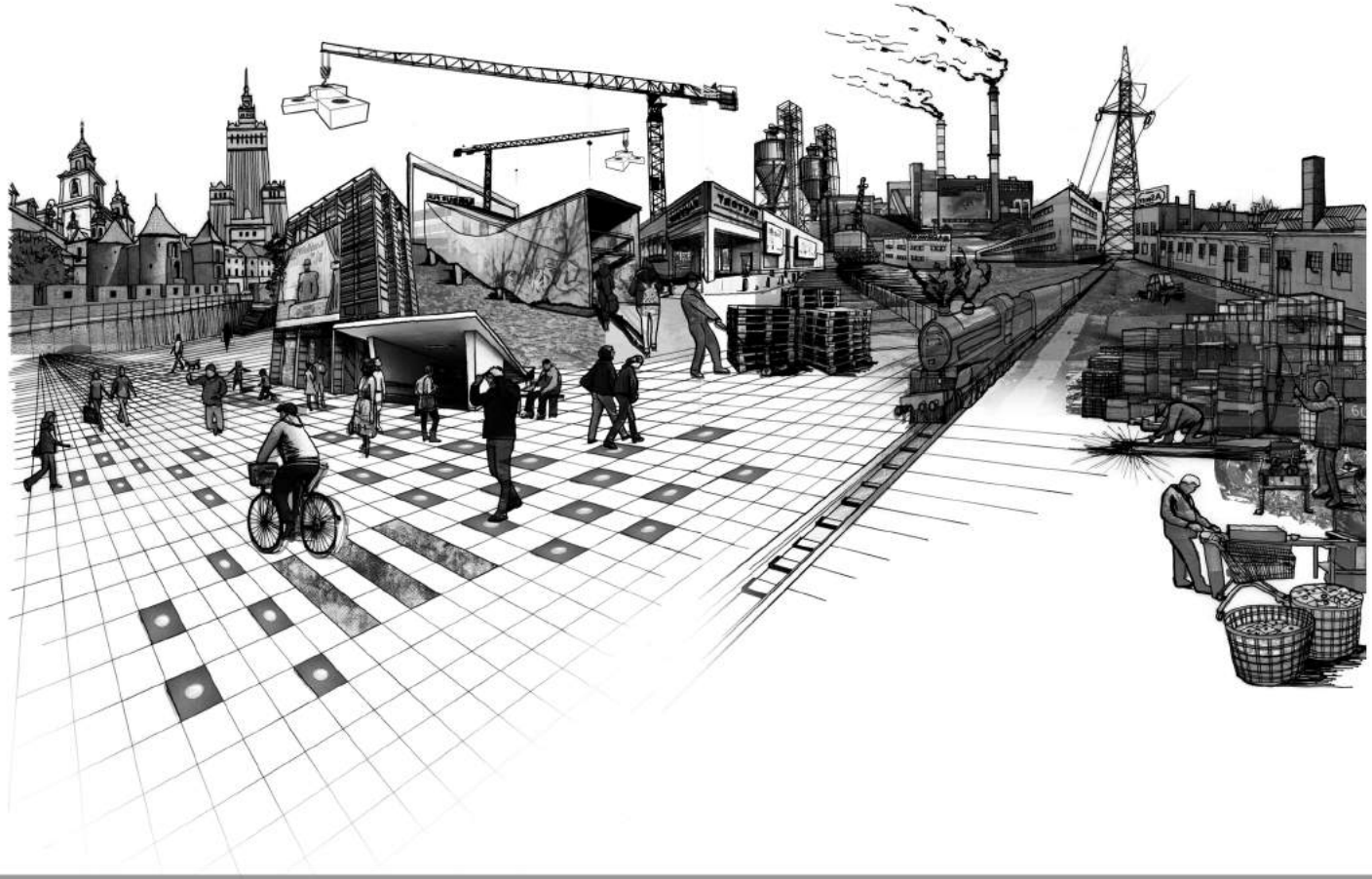
Volumetric Model at 1:500 Scale

_building proposal

_BUILDING ON EXISTING PROCESSES

The following collage composes images of the existing social and spatial conditions identified within Ursus and Warsaw, looking at how existing socio-cultural phenomena can be used to inform future proposals. These include:

-derelict historic buildings
-redundant machinery
-robust existing fabric
-flexible public space
-the roadside as a place for exchange



_building proposal

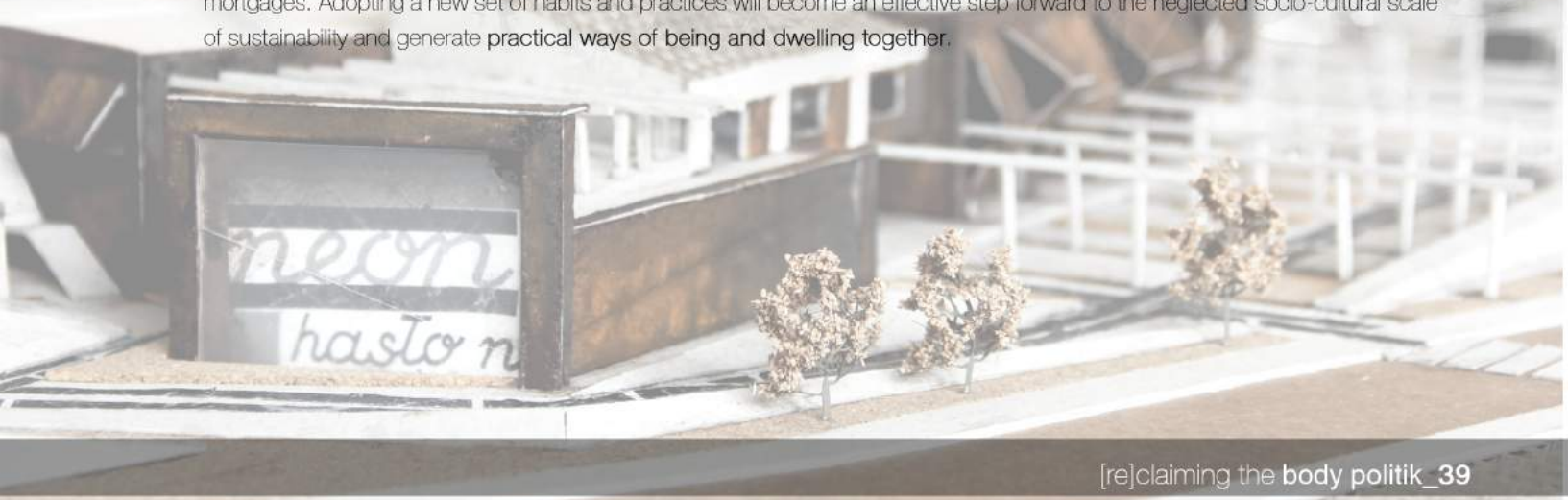
_ENERGY RECOVERY AND FILM CENTRE

The building has two primary functions which have a strong dialogue with each other. **Energy production** and **education**, ultimatelly leading to **exchange**. The energy production process assumes a series of linear interconnected routes through the building and the landscape for its visualization; it is this process that is expressed via the **folding facade** of the scheme and provides the **catalyst** for the first three stages of the user's **engagement, education** and **exchange**:

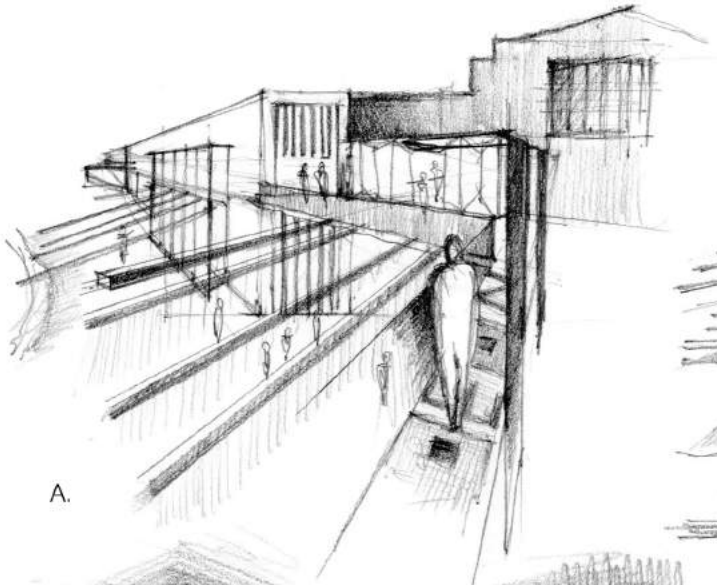
Stage one: On a first floor level, people coming from the train station or passers by on the ground floor level may simply view advertisements about **courses offering training to create energy production devices and enhance making skills, film projections or fitness sessions** projected on the panels surrounding the bridge. As the users walk towards the building, external temporary installations along the bridge **showcase energy-related artefacts** which aim to engage them with the building's processes and inform them about new possibilities in the renewable energy production sector. Then they might venture into the building to view a **media exhibition** on the first floor, utilize the **media library** or the **film centre** on the ground floor.

Stage two: At the same time, they are aware of the **energy production processes** happening both inside and outside on the ground floor of the building (via cycling, skating, walking) while they can view the device's **assembling stages** on the workshop's area. In a second stage, users can be tempted to **participate in the energy recovery gym**, as they can **gain bonus points**, (according to the urban strategy's **"money back" system**) to entertain themselves in the fim centre or in collaborative cultural and retail spaces such as theatres and shopping centres.

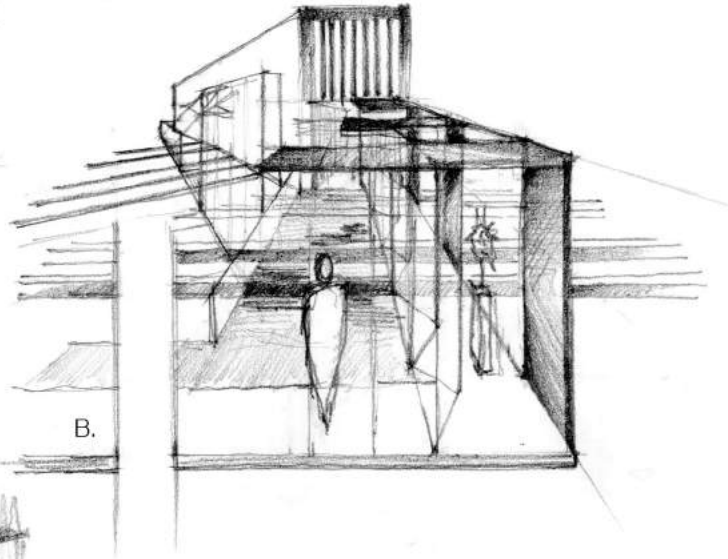
Stage three: As a result of the ongoing exposure to energy production and consumption processes, **the growth of subsidiary businesses/industries** in the surrounding area and the **growing reneable energy economy**, the user may then decide to make a more **targeted use of the centre to 'unblackbox' domestic energy consumption patterns** through the use of different display devices and monitoring tools and through the implementation of **'energy mortgages'** that will use energy savings to pay off house mortgages. Adopting a new set of habits and practices will become an effective step forward to the neglected socio-cultural scale of sustainability and generate **practical ways of being and dwelling together.**



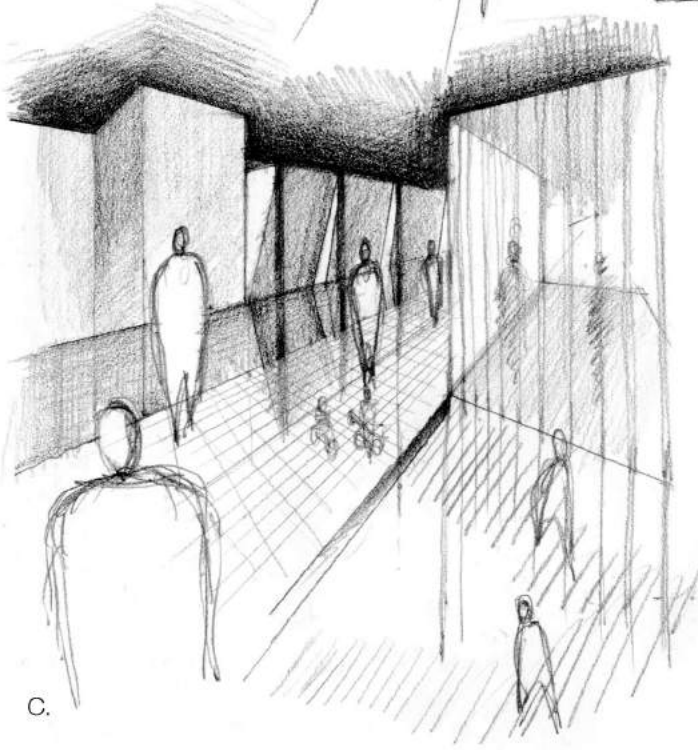
_PRELIMINARY NARRATIVE APPROACH



A.



B.



C.

The sketches illustrate a preliminary narrative approach via the user's experience:

A&B. The bridge as a new connection and information point; when approaching the building from the train station, the user ican be informed for the building's activities through advertisements projected from the cor-ten steel panels wrapping up the bridge and sheltering the temporary showcasing area.

C. Space of flows/interconnected routes

Transformable barriers and interconnected routes allow occupants to view a number of activities at once, creating a dynamic and active sense of place.

_building proposal

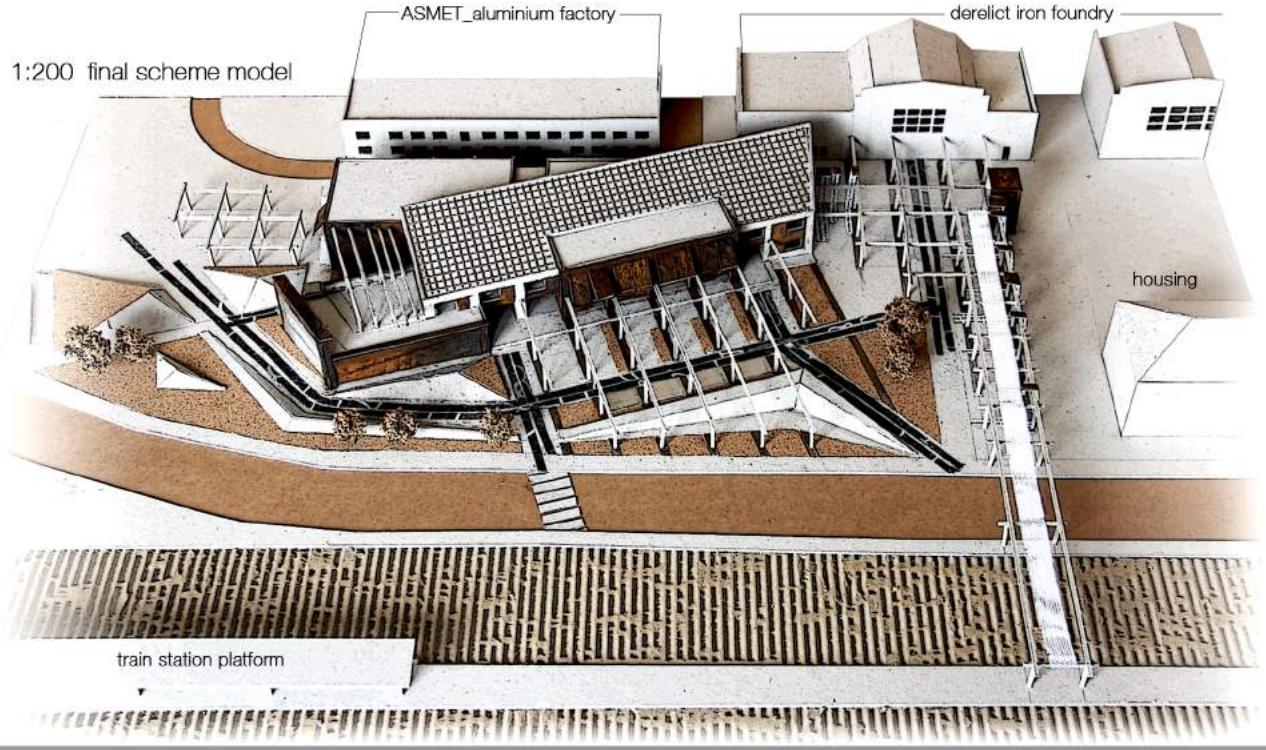
_RESPONSE TO WIDER INFLUENCES

- The building shapes the surrounding landscape, providing a **renewed definition** and **structure** to the site, while the bridge enables a **new platform**, both for the **facilitation of movement** from the train station to the building and vice versa and for the **regeneration** of the derelict iron foundry.

- It is located at a very strategic point, at the **convergence** of the industrial processes at the back of the site and the community area at the front. It aims to **open up** the commercial area of the site, as identified in the urban strategy, and act as a **mediator**, reconnecting the industries with the community- this should create a powerful, thought provoking place in which to **learn** and **experiment** with new technologies.

- The scheme is addressed to all users of the community, enabling a **social production platform**, for local people to mix and engage.

- The building form **punctuates the landscape**, while its **flexible facade** provides a vision of **'action-reaction'**, echoing the brief that the scheme should motivate the inhabitants to play a more active role and respond to the changes of their city life.



1:200 final scheme model

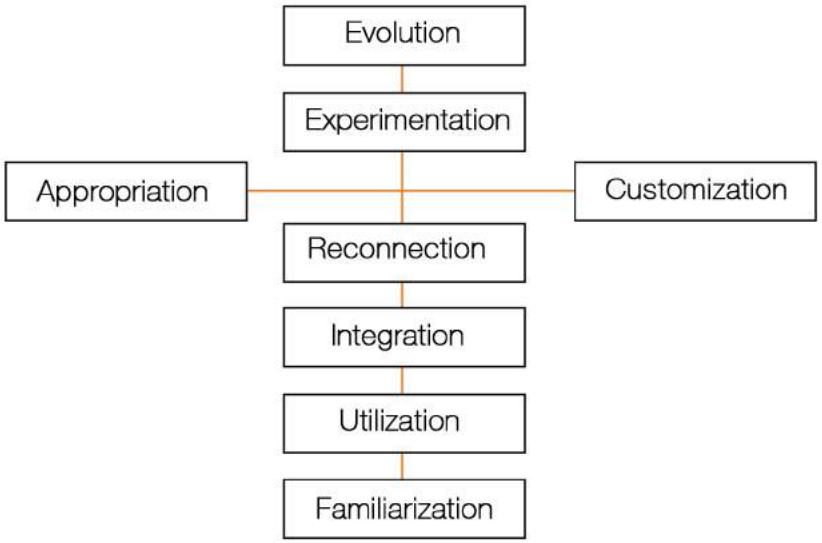
_RESPONSE TO BRIEF

'Exchange' of energy through interaction / reconnecting the producer with the consumer

The scheme fulfils the brief in two ways. First of all this happens through the 'exchange' of energy via interactive ways and the reconnection of the producer with the consumer. Through **embedding energy production devices** within the building's everyday life, these, both consciously and unconsciously, are perceived as necessary elements for establishing a new set of habits and practices. This occurs in **'in-between'** spaces, where the **boundaries between physical and interactive space are blurred.** The act of reconnecting is definitely linked with the concept of recovering, meanings of repossession, taking control, and the regaining of health and normalcy.

Disengaging energy consumption patterns

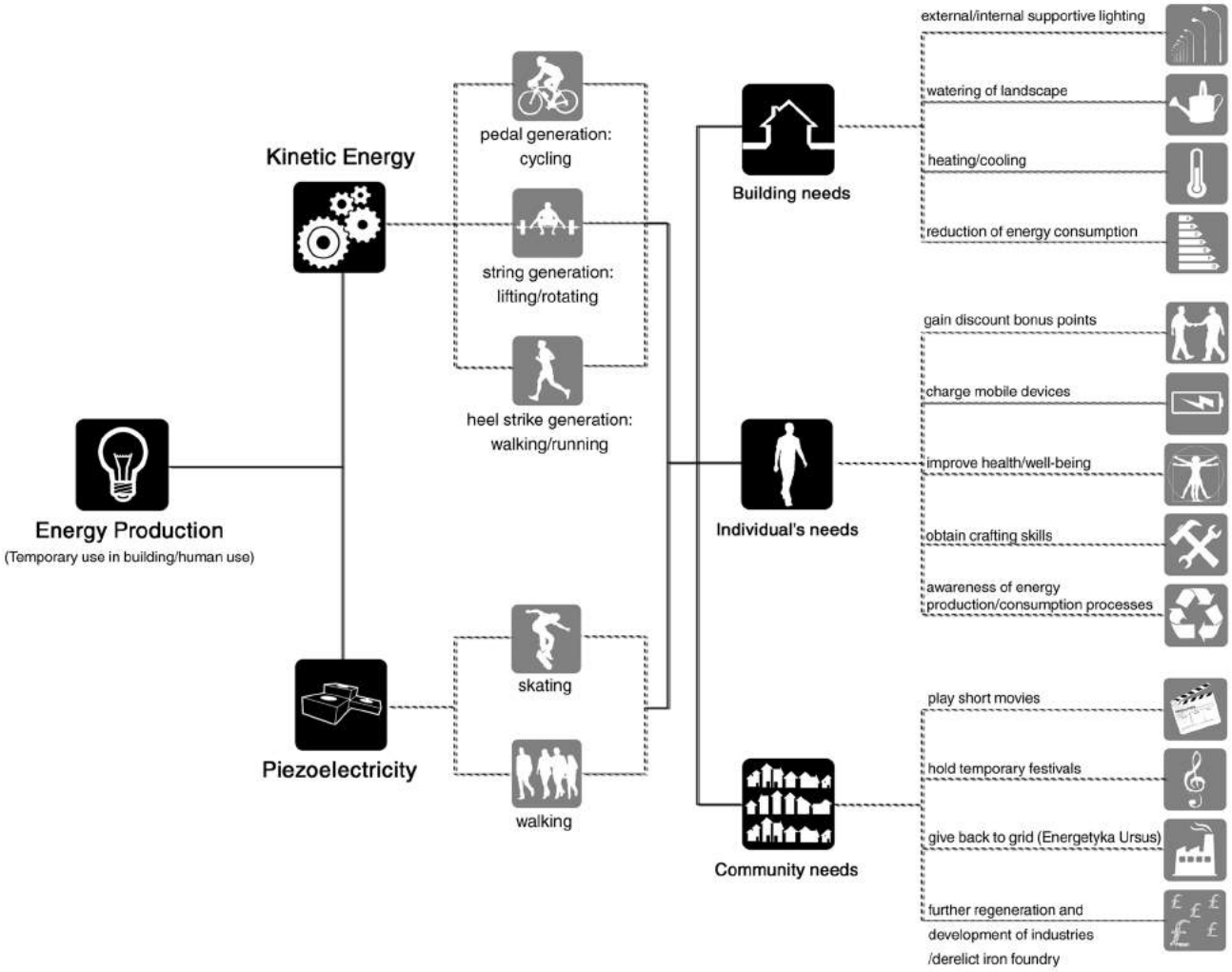
The second way in which the building fulfils the brief is via investigating the economic scale of sustainability by offering a model to 'unblackbox' domestic and partly public energy consumption patterns. This is feasible through the use of different **display devices and monitoring tools**—like smart energy meters or saving energy devices—, **community energy networks**, and through the implementation of **'energy mortgages'** that will use energy savings to pay off house mortgages.
This aims to **motivate and develop the user's critical thinking** and overtime promote a greater sense of responsibility over energy consumption.



'Exchange and reconnection' process

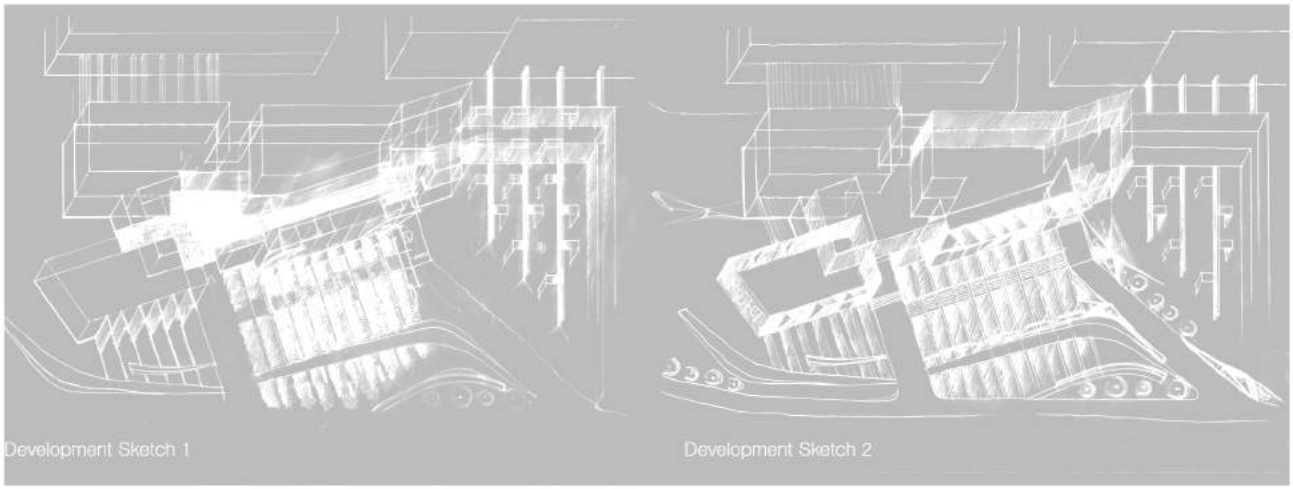
_ENABLING PRODUCTION

The following diagram illustrates the ways of energy production, which take place inside/outside of the building, as well as their social, economical and political consequences for the building's function, the individual's and community's needs.



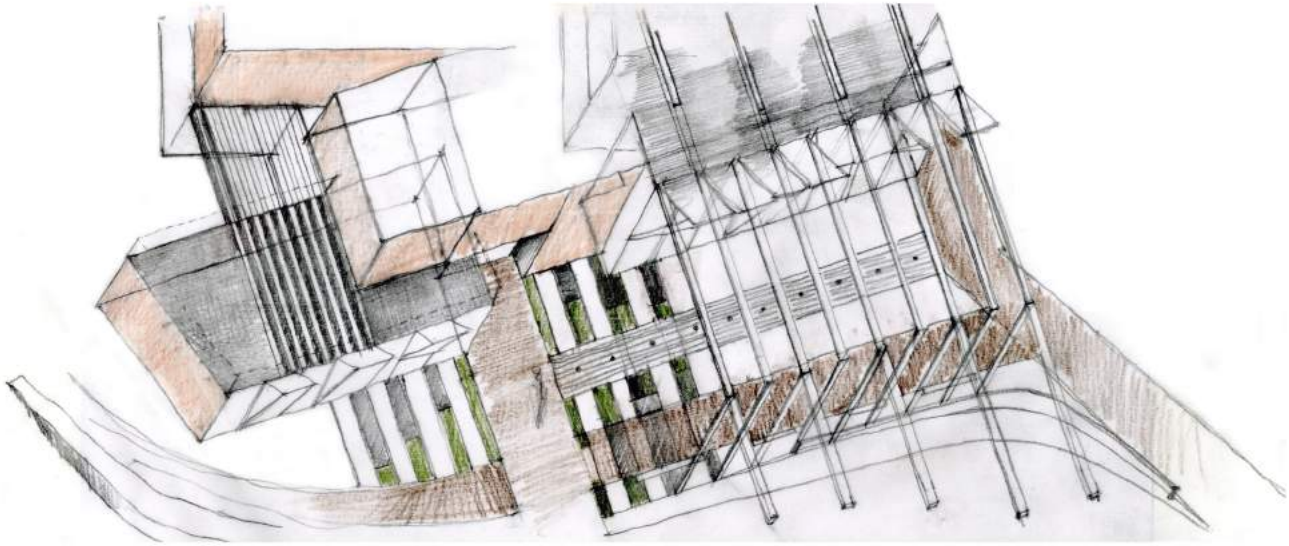
_LAYERING FABRIC

These studies examine ideas of permeability and integration of the building with its (productive) landscape, from the inside out. They also investigate notions of layering and attaching new fabric to the old existing one. The sketches below also look at the modularity of the proposed structure and investigate ways in which this division can 'talk back' into the landscape, so that it express the individuality of use.



Development Sketch 1

Development Sketch 2



Development Sketch 3

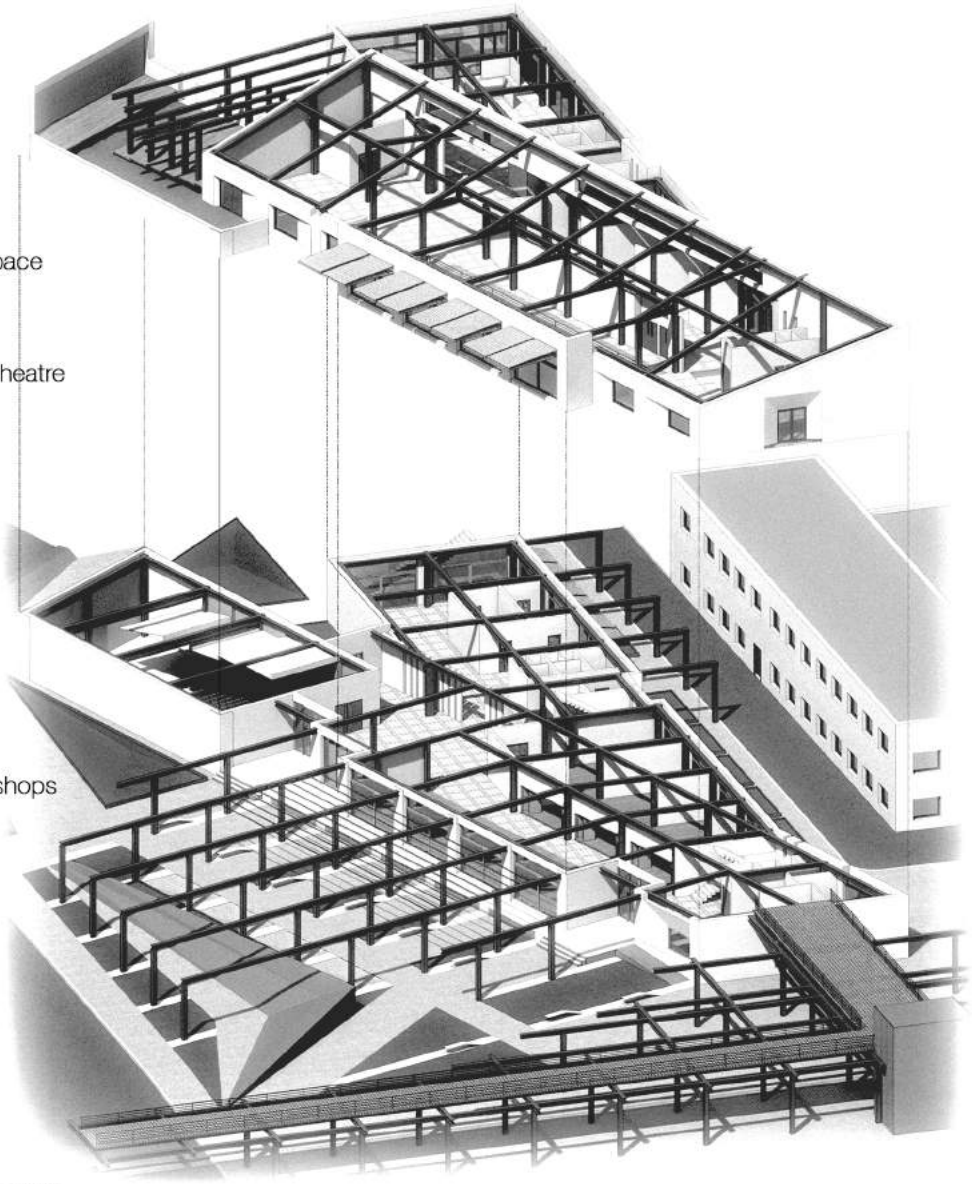
_SPATIAL LAYERING

[first floor level]

_administration
_media library/resource space
_media gallery
_kitchen/eatery
_external film centre/ampitheatre

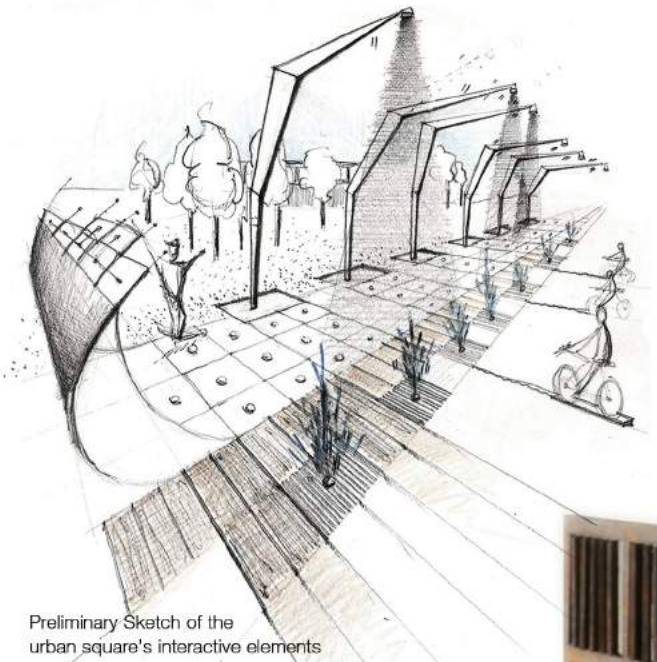
[ground floor level]

_administration
_energy recovery gym
_community training/workshops
_cafe area
_internal film centre



Scheme's exploded axonometric

_THE 'AGORA' SPACE



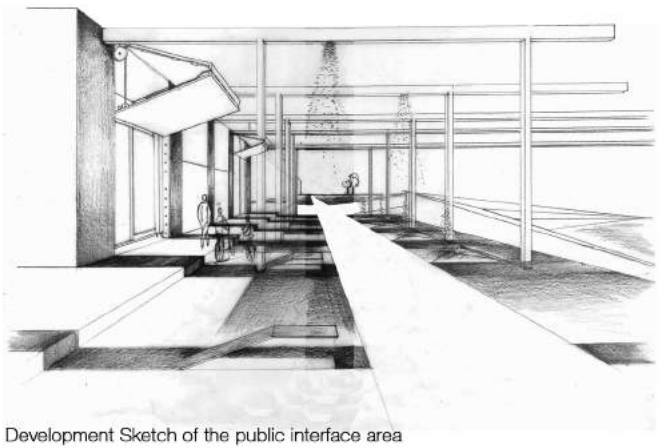
Preliminary Sketch of the
urban square's interactive elements

The 'agora' is a **public interface space**, open to the community and the train station, where workers, skateboarders, locals and visitors to the centre can **congregate**.

Taking precedent the Schouwburgplein in Rotterdam, the urban square's design, initially, was conceived as an **interactive public space**, **flexible in use** and **productive in terms of energy** by utilizing piezoelectric tiles. Furthermore, as illustrated, steel made **crane-like lights**, inspired by the derelict's iconic internal **structure**, were tested in the landscape's design, so that park users can operate with **pedal power**.

Testing the 'productive' landscape
Physical Model at 1:50 Scale

_UNFOLDING THE INSIDE OUT



Development Sketch of the public interface area

"Intermediate space makes a discontinuous continuum possible, so that a plurality of opposing elements can continue in an ever-changing, dynamic relationship. The nature of intermediate space is its ambiguity and multivalency. It does not force opposing elements into compromise or harmony; it is the key to their living and dynamic symbiosis".

Kisho Kurokawa

The flexible panels of the building's facade fold up to merge with the 'agora', the public interface area. Cor-ten steel becomes the means for this transition, as it is extended and distorted according to the topography and the structures that need to be enclosed. External groups of cyclists, while pedalling, generate energy to power the water sprinkler system, which cools air down during warm periods.

Final perspective of the 'agora' space

_EXTERNAL AMPITHEATRE / FILM CENTRE

Final perspective of the external film centre area

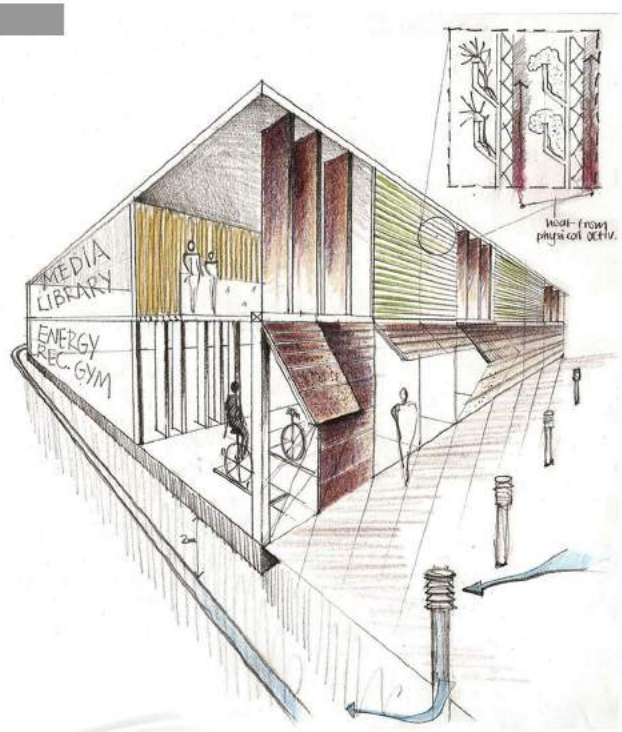
The small cycle cinema uses the energy from one or two volunteers pedaling to provide a cinematic performance for up to 200 people. It is designed to **educate** and **entertain**, while **all the electricity for the performance is produced by the cyclists.** The film centre's screen, as illustrated in the model, projects and advertizes to the passers by from the road, temporary films which are being played, attracting them to the building.

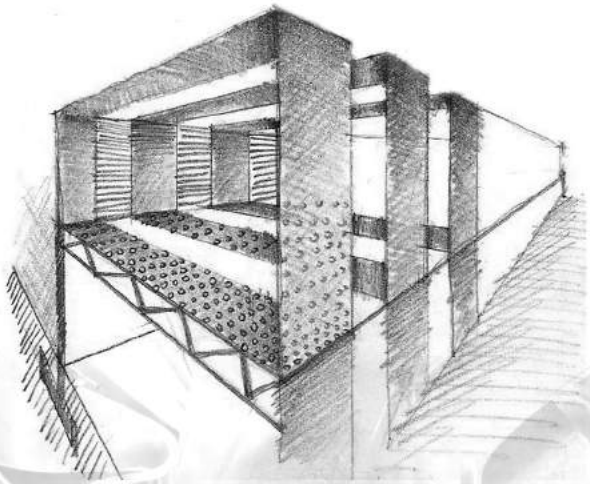
1:200 physical model detail_The film centre screen projects current and prospective films played in the building

_FACADE DEVELOPMENT

The facade is adaptable to allow the occupants of the energy recovery gym and workshops to adjust and create their own signage via physical exercise with their bodies.

As illustrated in the panoramic picture taken from the interior of ASMET (aluminium factory), the facade uses **materials and techniques** which are **familiar to the workforce and can be supported by the existing facilities**, hence giving them control to **construct, maintain and adapt their environment.**





Above: Initial Sketch depicting an environmental proposal for the building's active facade

Left: Initial Sketch testing modularity, framing and repetition of corten steel

Existing workforce and steel/aluminium facilities on site

_FACADE DEVELOPMENT

approaching the site from the bridge

preliminary 1:50 model testing cor-ten steel panel dimensions

The steel structure of the building as well as its small distance from the ground ensures the reversibility of the intervention and the recyclability of most of its materials.
Surfaces consisting of corten steel grating create a second skin that controls the intake of air and light into the building. Both materials utilized for the building's construction, cor-ten steel and reclaimed brick, merge harmonically with the surrounding existing buildings on site.

_building proposal

_FACADE DEVELOPMENT

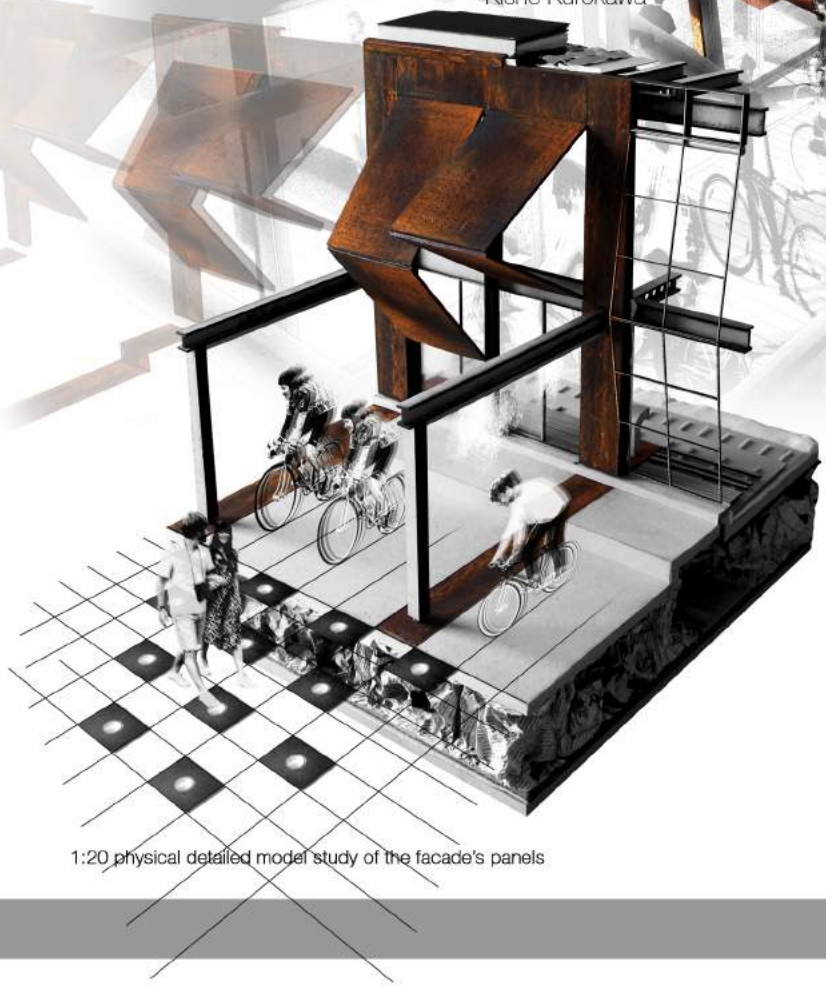
As opposed to the ***high-tech architecture of the age of the machine****, created as a metaphor for the machine, the* ***high-tech architecture of the age of life*** *will be faced with the extremely difficult problem of* ***expressing invisible technologies.*** *The autonomy of the facade will allow for the birth of a new symbolic architecture. The expression of technology will proceed on a parallel course with the* ***autonomy of the facade*** *in architecture of the age of life, while the spirit of the invisible technologies of the age of life will be abstractly or symbolically expressed.*

Kisho Kurokawa

[recovery and transition]
Internal perspective of energy recovery cycling point

The building opens a **debate** about the **kind of bodies** that are required for political participation and for the proper functioning of sustainable economic systems.

Through the proposal, the metaphor of the body politik is brought to its literal extreme, by illustrating how **the achievement of sustainable futures will require the production of new bodies;** bodies that can be productively mobilized within public space as active agents in the process of energy and cultural production.



1:20 physical detailed model study of the facade's panels

_REGULATORY REQUIREMENTS

Accessibility, Means of Escape and Fire Protection

The floors achieve structural fire protection with the use of intumescent paint on the exposed steel and columns.
Automatic sprinkler systems are fitted throughout all levels as well as alarm systems.

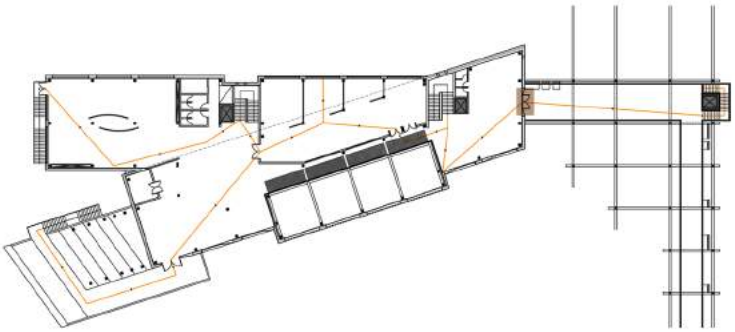
Places of special fire hazard
Places of special fire hazard that require additional protection in order to satisfy life safety requirements. Both staircases of the basement floor are enclosed with a fire resistance of one hour and all doors are self-closing fire-rated doors. The generator and transformer spaces have fire exits direct to the outside. The protected staircases are cited at opposite ends of the basement in order to avoid avoid occupants being trapped by fire or smoke, while these are connected with the ground floor level.

Every space is designed with two escape routes, while the film centre is provided with three escape routes, since the area can accommodate more than 800 people. The minimum distance between the film centre's steps is 0.85m width and 1.50 m widthe its surrounding corridors.

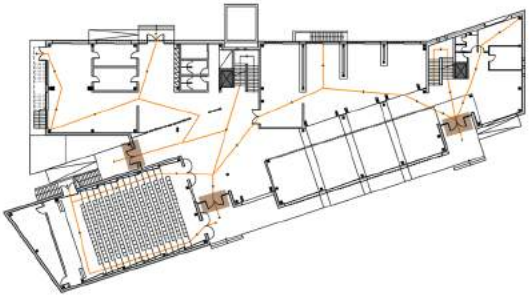
The staircores provided are compliant with the maximun distances of travel. For this type of building this is:
-Escape in only one direction: 18m
-Escape in more than one direction: 45m

The widths of all corridors, staircases and exists are calculated by considering the number of persons using the floor. Escape routes will be visibly signed.

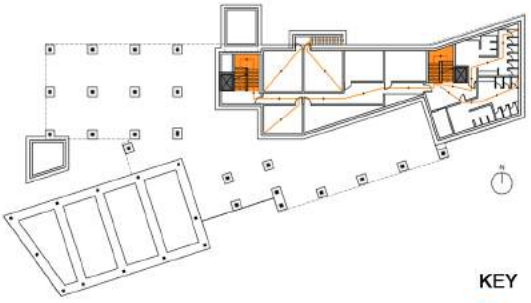
Evacuation and fire protection of lift installations
All lifts are designed to be used as evacuation lifts, which will assist the safe escape of anyone with a mobility problem.
The lift, as shown in the plan, is also enclosed throughout its height with fireresisting construction.



First Floor Plan



Ground Floor Plan



Basement Plan

KEY

Protected stair

Primary entrance

Lift

_precedent study

_JF-KIT HOUSE / Elli Studio

The Jane Fonda Kit House is a prototype residence and pop-up gymnasium that envisions a future in which healthy, active inhabitants power their own homes through physical exercise. Several pieces of domestic fitness furniture are embedded in the irregular, faceted spaces of the wooden pavilion encourage residents to engage in various physical activities to both stay fit and generate energy to power the prototype off-the-grid home.

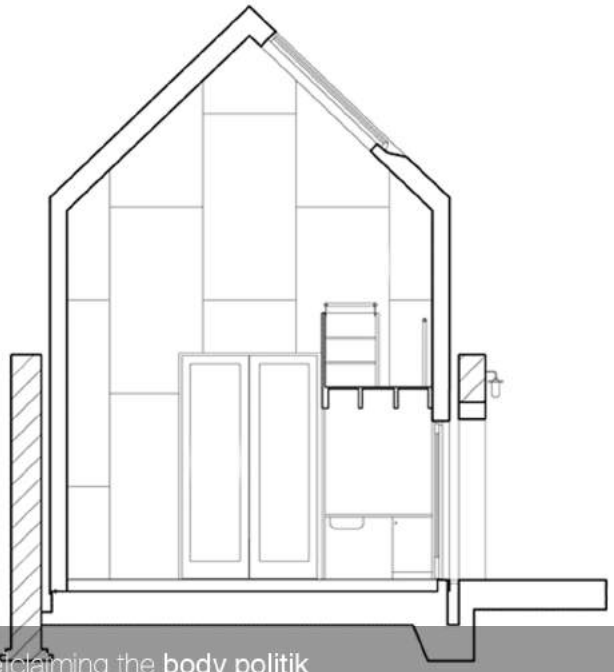
Translucent and partial barriers introduced at odd angles allow occupants to view a number of rooms in the house at once, creating a dynamic and appropriately active sense of space. This spatial collage is also a visual reminder that the self-sufficient home is a holistic unit and not just a series of rooms and exercises, reflecting the idea that sustainability too is a holistic concept and not just a series of activities.

_precedent study

_ THE DOVECOTE STUDIO / Haworth Tompkins

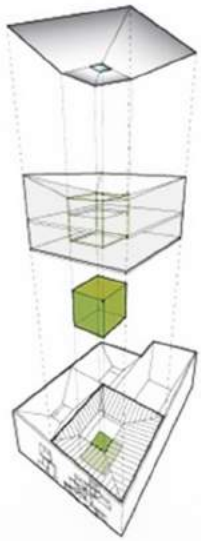
The The Dovecote Studio is an insertion of a **Corten steel** artist's studio into a ruined Victorian dovecote in Suffolk, UK. The Corten Steel shell occupies the same space as the original building's interior and matches the **hue** of the original brick. Prefabricated panels were welded together on-site into a single piece. The building is used by artists in residence, by musicians as rehearsal or performance space, or as a temporary exhibition space.

The **contrast** between the historic structure and contemporary imposition adds to the **historical layering** of the site, whilst retaining its character.
Only the minimum necessary brickwork repairs were carried out to stabilize the existing ruin prior to the new structure being inserted. Its state of **decay** is retained and celebrated in contrast to the new intervention, while the impermanence of the new structure helps to **revitalize** the old resilient structure.



_precedent study

_SKY COURTS / Höweler + Yoon Architecture



Sky Courts is a 20,000 sqf corporate club house that incorporate short-term housing, office space, and entertainment facilities utilizing the logics of the **courtyard** and **sloped roof**. The development internalizes the traditional courtyard house to create diverse spaces within a single building. The interior is divided into a series of scaled halls wrapped around seven patios. The aggregated areas are situated within a larger complex which becomes a **network of sectors** linked together by **multiple paths** producing a **sub-divided corridor**.

The geometry of the roof consists of a series of inward sloping surfaces. This is achieved through the **ceramic tile coverings** and it is detailed to emphasize the tectonics of the material to create an **oriented texture with a serrated quality**. The apertures are placed together using **faceted steel** which cuts into the edifice **expanding upon the typical openings.**

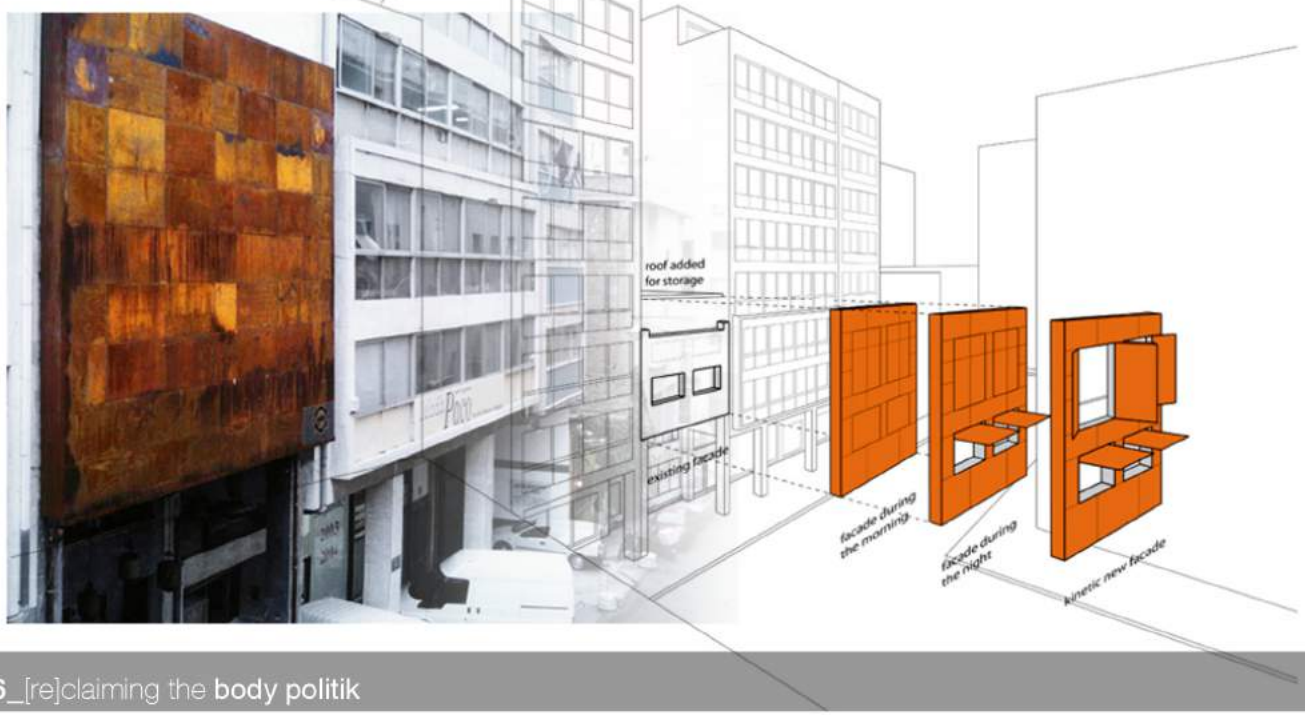
Finally, it is designed to be **thermally efficient** in order to **conserve energy**, while it is believed to be one of the many contemporary buildings that will **age beautifully** into the future.

_precedent study

_GURU BAR / Klab architecture

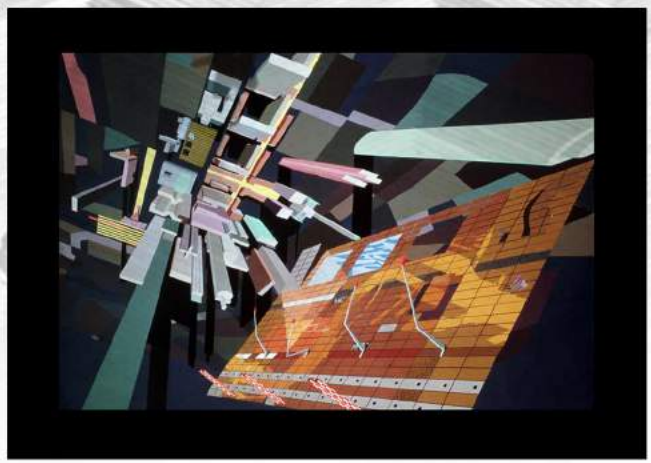
'Guru Bar' is a prototype bar built in a degraded area in Athens to **bring urban regeneration** at a time when the neighbourhood was beginning to be transformed into a vibrant cultural area. Great consideration is given to the idea of **duality** and the **transformation** between day time and night time activity in the area. The response is a skin of **rusted steel** that could become a "bunker" during the morning and open up during the night. The material of the façade is a metaphor for the transformation of the neighbourhood in a deteriorating phase.

The building is also transformational with the **kinetic movement of steel plates** that open to form window shutters and doors. By the use of different hydraulic actuators simple moves of the steel plates in the façade **change the building from something completely closed to become something quite open.**



_building proposal

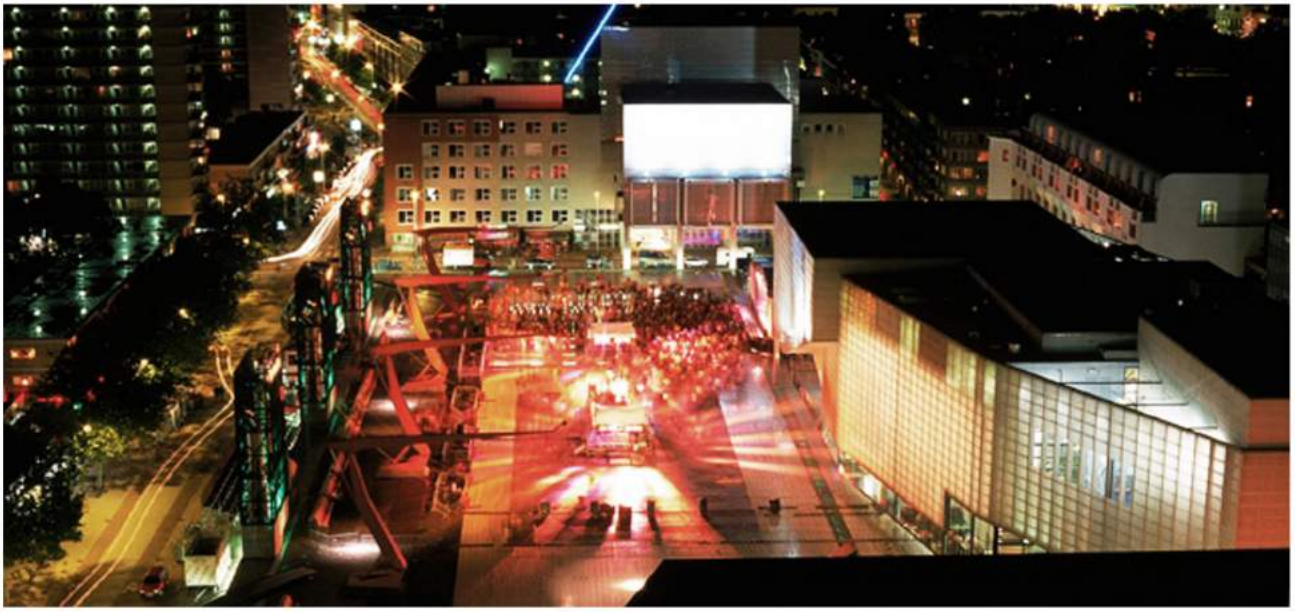
_PRECEDENT_SCHOUWBURGPLEIN



Shouwburgplein, or "Theater Square," is situated in the heart of Rotterdam, minutes from the Europe's largest port, and surrounded by the City Theater, the music hall, Rotterdam's largest movie theater complex.

This contemporary urban square design, with custom furniture, iconic crane-like lights that park users can operate, and a trademarked hardscape pattern, is a reflection of the Port of Rotterdam.

By raising the surface of the square above the surrounding area, the "city's stage" was created for festivals and installations, framed by the city skyline and its "audience" of inhabitants. This interactive public space, flexible in use, changes throughout the day and from season to season.



_LANDSCAPE PRECEDENT STUDIES

«Floor Works» by Agence Ter Architects is a garden open to the public which surrounds a company headquarters in Geneva. The project devises a unique means of support, which frees itself from the constraints linked to the many functional elements that emerge here and there, by covering them.

The first element of 3K program by Urban Landscape Group is a special lamp for public lighting. The contrast of the raw looking texture of Corten and the most up-to-date technology built in the lamp gives an aesthetic tension. This scale and structure makes the object an architectural element, namely a gate.

The interaction between raw 'street'-culture and classical landscape architecture has attracted a lot of attention in Charlotte Ammundsens Plads by 1:1 Landskab. This new square is a democratic meeting place, a place where people of all ages and social classes interact.

Fluent Landscapes / Måløv Axis by Adept Architects and LiWplanning is a new connecting urban space in the city intertwining the existing and the new values. Movement trough this recreational axis, provides a spatial story relating to the distinctive character of Måløv and create an experience for citizens and visitors.

_LANDSCAPE PRECEDENT STUDIES

'LEDscape' is an installation which deals with light as a constructive element of space and landscape. It is located in the "Centro Cultural de Belém" in Lisbon and aims to introduce the every day user to the LEDARE light bulb, thus demystifying the preconceived ideas about LED technology and emphasizing the relevance of this product in the sustainability of the future.

'LEDscape' challenges the passerby to an **interactive experience** – A pathway gradually lit with 1200 light spots, invites **introspection** and **individual appropriation** of the installation.

_SPECIFIC ECONOMIC CONSIDERATIONS

Structural Considerations

Wherever possible **reclaimed and standardized materials** have been used, including steel cladding, brickwork and recycled glass from the industrial facilities on the north of the site.

The steel frame and building form is deliberatelly simple; in most cases, **bolted sections** have been used to reduce both the initial cost, as well as subsequent **maintenance and reconfiguration.**

An **industrial aesthetic of exposed services, materials and structure** is also something intentionally designed and cheaper to achieve.

The **stability** of the existing derelict iron foundry cannot be fully known; extensive **repair work**, underpinning of foundations and **further bracing** of load bearing walls may be required, before reclaiming the bricks and attaching the bridge's structural beams to the facade.

Environmental Considerations

Due to the unstable climatic environment, **high treatment** and **specification of materials** may be required. Snow will also increase construction times.

Significant land amelioration may be required due to the former industrial activity, to **decontaminate the ground.**

The site is level and **easily accessed by rail and lorry**, which means that there will be no increased costs for delivery.

Landscaping Considerations

The **level topography** across the site negates complex groundworks

The removal of some parts of the existing **brick hedge** to open up the scheme to the road, will increase costs.

Additional Considerations

Installing the roof's photovoltaics, a geothermical heat pump and the ground-heat air exchange system while transferring the existing gas station will increase costs. However, in a long term plan, via the building's construction, there will be a payment back and the building's function will be economical.

Boundaries surrounding the site

Gas station

_COSTING ESTIMATE

The building contains four primary spaces: **health and fitness space, workshops, film centre** and **media gallery/learning resource centre.** These spaces have significantly different needs and costs associated with them, so a separate base cost is estimated, using the Spon's Architects and Builders Price Book 2011.

Health and fitness area: 500m² x £1300/m² = £650,000
Workshops: 236 m² x £600/m²= £141,600
Film centre: 300 m² x £1000/m²= £300,000
Media gallery/Learning resource centre: 458 m² x £1200/m²=£549,600

Additional spaces (plant room, circulation, administration, w.c, café, kitchen/eatery): 1330 m² x £1100/m²=£1,463,000
Given these estimates, the building cost is calculated at **£3,104,200**

Allowances:

- +5% for external works based upon the establishment of soft and hard landscaping and rainwater collection ponds
- +2% for uncertain total cost of Cor-ten Steel panels
- +4% for inflation during the construction period
- +18% for professional fees (including 8%) for the architect
- -2% for regional variation
- -3% for current economic situation and level of uncertainty within Europe

External works (+5%): £155,210
Cor-ten Steel Panels (+2%): £62,084
Inflation (+4%): £124,168
Professional fees (+18%): £558,756
Regional variation (-2%): £62,084
Economic climate (-3%): £93,126

Estimated Building Cost: £3,850,000

The cost estimate does not include furniture, nor does it include VAT and any provision of IT equipment.
The open plan layout of the building reduces the construction costs and the steel frame of the scheme can be erected at a relatively low price, utilizing also the existing technologies familiar to the local workforce (ASMET). Furthermore, the reuse of locally sourced brick also reduces transport and production costs. However, the cor-ten steel façade and labour intensive movable panels provide a much more challenging cost estimate, due to transportation and specialist works required in its manufacturing. This is anticipated to counterbalance the simplicity of the steel structure costs.

_critical assessment

_DESIGN PROCESS

The design proposal set out in this project is the outcome of a rigorous programme of **critical testing**, **making**, **experimenting** and **continuous revision**, of the building's brief, processes and form.

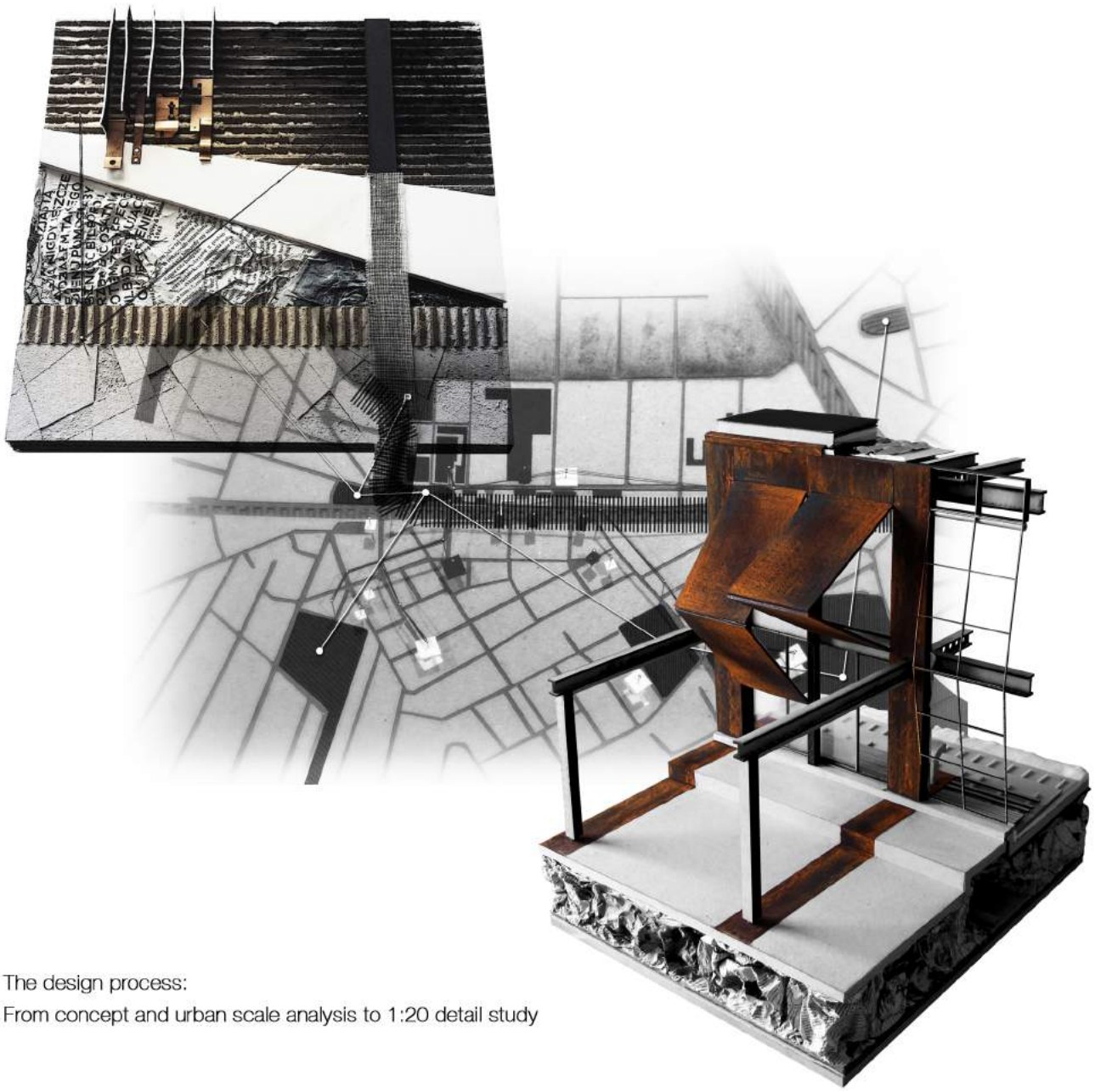
Working from the very beginning of the term **only with models** was a big challenge and at the same time an enjoyful (and some times painful!) process. From the one hand, not using sketches and diagrams to explain the ideas, redefined the meaning of the 'model' as a physical entity and led to a strong experimentation with material's qualities. This method later on in the design process was used as a **tool** to test my scheme, while the various materials qualities/collages informed my tectonic thinking. From the other hand, however, the intense model making process was sometimes **limiting and time consuming**, especially when working in bigger scales (such as 1:5000 scale).

Analysing areas of influence from the surrounding site's context, visibility and movement axis on site, from the train station to the commercial area and vice versa, has enabled the identification of different spaces where production, interaction, communication and convergence between workers, visitors and various community groups can be facilitated. This was something that has driven the building's form.

The **urban startegy** also created a strong basis for the project, underpinning its socio-political agenda. Translating the temporality of the piezoelectric technological system into a building proved very challenging, but has been resolved through the ongoing engagement with the **architectural discussion**. Furthermore, a key element in the conceptual development of the project was the **identification of similar precedents and theories**, such as Sassen's 'urbanizing technology' concept.

Precedents studies ranged from ideological to practical ones, from innovative pilot models and mixed use housing/entertainment facilities to merely external facades. The demonstration of energy production processes in the off-the-grid home powered by physical exercise, for example, informed the visibility of processes in the scheme and reinforced the holistic concept approach to sustainability.

_DESIGN PROCESS



The design process:
From concept and urban scale analysis to 1:20 detail study

_critical assessment

_COMMUNICATION

The methods used during the project have included developmental models, photographic collages, hand drawings, CAD and graphics software. Having only visited the site briefly during the visit to Poland, it was necessary to carry out much of the initial site and context analysis as a desk study.

Developmental work utilized a range of methods; typically **sketch models, drawings and collages.** These were successful in communicating ideas quickly, although greater use could have been made of collages. Workshops and seminars also provided opportunities to test out new ideas and concepts through the use of quick sketches and models with group discussion and feedback.

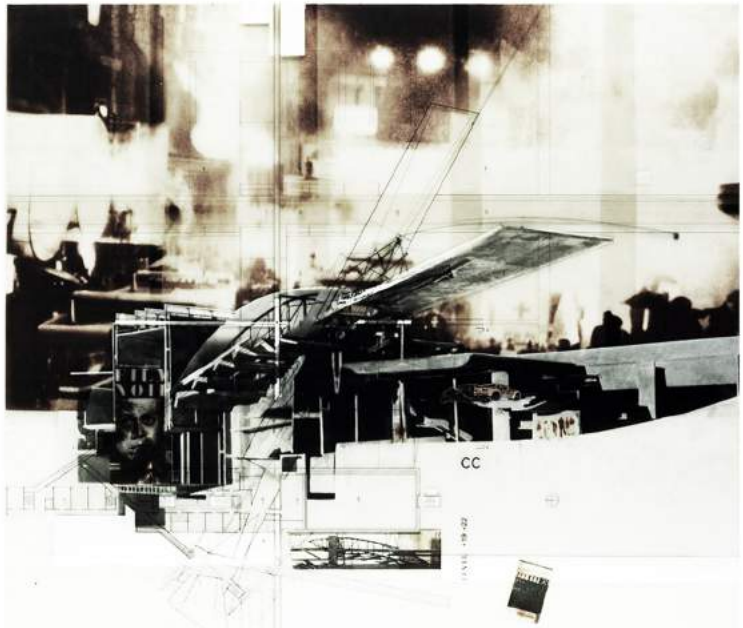
An important precedent for representing, articulating the **layered information** and combining **modelling with 2d/3d drawings** was morphosis architects Artspark Performing Arts Pavilion Competition; a field punctuated by solids and voids, blurring the boundaries between landscape and architecture. The potentials of **'double-coding'** and **layering of quantitative information onto qualitative representations** is something that interests me. I believe that this adds another dimension to the graphics, helping the viewer to imagine the building existing along with its social context.

The final presentation of the scheme aims to convey the whole presentation as a **hybrid type of drawing,** by mixing a variety of graphic techniques and bringing it together through the **consistent use of tone and texture.** The combination of 2d drawings with 3d physical models aids representation of the proposal and expresses the building's brief of **'action-reaction'** and the **hybridity of various programmes.**

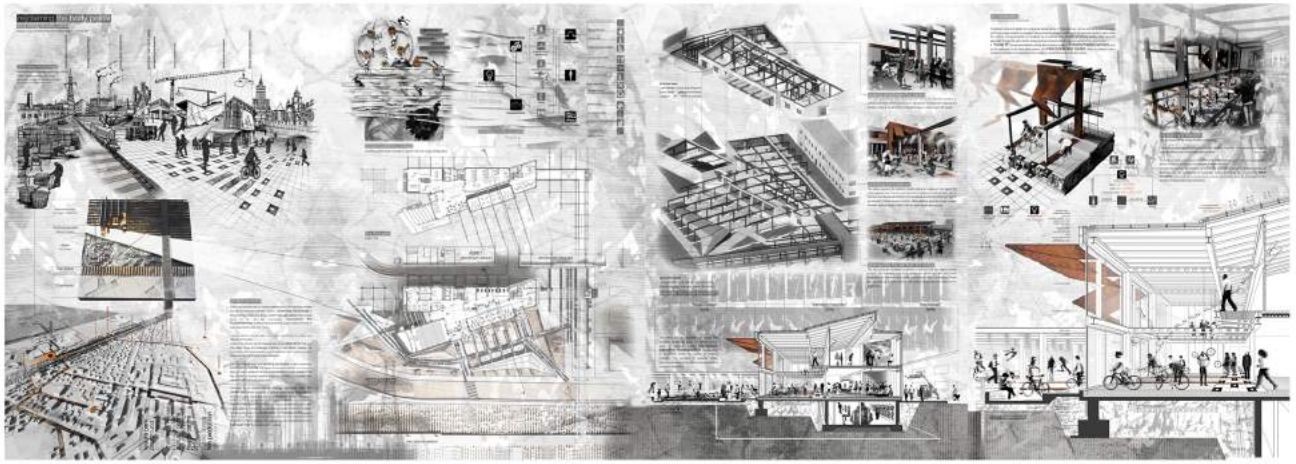
The perspective views attempt to illustrate the **experiential qualities** of the proposed internal and external spaces.
The whole presentation is perceived as a series of **interconnected routes** between **interconnected scales;** starting from the urban strategy and conceptual oultine, down to the detailed construction of the active facade and internal qualities of the building.

Finally, the **'collage' element** that started during the model making process informed the **'hybrid' 'double-coding' thinking.** The final presentation could further be enhanced via this collage element; however this super-imposition of information can become **complex,** possibly reducing the accessibility of the project and is also **time consuming.**

_COMMUNICATION



morphosis architects Artspark Performing Arts Pavilion Competition on the left and Nara Convention Center on the right



final presentation as a hybrid drawing

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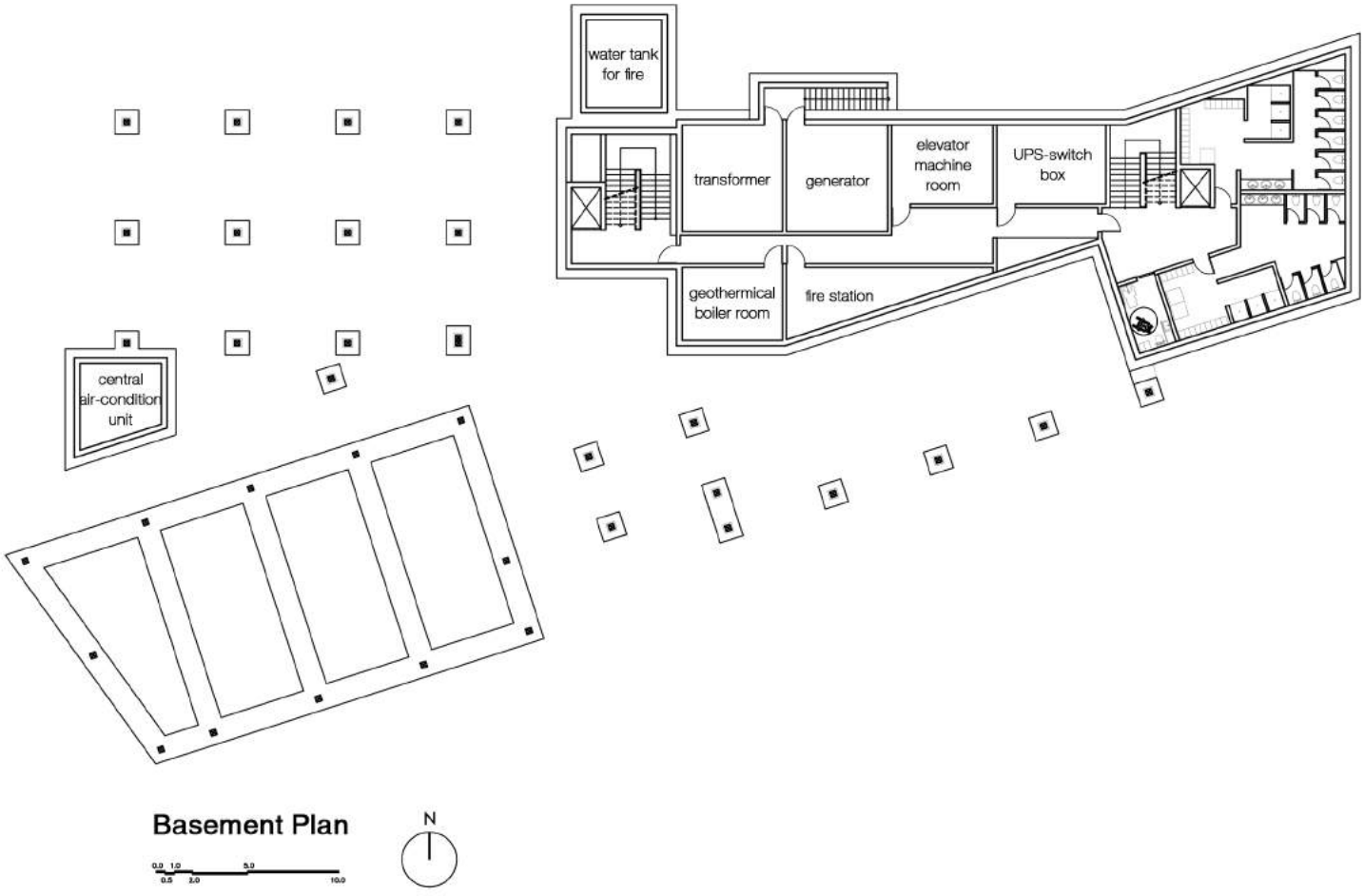
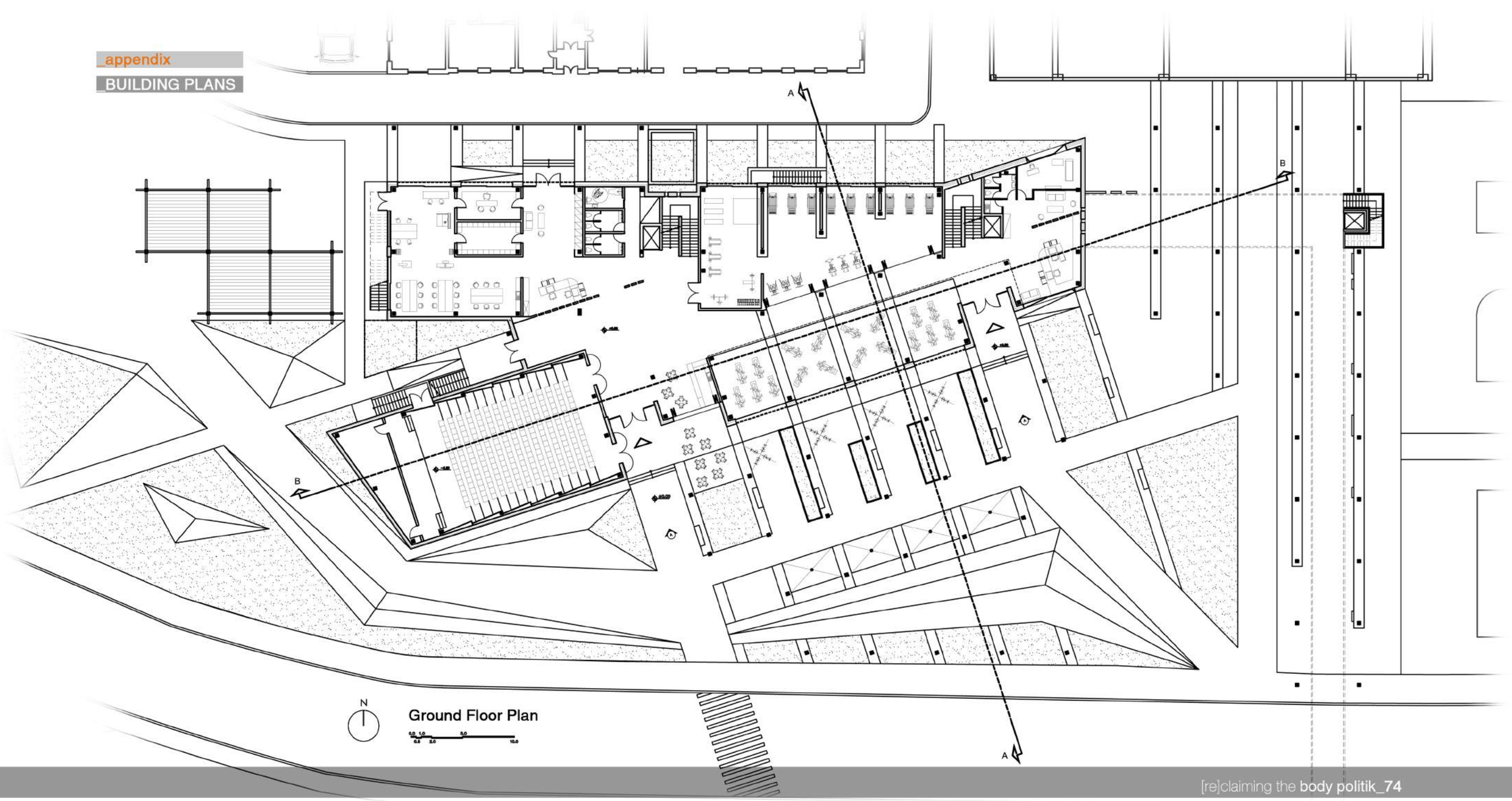
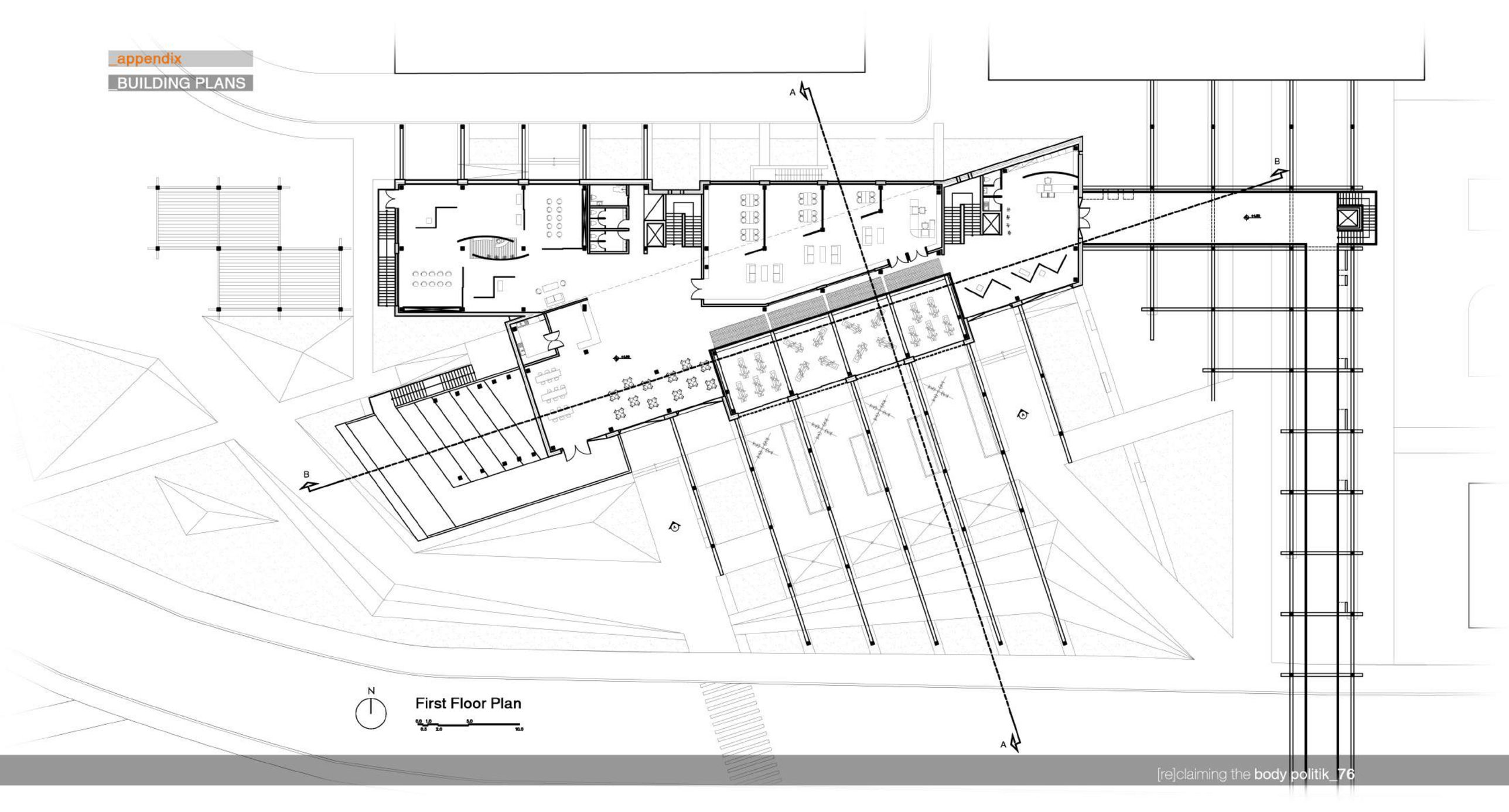
appendix



Basement Plan

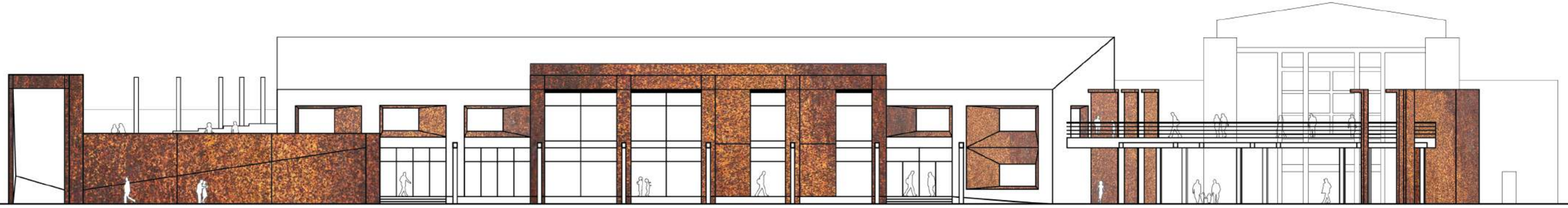


Ground Floor Plan



First Floor Plan

_BUILDING ELEVATION / SECTION



Elevation A-A

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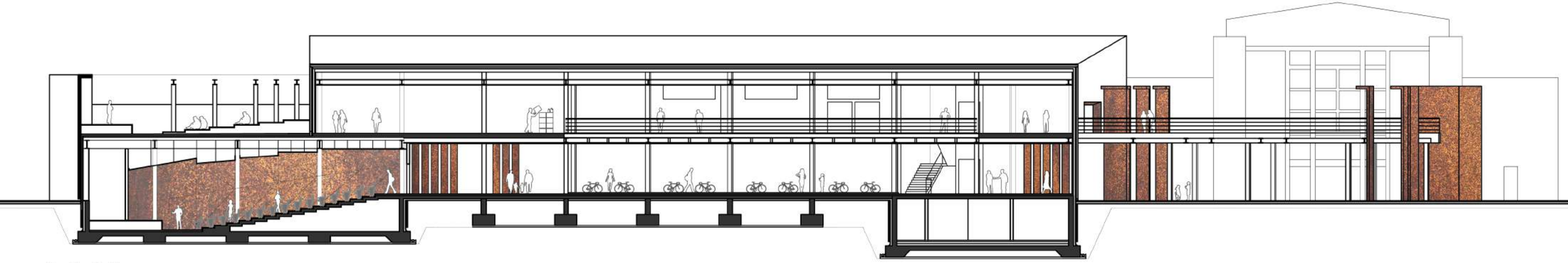
0.5 2.0 10.0



Section B-B

0.0 1.0 5.0
0.5 2.0 10.0