

MARCUS COLE

PERSONAL  
PORTFOLIO

### Projects

A Repetitive Collective	2015	RCA ADS 7
Splendid Automation	2016	RCA ADS 4
Grid Mentality	2017	Thesis Dissertation
Sisters 2 Exhibition	2018	Designer / Curator
Lisbon Triennale	2016	Researcher
RA Summer Show	2019	Model Maker

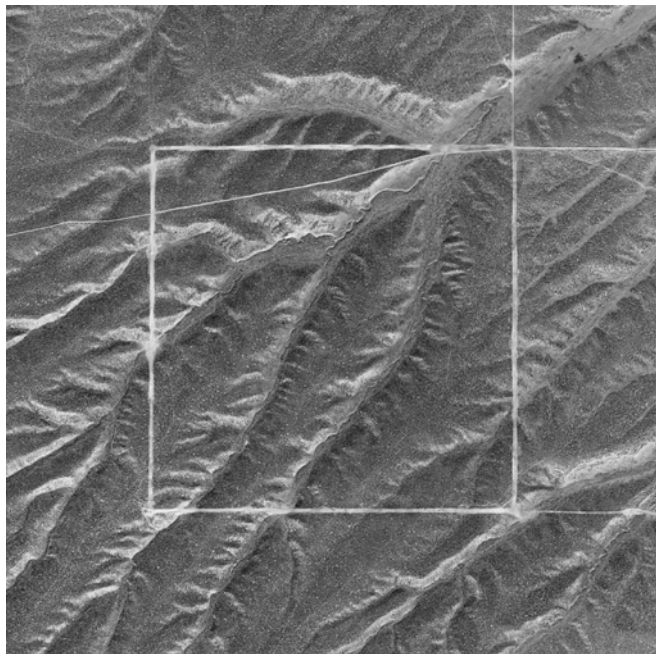
### Notes

This portfolio consists of personal design work undertaken on a freelance or research basis.

Student projects completed at The Royal College of Art, undergraduate work from the Bartlett School of Architecture UCL available on request.

# AN AMERICAN MACHINE

Winner of the RIBA West London Student Award 2017



i Satellite images depicting the American Grid / Google Earth

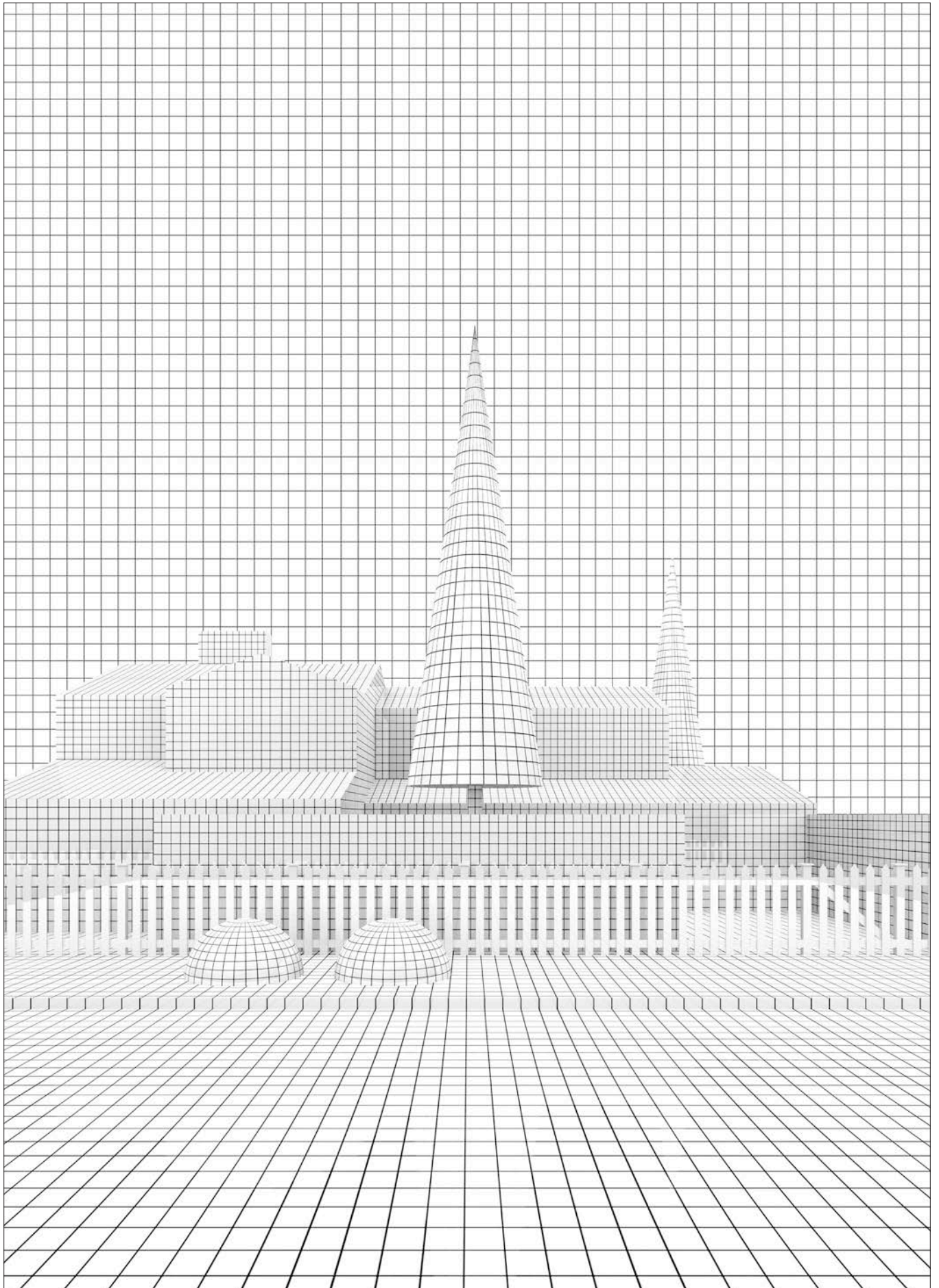
Tutors / Godofredo Pereira , Platon Issais , David Burns

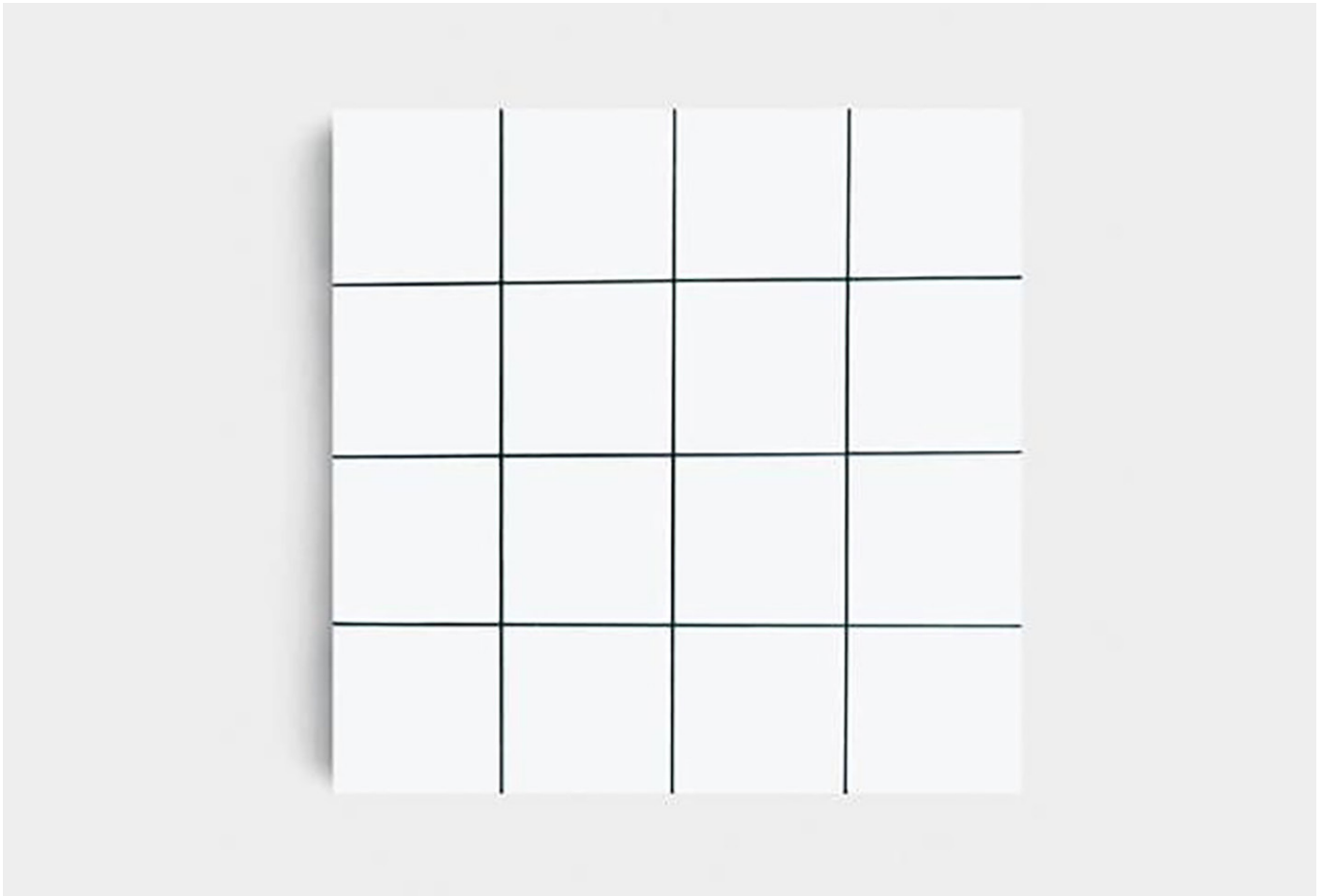
Grid Mentality was a 2 year research project that resulted in a series of research led critical design projects in the first year of the Royal College of Art. Project statement:

*“The grid is relentless and all encompassing. It dictates lifestyle, and in turn, the modes of living across nations that adopt it’s method. It is not simply a method of planning; indeed it can incorporate notions of jurisdiction, approaches to infrastructure, understanding of dwelling and the manner in which we exist. It influences domestic scenarios which seemingly appear off-grid. American Suburbia, for all its winding streets, in fact follows a rigid construction born from the grid’s mentality found more subtly in the ideology of the planning instead of the physical demarkation of space.*”

*In general, parameters within the grid are set, and while there exists strategies that allows for the components to adapt and progress, it is always from within and follows an unremitting progression that can expand and contract to infinitesimal degrees. In theory, the grid has no scale. Its’ modular nature allows you to present the same systematic approach to the layout of a house as it does the layout of a country.*

*Furthermore, it can facilitate the rise of architectural nuances (such as the Motel and Diner) which, by attaching themselves to the grid are swept up in its motion, duplicated and can incessantly influence the cultural history of a nation. The grid can be envisioned as a machine. One that harnesses the smallest of interventions implements them on a fundamentally functional methodology. This project seeks to explore the influences of the grid beyond its usual remit. ”*





iii 4 x 4 grid / 16 units of measure

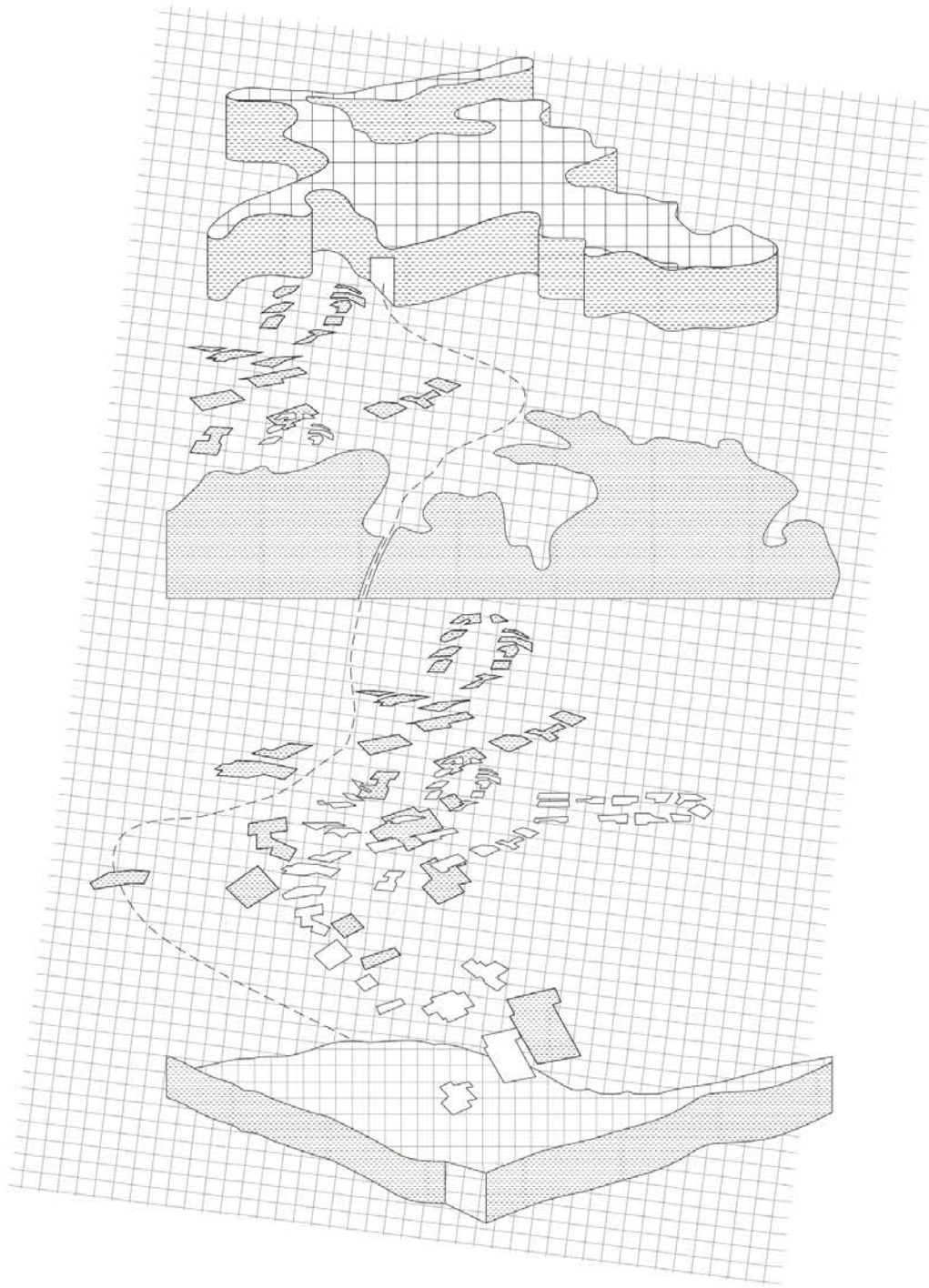
## P1 / TOXIC SUBURBIA

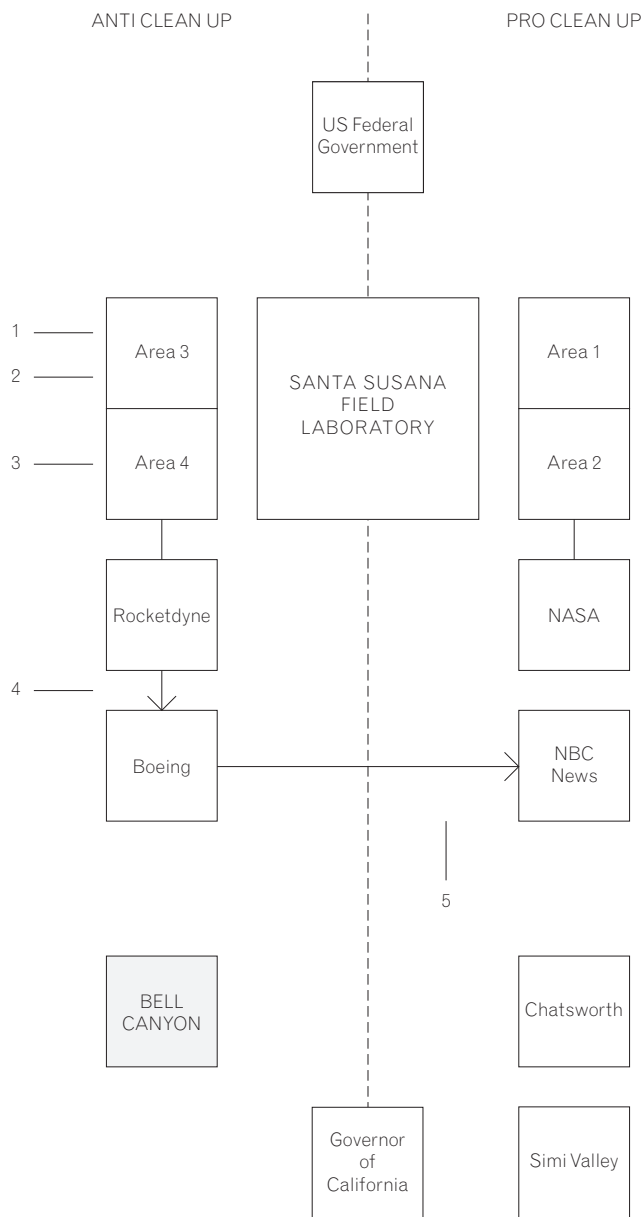
Project 1 explores a community on the outskirts of Los Angeles. It is a perfect example of the suburb - fit with cul-de-sacs and picket fences. However, nearby lies Santa Susana Field Laboratory, a decommissioned nuclear testing facility. During its tenure, the site suffered a number of contamination spills that remained confidential until recently declassified. These have left community of Bell Canyon suffering the very real risks of a radiation fallout on their doorstep. Now fully understood for what it was, the site has undergone a number of different partial clean ups, but to what extent and by whom?

With a large number of political, corporate and social collectives concerned in the dispute, LA's nuclear secret is in essence a microcosm of two of America's greatest forces - War Policy and Domesticity.

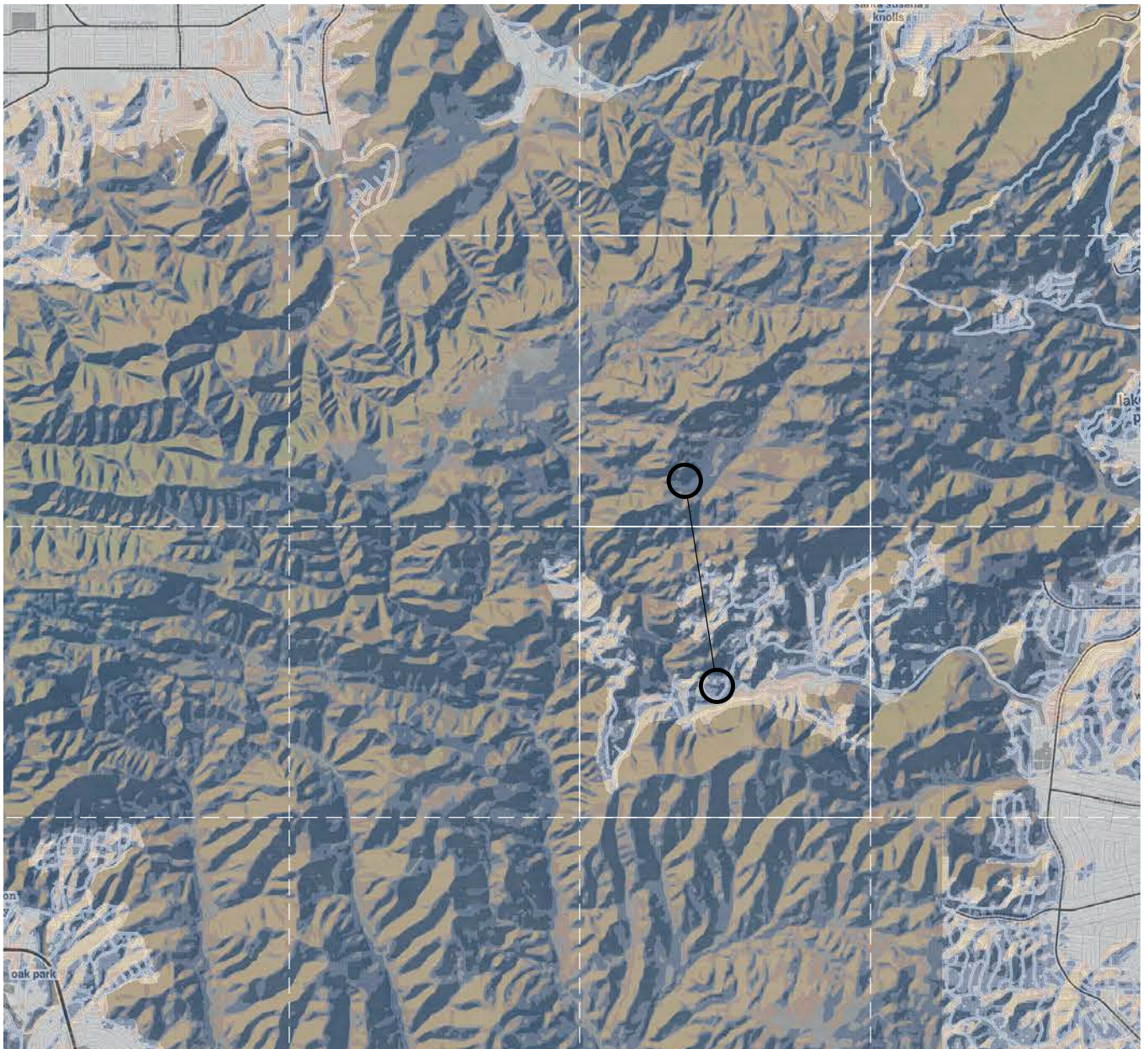
While appearing at opposite ends of the spectrum, the case study shows how the two share common ground. Indeed it was during the nuclear arms race that gripped America in the Cold War that suburbia was born. Intent on limiting the impact of hypothetical Soviet bombs, a system of low density domesticity was encouraged and the American Dream was born. Fuelled by a commodity driven lifestyle, the Federal Government sought to tackle issues of Foreign War Policy through domestic and critically architectural solutions. Hence the proximity of this suburb to previous nuclear testing provides an opportunity to explore these connections at scale.

The project imagines an outcome to the dispute that focuses on creating a design language suited to the nature of the machines at play.





- 1 1959 Nuclear Spill
- 2 1964 Reactor Meltdown
- 3 1971 Fire
- 4 Land Bought by Boeing
- 5 Employee Whistleblowers



v Map indicating the site locations of Bell Canyon and the Santa Susana Field Laboratory ( directly above )

It took investigative journalism and the statements of former employees to uncover the extent of the fallout on the test site. Yet eventually, the declassification of crucial documents led to a number of high profile legal battles seeking responsibility for the spills. The adjacent diagram depicts the key stake holders and the positions they held on the level of clean up that should take place.

What is most interesting is the side in which the community of Bell Canyon fell. The communities of nearby Simi Valley and Chatsworth fought hard legal battles focusing on the risk to health and cancer rates. Yet Bell Canyon, those closest to the site, were almost at pains to admit the multiple spills even took place. On a number of occasions the committee within the community public denounced the nuclear samples found within their commune as false

and claimed that the spills were hearsay. This reaction presented an interesting dialogue between the principles behind the domesticity cultivated in the gate community. Was the illusion of perfection so vital to the success of domesticity that it was worth ignoring the potential threat of the radiation recorded close by? Experiments conducted around the site showed that not only was the level higher than the baseline, but it had also reached deep beneath the land, affecting the natural springs that run through Bell Canyon and ended up in the Los Angeles River.

Bell Canyon's denial was at odds to what the notion of the American Dream had been founded upon - *safety*. Furthermore their support against the findings provided Boeing a crucial lever in successfully challenging the state ruling for a full clean up down to a partial one.





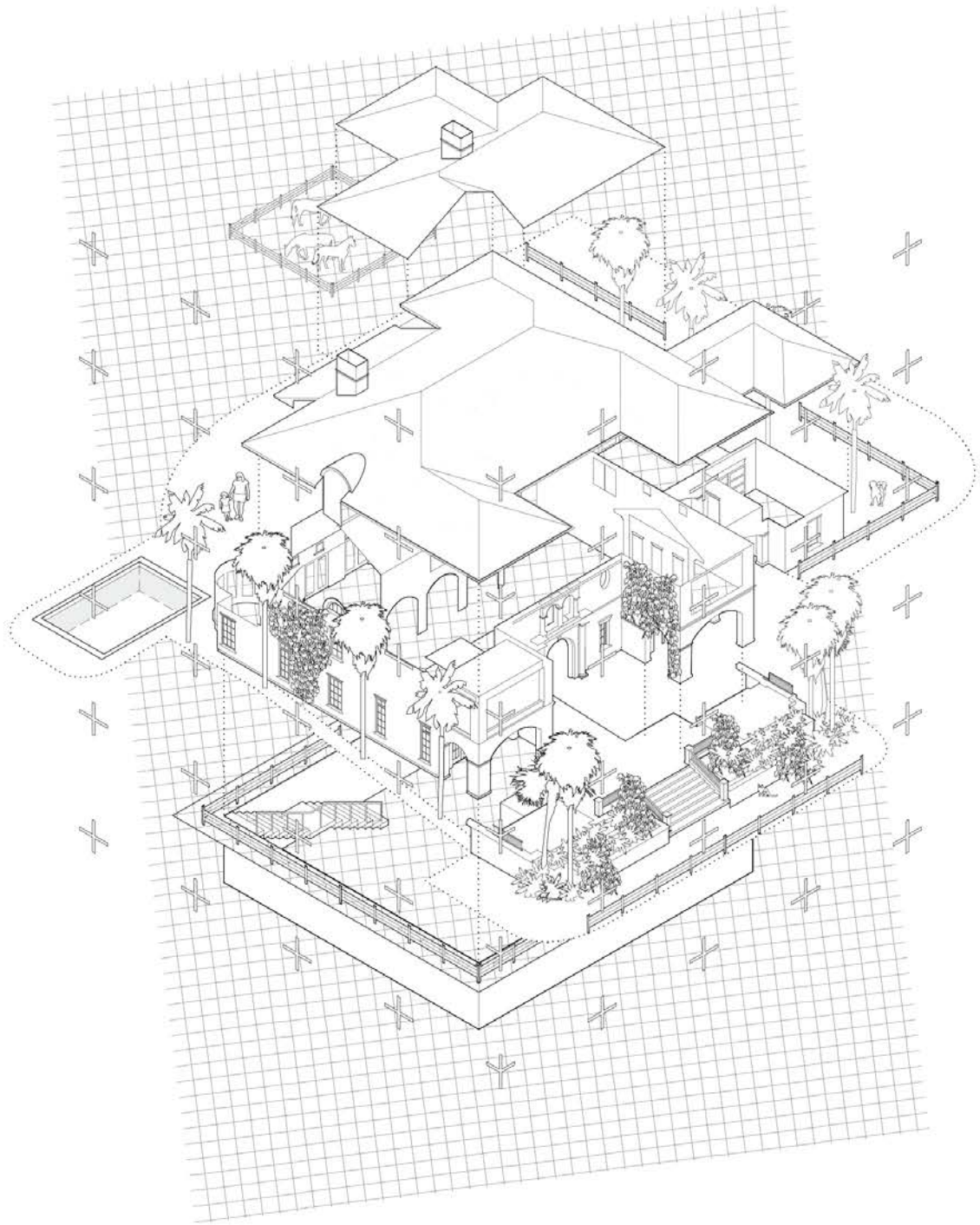
vi Research Books / Two documents studying domesticity and war policy in the case of Bell Canyon

In order to better understand the motives behind Bell Canyon's position analysis was undertaken on the legislation and regulations that govern their existence. The intention was to better understand what was architecturally at stake for the community should a full clean up be ordered. The case that stood out within this community lay within its formation of an 'Architectural Committee'. This association was founded upon a desire to regulate and order the suburb. The committee consisted of voted members from the community who served terms in office and were voted in by their peers. Elections were held bi-annually and formed behind a simple agenda :

*"To protect, maintain and enhance the value of community by providing oversight and enforcement of by-laws. respectful community."*

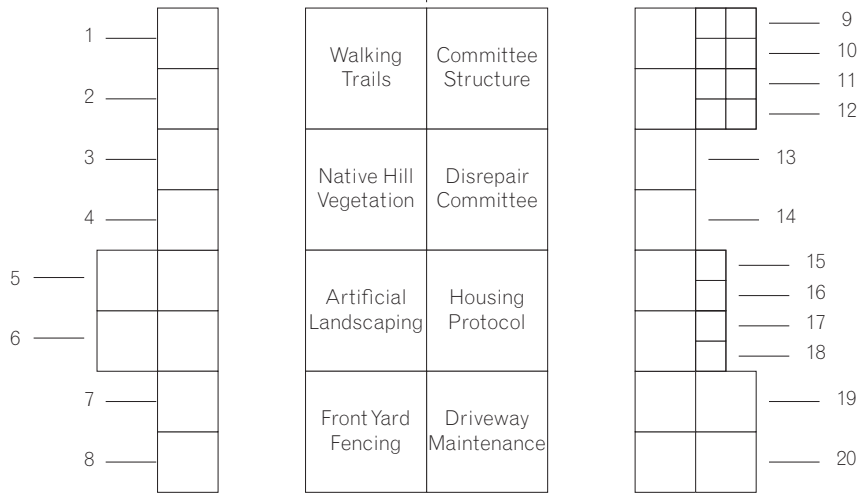
The diagram on the adjacent page summarises the analysis of their legislation and sought to pin point exactly what was governed within the community. In reality, the extent of order dictated by the committee shows what is required to ensure the effortless domestic freedom suburban America portrays. What became clear was the community's concern for the upkeep of their built environment. So much so, they willingly overlooked the nuclear spills that threaten their future existence for continuity's sake.

The very core of their existence is based around this notion of continuity. Whether it is a continuity in house prices, a continuity in aesthetics and views or even a continuity in the lawn height - the Canyon's persona thrives off of it. These are traits shared with the implementation of the Jeffersonian Grid.

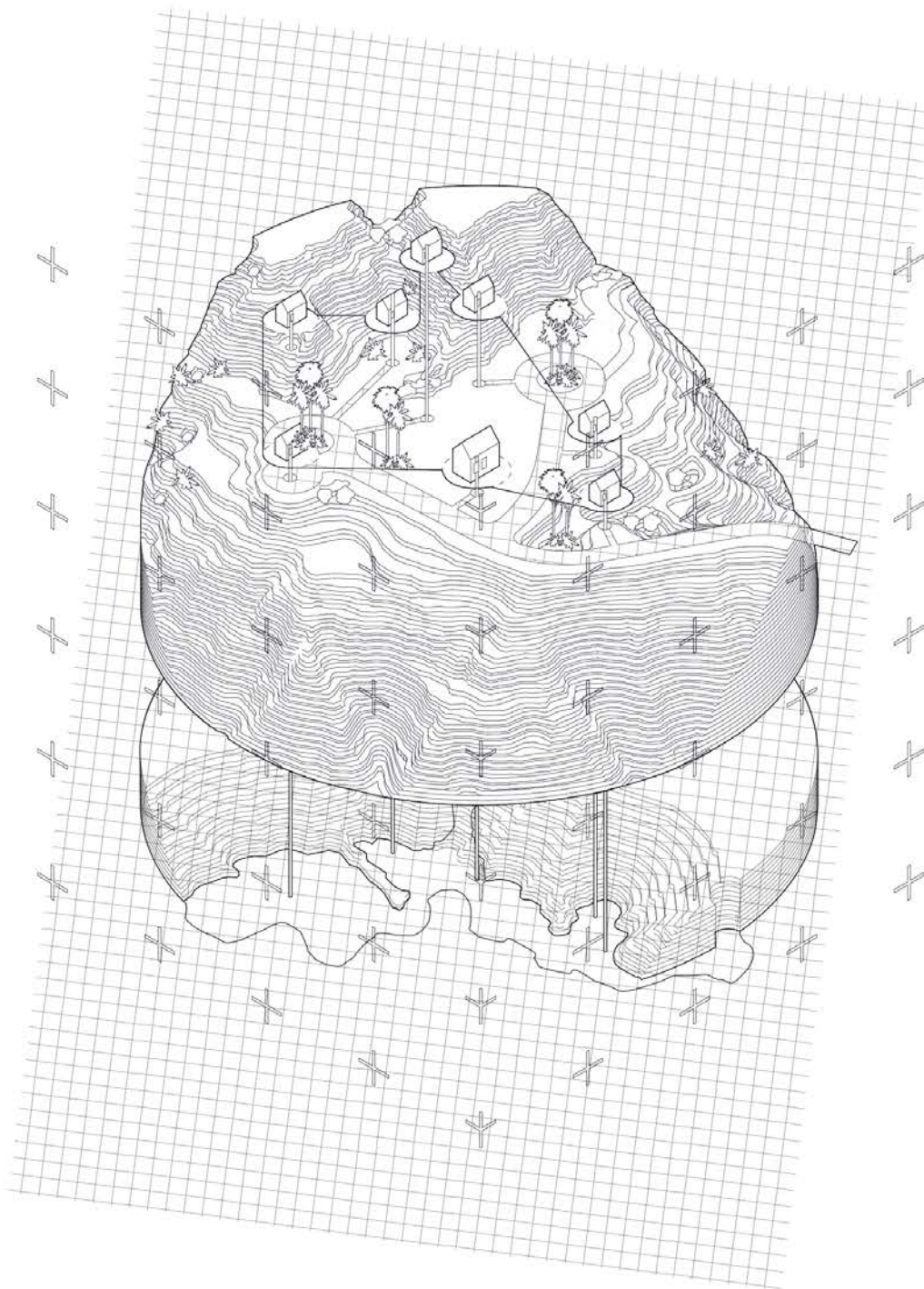


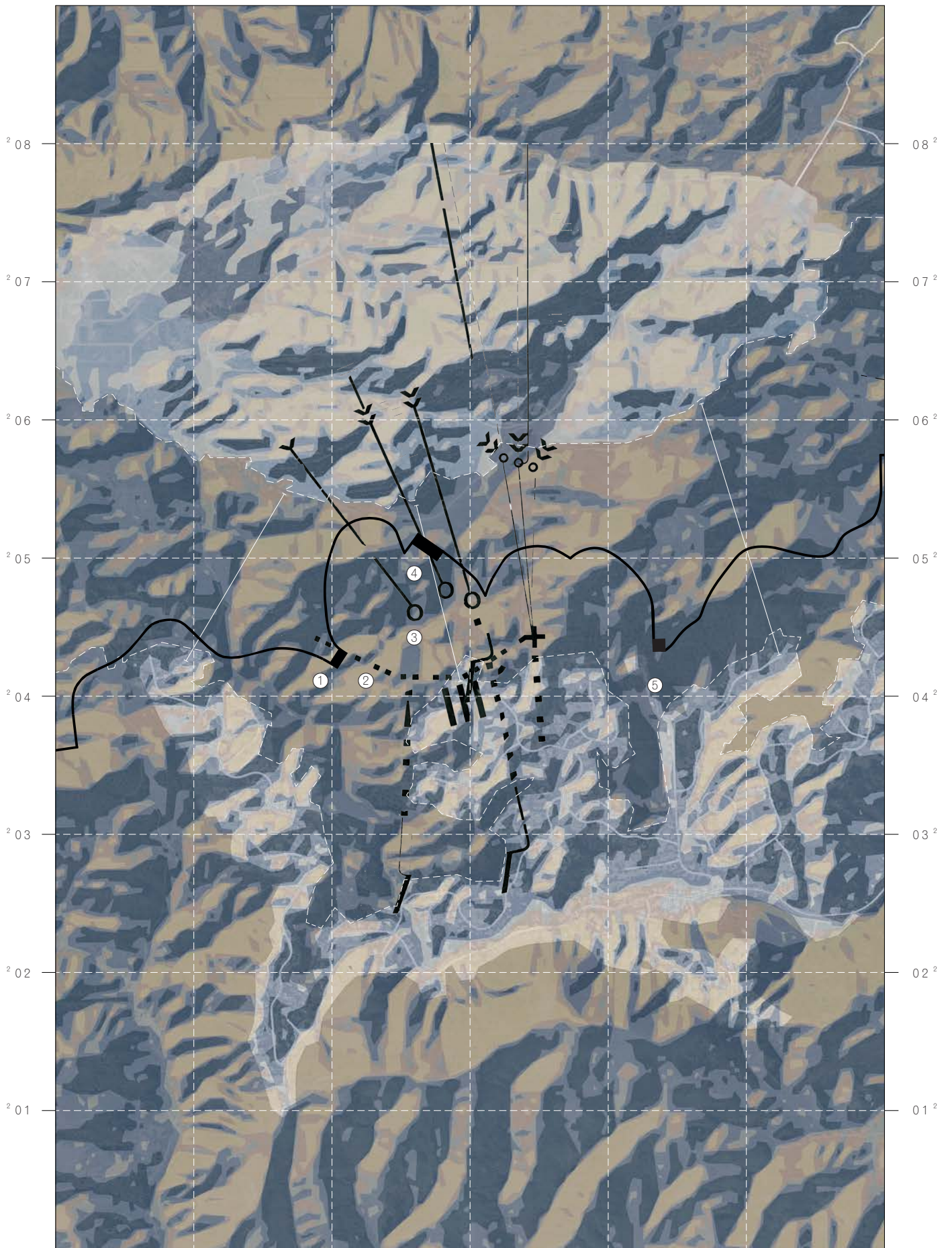
THE  
DOMESTIC  
MACHINE

The Architectural  
Committee








- |                            |                           |
|----------------------------|---------------------------|
| 1 Horse Trails             | 11 Additional Associates  |
| 2 Batting Cages            | 12 Bell Canyon Collective |
| 3 Stables & Paddocks       | 13 Annual Inspection      |
| 4 Motor Courts             | 14 Legislation Monitoring |
| 5 Retaining Walls          | 15 Hidden Basements       |
| 6 Easement Areas           | 16 Deck Capacity          |
| 7 Guest Houses             | 17 Two Storey Maximum     |
| 8 Sports Courts & Poolside | 18 Unoccupied Attics      |
| 9 Voting Members           | 19 Trashbin Placement     |
| 10 Board of Governors      | 20 External Lighting      |







500 m

 nuclear spill  
 direction of spill  
 boeing 2006 sample

 sites from legal battle  
 partial clean ups  
 underground water

 monitoring station  
 water diversions



ix Concept Model / creating an architectural language to tackle the dispute

- < The adjacent map indicates a visual timeline of the spills and their effect on the surrounding area.

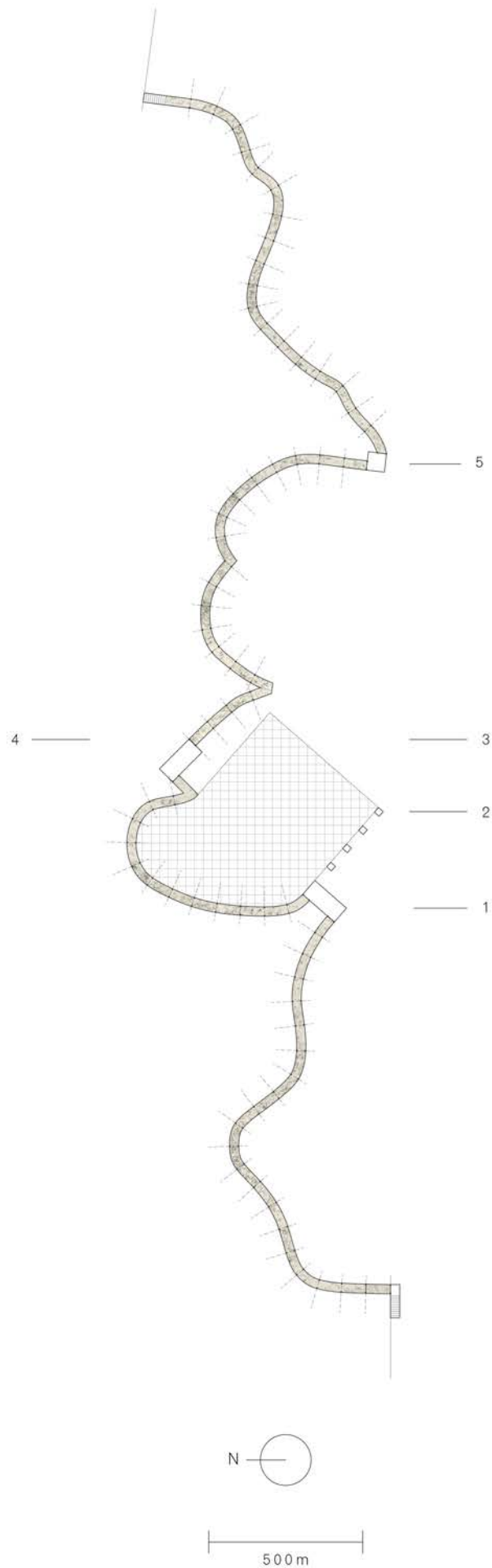
In order to formulate a design response to the case study, the analysis of the contamination extents was utilised to form an architectural threshold between the suburb and the field laboratory. This boundary acted as both a metaphorical and literal line in the landscape whereby all jurisdictions and legal ramifications could be addressed.

The proposal sought to reify this line into a wall that helped accommodate for the needs of both the clean up and the community. The line was to be implemented under the same principles that dictated both the domestic and previous war policy upon this site - utilising grid mentality. Yet what the previous research showed was that a grid mentality does

not necessarily involve orthogonal design. Indeed suburban mentality does the opposite. With this in mind, the wall followed strictly the boundary line at the point at which radiation levels became below the base line for living.

Furthermore, domesticity within the community had strong connections to the natural landscape. Indeed, a number of walking trails were commissioned by the Architectural Committee providing their inhabitants and the wider public with greater access to the surrounding area.

Thus the proposal sought to help extend this policy and provide free public access along the buffer line. This notion of public transparency was integral in breaking down the secrecy and conspiracies that surrounded the nuclear dispute.



1 Visitor Centre 2 Sample Sections 3 Contaminated Site 4 Resident Outreach



x Linocut & Pressprint / Depicting the subterranean movement of contamination across site

- 1 Visitor Centres / Here the public could gain access to information regarding the progress of the site clear up.
- 2 Sample Towers / Towers that concealed drills from eye sight are dotted around the threshold monitoring the levels of radiation during the clean up.
- 3 Contaminated Sites / Site of high level contamination are covered with black tarpaulin.
- 4 Boeing HQ / A clean up facility provided to allow maximum efficiency during the process.
- 5 Community Outreach / A Centre shared by all effected parties whereby coordination meetings, progress updates and asset management could take place.

Collective equipments such as lookout points and visitor centres were dotted along the route to help provide interventions which opened conversations that could help educated and alleviate tensions within the scenario.

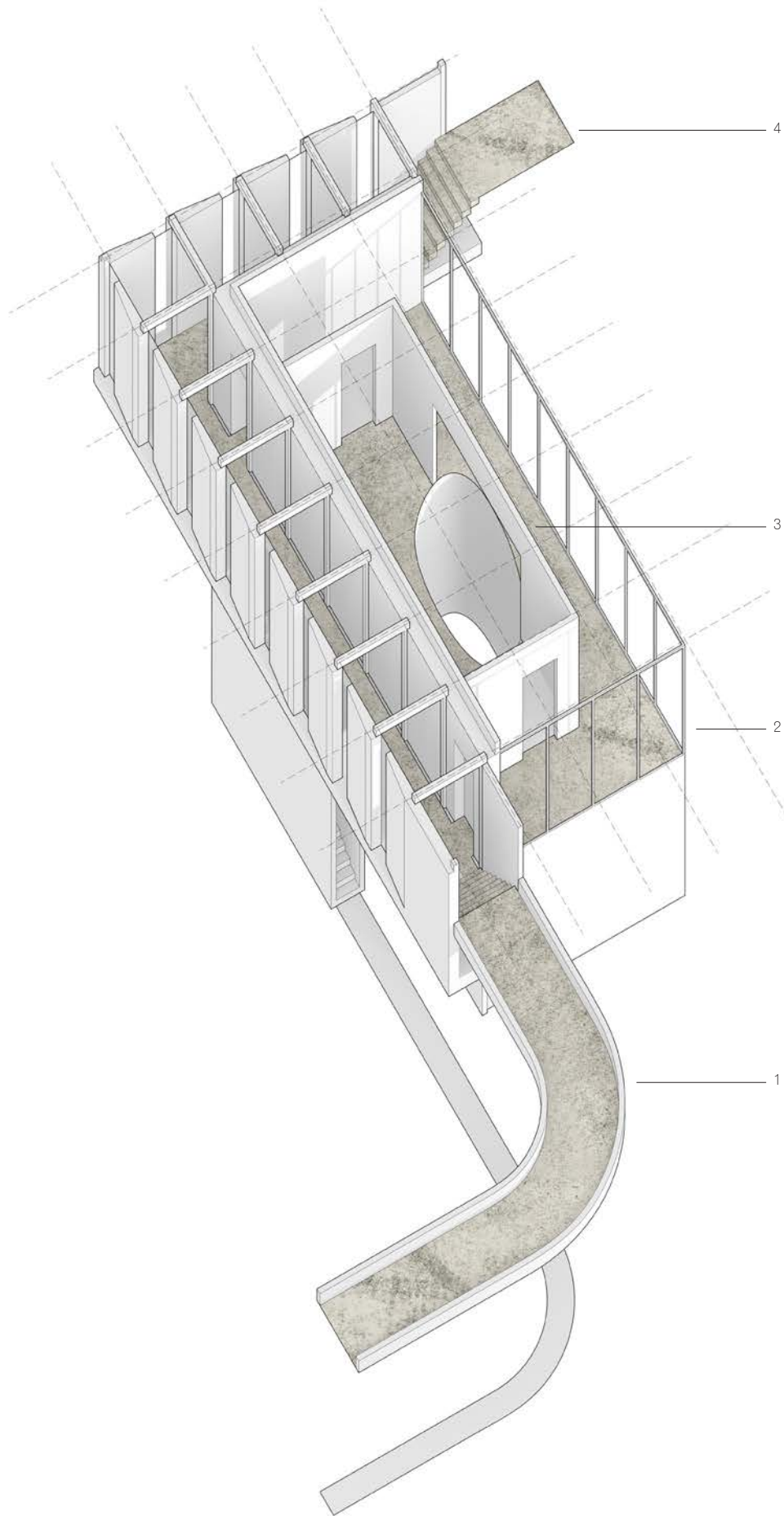
Acting a centre for the surrounding communities it provided a chance for those living in the Simi Valley or nearby Chatsworth to engage with the community who's opinions on the dispute at hand were so contrasting.

Upon the completion of the more extensive clear up, it was envisioned that Boeing's involvement off-site would end and the wall would remain - a thin scar in the landscape serving as a public hiking route providing outstanding views of the surrounding hills as well as a stark reminder of the relentless nature of the American grid mentality.





xii Physical Model / Sample Section Tower / Bell Canyon CA



xi (1) Visitor Centre / 1 Walkway 2 Viewing Platform 3 Public Consultation Room 4 Brise Soleil Facade



xiii Visual / Wall Entrance



xiv Modes of Living within an oil workers camp in Williston, North Dakota

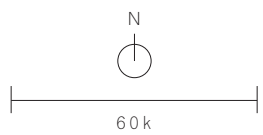
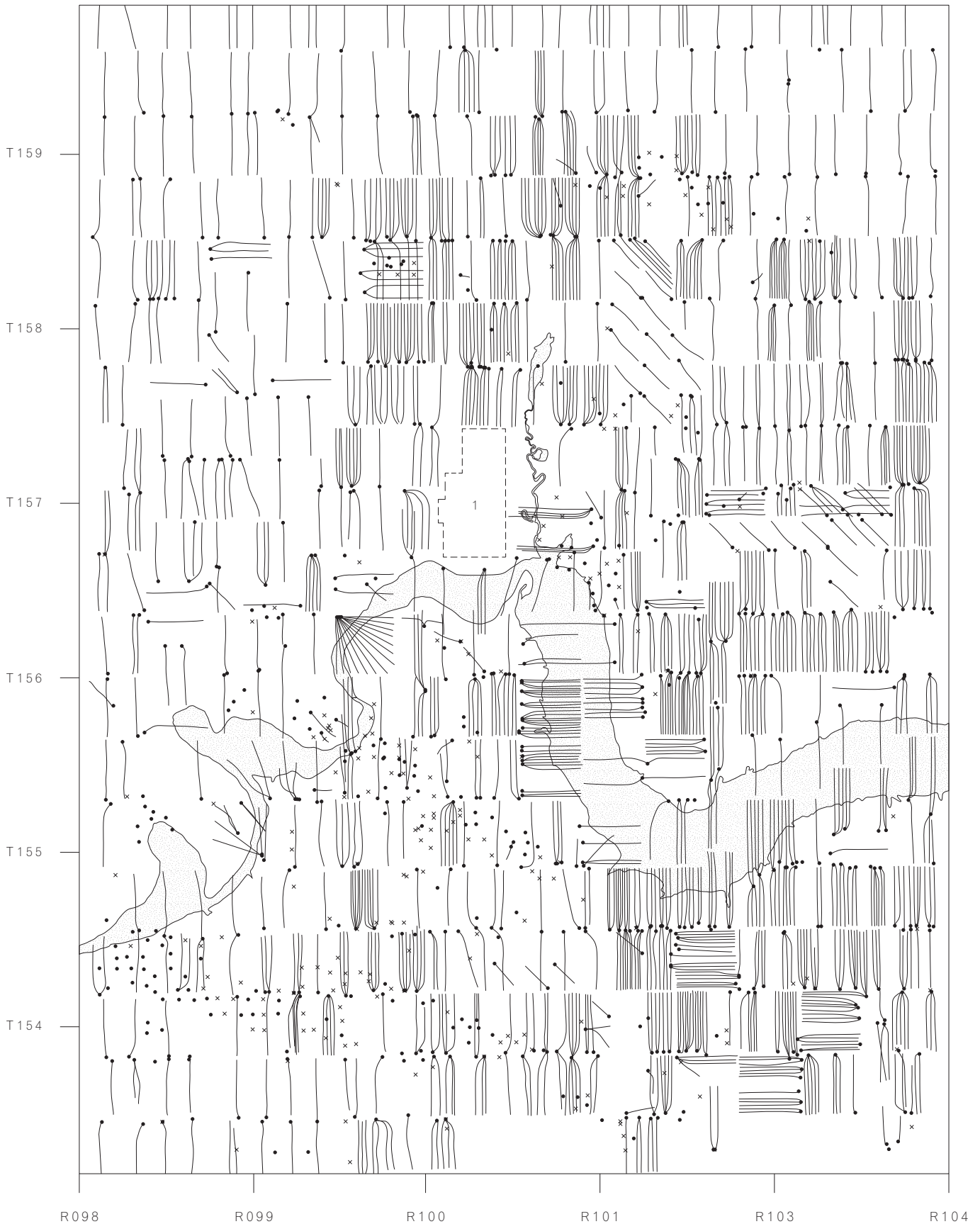
## P2 / A REPETITIVE COLLECTIVE

Project 2 builds upon the explorations of the investigations in Los Angeles by evaluating another domestic scenario at the opposite end of the spectrum. Yet while the form of domesticity is polar opposite, the connection to a larger 'machine' that drives America's grid mentality remains. The project focuses on the Bakken Formation, an oil reserve that spans across North Dakota.

The Fracking Industry, searching for oil beneath the state, has in a frenzied expansion of capitalist opportunity, rapidly developed its own subterranean system who's sole purpose is to extract oil in the most efficient and cost effective manner; it's grid as relentless as the urban above. This subterranean level follows the infrastructure atop (essentially the lines of the grid) but remains in its own jurisdiction based on corporate ownership.

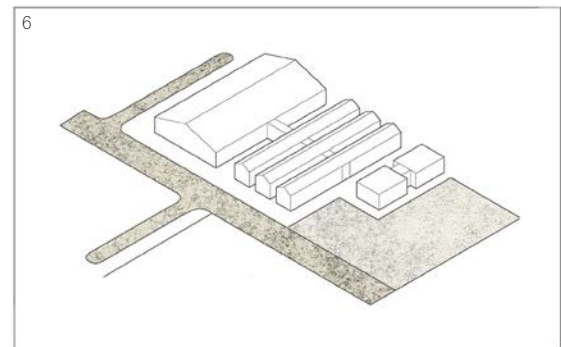
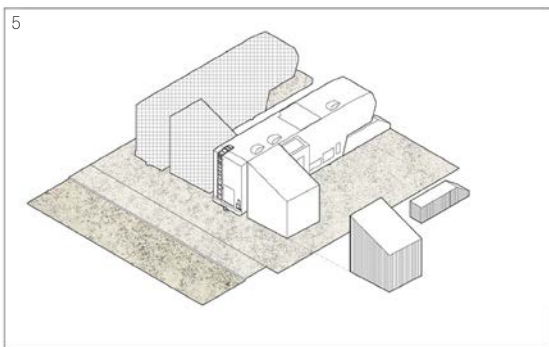
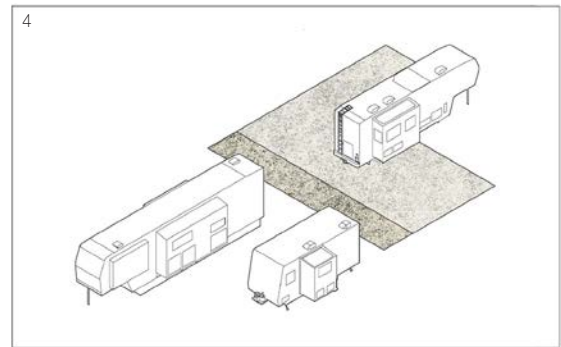
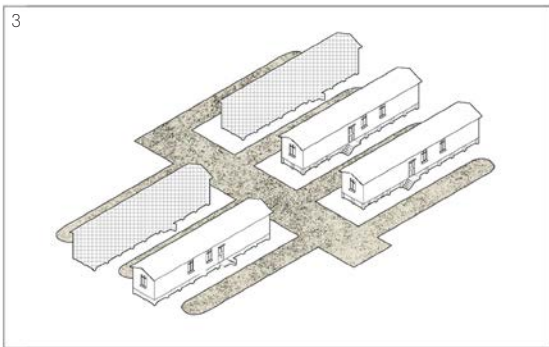
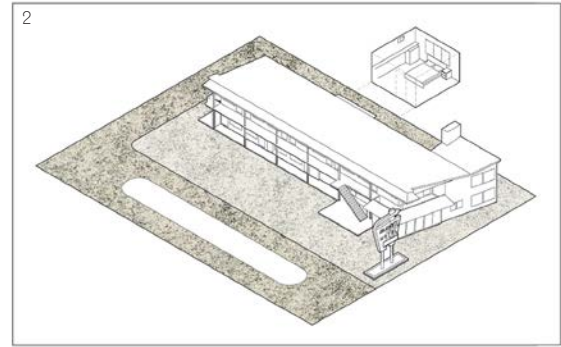
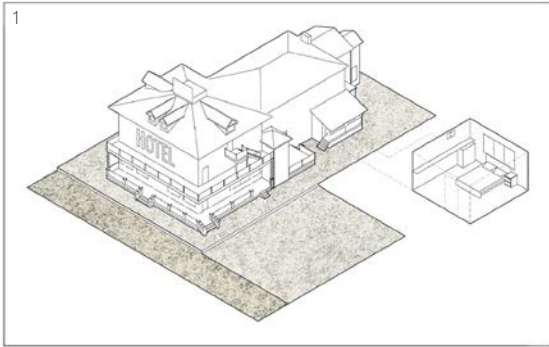
The issue that has arisen from this comes from the work force that is needed to expedite the extraction of oil. They act as commodities that circulate through the existing grid precariously while servicing the new beneath. This precarious nature is due to their dependence on the existing urban set up to dwell. It is not set up to accommodate the domestic strains of the new and so has reached its breaking point.

The project centres upon the town of Williston, who's own personal history is heavily connected to the boom and bust nature of the oil industry. The town itself is relatively small and it's population faces extreme strains in the wake of a now booming resource extraction. This has left a shortage of amenities integral to providing an acceptable quality of life for the worker nomads and the families they bring.



xv Bakken Formation Fracking Map / North Dakota



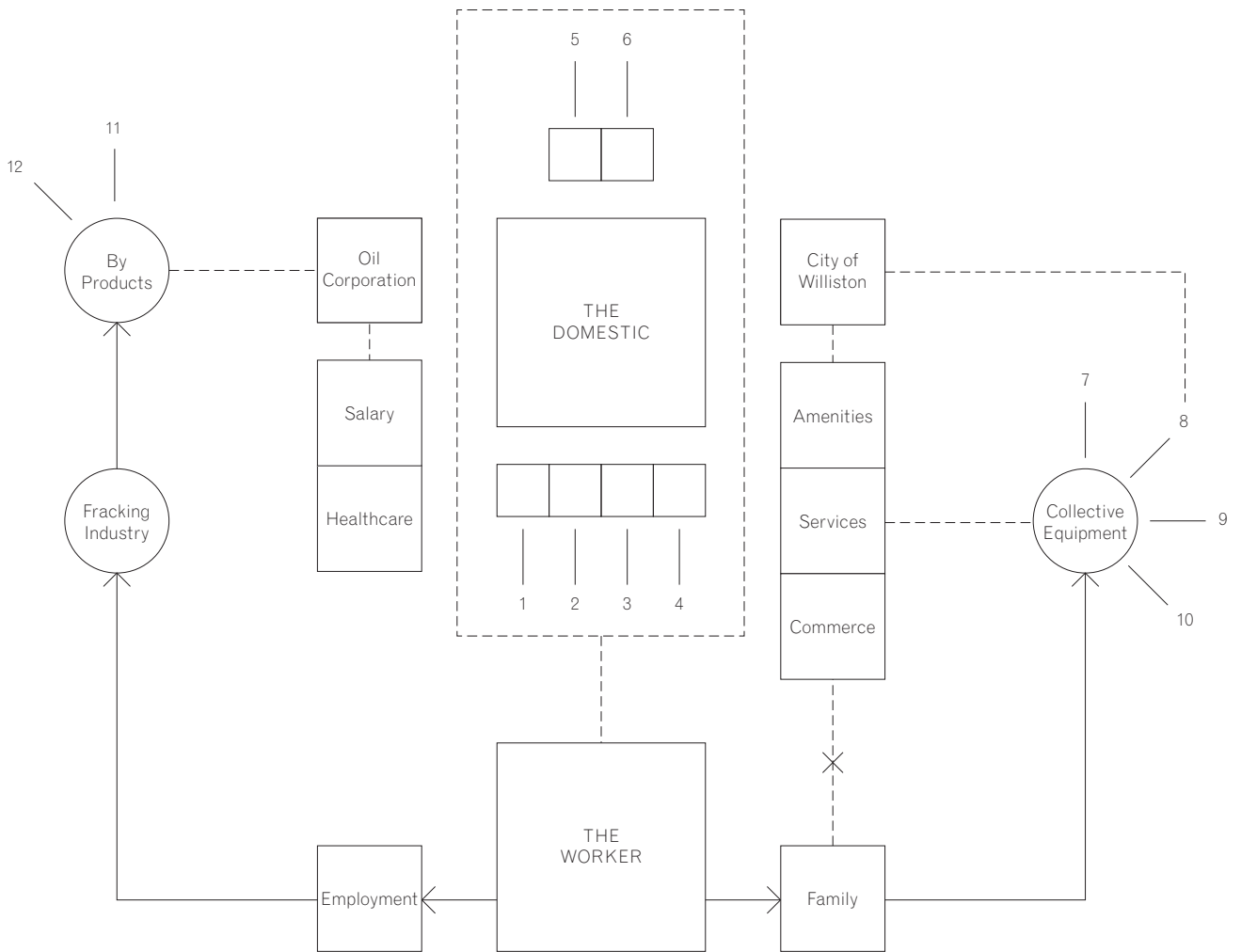


The nature of domesticity for these migrating workers is precarious and temporal. The uncertain nature of their existence has led to a taxonomy that provides none of the 'comforts' deemed crucial to the structure of the American Dream they chase. Typically they fall into 6 main scenarios :

1. Hotels / A number of the migrant workers will take up short leases provided by some hotels within the jurisdiction of Williston to enable them to live comfortably while working. However this is expensive and often not suited.
2. Motels / Similar to the hotels in the nature of living with less amenities provided, the motels are often situated outside the city's jurisdiction and closer to the oil fields.
3. Mobile Home Units / Often a collaborative effort by

the oil corporations and the city, they provide basic homes, often situated outside of the city and isolated.

4. RV Camps / Reliant on workers owning them. They are forbidden from existing within the buffer zone of the city due to the unsightliness of the camps. This has left them isolated from the city centre and key amenities needed.
5. Adapted RV Camps / An extension of the RV, many of the workers adapt to create suitable conditions for larger families as well as the harsh weather conditions. Thermal additions are common.
6. Men Camps / Solely provided by the oil companies, these provide male workers with room and board but do not allow families to accompany them and are also isolated.



- |                             |                              |                            |
|-----------------------------|------------------------------|----------------------------|
| 1 Living Room and/or Study  | 7 Local Business Opportunity | 12 Local Felled Woodland   |
| 2 Kitchen and Dining Room   | 8 Public Leisure Amenities   | 13 Sand, Cement and Water  |
| 3 Bathroom and Shower       | 9 Child Care & Education     | 14 Construction Expertise  |
| 4 Bedroom ( number varied ) | 10 Communal Breakout Space   | 15 Recycled Steel Rigging  |
| 5 Car ( for employment )    |                              | 16 Dispersed Working Hours |
| 6 Car Parking               |                              |                            |





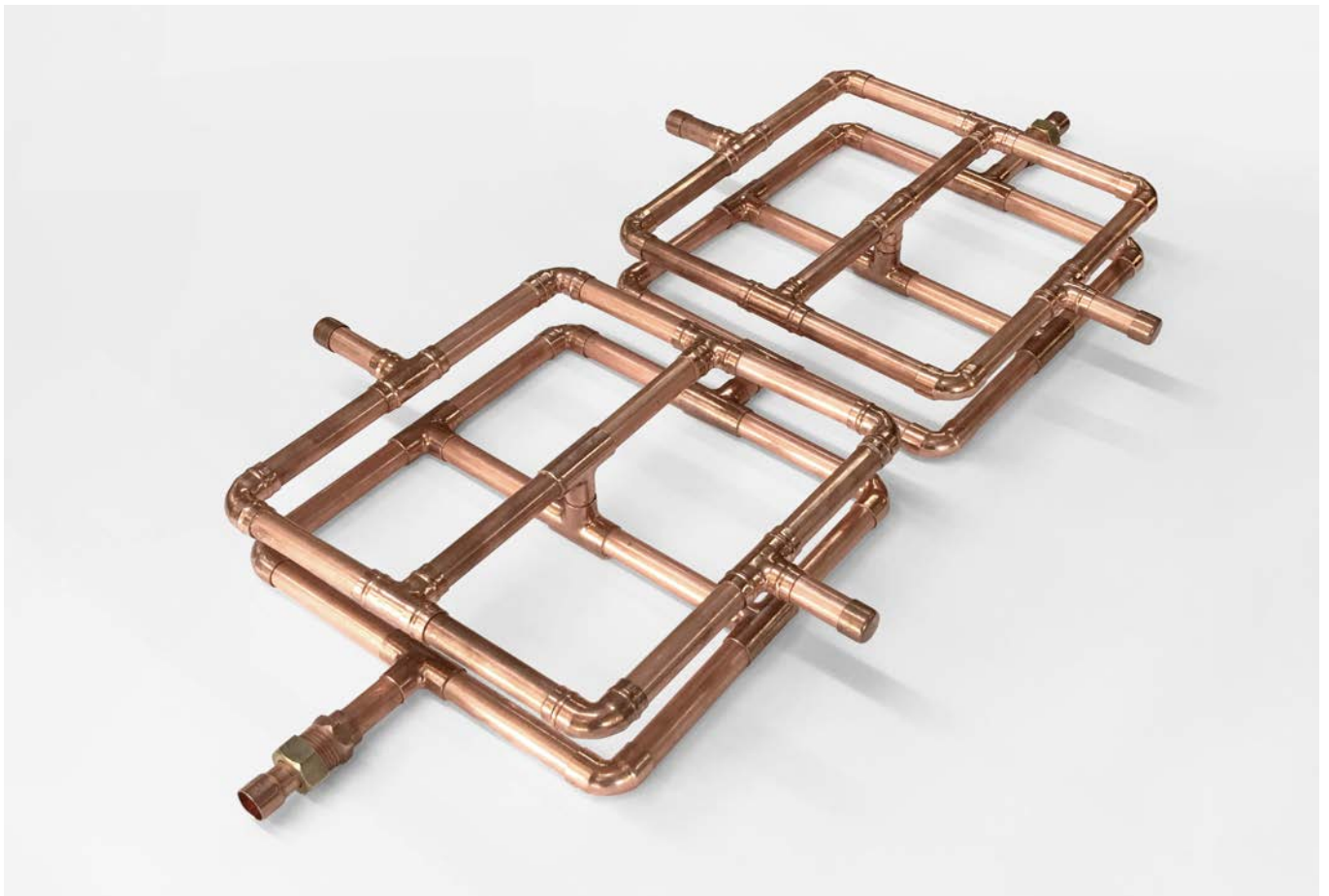
xvii Photo taken on site at an RV Camp outside of Williston / Makeshift thermal additions for use during winter months.

These domestic taxonomies show that the overwhelming majority of workers situated in and around the city are unable to provide a standard of living fitting for their families. As a result, a number of key architectural issues arise. 'A Repetitive Collective' seeks looks to the most dire scenarios found within the camps in the bufferzone around the city. It looks to understand the modes of living present within the camps and provide interventions to help capitalise on the nature of their existence.

Within this, it also looked to address the major issues that surrounded the use of temporary constructions in relation to the climate of North Dakota. As shown above, many homes are adapted to help deal with the plummeting winter temperatures. These are often insufficient and create dangerous domestic environments.

In addition, while many single men's needs are covered in the Men Camps provided by the corporations, the large majority bring families into the state due to the duration of employments lasting between 3- 5 years. It is within this timeframe and demographic where the greatest fallout of basic standards is seen.

The presence of children evokes the need for basic care and education. The city's education system simply cannot cope with the percentage increase and this in turn means a number of the children situated in the RV camps simply go uneducated. Furthermore, the presence of any form of leisure provisions is non-existent. This gap helps fuel a growing conflict between the working community and the locals, as a disproportionately high percentage of bored male workers seek entertainment in the city.



xviii Modular Heating Component / Closed Circuit Link

## P2 / 1 : 1

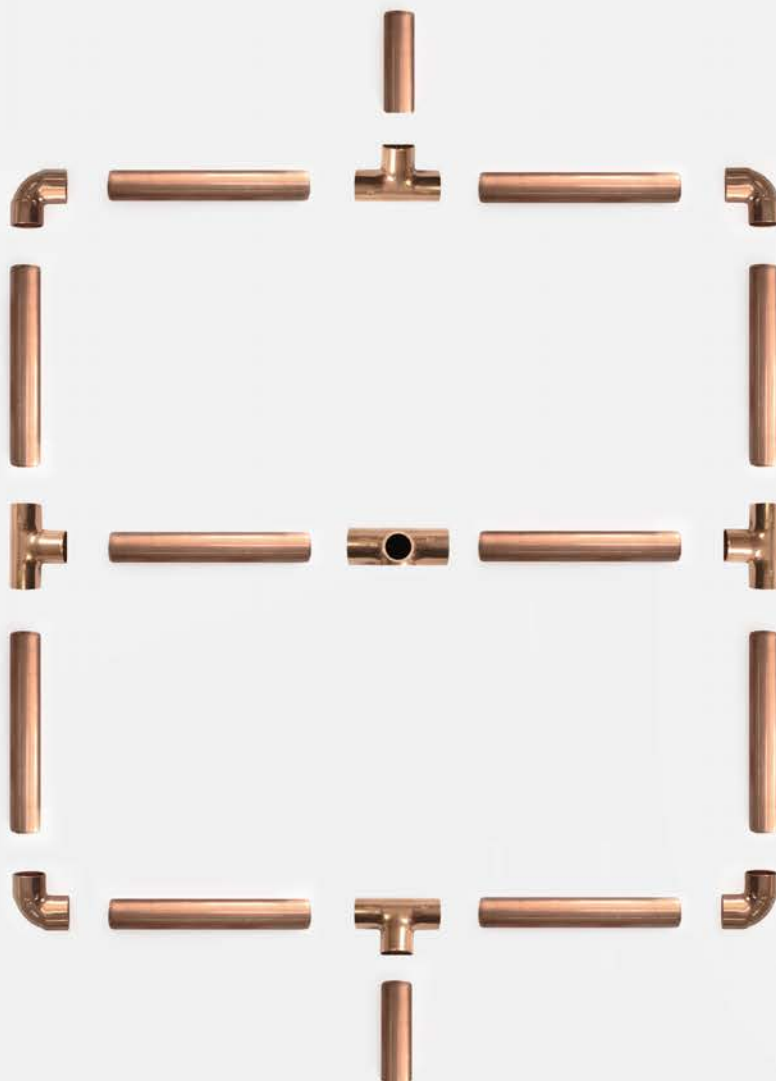
As part of the first year at the Royal College of Art, it was required to complete a technical study of your proposal which included a 1:1 experiment that tied into some of the key issues surrounding the brief.

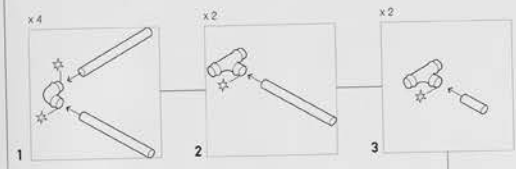
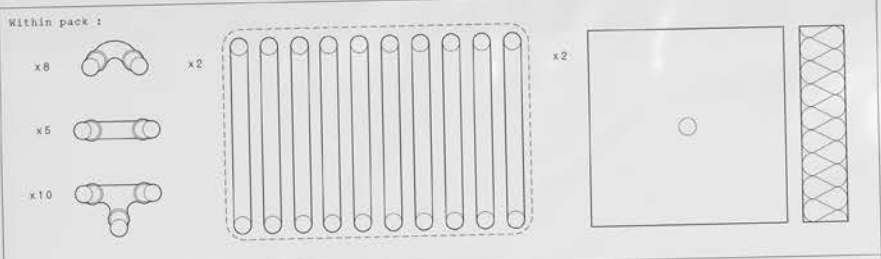
Within 'A Repetitive Collective' this manifested through the hypothetical implementation of a temporary thermal solution for the RV Camps during the harsh winter months in North Dakota. It was suggested that this 'kit of parts' would be funded and distributed by the oil corporations exploiting the land around the area to alleviate complaints from their workforce. The system was designed around earlier research into modular product design and involved collaboration with the Design Products course at the RCA. It consisted of a simple set of copper plumbing components and an instruction manual to help direct the user.

The thermal panels formed a closed loop system that enabled them to be fitted to both the interior and exterior of the RVs. This was important to ensure that the build up of snow, that acted as a structural hazard was also controlled. The closed system was constructed and implemented where the user felt necessary and then connected to the larger network on site by the local engineer. These expertise were readily available due to the nature of employment in the area and thus required no extra deployment.

A key surplus by product of the fracking industry is the heated brine water that is extracted from the bore holes during drilling. It was envisioned that this contaminated but hot source of water would be used to turn the modular piping system into a radiator with the closed loop system ensuring minimal contact with the water.





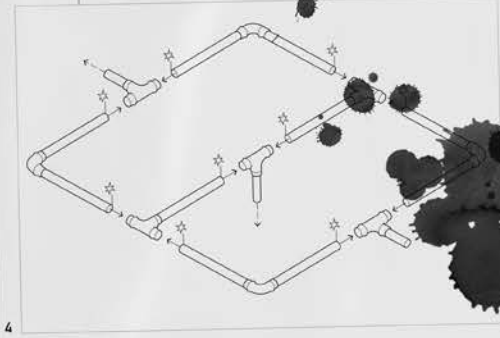
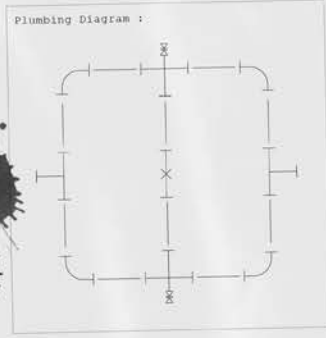
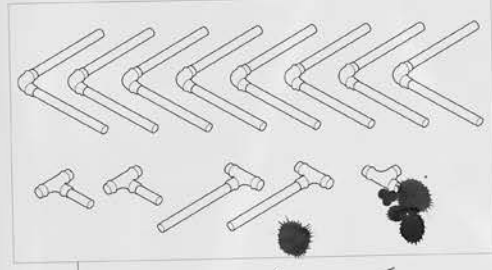


\* NB / Small blowltorch and solder material are provided in package 2/2

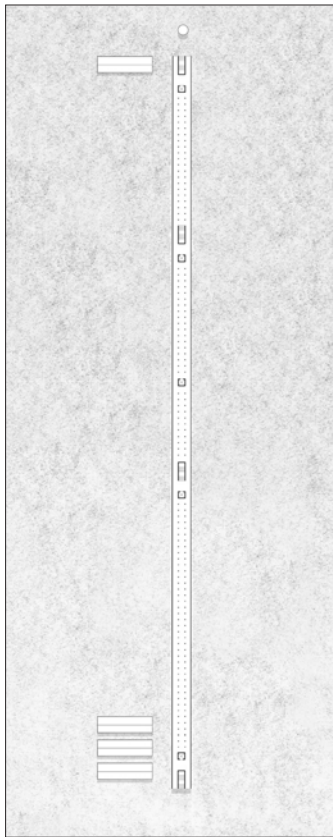
\*\* For attachment to your local mains please seek the attention of the onsite field manager situated at core 1 of your Exxon Mobil spine.

ASSEMBLY INSTRUCTIONS

- 1 Solder 2 long lengths of copper tube (dia 20mm) into one 90 degree bend joint.
  - 2 Solder one long length of copper tube into a tee split joint.
  - 3 Solder one length of the smaller copper tube into one tee split joint.
  - 4 Attach two of your L-shaped pieces to the short tee split piece with the length facing outwards. Attach the longer tee split piece to the opposite end facing inwards (see fig 4 for details).
- Solder together as depicted in fig. 4
- Place the shorter length of copper tubing through the insulation panel.

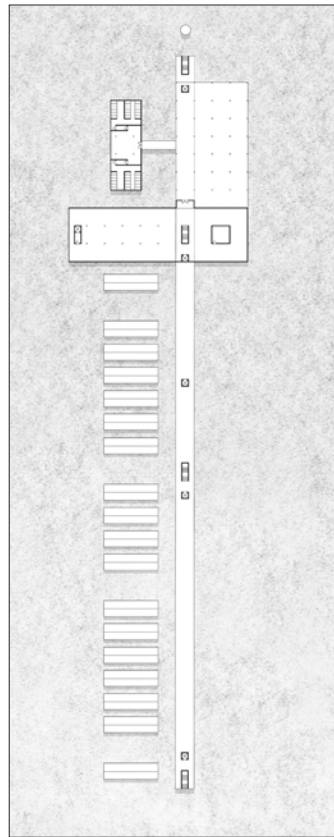


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 Department of Energy Design & Quality  
 North Dakota, USA



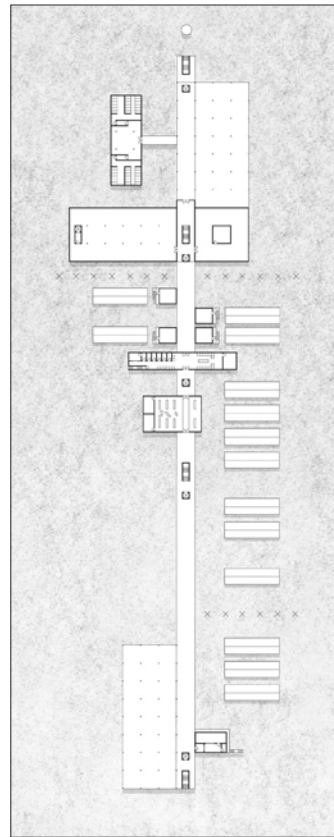
1

Car Park Spine, Site Management Offices & Core Construction



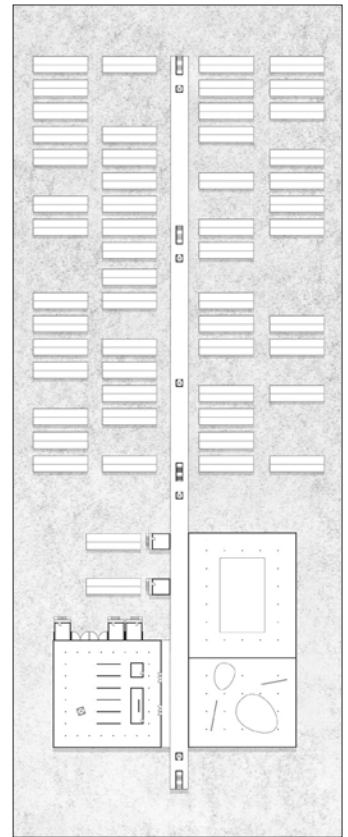
2

Mens Working Camp , Basic Private Amenities & Expansion Platform



3

Mens Working Camp , Family Mobile Home Units & Shared Amenities



4

Public Amenities , Independent Business, Child Care & Family Units

xxii Modes of Living within an oil workers camp in Williston, North Dakota

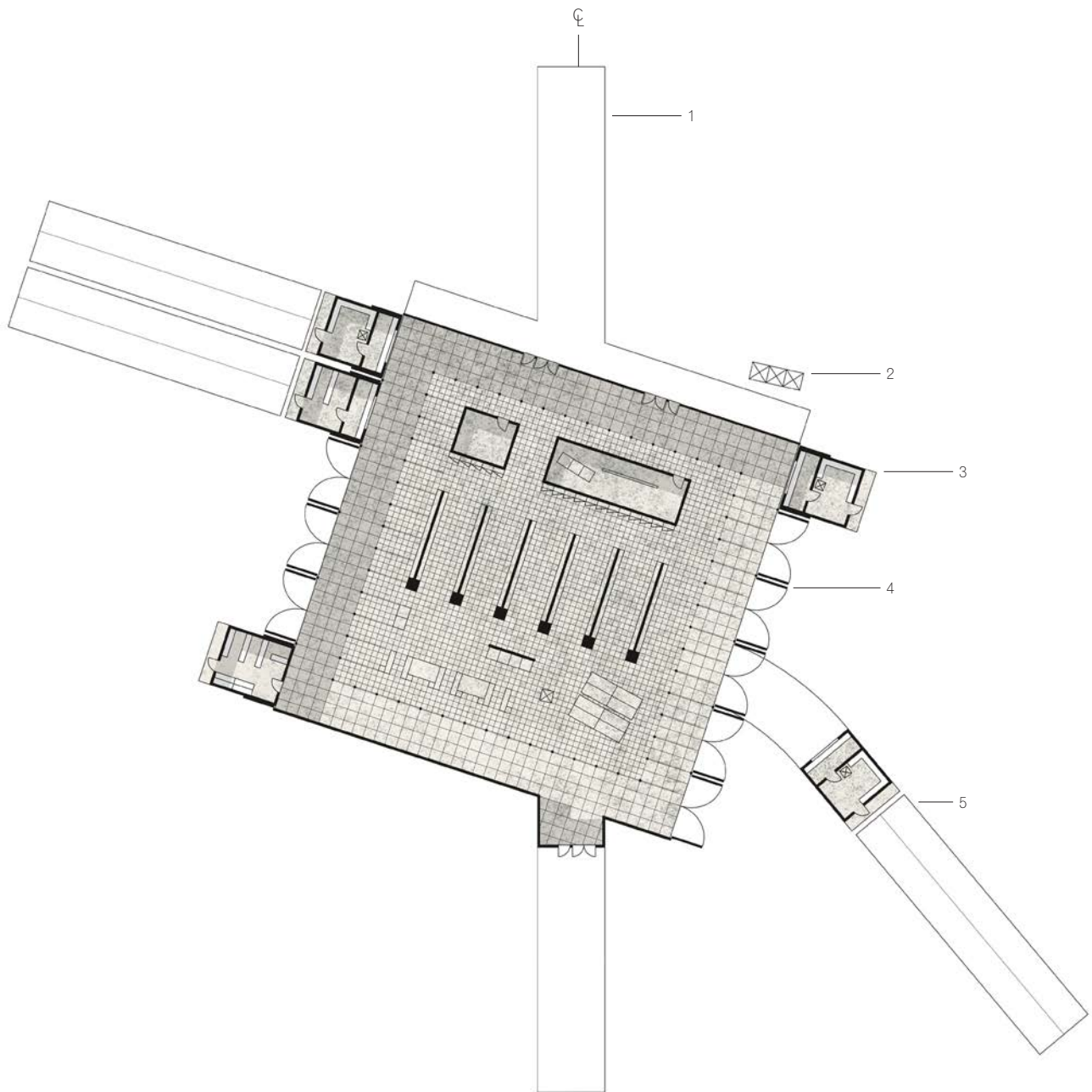
The main proposal focused on a site within the buffer zone of Williston, ND. It championed the creation of a series of collective equipments to be utilised by the ever migrating workforce across the state.

Initially each site chosen for mobile home units was to be given a permanent 'core' from which development could build off of depending on the needs and requirements of the new community. This core (shown in image 1) was to be constructed out of concrete and act as a spine to the site with stairwells, lifts and car parking spaces provided within its internal strategy.

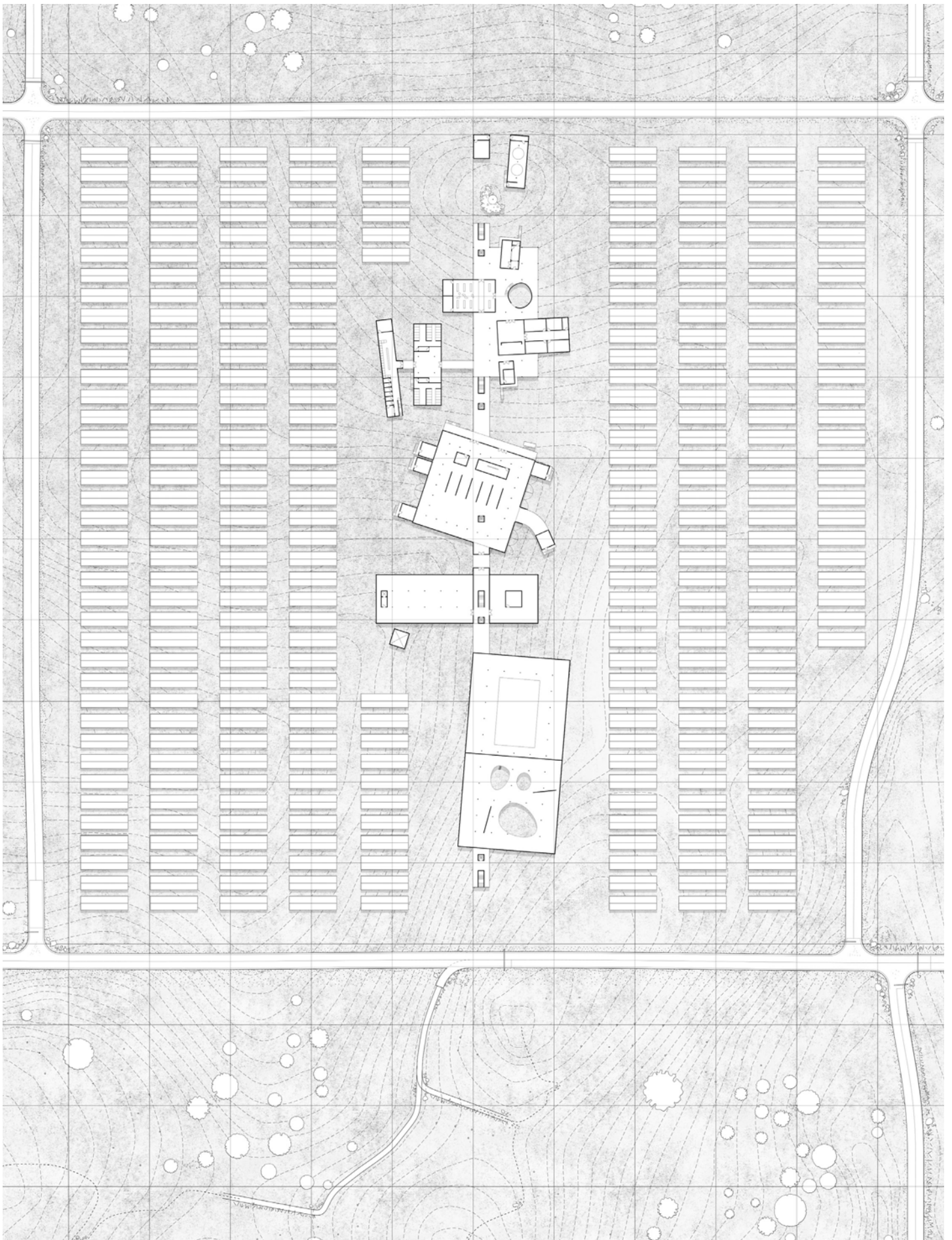
From this core, a number of different scenarios could then begin to manifest that helped provide the amenities needed to create a higher collective living standard.

Above, a number of different scenarios are shown expanding off of the spine and explore how different communities could begin to utilise the same structure. The expansions were envisioned to be constructed out of the same steel rigging systems that the workers were using on the oil rigs they were employed to manage. In this light, the expertise of construction remained within the community.

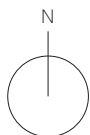
From this, a series of temporary timber buildings could be erected supplying programmes to help alleviate the strains on domestic life. These include but are not limited to a temporary school, library, leisure centre, mess hall, washing facilities and grocery store. These programmes help to cement the community in a sense of semi-permanent living and the nature of the architecture mirrors the boom bust nature of the employment in the area.



- 1 Concrete Walkway
- 2 Waste Disposal Unit
- 3 Independent Business
- 4 Available Store Lot
- 5 x1 Mobile Home Unit



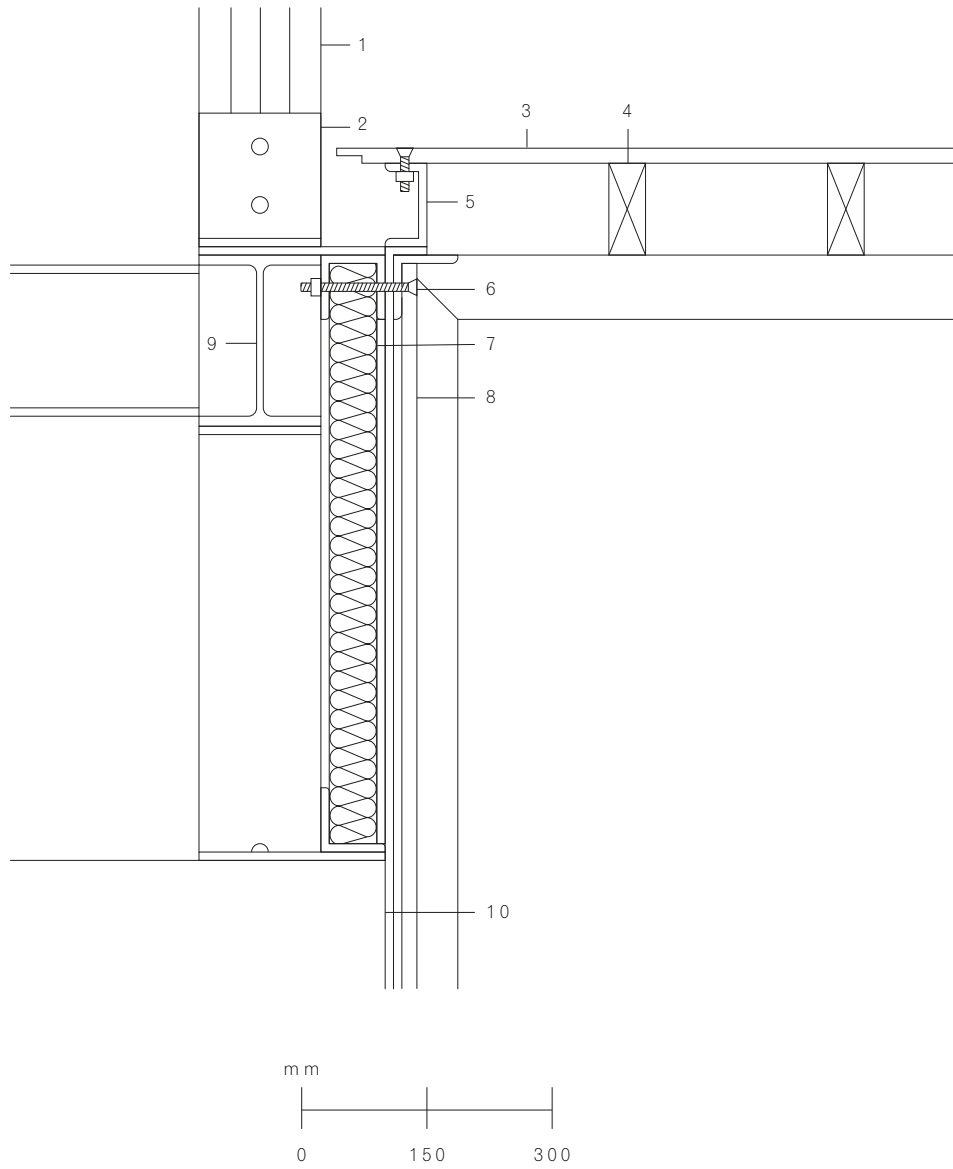
Full Proposal Plan / 1:1000



- |                              |                              |                                 |
|------------------------------|------------------------------|---------------------------------|
| 1 Temporary Power Substation | 6 Secondary School           | 11 Open Kitchens & Mess Hall    |
| 2 Single Unit Mobile Home    | 7 Plant Library & Greenhouse | 12 Waste Disposal Point         |
| 3 Depleted Fracking Location | 8 Laundry & Washing Facility | 13 Swimming Pool & Spa          |
| 4 Children's Daycare Centre  | 9 Central Grocery Store      | 14 Leisure Centre & Gym Hall    |
| 5 Public Library Facility    | 10 Private Independent Store | 15 Linear Spine Core & Car Park |







xxvi Steel Deck Expansion Detail / Section

The extended platforms were constructed out of steel and timber with insulation panels readily available to be incorporated where necessary. The nature of the construction left sizeable cavities below and above any implemented building. This allowed the maintenance of services and important temporary infrastructure to be accessed easily before during and after construction. It also ensured that no extra unnecessary levels of permanence were given to any site. The architecture had to work economically for the community, oil corporations and the city of Williston alike at full capacity as well as at minimum capacity.

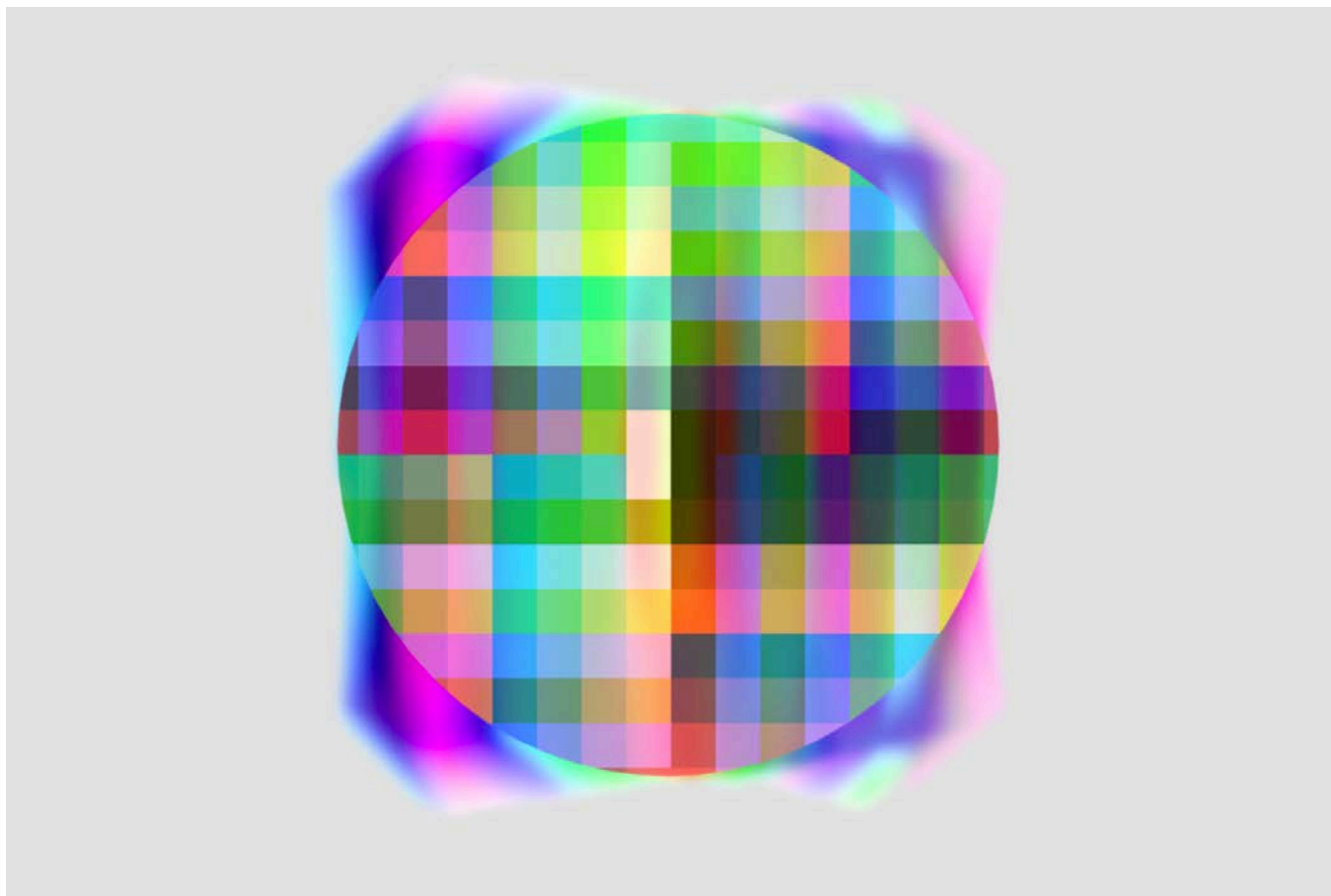
As shown on the previous plan, the initial 'full capacity' design sought to create a community centre around the spine through which the entire community could gain

enjoyment. Platforms create areas of communal living, providing the potential for schools, libraries and playgrounds and to exist in harmony one moment and be deconstructed and moved elsewhere the next. In this light the design fits harmoniously into the nature of the American Grid. Much like the examples of the Motel or the Diner explored previously, the design's implementation could occur anywhere from North Dakota to Texas.

Indeed, while each sites could be bespoke and provide a sense of ownership over the programmes implemented, the system as a whole is regular, controlled and not bound to any scale - a true creation of grid mentality. This Grid Mentality extends beyond the delineation of an orthogonal system or modularity in its purest form and captures the very essence of opportunity within the grid.



# “SPLENDID AUTOMATION!”



i Modular Heating Component / Closed Circuit Link

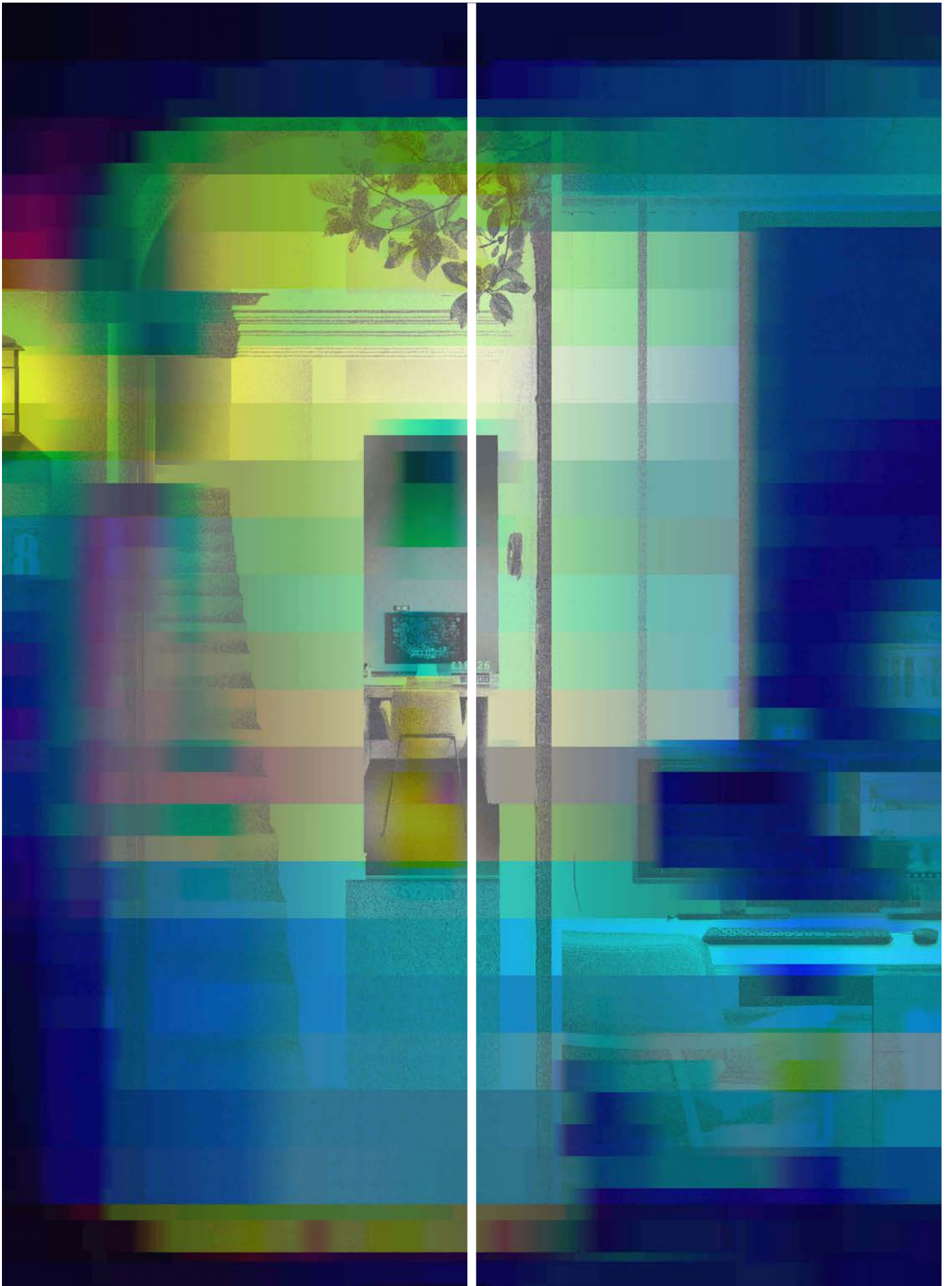
Tutors / Thomas Greenall , Nicola Koller , Rosy Head

The final year of the RCA consists of a year devoted solely to the creation and delivery of a personal architectural brief founded upon a body of research unique to each designer. 'Splendid Automation!' is centred around a future United Kingdom struggling to marry a growing isolationist politics with an ever growing technological world. The project focuses on the effect of this tension on employment.

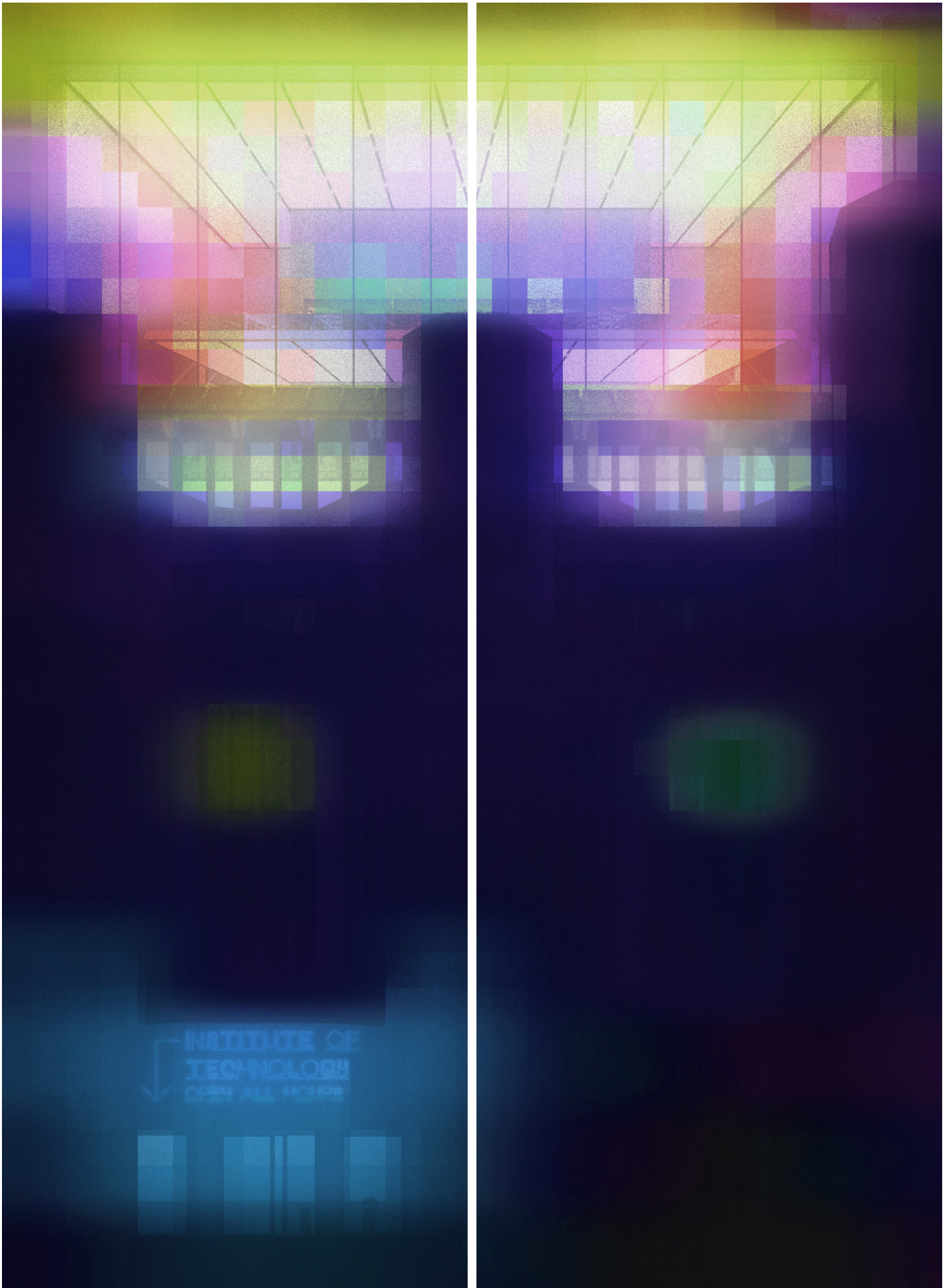
The term 'technological unemployment' dominates discussions on future thinking. It is argued that we stand on the cusp of an era whereby automation will supplant both high and low-value workforces alike. This has resulted in a plethora of apprehensive futures to arise that project drastic changes to governmental policy, economical

structures and notions of value and identity within work. Yet while these depict technological hegemony at a global scale, our political climate indicates a more enigmatic future. Events like 'Brexit', coupled with national shifts towards isolationist policy suggest a desire to preserve as opposed to progress. A paradox between technological advancement and socio-political trends emerges.

This anxiety highlights the need to address tensions between humans and automation within the workplace and beyond. With our perception of identity so closely linked to the value we place on 'career', the potential for social crisis is substantial. What role can architecture play in preserving, indeed progressing identity within a transitioning automated society? It is plausible to look to design to mediate the conflicts of this dichotomy?

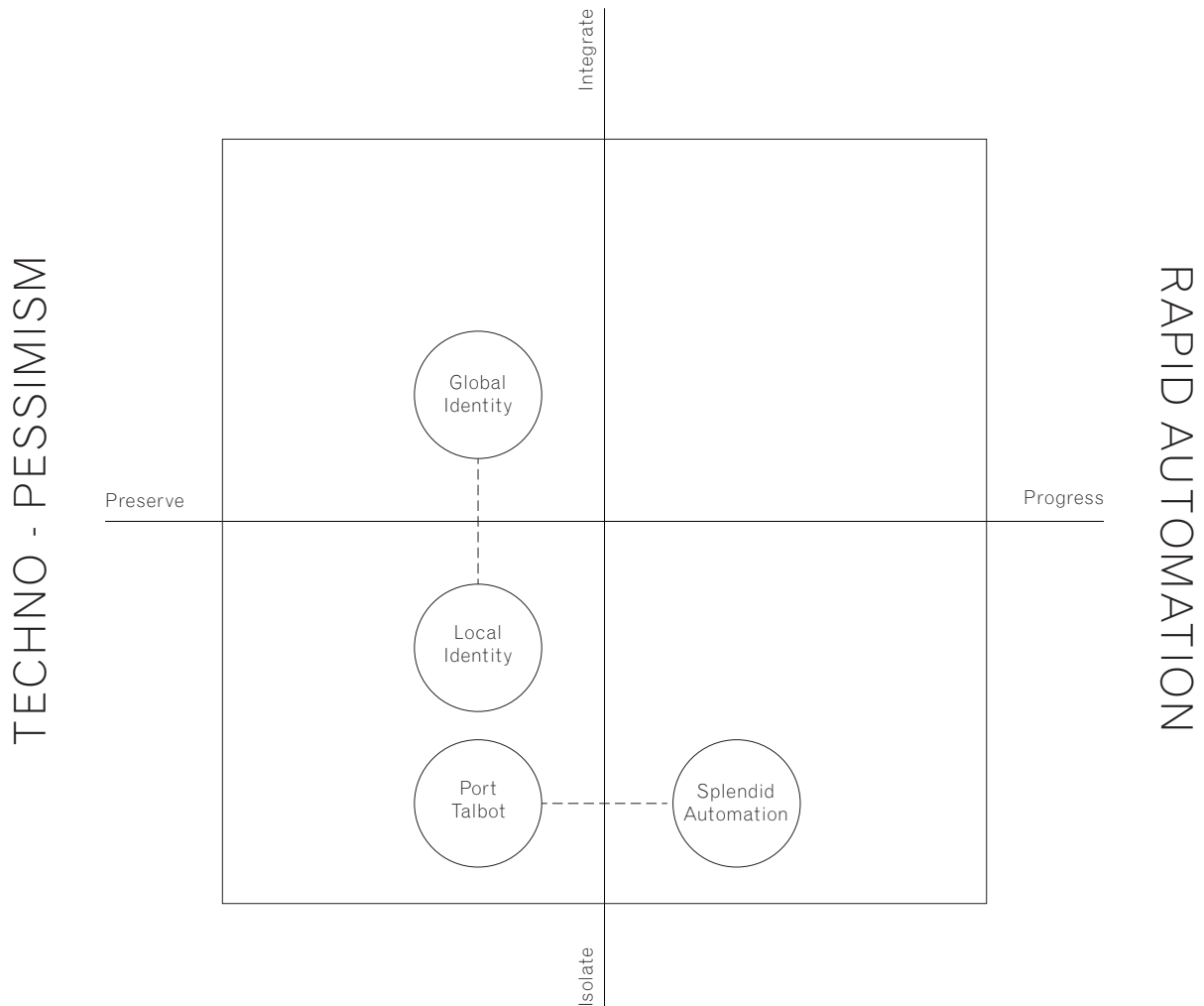


ii 'Who Works Anyway?' Series of Collages exploring automation of the workplace



iii 'A New Institution' / The creation of the British Institute of Technology located in Whitechapel

# GLOBALISATION



# ISLAND MENTALITY

This thesis seeks to utilise design as a critical tool through which a speculative near future (or alternative now) provides a glimpse into how we could embark on our journey into a fully automated society.

Port Talbot provides an archetypal example of an urban scenario through which the products of labour provide the backbone of identity for the community. Throughout the town's history, the welfare of the community has consistently relied upon the state of industry. This reliance has resulted in the success of Tata Steel production forming a directly proportional relationship to the quality of life in the town- if the jobs go, the town falls.

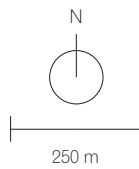
Port Talbot held one of the highest percentage of 'Vote Leave' results for any constituency in the entire United

Kingdom with a number of local opinion polls citing a move to nationalise the steel industry and provide security around the single highest employment opportunity in the area as a key driving factor in this result.

The town also finished in the lowest 10% of a recent 10 year statistical addendum seeking to gauge the rate of technological progression within the United Kingdom. Within the study, Port Talbot was found to have one of the lowest 'technologically savvy' populations and one of the least interested in technological progression based on opinion polls from 2016. The graph above addresses where this places Port Talbot in the context of the thesis - both sets of data lean towards the techno-pessimistic and isolationist ends of the spectrum - where local identity is championed of any global one.







- |                                   |                                 |
|-----------------------------------|---------------------------------|
| 1 Talbot Block Building Materials | 10 Loxham Access Ltd            |
| 2 The Docks Cafeteria             | 11 Bartlett Engineering Firm    |
| 3 Port Talbot Industrial Estate   | 12 Talbot Hydraulics            |
| 4 LBS Building Merchants          | 13 Runtech Trucking Company     |
| 5 Port Talbot Justice Centre      | 14 Talbot Pump Supplies         |
| 6 TWI Technology Centre           | 15 Iron Ore Processing Facility |
| 7 Port Talbot Magistrates Court   | 16 Tata Engineers Services      |
| 8 Talbot Vehicle Repair Store     | 17 Tata Crane Hire              |
| 9 The Plaza Cinema                | 18 Tata Steel Furnace 1         |



v Physical model of a new automated architecture for Port Talbot / exploring the process behind the architecture of the 'improbable'

The scheme portrays a future scenario for Port Talbot, through the lens of an increasingly automated steel industry. Set within a post-Brexit, automated society, Tata's influence over the town is furthered by an assertive expansion scheme looking to increase throughput by automating front and back ends of the production line. With British Steel experiencing an automated boom, Port Talbot is pulled along with it.

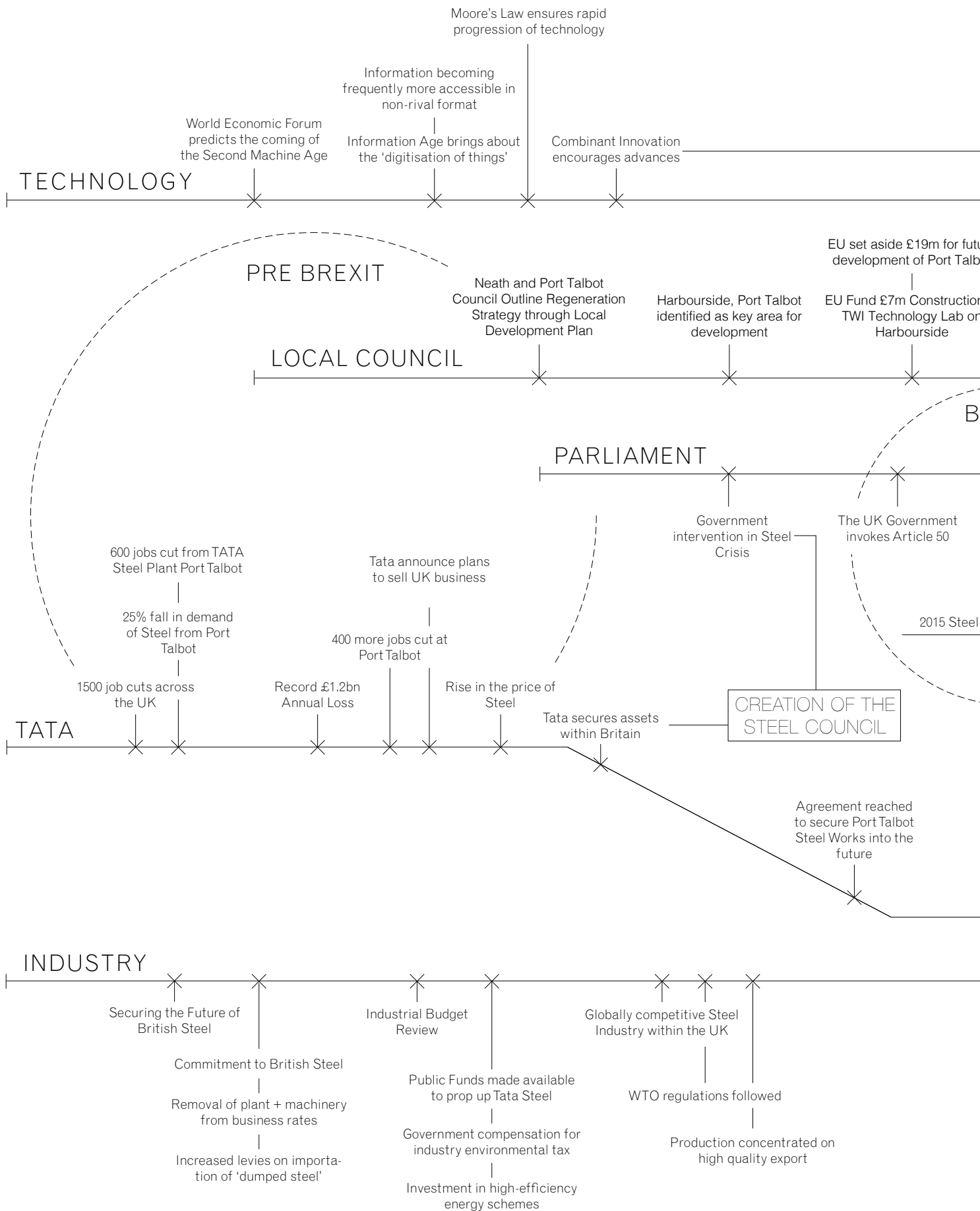
However the boom does not, like in historical examples, bring employment satisfaction to the community. With the success of the town now relying on the level and efficiency of 'electronic persons' a new balance is created between those that still work and their new employees. Furthermore, Tata's expansion has left a lasting effect on the town's built environment : the town has always served those who serve

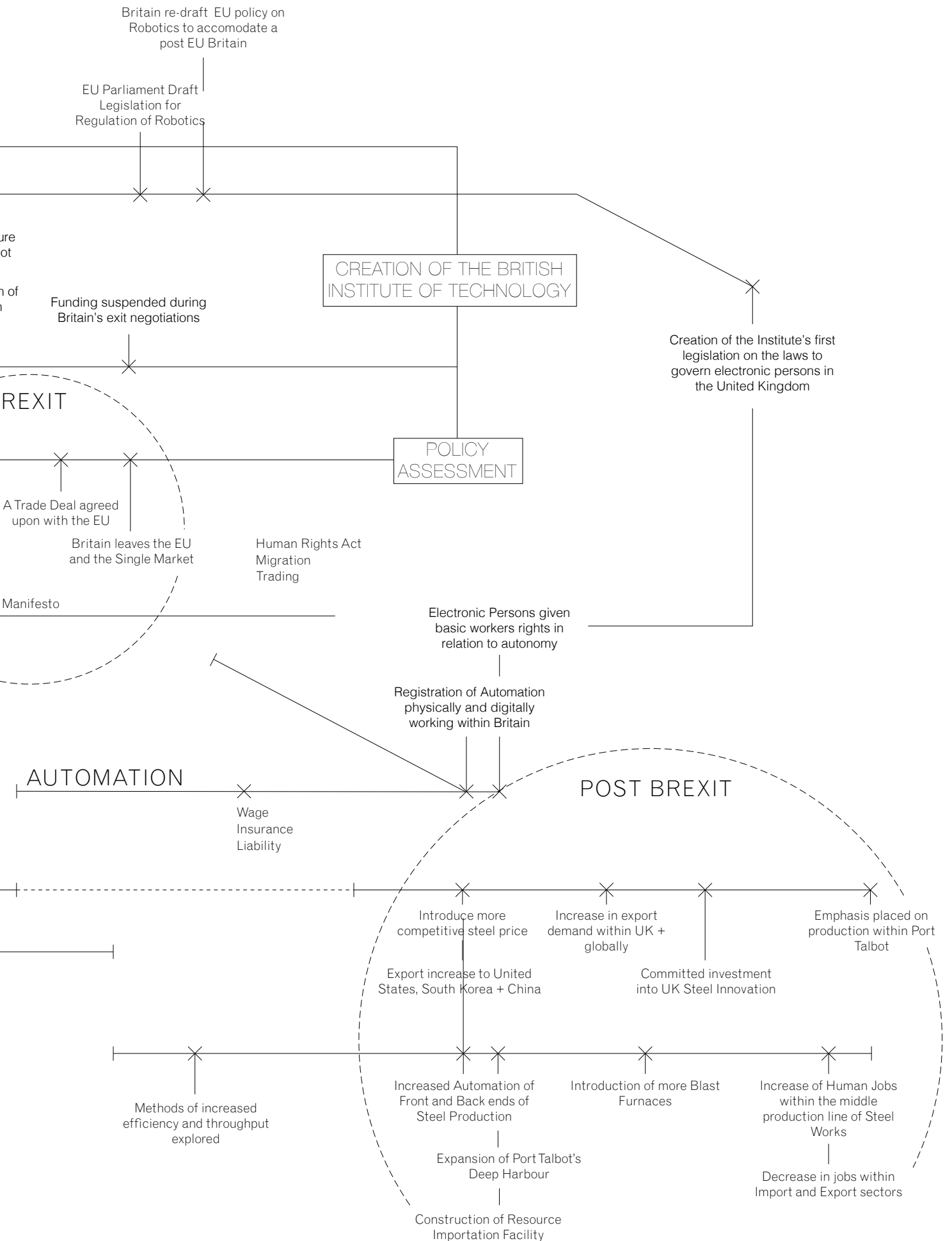
the steel plant, and thus small 'infiltrations' of electronic presence begin to seep into the everyday. Road Signs, Traffic Lights and street scapes at first accommodate and then prioritize automation's influence on the town. The M1 that cuts through the heart of the town and who's own history is filled with human disruption and displacement begins to champion the driverless trucks servicing the TATA's steel plant.

Ultimately the project seeks to address the notion of an automated workforce on the identity of a town who's own identity is so closely linked to their employment. It looks to focus on the tensions and architectural nuances that arise in this intermediate stage between a fully automated society and asks what architecture can tell us about the power balances in such a precarious scenario.



vi 'A Shared Vision' / Traffic light with the beginnings of incorporated direction







vii M1 through Port Talbot / highlighting the identity changes to the infrastructure that makes up Port Talbot



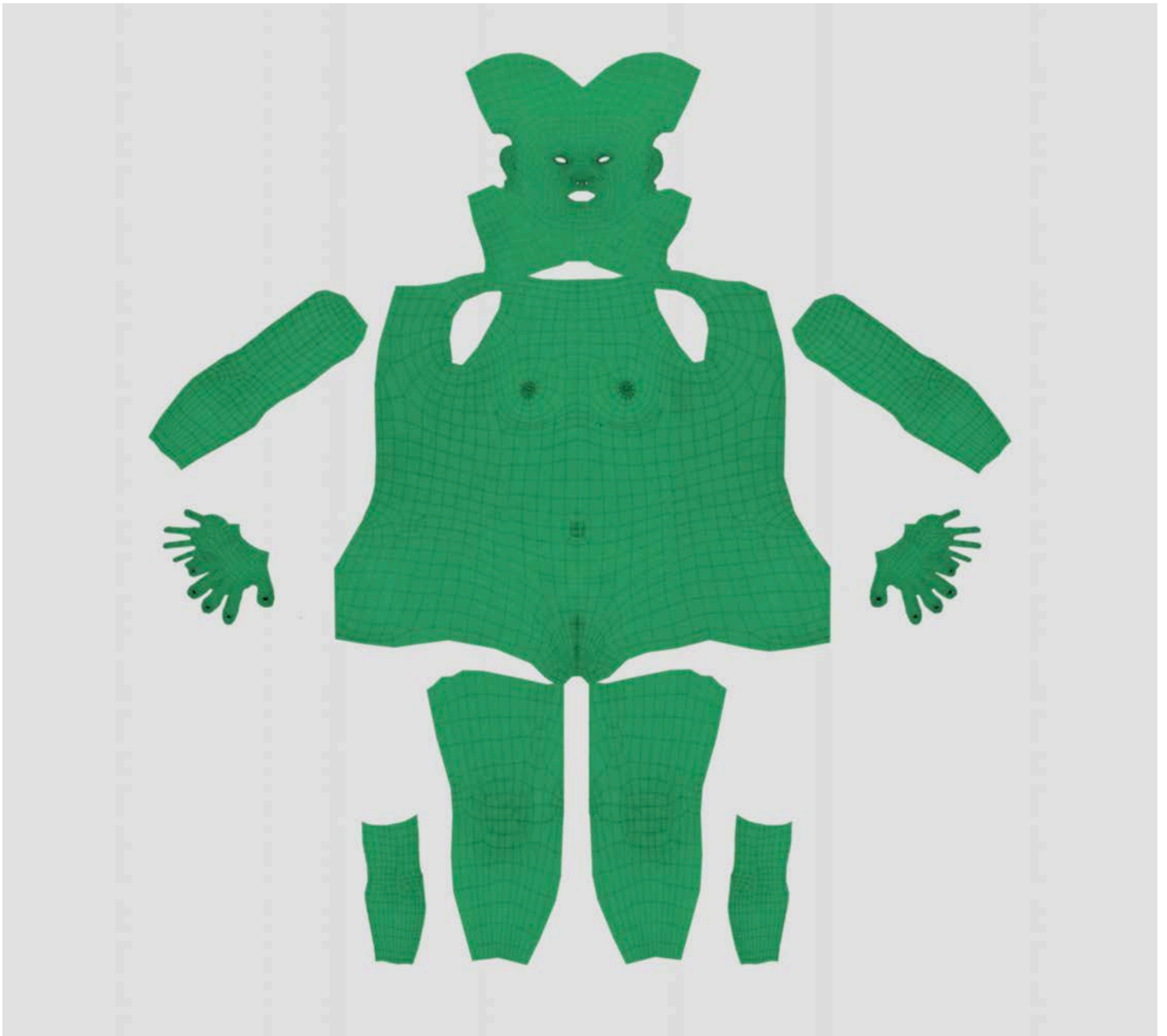
viii 'The Ten Articles of the British Institute of Technology' / Commemoration Plaque

In order to accomodate the influx of electronic persons that begin to inhabit workforces across the United Kingdom, UK Parliament implement the creation of a new electable institution as well as a new Minister for Technology to sit on the cabinet. The new British Institution of Technology is tasked with implementing and drafting new laws to accomodate automation. The draft created is based on the EU's own preparations for the future of automation but takes into consideration the political climate of a post Brexit United Kingdom, prioritising British values and interests above that on the continent.

In order to tackle the widening gap in law surrounding the rights and key moral issues of electronic persons, 10 articles are drawn up to outline the principle political agenda of Britain. These primarily set out new legislation

but also highlight changes to current laws surrounding citizenship, intellectual property, liability and insurance. These articles, while initially focused on dictating a passage through the unprecedented future of an automated Britain, also lay down precedent and example for electronic engagement with humans. Yet more critically, propose how a post-Brexit Britain could position itself upon an automated global platform. The platform is set up to ensure that British Automation remains at the forefront of advances in technology while still remaining inherently British.

In order to achieve this, an identity has to form around the appearance and interaction of UK EP's (electronic persons) and HC's (human citizens). One which creates a working relationship but doesn't forget who is in charge.



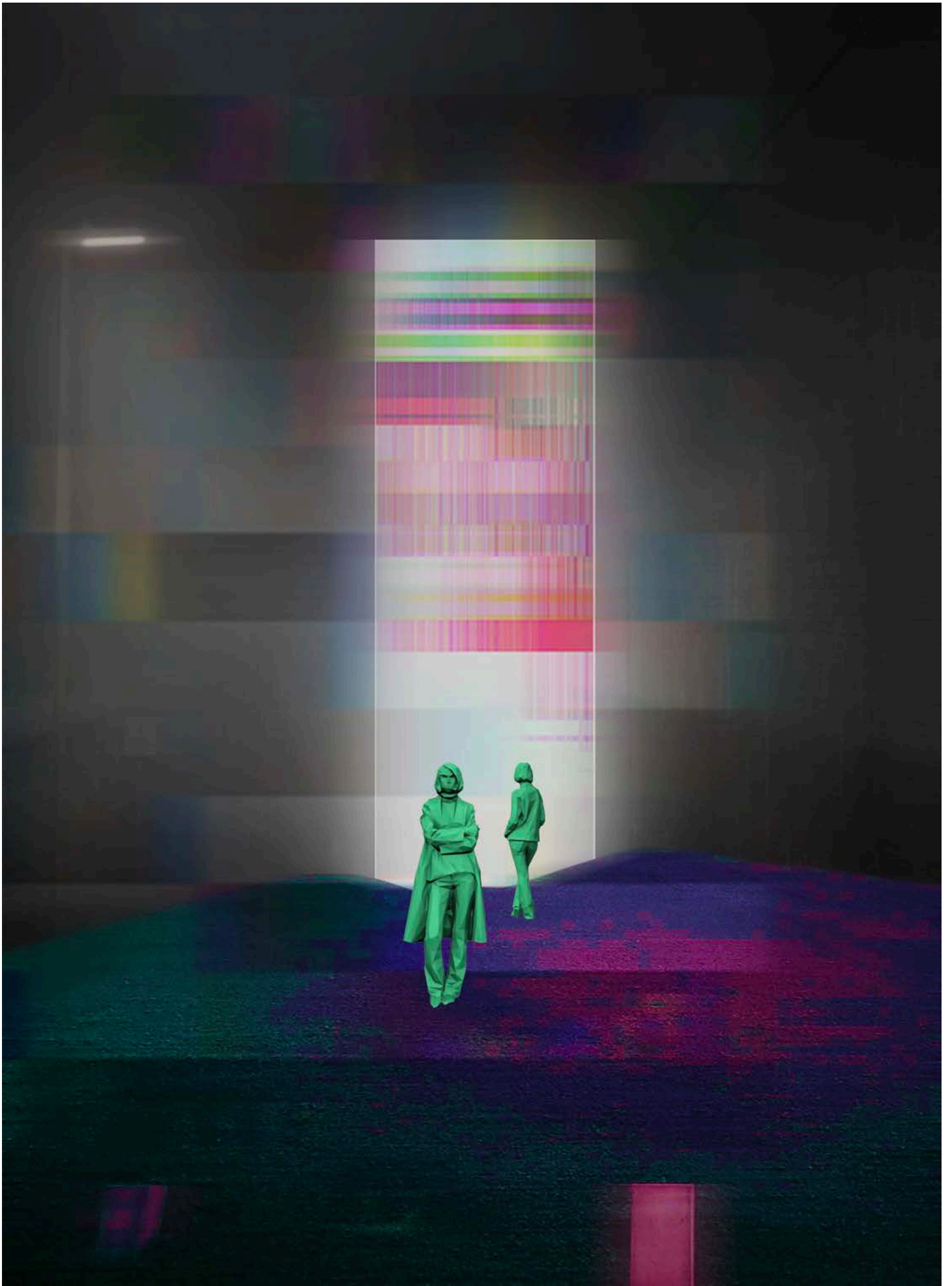
ix The make up of Tata's new steel workers / Based on the female form to counter the high percentage male population being replaced.

With the influx of new electronic workers into Port Talbot comes the task of integrating and replacing the existing workforce who's identity is inherently linked to the steel plant. One technique adopted by TATA is to pitch the electronic persons within their intellectual property remit in a 'uniform'. This immediately complies with the BIT regulations on the distinct features of electronic persons being recognisable to human colleagues while also providing the potential to socially ease the replacement process.

With this in mind, TATA's EP designers focus on the creation of an object that appears as unthreatening to the current workforce as possible. Firstly, the individualism and unique features commonly associated with humans is 'deresolutionised' to include less polygons and

make all features, while still recognisable as 'human' undisitinguishable. This immediately gives the replaced worker as a sense of individuality unbeknown to the EP. Secondly, a uniform colour is extended to the clothes and skin of the workers. Green screen green is selected to allow the electronic persons to express individualism amongst one another by altering and adapting what is seen digitally, while human colleagues are capable of maintaining the green analogue uniform. Thirdly, in 2017, the work force of TATA Steel in Port Talbot boasted a male to female ration of 5 : 1. In order to avoid alienating these replaced workers a non descript female form is selected as the base of all design models. These design criteria are implemented to help integrate the electronic persons as a beneficial additions as opposed to the reality of a more efficient and cheaper source of labour.





x Render from within an automated facility / Workers within their autonomous architecture



xi 'Do Automated Persons Dream of Metal Dogs?' / A 1:1 model made for the Work In Progress Show RCA 2017



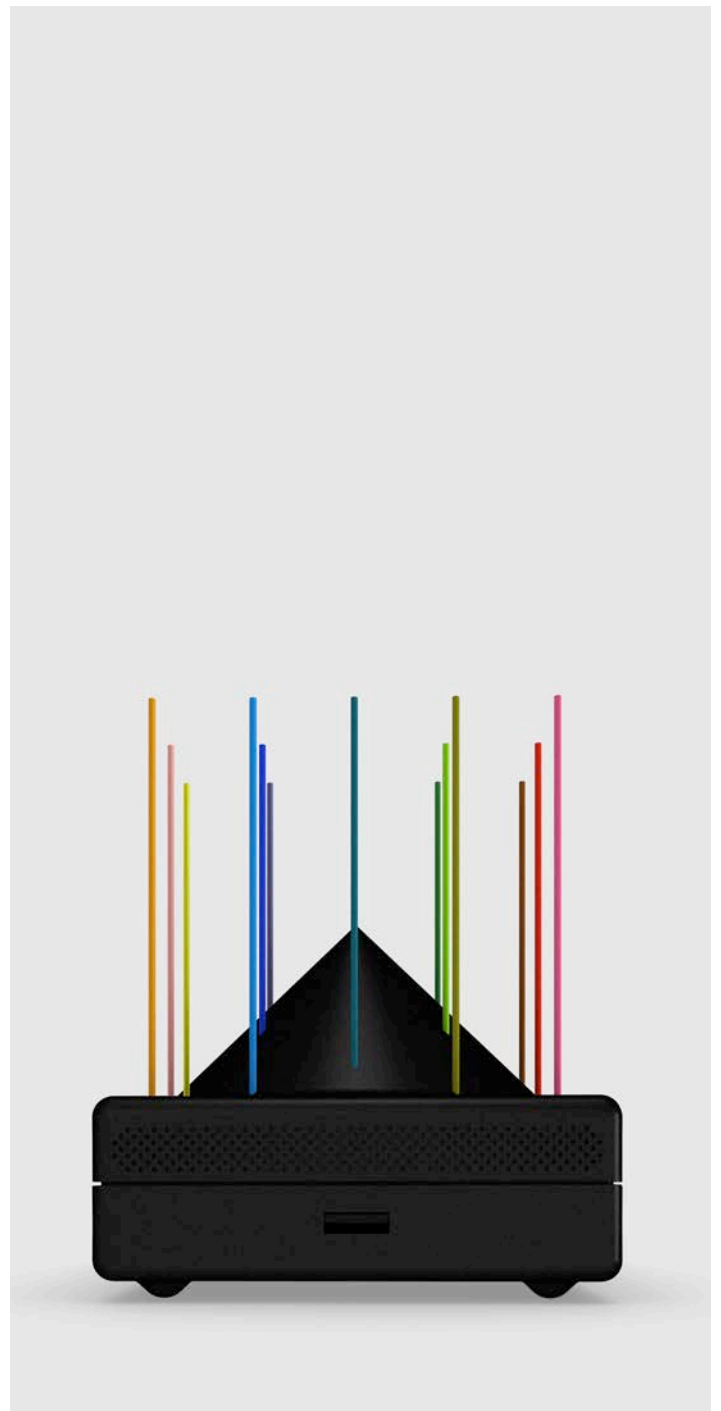




xiii Artefacts of Automation / An abandoned identification badge

This series of objects, based upon advice drafted by the European Parliament, explores the key regulations beginning to materialise around automation. It consists of four artefacts ranging from the ambiguous to the detailed. They all stem from policies outlined in the 10 Articles of Electronic Integration, a reinterpreted bill for the United Kingdom, proposing how a post-Brexit Britain could position itself upon an automated global platform.

Firstly, 'An Unknown Robot' addresses the requirements outlined for an electronic person to remain traceable and eradicable, as well highlighting a stringent immigration policy. Within this robot the kill switch is clearly and purposefully emphasised allowing the user to exert a comforting level of control over the unknown robot.



xiv Artefacts of Automation / A portable IP judge & charger

Secondly, 'An Identity Badge' alludes to a standardised registration database set up by the BIT that tracks and traces all electronic persons working and living within the United Kingdom. It utilises the 16bit colour code language used by automated persons in the UK as a method of maintaining records on the population. It also incorporates the need for automation to remain distinguishable to humans - the badge must be visibly worn at all times. Thirdly the intellectual property jammer device is an object that tackles the issues raised in the liability and IP of self sufficiently thinking robots. Within this device lives the electronic judge governed and commissioned by the Government of the United Kingdom to automatically settle and deliver judgement of disputes of intellectual property and liability claims throughout that UK.



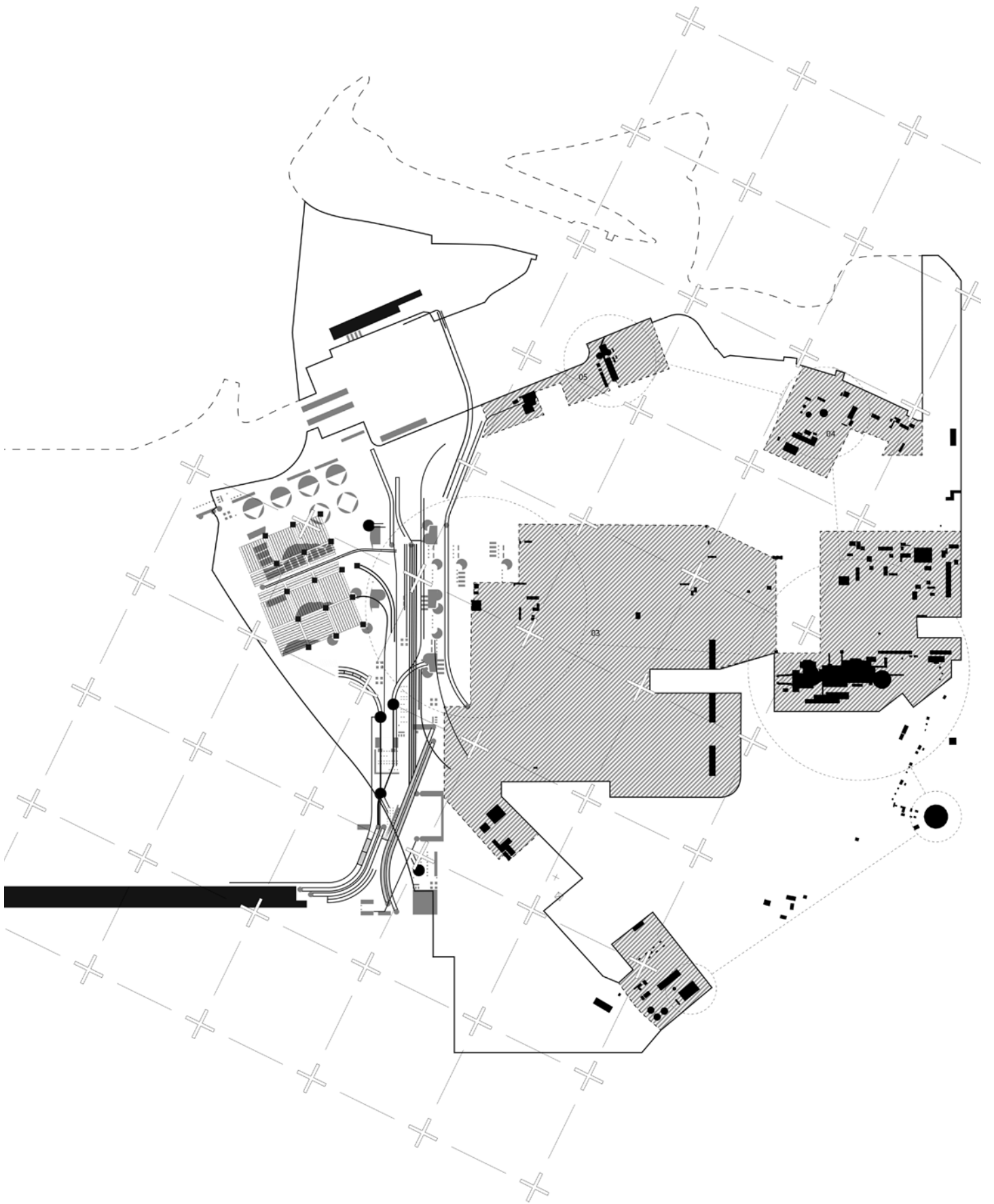
xv WIP Show 2017 / Scrap Metal, Plywood, 3D Print and Paper

As part of the Work in Progress Show at the Royal College of Art 2017, this plinth was constructed to represent the project in its current state. It was one of 15 other low level plinths designed as part of ADS 4's exhibition space. The objects were a set selected from initial studies into the policy changes made to British Technological progression while the metal sculpture responded to a deeper narrative woven into the brief creation at the time.

'Do Electronic Persons Dream of Metal Dogs?'

Automation has displaced much of the steel work-force in the Welsh town of Port Talbot. Whilst Tata Steel enjoys a sharp increase in production, the subsequent strain on imported resources creates a need for enforced periods of 'down-time' as local amenities struggle to cope with

the influx of by product production. During this time, all electronic persons now populating the threshold of the town and the Steel Plant occupy the docks and factory floors and are set to 'low-energy consumption mode', as they attempt to uphold off-site power facilities that govern the wider industrial context of the town. During this down-time, the opportunity is providing for the increasingly cognitive machines to test the capabilities of their own creativity and expand their own skills beyond the remit of their day jobs. This is an integral part of TATA's innovation in steel scheme that has lead to the creation of new construction methods being exploited in the residential and industrial architecture of the town. Developments in steel thickness, beam lengths and purity volumes have been exponentially advanced by these creative down times, however, in this case, this EP used her time to fashion herself a pet dog from the rubble.



xvi Masterplan showing the expansion of Steel Work out of the Plant and into the threshold between town and plant



xvii Physical Model of the stadium built to house a greater population of spectators for Port Talbot FC / 3D Print & Lasercut Balck Card

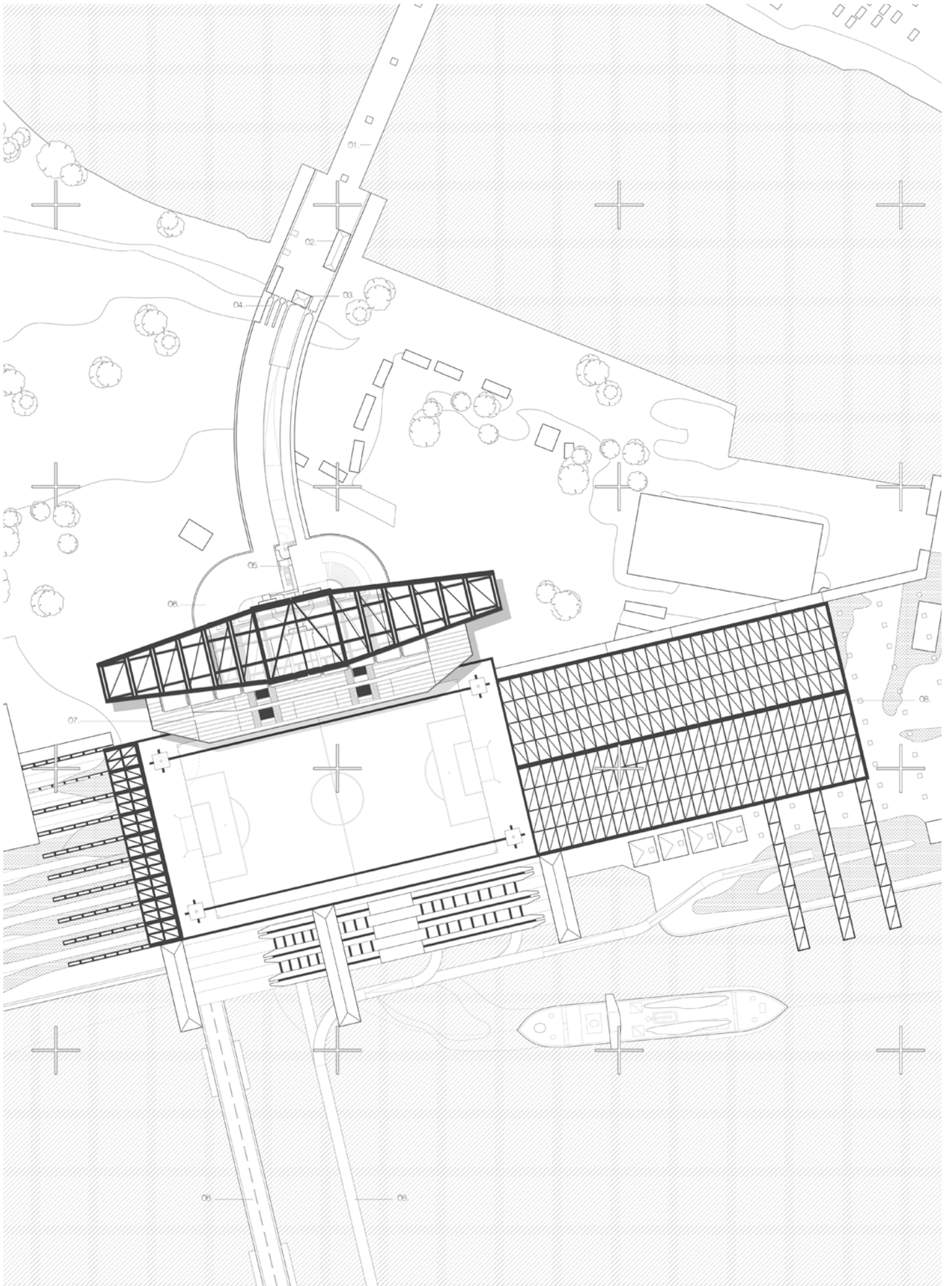
The scheme portrays a future scenario for Port Talbot, through the lens of an increasingly automated steel industry. Set within a post-Brexit, automated society, Tata's influence over the town is furthered by an assertive expansion scheme looking to increase throughput by automating front and back ends of the production line. With British Steel experiencing an automated boom, Port Talbot is pulled along with it.

The project centres upon two key design strategies. Firstly, the automated expansion of Tata, through the design of a new Importation Pier and Slag Export facility and secondly, the repositioning and bolstering of Port Talbot FC's football stadium. The expanded pier, indicated in the masterplan on the adjacent page number 1. is constructed in a method similar to the creation of fully automated

warehouses beginning to emerge across the globe. It breeds a new typology in architecture. Architecture for noone (or electronics alone). The slag export facility offers a new form of revenue for TATA to exploit and for the town enjoy.

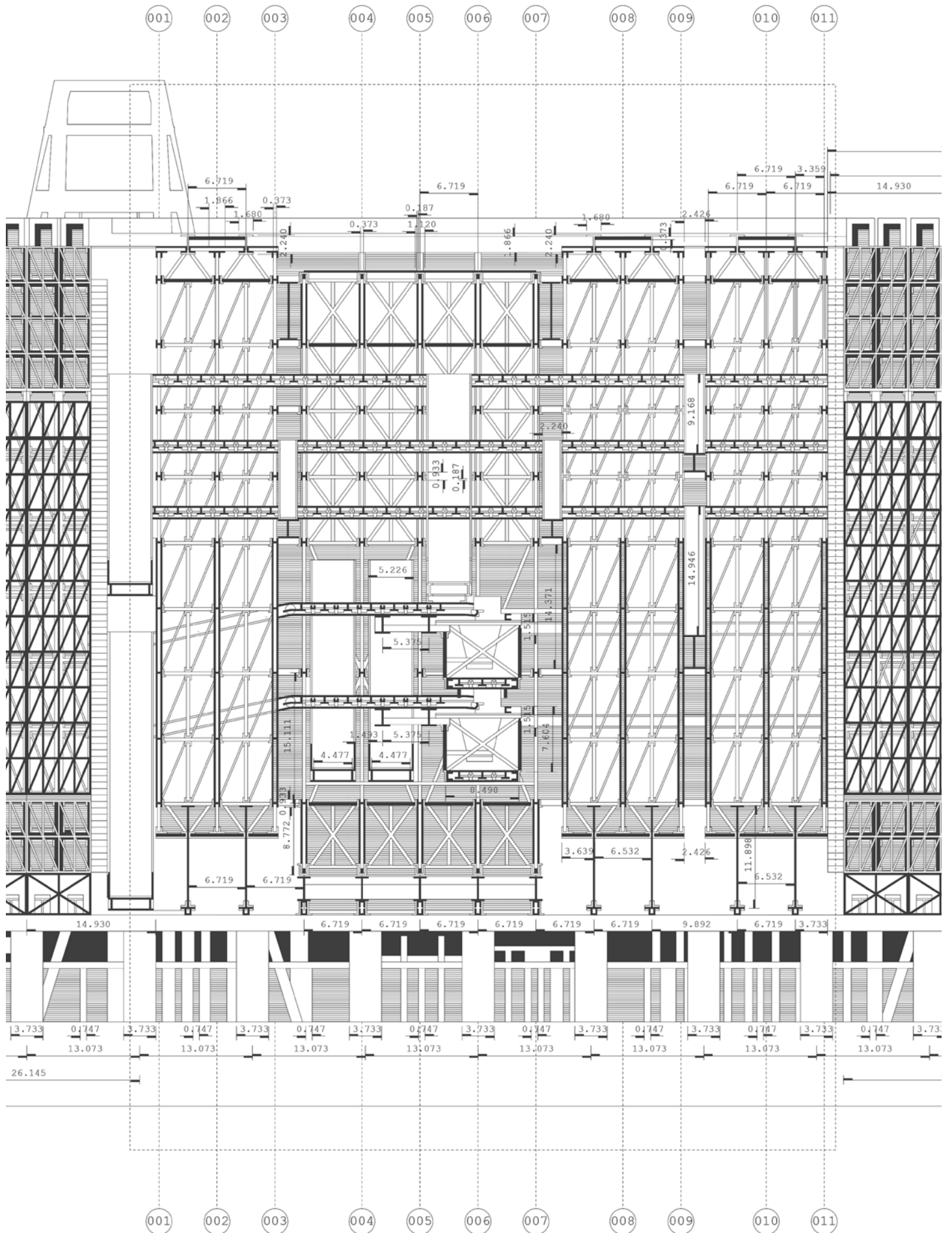
With the facilitation of automation and community identity integral to design moves both Tata and the Council make, the two strategies begin to merge and formulate a physical structure through which issues of work, leisure and heritage begin to formulate a new typology for the town of Port Talbot – one which provides social structures and amenities for the community whilst enabling the new automated processes behind Tata's growth. Through the distilment of programme, the boundaries of work, spectatorship and leisure are blurred and the preconceptions of technological unemployment reimagined.



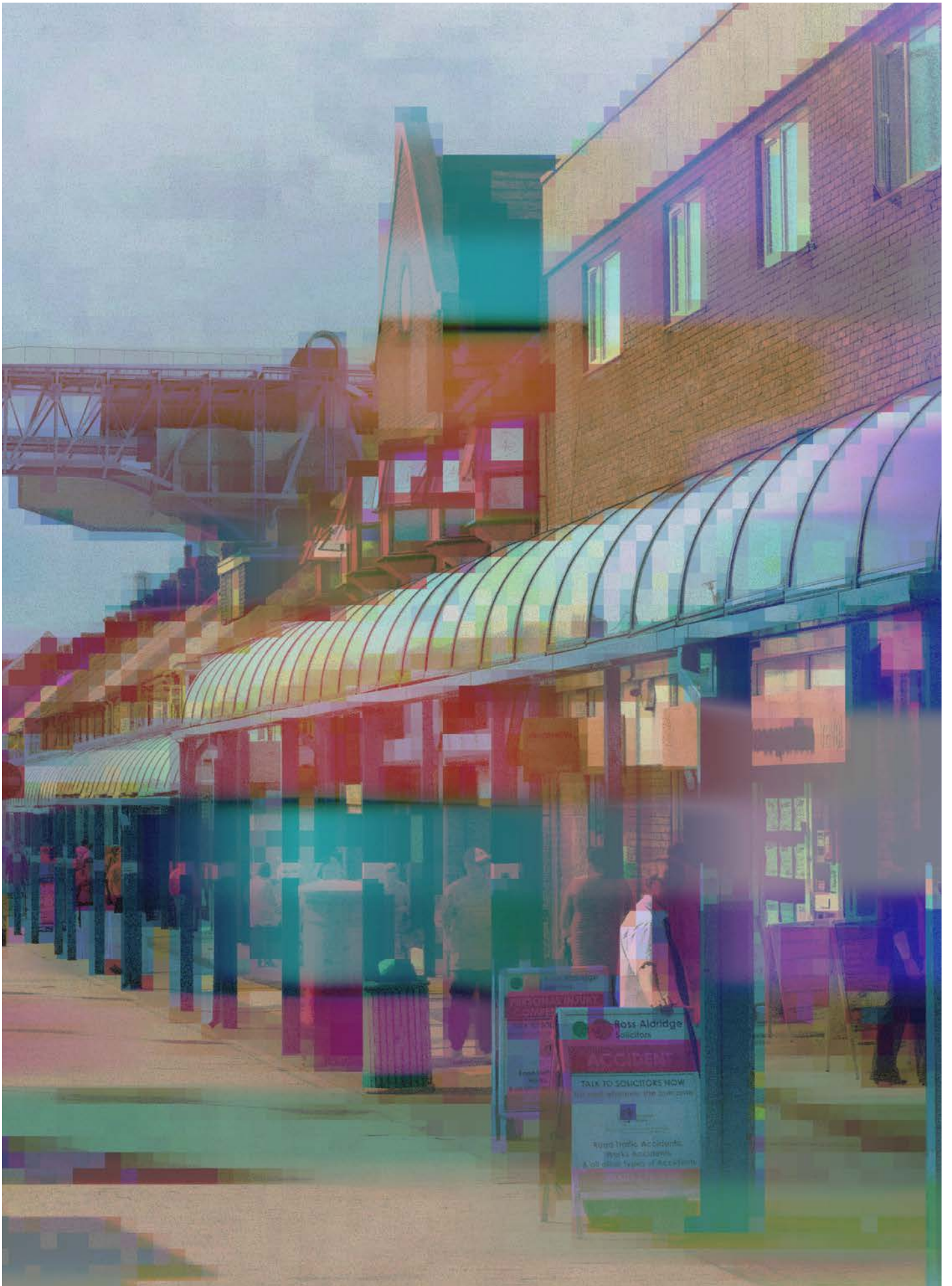


xviii Plan of the Single Tier Stand erected by TATA for the local community, sitting above the new Slag Export Facility





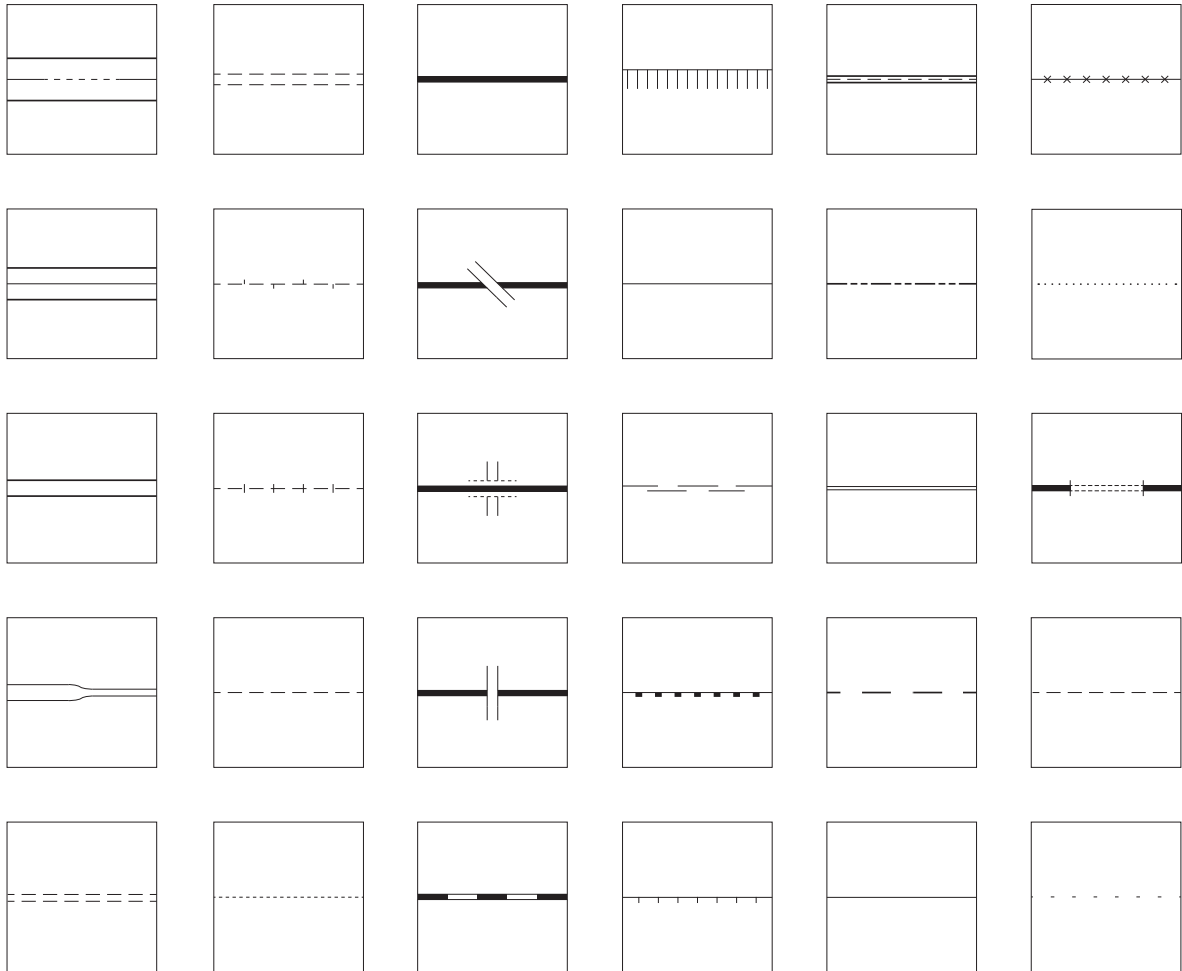
xx Imagined Section through the New Automated Pier



xxi Final Render / Port Talbot High Street through the eyes of an Electronic Persons

## Grid Mentality - Observing the Psyche of the American Grid

Nominated for RIBA Dissertation Silver Medal ( 1 / 2 )



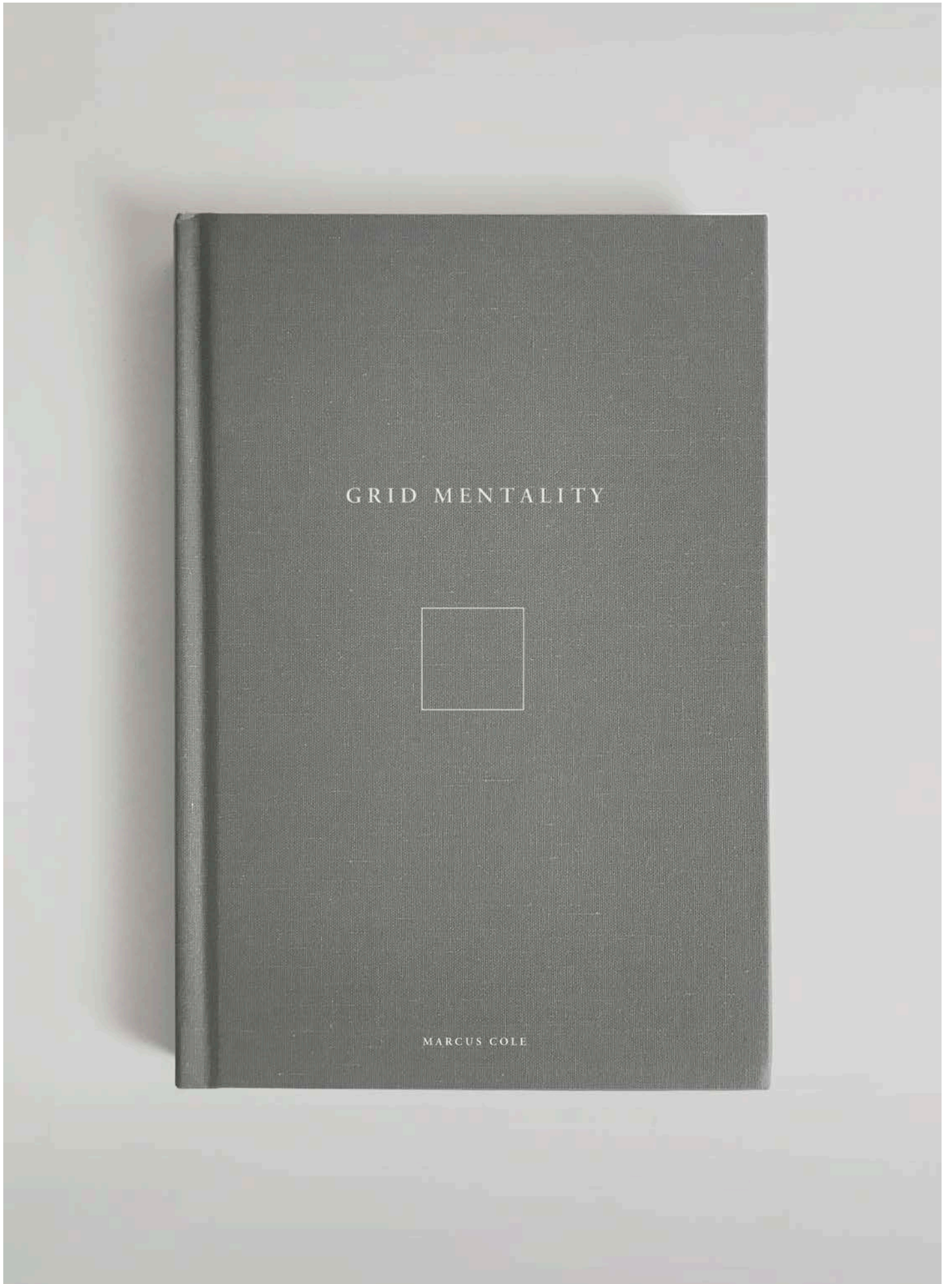
## CHS / GRID MENTALITY

As part of the MArch course at the Royal College of Art, it is a requirement to undertake a body of independent research in Critical Historical Studies. This was assessed separately to the degree. The output typically varied between disciplines but in principle, the goal was a 10,000 word thesis exploring an area of personal interest.

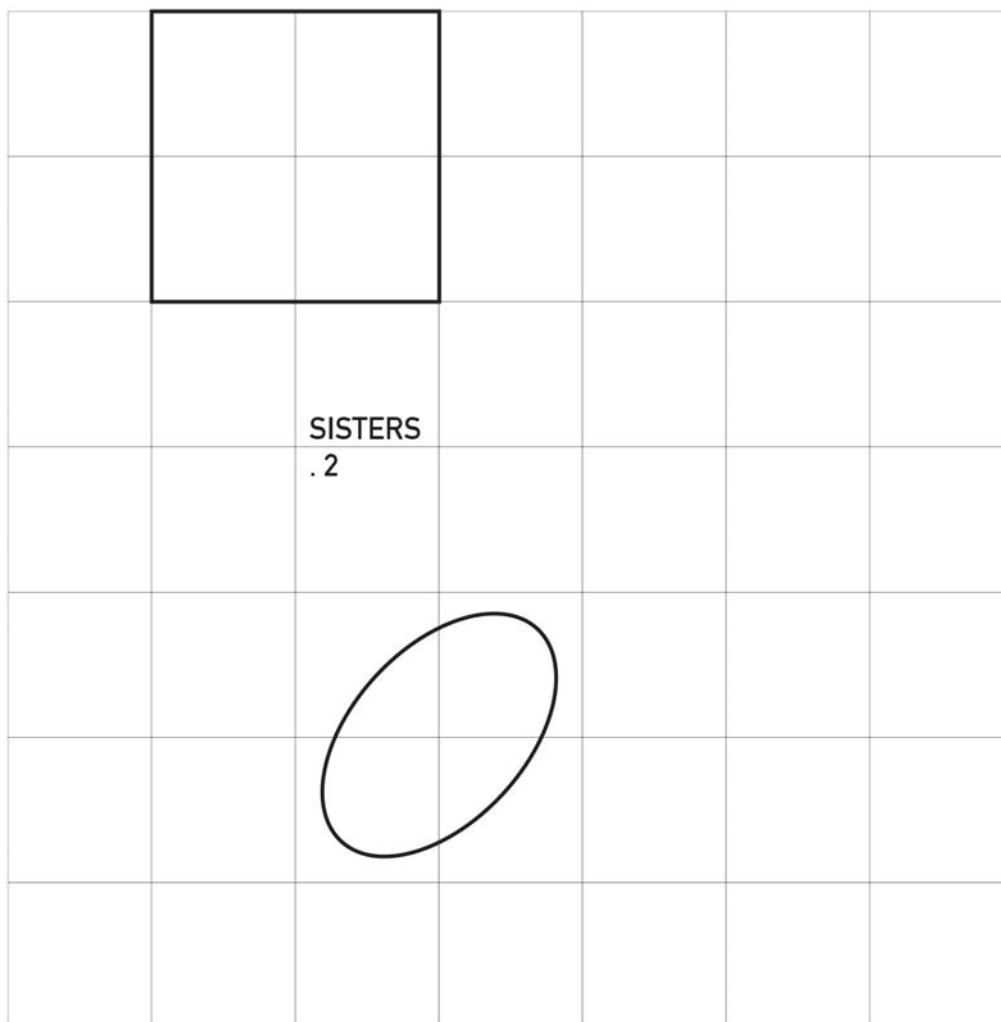
'Grid Mentality' was an exploration into the psyche behind the American Grid and sought to assess the impact the method of planning has on the built environment as well as contemplating its by-products. Namely the method of control, cultural nuances and psychological mannerisms it can cultivate. The thesis focused on primary research undertaken in the city of New York. Within this time, it developed into a personal and observational manifesto of grid mentality.

The dissertation adopted a range of methodologies in order to analyse both the theory and spatial qualities behind the grid. It sought to challenge the preconceptions surrounding the grid as a basic form of urban demarcation through the application of three critical research principles: subjective consciousness, cartographic analysis and architectural narrative.

These research principles were then broken into three methodologies: critical writing, short stories and a visual essay, in order to engage opinion as well as fact on a widely discussed topic. In summary, the thesis concluded that the notion of the grid was in fact more convincing as an idea than as a fact. 'Grid Mentality' received a Distinction and was nominated for the RIBA dissertation Silver Medal as 1 of 2 nominations from the RCA.



**Sisters 2 Exhibition**  
Exhibition Design / Curation  
2018

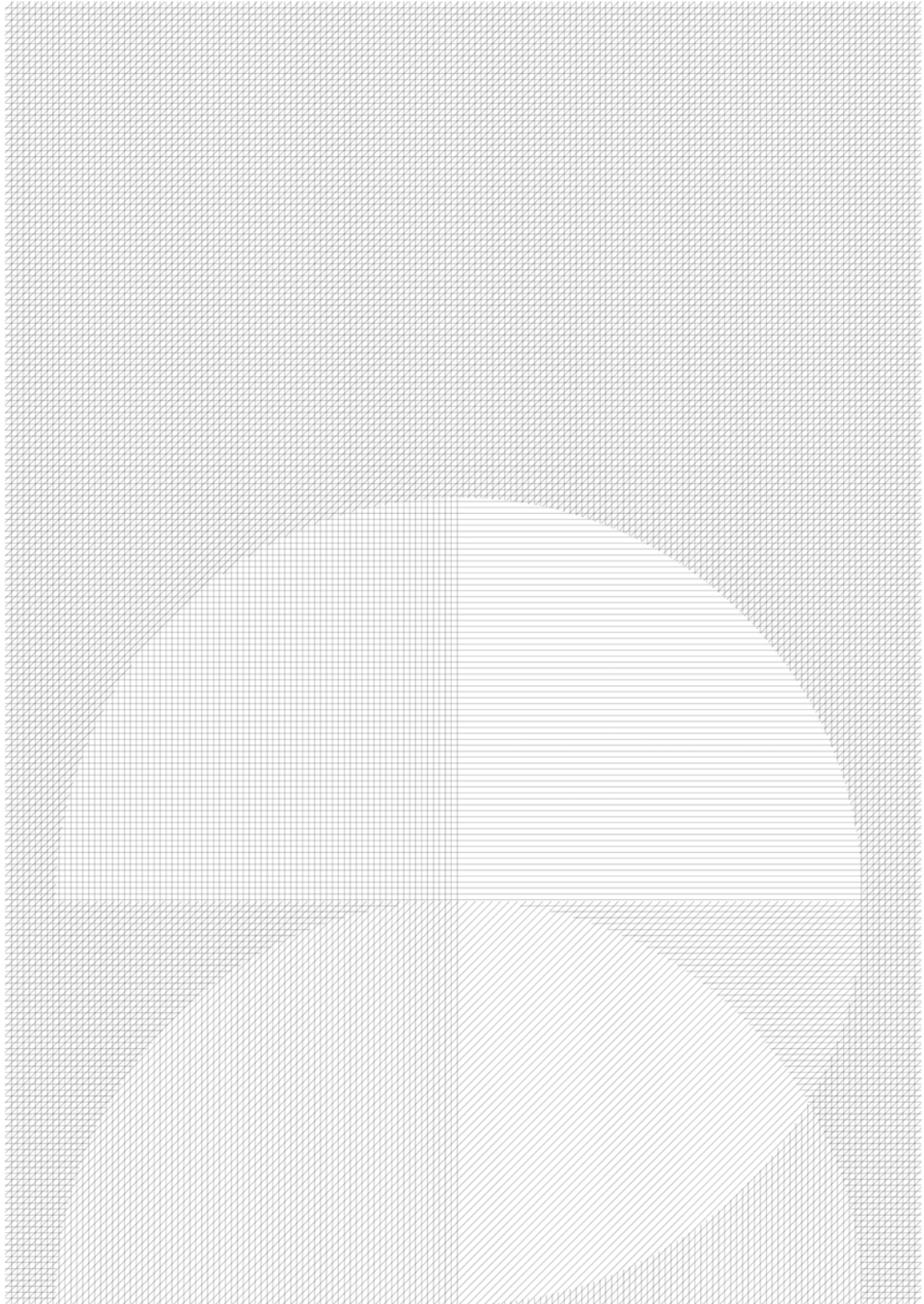


Sisters 2 was an exhibition designed, curated and delivered by Marcus Cole and Isabel Ogden, recent graduates from the Royal College of Art, for two emerging artists Caroline Cole and Sophie Arup. The exhibition was showcased in The Herrick Gallery, London, Picadilly and was the second exhibition presenting the work of the two sisters side by side. It was commissioned and funded personally by the artists after the success of their first at Cole Gallery formerly owned by Tom Cole, now of The Sunday Painter.

Working under the name of CO, Marcus & Isabel delivered a series of easily transportable and iterative plinths that responded to rigorous methodology behind the sister's artwork. Their highly individual but remarkably complementary pieces are founded on geometry and mathematical patterns, enhanced by a rich use of colour and an extraordinary attention

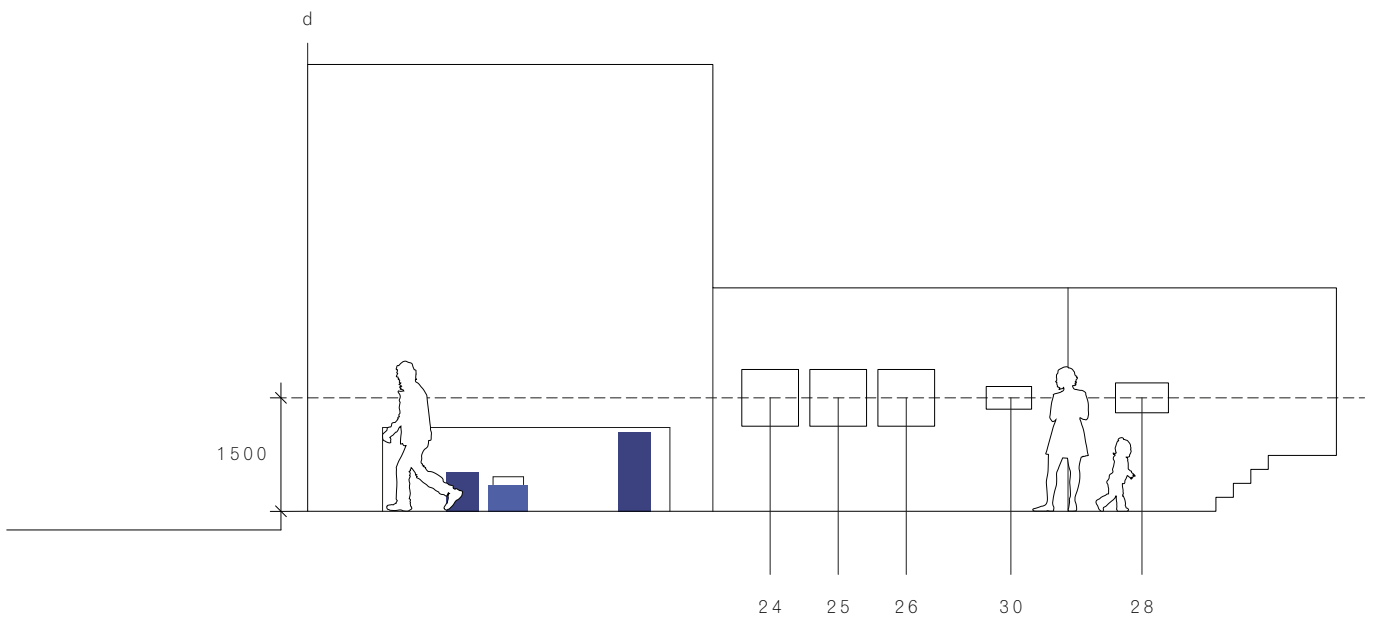
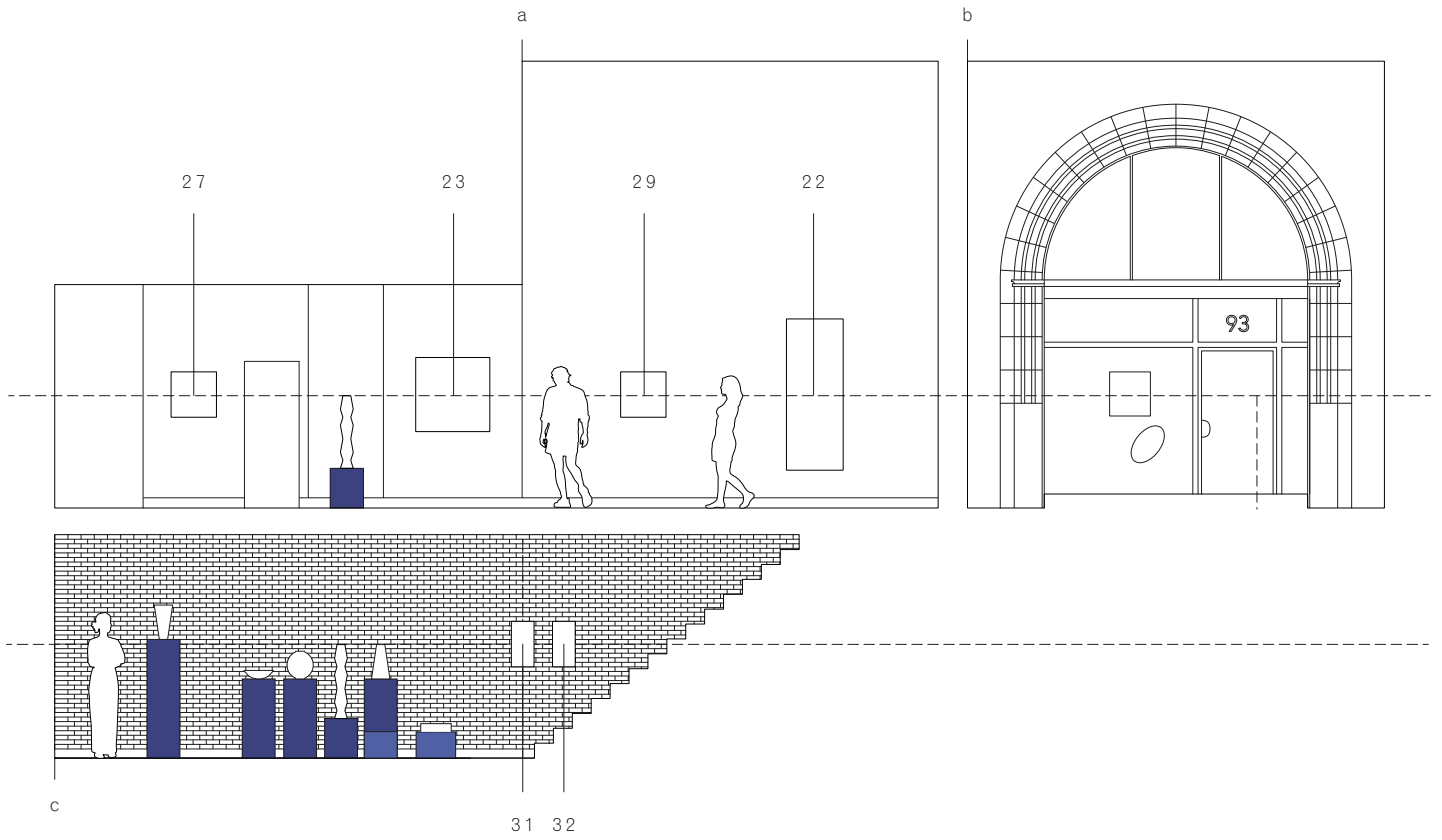
to detail - these characteristics were mirrored within the design and layout of the exhibition. In addition, a pair of drawings were commissioned in response to the curatorial research undertaken. Within these, nature of the sisters seemingly symbiotic artistic methodologies were explored ; 2 copies of these prints were sold.

In addition to this, the pair were tasked with the graphic design of the catalogue for the exhibition and curated the experience within the gallery itself. The project was successfully completed within the £ 2,000 budget and included 23 bespoke modular plinths that have since been repurposed as shelving for the client, 400 A3 catalogue risoprints, window vinyl, an invitation and press release gif series and a photography series of all items exhibited within the gallery. The project ran for 4 months with the exhibition open for 2 weeks in February 2018.









iii Exhibition Layout Elevations





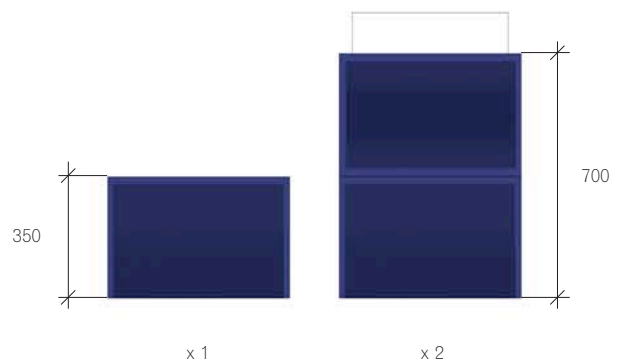
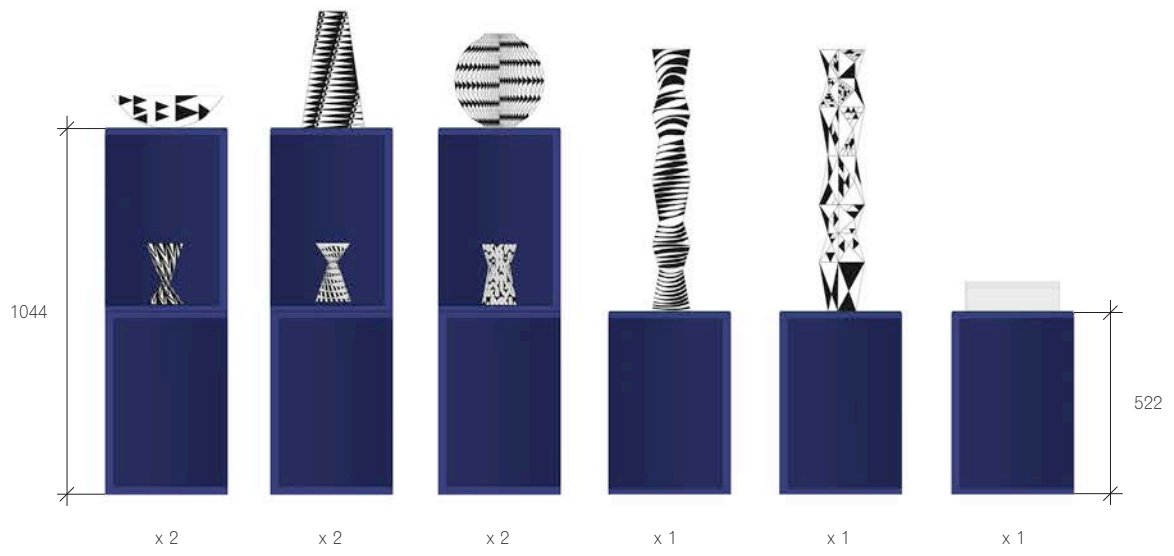
v Photograph Series commissioned by the Artist

The design of the catalogue and invitation were approached using the same processes applied to the plinths. The theme of prime numbers was carried through the work, with the invitation and press release both respectively being broken into 2 and 3 pages. With the catalogue, it was intended that it should be displayed in its full format as a stack of paper. However it was important to address how the information could be taken away from the exhibition as well as it included important information such as the price list for potential buyers. In this light it was important that the design also accommodated the ability to be folded in a manner that fit easily into bags and coat pockets.

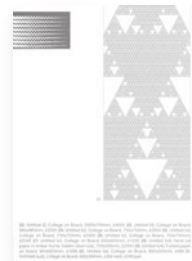
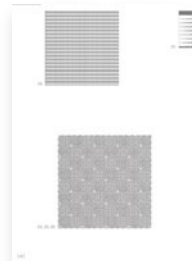
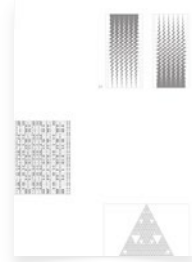
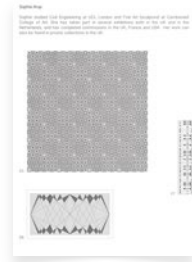
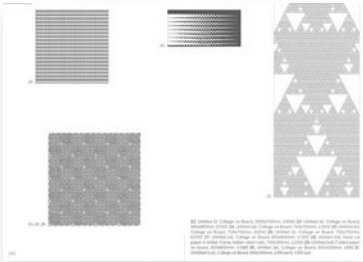
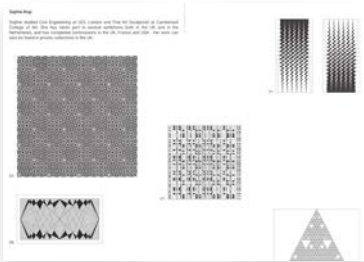
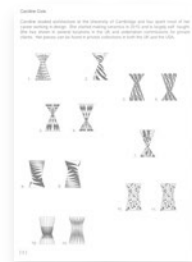
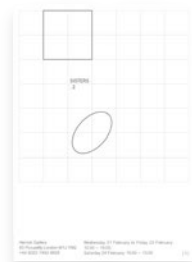
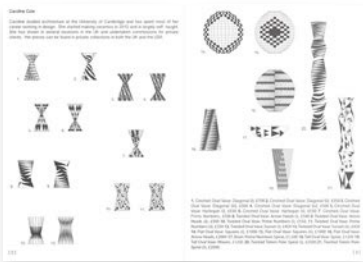
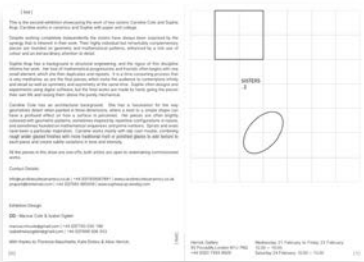
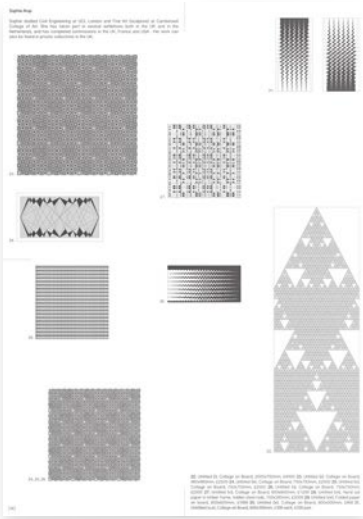
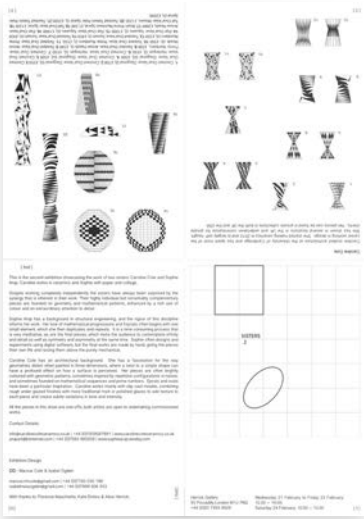
With this in mind, the catalogue was separated into two A3 pages, front and back. Each page addressed one of the sisters as well as a front and back page with credits exhibition

dialogue. Through a number of different iterations the layout then allowed the visitor to engage with the art works in numerical order beginning in the basement. Each of the items displayed in the show was meticulously drawn in CAD as elevations that formed black and white icons to help visitors locate item to price.

In addition, a photography series was undertaken at the request of the ceramacist to create series of images that highlighted the precise and colourful nature of the pieces. With this in mind, CO developed a monotone background, printing one of the research drawings at 7 times its original size to provide the backdrop for the images. Using a wide camera lens these images became part of an image pack the client then utilised to secure future exhibitions internationally in Shanghai, China and Venice, Italy.

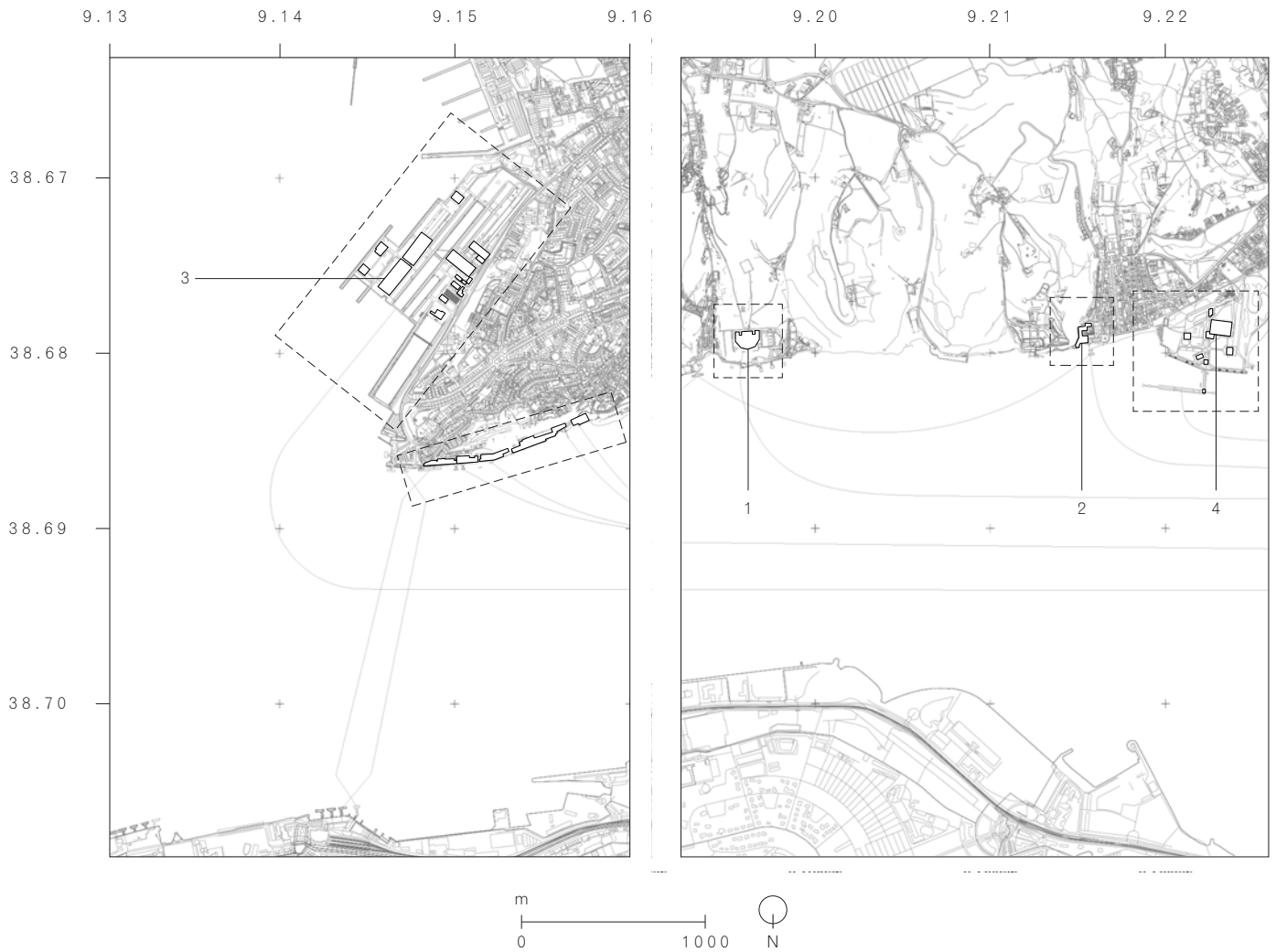


vi Plinth Elevations





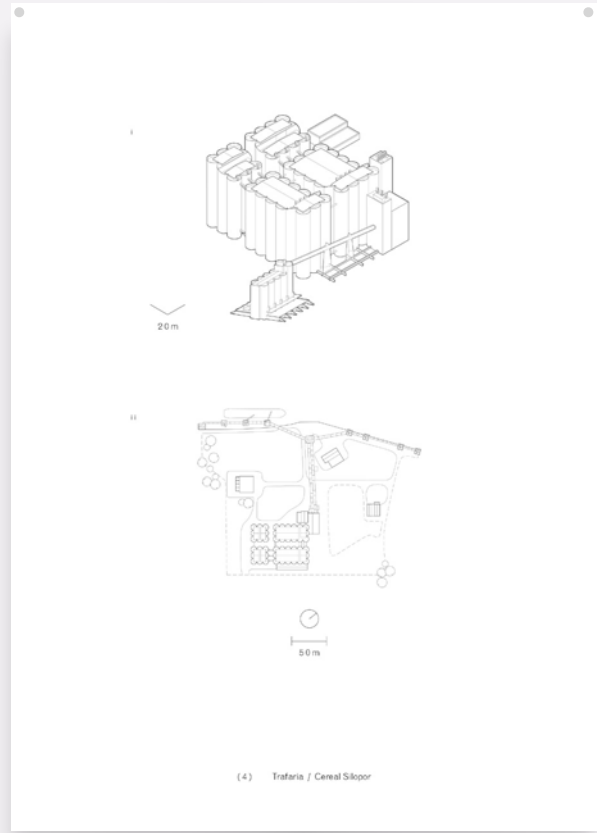
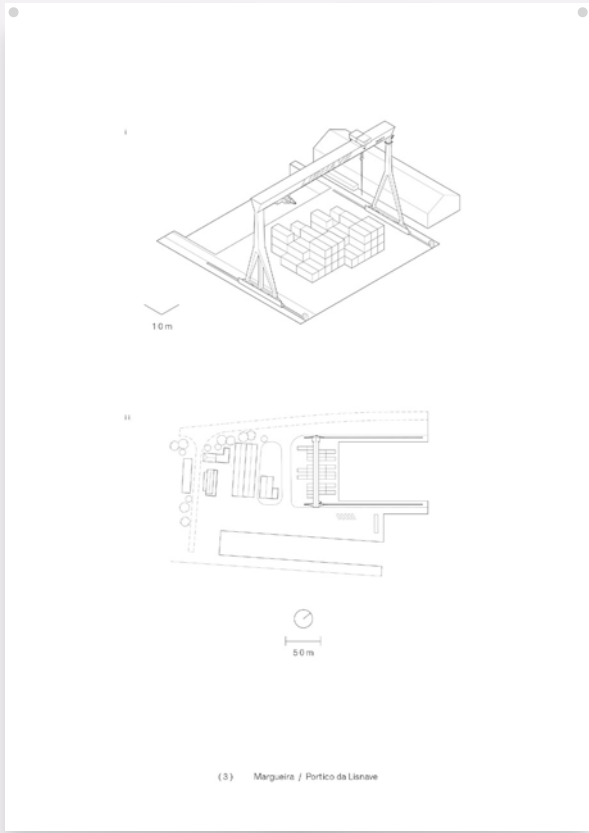
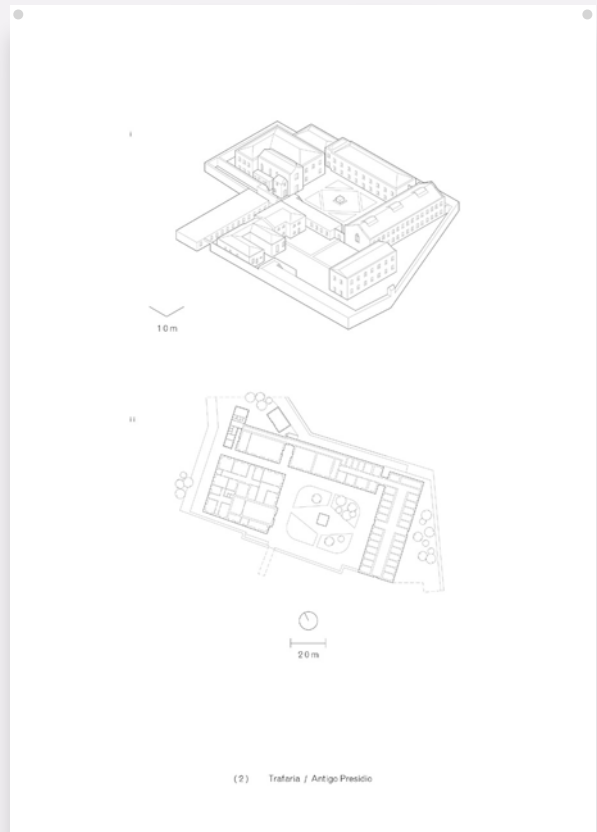
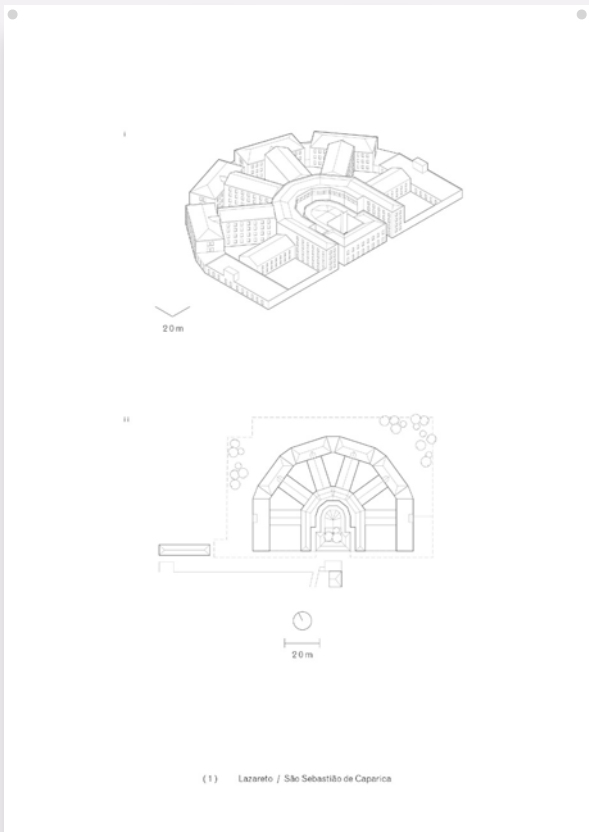
viii Single Modular Plinth

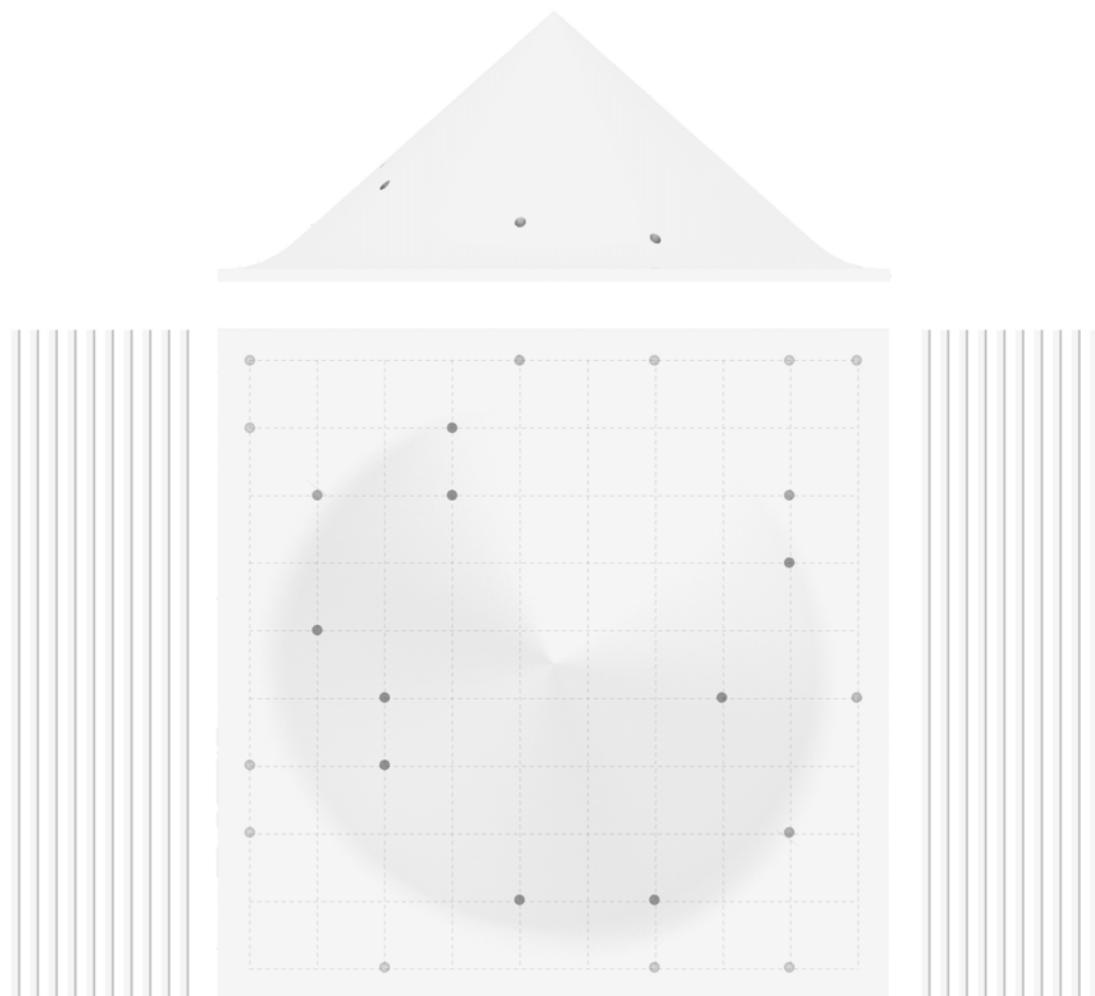


Commissioned to contribute to a body of research exploring the southern coastline of Lisbon. The research highlighted the geopolitical importance of a number of now disused buildings that lined the cove-like coast of the river. The geological nature resulted in a number of small towns growing around different dominant programmes. The four buildings selected were the epicentre of these villages, creating an economic dependency on the labour. The research culminated in a large map highlighting the international economic benefit of Almada and a series of four isometric drawings and plans to accompany an essay published for the Triennale 2016.

The drawings focused on 4 of the buildings along the coastline, a civic administrative building, a prison, a port and a grain factory. These four programmes represented the global relevance of Lisbon's forgotten coast.







i cone hill base providing access to the elevated garden

Inject & Implant was a collaboration between Marcus Cole and Vittorio Maschietto based off of the latter's proposal for a public skyscraper made up of purely public green space. The model was created and submitted to the RA Summer Show in 2019 under the theme 'Sustainability'. The proposal was altered from its original scheme to create a scale-less model based on a conceptual principle rather than that of structure. Behind the idea of inject and implant was a simple notion that sustainable principles could be applied to a piece of product design as much as the city.

The "I&I" prototype acted as a public skyscraper-park: a brand new landmark in the heart of the city offering and sustaining a better quality of life, and complimenting the skyline whilst creating a major tourist attraction. "I&I" aimed to be an architectural masterpiece of the high-rise town centre.

This new 'green for green' was to be permanently open to residents, visitors and the general public. When multiplied and placed in the urban grid, the "I&I" can maximise the environmental sustainability of an entire city.

The model submitted for the RA consisted of a natural grass hill constructed as a pure cone that ascended to a series of gardens. Each floor lay on a 10 x 10 grid for which a varied array of 25 columns would be positioned at random across the floorplate. The positions of these columns varied from floor to floor to help secure the overall structure of the landmark while allowing the columns to form the visual impact of a growing and natural forest. The model was a mix of 3D printed elements, jesmonite, acrylic rod, watercress, pebble, a variety of moss, thyme and dill. Delivery and construction of the model was carried out by Marcus Cole.



ii Physical Model / Jesmonite , Moss , 3 D Print

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