# SMARTER HOBART CHALLENGE

## CITY OF HOBART

## DIGITAL BUS SHELTER DESIGN COMPETITION

## STAGE 2 - For Reference

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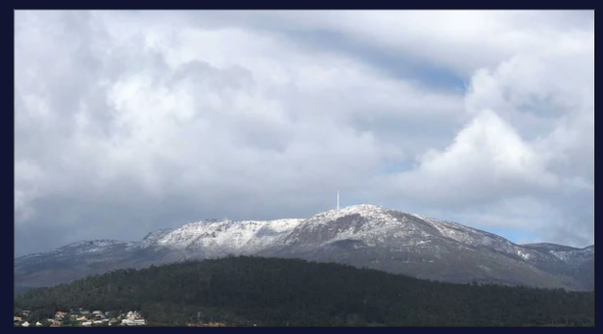
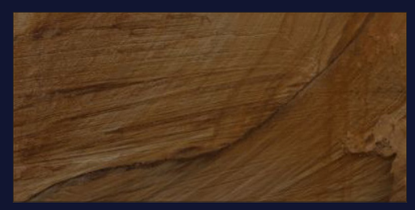
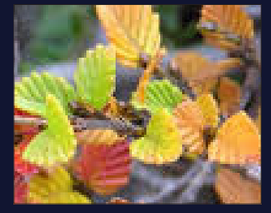
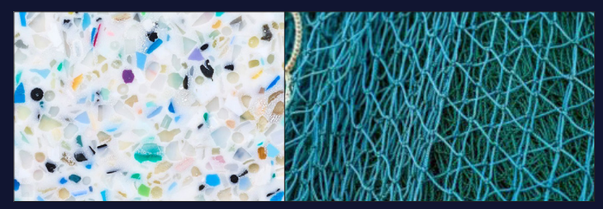








# KEY FOCUS REFERENCES

## WEATHER & PERCIEVED DANGER

*We understand from various social media channels and feedback from City of Hobart that there is an overwhelming response to the perceived threat of local weather & the feeling of safety in transport spaces.*

## NATURAL MATERIALS / GRAPHICS - ENVIRONMENT

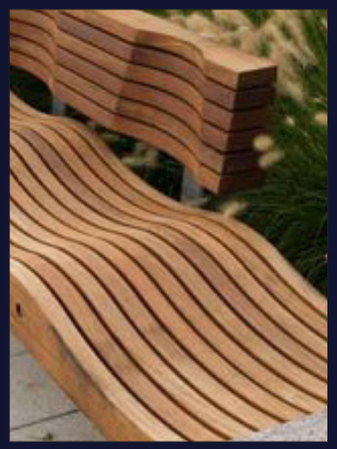
*It was highlighted that local Tasmanians' love of the environment, in its materiality & imagery, is a really important feature to reference in any exploration.*

## RECYCLED PLASTICS & REPURPOSING MATERIALS

*The Fab City orientation of the project creates a point of focus, to ensure the landscape is pristine by repurposing waste streams into sustainable & useful outcomes.*

## COMMUNITY ENGAGEMENT

*There is an urgent need to ensure consultation with various stakeholders in the local community - to empower people in voicing needs, for healthy & safe communities.*



## MATERIALITY

The Fab City approach has specified the incorporation of recycled plastics. In particular, reclaiming marine PP & HDPE from the local maritime & aquacultural industries.

All following concepts leverage from these approaches:

- *Decorative & structural wall sheeting,*
- *Manufacturing options for seat and roofing,*
- *Strip bent, Profile cut & Rotomoulded,*
- *& Embedment of other materials for structural & decorative uses.*

*There is an opportunity to extend this focus, to not only use the reclaimed materials, but to also create structural extruded forms for the project,by the inclusions of fibre reinforcement into sheet &/or profile forms (FRP). Through the addition of this process, the council could leverage to extend the application across multiple infrastructural projects, & create a region wide, cohesive material language.*

All timber, stone & metal work, can also be reclaimed for use:

*Such as layering of sandstone offcuts to create wall or seating aspects or ornate metal work based on Hobarts historical architectural language.*

## COMMUNITY ENGAGEMENT
## - ARTISANS & ARTISTS

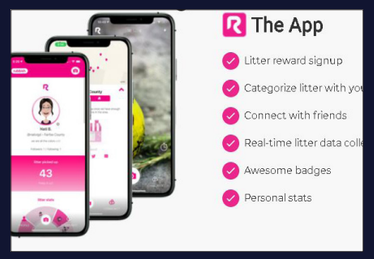
Our investigations, inquiries, & discussion indicate that it is vital to engage local fabricators, manufacturers & artisans to leverage their specific material expertise & creativity into the design outcome.

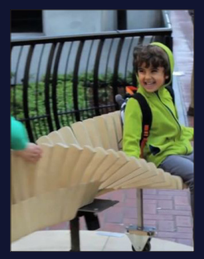
In particular, their intimate knowledge of local materials & unique insights into Tasmanias' cultural voice.

Artworks by local artisans in both traditional and digital mediums.

*Eg: Translate traditional artist mediums into perforated metal work for wall or roof application. (Middle image - Michael Shlitz Wood cut artworks translated to laser cut screen for Moonah Arts Centre.)*

Opprotunity to commision artists to facilitate a colloboration with Hobart and Mona.



## COMMUNITY ENGAGEMENT
## - LOCALISED USERS & 'OWNERSHIP'

Opportunities for engaging Community to create ownership & pride in Infrastructure / Facilities.

*District or route specific shelters through varying material & colour inclusions - to reflect communities &/or environment.*

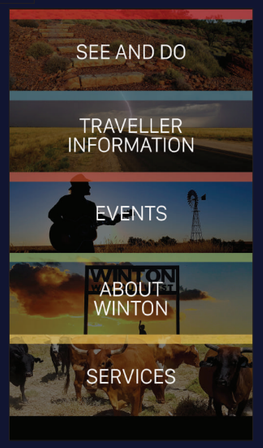
*Community consultation for shelter specific needs - to chose appropriate shelter requirements for local communities, such as seating arrangements & accessibility at individual shelters.*

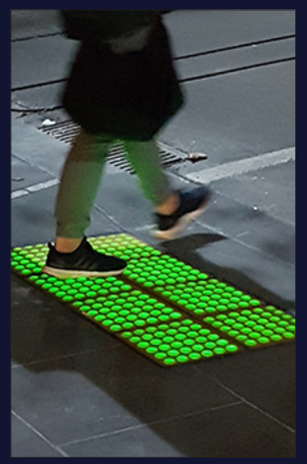
*Limit Grafitti and vandalism through ownership - Inclusion of school artwork, stories.*

*Gamify the shelter - Photo Apps that record damage, ie: 'Rubbish' App*

*Elements that incorporate intergenrational play or exercise & add elements of theatre.*

*Educational & Informational interactive elements to promote the 3 step story of the structure material, such as: Marine rope, to Granules, to PP product.*


## METROSPEC TECHNOLOGY INCLUSIONS

A core range of available and modular technologies that exist within all concept platforms - (TBD as required in following stages)

*Supplied, manufactured, installed, maintained by Metrospec (As negotiated)*

*13” E-Paper Screens*

*Agile & configurable - Voice Annuciator & Hearing Loop System*

*55/65/75” High Brightness static & touch screens*

*LED Tactile Tiles*

*App creation capability*

*Complete software integration to connect network capable devices*

*Bluetooth beacons & geo-fencing application*

*Renewable power sources & storage*

*Realtime Monitoring & Notification systems (Hardware & Software)*

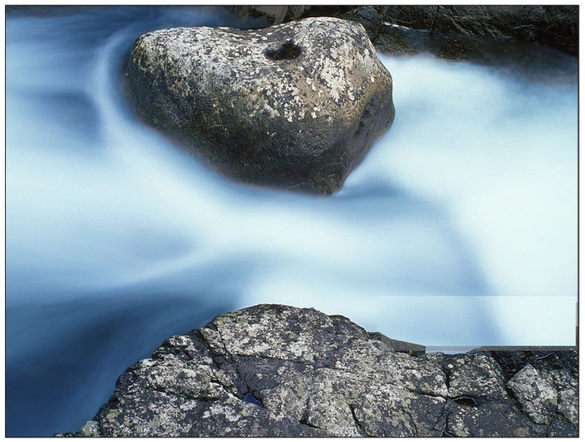
# CONCEPTS

# CONCEPT 1

Translating a standard shelter configuration into a Hobart specific approach.

Solid geometry influenced and gently sculpted by the flow of wind and water.

Energy traversing through a system; the motion of a bustling city.



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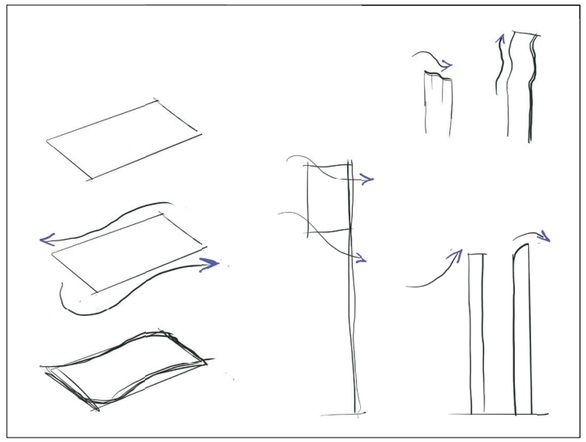

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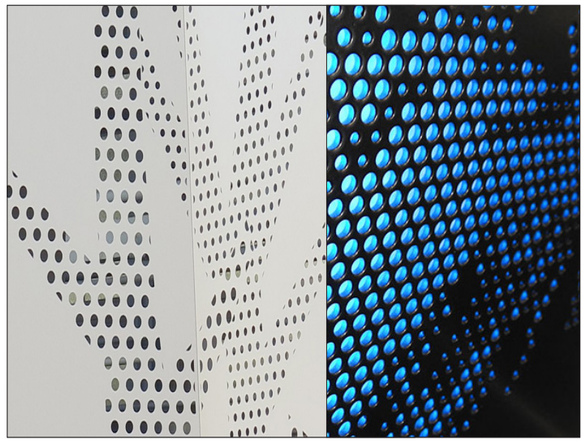

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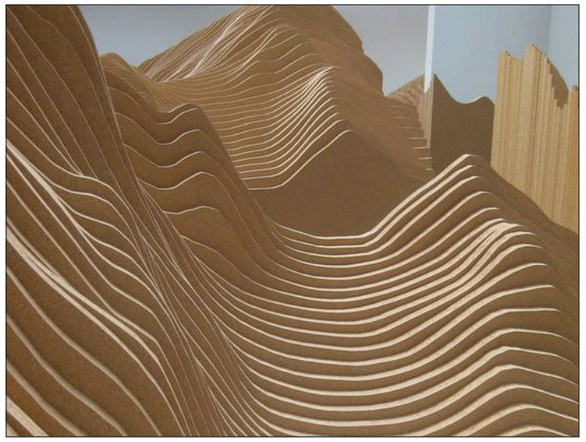


G

H.

# CONCEPT 1

## OVERVIEW

1. Frame
   Steel or FRP extrusions.
   Bolted.

2. End Inserts
   Interchangable material Inserts

3. Roof
   Rotomoulded recycled PP/HDPE
   End pieces (x2).
   Opportunity for green roof.

4. Option 1 (Inset A) - Solar glass panel (ClearVuePV - Clear glass with solar panels concealed within perimeter frame)
   Changable vinyl artwork to underside
   Option 2 - aluminium fabricated.
   Standard solar panels to top.
   Lightbox to underside with profile cut/ perforated illuminated artwork to underside.

5. Flashing / Box gutter.
   Water diversion/capture system.
   Run internally through frame members.
   Opportunity for roof mounted water heater to heating coils behind seating.

6. Seating and cladding.
   Profile cut and strip bent recycled PP/ HDPE. Various shapes and seating configuration.

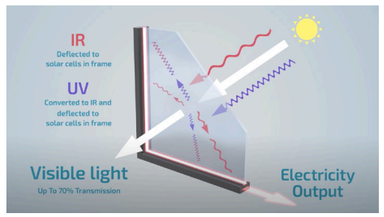
7. Glazing mounted to structure uprights via perimeter glazing channel.
   Silicone join between sections.

8. Integrated E-Paper totem.
   Art space column to rear.

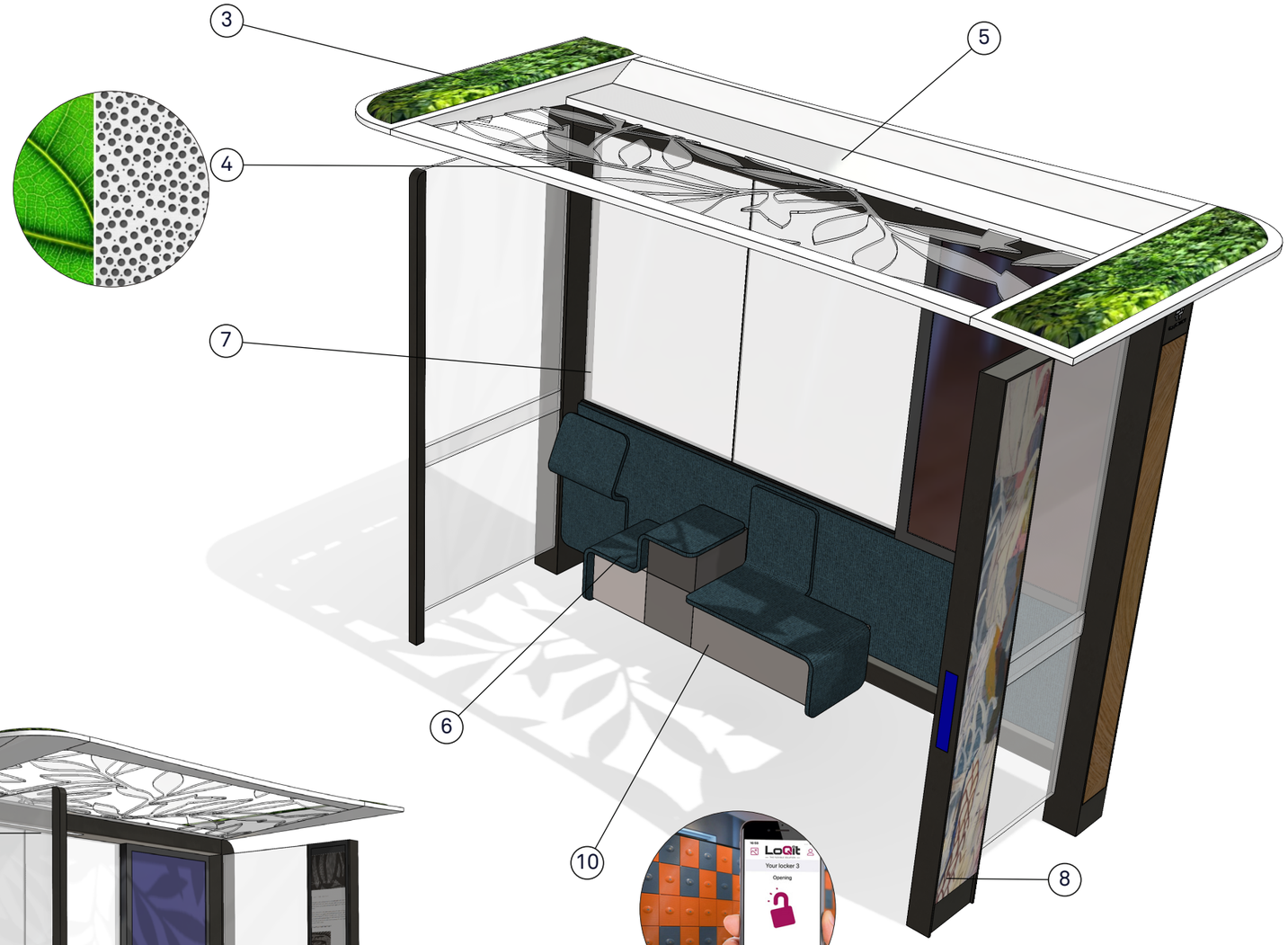
9. High Brightness touch screen mounted with cladding housing.

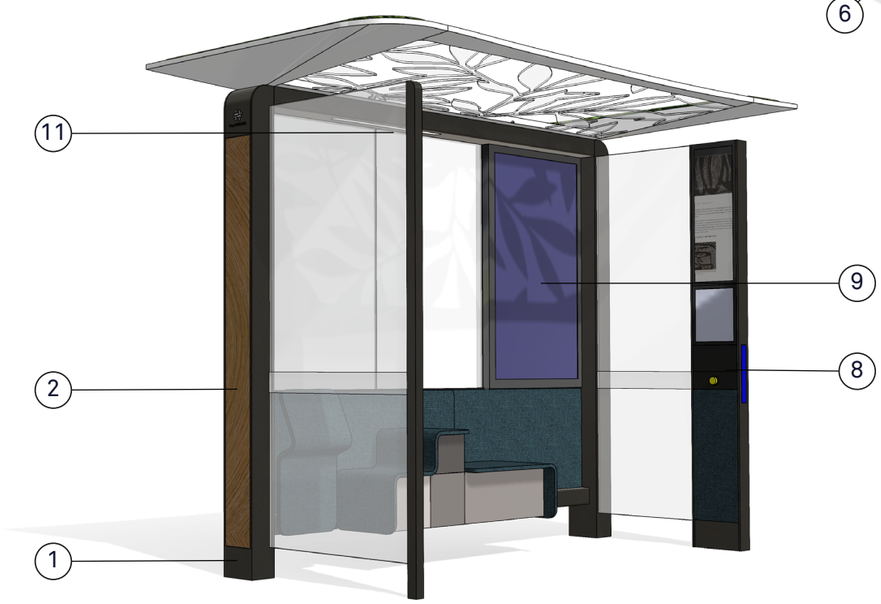
10. Pacel Delivery Smartlockers (Inset B) / Micro Library area beneath seating.

11. Security Light flush in top rail

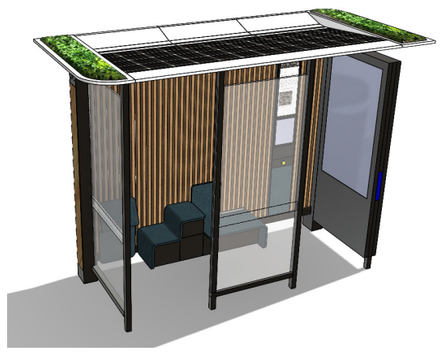


Inset A: Solar Glass Panel




Inset B: Postage Lock Box

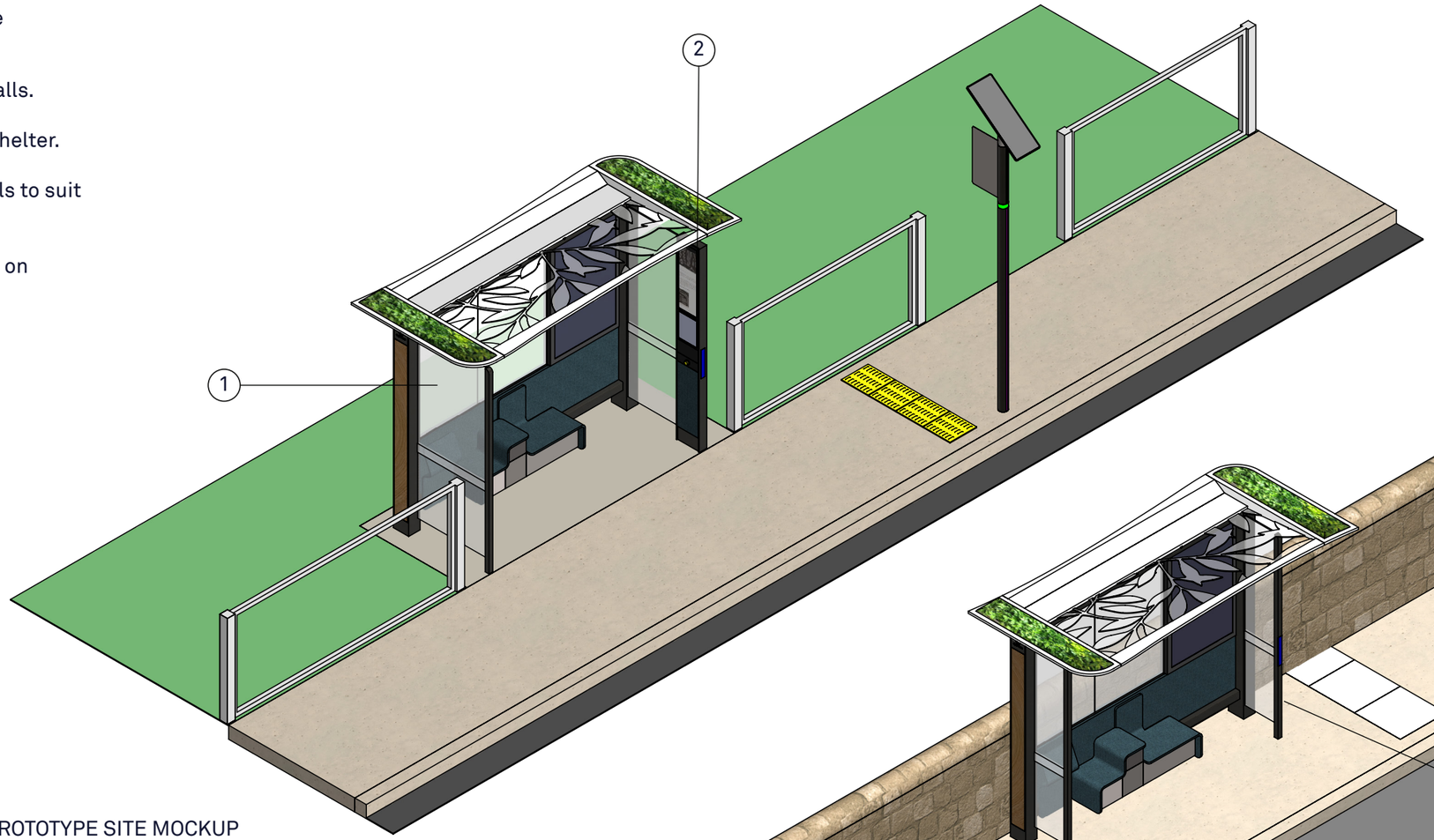


# CONCEPT 1

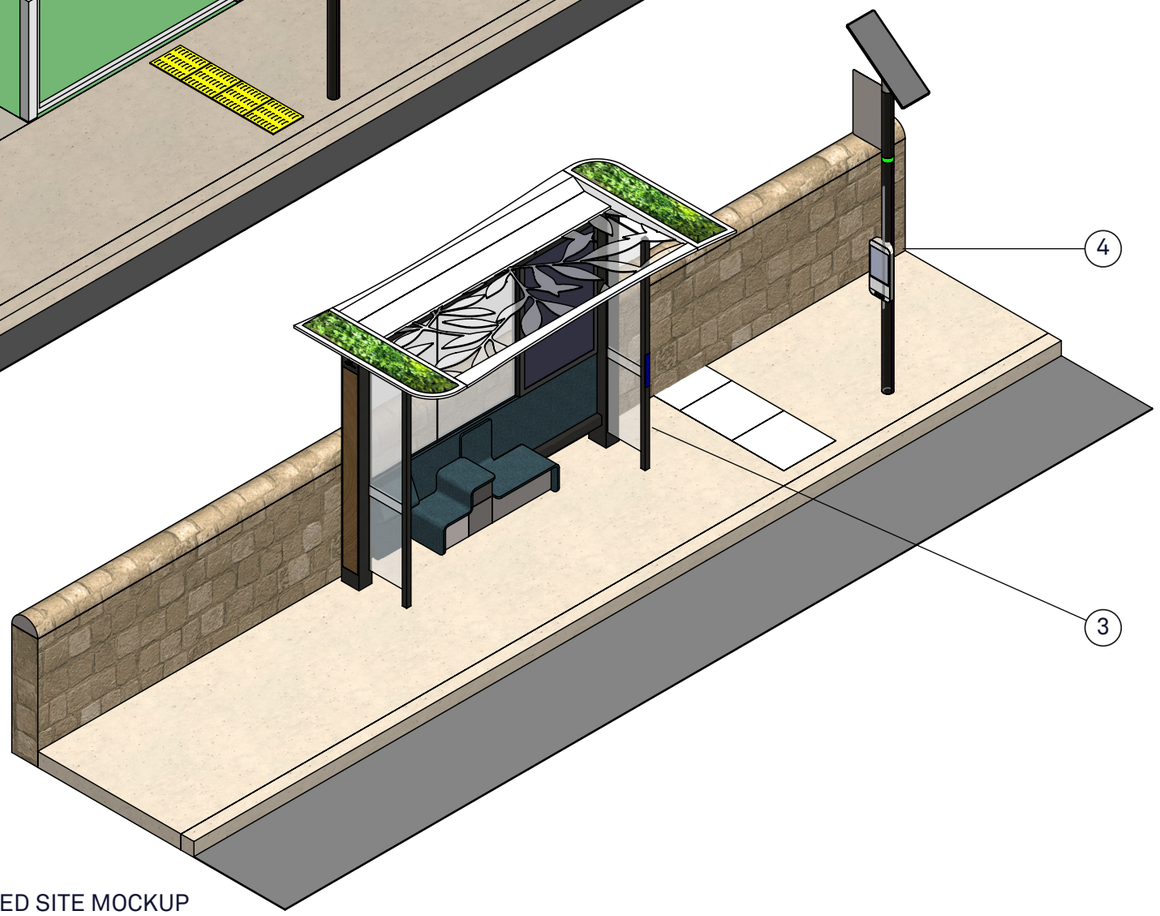
## SITE REVIEW

Shelter is modular and can be reconfigured to suit various site requirements and restrictions.

1. Increased Glazing side walls.
2. Integrated totem within shelter.
3. Reduced glazing side walls to suit constricted space.
4. E-paper Module included on Freestanding pole.

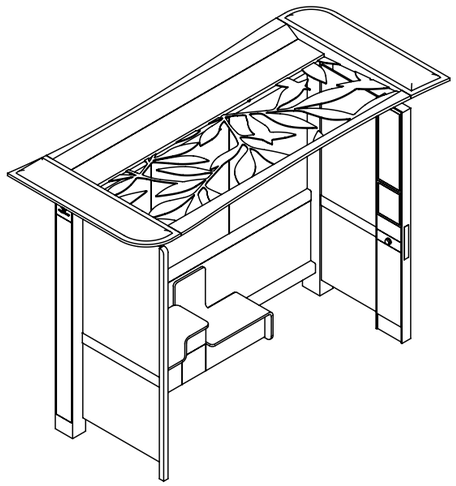



PROTOTYPE SITE MOCKUP
SCALE N/A

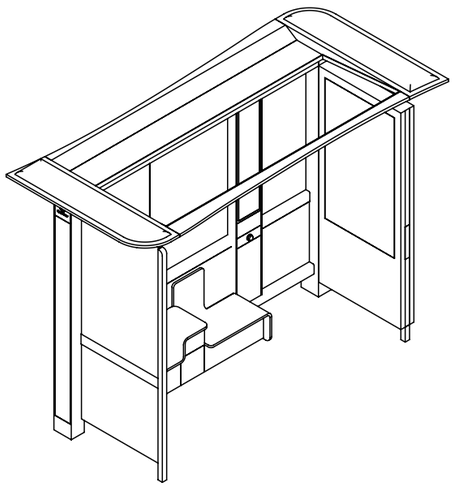



CONSTRICTED SITE MOCKUP
SCALE N/A

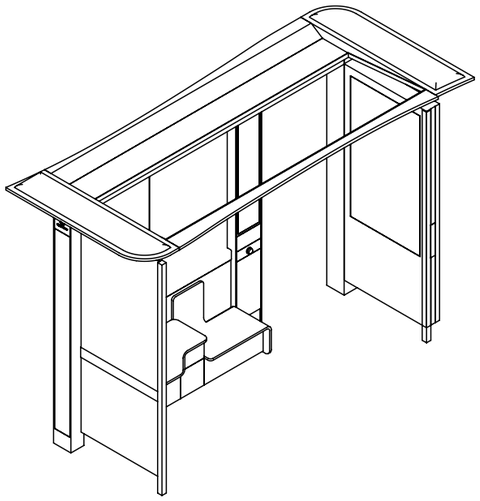
## MODULARITY / CONFIGURATION EXAMPLES



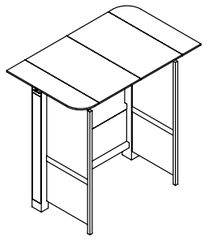
SIDE INTEGRATED TOTEM



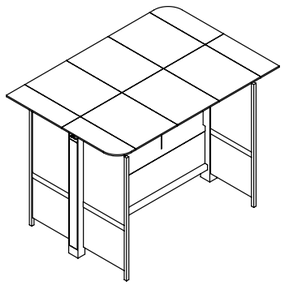
REAR INTEGRATED TOTEM
ADVERTISING



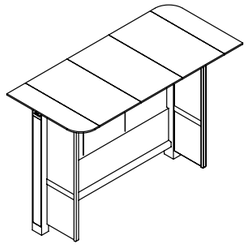
OPEN BACK
WALK THROUGH TO REAR
KURB



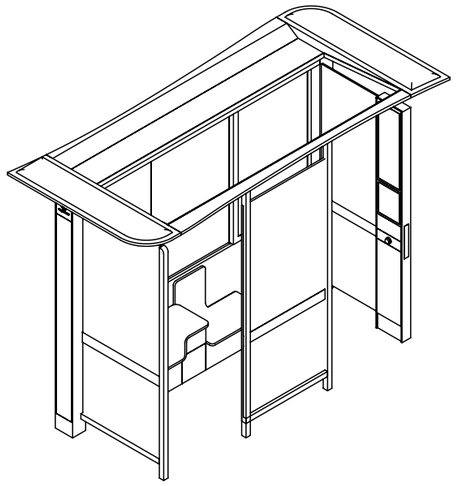
SMALL



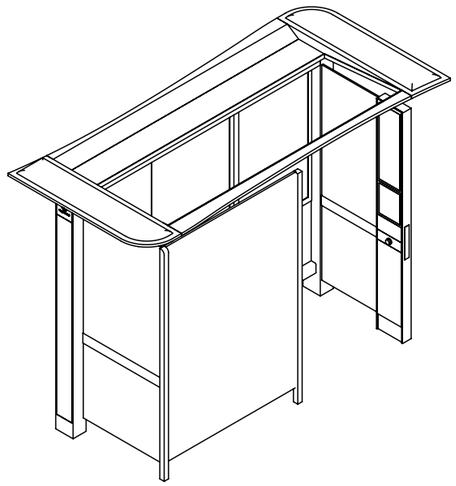
DOUBLE



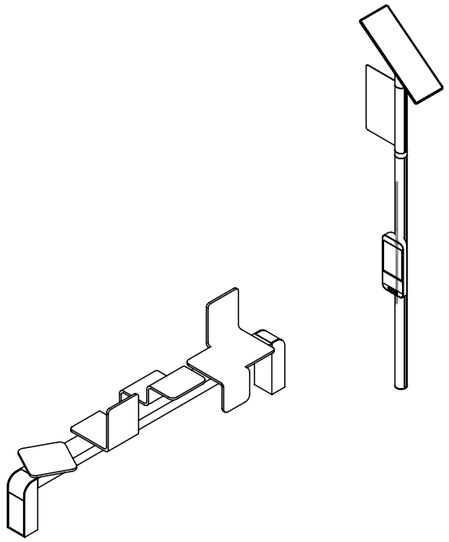
CONSTRICTED



WEATHER SHIELD



360 SHIELD

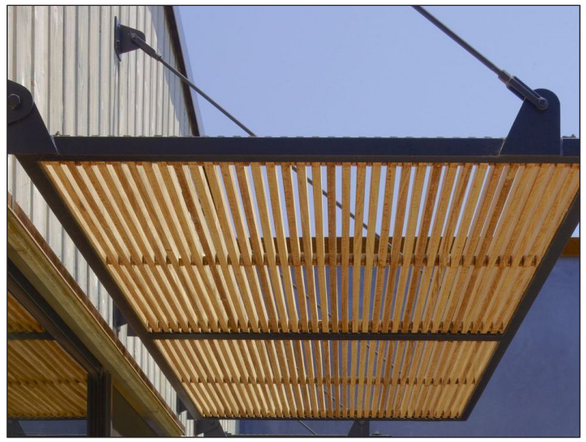


SEAT AND SMART POLE
(SWIVEL SEAT ETC)

## ‘PORT OF CALL’

Leveraging the lineal geometry of passages through safe spaces & refuge. Accessible movement & modes of transport, in the ever present relationship with the sea.

A.



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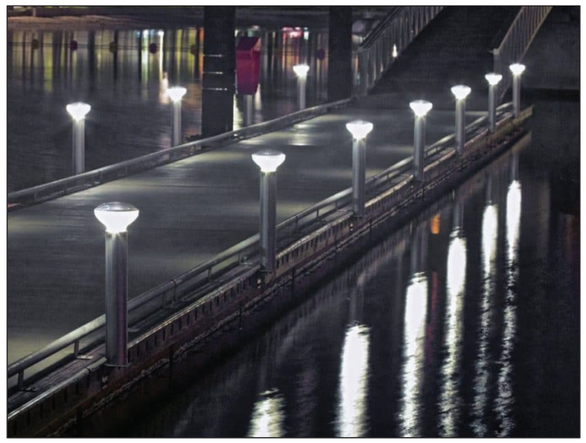

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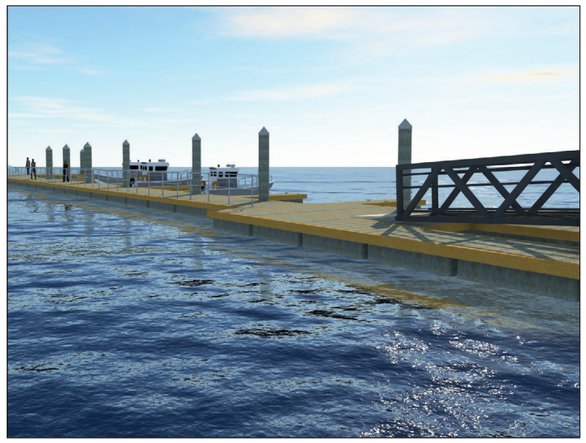


H.

# CONCEPT 2

## OVERVIEW

1. Upright Posts
   Structural Extrusions manufactured from fibre reinforced recycled PP and HDPE.
   Specific post centres enable modular components.

2. Mounting brackets (Top and Bottom)
   Fabricated stainless steel.

3. Roof
   Recycled PP and HDPE with visible embedded fibre reinforcement.
   Large scale visual representation of the original Marine rope product.
   Stainless steel cable tied back to uprights - turnbuckles and eyebolts.

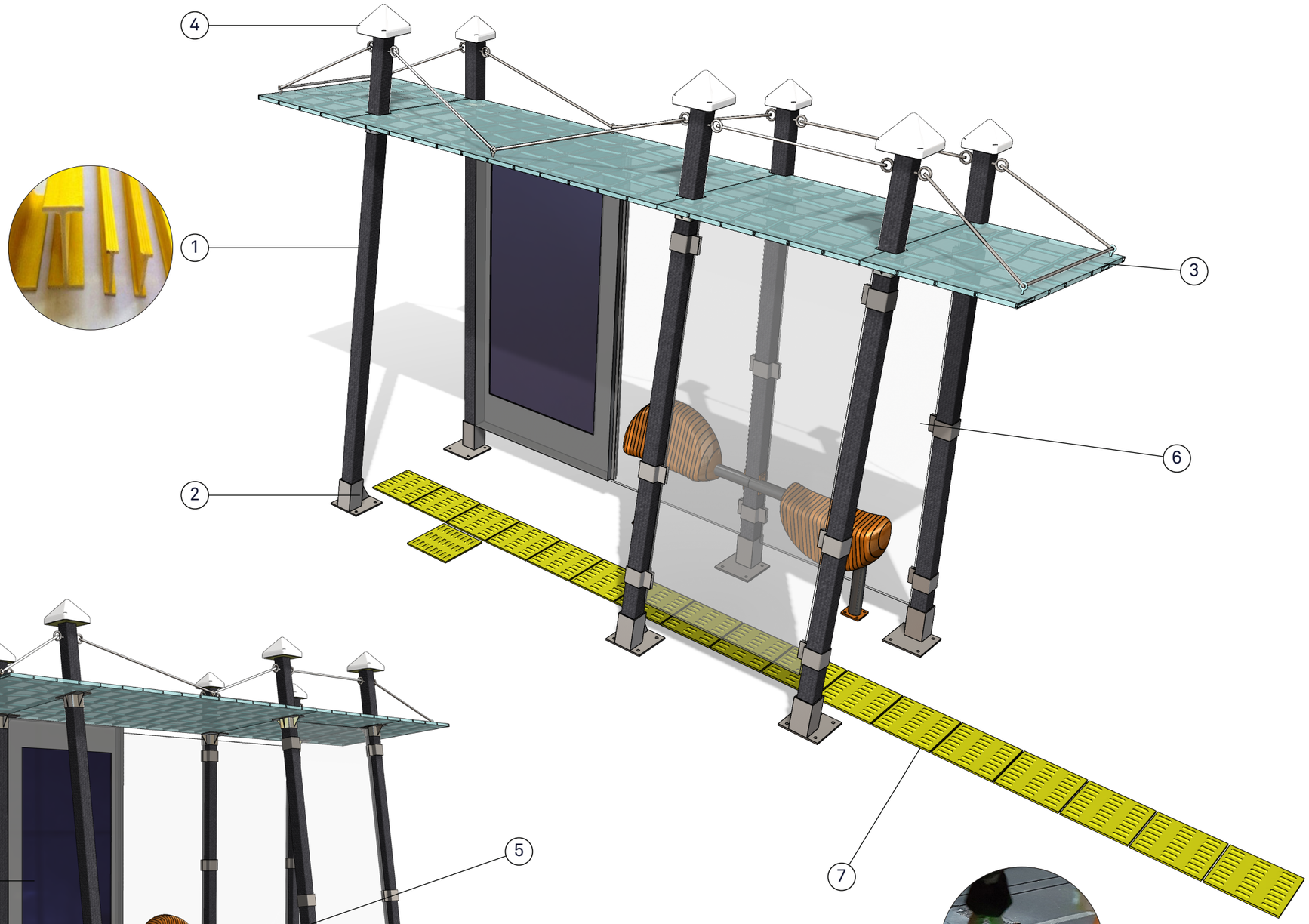
4. Post caps
   Fabricated aluminum or Recycled PP affixed top of post.
   Illumination mounted within, to wash light through translucent roof structure.

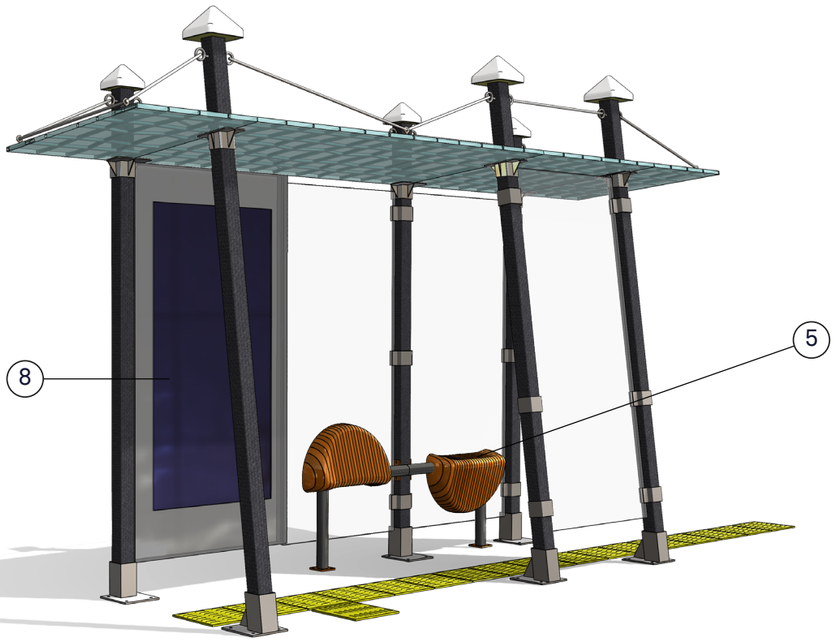
5. Seating
   Profile cut layered timber. or recycled PP.
   Single form mounted to internal spigot - rotating provides 2 seating opportunities - sit and lean.

6. Wall Cladding
   Option: Glazing mounted to structure uprights through clamping brackets.
   (Interchangable sheeting elements)

7. Illuminated DDA tactile tiles/
   Light up to indicate bus arrival (See inset).

8. High Brightness touch screen mounted with cladding housing.
   Configurable modular housing to include other technolgies - E-Paper, Voice Annuciator, Hearing Loop System, etc...



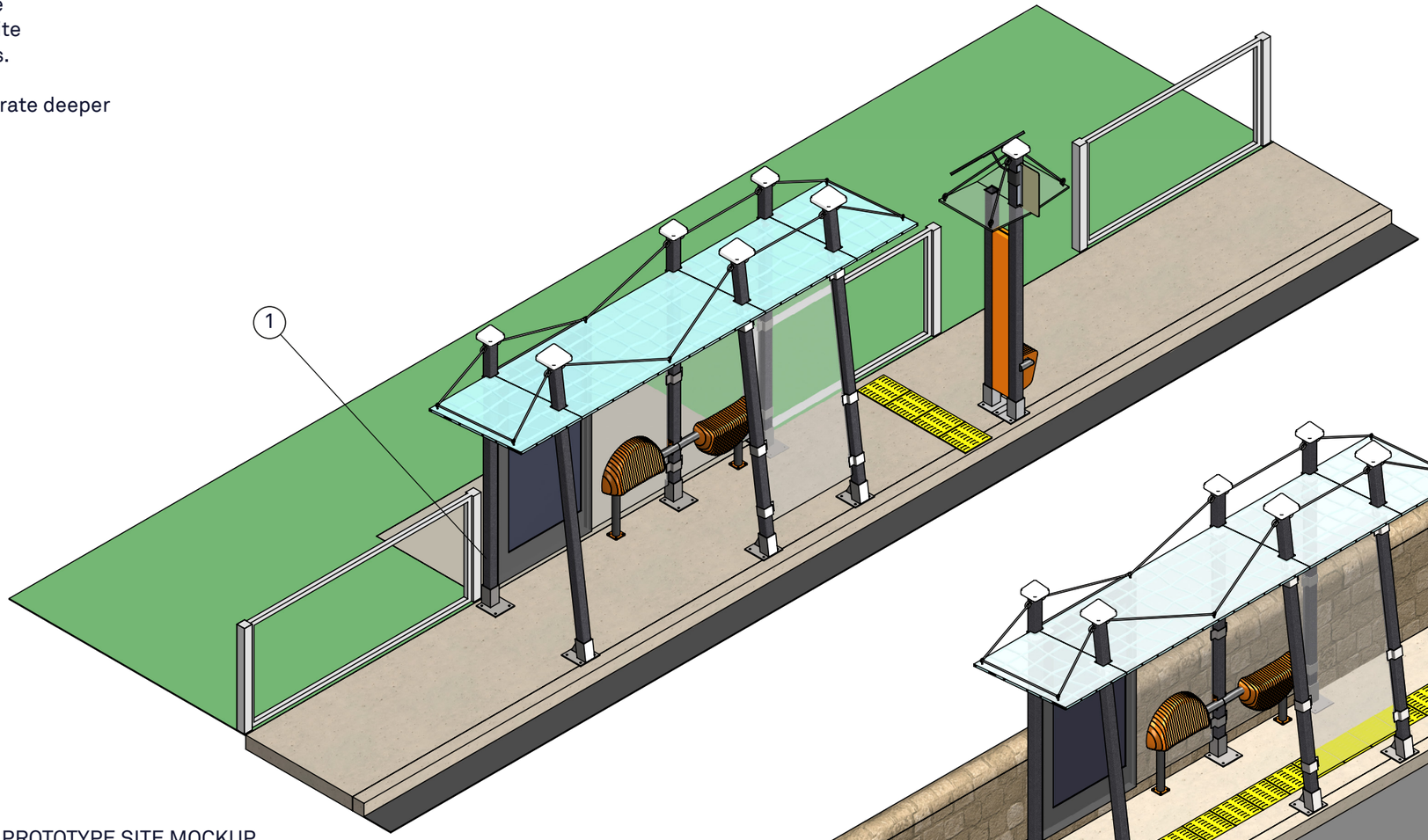

Inset: illuminated DDA tactile tiles

# CONCEPT 2

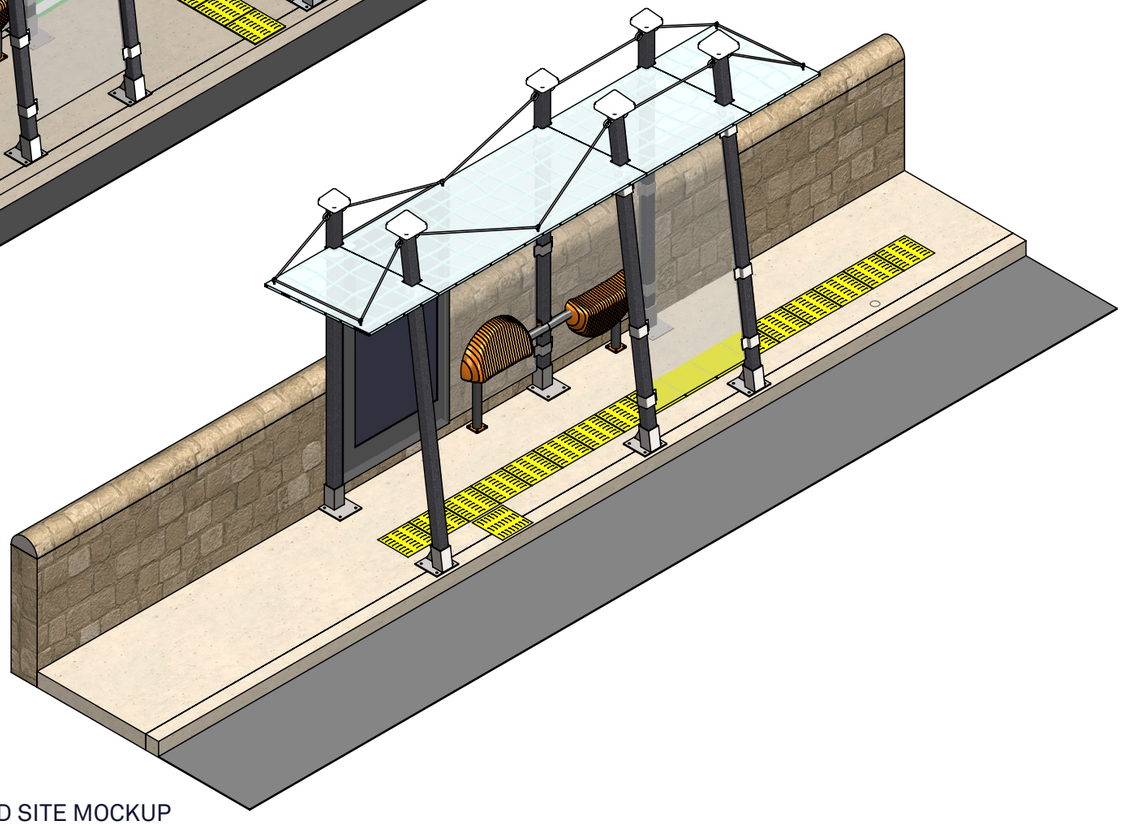
## SITE REVIEW

Shelter is modular and can be reconfigured to suit various site requirements and restrictions.

1. Can be extended to incorporate deeper footprint

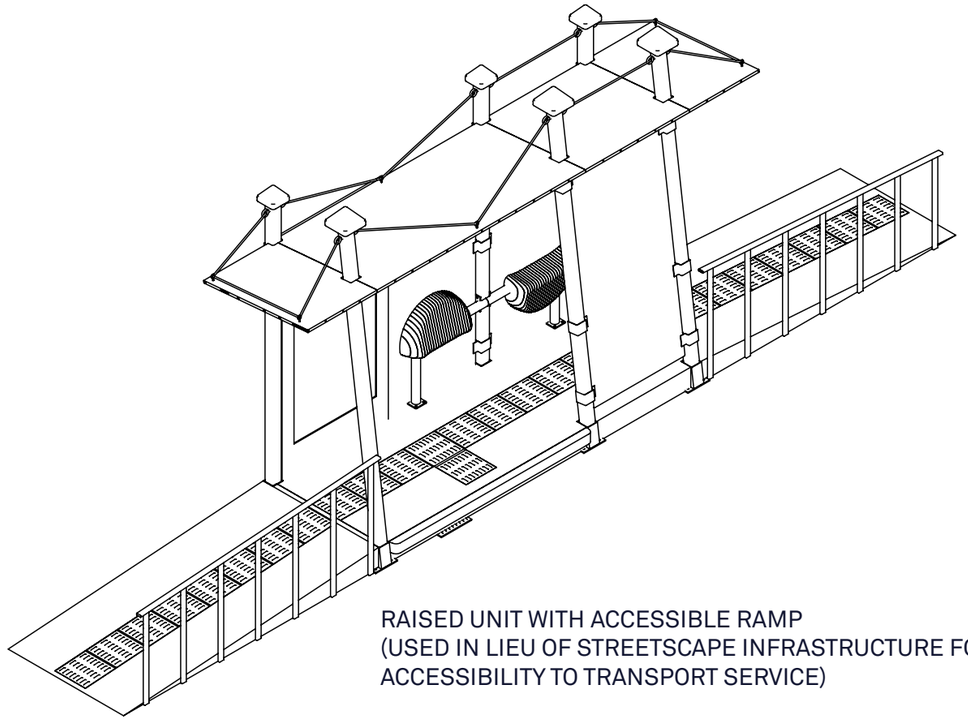



PROTOTYPE SITE MOCKUP
SCALE N/A

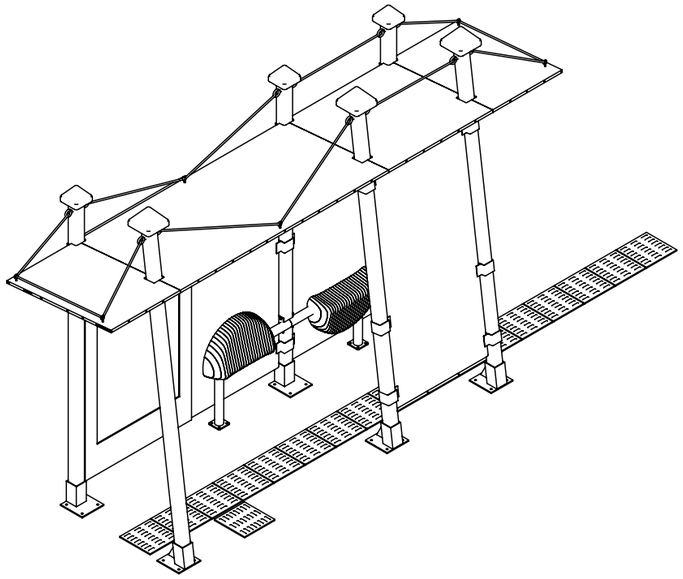


CONSTRICTED SITE MOCKUP
SCALE N/A

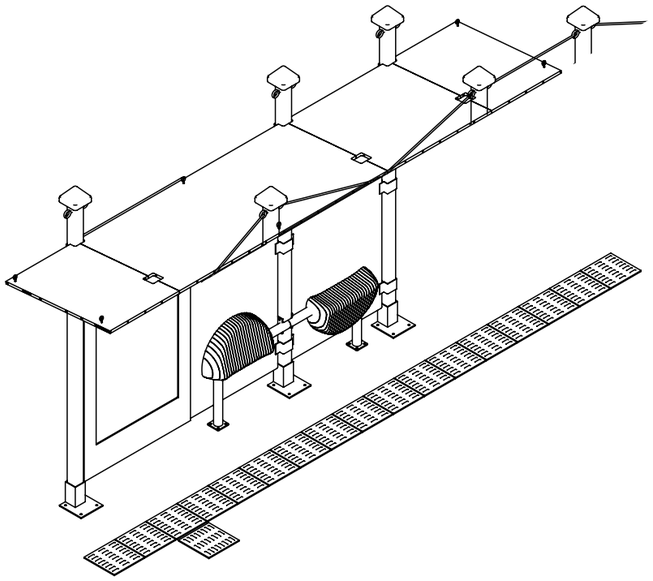
## MODULARITY / CONFIGURATION EXAMPLES



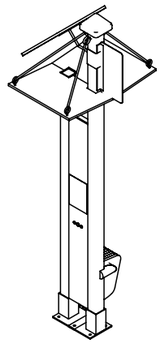
RAISED UNIT WITH ACCESSIBLE RAMP
(USED IN LIEU OF STREETSCAPE INFRASTRUCTURE FOR ACCESSIBILITY TO TRANSPORT SERVICE)



STANDARD CONFIGURATION



SINGLE SIDED
CAN BE FLIPPED TO KURB SIDE)



SMART POLE
(WITH INTEGRATED SEAT)

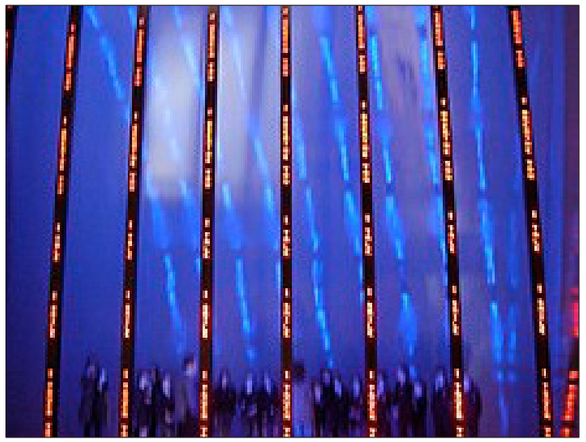
# CONCEPT 3

## ‘WAVEFRONT’

### Integrating Art with Utility

A.

B.



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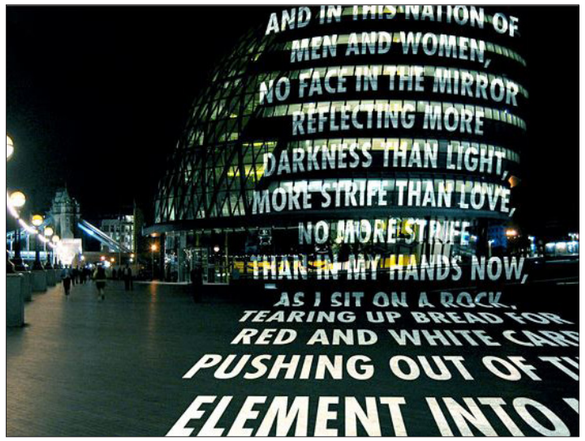



E.

F.

G

H.

# CONCEPT 3

## OVERVIEW

1. Uprights
   CHS FRP extrusions with vertical slots for panel integration.
   Base plates bolted to ground.

1a. Post infrastructure to extend to ground level down - rear of wall

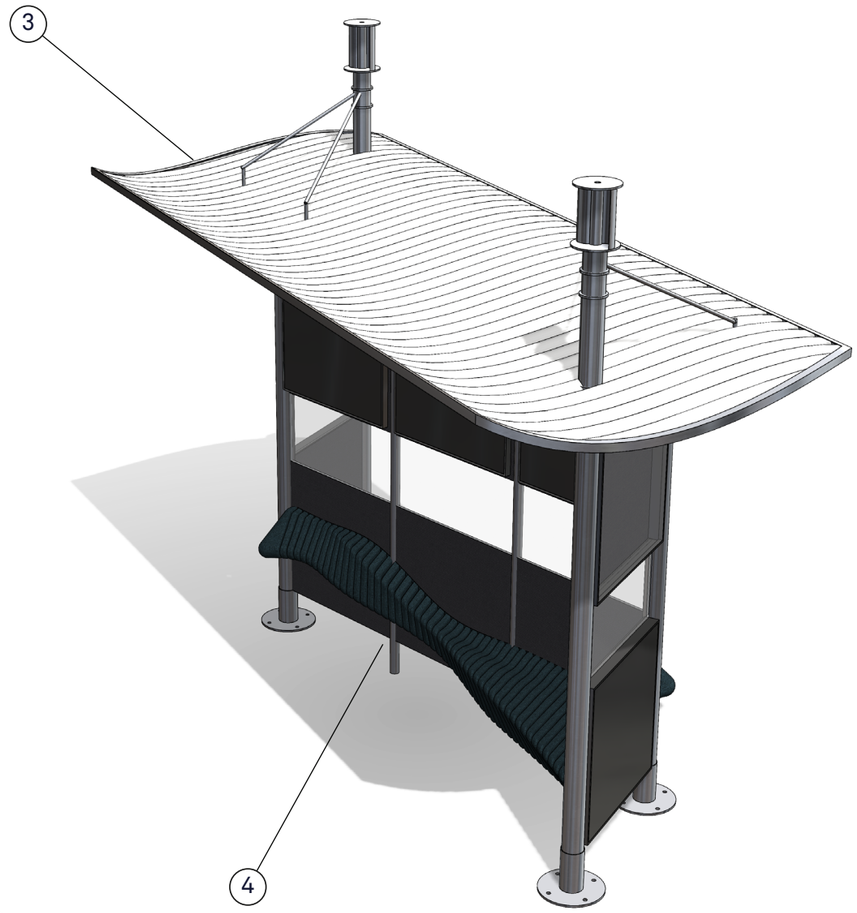
2. Cladding panels
   Interchangable material Inserts:
   Glazing / recycled PP / timber etc
   Slide into slots in post to secure.

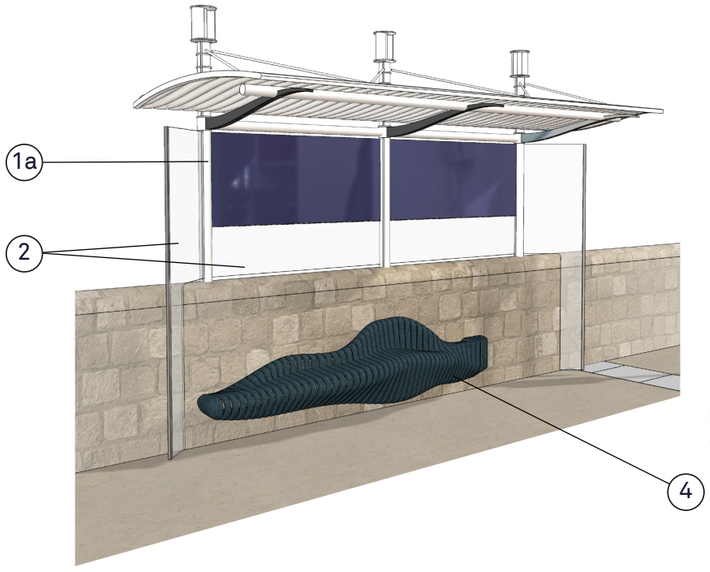
3. Roof
   Corrugated sheet metal
   (made in modular pieces)
   Stainless marine rod fixings to secure cantilevering roof to structure

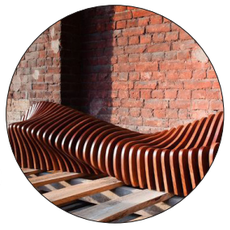
4. Seating and cladding.
   Profile cut and recycled PP/HDPE.
   Various shapes and seating configuration.
   Mounted to rail picked up by posts.

5. High Brightness screens.
   Various layouts/configurations mounted between posts from cladding panel frame.

6. Wind turbines atop posts to power shelter

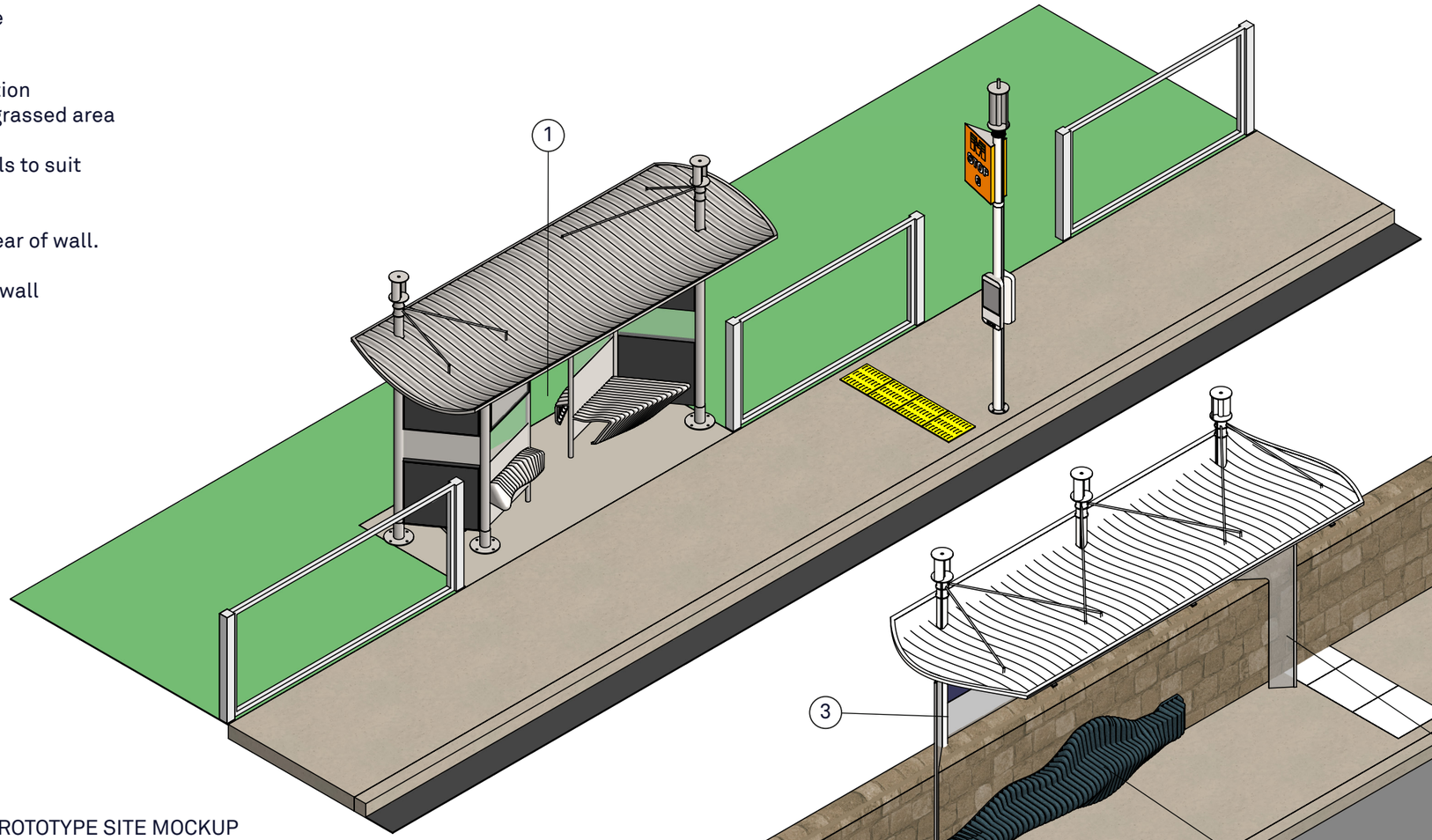



# CONCEPT 3

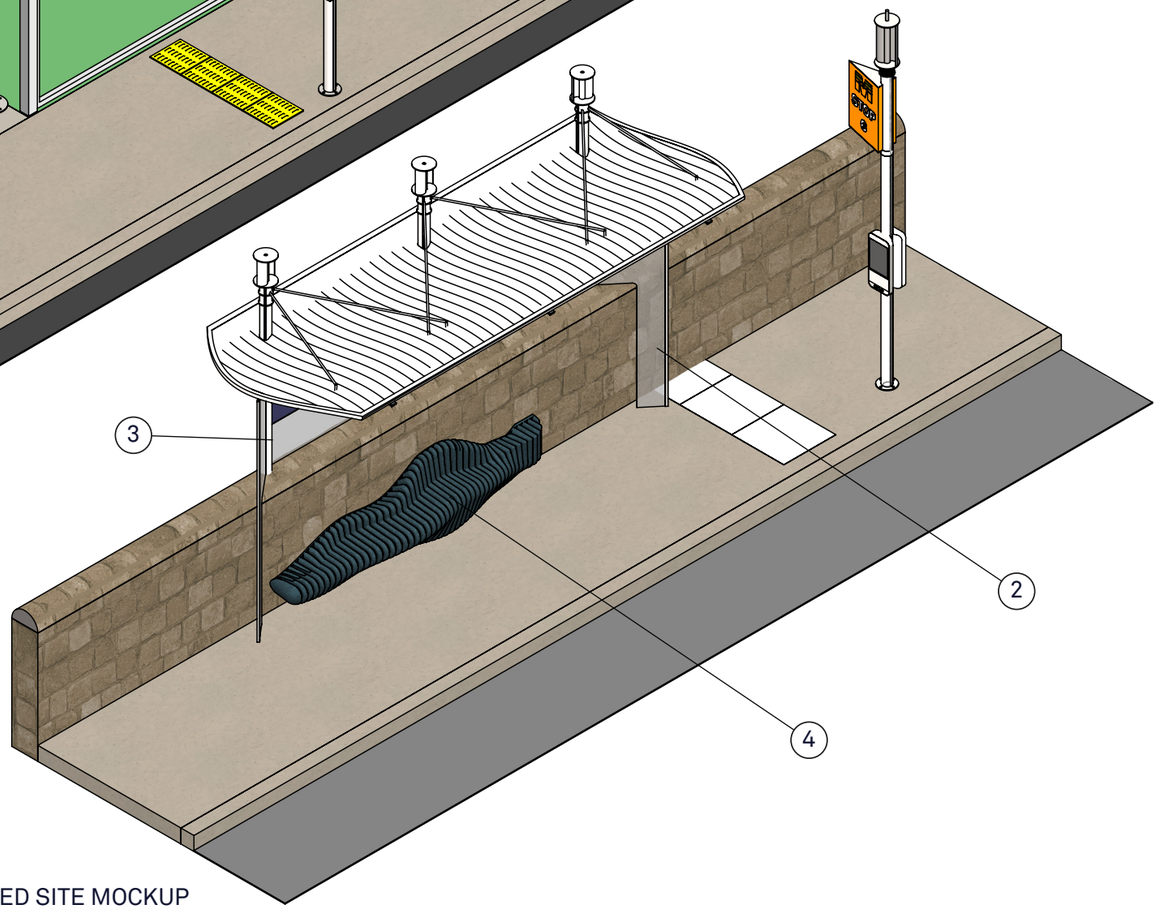
## SITE REVIEW

Shelter is modular and can be reconfigured to suit various site requirements and restrictions.

1. Open centre of configuration to allow walk through to grassed area
2. Reduced glazing side walls to suit constricted space.
3. Mount Shelter frame to rear of wall.
4. Mount furniture direct to wall

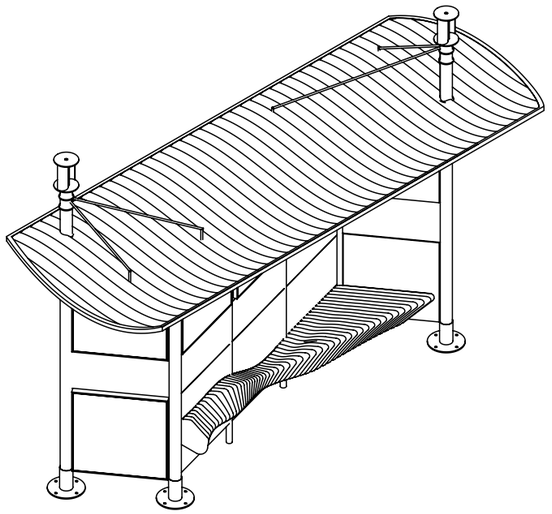



PROTOTYPE SITE MOCKUP
SCALE N/A

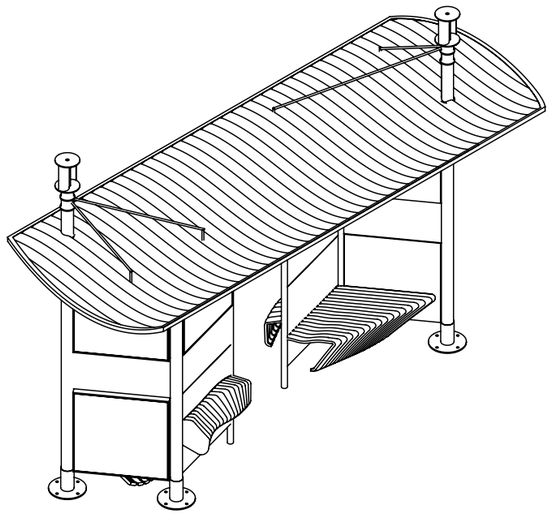



CONSTRICTED SITE MOCKUP
SCALE N/A

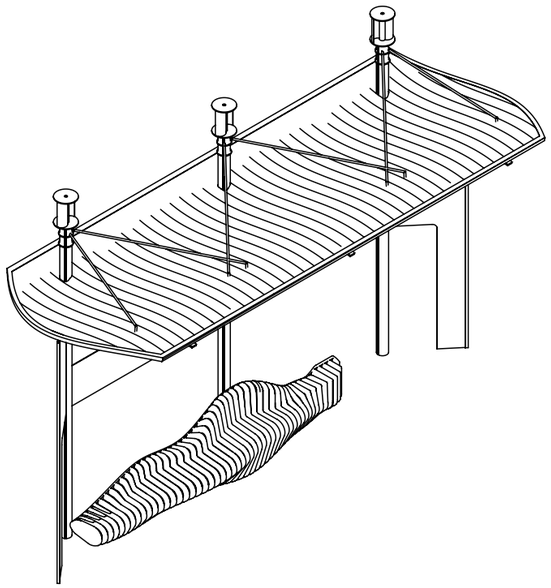
## MODULARITY / CONFIGURATION EXAMPLES

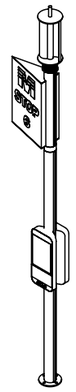


STANDARD CONFIGURATION



WALK THROUGH CONFIGURATION





CONSTRICTED SITE AND SMART POLE

THANK YOU