



TECHNICAL INVESTIGATION

EMULATE

This chapter deals with the technical development of the design, focusing specifically on the detailing of the triangulated display system. Further investigations into acoustics, artificial lighting and passive systems will be presented in the final exam

07

7.1 FLOOR PLANS

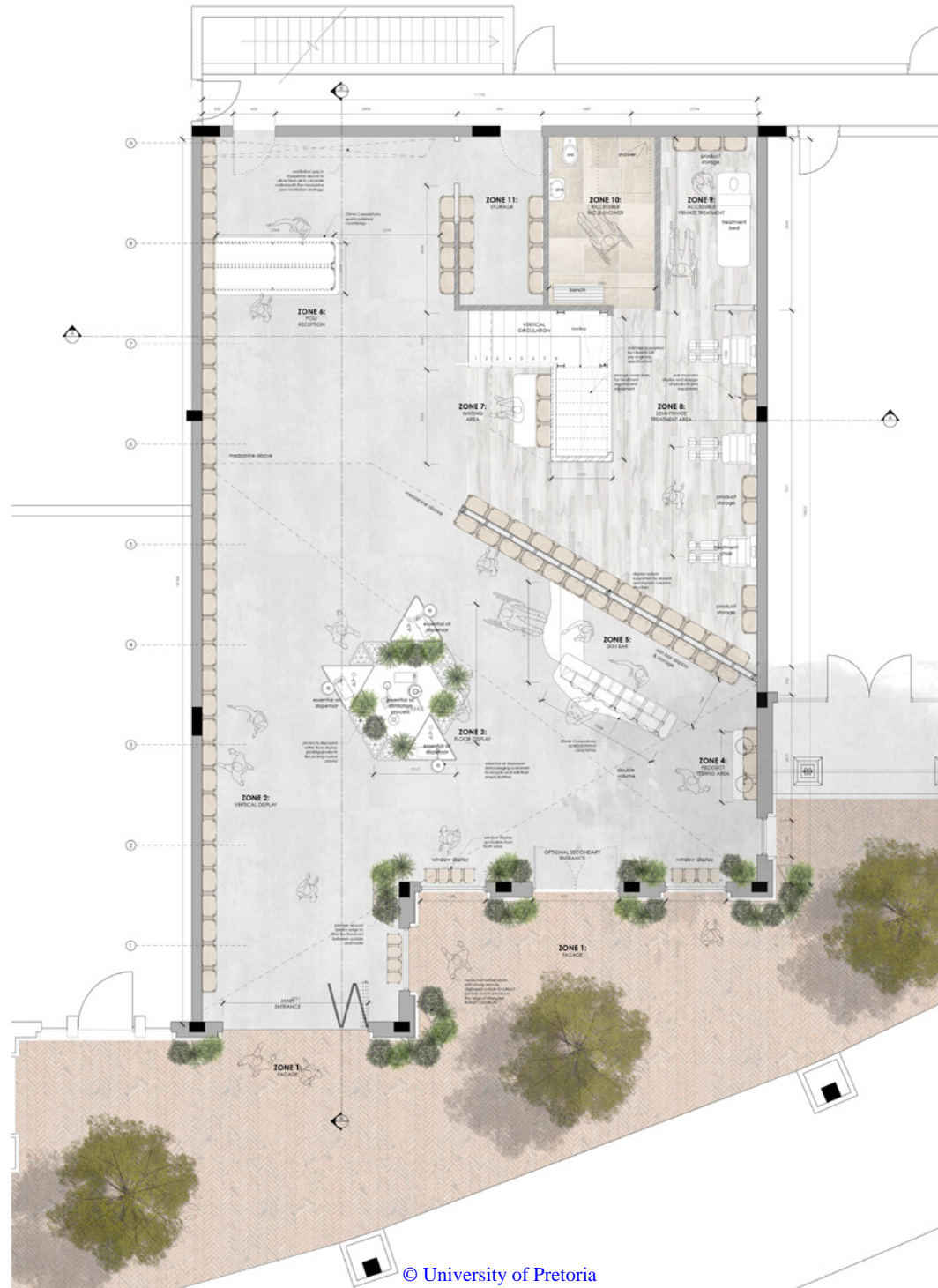


Figure 7.1. Iterated Ground Floor Plan (Author, 2016)

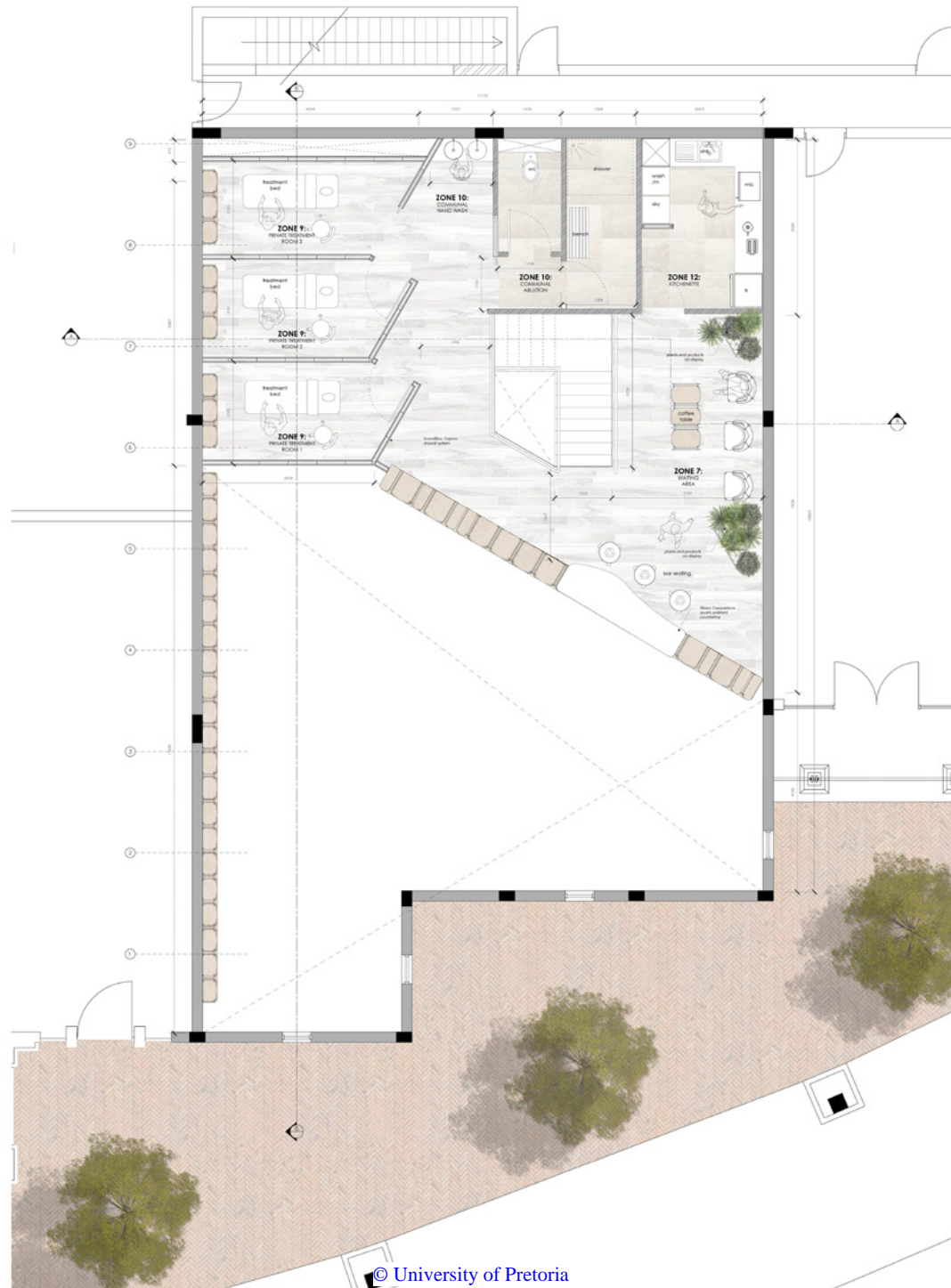


Figure 7.2. Iterated Mezzanine Plan
(Author, 2016).



Figure 7.3. Facade Design (Author, 2016)



Figure 7.4 Iterated Section A-A showing relationship between zones (Author, 2016)

SECTION A-A
not to scale



SECTION B-B
not to scale

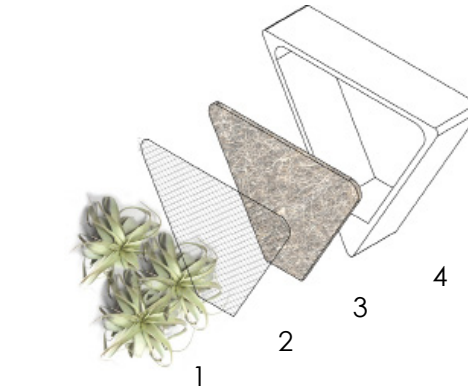
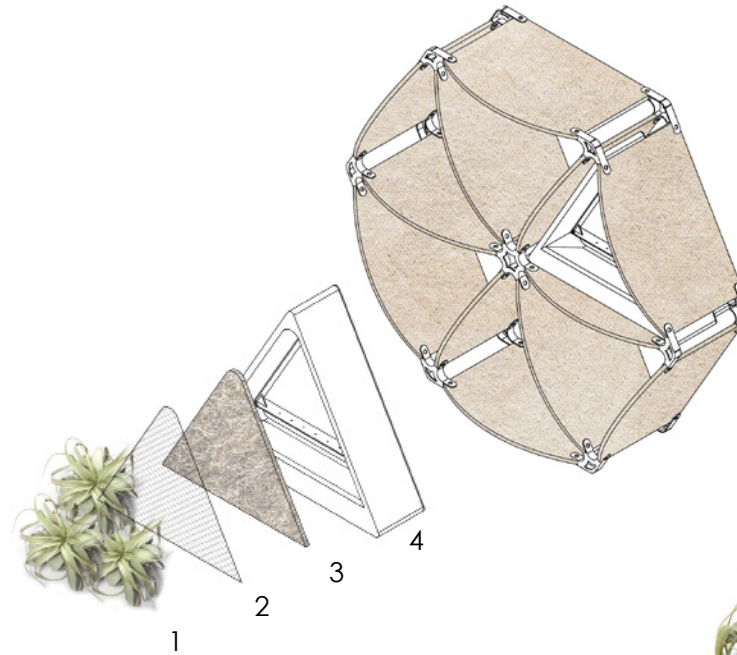
Figure 7.5. Iterated Section B-B showing vertical display (Author, 2016)



Figure 7.6 Perspective of Entrance
(Author, 2016)

FLOOR PLANTER DESIGN

- 1 Medicinal Herbs (as specified by Margaret Roberts)
- 2 3D Printed Planting base container
- 3 Organic fibre composite shell



- 1 Air plants inserted into the vertical display
- 2 3D Printed Planting base container
- 3 Coconut husk felt kept moist to provide moisture to the plants
- 4 Wire mesh for plants to attach to



Figure 7.7. Air plants planting strategy (Author, 2016).



Figure 7.7. Perspective of point of view from Mezzanine (Author, 2016).

7.2 MATERIAL PALETTE



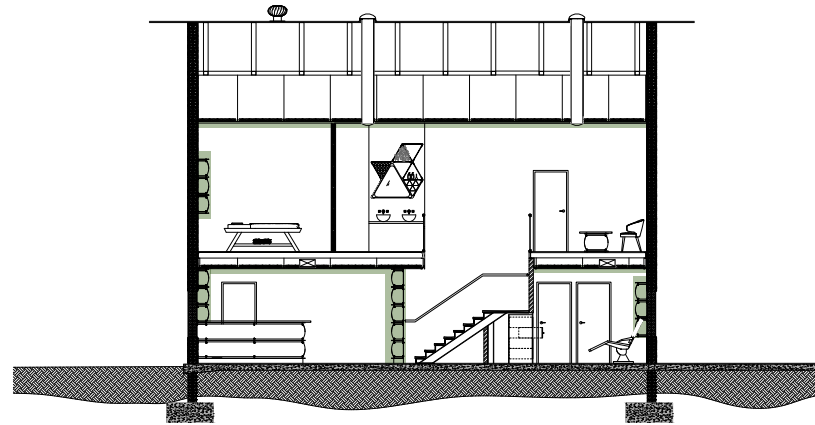
MATERIAL TEXTURE	MATERIAL SPECIFICATION	APPLICATION	DESIGN REQUIREMENTS	PROPERTIES	SOURCING	ENVIRONMENTAL IMPACT
FLOOR FINISH						
	POWER FLOATED SCREED FLOOR > Retail floor space Existing: 120mm power floated screed floor sealed with floor guard	GROUND FLOOR > Retail floor space	> The screed floor offers a smooth and natural finish to the retail space.	> Water resistant coating > Durable coating > Raw and natural finish	EXISTING	> Re-using existing flooring reduces material consumption and has no environmental impact
	LAMINATE TIMBER FLOOR EchoWood Deluxe Click Vinyl (Beech Sand Colour) > Click in system that can be deconstructed and reused	GROUND FLOOR > Treatment Area MEZZANINE > Waiting Area > Private Treatment Areas	> The look and feel of a timber floor adds warmth and a sense of comfort to the treatment areas. > The materiality of the timber floor also creates a non-visual connection with nature.	> Water resistant > Stain resistant > Durable & Resilient > Sound Proof > Low maintenance	LOCAL > WanabiWood (Boksburg, SA)	> EchoWood is Green Star certified and has a low environmental impact
	PORCELAIN TILE > Accessible Toilet MEZZANINE 300 x 600 3D Printed Natural Stone Full body R10	GROUND FLOOR > Accessible Toilet MEZZANINE > Ablution	> A porcelain tile with a natural stone finish is used to create bathroom facilities that have a visual connection with nature	> Non slip > Easy to clean > Non-porous	LOCAL > Union Tiles (Johannesburg, SA)	LEED Certified
WALL FINISH						
	EXPOSED BRICK WALL Exposed brick wall white washed with "Sure Coat Matt Acrylic" paint (Fiascon)	Existing wall structure	> The existing facebrick wall is white-washed to create a clean and refreshing surface that still adds a textural element to the space	> Durable > Robust > Sound absorbant	EXISTING	> Making use of the existing facebrick wall structure reduces material consumption through eliminating plastering
	DRYWALLS 15mm Gyproc SoundBloc Rhinoboard plastered and painted	MEZZANINE > Treatment area partition walls	> Sound absorbing drywall partitions offer lightweight partitioning systems that creates private enclosed areas	> Fire resistant > Sound insulation > Non combustible > Thermal insulation	LOCAL > Gyproc Saint Gobain (Centurion, SA)	> Gyproc Rhinoboard are Green Star certified and pose low environmental impact
	METRO WALL TILES 200 x 100 mm ceramic metro tile	MEZZANINE > Kitcheneette splash back	> The metro wall tiles create a fresh, clean and contemporary look and feel to the kitcheneette.	> Easy to clean > Durable (A-grade tile) > Stain resistant	LOCAL > Union Tiles (Johannesburg, SA)	> Contains recycled content and reduced carbon footprint
	PORCELAIN TILE > Accessible toilet and shower facilities MEZZANINE 300 x 600 3D Printed Natural Stone Full body R10	GROUND FLOOR > Accessible toilet and shower facilities MEZZANINE > Toilet and shower facilities	> A porcelain tile with a natural stone finish is used to create bathroom facilities that have a visual connection with nature	> Non slip > Easy to clean > Non-porous	LOCAL > Union Tiles (Johannesburg, SA)	LEED Certified
CEILING FINISH						
	SUSPENDED CEILING 9.5mm Gyproc Rhinoboard plastered and painted white	> Used throughout retail and treatment areas	> Rhinoboard is used for the ceiling - a lightweight and sustainable product easily manipulated to create the sloped suspended ceiling	> Fire resistant > Sound insulation > Non combustible > Thermal insulation	LOCAL > Gyproc Saint Gobain (Centurion, SA)	> Gyproc Rhinoboard are Green Star certified and pose low environmental impact
	TRANGULATED SKIN (Ceiling Installation) Calico 130gm African 100% Cotton with fire with retardant coating	> Used throughout retail and treatment areas	> The suspended ceiling installation is to provide a soft draped effect. A natural off-white material was chosen to bring a crisp and fresh feeling to the space.	> Durable > Versatile > Soft to touch > Fire retardant	LOCAL > Photogenic Sustainable Fabrics	> GOTS Certified Organic
FURNISHING						
	DISPLAY SYSTEM Organic lavender fiber composite with protein glue bond and waterproof sealant	> Used throughout retail and treatment areas	> The organic fiber composite creates a lightweight material that can be re-used as nutrient at the end of its lifecycle	> Lightweight > Bio-degradable > 100% Natural	Manufactured locally	> Bio-waste used as raw material > 100% biodegradable > Sequesters carbon
	COUNTER TOPS 20mm Caesarstone Quartz polished (Frosty Carina) > Skin bar counter top > Product testing counter top MEZZANINE > Waiting area bar counter top > Ablution counter tops	GROUND FLOOR > Skin bar counter top > Product testing counter top MEZZANINE > Waiting area bar counter top > Ablution counter tops	> Quartz countertops are used to create a clean and polished countertop surface	> Non-porous > Heat tolerant > Stain resistant	LOCAL > Caesarstone (Johannesburg, SA)	> Eco Specifier Certified > LEED Certified > Compliant with numerous Green Star Criteria
	COUNTER TOP 20mm Caesarstone Quartz polished (White Shimmer)	MEZZANINE > Kitcheneette	> Quartz countertops are used to create a clean and polished countertop surface	> Non-porous > Heat tolerant > Stain resistant	LOCAL > Caesarstone (Johannesburg, SA)	> Eco Specifier Certified > LEED Certified > Compliant with numerous Green Star Criteria
	ARMCHAIRS 660 x 890 x 760mm Caprice chair white with teak	MEZZANINE > Waiting area	> The caprice chairs provide comfortable and relaxing seating for guests who are in the waiting area	N/A	LOCAL > @Home (Johannesburg, SA)	N/A
	BAR STOOLS 280 x 280 x 650 > Combo oregon limber bar stools	MEZZANINE > Waiting area bar counter seating	> The limber bar stools have a triangulated leg structure which resonates with the triangulated display system	N/A	LOCAL > Eco Furniture Design (Woodstock, SA)	> Furniture contains recycled content
SANITARY FITTINGS						
	HIGH EFFICIENCY TOILET 4.8 L Flush Concealed cistern toilet	GROUND FLOOR > Accessible bathroom MEZZANINE > Communal Ablution	> A high efficiency/ low-flow toilet is specified to reduce water consumption in the abluition facilities	N/A	LOCAL Bathroom Bazaar (Pretoria, SA)	> Reduced water consumption
	TAPS > Tap fitting to resemble laboratory taps > Low flow aerator fitting used to reduce water flow	GROUND FLOOR > Product testing area MEZZANINE > Hand wash area	> A high efficiency/ low-flow aerator is specified to reduce water consumption in the abluition facilities	N/A	LOCAL Bathroom Bazaar (Pretoria, SA)	> Reduced Water Consumption
	SHOWER HEAD EcoSmart Raindance Showerhead 2L/min	GROUND FLOOR > Accessible bathroom MEZZANINE > Communal shower area	> A high efficiency/ low-flow shower head is specified to reduce water consumption in the abluition facilities	N/A	LOCAL Bathroom Bazaar (Pretoria, SA)	Reduced Water Consumption

Figure 7.8. Collage of material selection (Author, 2016).

7.3 SERVICES

7.3.1 ACOUSTICS

SECTION A - ACOUSTIC APPLICATION



G/F ACOUSTIC APPLICATION

MEZZANINE ACOUSTIC APPLICATION

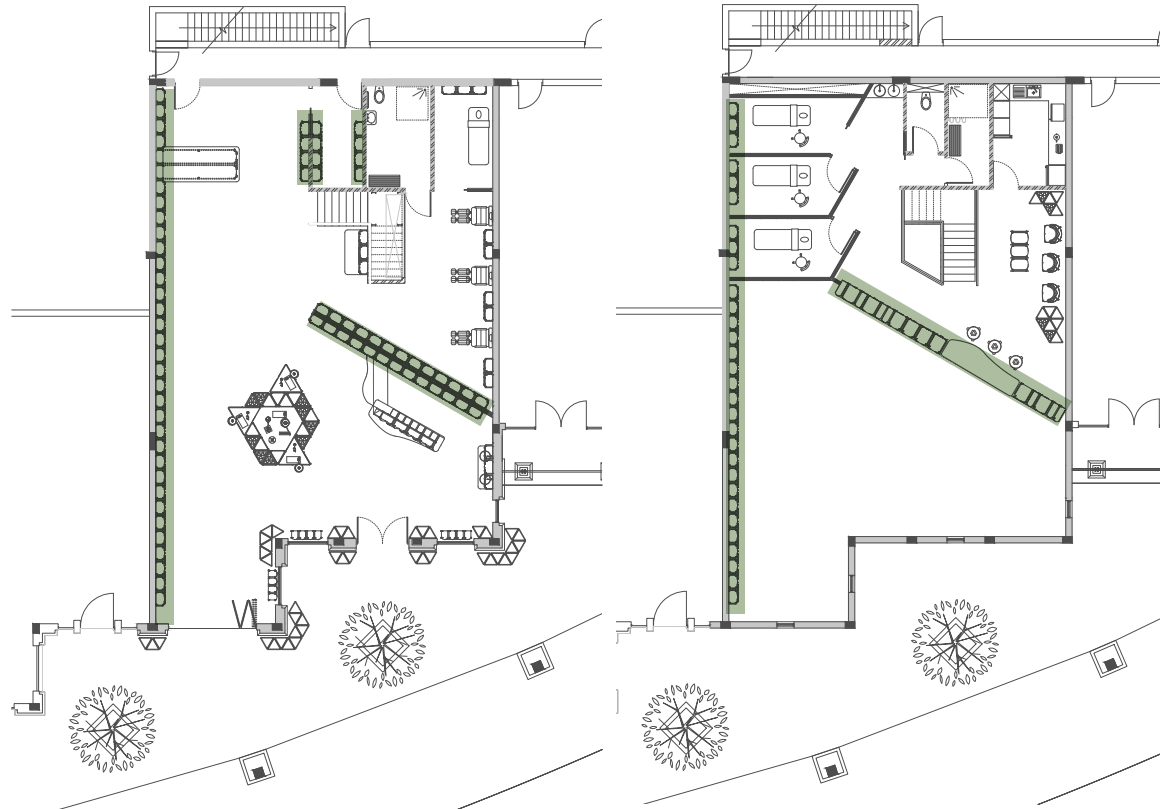


Figure 7.9. Diagram showing acoustic considerations (Author, 2016).

7.3.2 DAYLIGHT STRATEGY

In order to maximise the benefits of daylight in the interior space, the design strategy has made provision for SolaTubes which will reduce the artificial lighting required.

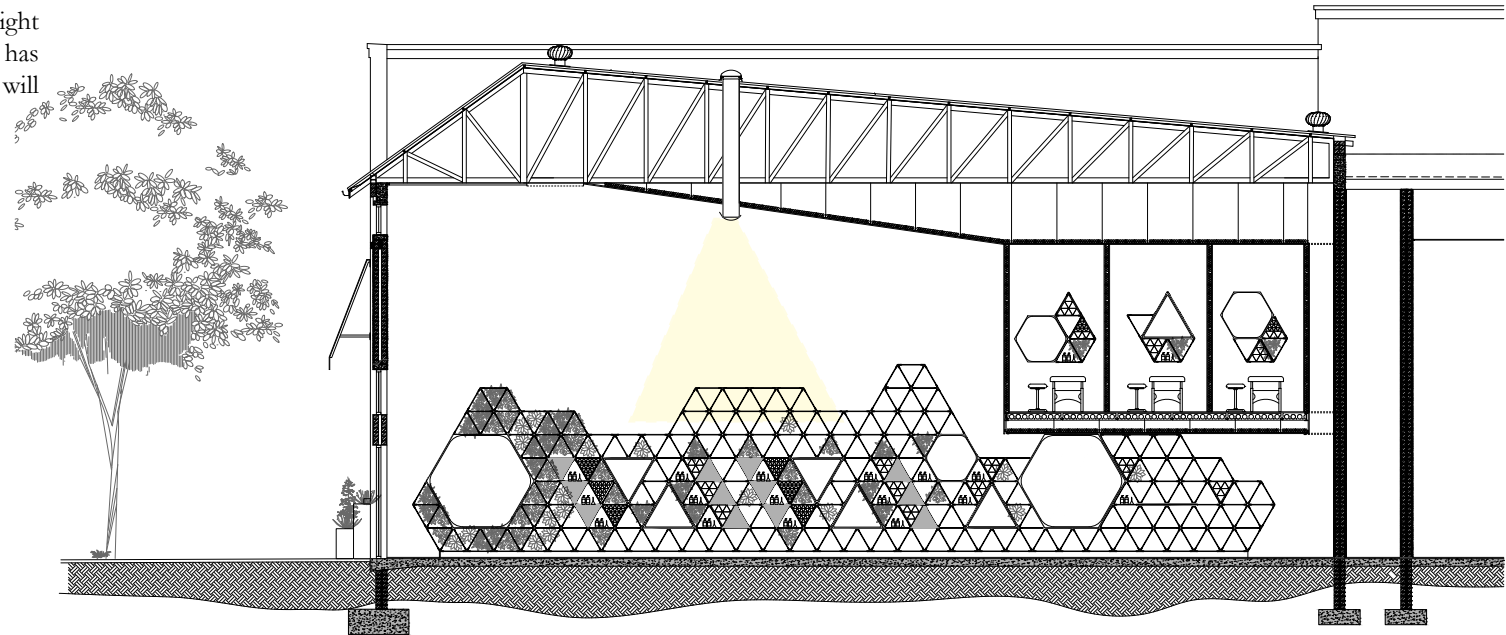


Figure 7.10. Diagram showing passive lighting strategy (Author, 2016).

Solatube 330DS Specifications

(530mm diameter) Daylighting System with 600 x 600mm transition box and diffuser

Roof Mounted Tubular Daylighting System with UV and Impact resistant Inner Dome, Spectralight Infinity 99.7% Spectral reflectivity solid tubing with ceiling level Optiview Dual Glazed diffuser assembly, transferring sunlight to interior spaces.

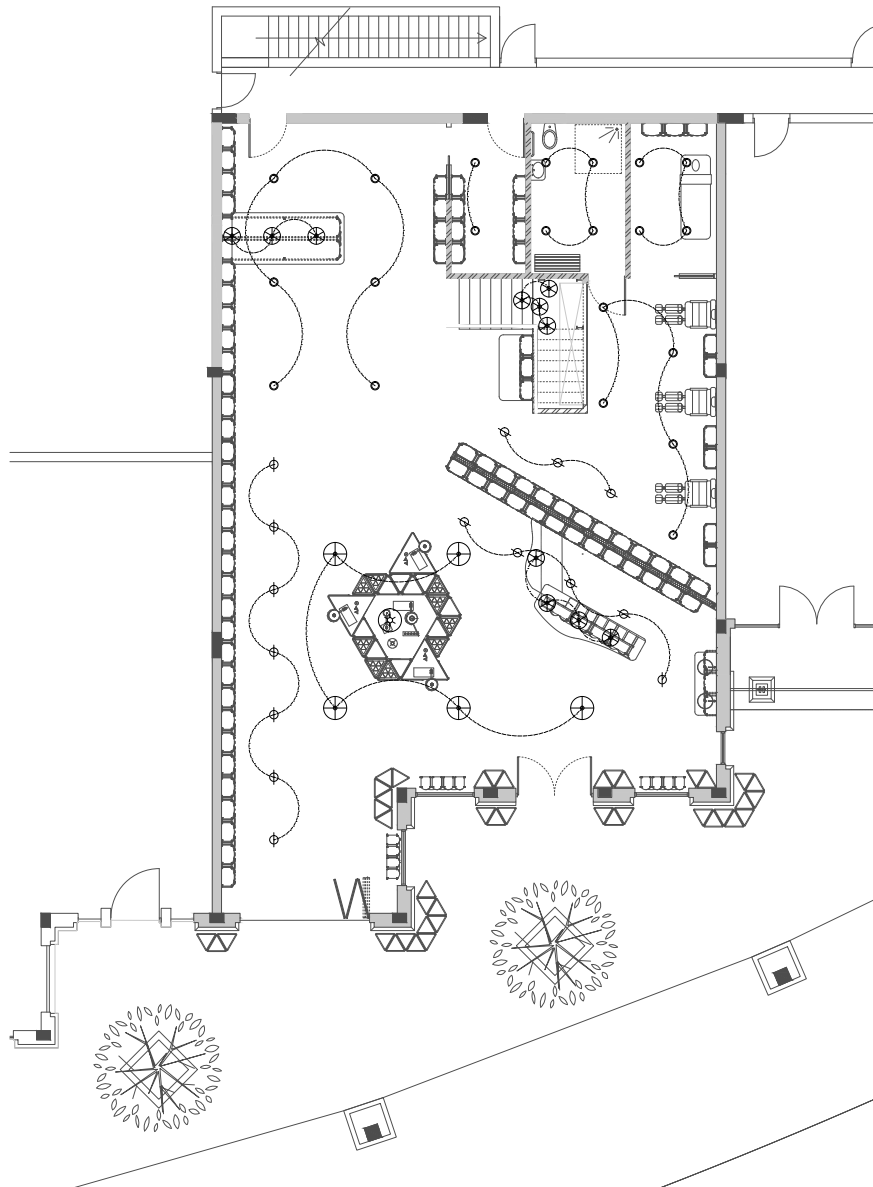


Figure 7.11. Solatube image and specifications (Solatube, 2016).

ARTIFICIAL LIGHTING SPECIFICATIONS

SYMBOL							
APPLICATION	Accent Lighting: > Window Displays	Accent Lighting: > Vertical Displays > Floor Display	General lighting (GF)	Accent Lighting: > Above Skin Bar > Above POS/Reception > Above Stairs	Undercounter lighting	General lighting: > Under mezzanine > Ablution > Kitchenette	Soft General Lighting: > Treatment Areas > Waiting Area
LUMINAIRE DESCRIPTION	LED Spotlights 50mm diameter	Tension wire spotlights	Large industrial pendant	Bentwood pendant lights	LED Strip lights	Adjustable downlights	Wall mounted light
LUMINAIRE							
LAMP DESCRIPTION	100mm Glimball downlight 45 adjustable tilt	100mm Glimball downlight 45 adjustable tilt	125mm LED Smoked glass globe with LED filament technology	125mm LED Smoked glass globe with LED filament technology	5000mm LED Strip Light	100mm Glimball downlight 45 adjustable tilt	LED Filament E14 Candles Dimmable
LAMP							
COLOUR RENDERING [K]	5000K	5000K	5000K	5000K	3500K	2700K	2700K
QUANTITY	8	20	5	10	6	29	8
lm/LAMP	65lm	65lm	150lm	150lm	85lm	65lm	70lm
WATTAGE	5W	5W	2W	2W	24W	2W	4W

G/F ARTIFICIAL LIGHTING



MEZZANINE ARTIFICIAL LIGHTING

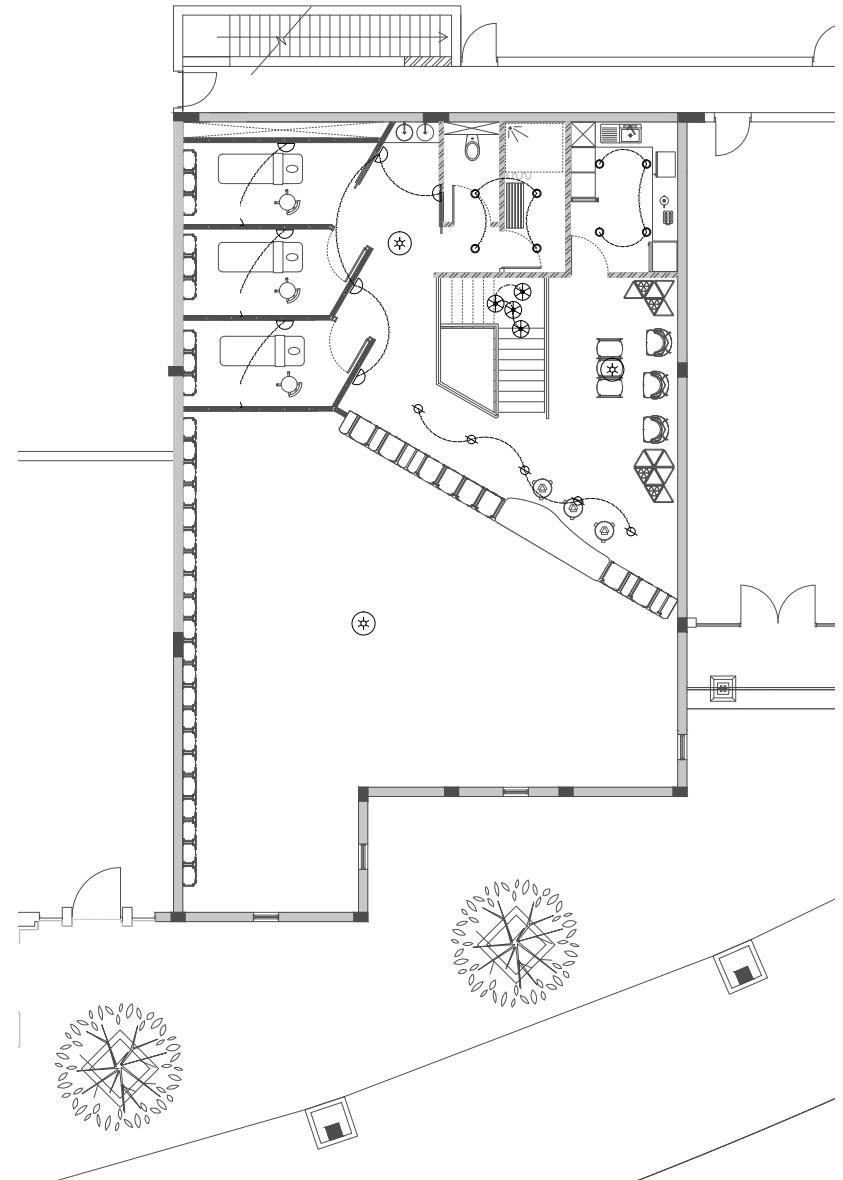


Figure 7.12. Artificial lighting plan
(Author, 2016).

7.3.3 PASSIVE VENTILATION STRATEGY

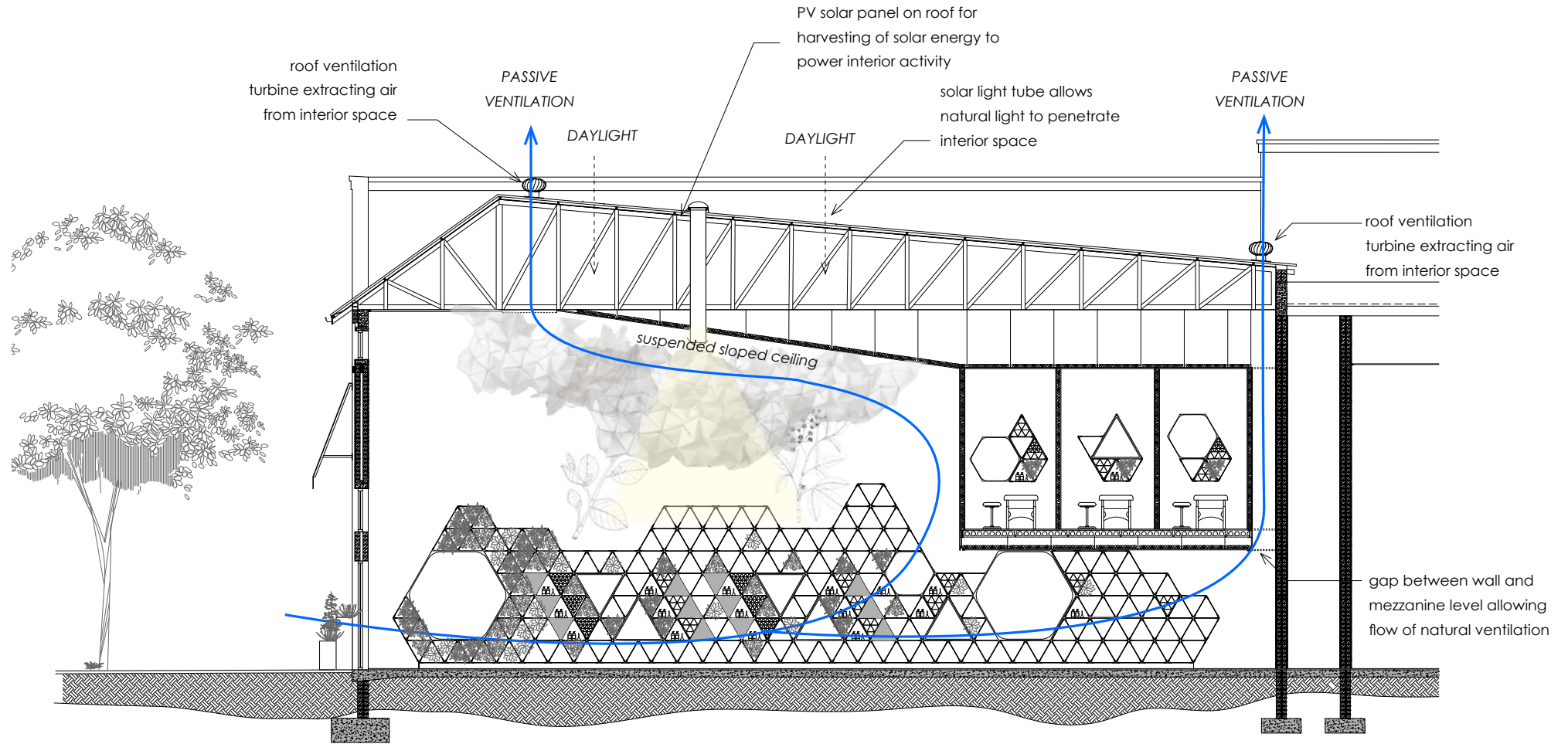
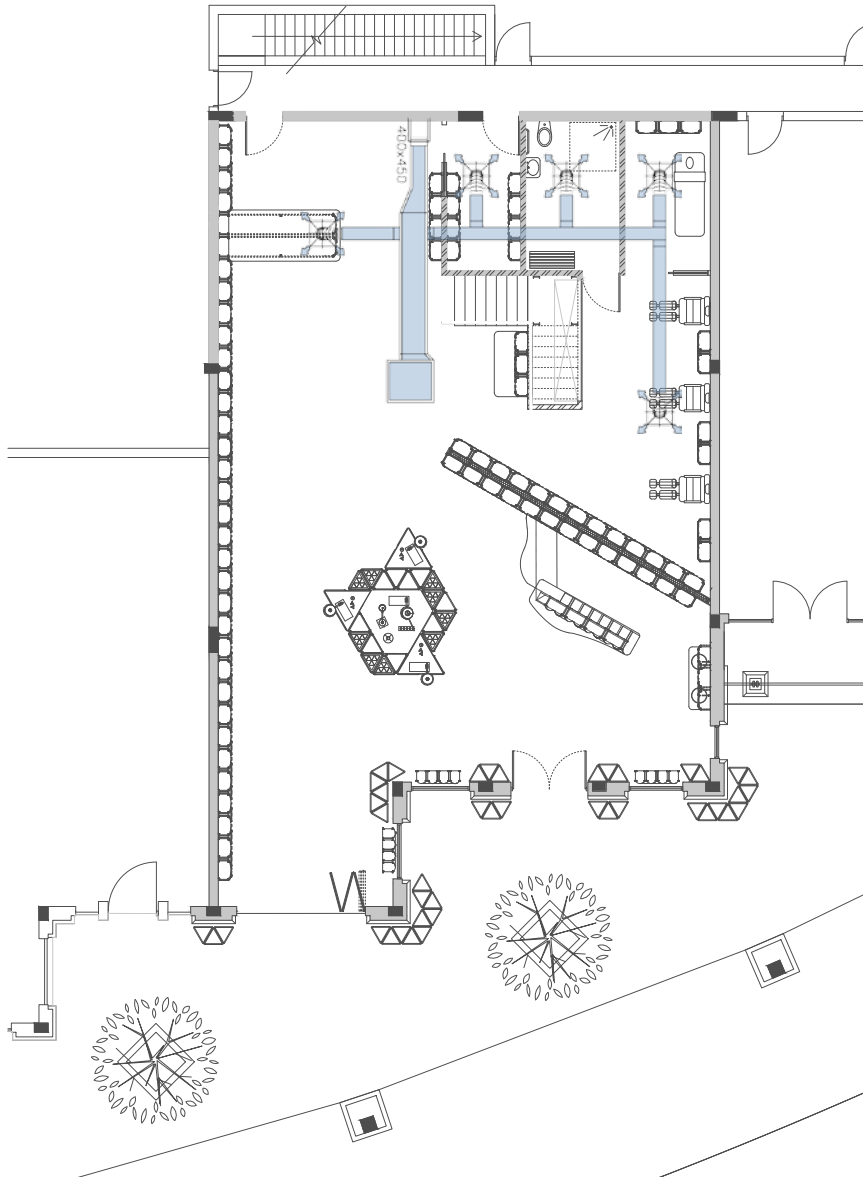


Figure 7.13. Diagram showing passive systems design (Author, 2016).

G/F ARTIFICIAL VENTILATION



MEZZANINE ARTIFICIAL VENTILATION

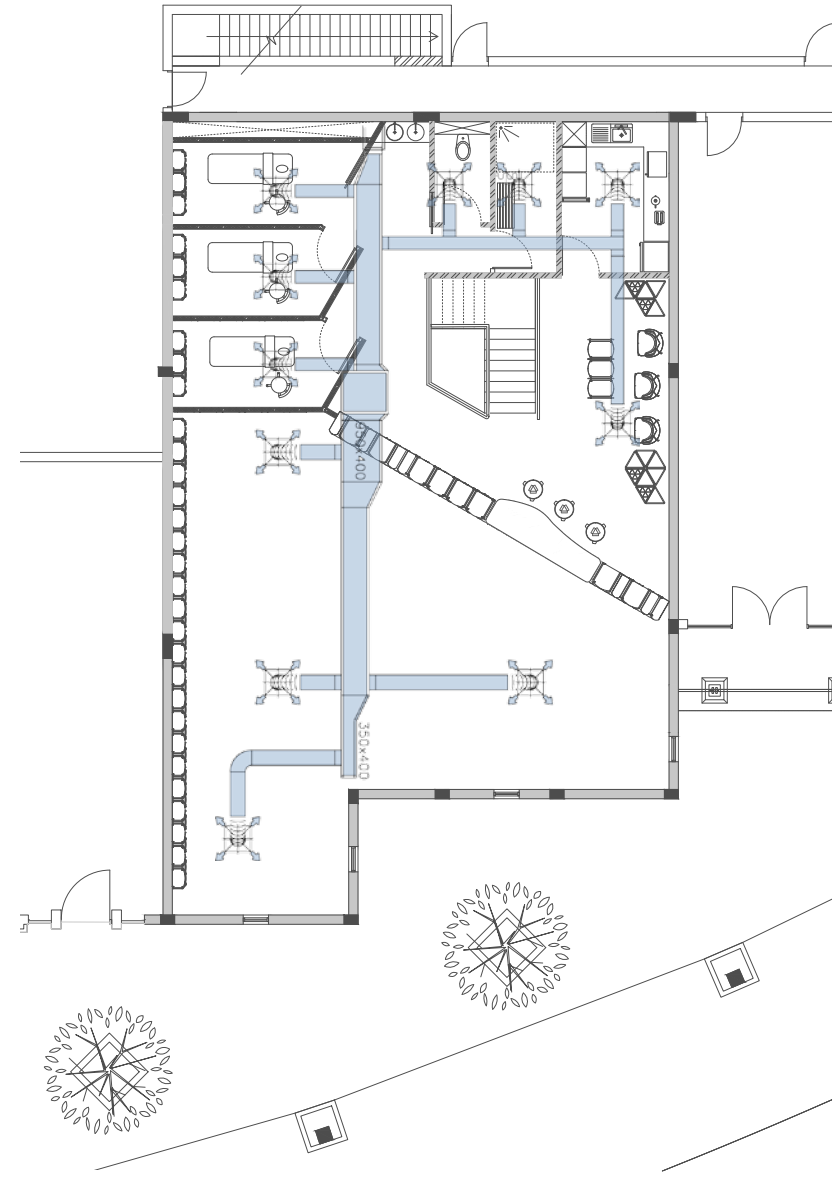


Figure 7.14. Artificial lighting plan
(Author, 2016).

7.4 DETAIL INVESTIGATION OF DISPLAY DESIGN

CONFIGURATION OF PACKAGING
WITHIN TRIANGULATED DISPLAY

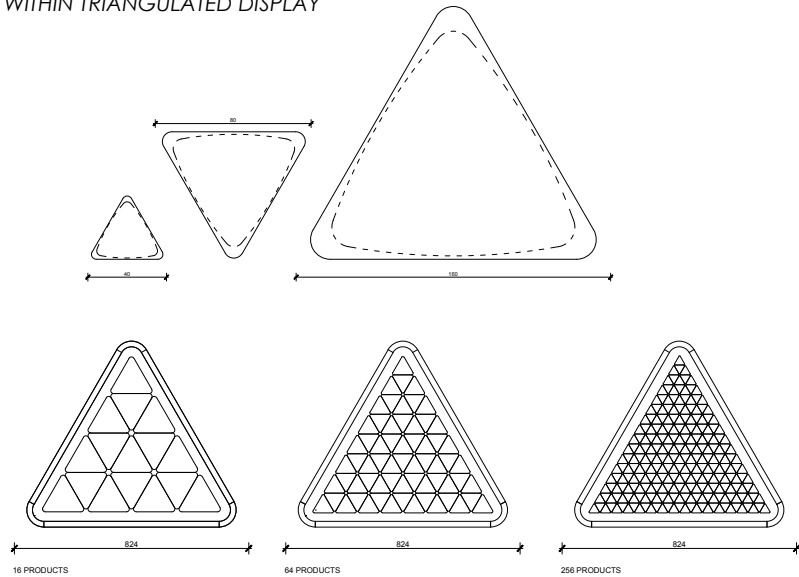


Figure 7.15. Packaging within display system (Author, 2016).

AXONOMETRIC:
CONFIGURATION OF TRIANGULATED DISPLAY

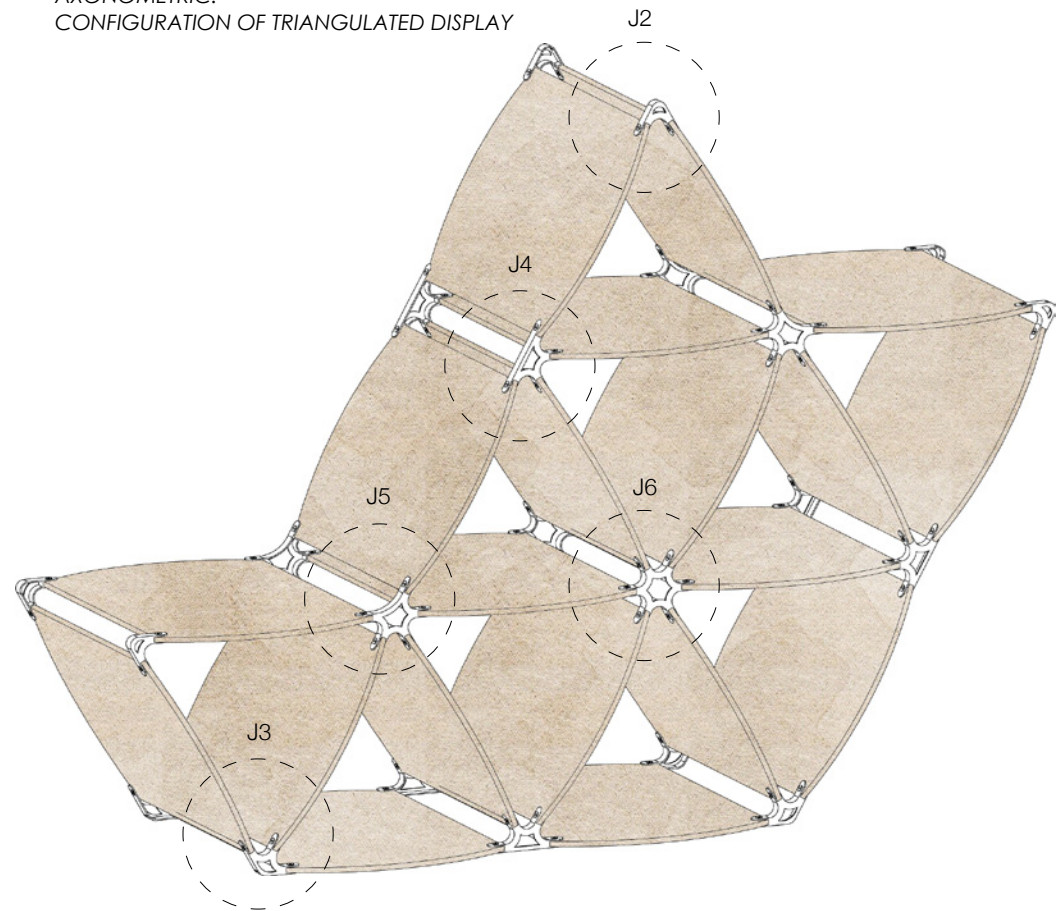


Figure 7.17. Axonometric of Vertical Display (Author, 2016).

Figure 7.16. (Left) Vertical Display Grid (Author, 2016).

CONNECTION JOINTS

DISPLAY PANELS SHAPE

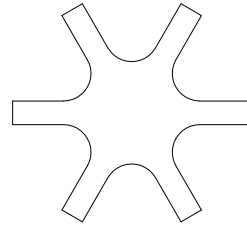
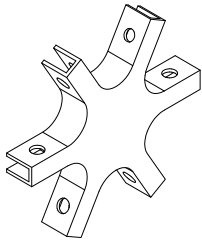
ITERATION

AXONOMETRIC

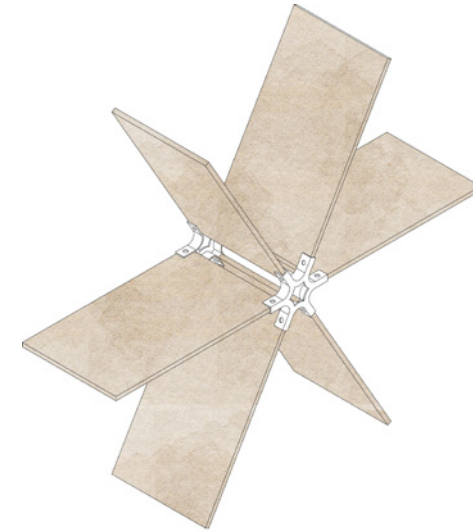
FRONT ELEVATION

ITERATION

1



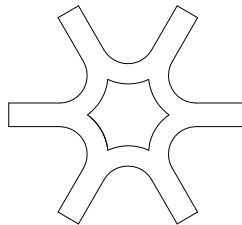
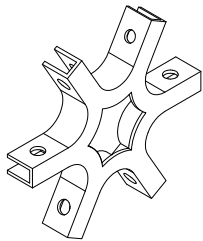
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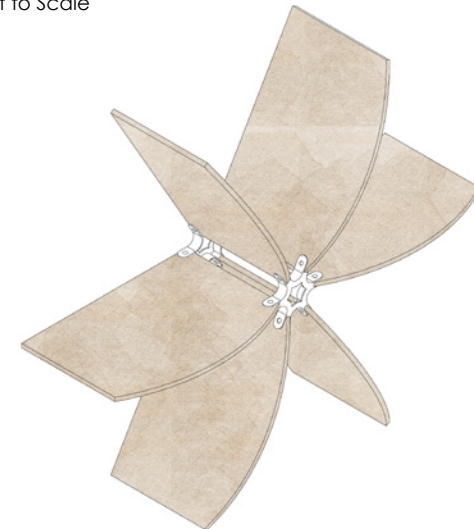
J6: 6-Point Display Joint Connection
Not to Scale

DETAIL 1_FRONT ELEVATION
J6: 6-Point Display Joint Connection
Not to Scale

2



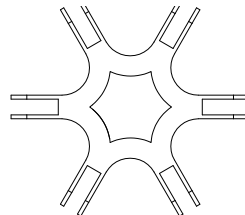
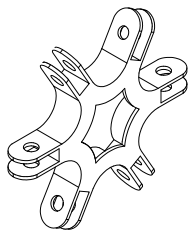
2



DETAIL 1_FRONT ELEVATION
J6: 6-Point Display Joint Connection
Not to Scale

DETAIL 1_FRONT ELEVATION
J6: 6-Point Display Joint Connection
Not to Scale

3



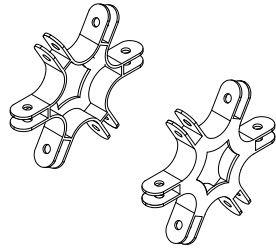
DETAIL 1_FRONT ELEVATION
J6: 6-Point Display Joint Connection
Not to Scale

Figure 7.18. Iteration of connection joints and display panels (Author, 2016).

3D PRINTED JOINT CONNECTIONS_AXONOMETRIC

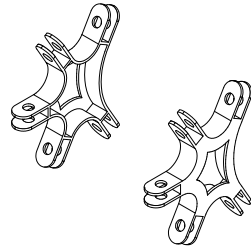
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J6



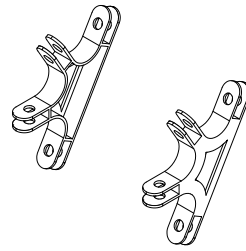
3D PRINTED PET RECYCLED
PLASTIC 6-POINT JOINT

J5



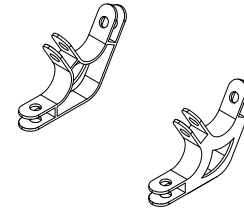
3D PRINTED PET RECYCLED
PLASTIC 5-POINT JOINT

J4



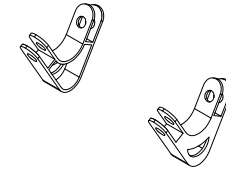
3D PRINTED PET RECYCLED
PLASTIC 4-POINT JOINT

J3



3D PRINTED PET RECYCLED
PLASTIC 3-POINT JOINT

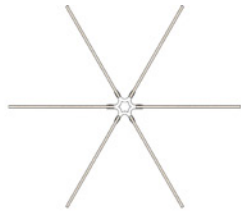
J2



3D PRINTED PET RECYCLED
PLASTIC 2-POINT JOINT

3D PRINTED JOINT CONNECTIONS_FRONT ELEVATION

Not to Scale



3D PRINTED JOINT CONNECTIONS_AXONOMETRIC

Not to Scale



Figure 7.19. Detailing of connection joints (Author, 2016).

KIT OF PARTS

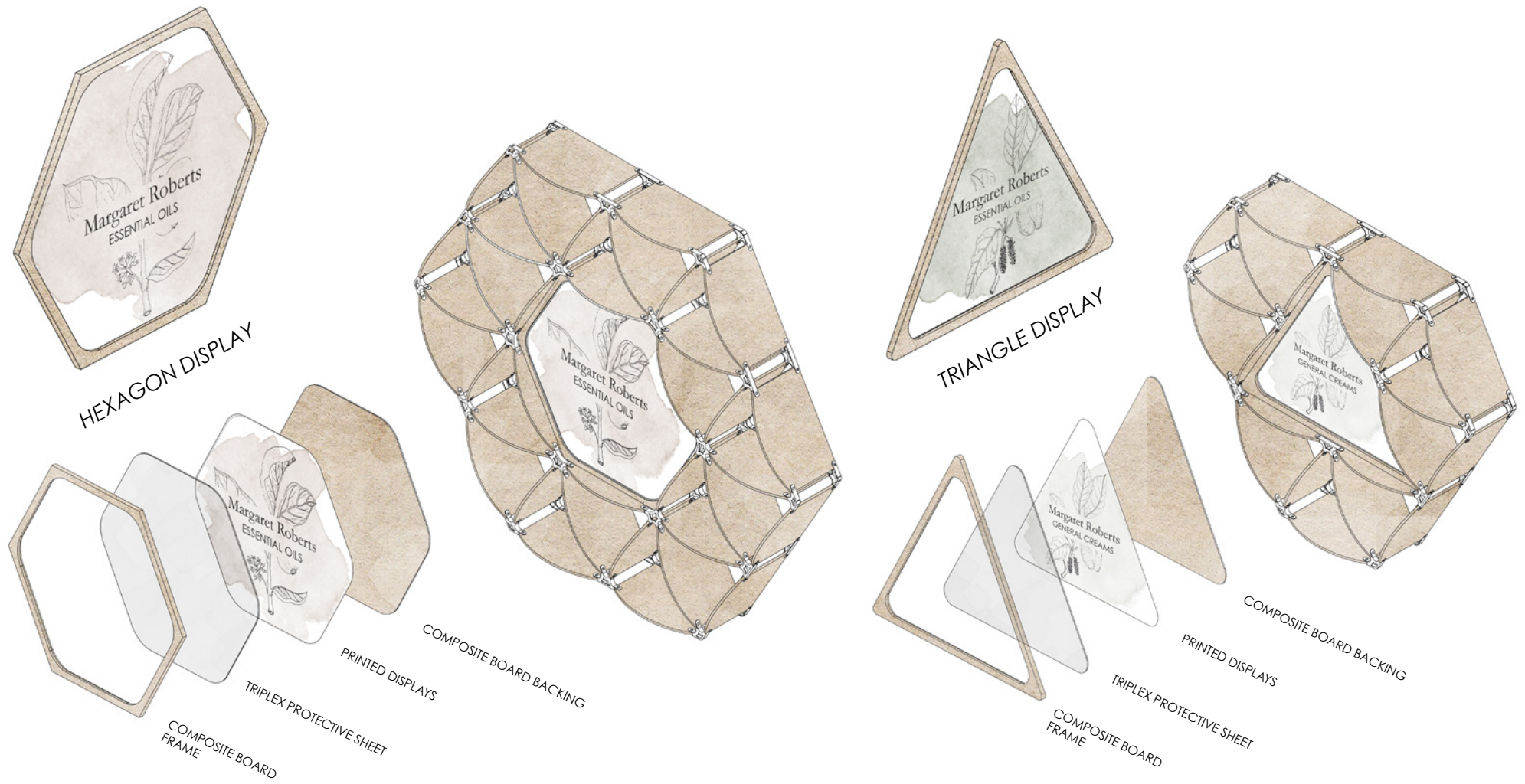
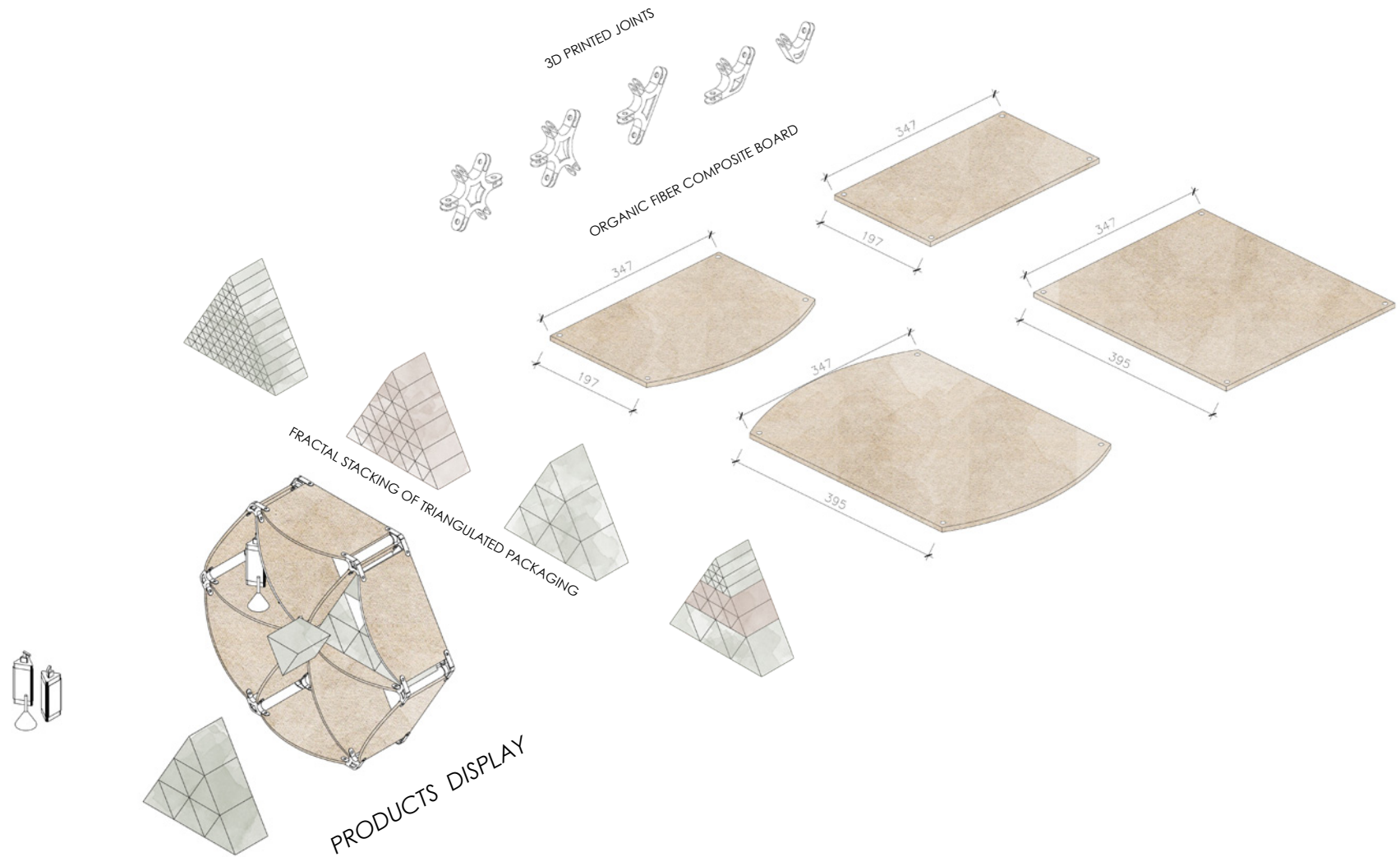


Figure 7.20. Detailing of 'Kit of Parts'
(Author, 2016)



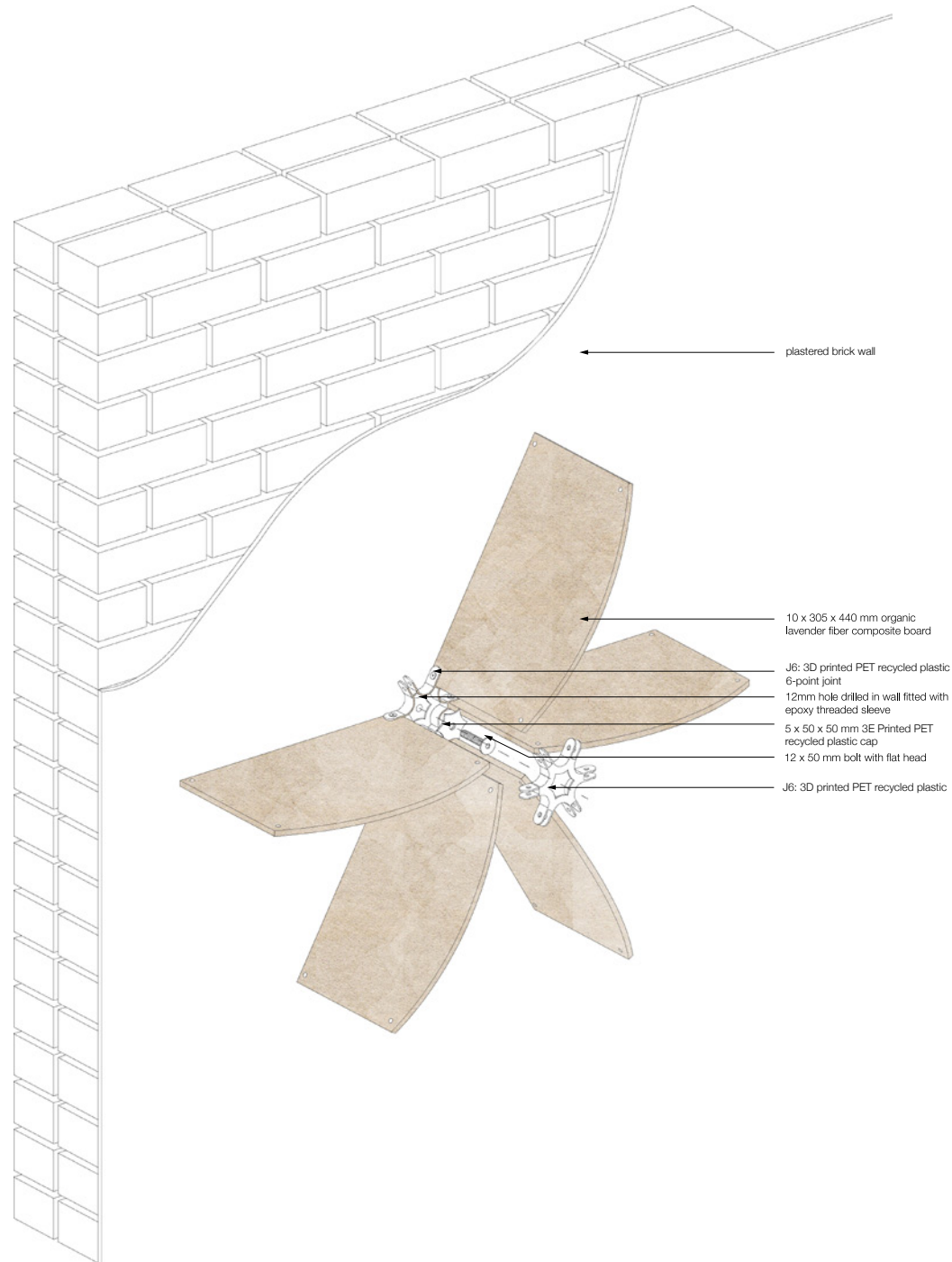


Figure 7.21. Axonometric of vertical display to wall connection (Author, 2016).

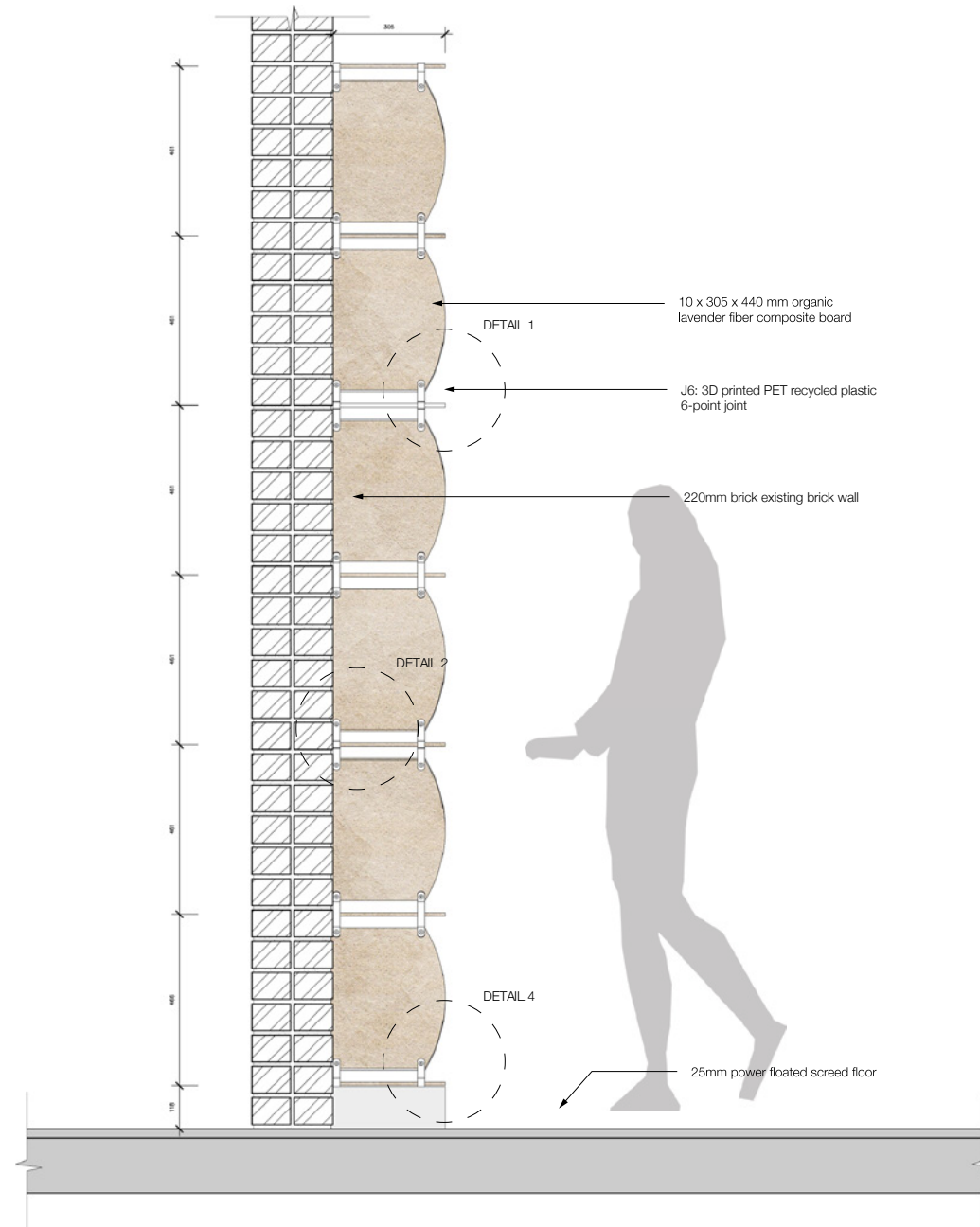
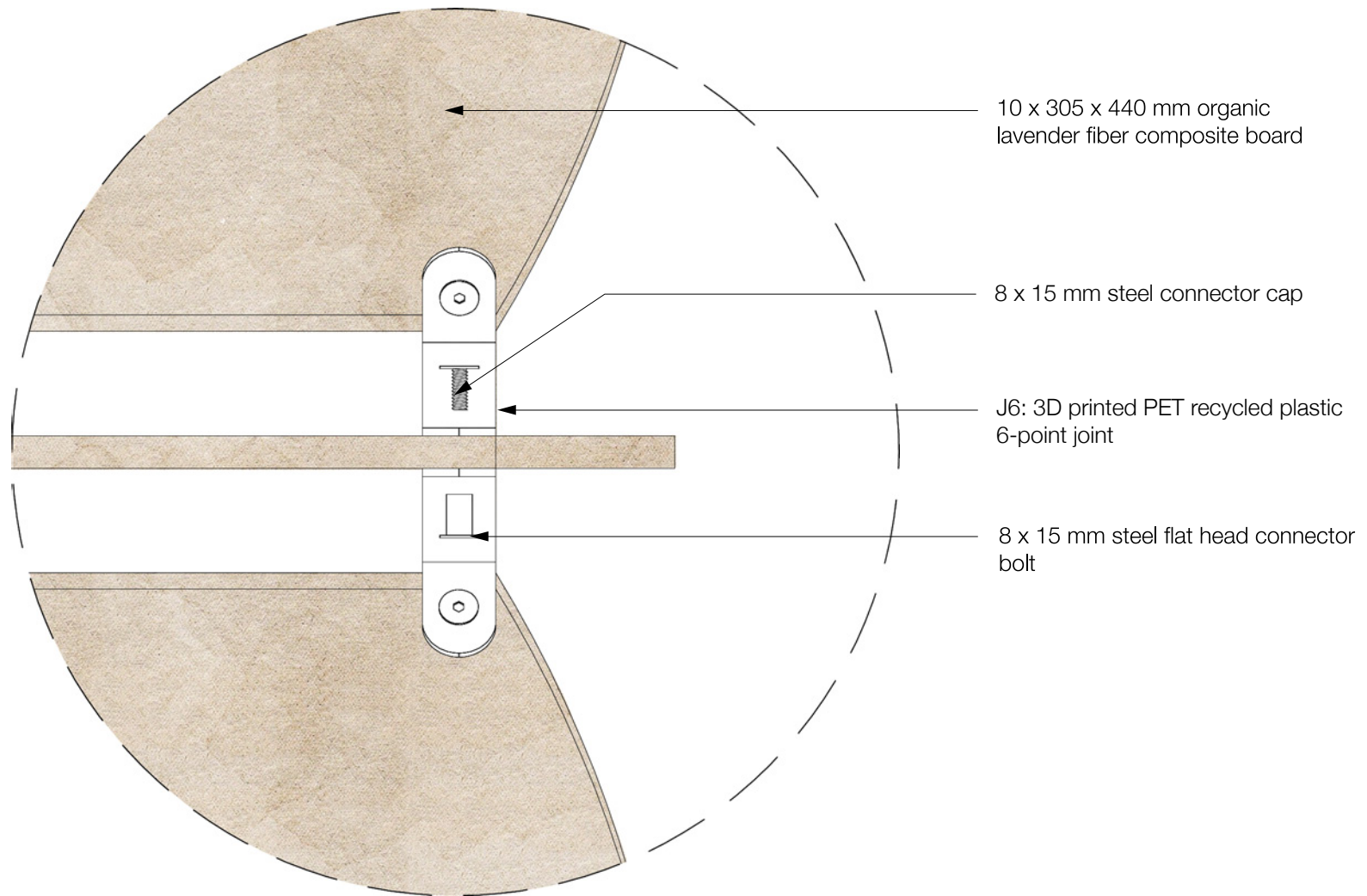
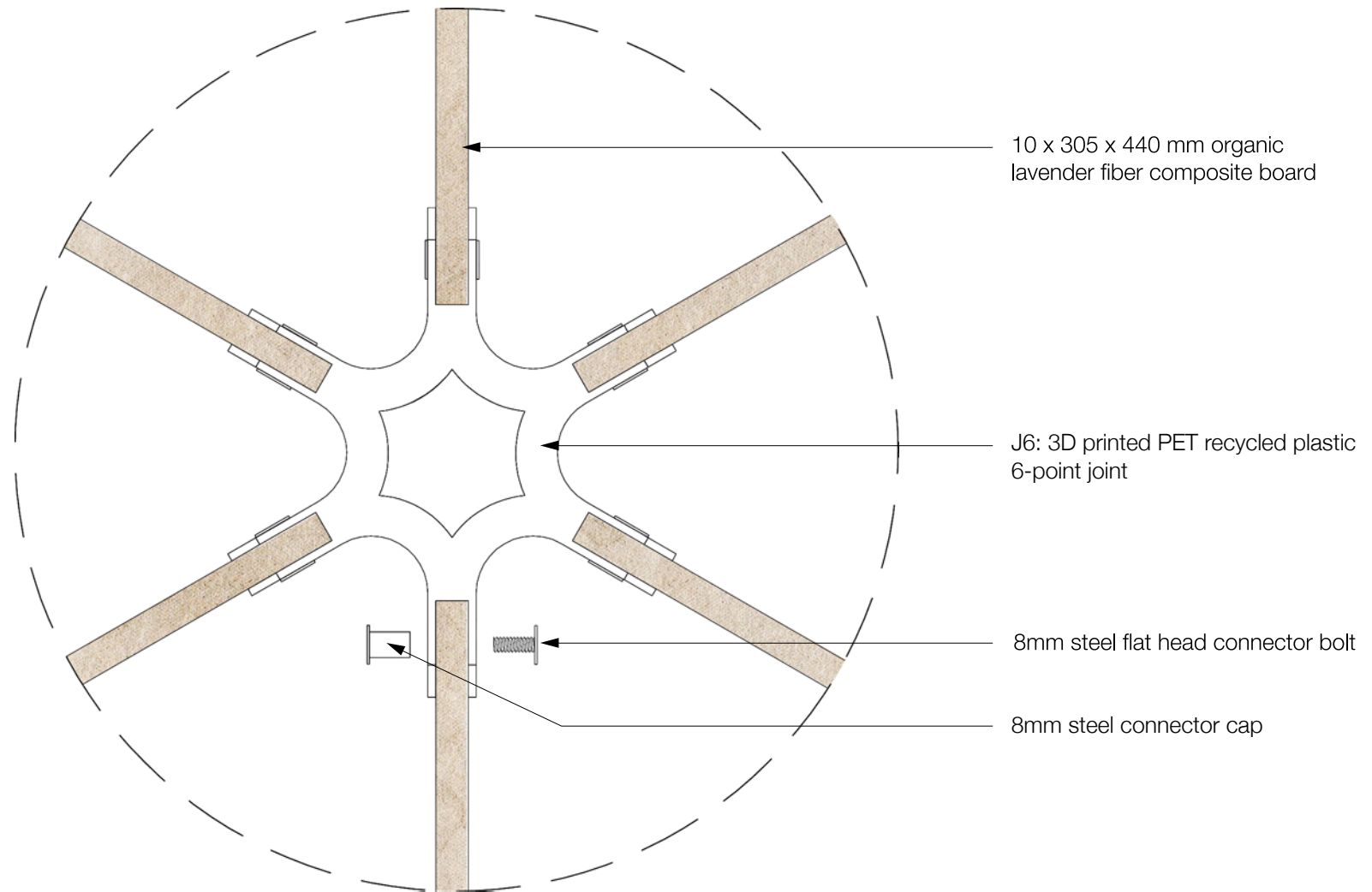


Figure 7.22. Section through vertical display
(Author, 2016).



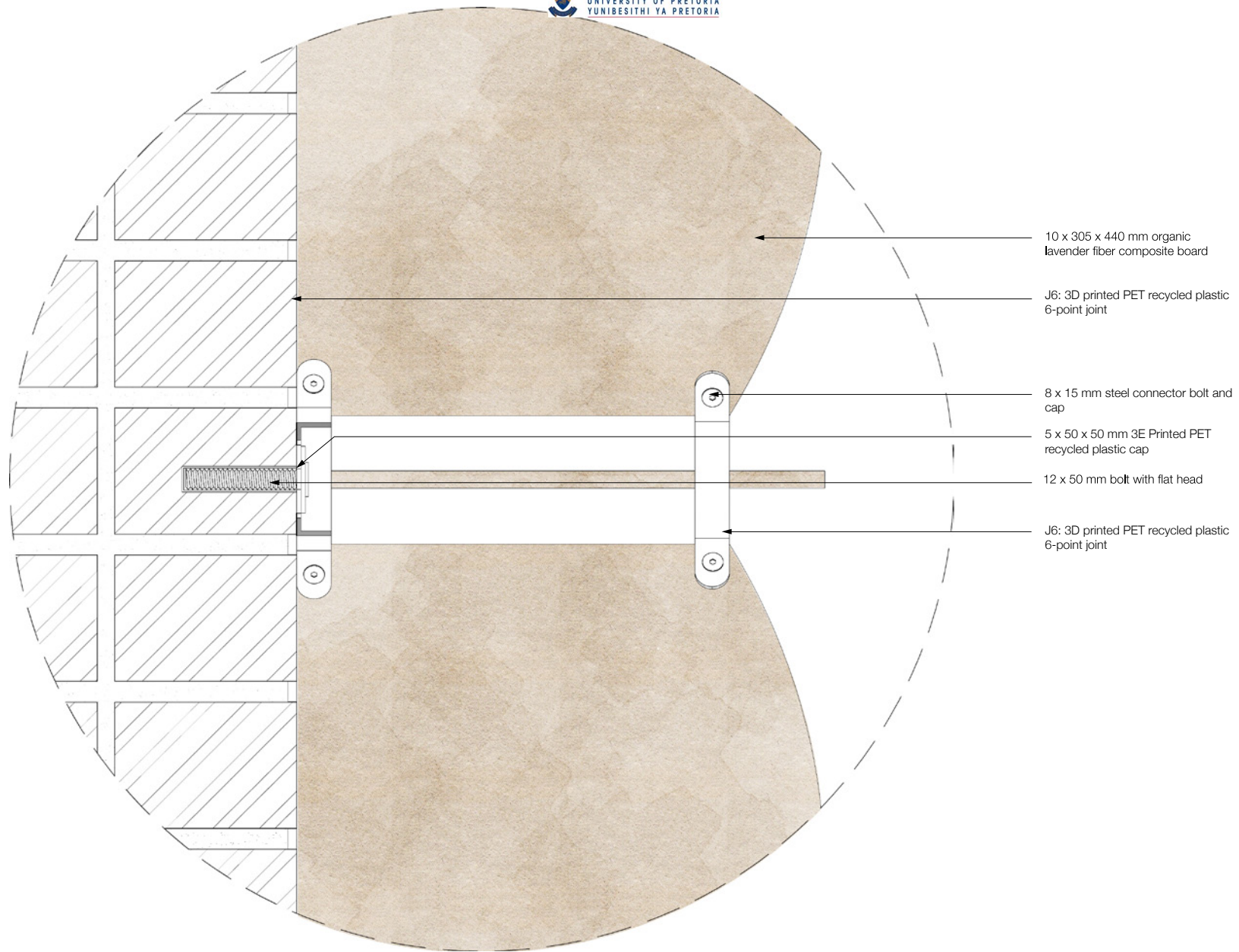
DETAIL 1
VERTICAL DISPLAY CONNECTION DETAIL
not to scale

Figure 7.23. Detail 1: Vertical display
Connection detail (Author, 2016)



DETAIL 1
VERTICAL DISPLAY CONNECTION DETAIL FRONT ELEVATION
not to scale

Figure 7.24. Detail 1: Front Elevation
(Author, 2016).



DETAIL 2
VERTICAL DISPLAY WALL CONNECTION
not to scale

Figure 7.25. Detail 2: Vertical display wall connection (Author, 2016)

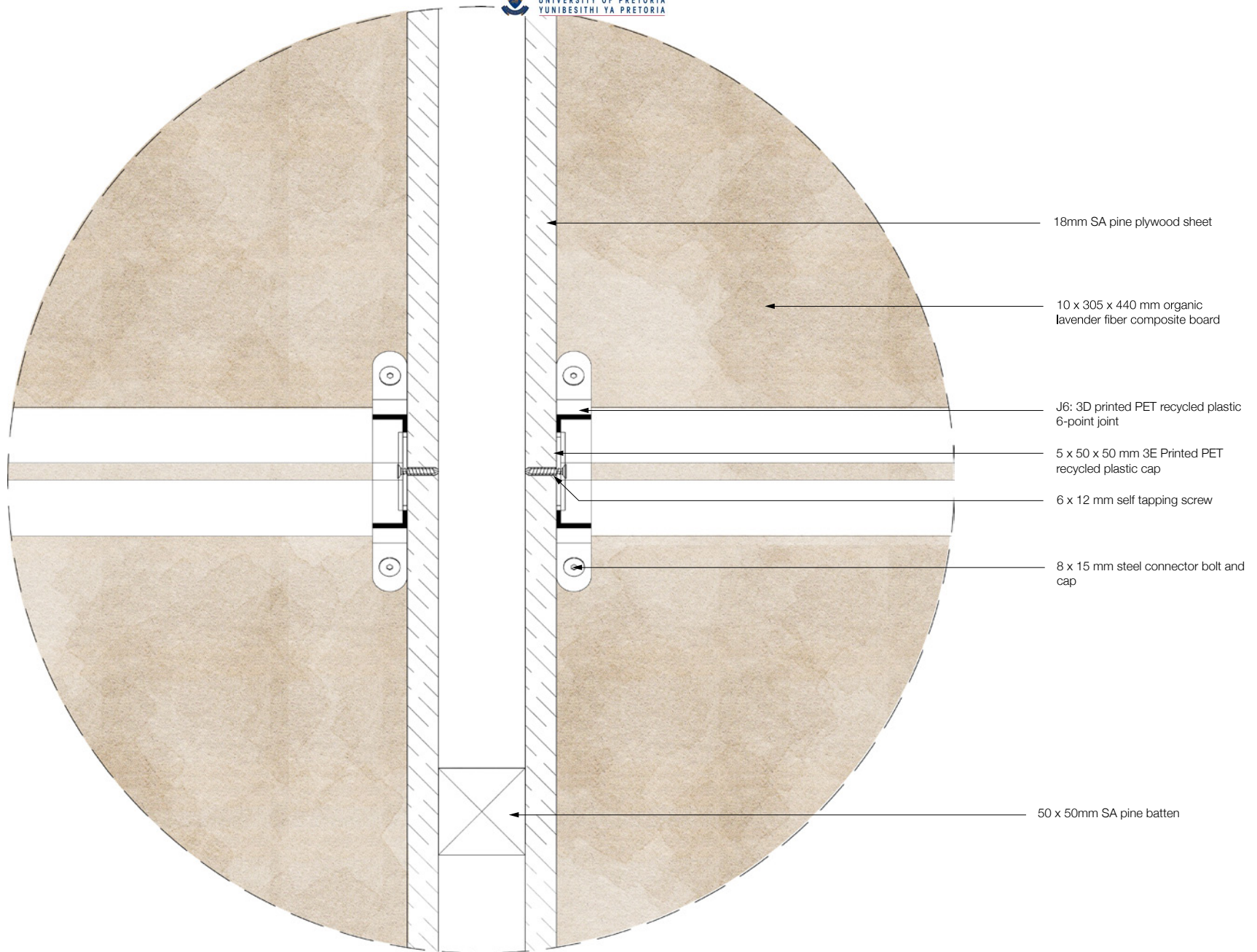
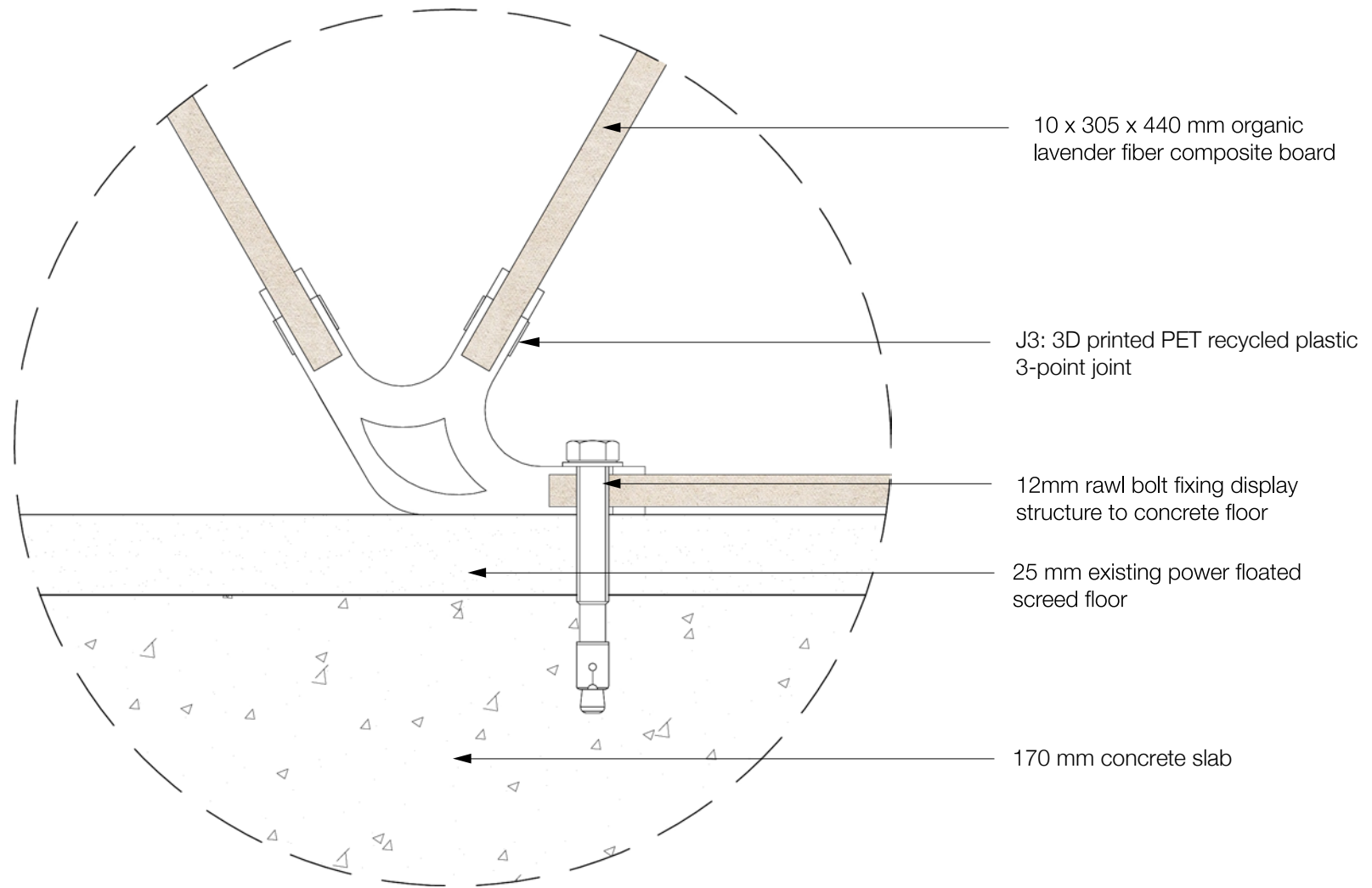


Figure 7.26. Detail 3: Dry wall connection (Author, 2016).

DETAIL 3
DRY WALL CONNECTION
not to scale



DETAIL 4
FLOOR CONNECTION
not to scale

Figure 7.27. Section through vertical display (Author, 2016).

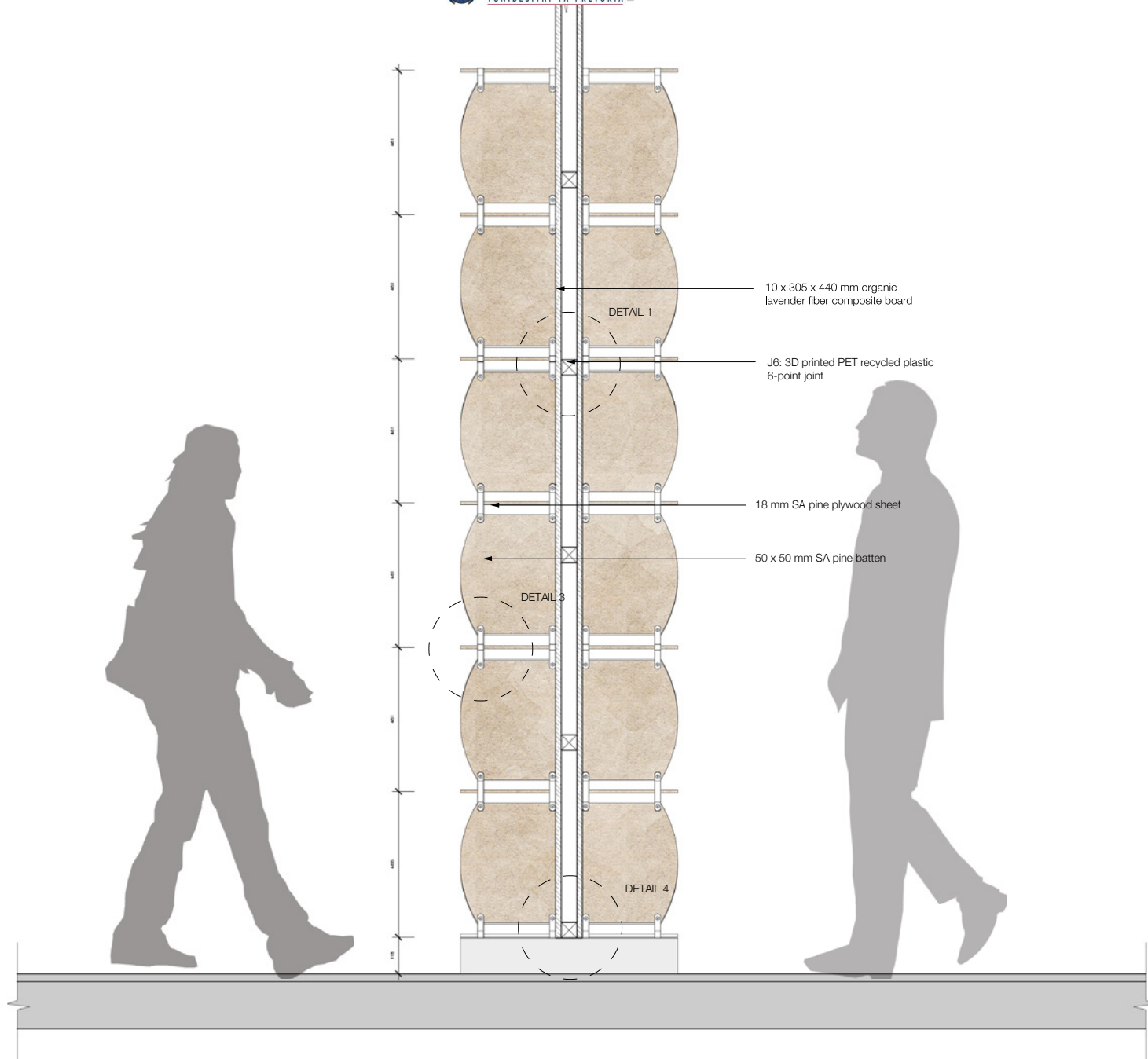


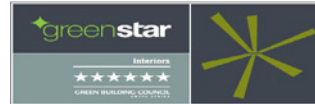
Figure 7.28. Section through vertical display behind Skin Bar (Author, 2016)

VERTICAL DISPLAY - DRY WALL CONNECTION
not to scale

7.5 ENVIRONMENTAL POTENTIAL ASSESSMENTS

7.5.1 GBCSA GREEN STAR RATING

The GBCSA Green Star Interior rating tool was used to assess the environmental impact of the proposed design solution. The design of Margaret Roberts skincare servicescape achieved a 6 Star World Leadership rating, which was achieved through the implementation of Biomimicry and Biophilia design principles.



Score Sheet

Green Star SA - Interiors v1

Credit	Credit Name	Aim of Credit	Points Available	Points Targeted
Management Category				
Int-Man-1	Green Star SA Accredited Professional	To encourage and recognise the engagement of professionals who can assist the project team with the integration of Green Star SA aims and processes throughout all stages of a fitout's design and construction phases.	1	1
Int-Man-2	Commissioning & Tuning	To recognise effective commissioning and tuning processes during a project's design and construction phase that ensure all services and installations can operate to their optimal design potential.	2	2
Int-Man-3	Occupant Users' Guide	To encourage and recognise the provision of information to fitout owners and users that helps them understand a project's systems, environmental attributes, and maintenance requirements.	1	1
Int-Man-4	Environmental Management	To encourage and recognise the adoption of a formal environmental management system in line with established guidelines during construction.	1.5	1.5
Int-Man-5	Construction Waste Management	To recognise and encourage management practices that minimise the amount of demolition and construction waste going to disposal.	2	2
Int-Man-6	Work space efficiency	To recognise the design of workspaces that provide spatial efficiency and improve productivity and occupant performance.	2	2
Int-Man-7	Green Lease	To encourage and encourage collaboration between the building owner and tenants in order to manage and operate the building along environmentally sustainable principles whilst realising mutual benefit.	2	2
Int-Man-8	Learning Resources	To encourage and recognise sustainability initiatives implemented in the development as learning resources for building users and visitors.	1	1
Management credits			12,5	12,5
Indoor Environmental Quality Category				
Int-IEQ-1	Quality of Internal Air	To encourage and recognise projects that provide high quality air to occupants.	4	3
Int-IEQ-2	Thermal Comfort	To encourage and recognise fitouts that achieve a high level of thermal comfort.	2	2
Int-IEQ-3	Lighting Comfort	To encourage, recognise and reward well-lit spaces that provide appropriate levels of lighting comfort to occupants.	3	2
Int-IEQ-4	Visual Comfort	To recognise the delivery of well daylight spaces that provide high levels of visual comfort and views to fit-out occupants.	3	3
Int-IEQ-5	Acoustic Quality	To encourage and recognise buildings that are designed to provide appropriate acoustic qualities to enable the functionality of the space.	2	2
Int-IEQ-6	Reduced Exposure to Air Pollutants	To recognise projects that safeguard occupant health through the reduction in internal air pollutant levels.	5	4
Int-IEQ-7	Mould Prevention	To encourage and recognise the design of services that eliminates the risk of mould growth and its associated detrimental impact on occupant health.	0,5	0,5
Int-IEQ-8	Ergonomics	To recognise the choice of equipment and design of spaces that promotes wellbeing, efficiency and effectiveness.	2	2
Int-IEQ-9	Indoor Plants	To encourage and recognise the installation of indoor plants that improve indoor environment quality and also provides occupants with a connection to nature.	1,5	1,5
Indoor Environmental Quality credits			23	20
Energy Category				
Int-Ene-1	Greenhouse Gas Emissions	To encourage and recognise projects that minimise the greenhouse gas emissions associated with tenant fit outs.	12	8
Int-Ene-2	Electrical Sub-metering	To encourage and recognise projects that minimise the greenhouse gas emissions associated with tenant fit outs.	2	2
Energy credits			14	10

Transport Category				
Int-Tra-1	Commuting Mass Transport	To encourage and recognise developments that select a site near public transport and facilitate the use of mass transport.	1	0
Int-Tra-2	Local connectivity	To encourage and recognise projects that are located within walking distance of high quality amenities such as shops and parks, thus reducing private vehicle use and the associated negative environmental impacts.	1	1
Int-Tra-3	Alternative Transport	To encourage and recognise projects that promote and facilitate the use of alternative modes of transport over the use of private cars.	2	0
Transport credits			4	1
Water Category				
Int-Wat-1	Potable Water	To recognise projects that minimise potable water consumption.	6	3
Int-Wat-2	Water Sub-metering	To encourage and recognise the installation of sub-metering to facilitate on-going management of water consumption.	2	2
Water credits			8	5
Materials Category				
Int-Mat-1	Operational Waste Management	To encourage and recognise developments which include space and an operational waste management plan that facilitates the recovery of resources used within the developments to reduce waste going to disposal.	2	2
Int-Mat-2	Furniture	To recognise the selection of fit-out furniture that has a reduced environmental impact when compared to available alternatives.	8	5
Int-Mat-3	Assemblies	To recognise the selection of fit-out assemblies that have a reduced environmental impact when compared to available alternatives.	8	6
Int-Mat-4	Flooring	To recognise the selection of flooring that has a reduced environmental impact when compared to available alternatives.	6	4
Int-Mat-5	Wall coverings	To recognise the selection of wall coverings that have a reduced environmental impact when compared to available alternatives.	3	3
Int-Mat-6	Local Sourcing	To encourage and recognise the environmental advantages gained, in the form of reduced transportation emissions, by using materials and products that are sourced within close proximity to the site.	2	1
Int-Mat-7	Sundries Materials Sourcing	To recognise the selection of fitout finishes that have a reduced environmental impact when compared to available alternatives through responsible manufacturing, product stewardship and resource efficient design.	1	1
Materials credits			30	22
Land Use and Ecology Category				
Int-Eco-1	Site selection	To recognise and reward a tenant for selecting their space in a building that reduces their environmental impact due to the building's base building design attributes.	4	1
Land use and Ecology credits			4	1
Emissions Category				
Int-Emi-1	Impacts from refrigerants and insulants	To encourage and recognise developments that minimise light pollution into the night sky.	3	2
Int-Emi-2	Light Pollution	To encourage and recognise the avoidance of substances that contribute to the deterioration and long-term alteration of the Earth's atmosphere.	1,5	1,5
Emissions credits			4,5	3,5
Innovation Category				
Int-Inn-1	Innovative Strategies & Technologies	To encourage and recognise pioneering initiatives in sustainable design, process or advocacy.		2
Int-Inn-2	Exceeding Green Star SA Benchmarks	To encourage and recognise projects that achieve environmental benefits in excess of the current Green Star SA benchmarks.		1
Int-Inn-3	Environmental Design Initiatives	To encourage and recognise sustainable building initiatives that are currently outside of the scope of this Green Star SA rating tool but which have a substantial or significant environmental benefit.		2
Innovation credits			10	5

TOTAL POINTS AVAILABLE	100	80
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Figure 7.29. Green Star Rating score (GBCSA, 2016).

GREEN STAR ASSESSMENT OUTCOME JUSTIFICATION

GBCSA CATEGORY	DESIGN APPLICATION / JUSTIFICATION OF POINTS AWARDED	POINTS
MANAGEMENT	<ul style="list-style-type: none"> > The design strategy aims to employ GBCSA professionals to accompany the design process to ensure implementation of sustainable building practices throughout the design and construction phase. > Management strategies aim to educate users and occupants of the space about the buildings sustainable initiatives. 	12.5
INDOOR ENVIRONMENTAL QUALITY (IEQ)	<ul style="list-style-type: none"> > The application of Biophilic design principles in the space aids the fulfilment of the IEQ requirements. Fresh air is circulated through the space through passive ventilation systems. > The large shopfront windows and the specification of SolaTubes allows the space to reap the benefits of natural lighting. > Ergonomics have been considered throughout the design creating a comfortable space for occupants. > The use of air-plants throughout the interior space improves indoor air quality and creates a connection between nature and the occupants. 	20
ENERGY	<ul style="list-style-type: none"> > Energy efficiency is achieved through employing processes that sequesters carbon and reduces greenhouse gases (i.e. closed-loop system). > The specification of photovoltaic solar panels to be installed on the roof supports the use of renewable energy sources. 	10
TRANSPORT	<ul style="list-style-type: none"> > Low points were scored in the Transport category since Irene Mall does not encourage the use of public transport since there are no formal bus terminals, taxi ranks or facilities that cater for cyclists. 	1
WATER	<ul style="list-style-type: none"> > Water saving fittings are included in the design strategy to reduce water consumption. > Additionally, a water metering system will be installed to allow the users of the space to monitor water consumption. 	5
MATERIALS	<ul style="list-style-type: none"> > Operational waste is reduced through the resource efficient design strategy. > A large percentage of the furniture and fittings specified is from renewable/ recycled resources. 	22
LAND USE	<ul style="list-style-type: none"> > Irene Mall as a whole does not employ sustainable practices. However the outdoor nature of the mall allows the stores to make use of natural light and ventilation contributing to the design strategy of Shop 150. 	1
EMISSIONS	<ul style="list-style-type: none"> > The store aims to prevent light pollution through minimising the use of artificial light. The maximum operating hours of the mall (09h00 to 20:00) does not allow for night time activity of retail stores, therefore indirectly reducing light pollution in the night. 	3.5
INNOVATION	<ul style="list-style-type: none"> > The design employs innovative design strategies such as Biomimicry and Biophilia that supports sustainable practices. 	5

Table 7.1. Green Star Rating Justification (Author, 2016).

7.5.2 SBAT RATING

The objective of the SBAT tool is to evaluate the design of the building in terms of sustainability. The tool measures the performance of the building according to the three pillars of sustainability including Social, Economic and Environmental influences. The outcome of the SBAT assessment on the design of Margaret Roberts skincare servicescape suggests that sustainable practices have indeed been employed. High scores are achieved for Adaptability, Efficiency, Material & Components and Occupant Comfort, which was part of the design strategy from the beginning. Unfortunately, lower scores are achieved for the Water and Participation & Control categories due to the fact that the site does not allow for water treatment plants and since the space is retail orientated, occupants do not have control over the interior environmental conditions. The score achieved in the Waste category is relatively high but was restricted since sewerage waste cannot be recycled on site.

(See Appendix for full SBAT report)

SUSTAINABLE BUILDING ASSESSMENT TOOL (SBAT- P) V1

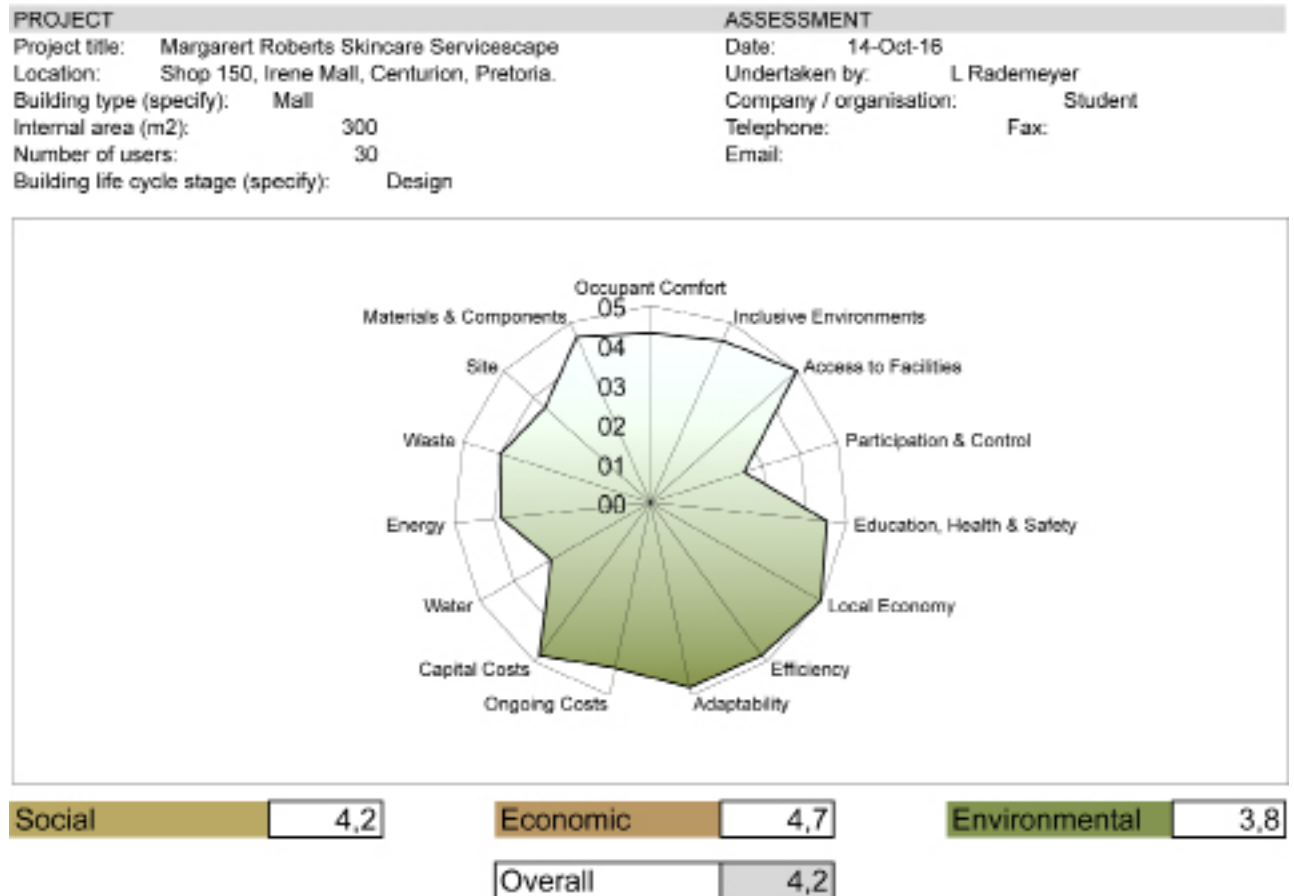


Figure 7.30. SBAT Rating Score (SBAT, 2016).

