CHAPTER FOUR

DESIGN INTRODUCTION

> The spaces we inhabit are always events that cannot be ever quite exhausted by the meanings with which we invest them. (Rajchman 1991:153)

4.1 INTRODUCTION

This chapter will explore the aspects which guide the interior production. Including the conceptual approach; design intention design approach and strategies regarding the response to the architectural proposal. The architectural interpretation of the theoretical investigation will be developed into a conceptual approach which aides in the development of a uniform design language. The design intentions are established through considering the interior design issue and project intention in terms of the theoretical argument. The design approach organises the influential aspects presented in the proposal, with the intention of formulating pertinent criteria which guide the design process towards rendering a successful outcome.

Interior is produced through the spatialisation of matter by time, where spatial and visual qualities are generated by event and process. Interior spaces are influenced, formed and re-formed by the users and activities within them, without users the space becomes static and irrelevant. Leach (1997) describes space as a representation of lived experience that cannot be understood unless viewed as a process. It is therefore important for space to be conceived in such a way as to accommodate the changes it is destined to encounter and for the space to be able to be understood as an evolving process and not an isolated event.

According to Brown (2003:6) a sense of permanence in urbanity consists of an assortment of constant forms, image and infrastructure that people recognise and relate to. This principle can be related to temporary environments, as Brown (2003:6) elaborates, stable forms generate 'place' from 'space', facilitate social continuity and generate a psychological stability. In a temporary environment which is subjected to frequent change elements of constant infrastructure, form and image are fundamental in generating the perception of permanence and continuity. Through establishing enduring physical and perceived (qualitative /quantitative) elements of the environment a supporting platform for motion is formed. This platform serves as constant point of reference and recognition. An enduring identity of the whole, which accommodates space-time-dependent transformations, creates an architecture that is simultaneously receptive to fluctuating environmental conditions and a beacon of permanence and stability.

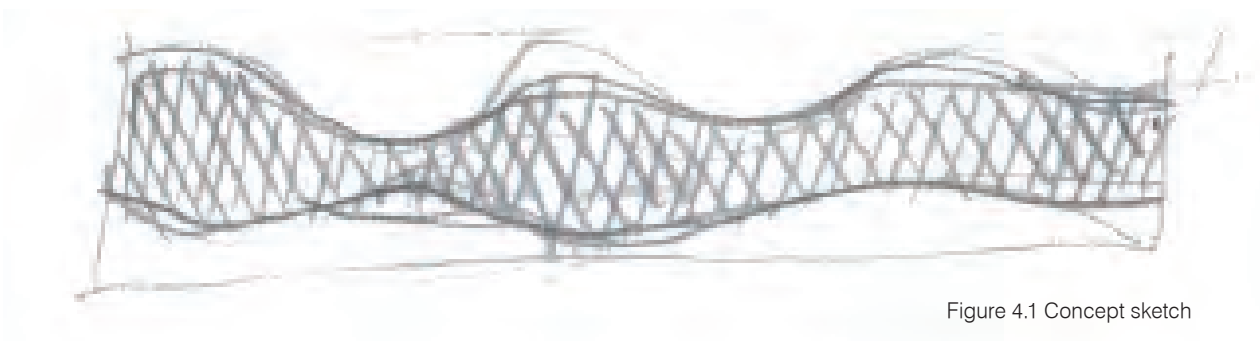


Figure 4.1 Concept sketch

Figure 4.2 ‘Things I Have Learned in My Life So Far’ cover series (Blazhkevich 2009)

4.2 CONCEPTUAL APPROACH

The conceptual approach stems from the theoretical investigation of timeliness and the interpretation of the existing structure. As the nature of the project revolves around visible change over time, and response to influences, within a defined space the conceptual approach of play between enduring frame and flexible infill was investigated.

This was informed by various aspects, firstly the technical elements: the existing structure consisting of a framework which supports the interior space; open-building approach which consists of base-build and fit-out as means to organise the constant framework elements and infill elements which are in constant flux. Secondly the theoretical elements of timeliness, which relate to the representation and interpretation of interior spaces through the principles of iteration, tradition and temporality.

The concept of frame and infill lead to the notion of 'enabling structure' and 'active surfaces'. This lead to the investigation of the concept of skin as active surface denoting identity and provoking associations, within a generic supportive frame.

Skin is a gateway between interior and exterior as well as between the individual's essence and that of the cultural, social and environmental conditions (Handcock 2012:7). Through modifying the skin condition the interior and exterior engage with each other, creating the opportunity for dialogue and interaction. In the process the skin becomes a medium for experiential expression in the interior on a social level (Handcock 2012:7). As Handcock states the skin serves as a medium of transition and communication between interior and exterior as well as becoming a medium for expression.

Handcock (2012:1) refers to French psychoanalyst, Anzieu's three functions of skin: protective container; expressive interface and filter for exchange. Therefore the skin can serve as transitional filter exposing the interior activity or as a protective surface between interior and exterior and as expressive surface in itself. Handcock (2012:1) describes Anzieu's notion of 'skin-ego', which addresses the foundation of the division between bodily interior and exterior environment. Anzieu (in Handcock 2012:1) describes the skin as active surface, a resource for communicating with others. The relations formed between the interior and exterior are controlled through the skin of the building, this influences the external interpretation as well as having an effect on the interior environment and atmosphere.

> The interior has been constructed as the human body has undergone various modes of production. It is and will remain in a state of 'becoming' as the boundaries of the lived body are continually challenged and redefined. (Handcock 2012:1)

4.3 DESIGN INTENTION

The intention is to demonstrate timeliness in the alteration of *Les Grandes Tables de l'île Seguin*, to support the travelling DNA design development centre.

The intention is to achieve this by altering existing elements to introduce innovation and new meaning in the new interior. To offer the opportunity for change. To retain continuity through rapid succession of transformations. To introduce innovative alterations in existing forms. To express temporary occupation of the interior.

The intention is to facilitate interaction between the activity within the interior environment visually and physically to the exterior, initiating an active narrative between interior and exterior. This allows the interior to be visually accessible from the exterior and consequently the changes in programme, user and spatial activity influence the building in its entirety, creating an ever changing element of craft and design, grounded in its context. In this way creating a timely interior through a visual sequence of events through time.
The intention is to celebrated and exhibit the development of craft as design through incorporating craft into the architecture in the form of materials and technologies representative of design identities.

The intention is for the structure and interior to adapt and transform on different scales of magnitude and frequency to accommodate the changes brought on by interior and exterior factors.

Figure 4.3 Phase change concept sketch
Figure 4.4 Phase change concept sketch lecture

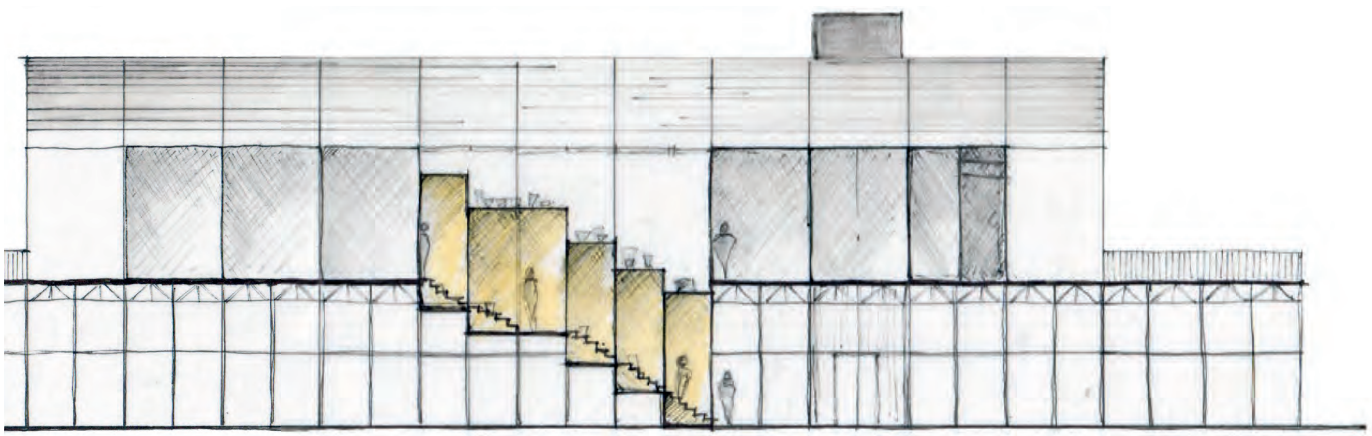


Figure 4.5 Phase change concept sketch exhibition

4.4 DESIGN APPROACH

4.4.1 INTRODUCTION

The design approach is informed by the theoretical (temporary) and typological (transportable) nature of the project, and requires investigation into various design strategies as to formulate an approach which will comply with the requirements on all aspects of the intervention. The project was initially evaluated in terms of enduring elements and temporary elements to establish the permanence of elements and the time-frame in which elements would exist, this informs the transportability and adaptability approach to each aspect of the design. Secondly it was considered in terms of functionality and experience. These categories will be elaborated and discussed further under the heading 'Ordering strategy'.

In accordance with the theoretical investigation, the design approach is to consider existing elements of interior design and to investigate and redefine the possibilities of these elements within space. Reconsidering the ability of elements in space and space forming elements to influence and be influenced by spatial experience and function. This is achieved through the process of iteration and interpretation of the original purpose and intention of element and their future potential. This will be discussed and resolved in the design development and technical resolution.

4.4.2 APPROACH

According to the Adaptable Futures research team ([Sa]c) design is seen as the interplay between space, function and componentry, within time. Time as the fourth and encompassing perspective shifts the object from existing in a single moment in time towards a time-based perspective (Adaptable Futures [Sa]c). Where 'spaces' refers to in and between the layers; 'functions' of spaces, layers and components; and componentry the objects, infill and fit-out (Adaptable Futures [Sa]c).

This design approach is followed, as it focuses on the relationship and response between components, space, function and time, and therefore allows for the various changes and effects thereof to be observed.

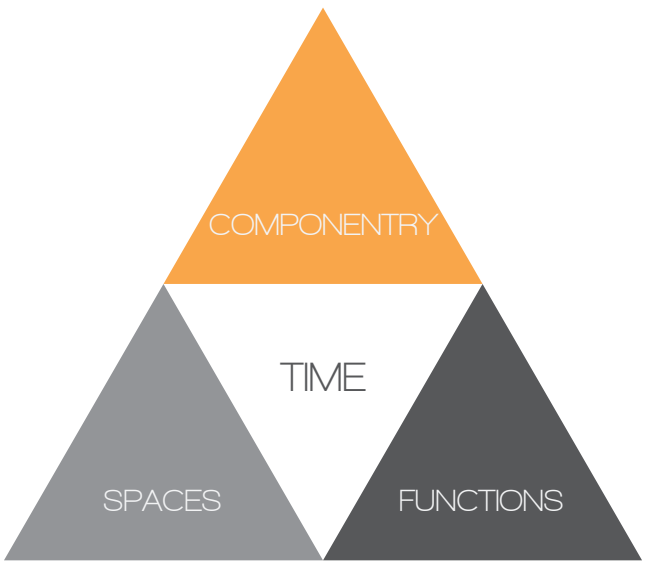


Figure 4.6 Design perspectives diagram adapted from Adaptable Futures Toolkit. (Adaptable Futures [Sa]c).

4.4.3 CLASSIFICATION

ENDURING and TEMPORARY

Enduring refers to the elements which are to remain constant throughout change, although they themselves will adapt and evolve through the temporary conditions the fundamental elements will remain constant. The temporary components and/or conditions will be in constant flux, changing and adapting as required over time. The enduring elements enable the temporary conditions and are influenced in return.

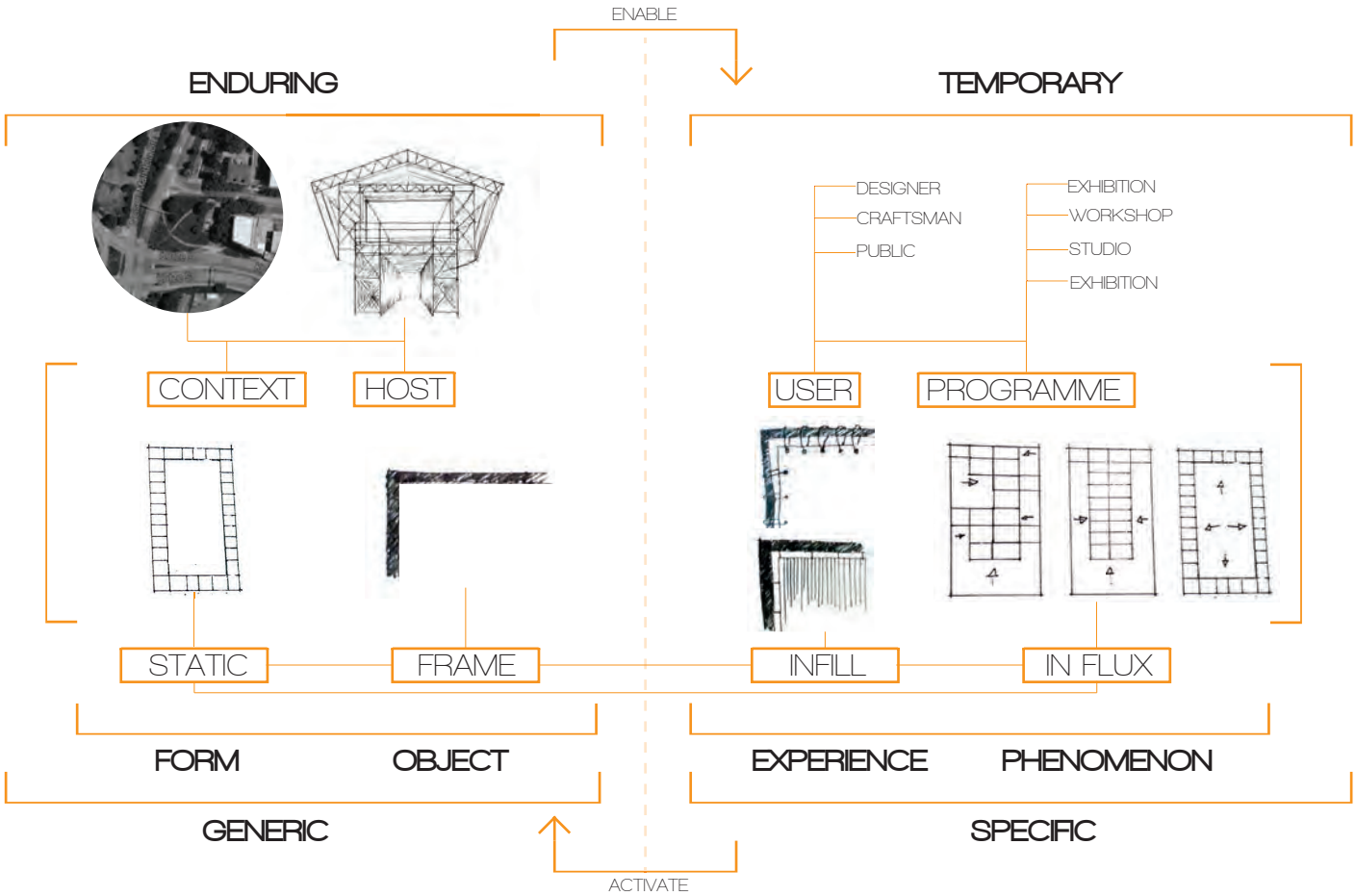


Figure 4.7 Classification diagram for single site

GENERIC and SPECIFIC

To accommodate the aspects of constant change, users, location and programme the design is formulated with predetermined components, elements, materials and spatial arrangements of a generic nature which enable space making and functionality and represent and form the design language of the building. There are components which are generic and predetermined in terms of form but not in terms of material infill. Where other components are generic and predetermined in terms of form and material infill, but which through a predetermined transition are specific to a certain use.

FRAME and INFILL

Systems of predetermined components, structure and layout are established which are enduring throughout the complete lifespan of the project. These systems create a sense of order and act as guidelines for use. They form the framework which contains or enables the temporary infill. The infill is comprised of the adaptable, transformable elements and structure which will allow the flexibility of space as well as identity. These are referred to as fit-out components/elements as they are determined by the occupant or location.

OBJECT and EXPERIENCE
The organisation of objects can be perceived as objects in space and space forming objects. The arrangement and manipulation of objects (components) in space gives rise to a distinct spatial experience. In this instance the object is enduring but the experience created is temporary through reconfiguring the object itself to create a different experience or by rearranging objects within space. The intention is to manipulate objects to shift from being solely functional to aiding in qualitative spatial experience.

FORM and PHENOMENON
Enabling the building to manipulate it's form in order to create a variation of spatial and experiential occurrences in such a way as to enable a change in perception. Through enabling the form to change it transforms from static enclosure to dynamic phenomenon.

STATIC and IN FLUX
Static elements are predetermined and fixed elements, they are enduring but can be customised and receptive to surface intervention. Elements and components in flux are those that are movable, adaptable and transformable. They change and adapt as user and programme change in order to create change in spatial and use experience.

SURFACE and SPATIAL CHANGE
Induced through use, users and process driven change - reconfiguring spatial arrangement caused by change in programmatic requirements, results in simultaneous visual 'surface' change.

IMAGE and IDENTITY
The image, identity and aesthetic can be identified as a series of abstract notions related to social conditions, culture and symbolism, however it's form is ultimately determined by the materials and manufacturing techniques used in its construction (Kronenburg 2003).

4.4.4 TRANSPORTABLE ARCHITECTURE

Solutions were sought that could be easily assembled and disassembled for ease of transport and do not require a specific skilled team for assembly, as the structure will travel to a variety of countries and locations. The choice in components and materials are evaluated and considered with regard to transportability and their resilience to different climatic conditions. The strategies and elements should be able to transform and respond to accommodate the variety of requirements without extensive adaptation. Therefore the approach to joints and connections is to make use of mechanical connectors, which allow for disassembly with minimal to no impact on any of the elements involved. This approach enables transportability as well as aids in the sustainability approach as these components are easily recycled or reused after the expected lifespan.

Kronenburg (2003) defines the approaches to transportable architecture as:
SYSTEM OF MODULAR PARTS, where the building is composed of a system of modular members and connectors (Kronenburg 2003). This makes for ease of transport, on site assembly and dismantling, as parts are smaller and manoeuvrable by smaller man-force. Damaged or altered components are easily replaced or repaired individually, allowing maximum flexibility and reduces waste as only affected members are discarded.

FACTORY MADE ELEMENTS, prefabricated elements transported as partly complete and assembled on site

(Kronenburg 2003). Prefabricated elements are often large and can be more difficult to transport and handle during construction. They do however allow for complex systems which would require skilled labour for assembly, to be prefabricated into simplified system elements. Prefabricated elements can allow for faster assembly and disassembly as there are less connections and loose parts.

The approach to transportability is a combination of the two. Prefabricated elements will be used in the instances where complex technologies and construction would be required for individual assembly. This pertains to the double glazing facade, roof windows and adjustable panels. Transporting these elements as prefabricated components reduces the risk of breakage during transportation. Furniture and componentry will be transported in partially completed parts, and loose structural elements consisting of framework elements which will be a system of modular parts and the infill surfaces as prefabricated elements. Other structural elements will be transported as a system of modular parts.

The intention is for these parts and elements to be transported in the shipping containers which form part of the building structure, therefore the component sizes are considered in term of shipping container dimensions. (see diagrams illustrating transportation strategy).

4.4.5 FLEXIBILITY

Brown (2003:11) describes the 'para-site' as a site intended for transient use, where the building responds to an ever-changing cycle of facility and fashion. This notion accepts that the function of a building may change within short periods of time (Brown 2003:11). Brown describes five types of 'para-sites' which can be used as guides in the design approach to environments which facilitate transience while maintaining real, or symbolic permanence within our temporary continuum (Brown 2003:11).

'Para-site' types:

1. Architecture pre-programmed to self-destruct at a certain time.
2. Architecture which can grow over time, and yields an awareness of time.
3. Architecture designed for disassembly.
4. Designed as framework for universal facilitation.
5. Designed as transformer, adapting it's form, format and spaces.

(Brown 2003: 12).

Points 2 - 5 will be used as approaches to guide the design process in terms of flexible environments.

The success of adaptable, transformable environments relies on systems defining the means, and level of adaptability, transformability and convertability (see definitions in chapter 1, 1.2). An open-building approach is used to define a system consisting of fixed or predetermined elements which are enduring, in terms of form, location within building structure and composition, these are referred to as base-build elements. The elements and components which are flexible and in a state of constant flux within the environment are referred to as fit-out and are elements which will allow the flexibility of space as well as identity.

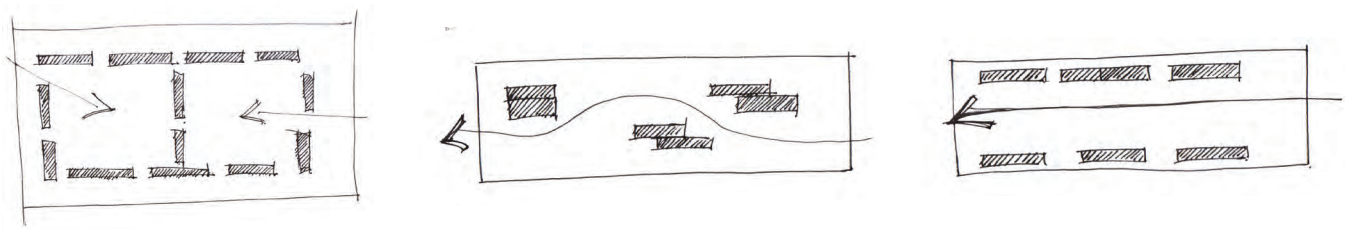


Figure 4.8 Spatial flexibility concept diagram

4.4.6 HIERARCHY OF INFLUENCE

It is necessary to clearly define the acting influential factors which will drive change, as well as establish a hierarchy of the desired intentions and determine the degree of impact of each influencing factor.

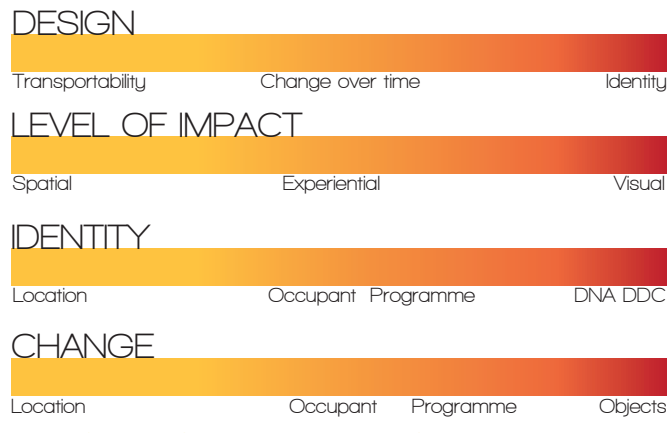


Figure 4.9 Hierarchy diagram

IDENTITY:

1. DNA DESIGN DEVELOPMENT CENTRE - established design language of the intervention. These are the permanent aspects and components which form a generic backdrop and organising framework to accommodate the various temporary conditions acting on the space.

2. PROGRAMME - differentiating between the programmatic functions of the building, providing visual and experiential indications as to the current programme. Through the spatial arrangement and composition of elements in space assist in determining the programmatic identity. This is temporary and reversible, but reoccurring.

3. OCCUPANT (CLIENT) - the designers occupying space should be identifiable through 'branding' of space. This is achieved through specific infill in the generic framework. This identity is temporary and reversible.

4. LOCATION - incorporating locational identity into the structure to integrate it into its surrounding environment and serve as distinguishing factor between locations. This is achieved through insertion of exchangeable materials to be crafted into existing framework. The alteration, in the form of an insertion is temporary and reversible as the insertion will be removed and replaced when building is transported to a new location.

5. HOST STRUCTURE - the identity of the host structure should be retained in the form of respecting the existing form and visual and experiential qualities.

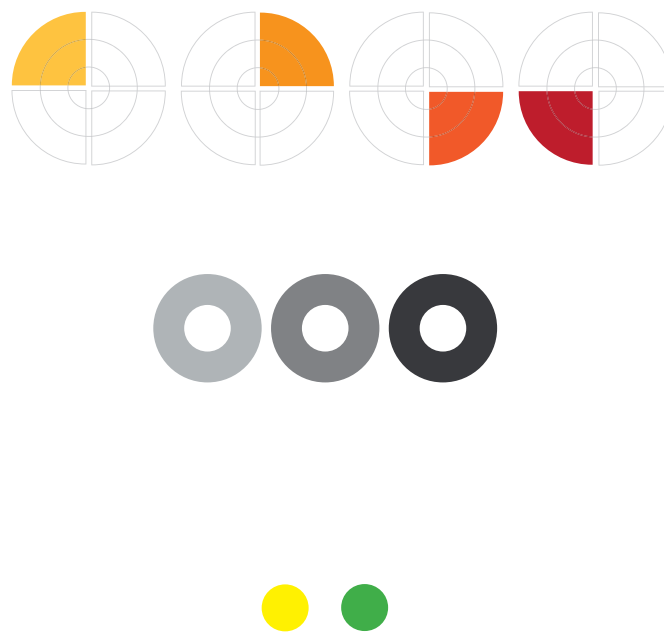


Figure 4.10 Exploded info-graphic depicting hierarchy

4.4.7 FREQUENCY OF CHANGE:

The frequency of change expected differs from individual objects and elements, spatial configurations to the configuration and orientation of the building on site. This will affect the choice in materials, the manner in which elements are constructed and fixed.

This can be divided according to elements affecting: change in location (least frequent); change in occupant; change in programme; and change during use (most frequent).

These can be considered in terms of Brand's (1994) idea that buildings are made up of 'shearing' layers that change at different rates. As the rate of change of these layers are affected by external and internal stimuli, the scale and frequency will not remain constant. The Adaptable Futures research team ([Sa]) created the adaptability links table, where the changes are considered in terms of: types of change; Brand's layers and scale. This table can be used as a reference for classifying elements and spaces, based on the frequency of change, the level which it affects and the stimuli prompting the change.

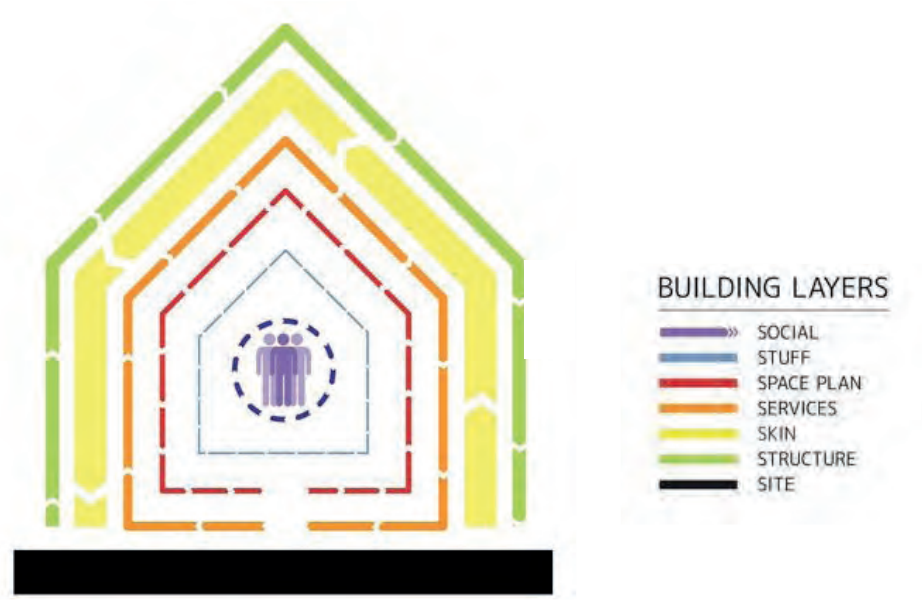


Figure 4.11 Brand's building layers reinterpreted (Adaptable Futures [Sa]b).

ADAPTABILITY LINKS

TYPES OF CHANGE			BRAND'S LAYERS						SCALES	
Strategy	Cause	Affect (Physical)	Stuff	Space	Services	Skin	Structure	Site	Physical	Time
Adjustable	Task, user	Component, furniture							Components	Daily/weekly/monthly
Versatile	Operations	Spatial arrangement							Components	Daily/weekly/monthly
Refitable	Age, technology	Component, performance							Components	Daily/weekly/monthly
Convertable	Task, artisan	Function, programme							Building	Daily/weekly/monthly
Scalable	Task, user	Size							Building	Daily/weekly/monthly
Movable	Market	Location							Building	Daily/weekly/monthly

Figure 4.12 Adaptability links table adapted from Adaptable Futures Toolkit. (Adaptable Futures [Sa]a).

4.5 CONCLUSION

The conceptual approach considers the approach to communicating the various identities and change through surface/ skin as expressive interface and filter for exchange. Therefore defining the surface, infill or as in the instance of the facade treatment, the associated elements as the active, infill elements. It can serve as transitional filter exposing the interior activity or as a protective surface between interior and exterior and as expressive surface in itself.

Through the design intention it is made apparent that the deliverables for this dissertation, are in the form of a system of parts which enable a multitude of design possibilities, and not a single static design product. The intention is to develop a framework system which enables these adaptations and transformations to take place in a manner that manifests the theoretical argument (refer to Chapter 2) and serves the client's needs. The system, and system parts will be fully developed and illustrated in at least one phase of the cycle. Variations and possible solutions will be illustrated as 'sketch' plans, as the intention is for the system to be defined but the solutions and opportunities open-ended.

The design approach is made up of a multitude of design strategies and considerations which each serve a specific set of goals they should achieve within the greater system. The design approach therefore considers every element and intervention on the appropriate level of impact and design scale (as well as the effect on the whole), ranging from intangible experiential to surface and spatial.

The pages to follow form part of the conclusion, as chapter summary pages, which were designed as part of the final design presentation.

4.5.1 DESIGN INTRODUCTION SUMMARY

Figure 4.13. 'Things I Have Learned in My Life So Far' cover series (Blazhkevich 2009)

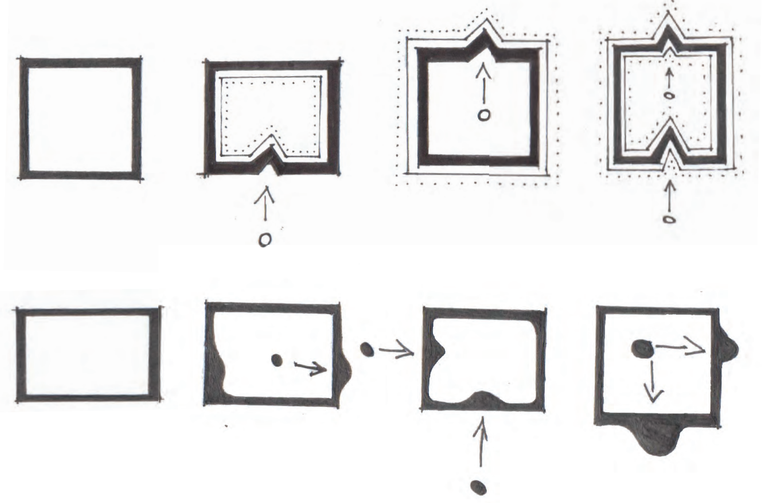
INTRODUCTION

Interior is produced through the specialisation of matter by time, where spatial and visual qualities are generated by event and process. Interior spaces are influenced, formed and re-formed by the users and activities within them, without users the space becomes static. Leach (1997) describes space as a representation of lived experience that cannot be understood unless viewed as a process.

In a temporary environment which is subjected to frequent change, elements of constant infrastructure are fundamental in generating the perception of permanence and continuity. Through establishing enduring qualitative and quantitative elements of the environment a supporting platform for motion is formed. This platform serves as an enduring identity of the whole, which accommodates space-time dependent transformations, creates an architecture that is simultaneously receptive to fluctuating environmental conditions and an element of permanence and stability.

CONCEPTUAL APPROACH

Skin is a transitional filter and a protective surface between interior and exterior, as well as an expressive surface in itself (Handcock 2012:7). As Handcock states the skin serves as a medium of transition and communication as well as becoming a medium for expression. The concept of skin is interpreted as an active surface denoting identity and provoking associations, which is supported an enabled by a framework structure.



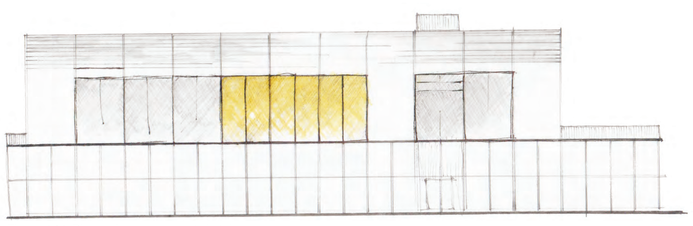


Figure 4.14. Phase change concept sketch

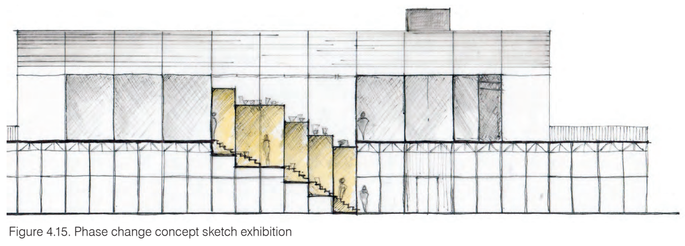


Figure 4.15. Phase change concept sketch exhibition

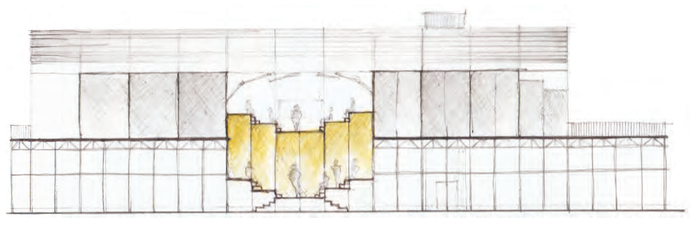


Figure 4.16. Phase change concept sketch lecture

DESIGN INTENTION

The intention is to demonstrate timeliness in the alteration of Les Grandes Tables de Ile Seguin, to support the traveling DNA Design Development Centre.

By altering existing elements of interior design to introduce innovation and new meaning in the interior. To offer the opportunity for change. To retain continuity through rapid succession of transformations. To introduce innovative alterations in existing forms. To express temporary occupation of the interior.

The intention is to facilitate interaction between the activity within the interior environment visually and physically to the exterior, initiating an active narrative between interior and exterior. This allows the interior to be visually accessible from the exterior and consequently the changes in programme, user and spatial activity influence the building in its entirety, creating an ever changing element of craft and design, grounded in its context. In this way creating a timely interior through a visual sequence of events through time.

The intention is for the structure and interior to adapt and transform on different scales of magnitude and frequency to accommodate the changes brought on by interior and exterior factors.

DESIGN APPROACH

The design approach considers iteration, traditive and temporal design methods to express timeliness in interior design.

According to the Adaptable Futures research team ([Sa]c) design is seen as the interplay between space, function and componentry, within time. This design approach is followed, as it applies temporal interior design methods, which is a way of expressing timeliness in the interior environment. Iterative and traditive methods are followed by developing the design in an iterative manner, from previous knowledge of interior design.

The aspects of portable architecture, temporary architecture and flexible design inform and guide the design approach.

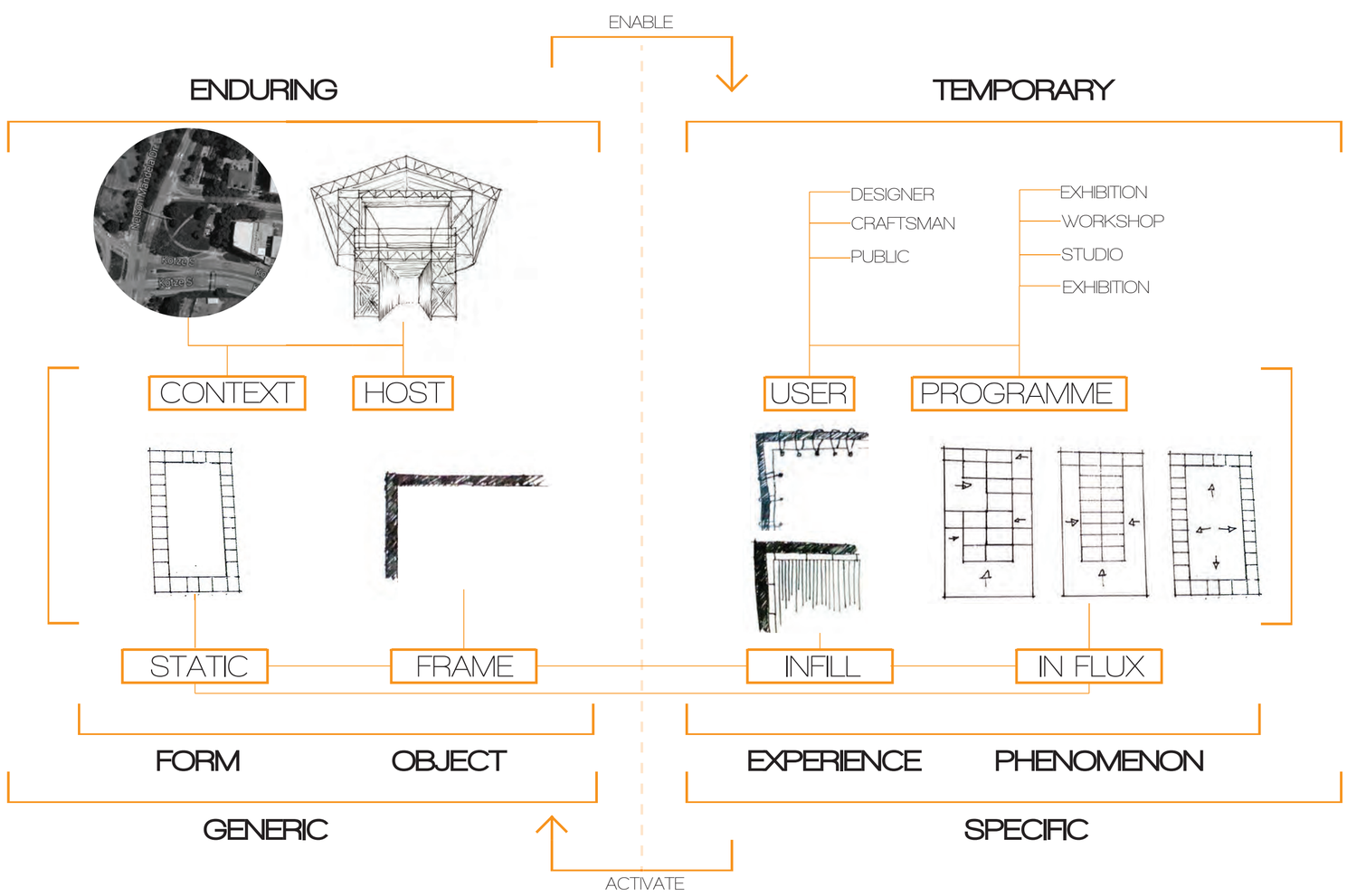


Figure 4.17. CLASSIFICATION DIAGRAM SINGLE SITE

TRANSPORTABLE ARCHITECTURE

The approach to transportable architecture includes a system of modular members and connectors, as well as prefabricated elements transported as partly complete components and assembled on site. Prefabricated elements will be used in the instances where complex technologies and construction would be required for individual assembly.

The intention is for these parts and elements to be transported in the shipping containers which form part of the building structure, therefore the component sizes are considered in term of shipping container dimensions.

CLASSIFICATION

ENDURING & TEMPORARY

Enduring elements are to remain constant throughout change, providing an enduring identity in a constantly changing environment. The temporary components and/or conditions will be in constant flux. The enduring elements are specific to the project, but generic within the context, they enable the temporary conditions and are temporarily influenced in return.

FRAME AND INFILL

The enduring systems and components which enable the flexibility of space as well as create the enduring identity, are developed as a framework which enables the temporary 'infill'. The 'infill' is comprised of the adaptable, transformable elements and structure which introduce the temporary identity in space, determined by the occupant, programme or location.

FLEXIBILITY

Architecture which can grow over time, and yields an awareness of time.
Architecture designed for disassembly.
Designed as framework for universal facilitation.
Designed as transformer, adapting its form, format and spaces.

The success of adaptable, transformable environments relies on systems defining the means, and level of adaptability, transformability and convertibility

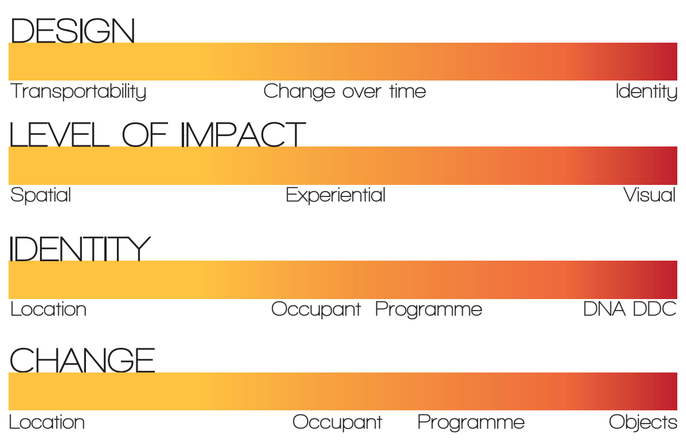


Figure 4.18. HIERARCHY DIAGRAM

HIERARCHY OF INFLUENCE

Identity:
1. DNA DESIGN DEVELOPMENT CENTRE
2. Programme
3. OCCUPANT (CLIENT)
4. LOCATION
5. HOST structure

FREQUENCY OF CHANGE:

The frequency of change expected differs from individual objects and elements. This will affect the choice in materials, the manner in which elements are constructed and fixed.

This can be divided according to elements affecting: change in location (least frequent); change in occupant; change in programme; and change during use (most frequent).

This is considered in terms of Brand's (1994) idea of a building's 'shearing' layers that change at different rates.

4.6 DESIGN DEVELOPMENT

4.6.1 DISPLAY, STORAGE & WORK STATION UNIT

ADJUSTABLE STEEL SHELVING

General purpose steel shelving, a well known adaptable space effective and economical storage system. Designed for versatility and easy installation and can be easily adjusted or relocated.

This serves as the base design which is identifiable and can be traced through time. The principles of the intended technical use of these shelving systems are recognisable throughout its many interpretations.

The intention is to reference and adapt the traditional shelving unit, to develop a storage, display and workstation unit which responds to the new interior environment. This is done with the intention of expressing timeliness in interior design through iterative design methods. As well as through temporal methods, through providing a means for indicating the presence of an inhabitant in space.

Figure 4.19. Edsal HC30127 Steel shelving unit (2014)

BOLTED STEEL SHELVING

General, industrial purpose adjustable steel shelving. Perforated steel equal angle frames with cross bracing. Adjustable steel shelves bolted to frame. Materials and connections reflect functional aesthetic.

Figure 4.20. Studio storage unit (Krost 2014)

STEEL STORAGE UNIT

General purpose adjustable shelving unit. Perforated steel frames, with powder-coated finish. Adjustable shelves, timber finish in steel frame with concealed fixing. Materials and connections reflect both functional and aesthetic aspects.

Figure 4.21. Vittsjo shelving unit (IKEA 2014)

STEEL DISPLAY & STORAGE UNIT

Display purpose adjustable shelving unit. Perforated steel frames, with powder-coated finish. Adjustable glass shelves in steel frame with semi concealed fixing. Materials and connections reflect both functional and aesthetic aspects, with the focus on high aesthetic value.

DESIGN CONCEPT DEVELOPMENT

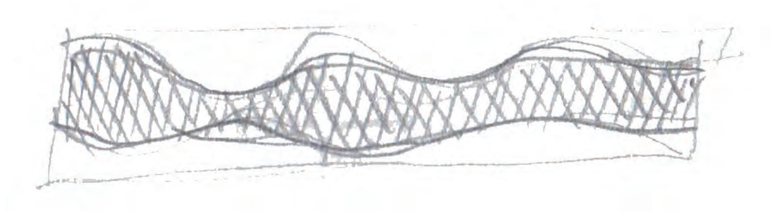


Figure 4.22.

PRESENCE OF INHABITANT & PROCESS INDICATOR

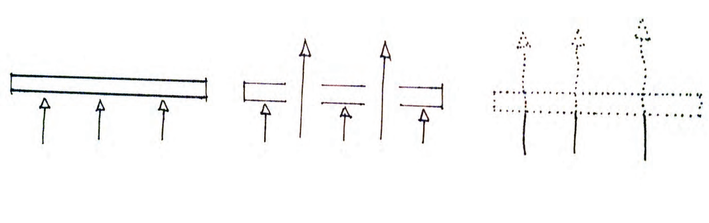


Figure 4.23.

FACADE TRANSPARENCY CHANGE

Figure 4.24.

TEMPORARY SIGNAGE TO EXTERIOR

UNIT DESIGN DEVELOPMENT

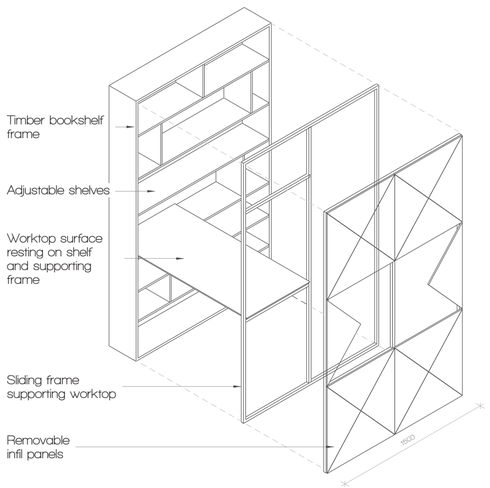


Figure 4.25. DESIGN 1

Timber bookshelves with sliding steel frame and removable infill panels

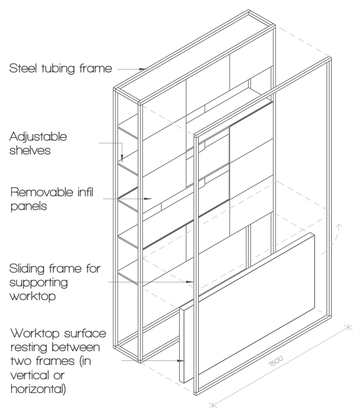


Figure 4.26. DESIGN ITERATION 1

Square tubing steel frame with adjustable shelves and screen panels with sliding steel frame to support desk surface in horizontal and vertical positions

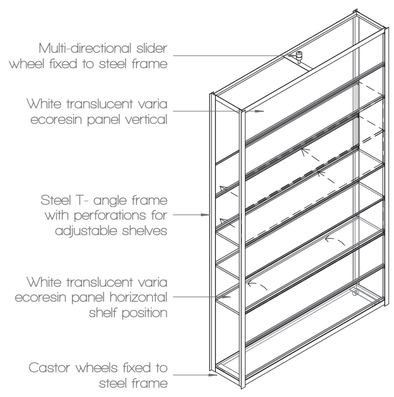


Figure 4.27. DESIGN ITERATION 2

Perforated T-profile steel frame with adjustable panels acting as shelves and vertical screen panels. With multi-directional slider

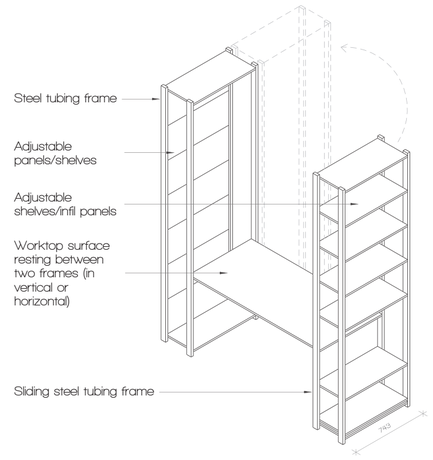


Figure 4.28. DESIGN ITERATION 3

Strategically predetermined perforations in square tubing steel frame. With adjustable panels acting as shelves and vertical screen panels. Fixed and movable units allow for spatial change and change in facade.

SURFACE DESIGN DEVELOPMENT

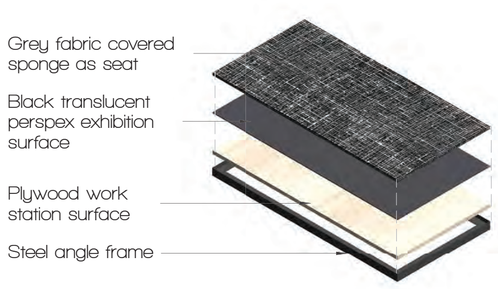


Figure 4.29. DESIGN 1

Layers of varying surface panels for each application. The qualities of each material reflecting and informing the use.

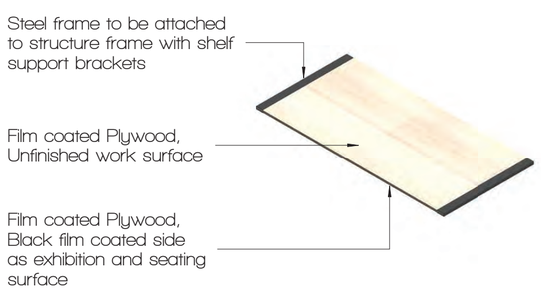


Figure 4.30. DESIGN ITERATION 1

Simplified use of materials, Single side black film coated Birch plywood, in steel frame.

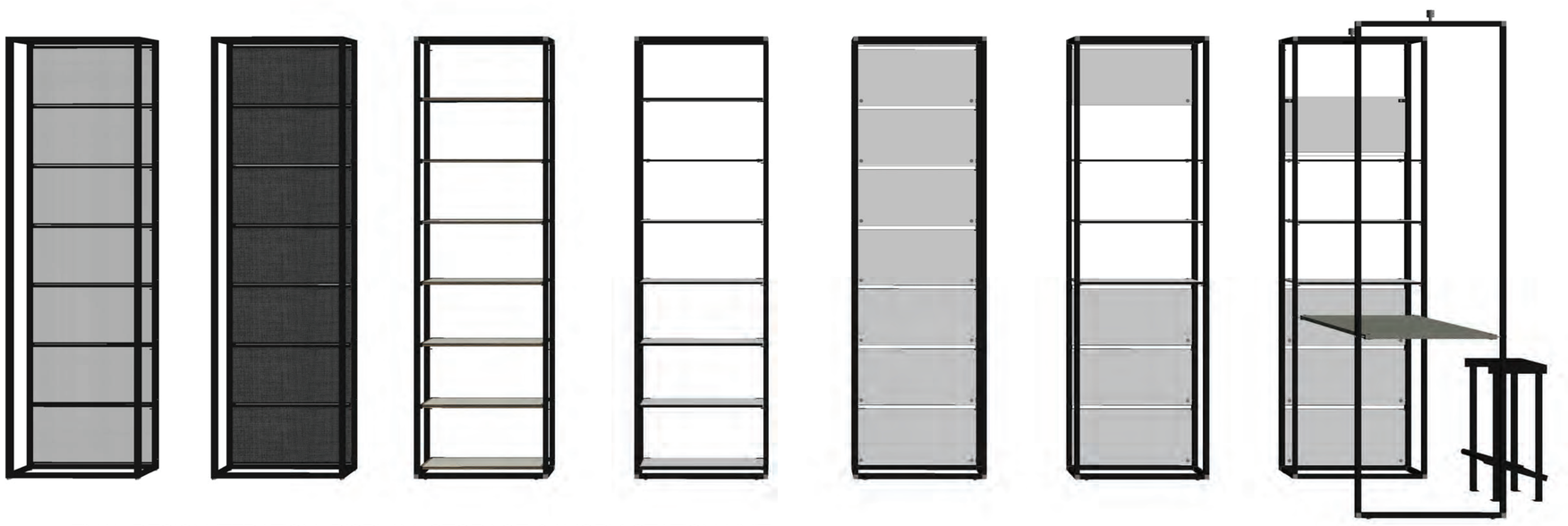


Figure 4.31. FINAL DESIGN ITERATION: DISPLAY, STORAGE & WORK STATION UNIT

4.6.2 CENTRAL DISPLAY, STORAGE & ACCESS SHAFT

INTERIOR CUBE

Defined interior space within larger interior, used to isolate certain functions for practical reasons, or define certain functions based on hierarchy of importance. The intention is to reference the use of these defined areas within an interior environment, creating a space which through change of occupation and use influences the spatial and experiential quality of the environment. This expresses social convention through the use of typology, indicated through a conventional technical use of space defining element, since it is a recognisable unit of interior design which expresses a function and differentiates space. Therefore timeliness is expressed through the re-use of an existing interior concept, in a new and exciting way.

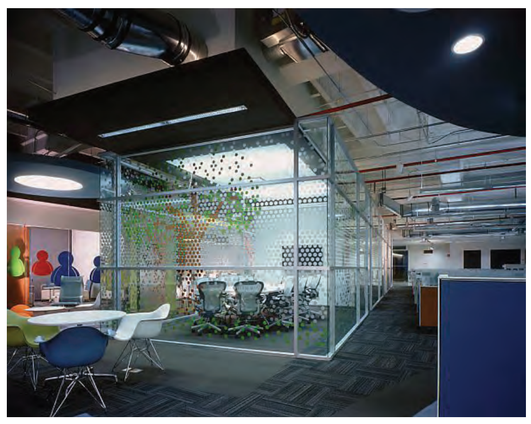


Figure 4.32. The New Colorful MSN Office in Santa Fe, Mexico (Homedit 2014)

GLASS MEETING ROOM

Glass clad box, isolating the function from the surrounding open plan office. Providing sound insulation but allowing visibility, in and out of cube. Identifies area as one of importance.

Figure 4.33. Thinking outside the box (Rivers Colorworks+Design 2014)

CLAD ROOMS

Rooms with different functions are clad in different materials, which act as indicators to the use of the area. Defining them from their surrounding environment and assisting in the functional navigation of space and way finding.

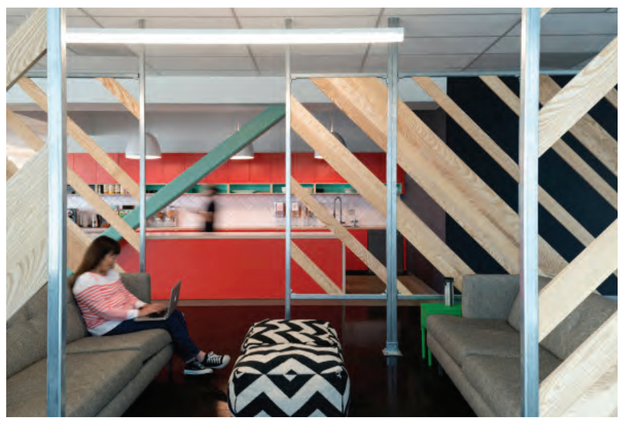


Figure 4.34. Oplusa evernote offices (Sanidad 2012)

DEFINED OPEN AREA

Area defined by cladding and frame structure. Open to the surrounding environment but defined as a space with specific qualities and functions which influence the experience of space.

DESIGN CONCEPT DEVELOPMENT

Figure 4.35. POTTERY WORKSHOP

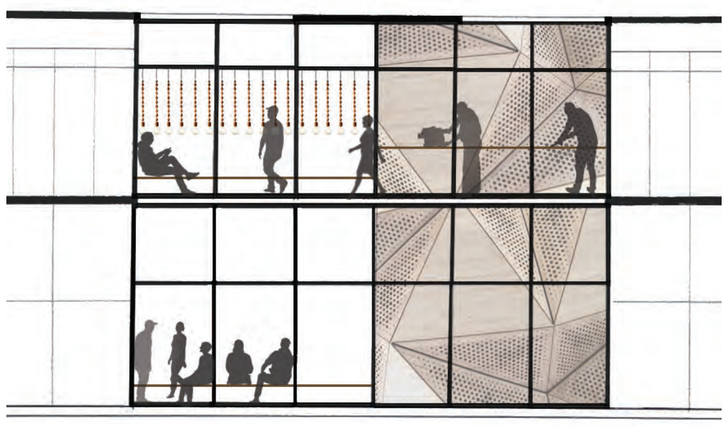


Figure 4.36. WOODWORK STUDIO

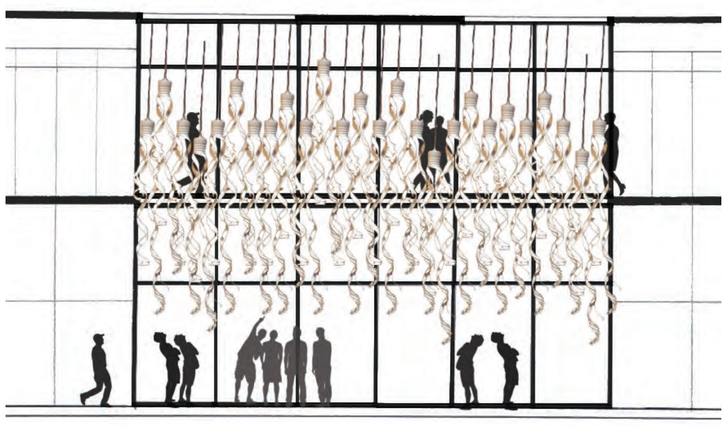


Figure 4.37. HEATH NASH EXHIBITION

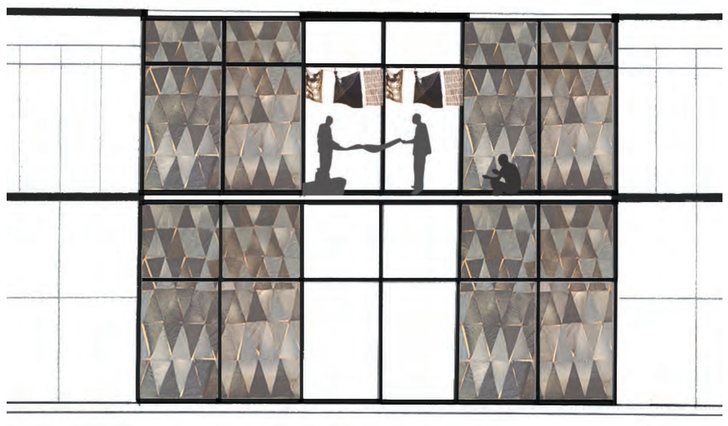


Figure 4.38. FABRIC STUDIO

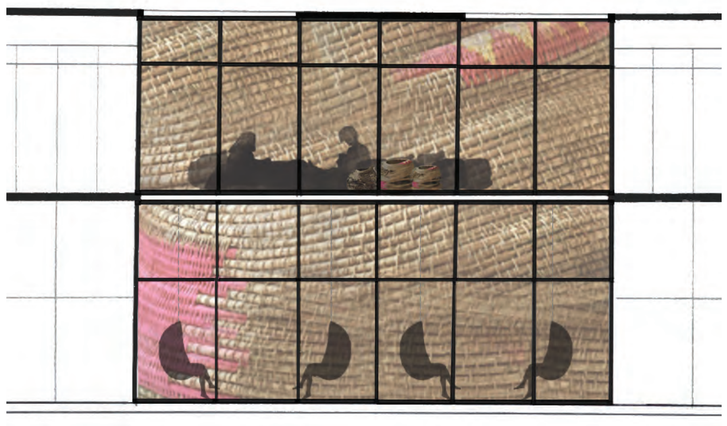


Figure 4.39. GONE RURAL WEAVING WORKSHOP

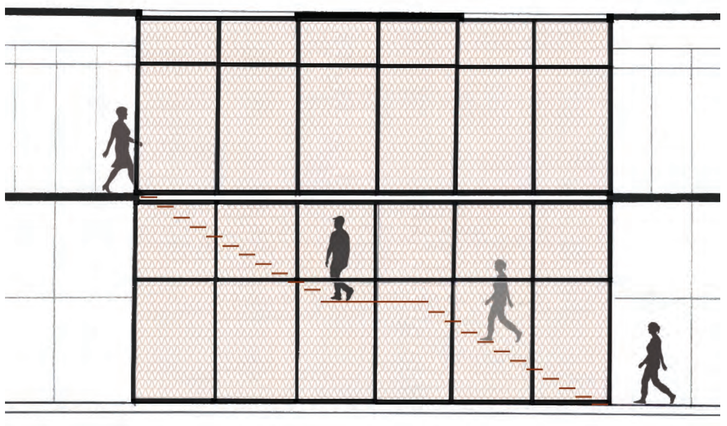


Figure 4.40. EXHIBITION ENTRANCE

SPATIAL DESIGN DEVELOPMENT

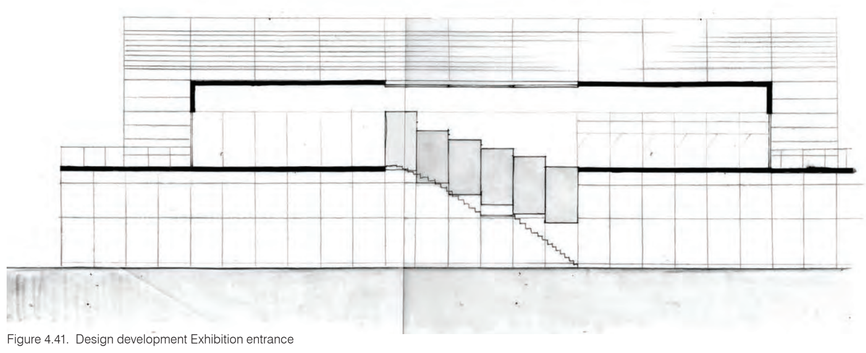


Figure 4.41. Design development Exhibition entrance

EXHIBITION ENTRANCE

Spatial link between informal ground floor level and formal first floor. Expressive entrance to allow greater influx of users in space. Public function, therefore more accessible.

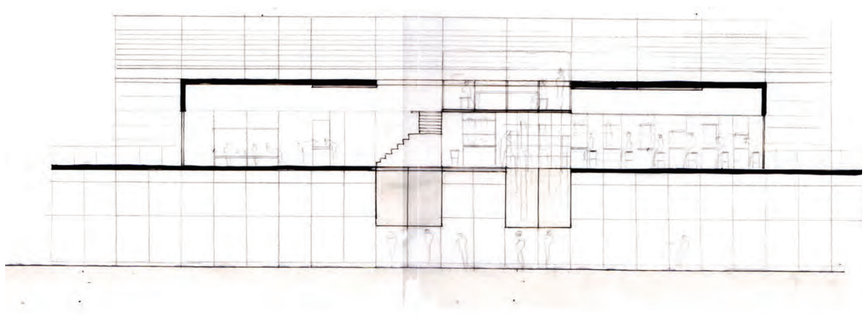


Figure 4.42. Design development Studio layout

STUDIO LAYOUT

Viewing shaft spatial link between ground floor level and first floor. Mezzanine level for observation over studio workspace.

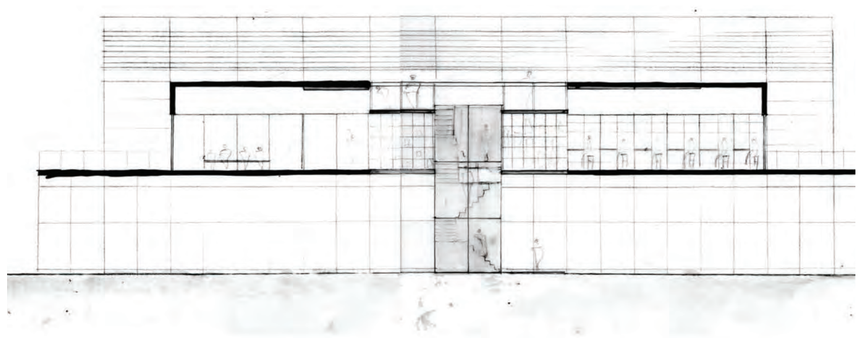


Figure 4.43. Design development Workshop layout

WORKSHOP LAYOUT

Viewing shaft with access stairs, spatial link between ground floor and first floor. Allows viewers to view and access the viewing level looking over workshop spaces.

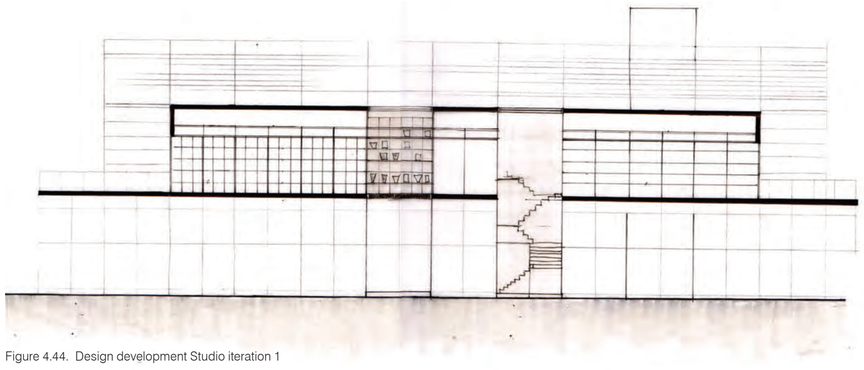


Figure 4.44. Design development Studio iteration 1

STUDIO ITERATION 1

Viewing shaft with stairs, spatial link between ground floor and first floor. Allows viewers to view space but not access the space.

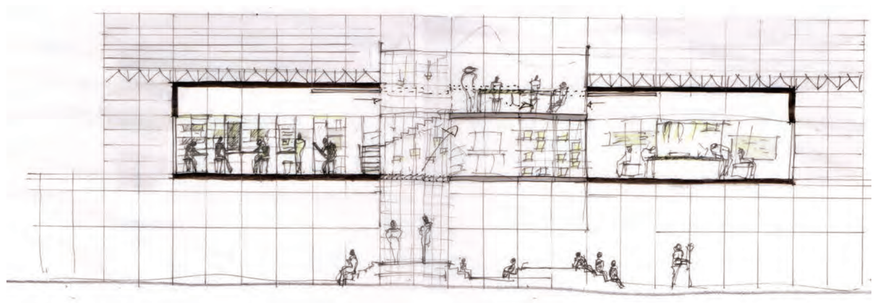


Figure 4.45. Design development Workshop iteration 1

WORKSHOP ITERATION 1

Shaft with access stairs, spatial link between ground floor and first floor. Allows users to view and access the space, on the workshop level, mezzanine level with conference room above.

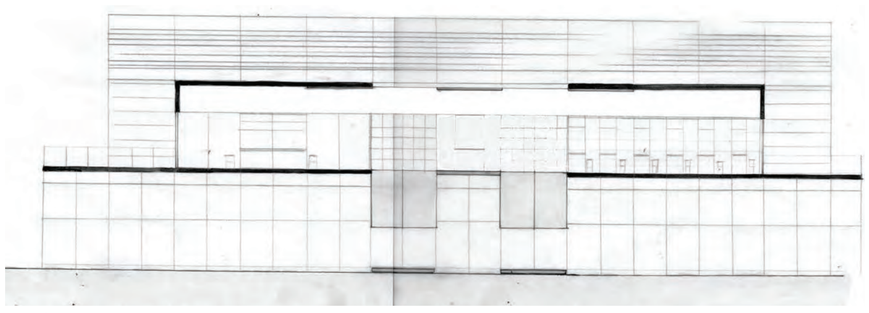


Figure 4.46. Design development Studio iteration 2

STUDIO ITERATION 2

Viewing shafts with spatial link between ground floor and first floor. Allows users a continuous view into the space and through the structure. Controls access through existing stairs.

4.7 ENABLING FRAMEWORK

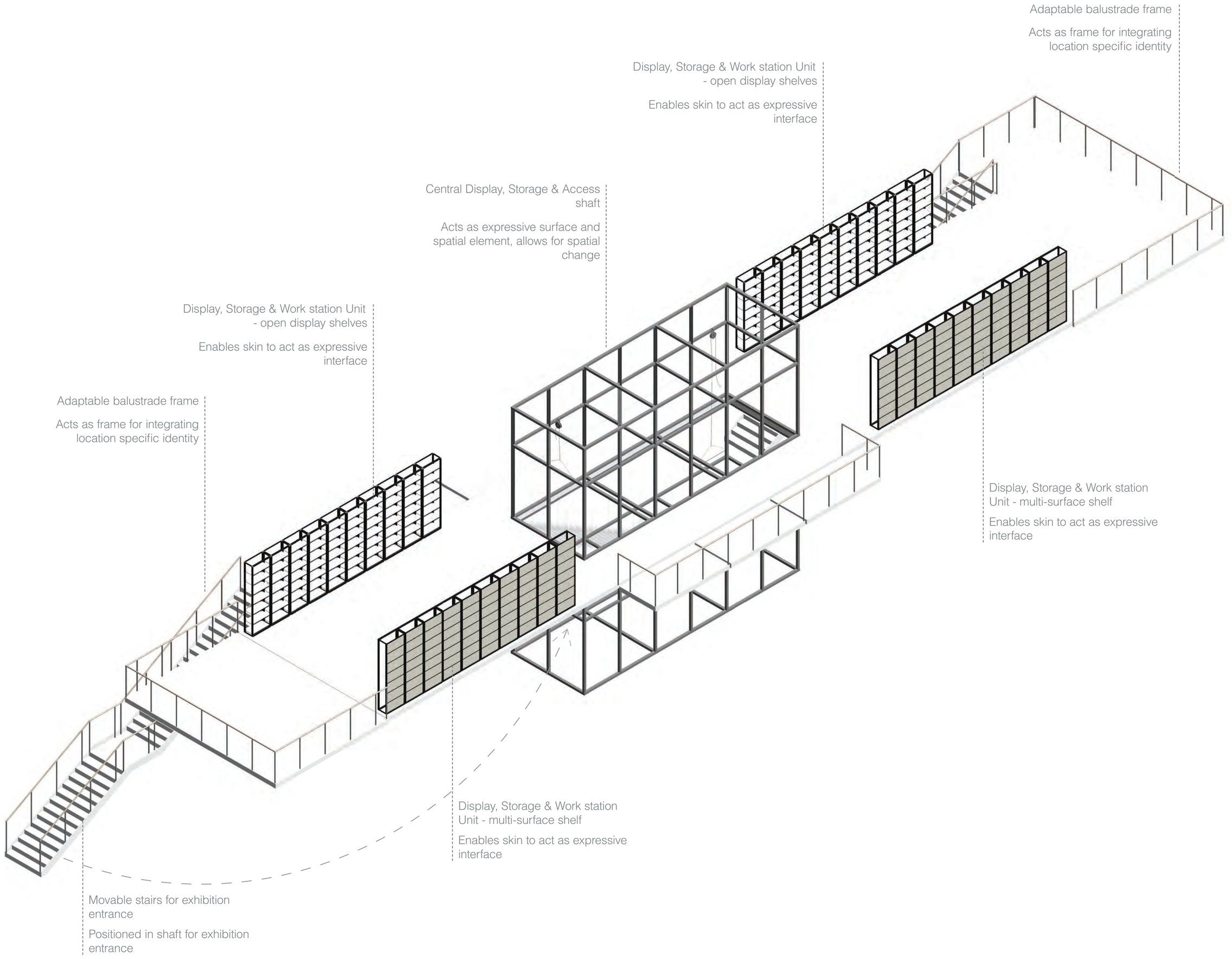


Figure 4.47. ENABLING FRAMEWORK: SPATIAL ILLUSTRATION

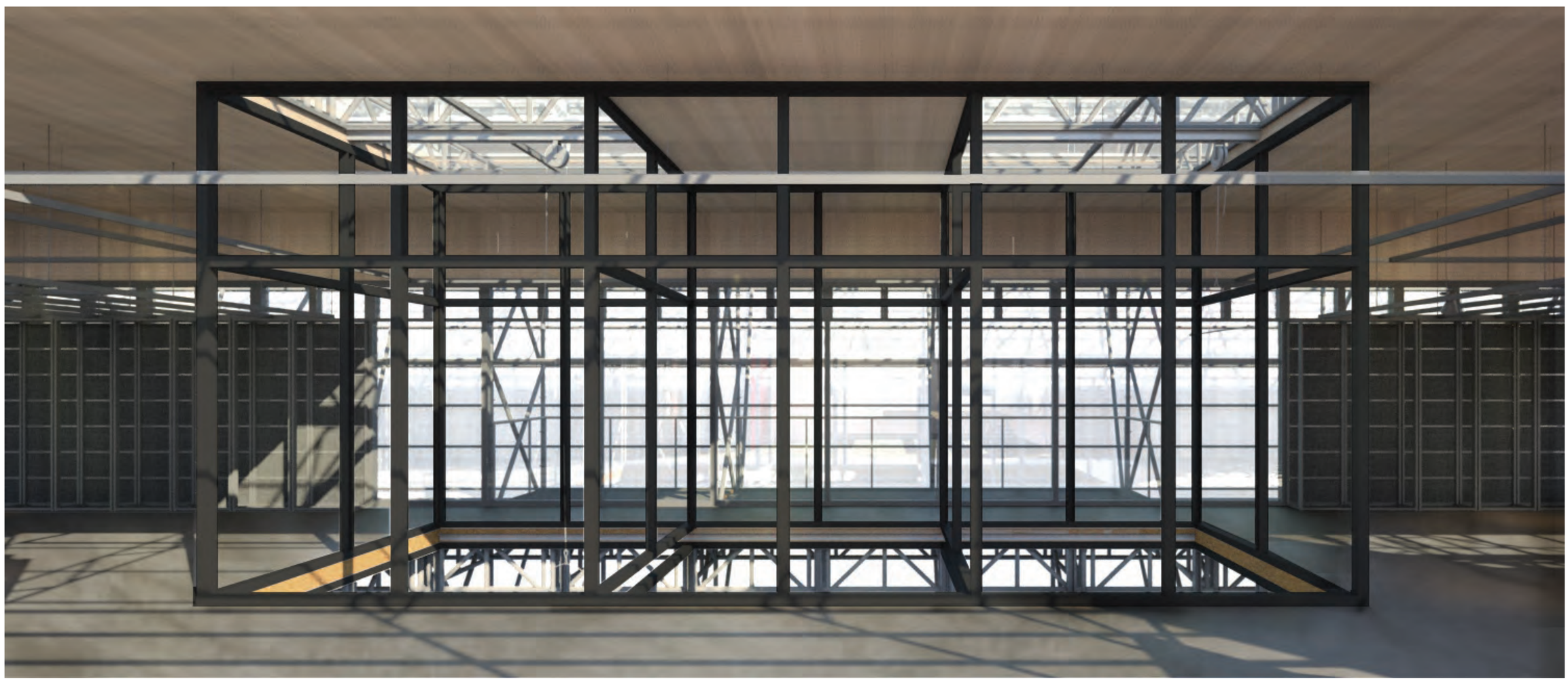


Figure 4.48. ENABLING FRAMEWORK: INTERNAL VIEW OF SHAFT

4.8 EXPLORATORY SCENARIOS

LE NDOMO, MUDCLOTH EXHIBITION

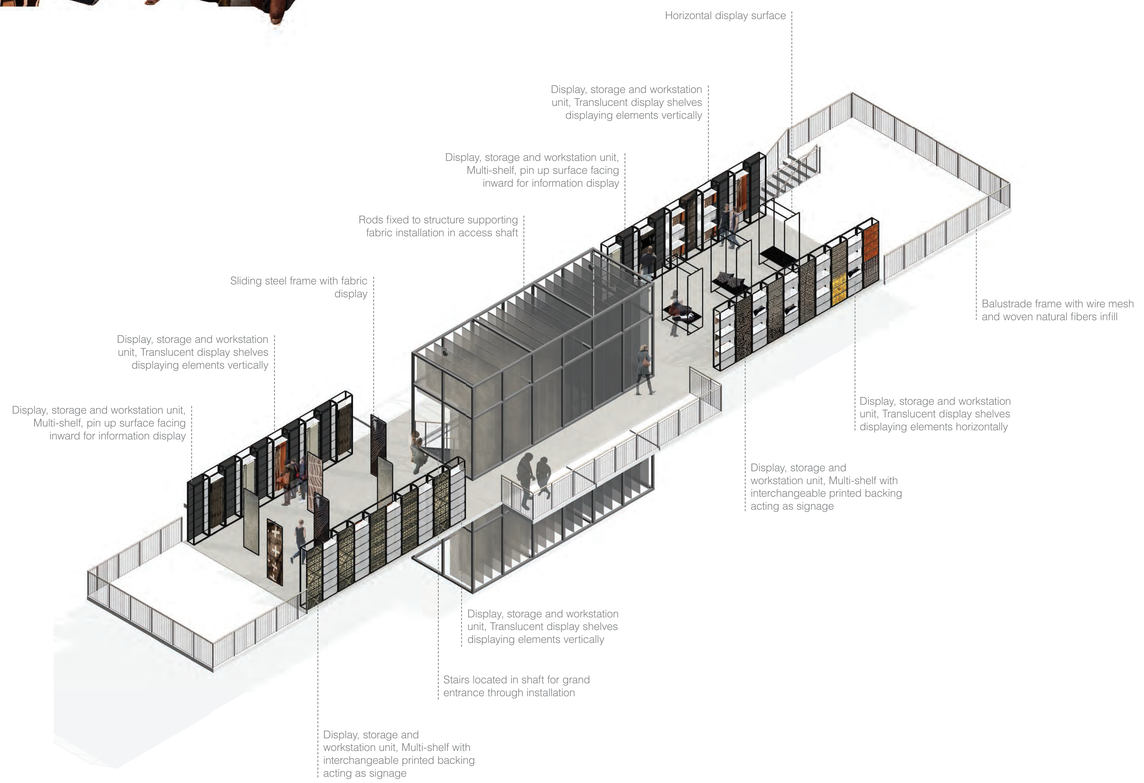


Figure 4.49. LE NDOMO, MUDCLOTH EXHIBITION: SPATIAL ILLUSTRATION

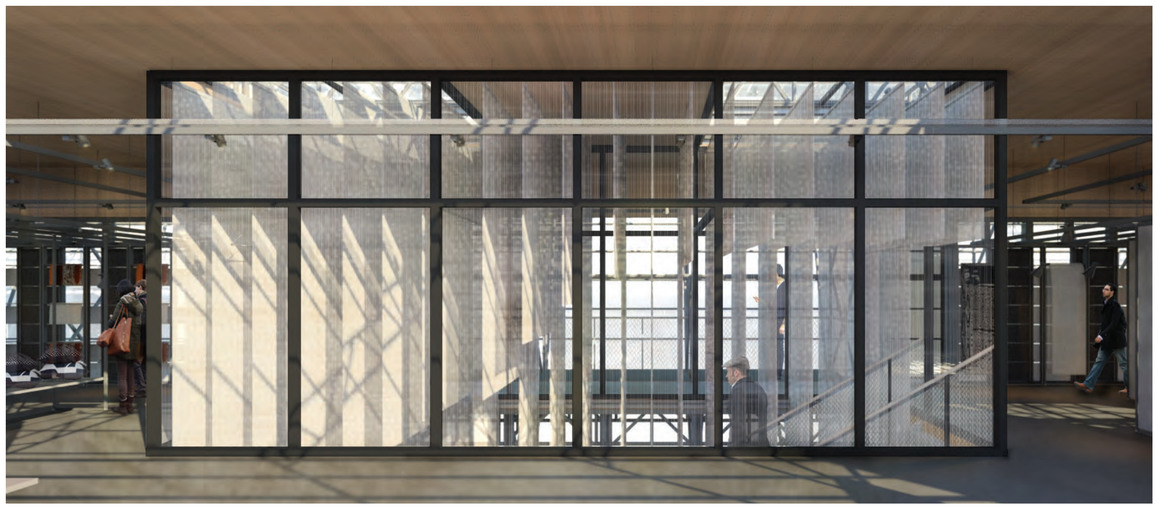


Figure 4.50. LE NDOMO, MUDCLOTH EXHIBITION: INTERNAL VIEW OF ACCESS AND DISPLAY SHAFT

LE NDOMO, MUDCLOTH WORKSHOP

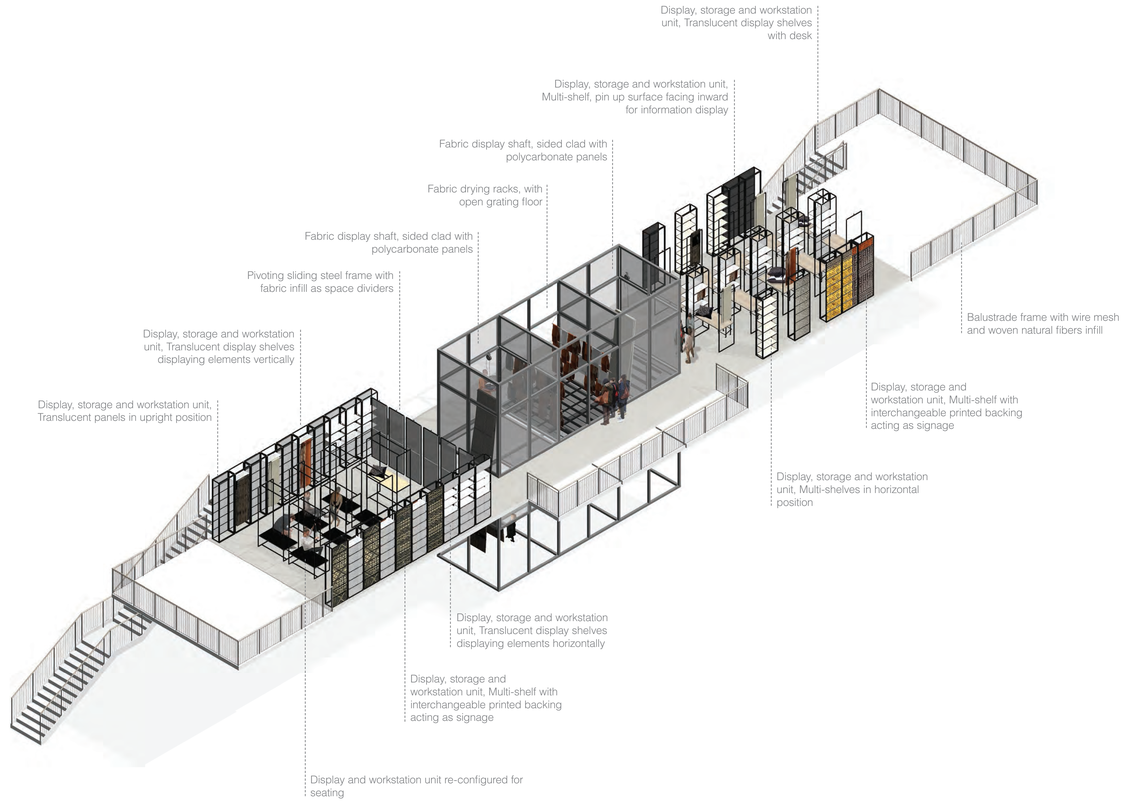


Figure 4.51. LE NDOMO, MUDCLOTH WORKSHOP SPATIAL ILLUSTRATION

Figure 4.52. LE NDOMO, MUDCLOTH: WORKSHOP INTERNAL VIEW OF DISPLAY AND CLOTH DRYING SHAFT

IMISO CERAMICS EXHIBITION

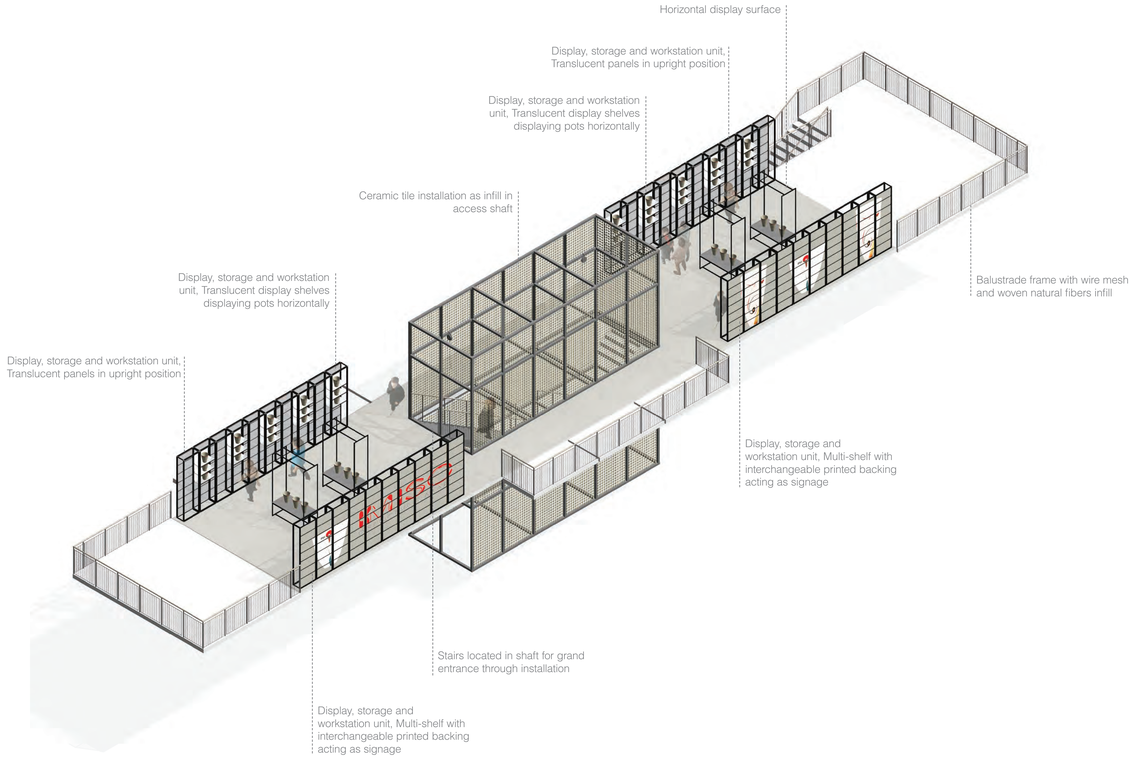


Figure 4.53. IMISO POTTERY EXHIBITION: SPATIAL ILLUSTRATION

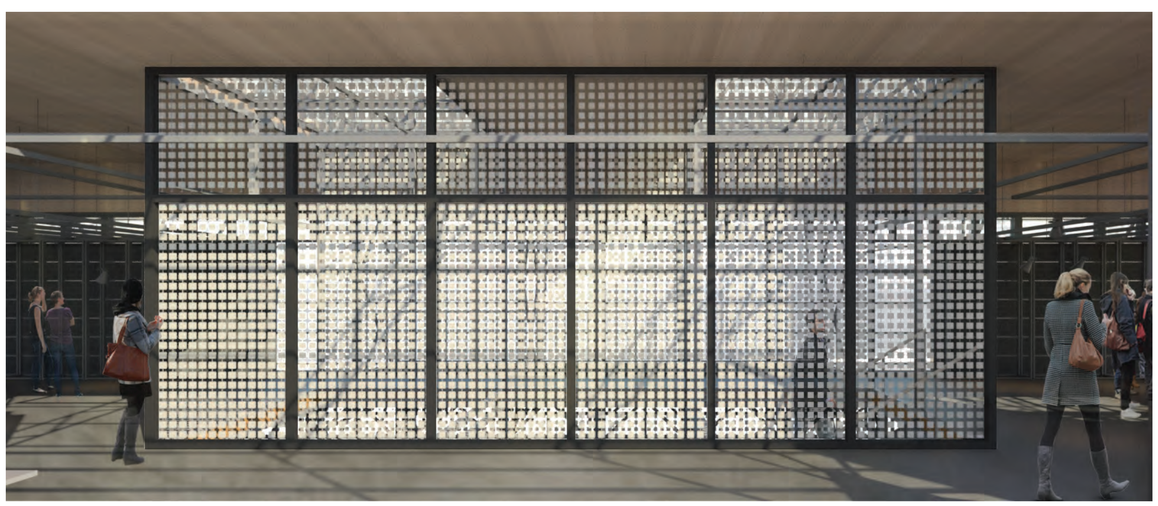


Figure 4.54. IMISO POTTERY EXHIBITION: INTERNAL VIEW OF ACCESS SHAFT

4.9 INVESTIGATED SCENARIO

IMISO CERAMICS WORKSHOP

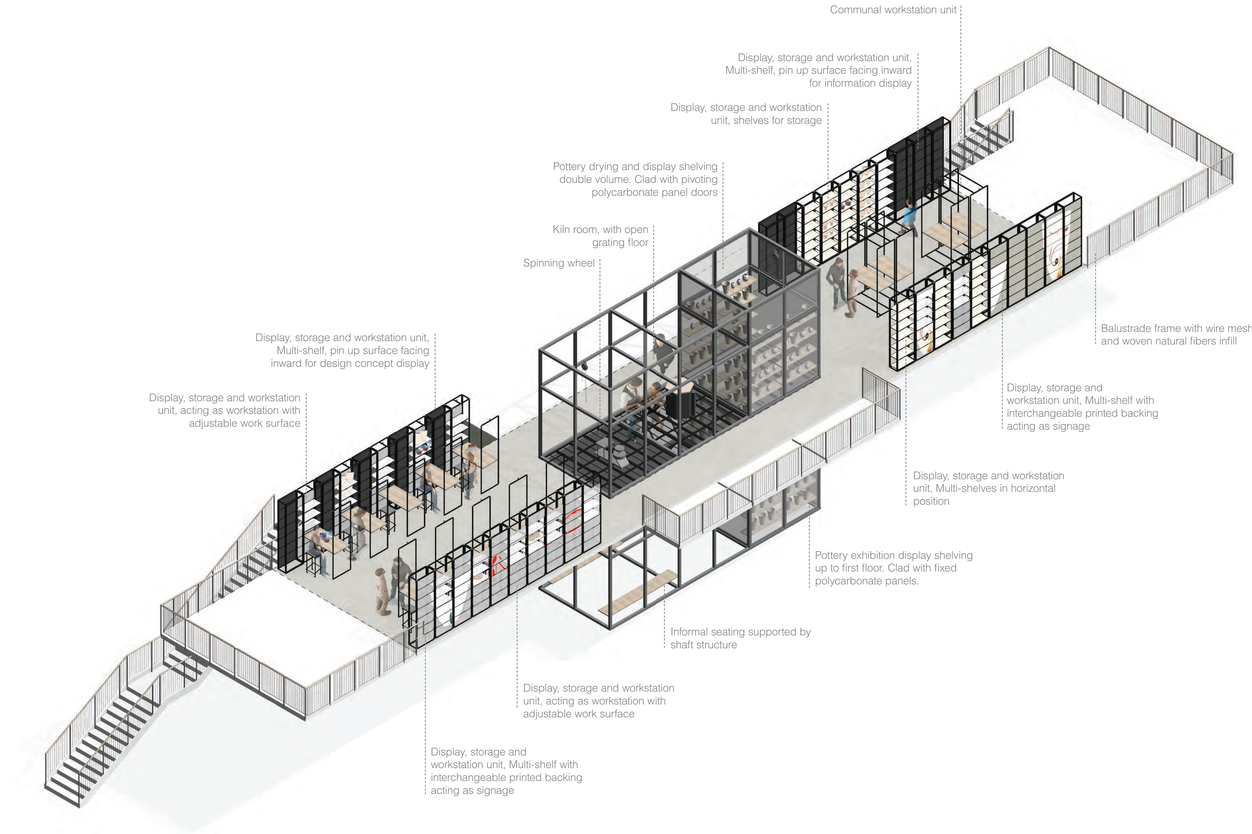


Figure 4.55. IMISO POTTERY WORKSHOP: SPATIAL ILLUSTRATION

Figure 4.56. IMISO POTTERY WORKSHOP: INTERNAL VIEW OF DISPLAY, DRYING AND PRODUCTION SHAFT

4.10 TECHNICAL DEVELOPMENT

4.10.1 STRUCTURAL SYSTEMS

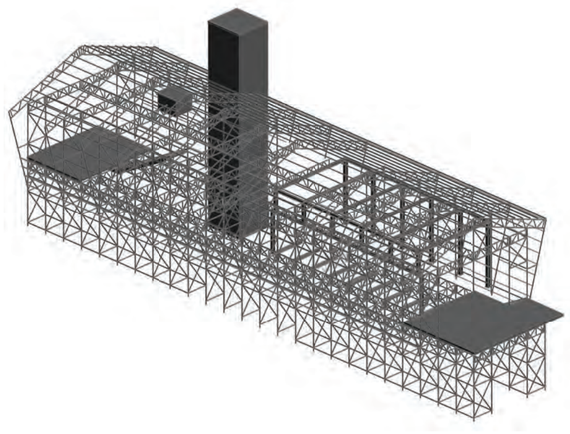


Figure 4.57.
EXISTING SCAFFOLDING FRAMEWORK STRUCTURE

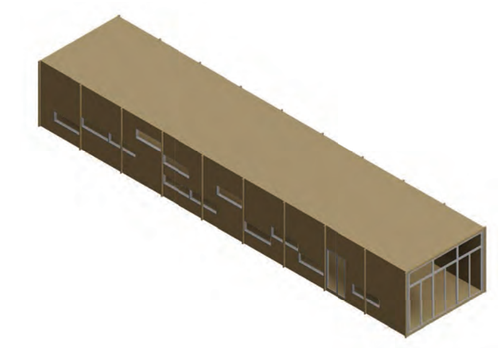


Figure 4.58.
EXISTING INTERIOR STRUCTURE

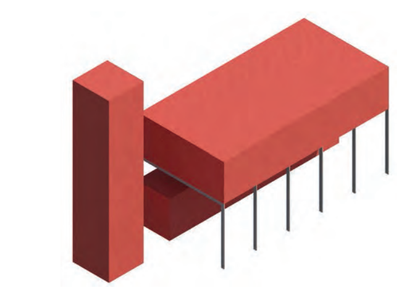


Figure 4.59.
EXISTING SHIPPING CONTAINER COMPONENTS

ALTERATION APPROACH

EXISTING SCAFFOLDING FRAMEWORK STRUCTURE

The existing scaffolding structure is altered in selective instances, to accommodate the new functions, access and to allow for change in location and orientation on sites. The existing structure forms a secondary area of intervention, which is only adapted as a response to the alteration of the defined interior environment.

DEFINED INTERIOR ENVIRONMENT

The existing interior box structure forms the main area of intervention, this structure provides the base construction technique for the new construction of the box, seen in the floor structure as well as the 'walls' and ceiling structure, but the detailing and materiality has been adapted. The other elements and components making up the 'new' interior environment are new construction and detailing.

SHIPPING CONTAINER COMPONENTS

The containers, which formed the service core of the existing building are to be replaced, as alteration of the existing is not feasible. The size and configuration of the existing will be retained in the alteration. The approach to the containers considered the transportable nature of the structure, and are altered in such a way as to accommodate the building services, and form the vessels in which the structure will be transported. This influences the openings, services and furniture within the containers. Openings are limited to retain the structural integrity of the containers, where additional openings between containers are unavoidable, they are provided in the form of replaceable structural panels.

Figure 4.60.
EXISTING BUILDING STRUCTURE (SANCEREAU 2011)

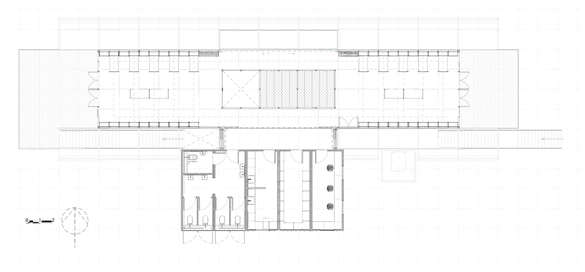


Figure 4.61.
EXISTING 1500MM GRID

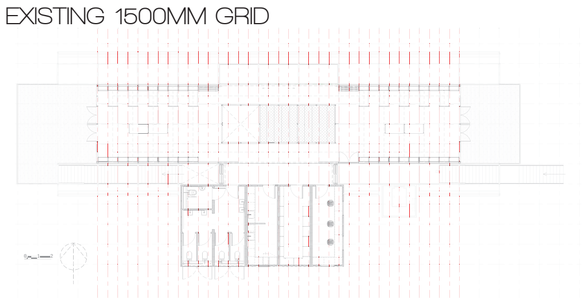


Figure 4.62.
NEW INTERIOR 750MM GRID

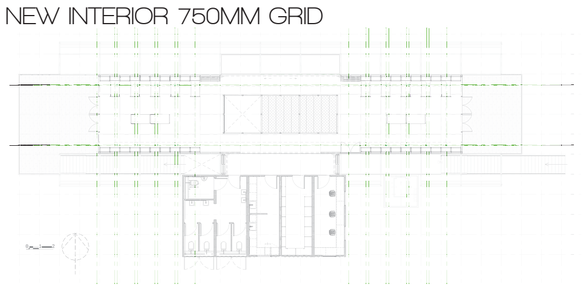


Figure 4.63.
MOVEMENT GRID

EXTANT SYSTEMS

SCAFFOLDING SYSTEM

Tube and ring lock scaffolding frame structure
Scaffolding frame system allows for adaptation as the modular elements and configuration allows for linear expansion and contraction. Elements can be reconfigured to allow for structural variation. The structural system is arranged on a strict grid which, the intervention is to an extent bound to. Structural scaffolding elements restrict and define the areas where the intervention can interact with the space initially defined as the interior. Alterations include the incorporation of adjustable screw jack base plates.

GRID

The grid serves as an organising system, which establishes a stable set of reference points and lines in space (Ching 2007:230). Following the regularity and continuity of the grid assists in determining a modular system and spatial organisation for the intervention, which connects it to the existing structural system. This enables the performance of the space in terms of adaptability and assembly. The grid influences the intervention on all scales, from structure and componentry to furnishings. The grid can be used to organise the intervention in spatial and structural instances, defining areas, openings and access points.

The grid creates limitations as it is a rigid defined organizing structure. These limitations formed by the grid and the existing structure define the intervention in terms of proportion and scale. The intervention reacts to the existing grid as a guideline on different scales.

The facade and facade elements adhere to the existing grid as they have an integrated relationship with the existing structure. The internal, more flexible elements are influenced by the grid and adapt to form intervention specific interior grid informed by the existing and functionality relating to occupation of space.

TECHNOLOGICAL RESPONSE

The technological aesthetic is a mediation between structural frame and aesthetic infill. This approach is a interpretation of Frampton's description of buildings being a mediation between tectonic (Frame) and stereotomic (Load bearing) or between light and heavy. It is derived from the existing technological aesthetic which consists of light structural frame and heavy infill.

The response is to reinterpret the relationship between light frame and 'heavy' infill. Where the light, enduring frame, forms the structural support for the temporary, 'heavy' (identity bearing) infill, separated by the connector which enables temporality and visually distinguishes the two elements from one another.

4.10.2 STRUCTURE ALTERATION

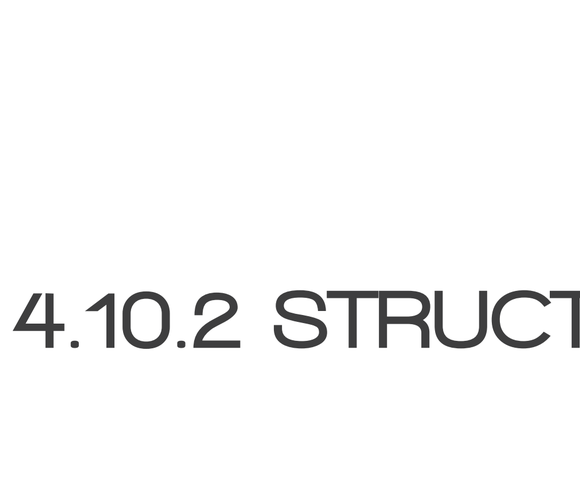


Figure 4.64.
EXISTING STRUCTURE

Figure 4.65.
ALTERED AND REMOVED ELEMENTS

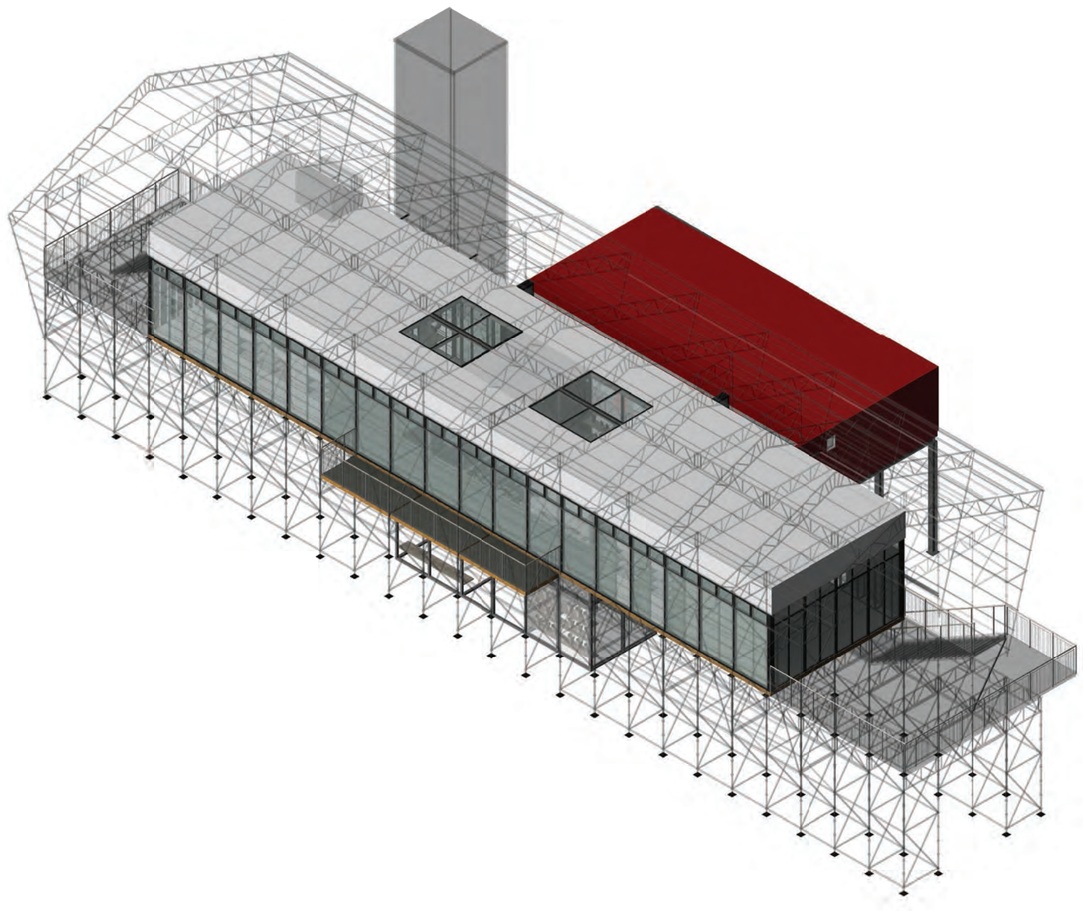


Figure 4.66.
INTERVENTION - NEW INTERIOR STRUCTURE AND REPLACED CONTAINERS

4.10.3 ENDURING ELEMENTS

The mediation between frame and infill creates the notion of 'enabling structure' and 'active surfaces'. Where the active surface denotes identity and provokes associations, within an enduring, supportive frame. Königk ([Sa]:1173) states that when timeliness is applied in an interior environment it a method of introducing innovation and new meaning in an existing interior. The enduring framework elements render the building incomplete, on building and component level, which according to Scott (2008:212) situated the building as an element of continuity, through the opportunity for intervention. Each intervention on the existing framework creates meaning through external reference to cultural conventions, as the intervention infill is generated with certain contextual references. This, as Scott(2008:xvi) states, provides the possibility for interior artefacts to become works which are completed temporally across generations. In this way 'timeliness' is introduced through innovative alterations to established forms.

The intention for the enduring elements are to:

Remain constant throughout change

Form the supportive framework for the temporary elements

Systems of predetermined components, structure and layout, enduring throughout the complete lifespan of the project.

Create a sense of order and act as guidelines for use.

Create a sense of stability and recognition

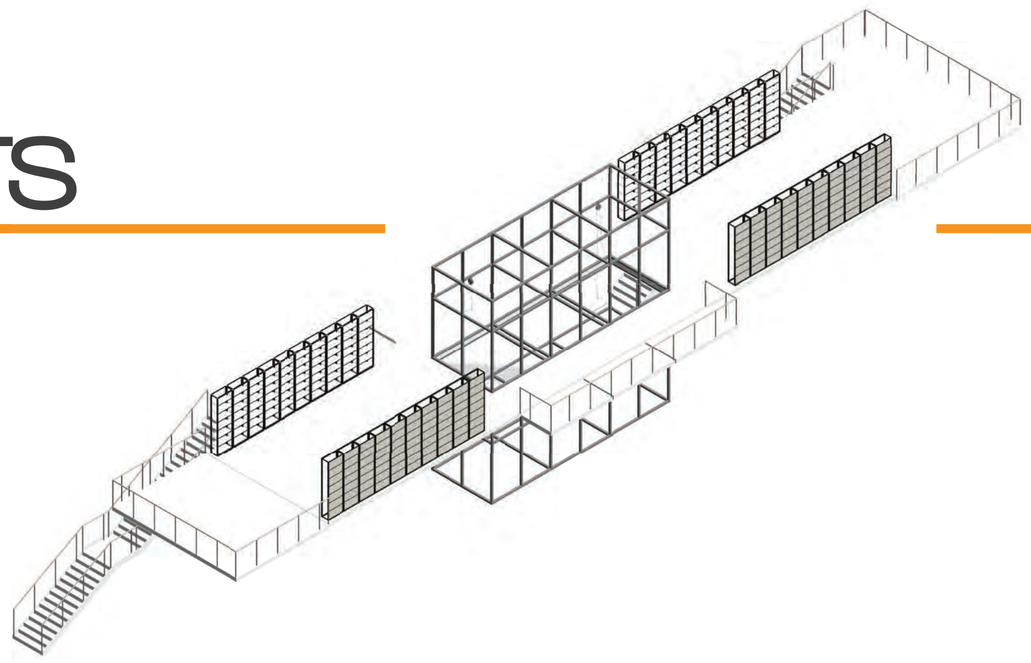
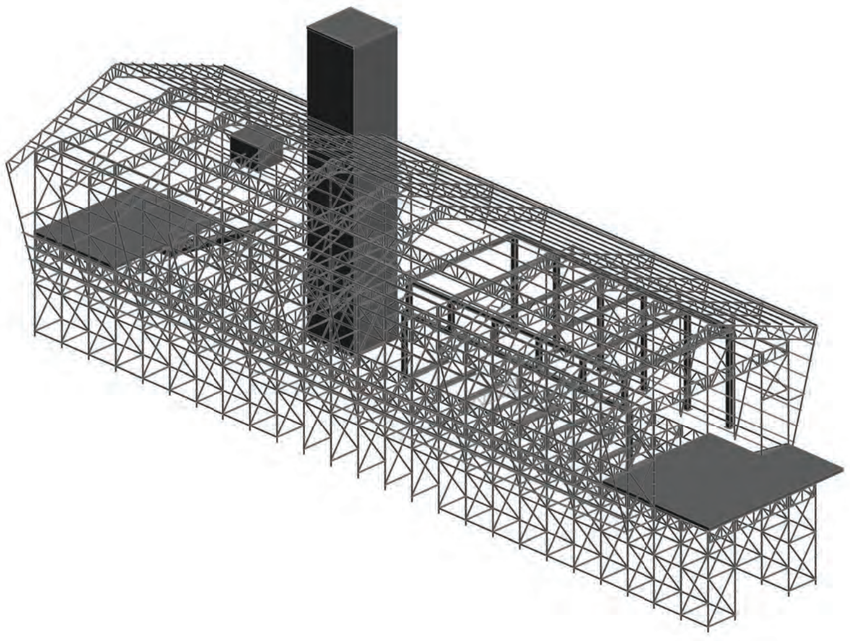
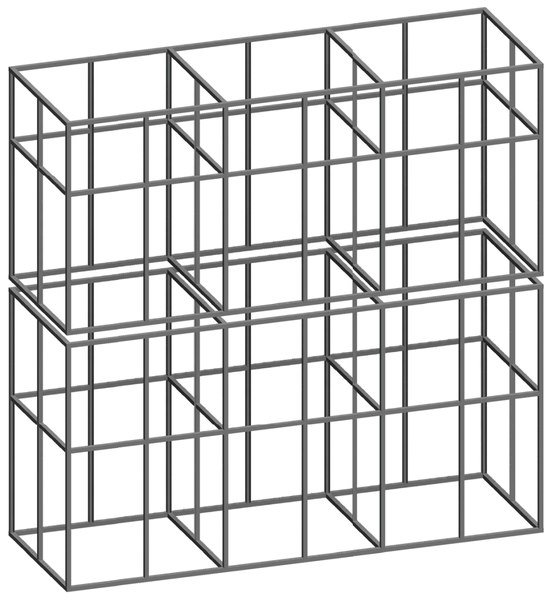


Figure 4.67.
ENABLING FRAMEWORK ILLUSTRATION



BUILDING FRAME
Supports inner interior form
Spatial and surface change
Change with Location

Figure 4.68.
Building Scaffolding frame



CENTRE DISPLAY, STORAGE & ACCESS SHAFT

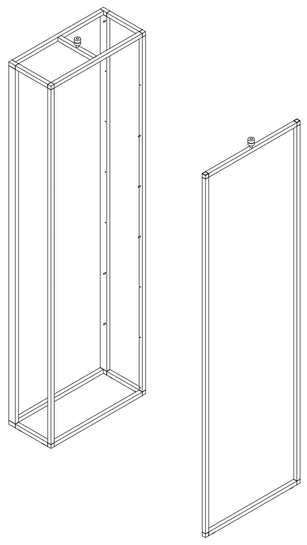
Spatial and surface changes
Change with client & programme

Figure 4.69.
Centre display, storage & access shaft

BALUSTRADE FRAME

Surface change
Change with Location

Figure 4.70.
Balustrade frame detail



SHELVES & WORKSTATION FRAME

Spatial and surface change
Change with user, client & programme

Figure 4.71.
Display storage & workstation frame

TECHNICAL APPROACH

The technical approach considers the transportable nature of the structure, as well as the desire for the structure to adapt and change. The structure, components and furnishings are therefore developed as systems of individual, modular members and mechanical connectors. This allows for disassembly, and allows for individual components to be replaced or repaired. Finishes, material and colour are used to clearly identify the elements which are movable, or adaptable as well as the elements or areas where intervention is applicable.

The intention is to develop an uncomplicated system which makes use of known construction methods, materials and components, which can be assembled by unskilled labour, and used by the general public. The use of familiar elements, systems and materials creates a sense of stability for the user, as they can recognise and relate to the components.

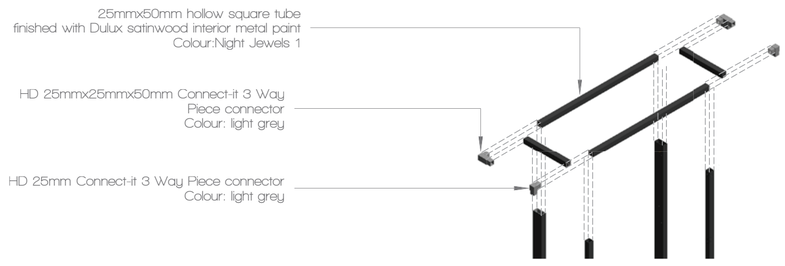


Figure 4.72.
STANDARD FRAME AND CONNECTIONS

MATERIAL APPROACH

The approach to materiality reflects the concepts of the project in terms of communicating function through visual interpretation of the surface finish and situating the object or space paradigmatically.

The intention is for the material and its associated qualities to communicate the function of the object and/ or relate to the identity of client, user, programme or location. The materials relate to the nature of the project, as a temporary, transportable environment which has to respond to continual change, from both internal and external stimuli. Therefore the approach to materiality in enduring elements and temporary elements will differ accordingly.

ENDURING

Commonly available materials and components where possible, to account for the traveling nature.

The materials are robust and durable, as they will be assembled and disassembled repeatedly.

Tolerant to change in climatic zones.

TEMPORARY-ENDURING

Elements which are enduring through the full life cycle, but for a temporary period in phases.

The intention is for the materials to be reflective of the identity related to object, user, etc.

Durable through change and use.

Tolerant to short exposure to changing climatic zones.
Lightweight

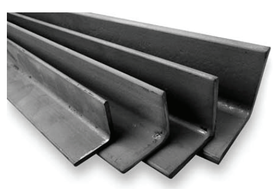


Figure 4.73. Mild steel profiles (Indiamart 2014)

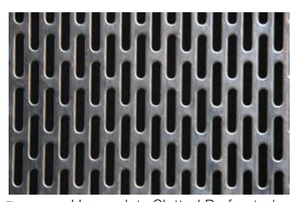


Figure 4.74. Heavy duty Slotted Perforated steel (Actis furio 2011)

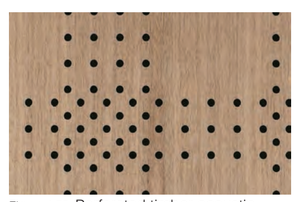


Figure 4.75. Perforated timber acoustic paneling (Oberflex 2014)

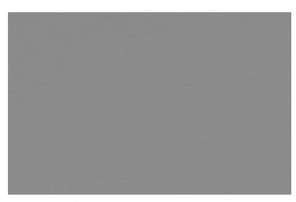


Figure 4.76. Marmoleum modular flooring (Fobo Flooring 2014)

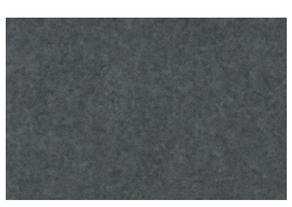


Figure 4.77. Vertiface:Koala fabric display board (Vertiface 2014)

Figure 4.78. WISA-Ply Transparent (UPM 2014)

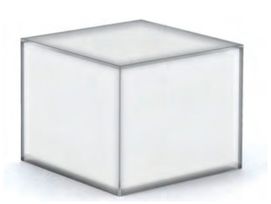


Figure 4.79. 3 Form chroma Vapor (3Form 2014)

Figure 4.80. Twin wall polycarbonate sheeting (Master Plastics 2014)

4.10.4 SERVICES & SYSTEMS

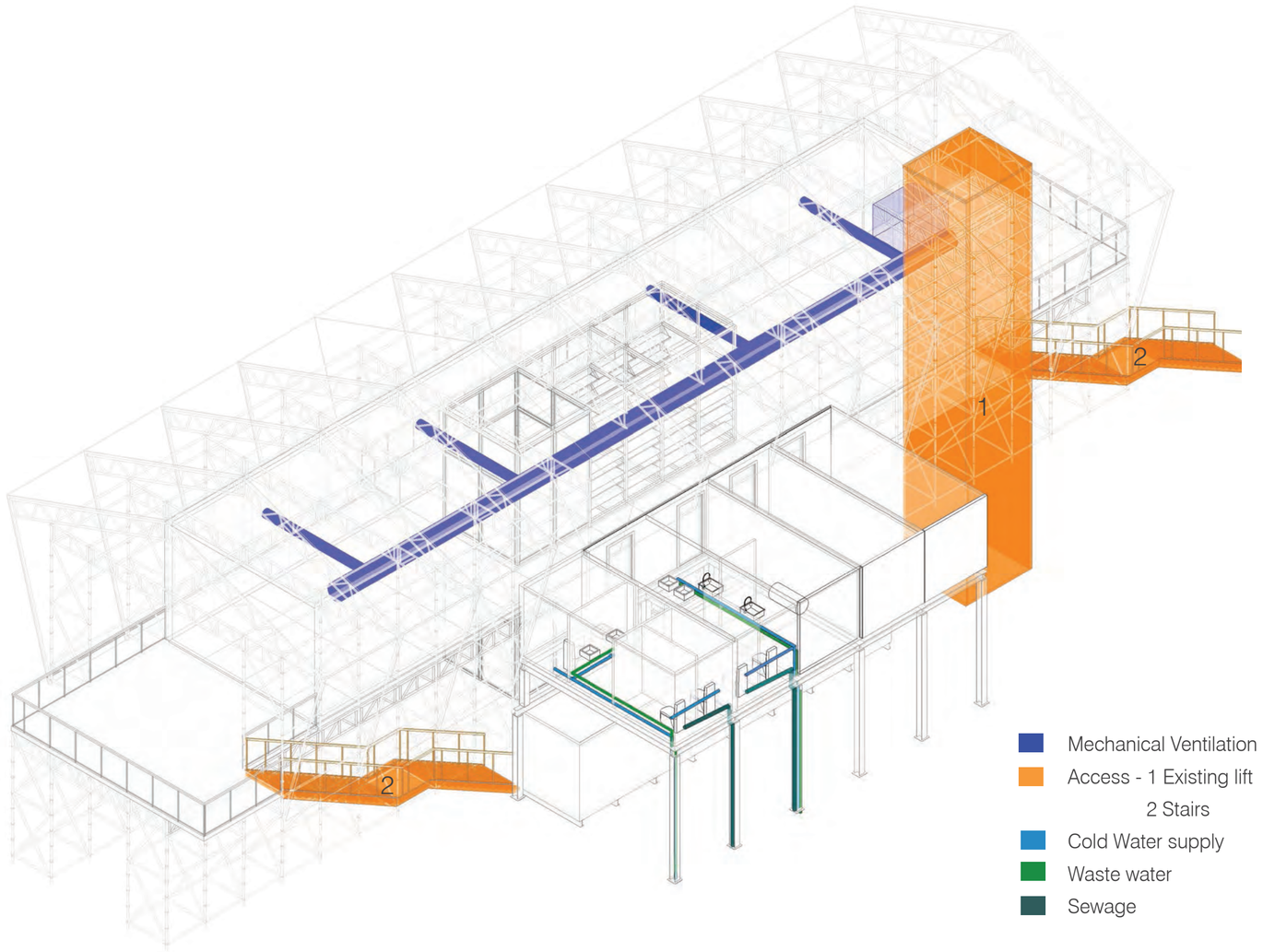


Figure 4.81. BUILDING SERVICES DIAGRAM (NOT TO SCALE)

MOVEMENT TRACKS

The tracks allow components to be relocated within the interior space, through this change in spatial relationship can be altered as well as the relation between the interior and exterior. The facade units serve as element s to control glare and solar heating, therefore the different units can be positioned where they will be most effective as solar shading and glare control devices.

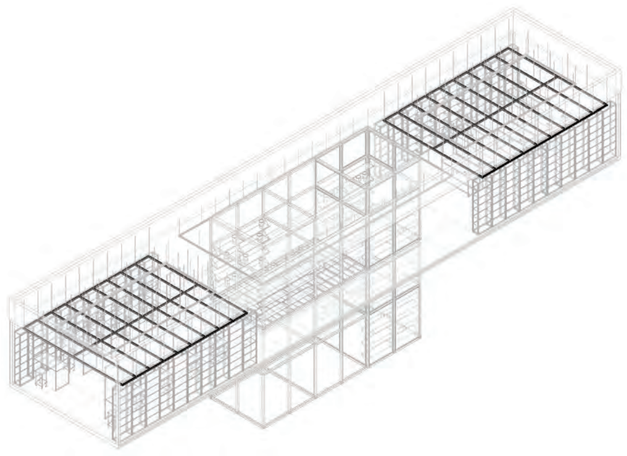


Figure 4.82. MOVEMENT TRACKS DIAGRAM (NOT TO SCALE)

VENTILATION SYSTEMS

Natural ventilation is encouraged through operable windows, doors and through removable floor platforms within the central shaft. It is assisted through the existing ducted ventilation system which is adapted to sufficiently service the interior box structure. The natural ventilation system can be altered through the facade treatment, which allows for adaptation according to the various climatic zones.

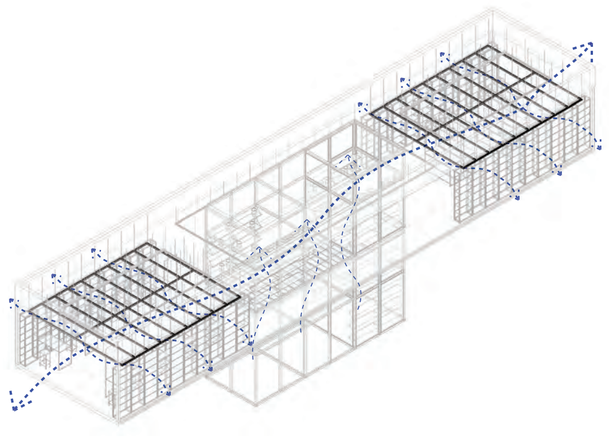


Figure 4.83. NATURAL VENTILATION DIAGRAM (NOT TO SCALE)

FIRE SYSTEMS

Fire exits are clearly market with appropriate signage. Dry powder portable rechargeable fire extinguishers as per SANS 1910. Located as indicated on plan.

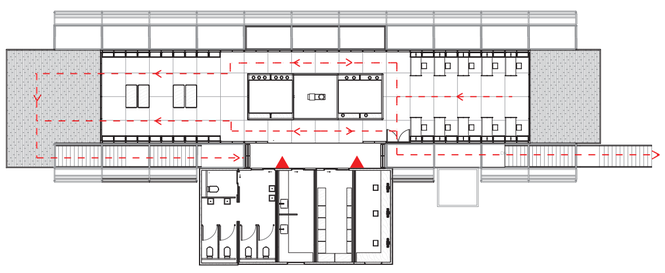


Figure 4.84. FIRE SAFETY DIAGRAM (NOT TO SCALE)

APPROACH

The approach to services and systems is to retain the existing aesthetic of exposed services and systems, which allows a further technological understanding of the interior space. The existing services are altered to accommodate the intervention requirements, which relate to programmatic requirements and the travelling nature of the building. The intention is to promote the use of natural ventilation and lighting systems, which are aided by mechanical systems where necessary.

ACTIVE & PASSIVE SYSTEMS

The travelling nature of the building influences the approach as the building has to respond to varying climatic conditions, orientation and available municipal supply and removal systems. The intention is for the building systems to plug into the available municipal supply therefore becoming connected to the environment. Where this is not possible the building will be aided by alternative solutions. The building needs to respond to varying climatic conditions, therefore requiring multiple effective passive design strategies. As well as allowing for varying active systems for generating electricity, and hot water supply. As these systems rely on natural elements which vary to according to climatic zones, the most effective systems will be determined by specialists in each location.

The facade units are used to control the interior environment in terms of solar shading; glare control; natural light and responding to external surroundings in terms of visibility.

CLASSIFICATION & DESIGNATION OF OCCUPANCIES

Occupation Classification	Class of Occupancy	Total population
C1	Exhibition Hall	1 person per 10m² (16)
A3	Place of Instruction	1 person per 5m² (32)
D2 -D3	Inductrial	1 person per 15m² (10)

Sanitary facilities required

Males			Females	
Wc's	urinals	whb's	Wc's	whb's
1	2	2	3	2

TRANSPORTABILITY

Elements designed for disassembly. Parts and elements to be transported in the shipping containers which form part of the building structure, therefore the component sizes are considered in term of shipping container dimensions. The containers which house the W.C.'s are not used as mass storage, but may contain small quantities.

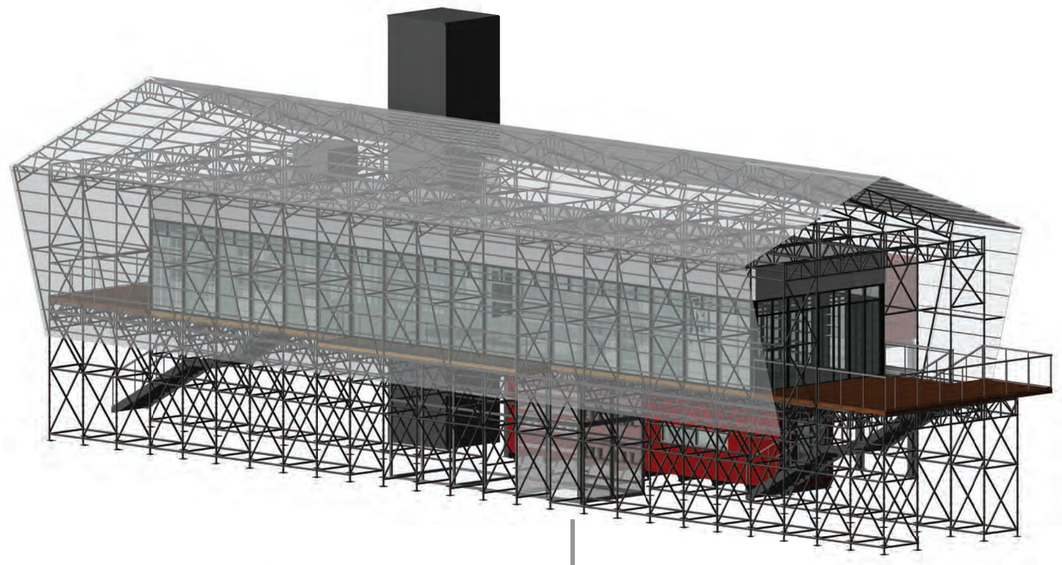


Figure 4.85.
ALTERED BUILDING EXTERIOR VIEW

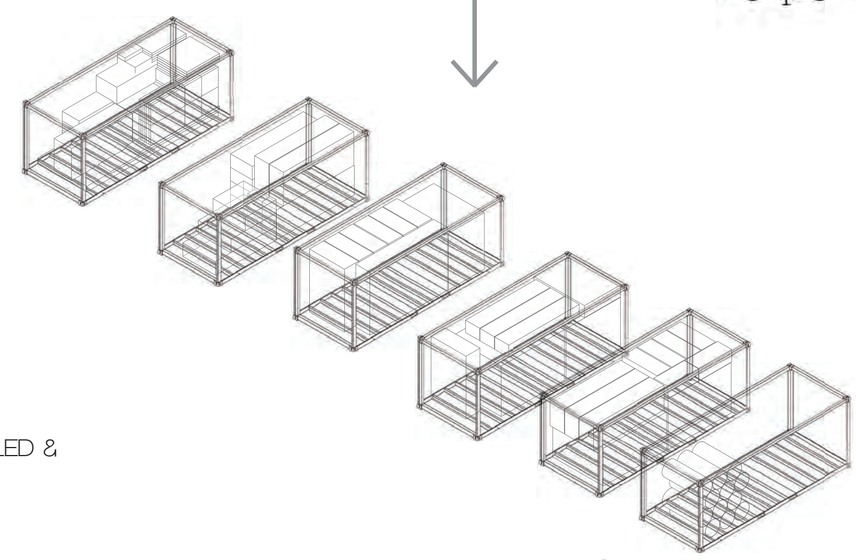


Figure 4.86.
ALTERED BUILDING EXTERIOR DISMANTLED & ARRANGED IN CONTAINERS

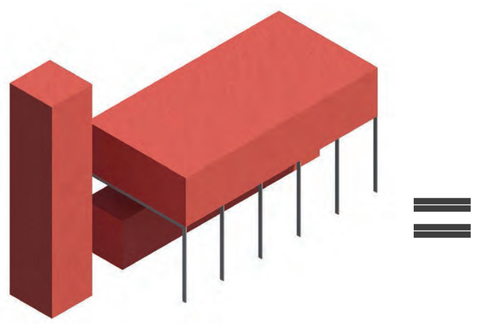


Figure 4.87.
SHIPPING CONTAINERS AS PART OF BUILDING STRUCTURE

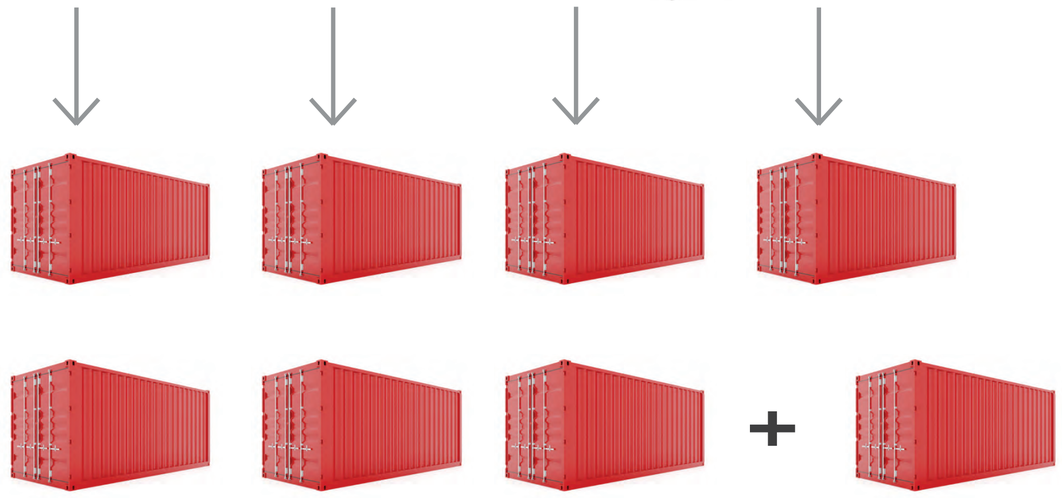


Figure 4.88.
SHIPPING CONTAINERS AS TRANSPORTATION VESSELS

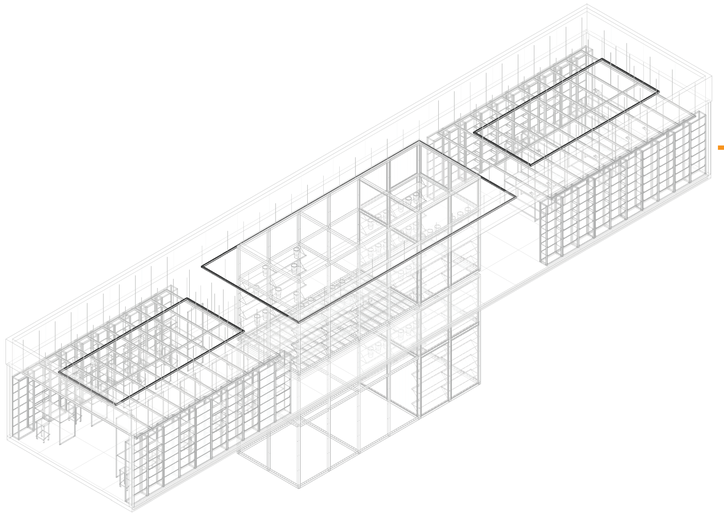


Figure 4.89.
LIGHTING TRACK LOCATION ILLUSTRATION

LIGHTING SYSTEMS

The lighting systems are to be considered within the temporal conditions of the building. The change in use from exhibition to work studio needs to be considered, as well as the change in location and the effects this entails.

Natural lighting is aided by movable artificial lighting which allows for adaptation by individual user, or as required by programmatic changes.

NATURAL LIGHTING

Natural light is introduced through the facade, lighting the space throughout. The light intensity is manipulated through the opening and closing of the shelving units, therefore creating focus lighting on the sections which are in use, and diffused lighting on the areas which are not. Skylights provide additional natural lighting to the focal area at centre of the building.

Daylighting considerations to be taken in regard to temporal conditions (change in location & change in use)

Controlled admission of direct sunlight

Controlled admission of diffuse daylight

Effects of local terrain, landscaping and nearby buildings on available light
Integration of building systems, including artificial lighting and finishes.

DETERMINATION OF ILLUMINANCE CATEGORIES & LIGHTING REQUIREMENTS (according to IESNA Lighting Handbook- Lighting design guide.)

Exhibition halls: 100lx
Museum Display:
Flat display on vertical surfaces 300lx vertical
Exhibition cases and 3D objects: 300lx horizontal 50lx vertical
Education; Art room: 300lx-500lx
Merchandise display:
Show window: 500lx
Feature display: 1000lx

ELECTRICAL CONSIDERATIONS

To accommodate the different international power supply and variation in plug types:

Voltage input switch installed along with distribution board to control electrical flow.

Varying plug types and adapters as part of traveling kit.

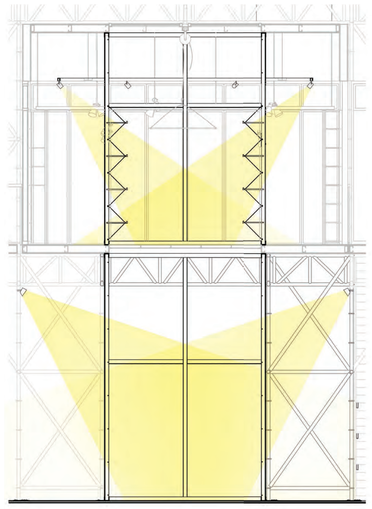


Figure 4.100.
CENTRAL SHAFT LIGHTING LAYOUT DIAGRAM 1

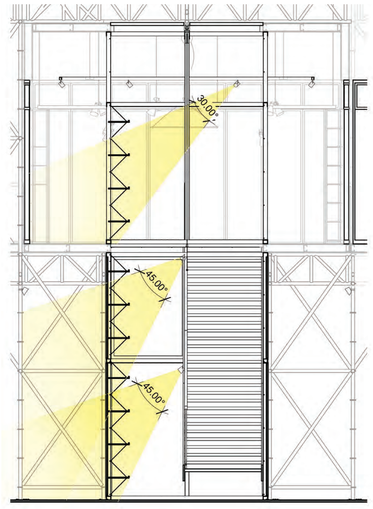


Figure 4.101.
CENTRAL SHAFT LIGHTING LAYOUT DIAGRAM 2

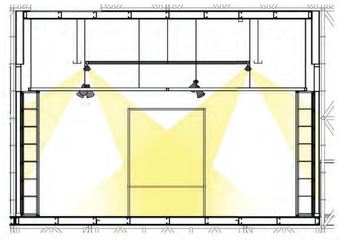


Figure 4.102.
EXHIBITION LIGHTING LAYOUT DIAGRAM

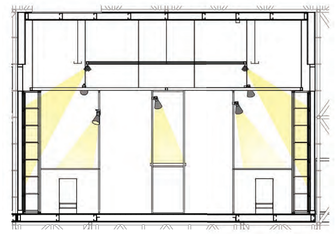


Figure 4.103.
WORKSTATION LIGHTING LAYOUT DIAGRAM

LIGHTING SPECIFICATION TABLE

TASK LIGHTING

Symbol	Luminaire Specification	Image	lamp specification	Image	Lifetime	Quantity
	FAS clamp spotlight IKEA Aluminium body with steel clips product dimensions: 140mmx100mm (IKEA 2014)	(IKEA 2014)	Osram Halogen spot ECO SST R50 30 W 240 V E14 Colour Rendering: warm white Colour Temp: 2700K CRI : 100 Beam angle 30° (Osram 2014)	(Osram 2014)	2000h	20
	Round Spot R028bT23 Buy Lighting Fitting colour: Black Body: 70mmx58mm With Euro ridgid track colour: Black (Buy Lighting 2014)	(Buy Lighting 2014)	GE Constant Colour CMH MR16 Colour Rendering: warm white Colour Temp: 3000K CRI : 91 Beam angle 40° (General electric Company 2014)	(General electric Company 2014)	18000h	36

Figure 4.90. Fas clamp spotlight (IKEA 2014)
Figure 4.91. Halogen Spot Eco (Osram 2014a)
Figure 4.92. Round Spot (Buy Lighting 2014)
Figure 4.93. Constant colour CMH
(General Electric Company 2014)

GENERAL ILLUMINATION & ACCENT LIGHTING

	LED Tape 5050 cut to 3000mm strips (Spazio 2012)	(Spazio 2012)	Closed 1036. IP50 50.60.90 Colour Rendering: warm white Colour Temp: 3000K (Spazio 2012)	(Spazio 2012)		42x 3000mm strips
	T- Uni Suspended Direct 2L T5 Colour: Black complete with suspention kit (Spazio 2012)	(Spazio 2012)	Substitube advance led replacement lamp Colour Rendering: Warm white Colour Temp: 3000K Beam angle: 150°	(Osram 2014)	50000h	12
	Dino Adjustable led spot Body: Injection moulded thermoplastic Colour: Grey (Spazio 2012)	(Spazio 2012)	LED Superstar PAR16 35 36° ADV3.6W Colour Rendering: Warm white Colour Temp: 2700K CRI: 80 Beam angle: 36° (Spazio 2012)	(Osram 2014)	25000h	22

Figure 4.94. LED Tape 5050 (Spazio 2012a)
Figure 4.95. Tuni Suspended Direct 2L T5 (Spazio 2012b)
Figure 4.96. Substitube advance (Osram 2014b)
Figure 4.97. Dino Adjustable led (Spazio 2012b)
Figure 4.98. Led Superstar PAR16 (Osram 2014b)

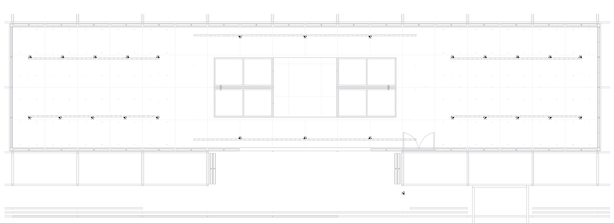


Figure 4.99.
FIRST FLOOR CABLE TRAY LAYOUT

Figure 4.104.
FIRST FLOOR STUDIO LIGHTING LAYOUT PLAN
SCALE 1:100

4.11 PROPOSED SCENARIO

Figure 4.105.
PANORAMIC VIEW OF SITE, TOWARDS NELSON MANDELA DRIVE

SITE

Corner of Robert Sobukwe Street, Nelson Mandela Drive and Kotze Street.
Trevenna, Pretoria.

Figure 4.106.
IMISO CERAMICS COLLAGE

CLIENT

IMISO CERAMICS STUDIO

Andile Dyalvane and Zizipho Poswa produce distinctly African designs, with a futuristic edge, draw inspiration from a mix of urban culture, local traditions and the wonders of nature (Design Network Africa 2011).

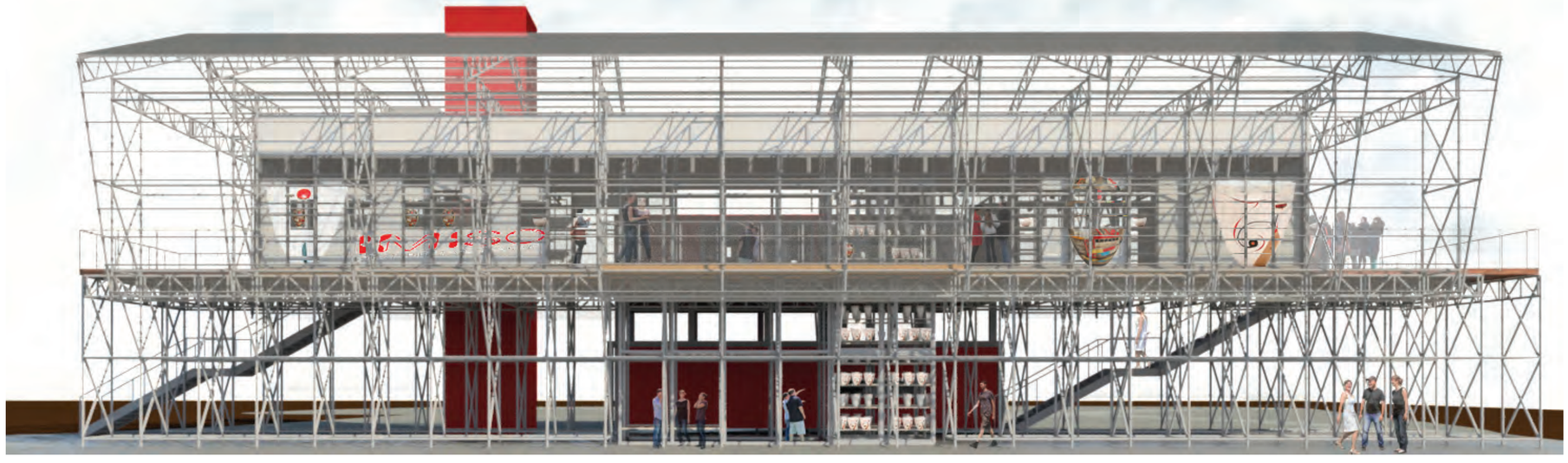


Figure 4.107.
EXTERNAL VIEW - IMISO WORKSHOP

PROGRAMME

POTTERY WORKSHOP

The pottery workshop consists of the individual workstation area, communal shared workstations and storage, drying racks, potters-wheel and display shaft.

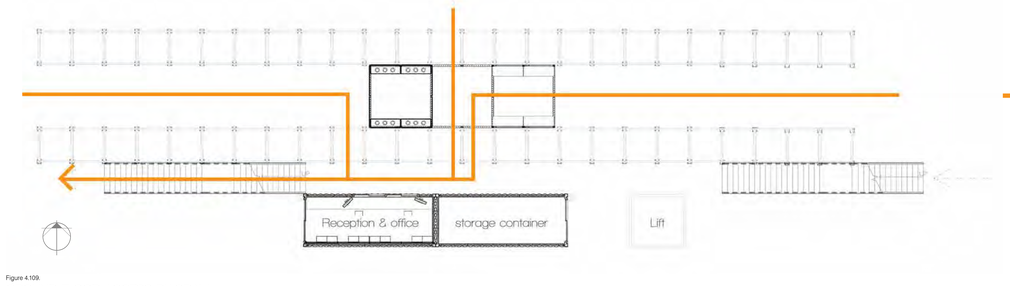


Figure 4.109.
GROUND FLOOR ACCESS DIAGRAM

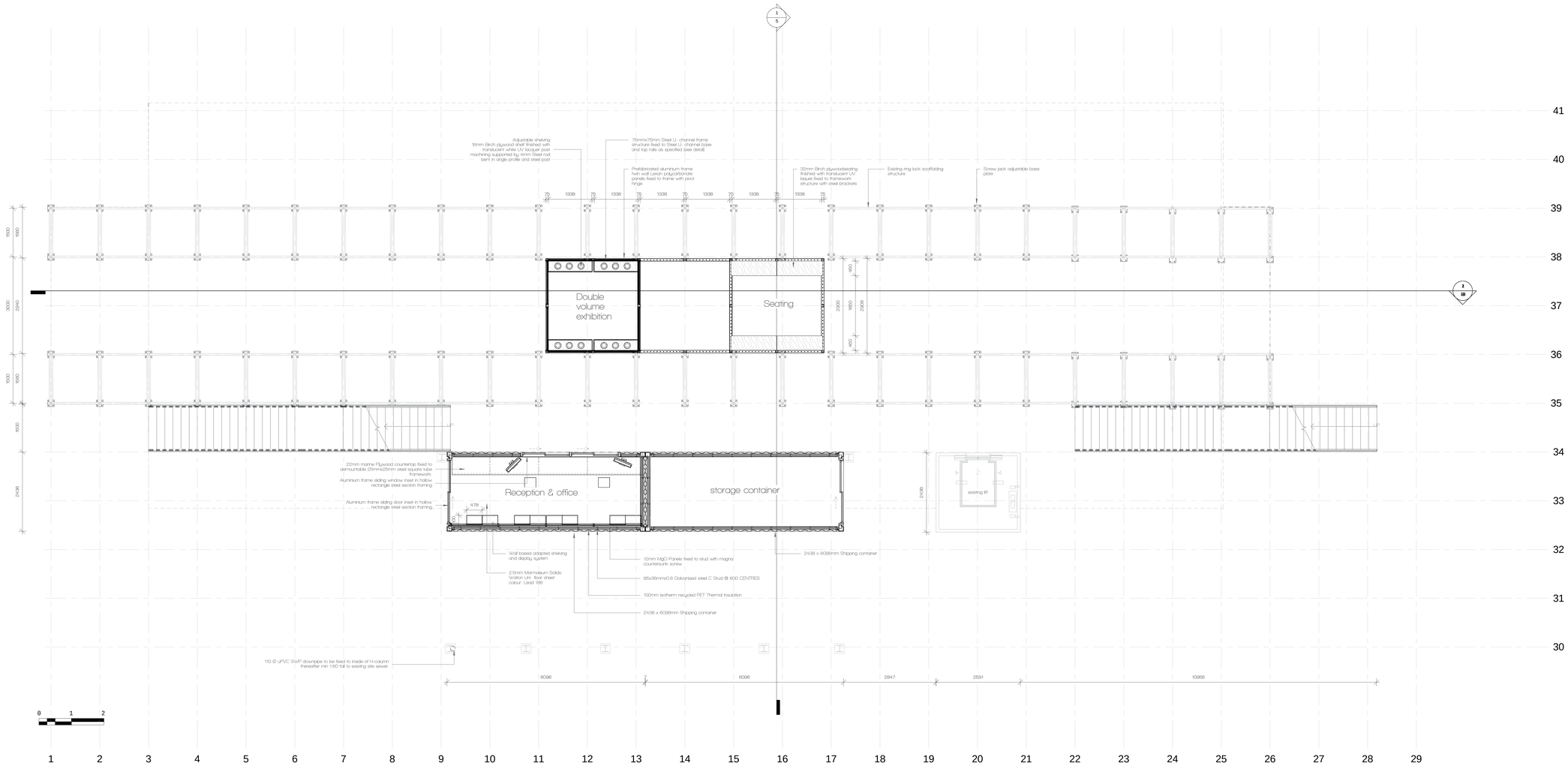


Figure 4.108.

GROUND FLOOR PLAN
SCALE 1:50

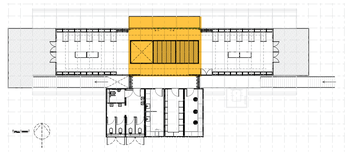


Figure 4.111.
ZONING DIAGRAM MAIN PROGRAMME FUNCTIONS

Figure 4.112.
ZONING DIAGRAM SHARED WORKSPACE AND LECTURE SPACE

Figure 4.113.
ZONING DIAGRAM INDIVIDUAL WORK BENCHES AND PRACTICAL DEMONSTRATION

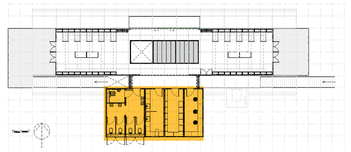


Figure 4.114.
ZONING DIAGRAM SERVICES: WC'S, STORE ROOM, KITCHENETTE AND COMPUTER LAB

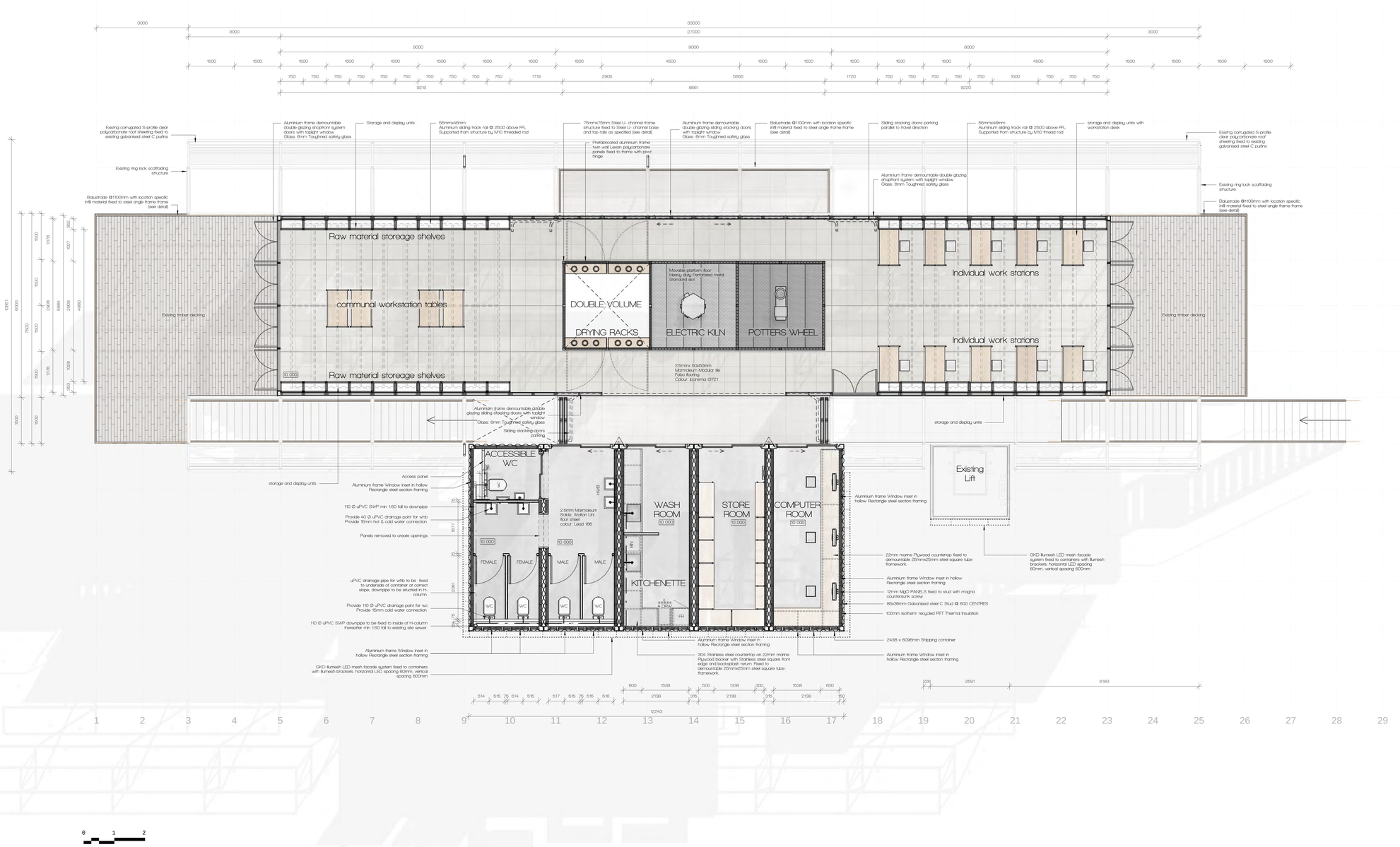


Figure 4.110.

FIRST FLOOR PLAN
SCALE 1:50

Figure 4.115.

SECTION AA

SCALE 1:50

Figure 4.117.
SECTION AA1 KEY SECTION

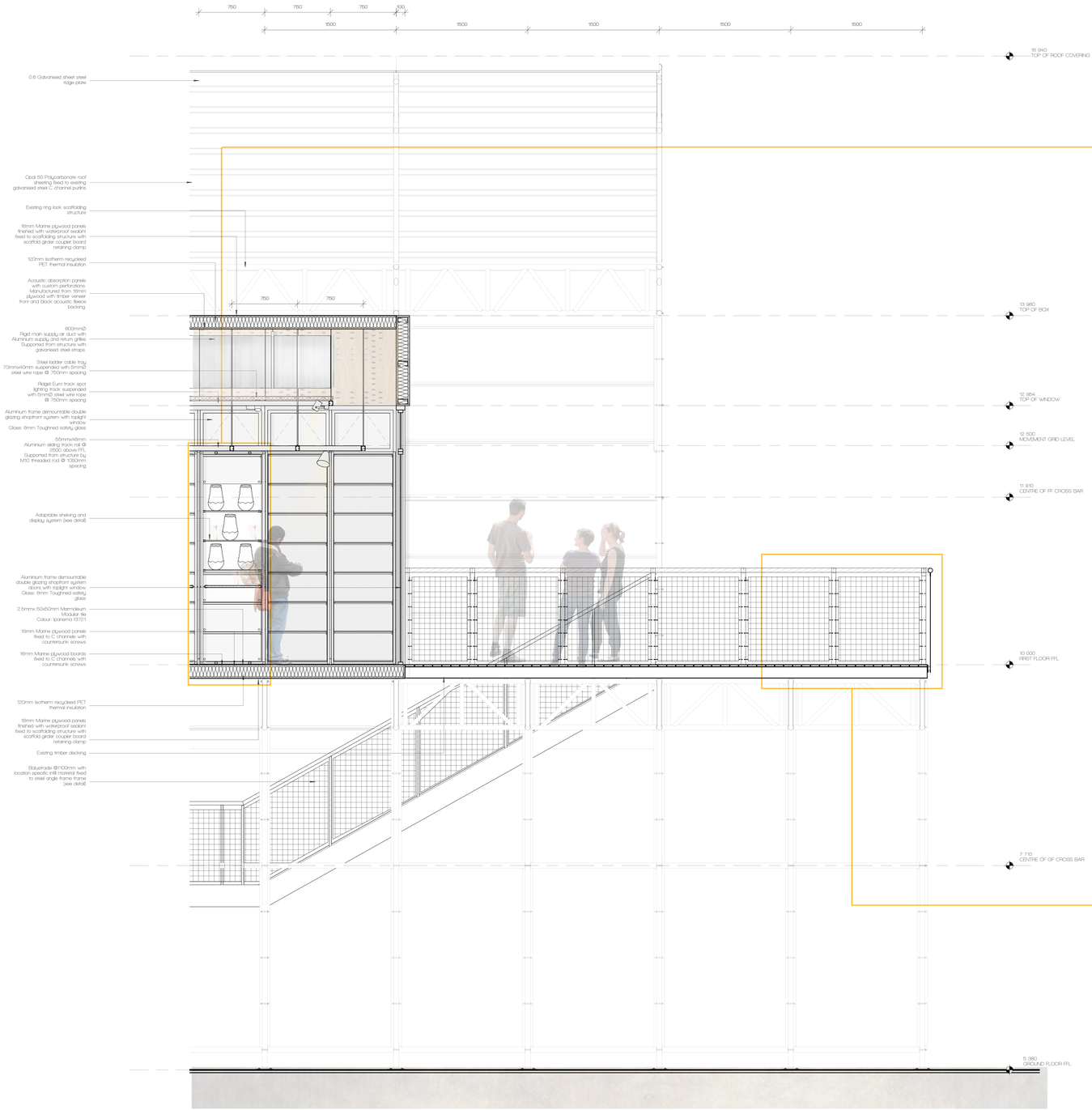


Figure 4.116.

SECTION AA1
SCALE 1:20

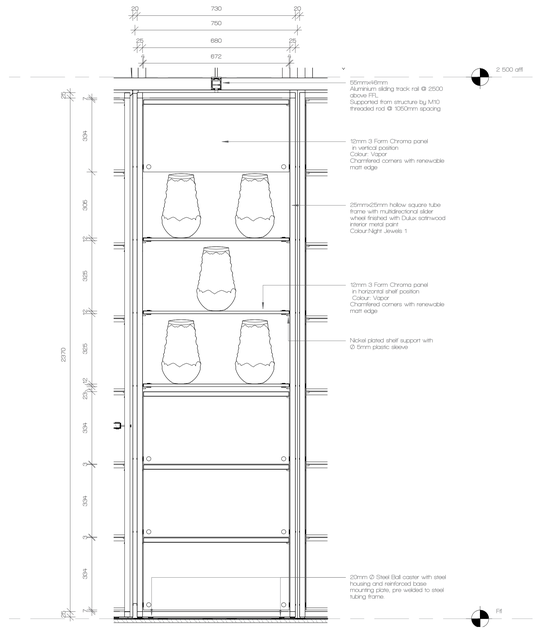


Figure 4.118.
DISPLAY, STORAGE AND WORKSTATION UNIT ELEVATION
SCALE 1:10

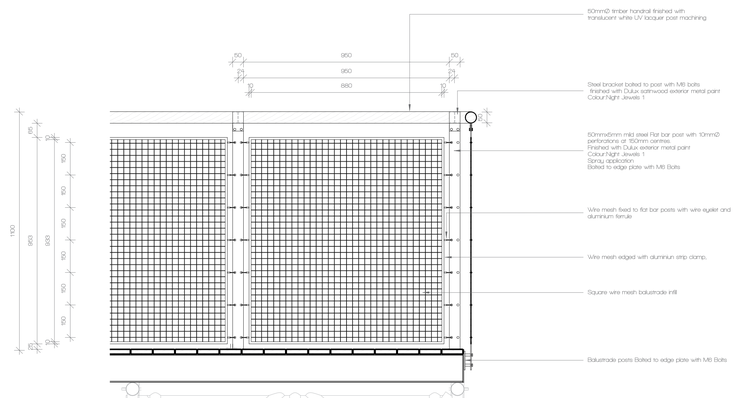


Figure 4.119.
BALUSTRADE DETAIL
SCALE 1:10

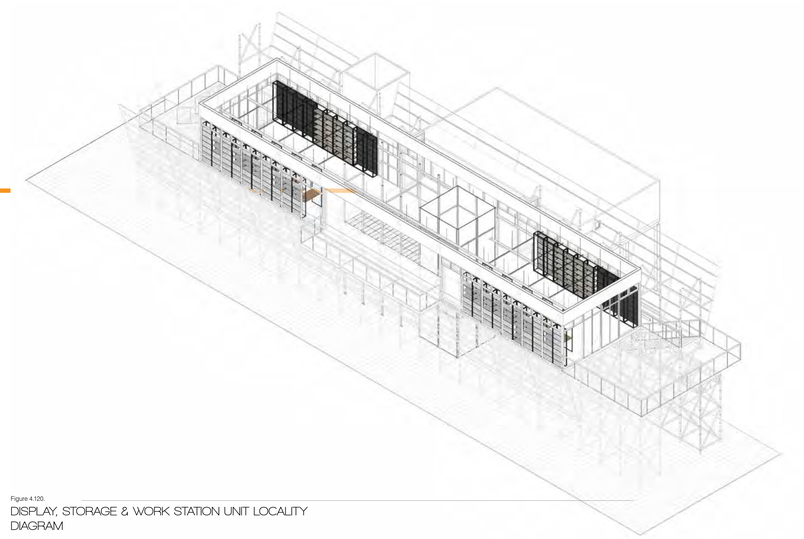


Figure 4.120.
DISPLAY, STORAGE & WORK STATION UNIT LOCALITY DIAGRAM

4.11.1 COMPONENTS

4.11.1.1 DISPLAY, STORAGE & WORK STATION UNIT

INTENT

To express timeliness through providing a means for indicating the presence of an inhabitant in space. Activate the skin of the building to form a connection between the interior activity and the exterior. The intention is to adapt the window functions, vista and light to compliment the process of displaying, through manipulating openings to make use of natural light and focused vistas. The intent is to develop a shelving and display unit which reflects and represents the current environment, with reference to the base design element.

OBJECTIVE

To question and redefine exhibition display and the relationship between interior and exterior visibility of these objects.

To investigate the opportunities of storage shelves and display units.

To focus the functions of a window, in terms of vista and light.

To indicate temporary inhabitation of interior space through use.

DELIVERABLES

Multi functional unit for displaying objects and information in horizontal and vertical positions.

A shelving unit for storage of small tools, equipment and raw materials.

An adaptable workstation table, large exhibition display surface and seating unit.

ADAPTABILITY - Display, Storage & Workstation Unit

TYPES OF CHANGE			BRAND'S LAYERS						SCALES	
Strategy	Cause	Affect (Physical)	Stuff	Space	Services	Skin	Structure	Site	Physical	Time
Adjustable	Task-user	Component, performance							Components	User: Days/weeks
Adaptable	Task-user, programme	Component, performance							Components	User: Days/weeks Programme: Months
Transformable	Task-Programme	Function-programme, size, spatial arrangement							Components	Programme: Months
Movable	Task-Programme/ user, Location	Location, function, spatial arrangement							Components	User: weeks; Programme: Location: Years

Figure 4.121.
DISPLAY, STORAGE & WORK STATION UNIT EXPLODED AXONOMETRIC FRAME AND INFILL
SCALE 1:20

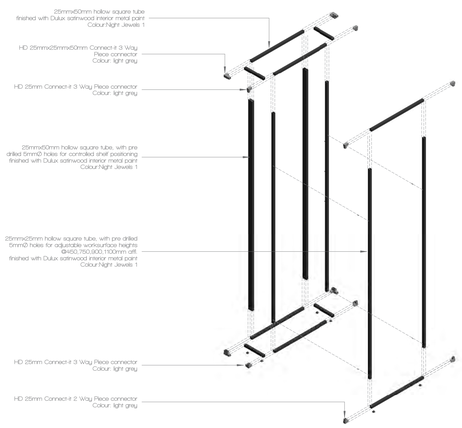


Figure 4.122.
DISPLAY, STORAGE & WORK STATION UNIT EXPLODED AXONOMETRIC FRAME JOINERY
SCALE 1:20

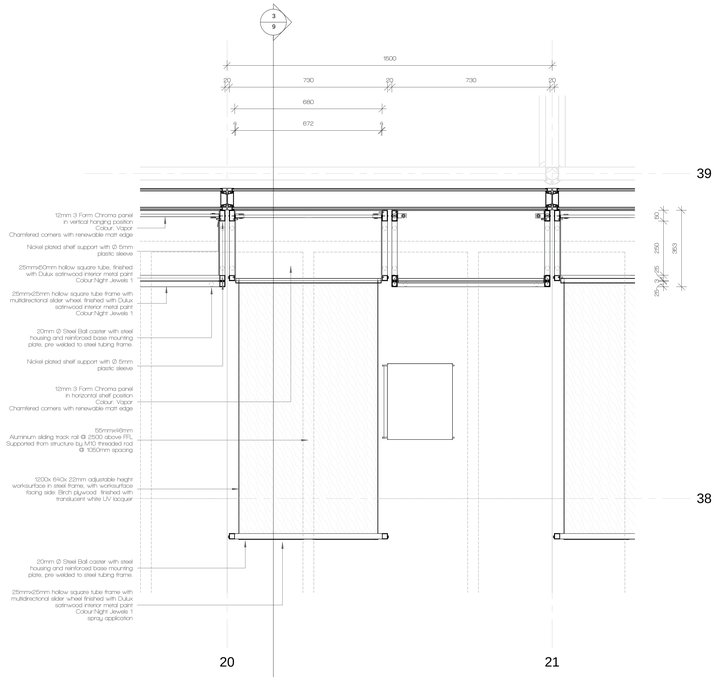


Figure 4.123.
SHELVING AND DESK UNIT PLAN
SCALE 1:10

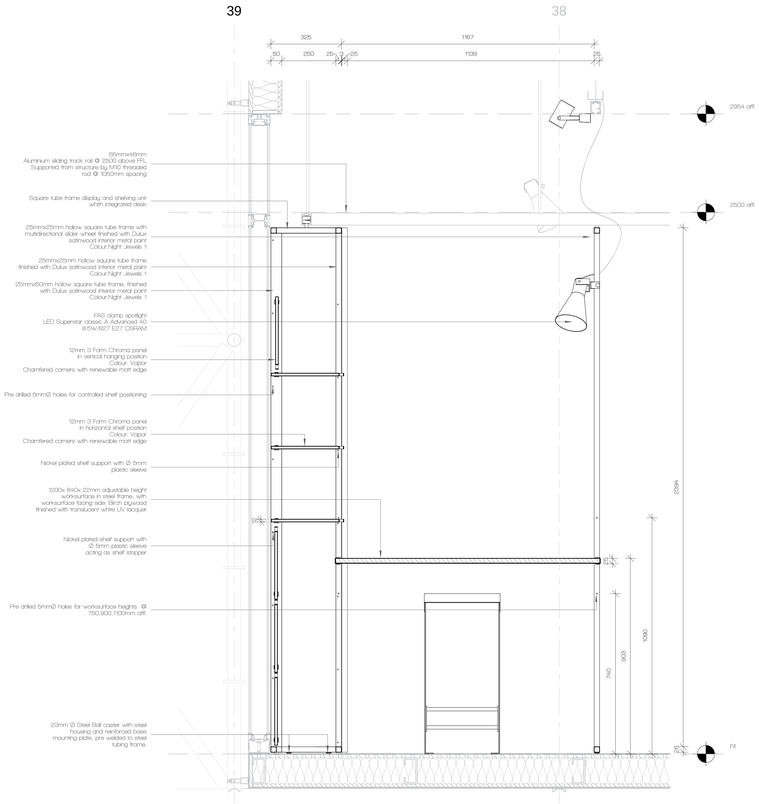


Figure 4.124.
SHELVING AND DESK UNIT SECTION
SCALE 1:10

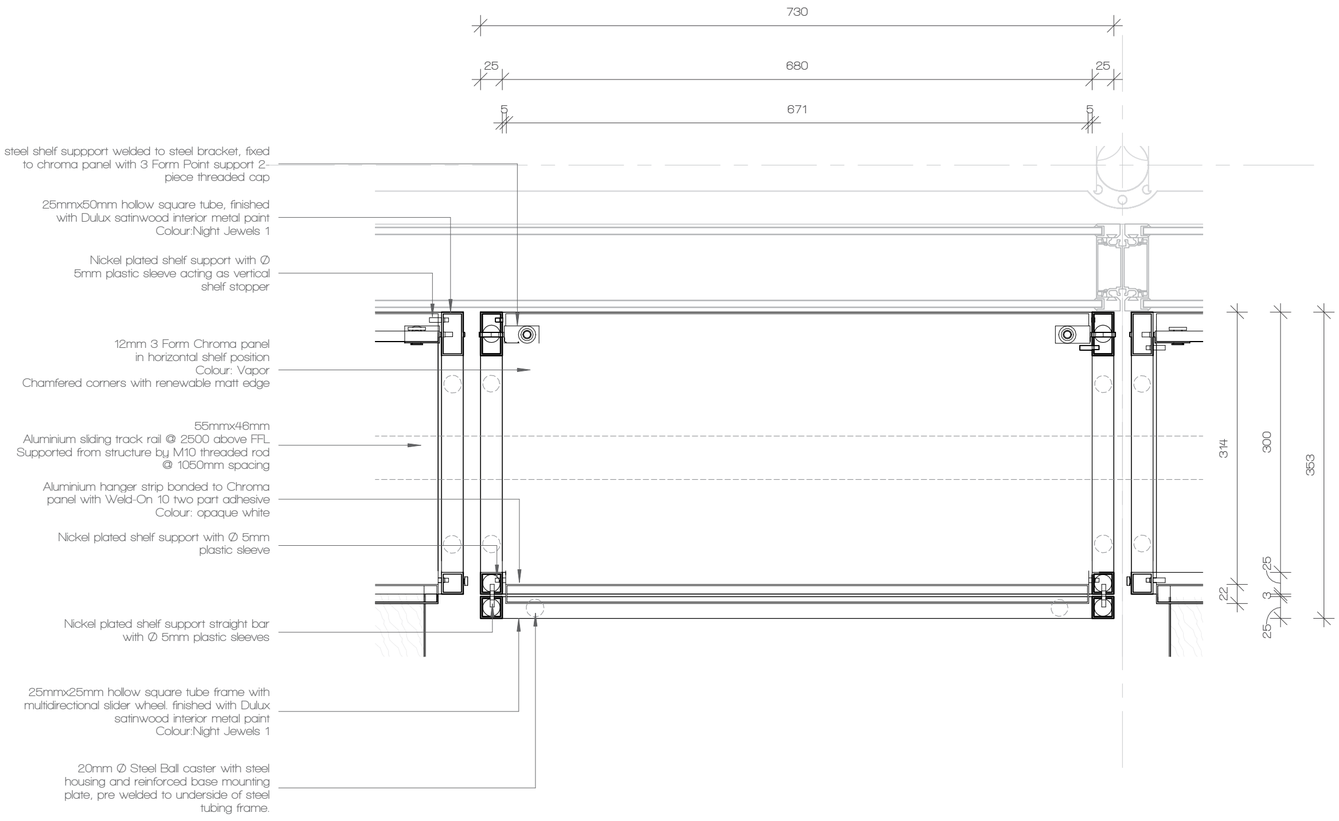


Figure 4.125.
SHELVING AND DESK UNIT DETAIL PLAN
SCALE 1:5

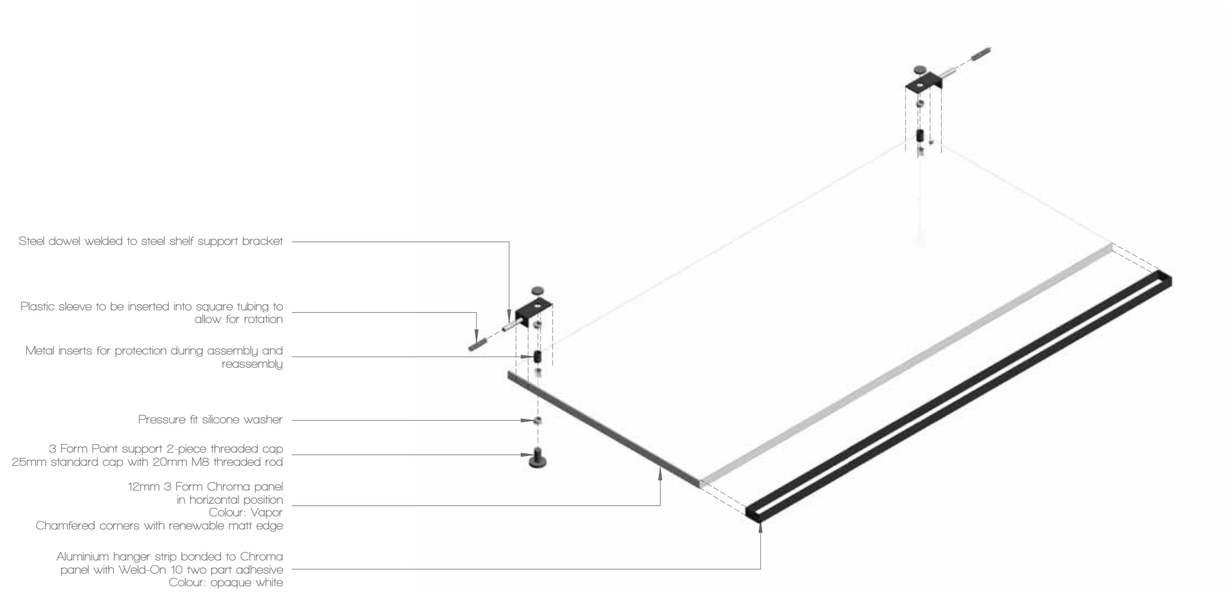


Figure 4.126.
DISPLAY, STORAGE & WORK STATION UNIT EXPLODED AXONOMETRIC DISPLAY SHELF
SCALE 1:5

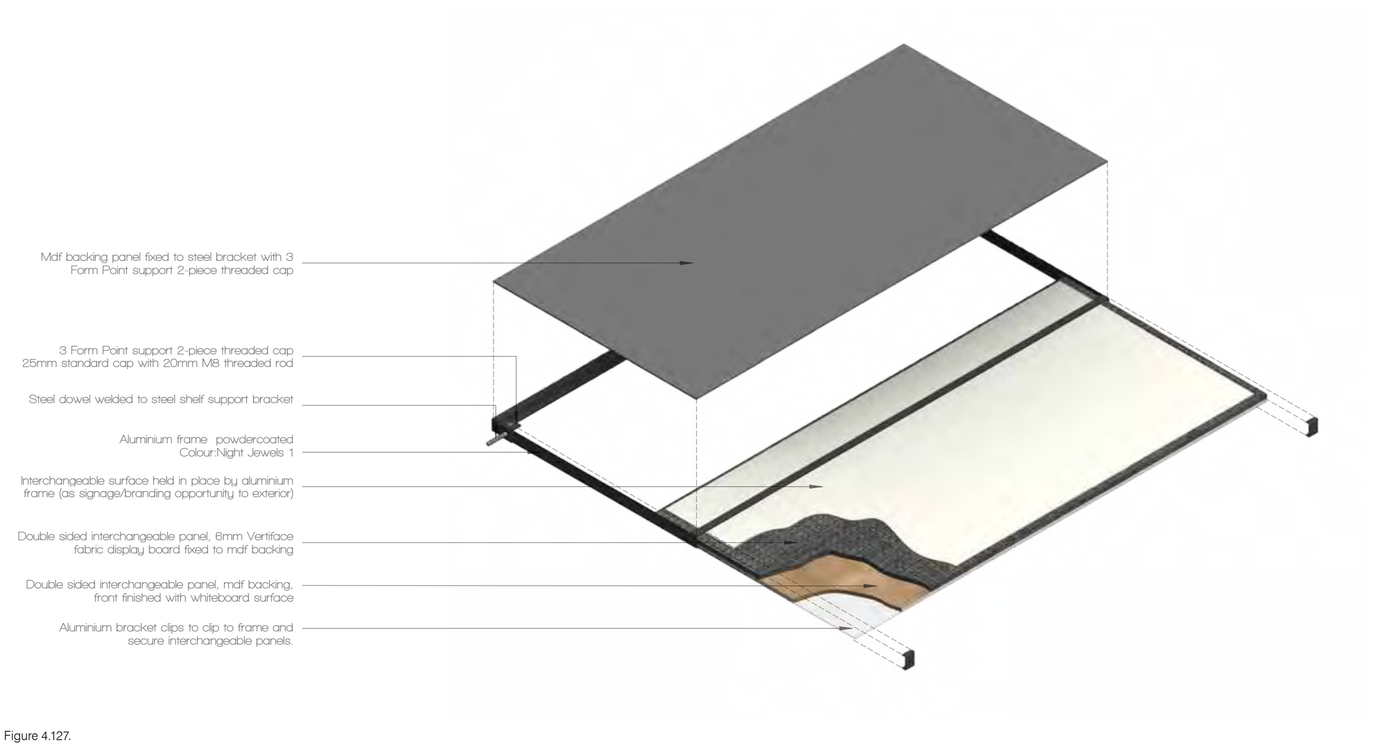


Figure 4.127.
DISPLAY, STORAGE & WORK STATION UNIT EXPLODED AXONOMETRIC MULTI-SURFACE SHELF
SCALE 1:5

DISPLAY SHELF

MATERIAL SELECTION

Material: **3 Form Chroma**
Use: Display surface, light diffusion panel
Colour: Vapor
Properties: 3 Form Chroma is recognisable as a material of high standard, this identifies the use of the component as one associated with display, as the material is frequently used in high end horizontal applications. Chroma is often used as a light diffusion material, in surfaces which are backlit. The use of the material as both a horizontal and vertical surface incorporate the different uses in an innovative manner. The associated value placed in the material reflects the use as an exhibition surface, which is used to display objects of value.

Figure 4.128.
3 Form chroma Vapor (3Form 2014)

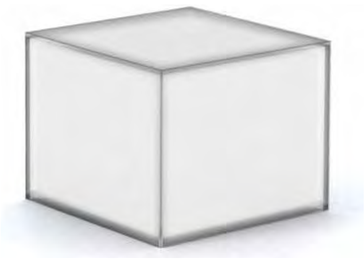


Figure 4.129.
3 Form chroma 650.08 Table (3Form 2014)

MULTI-SURFACE SHELF

MATERIAL SELECTION

Material: **Vertiface non-woven 100% polyester**
Use: Information display board - allows for thumb tack and velcro
Acoustic absorption panels
Colour: Koala
Properties: Recognised material and application in interior design. These factors are used to inform the user of the use of space and the components within space. It serves as a grounding reference point in a changing environment.
Colour reflects the colour pallet of the enduring elements.

Material: **Smartwall paint- Dry erase paint**
Use: Information display, communication, interactive board
Colour: White
Properties: Recognised material and application in interior design. These factors are used to inform the user of the use of space and the components within space. It serves as a grounding reference point in a changing environment.

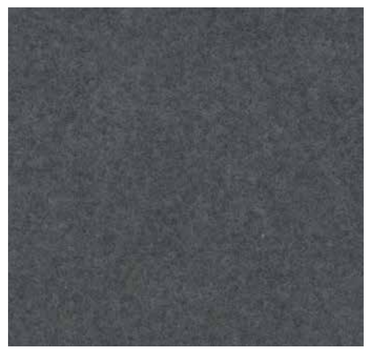


Figure 4.130.
Vertiface: Koala fabric display board (Vertiface 2014)

Figure 4.131.
Dry erase paint (Smartwall paint 2014)

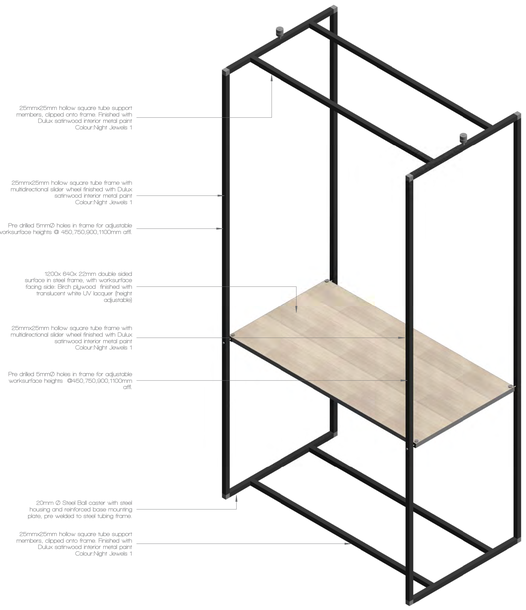


Figure 4.132.
Communal workstation unit

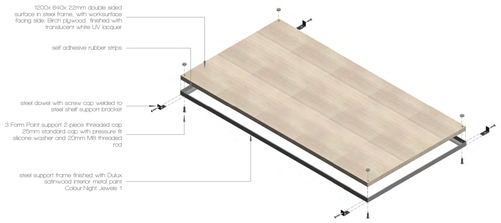


Figure 4.133.
Exploded Work surface detail
Scale 1:10

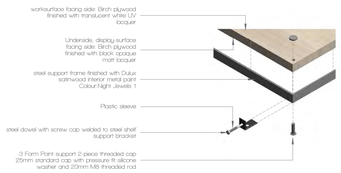


Figure 4.134.
Exploded Work surface detail
Scale 1:5

Figure 4.135.
Exhibition surface detail
Scale 1:5

DISPLAY, SEATING AND WORK SURFACE

MATERIAL SELECTION

Material: WISA-FORM Birch **Film faced plywood**
Use: Film faced side - exhibition and seating surface
Finished plywood face - work surface
Colour: Black (film)
Properties: Typical use in construction industry as a form-work for universal casting, a panel with numerous different applications (UPM 2014). The two faces have different properties which can be interpreted as indicators to the use applications. The black film face is used as exhibition surface for its smooth finish and sleek properties which form a neutral background.

Where the timber face is interpreted as a warm, interactive surface which serves as worktop. These reflect colours and material finishes typically found in the respective applications. The iterative use from formwork, to display and manufacturing instils a new use which elevates the status of the material, and references the traditional use as part of a production phase. Colour reflects the colour pallet of the enduring elements.

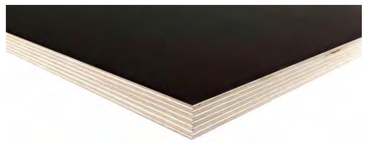


Figure 4.136.
Wisa-Form Birch film face (UPM 2014)

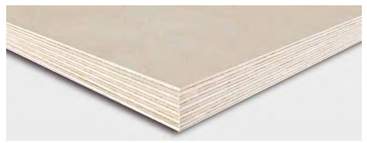


Figure 4.137.
Wisa-Form Birch film face (UPM 2014)

Figure 4.138.
SEATING UNIT WITH DISPLAY PANELS

Figure 4.139.
WORKSTATION UNIT

Figure 4.140.
EXHIBITION UNIT WITH BACKING

Figure 4.141.
MULTI-SURFACE SHELVES AS INFORMATION DISPLAY - INTERIOR AND EXTERIOR FACING

Figure 4.142.
SHELVING AND DESK UNIT: WORKSTATION SCENARIO

Figure 4.143.
SHELVING AND DESK UNIT: CLOTH EXHIBITION SCENARIO

Figure 4.144.
SHELVING AND DESK UNIT: POTTERY EXHIBITION SCENARIO

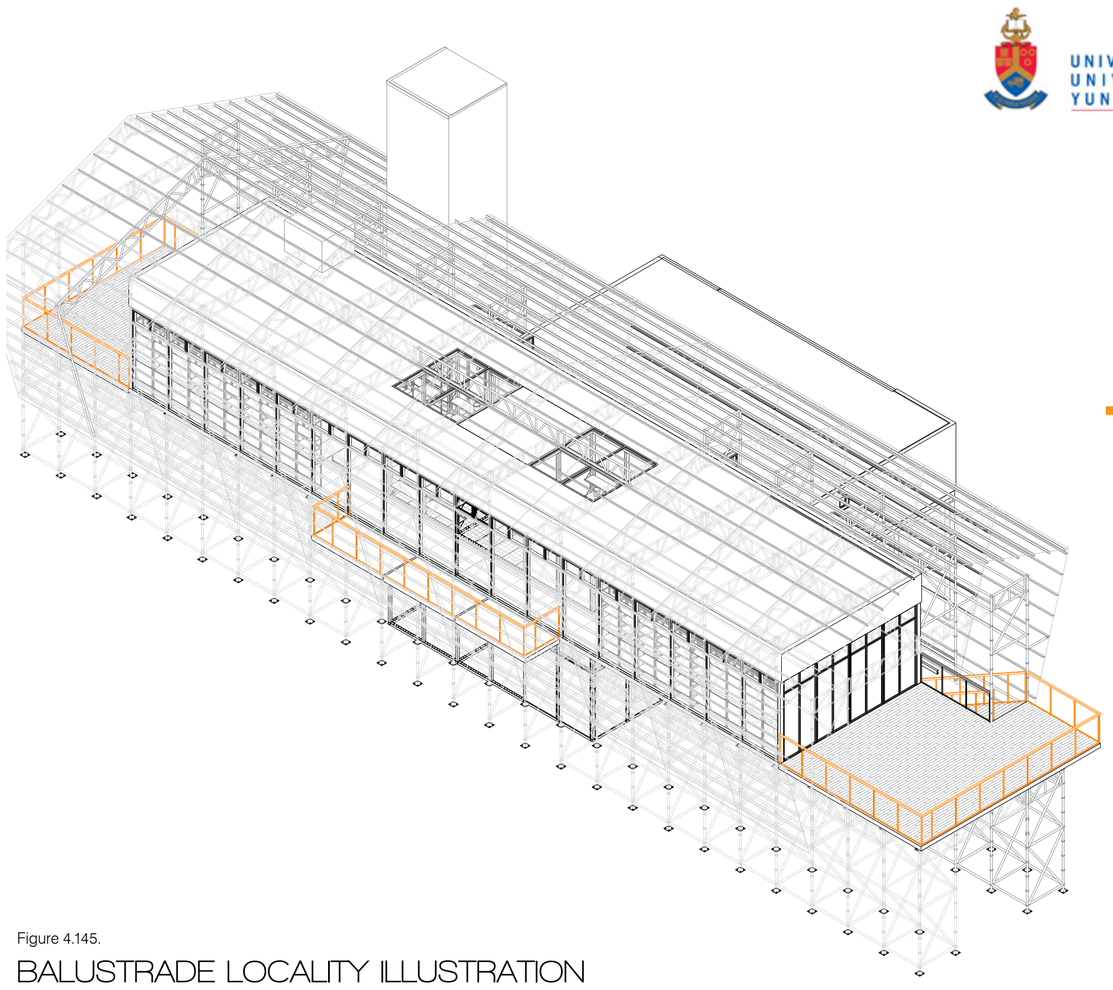


Figure 4.145.
BALUSTRADE LOCALITY ILLUSTRATION

COMPONENTS

4.11.1.2 BALUSTRADE

INTENT

The intent of the balustrade is to allow for integration between the specific location and the traveling structure. Incorporating craftsmanship, materials, colours and construction methods associated with the location connects the structure to its surroundings, and to the local users. This generates a temporary identity for the structure, which is representative of the location. The use of craft in this manner can be considered as both iterative and traditive methods of introducing timeliness in the design.

The intent is to encourage the use and development of sustainable methods of temporary construction, therefore the materials and connections used should reflect this intent. This allows innovative exploration in terms of temporary architecture used to express identity.

DELIVERABLES

A balustrade which is effective in its traditional functional use.

A framework which defines the area of intervention, whilst being versatile, to allow for multiple interpretations.

An element which forms part of and supports the enduring identity of the Design development centre.

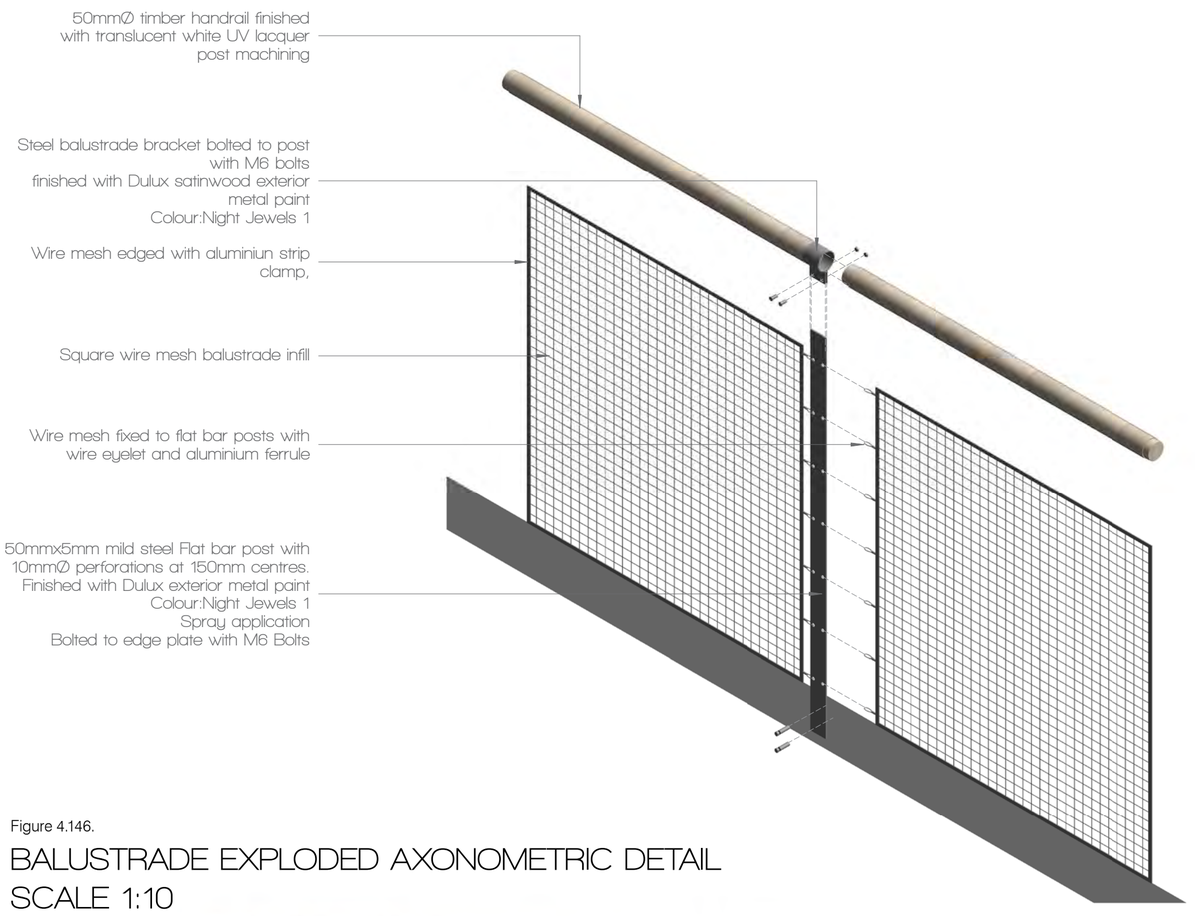


Figure 4.146.
BALUSTRADE EXPLODED AXONOMETRIC DETAIL
SCALE 1:10

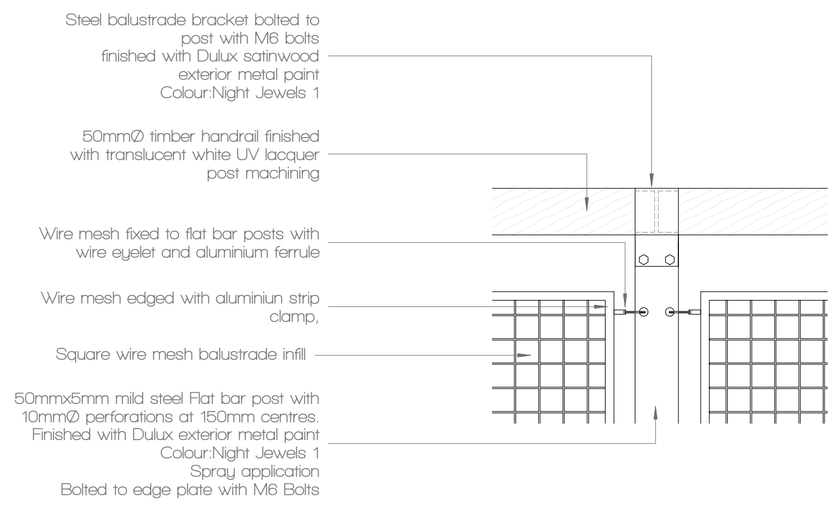


Figure 4.147.
BALUSTRADE DETAIL
SCALE 1:5

Figure 4.148.
BALUSTRADE PERSPECTIVE - WIRE MESH INFILL

Figure 4.149.
BALUSTRADE PERSPECTIVE - INFILL VARIATION -TIMBER SLATS

MATERIAL SELECTION

BALUSTRADE FRAMEWORK

Material: **Saligna**
Use: Handrail
Properties: The natural timber finish is a warm surface, which results in comfortable use in terms of tactile experience. It is a recognisable material in the architectural industry and forms a stable base material.

Material: **Mild Steel Flat bar**
Use: Balustrade post and framework structure.
Properties: It is a recognisable material in the architectural industry and therefore forms a stable base material. The strength and durability allow for interaction through various connections , as the material will not be damaged easily. The paint finish and material choice identify the element as part of the enduring identity.

BALUSTRADE INFILL

Material: **Agave Americana & polypropylene geo-textile (Maguey fiber)**
Use: Strips woven into the metal mesh balustrade infill
Properties: Material development and testing within a South African context is done in conjunction with the CSIR material science development programme. The development of natural fibres contributes to the expansion of the knowledge base of material studies within the architectural discipline. As the material is in an experimental phase, the application of the material in the temporary structure allows valuable research to be conducted in a practical application, as the implantation is temporary the material can be collected and analysed after the use phase is complete.

Material: **Square wire mesh**
Use: Balustrade infill.
Properties: Functions as supportive structure for textile infill.

Figure 4.150. Saligna (Plantation Sawmilling & Boards cc. 2011)

Figure 4.151. Mild steel flat bar (FH Brundle 2009)

Figure 4.152. Maguey textile (Tubbs 2014)

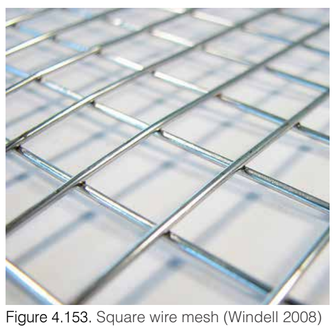


Figure 4.153. Square wire mesh (Windell 2008)

ADAPTABILITY - Balustrade

TYPES OF CHANGE			BRAND'S LAYERS						SCALES	
Strategy	Cause	Affect (Physical)	Stuff	Space	Services	Skin	Structure	Site	Physical	Time
Adaptable	Location	Component-Aesthetic							Components	Location: Years

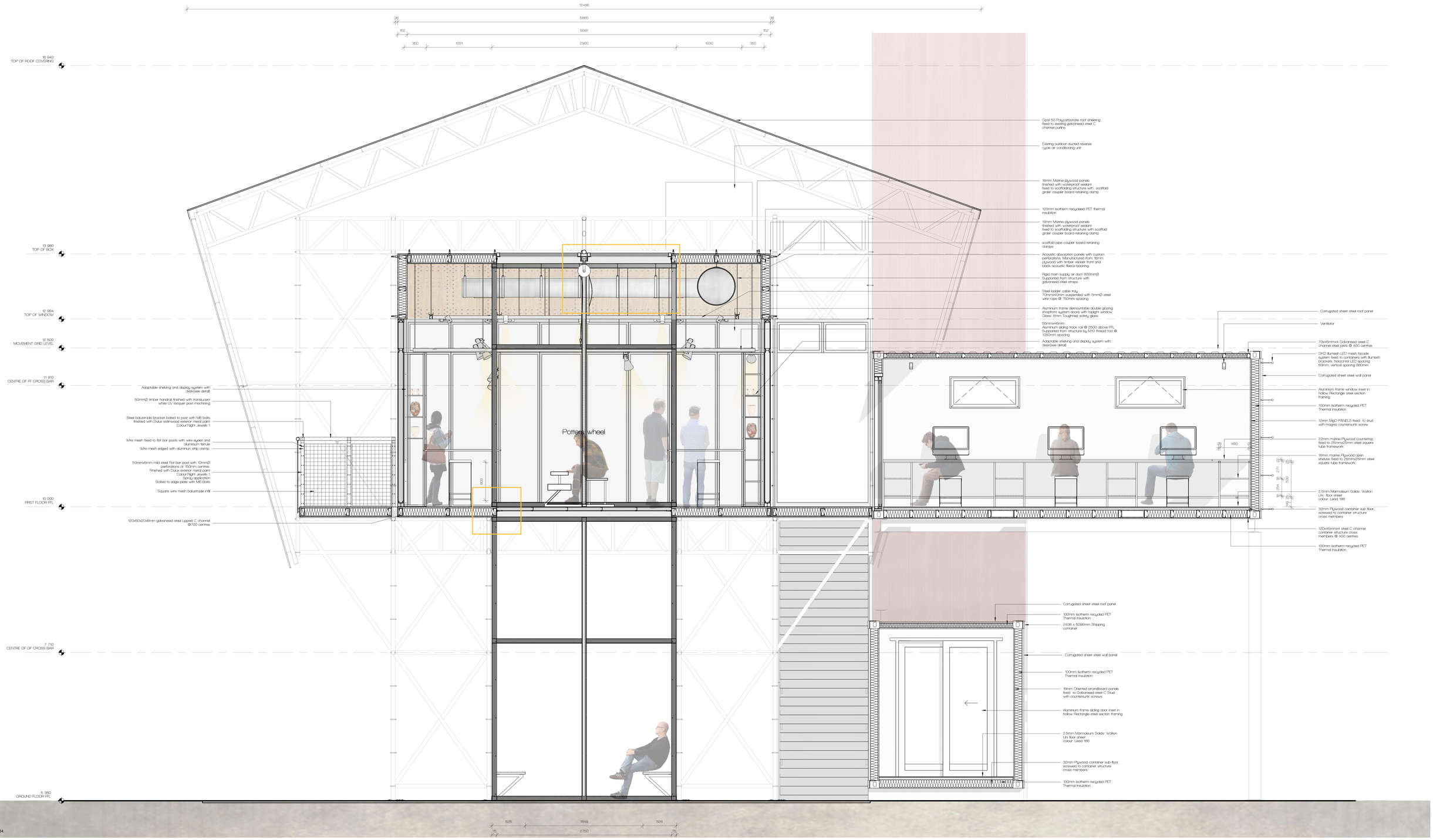


Figure 4.154.

SECTION A

SCALE 1:20

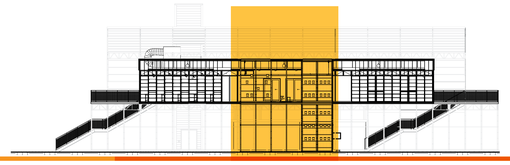


Figure 4.155.
SECTION AA2 KEY SECTION

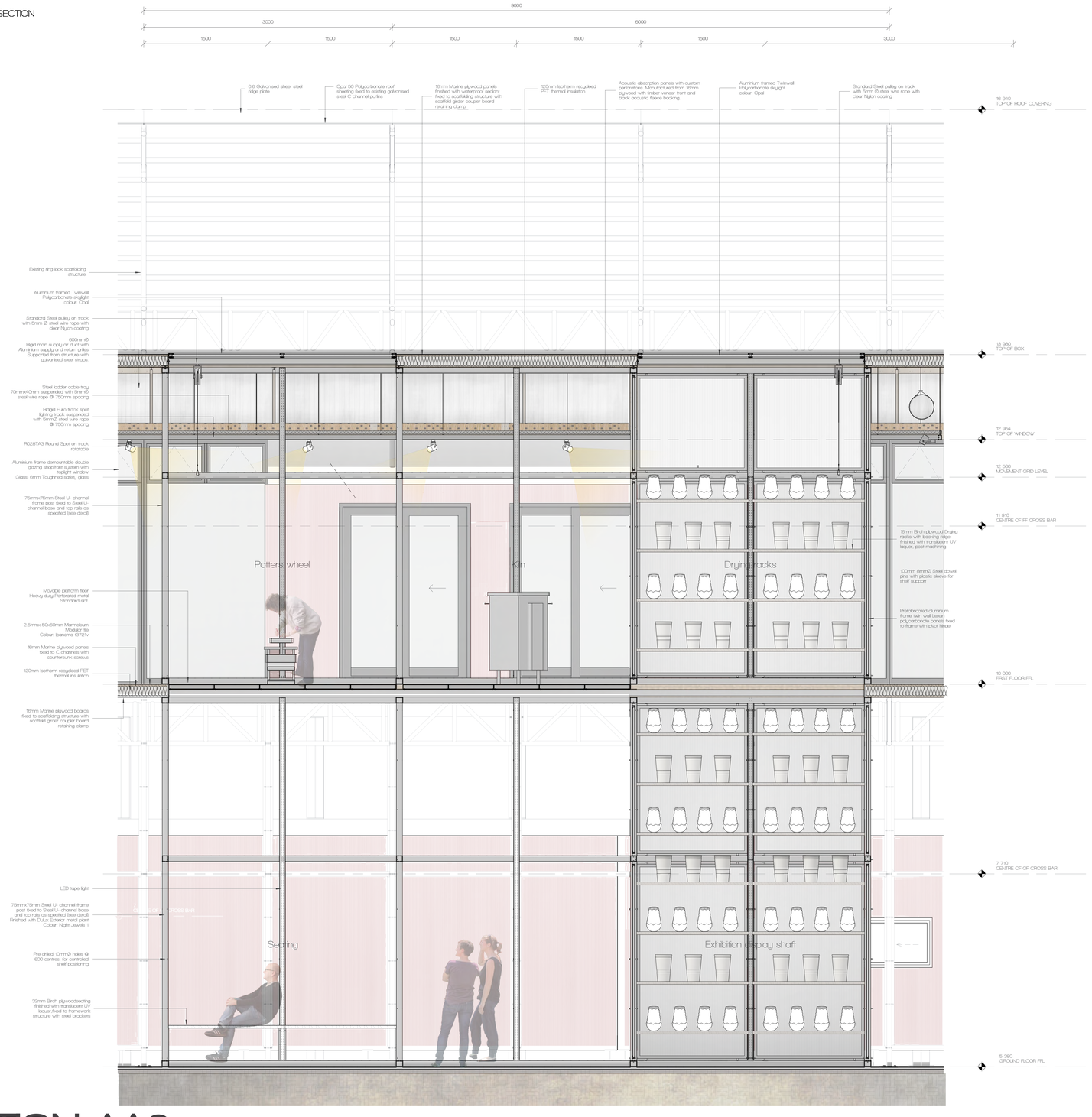


Figure 4.156.

SECTION AA2

SCALE 1:20

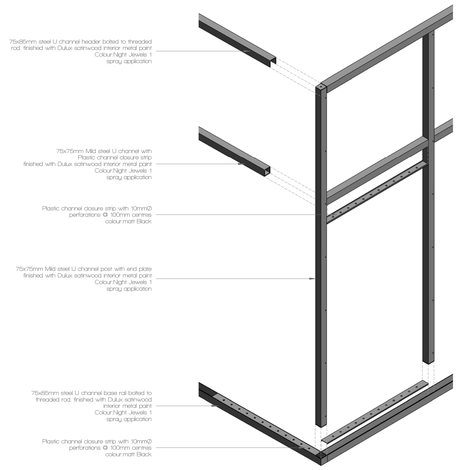


Figure 4.157.
CENTRAL DISPLAY, STORAGE & ACCESS
EXPLODED AXONOMETRIC FRAME DETAIL
SCALE 1:20

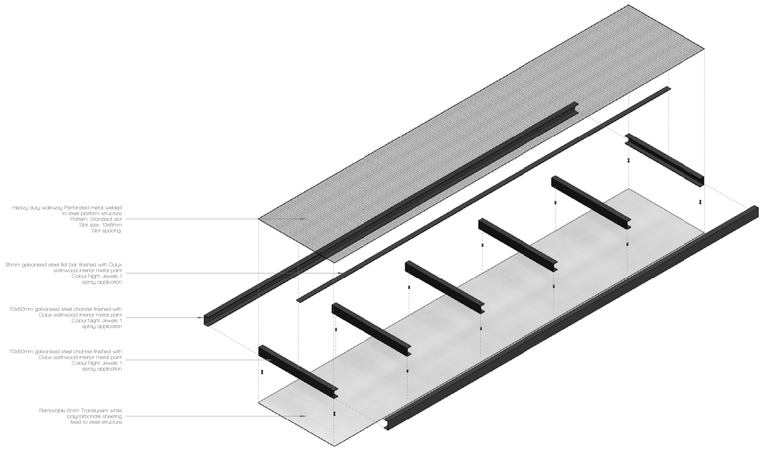


Figure 4.158.
CENTRAL DISPLAY, STORAGE & ACCESS EXPLODED AXONOMETRIC FLOOR PLATFORM DETAIL
SCALE 1:10

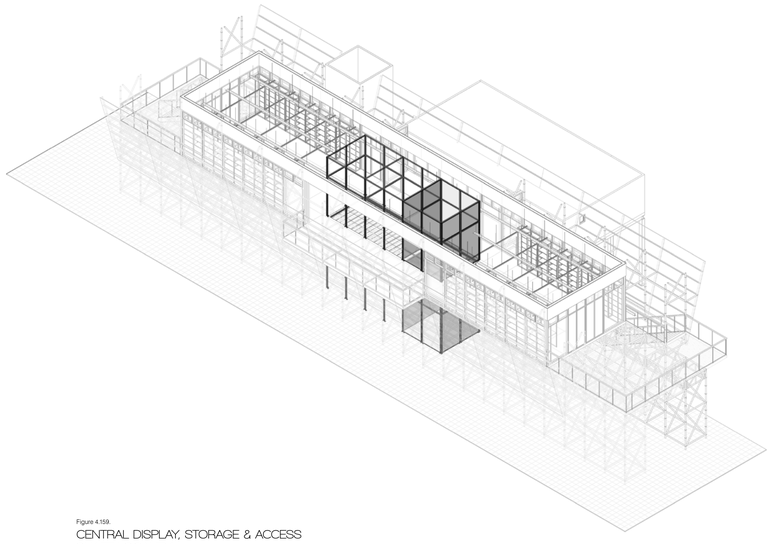


Figure 4.159.
CENTRAL DISPLAY, STORAGE & ACCESS SHAFT LOCALITY

COMPONENTS

4.11.1.3 CENTRAL DISPLAY, STORAGE & ACCESS SHAFT

INTENT

The shaft structure forms the main area of spatial intervention which spatially, and visually connects the interior to the exterior. The intention is for the shaft to hosts the main activity of each programmatic function, in a manner which displays the function as the defining activity in space. This assists in creating a visual and spatial identity which alters the spatial experience according to the programme function and the client, or user, as their products, manufacturing techniques and methods of production differ and are put on display in the shaft.

The structure allows for the client to incorporate their identity into the space through surface interventions within the frame, as well as the spatial relation between interior and exterior, through manipulating removable the floor structure. Therefore the tangible aspects such as material, equipment and spatial manipulation are indicators of function and indicate the timely use.

The intent is to support innovation as an iterative process that is based on the original idea, but generated by individuals acting in space.

DELIVERABLES

A structure which can structurally support the necessary activities relating to the programmatic requirements.

A means to form a spatial and visual connection between interior activity and the exterior.

A framework which can support surface and spatial interventions, which assist is portraying client and programmatic identity.

ADAPTABILITY - Central Display, Storage & Access Shaft

TYPES OF CHANGE			BRAND'S LAYERS						SCALES	
Strategy	Cause	Affect (Physical)	Stuff	Space	Services	Skin	Structure	Site	Physical	Time
Adjustable	Task-user, programme	Component, performance							Components	User: Days/weeks Programme: Months
Adaptable, Refitable	Task-Programme, user. Aesthetic-user	Component, performance Function,aesthetics							Components	User: Days/weeks Programme: Months
Transformable, Versatile	Task-Programme, user. Aesthetic-user	Function, programme, spatial							Components Building	Programme: Months User: Months
Convertable	Task-Programme/ user	Function, Spatial, Access							Building	Programme: Months Location: Years

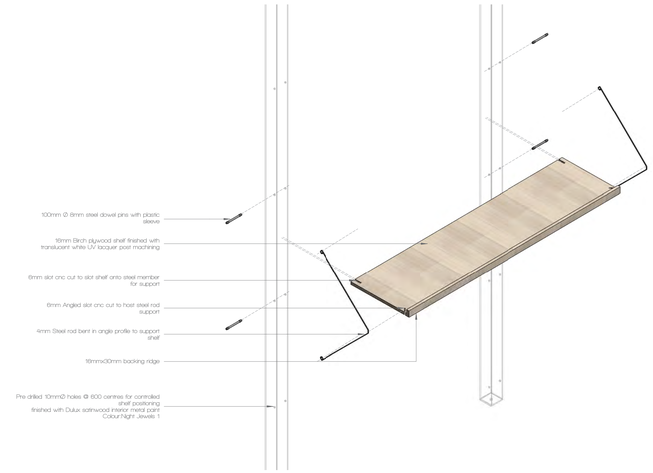


Figure 4.160.
CENTRAL DISPLAY, STORAGE & ACCESS EXPLODED AXONOMETRIC SUSPENDED SHELF DETAIL
SCALE 1:10

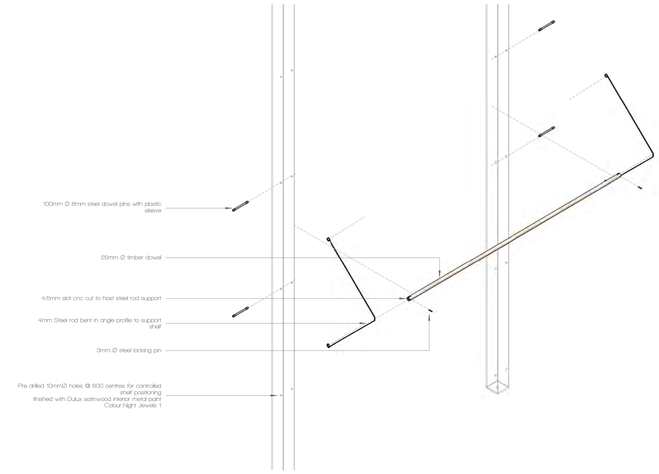


Figure 4.161.
CENTRAL DISPLAY, STORAGE & ACCESS EXPLODED AXONOMETRIC SUSPENDED ROD DETAIL
SCALE 1:10

MATERIAL SELECTION

Figure 4.163. WISA-Ply Transparent (UPM 2014)

SUSPENDED SHELF

Material: **Wisa-Ply Transparent**
Use: Display and storage shelf
Colour: White transparent coated Birch plywood
Properties: Plywood forms part of the enduring identity of the Design Development Centre, as it is used as a 'temporary-enduring' element. The white transparent finish exposes the natural timber finish in an altered appearance, creating an aesthetic which appears simultaneously finished an unfinished. This is reflective of the use of the shelves as they serve both exhibition and production phases.

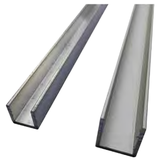


Figure 4.164. Mild steel U channels (Jamek Industries [Sa])

SHAFT FRAMEWORK

Material: **Mild Steel U Channels**
Use: Shaft framework structure.
Properties: It is a recognisable material in the architectural industry and therefore forms a stable base material. The strength and durability allow for interaction through various connections, as the material will not be damaged easily. The paint finish and material choice identify the element as part of the enduring identity.

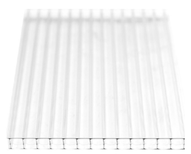


Figure 4.165. Twin wall polycarbonate sheeting (Master Plastics 2014)

HINGED POLYCARBONATE INFILL PANELS

Material: **Twin wall polycarbonate**
Use: Shaft infill panels/doors.
Properties: Clear, translucent material which allows for visibility into and from within the shaft. Acts as space defining element, creating a physical barries between spaces. It serves to create a strong link to the base element, the 'interior cube' as it strongly references the common 'glass cubicle'. The use of polycarbonate reflects the temporality and transportability requirements, as it is a light weight material, which is often used in temporary environments.

Figure 4.166. Opal white polycarbonate sheeting (Plastic sheets 2014)

MOVABLE FLOOR PLATFORM

The movable floor platform is an iteration of typical scaffolding floor platforms. The structural framework of the platform is retained, and the materiality and range of use is adapted to the specific needs of the current context. The floor allows flexibility in spatial use, and the integration or separation of the two volumes. The removable polycarbonate cover allows for change in permeability of the floor surface, without influencing the usable floor area. The materials and colour pallet, are reflect the enduring identity of the space.

Material: **Opal white polycarbonate**
Use: Platform removable base cover
Properties: White translucent material which allows for a blurred visual connection between levels, while forming a physical barrier between the volumes.

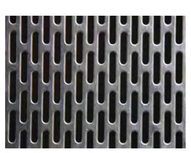


Figure 4.167. Heavy duty Slotted Perforated steel (Actis furio 2011)

Material: **Heavy duty walkway perforated metal**
Use: Fixed structural surface
Properties: Strong permeable material which allows the two volumes to be indirectly connected through a permeable surface. This allows for visual, and physical interaction.

Figure 4.162.
CENTRAL DISPLAY, STORAGE & ACCESS EXPLODED VARIATIONS

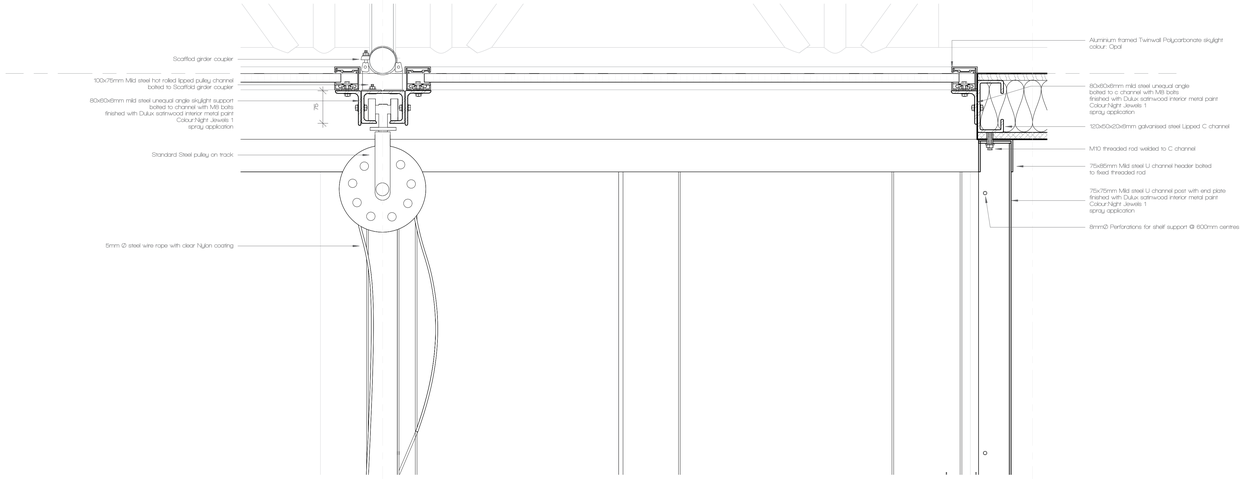


Figure 4.168.
DETAIL SECTION THROUGH CENTRAL SHAFT STEEL FRAME STRUCTURE AND CEILING CONNECTION
SCALE 1:5

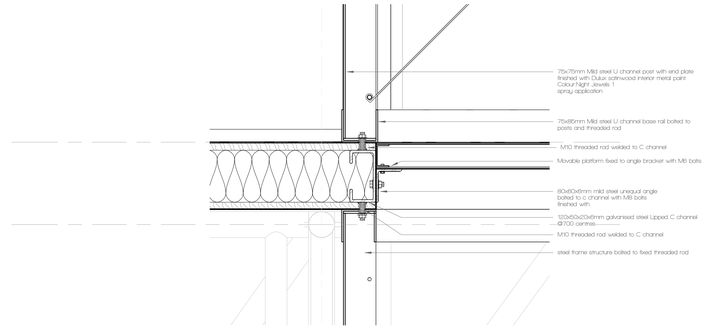


Figure 4.169.
DETAIL SECTION THROUGH FLOOR JUNCTION OF STEEL FRAME STRUCTURE
SCALE 1:5

Figure 4.170.
ALTERNATIVE SCENARIO EXHIBITION ENTRANCE WITH POTTERY DISPLAY SHELVES

Figure 4.171.
INVESTIGATED SCENARIO - POTTERY WORKSHOP

Figure 4.172.
ALTERNATIVE SCENARIO - POTTERY STUDIO