

PROJECT: Passive Ger

DESIGN DESCRIPTION:

The following roof plan demonstrates a south facing entrance.

CONTACT:

Kim Dupont- Madinier
 Kimdupontmadinier@gmail.com

DRAWING:

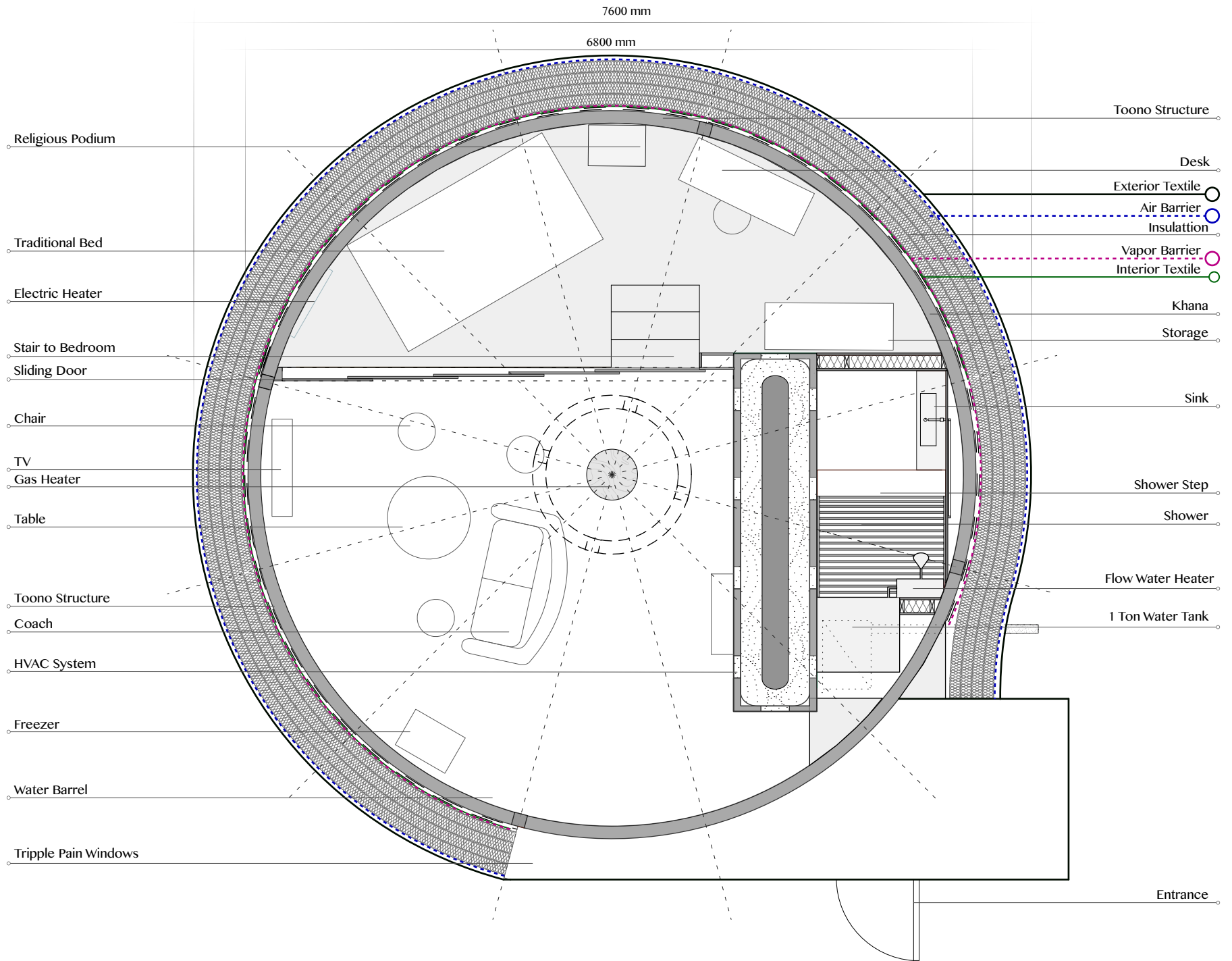
Roof Plan

DATE: 21.01.2018

SCALE: N/A

ORIENTATION: Landscape

NUMBER: 1 of 8



PROJECT: Passive Ger

DESIGN DESCRIPTION:

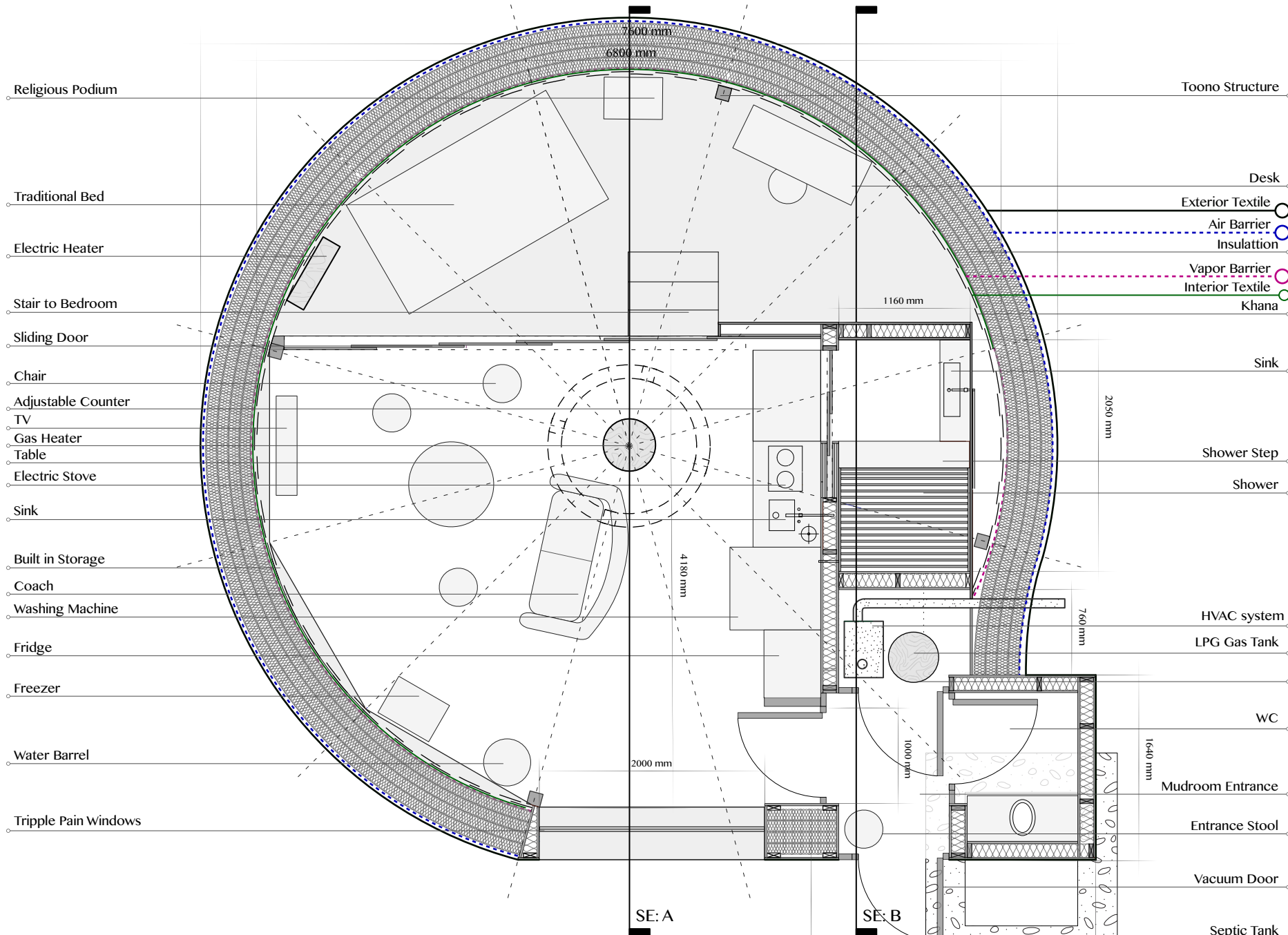
The following plan section demonstrates the storage space the elevated bedrom area, the structural pillars in the center, the sliding walls, the HVAC system, and general furniture layout.

CONTACT:
 Kim Dupont- Madinier
 Kimdupontmadinier@gmail.com

DRAWING:
 Section Elevation :
 SE: A

DATE: 21.03.2018
 SCALE: N/A

ORIENTATION: Landscape
 NUMBER: 2 of 8



PROJECT: Passive Ger

DESIGN DESCRIPTION:

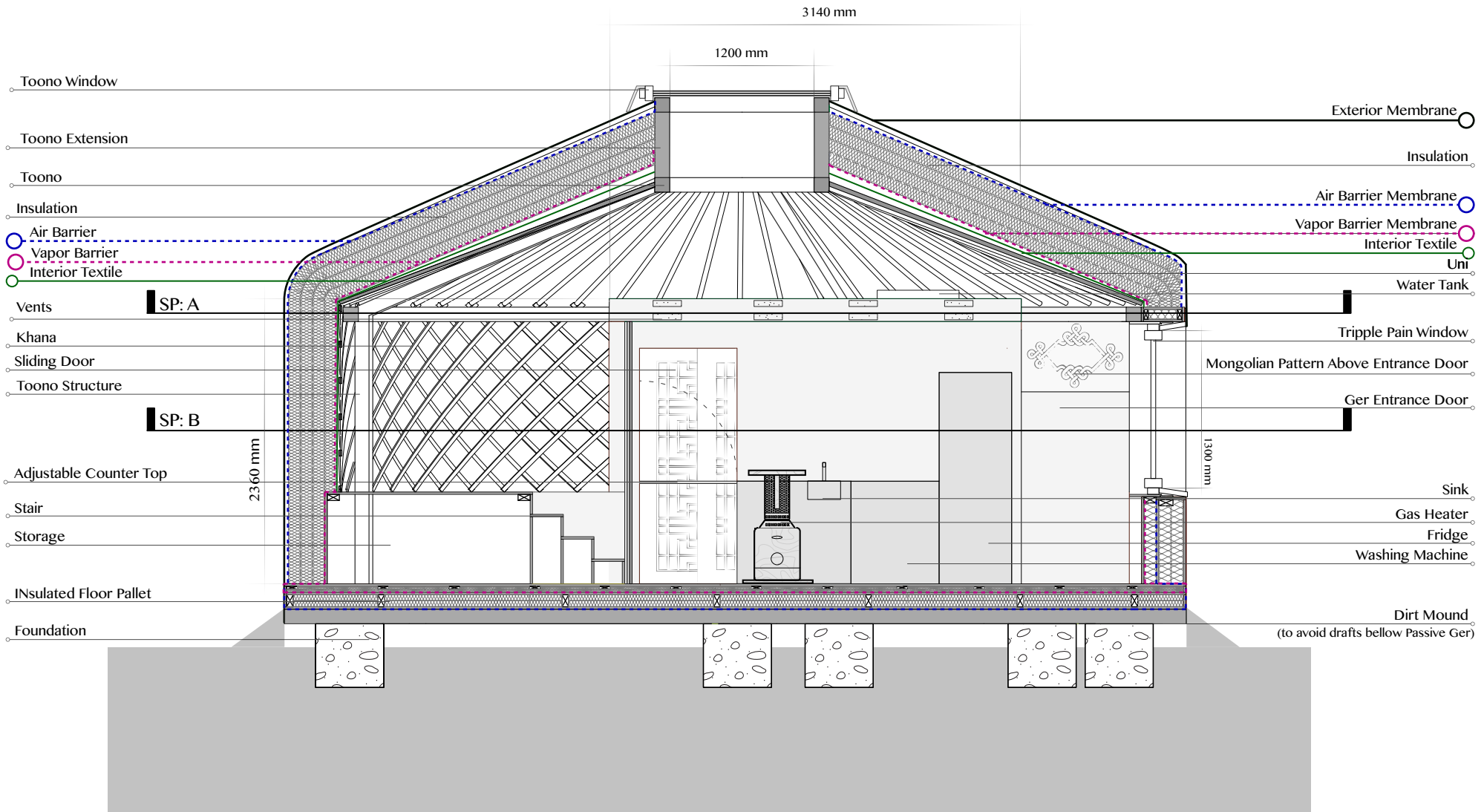
The following plan section demonstrates the storage space the elevated bedrom area, the structural pillars in the center, the sliding walls, the grey water system, and general furniture layout.

CONTACT:
 Kim Dupont- Madinier
 Kimdupontmadinier@gmail.com

DRAWING:
 Section Elevation :
 SE: B

DATE: 21. 03. 2018
 SCALE: N/A

ORIENTATION:Landscape
 NUMBER: 3 of 8



PROJECT: Passive Ger

DESIGN DESCRIPTION:

The following elevation section demonstrates the elevated bedrom area, the structural pillars in the center, the kitchen area, LPG gar heater, the entrance door, and south facing window of the Passive Ger design.

CONTACT:

Kim Dupont- Madinier
 Kimdupontmadinier@gmail.com

DRAWING:

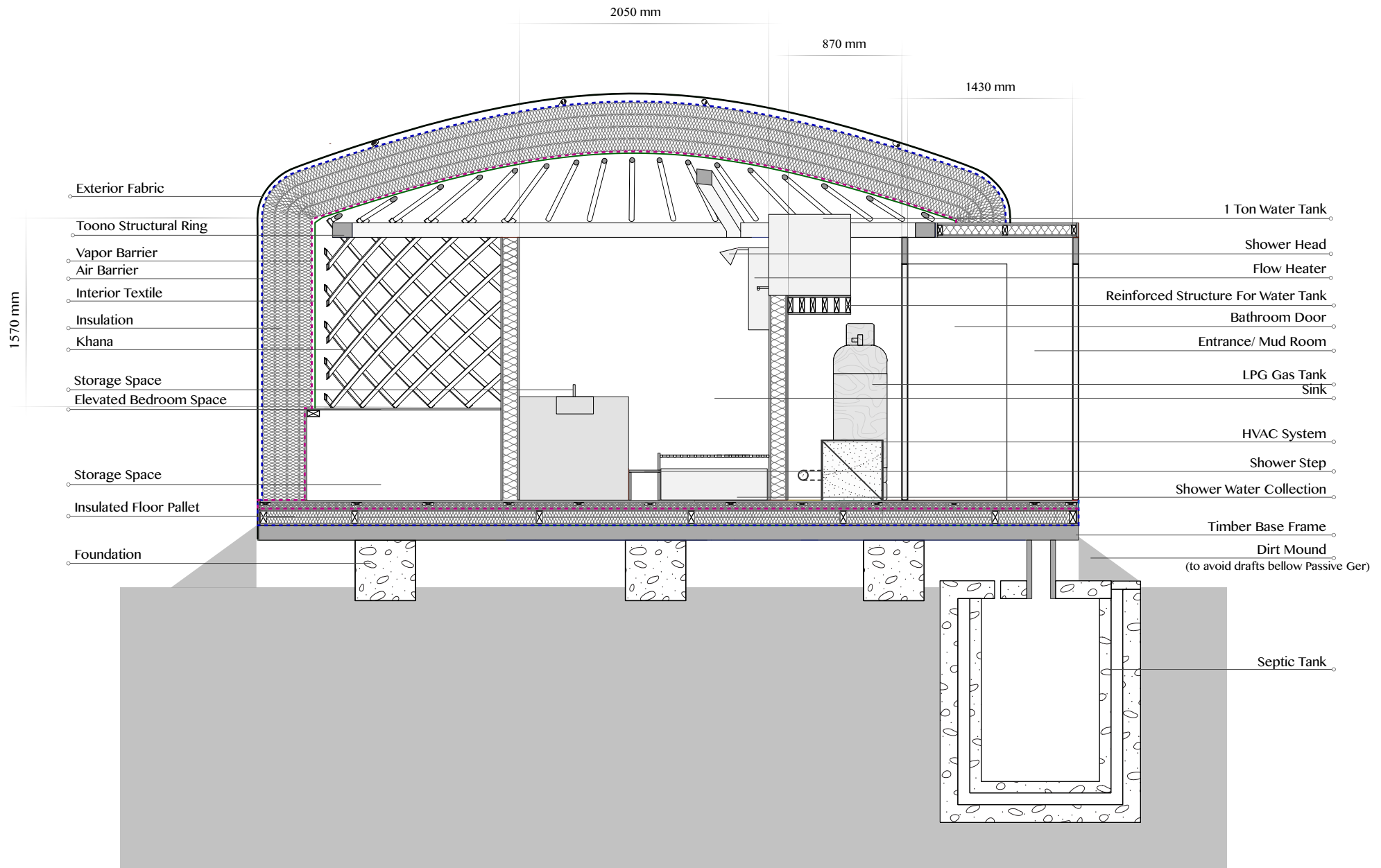
Section Elevation :
 SE: A

DATE: 21. 03. 2018

SCALE: N/A

ORIENTATION: Landscape

NUMBER: 4 of 8



PROJECT: Passive Ger

DESIGN DESCRIPTION:

The following elevation section demonstrates the mechanical ventilation, the LPG gas heating, and water tank /shower, and septic tank system of the Passive Ger Assembly.

CONTACT:

Kim Dupont- Madinier
 Kimdupontmadinier@gmail.com

DRAWING:

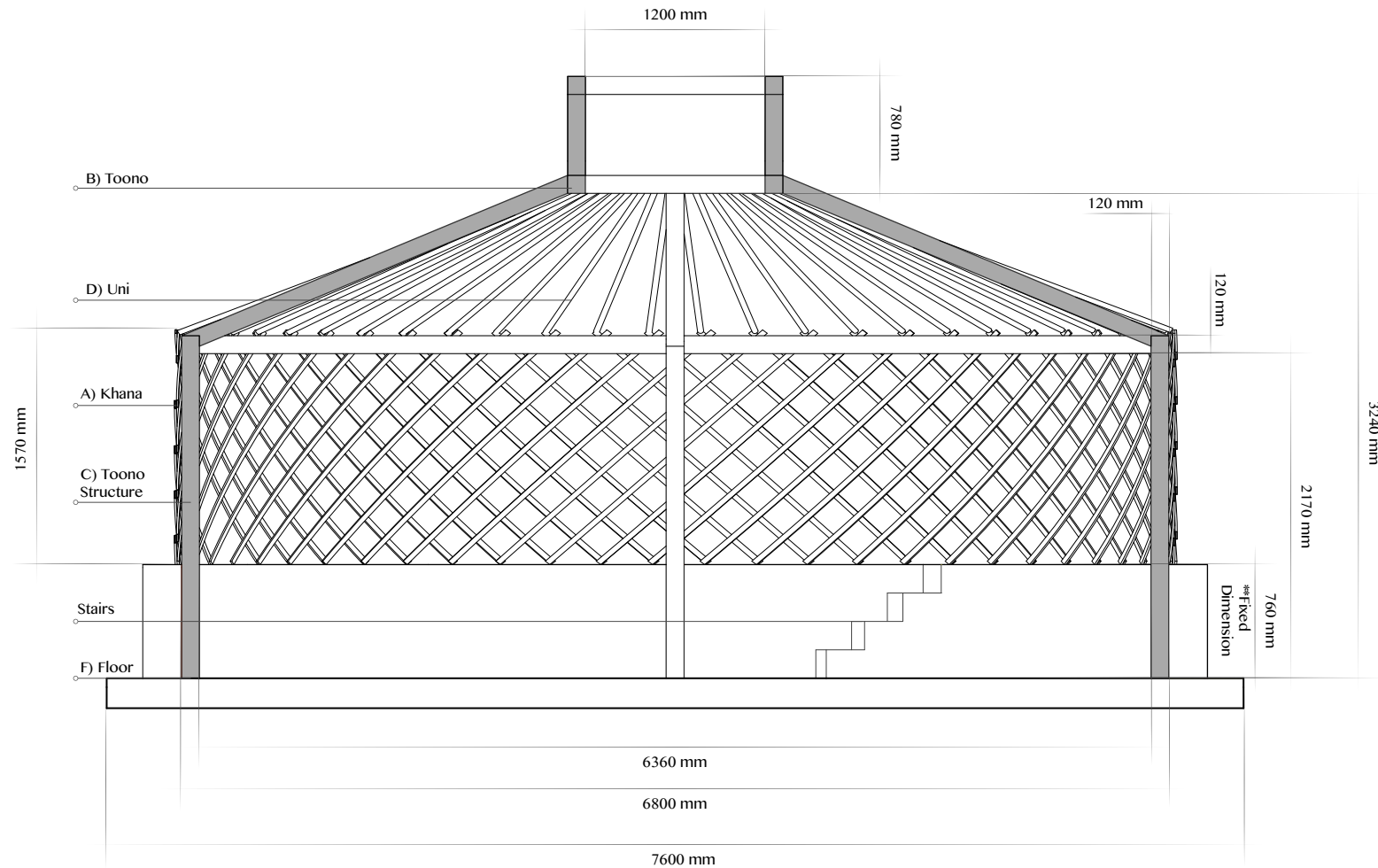
Section Elevation :
 SE: B

DATE: 21. 03. 2018

SCALE: N/A

ORIENTATION: Landscape

NUMBER: 5 of 8



PROJECT: Passive Ger

DESIGN DESCRIPTION:

The Following section detail illustrates key dimension and structural system of the Passive Ger Assembly.

CONTACT:

Kim Dupont- Madinier
 Kimdupontmadinier@gmail.com

DRAWING:

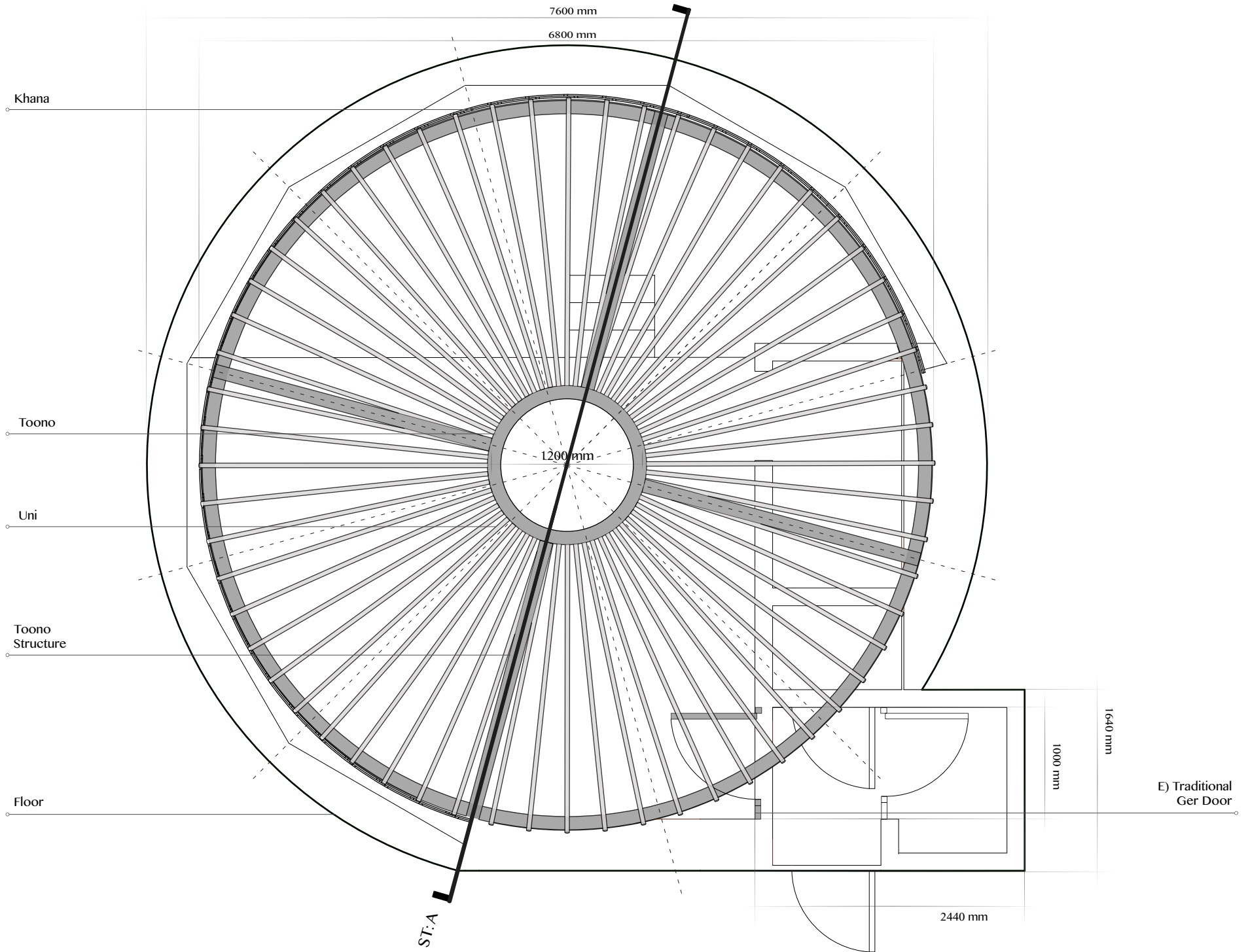
ST: A - Structural
 Section

DATE: 21. 03. 2018

SCALE: N/A

ORIENTATION: Landscape

NUMBER: 6 of 8



PROJECT: Passive Ger

DESIGN DESCRIPTION:

The Following section detail illustrates key dimension and structural system of the Passive Ger Assembly.

CONTACT:

Kim Dupont- Madinier
 Kimdupontmadinier@gmail.com

DRAWING:

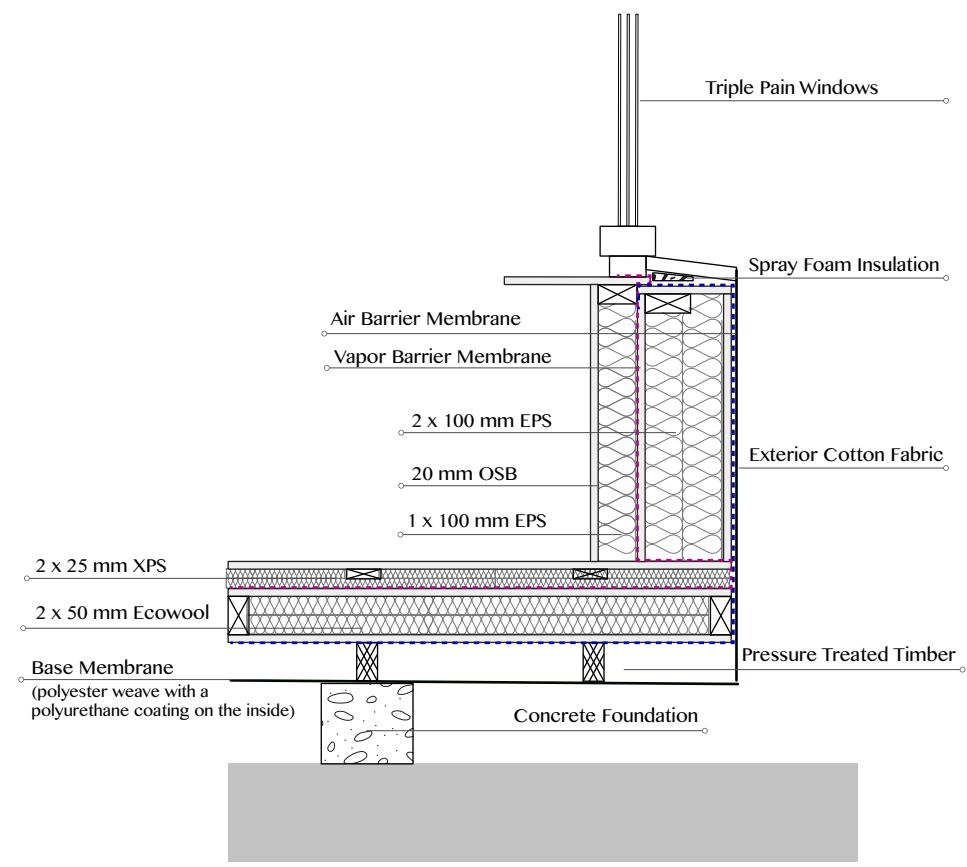
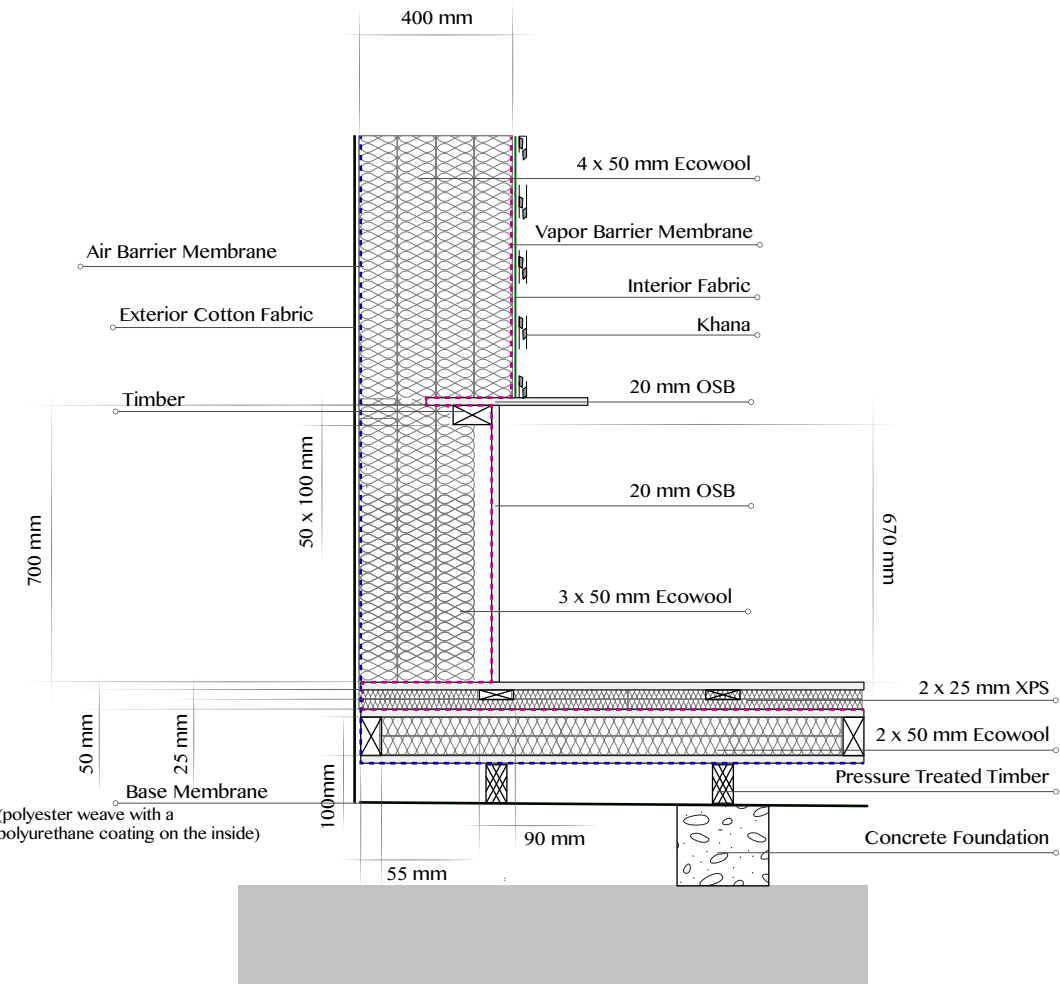
Structural
 Plan Section

DATE: 21. 03. 2018

SCALE: N/A

ORIENTATION: Landscape

NUMBER: 7 of 8



PROJECT: Passive Ger

DESIGN DESCRIPTION:
 The following section detail illustrates key dimension and material applications of the Passive Ger Assembly. The drawing on the left demonstrates the full wall assembly, whereas the drawing on the right demonstrates window section assembly.

CONTACT:
 Kim Dupont- Madinier
 Kimdupontmadinier@gmail.com

DRAWING:
 Detailed Wall/Floor Section

DATE: 27. 02. 2018
 SCALE: N/A

ORIENTATION: Landscape
 NUMBER: 7 of 8

CALCULATION DESCRIPTION: M1 Gas Heater

General Information:

- Prices: 1080 MNT per Kg
- Mongolia uses heating 8 months out of the year
- With and average usage of 18 hours in the Winter (Dec.- Feb.) = 90 Days
- With and average usage of 12 hours in the Spring & Fall (March- May) & (Sep. - November) = 180 days
- Contains a balloon & gas sensor - it will not work if it is not installed properly
- First 2 years are free; Family only has to pay for instillation + LPG Gas tank / they don't have to pay for the heating equipment

A) 25m2 gas heater : Consumption is 150 grams per hour (for energy efficient ger)

LPG gas tank comes in 10kg / Cost 10,800 MNT:
10kg balloon/150grams = 66.6 hours of burning time

LPG gas tank comes in 80kg / Cost 86,400 MNT:
80kg balloon/150grams = 533.3 hours of burning time
Winter; change every 29.63 days (3 total in the winter)
Spring & Fall; change every 44.44 days (4 total in the Spring & Fall)

TOTAL: 7 total 80kg balloons from Fall to Spring (9 months) = 604,800 MNT

B) 50m2 gas heater : Consumption is 250 grams per hour

LPG gas tank comes in 10kg / Cost 10,800 MNT:
10kg balloon /250grams = 40 hours of burning time

LPG gas tank comes in 80kg / Cost 86,400 MNT:
80kg balloon /250grams = 320 hours of burning time
Winter; change every 17.77 days (5 total in the winter)
Spring & Fall; change every 26.66 days (6 total in the winter)
TOTAL: 11 total 80kg balloons from Fall to Spring (9 months) = 950,400 MNT

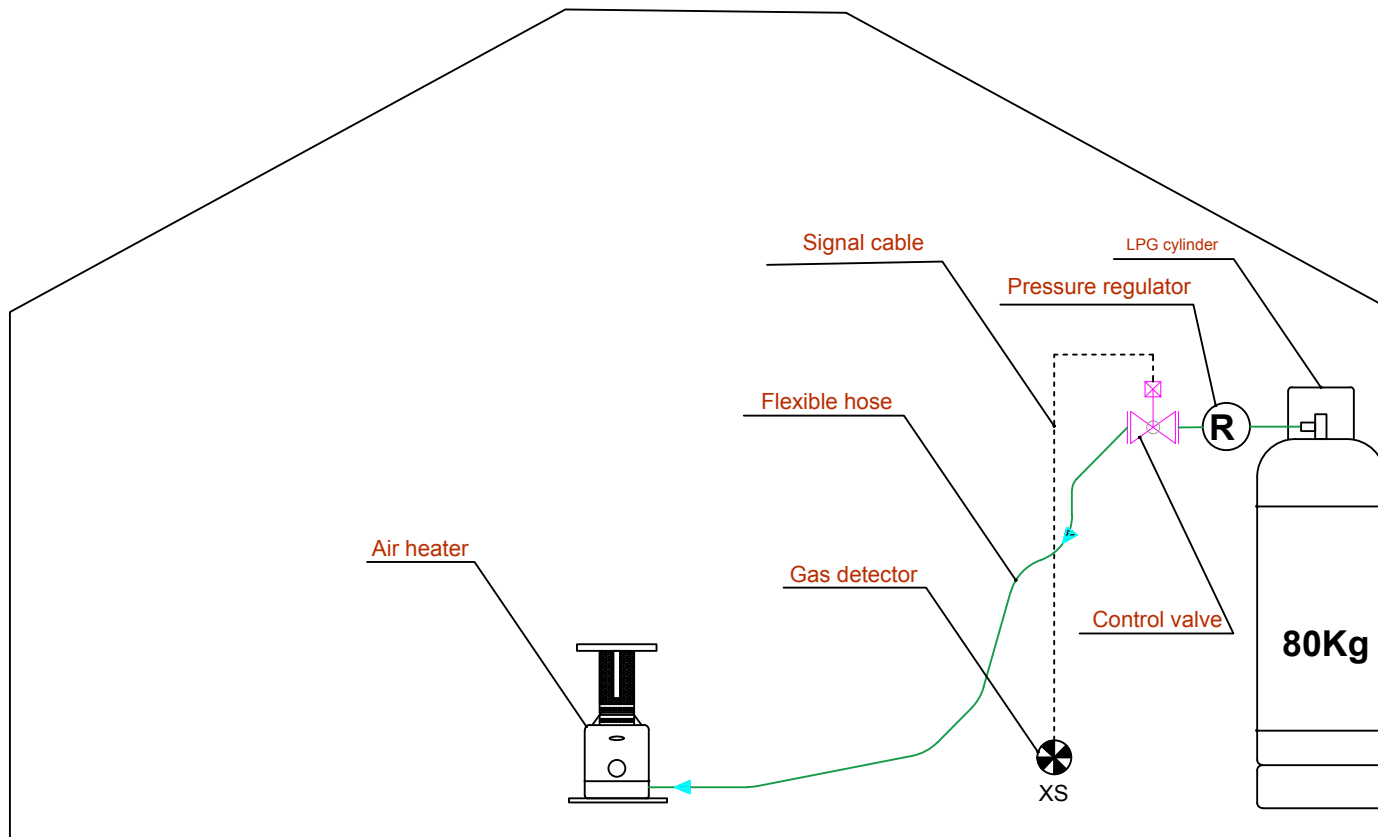
Comparison of Cost of Coal vs. LPG

Coal = Current Price: 60,000 MNT per Ton of Coal / families use on average 5 Ton each year = 600,000 MNT

LPG =

Option A: 25m2 Gas Heater, with consumption 150 grams per hour TOTAL: 7 total 80kg balloons from Fall to Spring (9 months) = 604,800 MNT

Option B: 50m2 Gas Heater, with consumption 250 grams per hour TOTAL: 11 total 80kg balloons from Fall to Spring (9 months) = 950,400 MNT



PROJECT: Passive Ger

DESIGN DESCRIPTION:

The Following diagram is an example of the clean energy system gas heating system that could be implemented to replace the coal heating system.

CONTACT:
Kim Dupont- Madinier
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DRAWING:
Diagram of Gas
heating system

DATE: 27. 02. 2018
SCALE: N/A

ORIENTATION: Landscape
NUMBER: 8 of 8