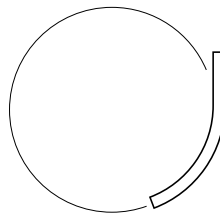
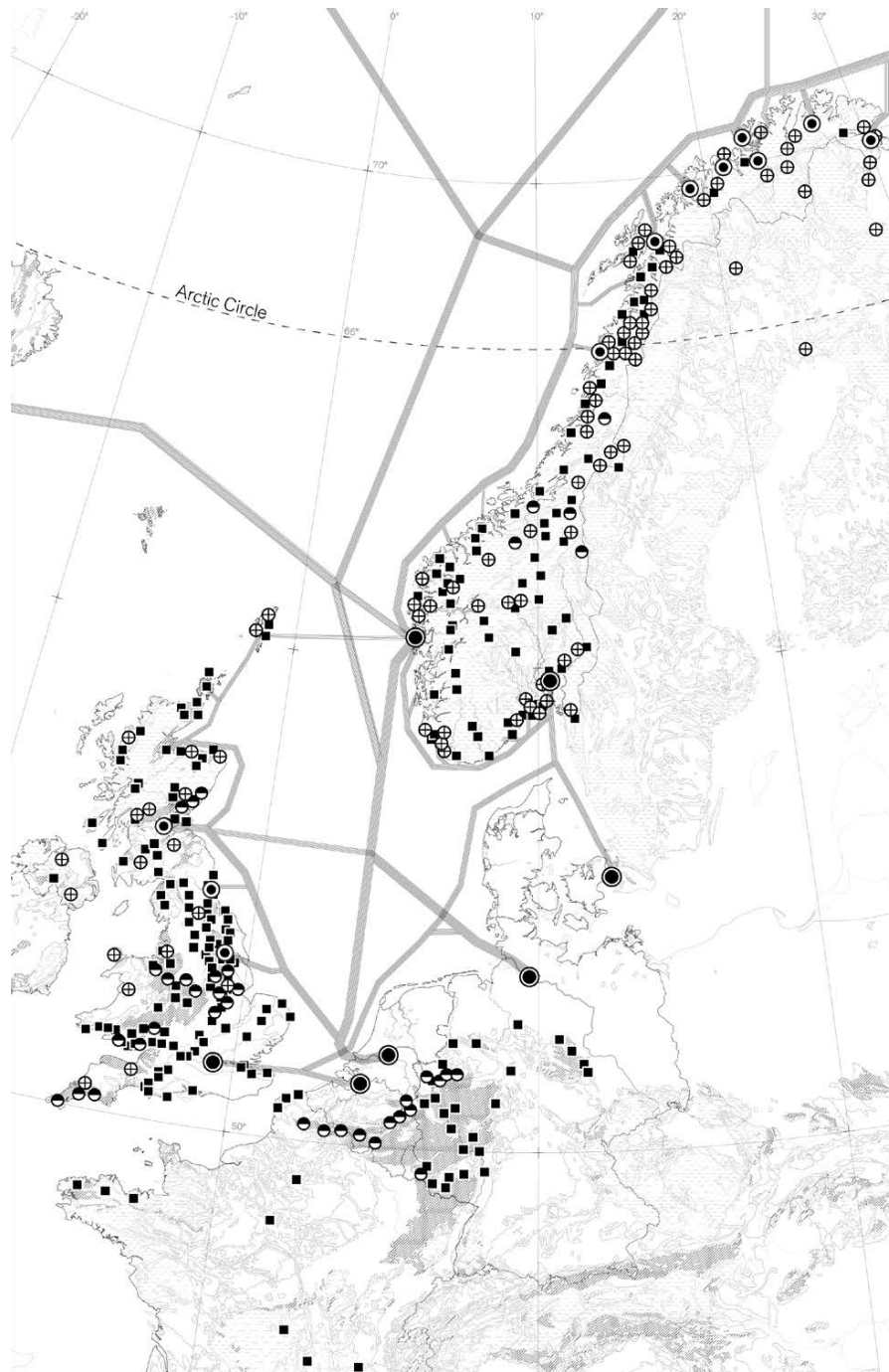


# *The Embassy of Waste*

*Towards the well governance and self-sufficiency in the Arctic.*

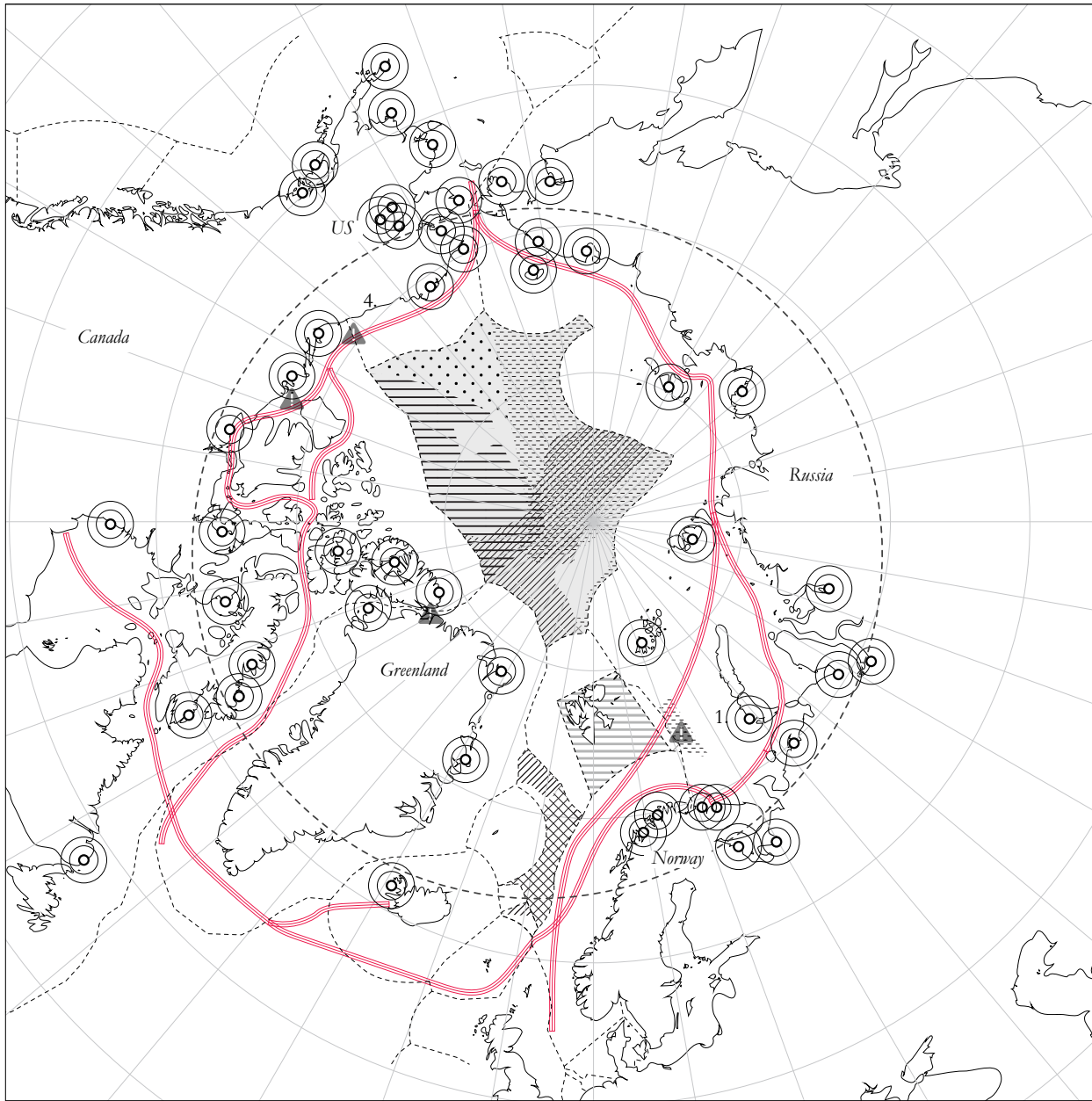


*Svalbard , Longyearbyen*

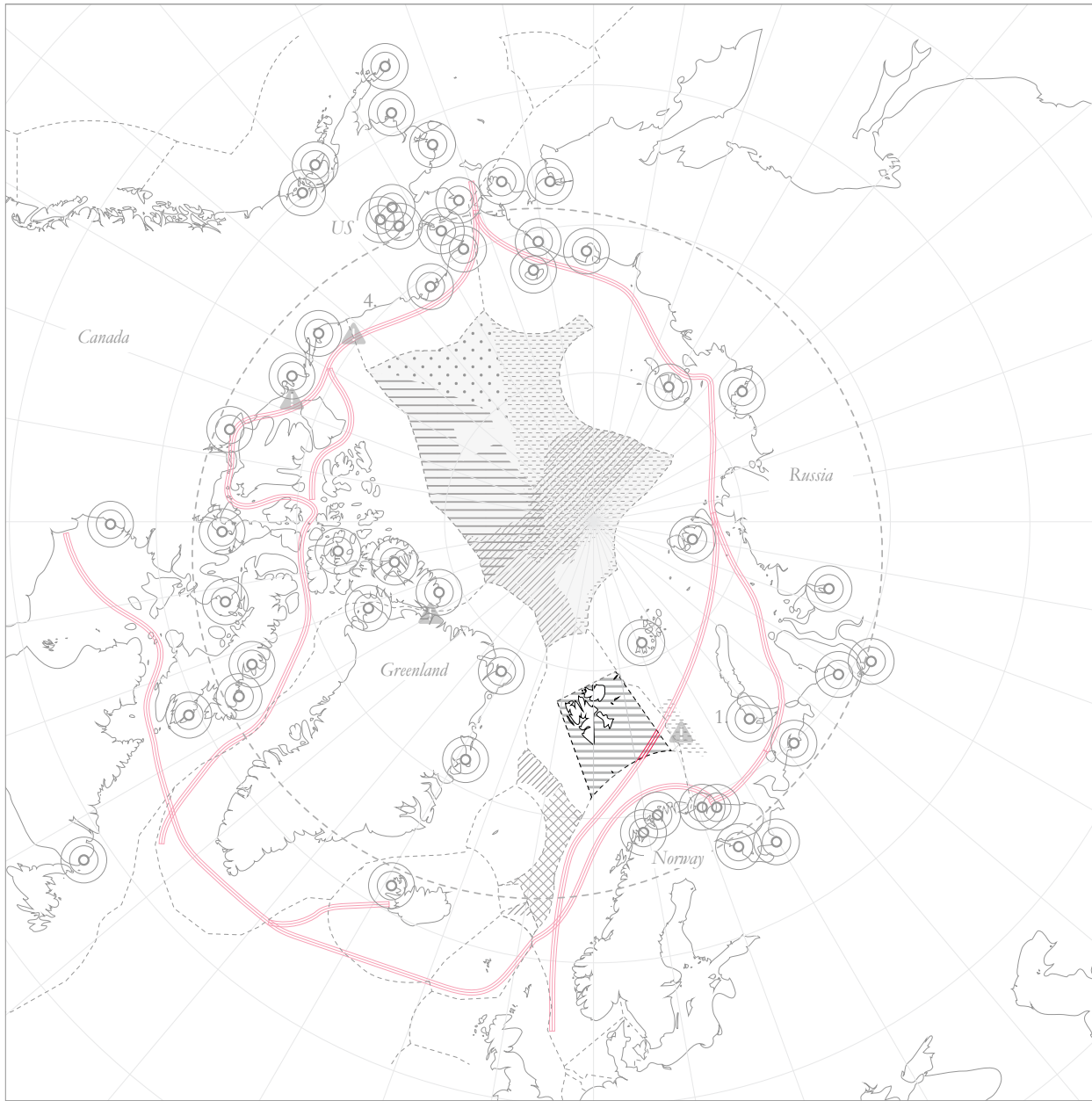




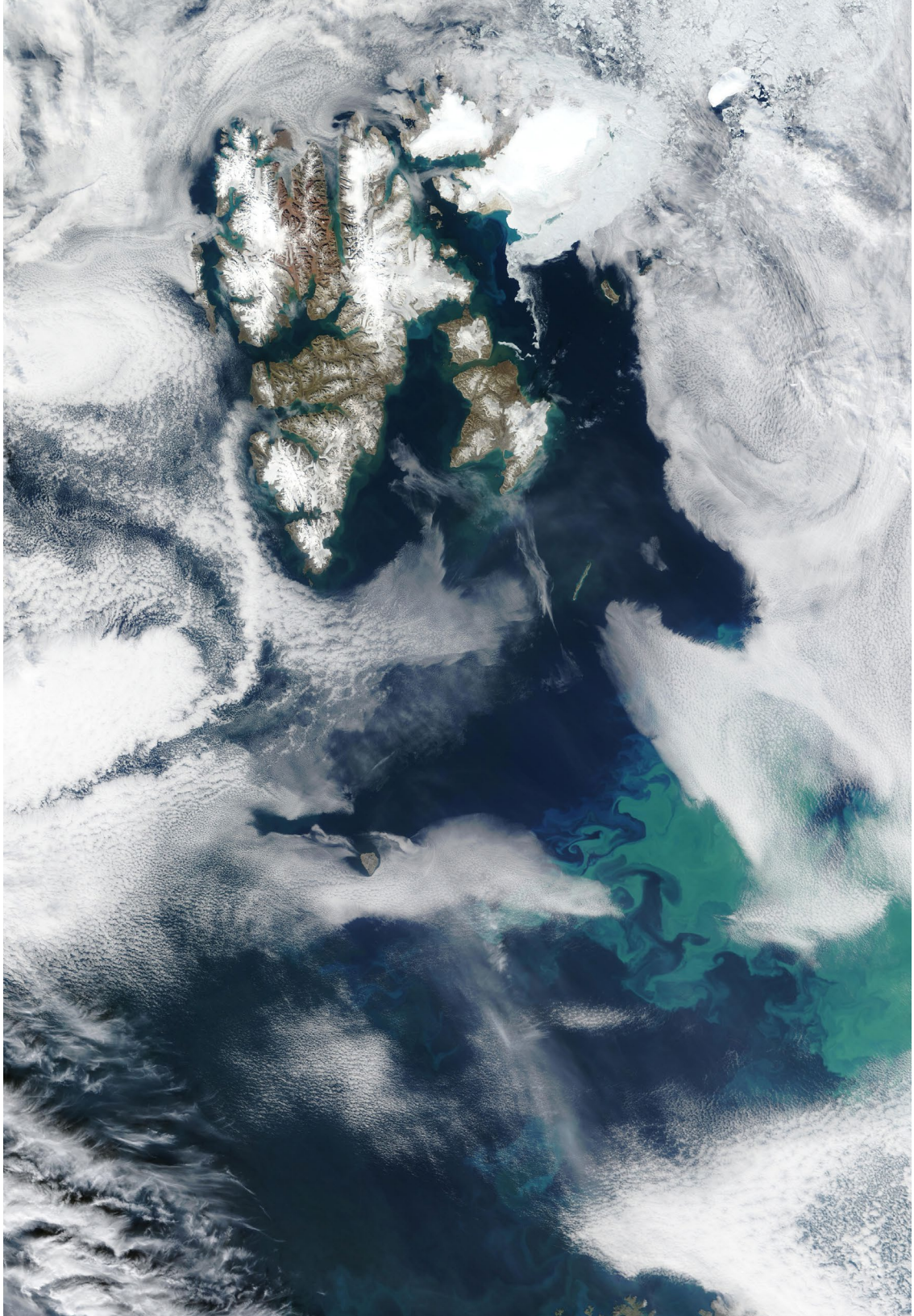
*Shift to the Arctic*

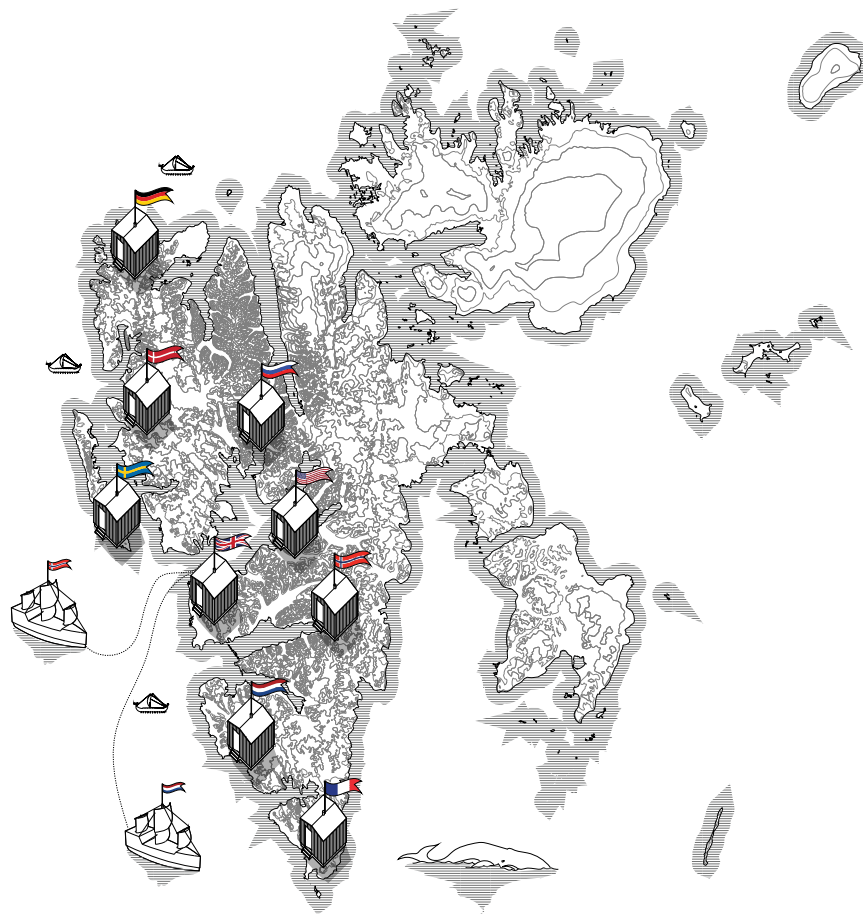


*Political Crisis*



*Svalbard Free Zone*



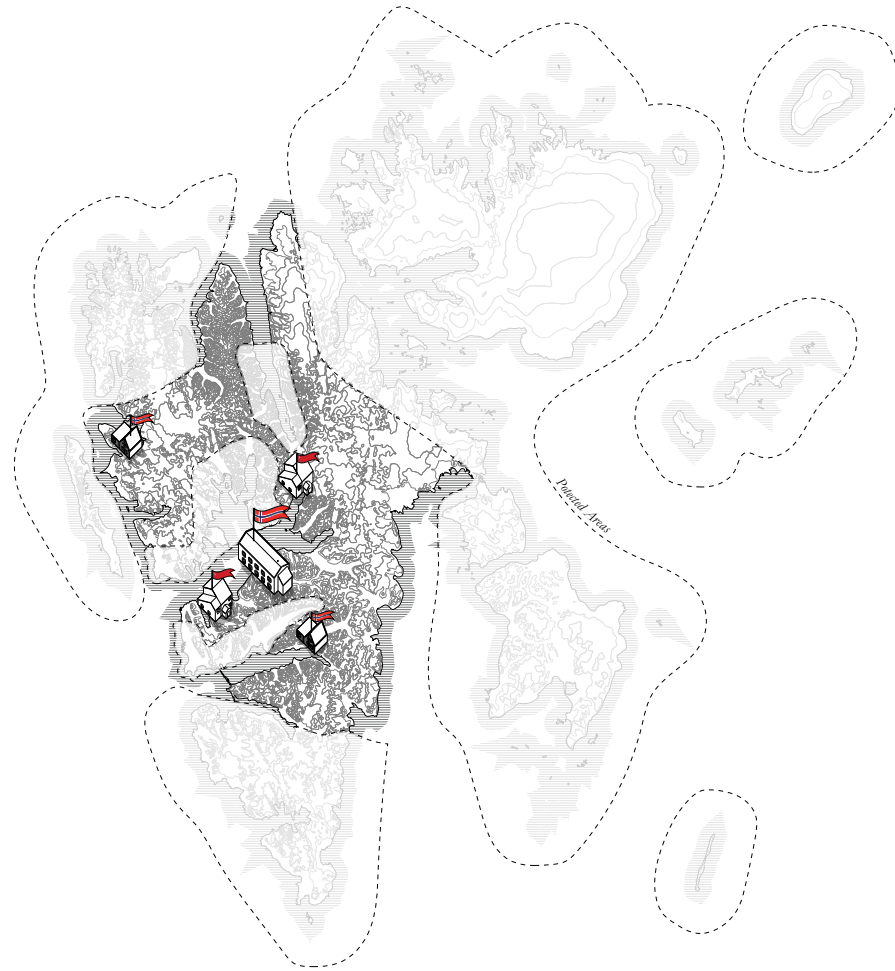


*Terra Nullius*



*Coal Mining*

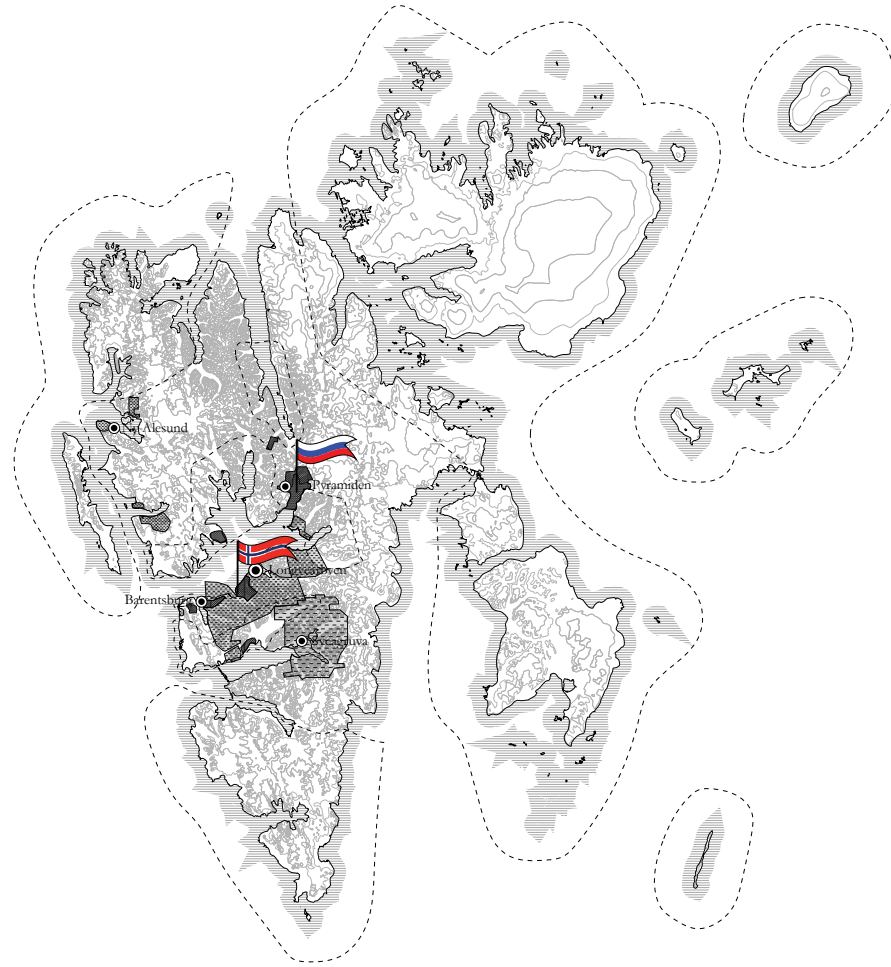


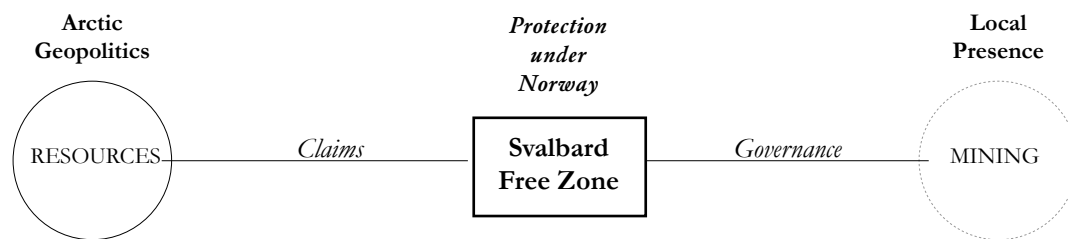


SVALBARD TREATY  
1920

*Spitsbergenavdrag*







*Delicate Equilibrium*

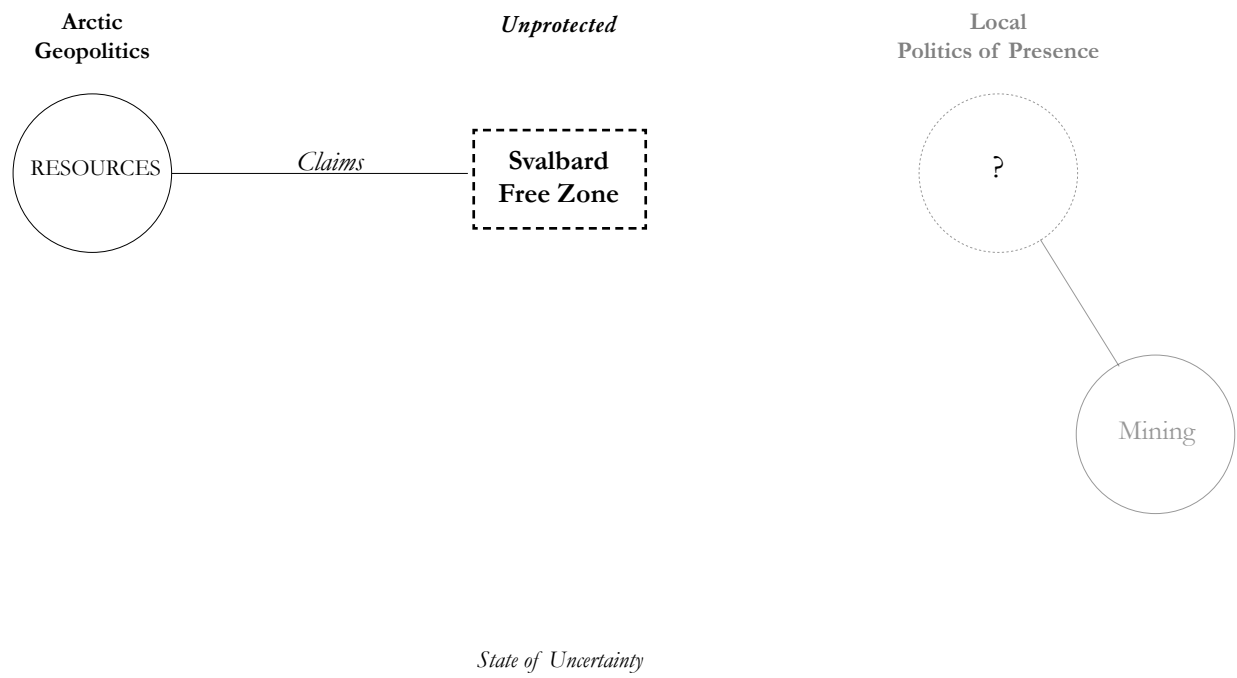
NORWAY

## Watch: Norway's last coal miners fight for survival against climate policy COMMENTS

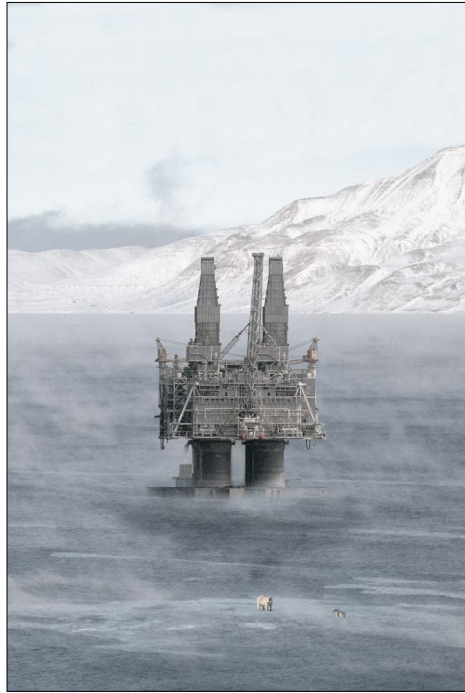
By [Lindsey Johnstone](#) with Reuters • last updated: 20/09/2019



The town was founded as a mining settlement in 1906 - Copyright Reuters



*The urgency for a new political representation !*

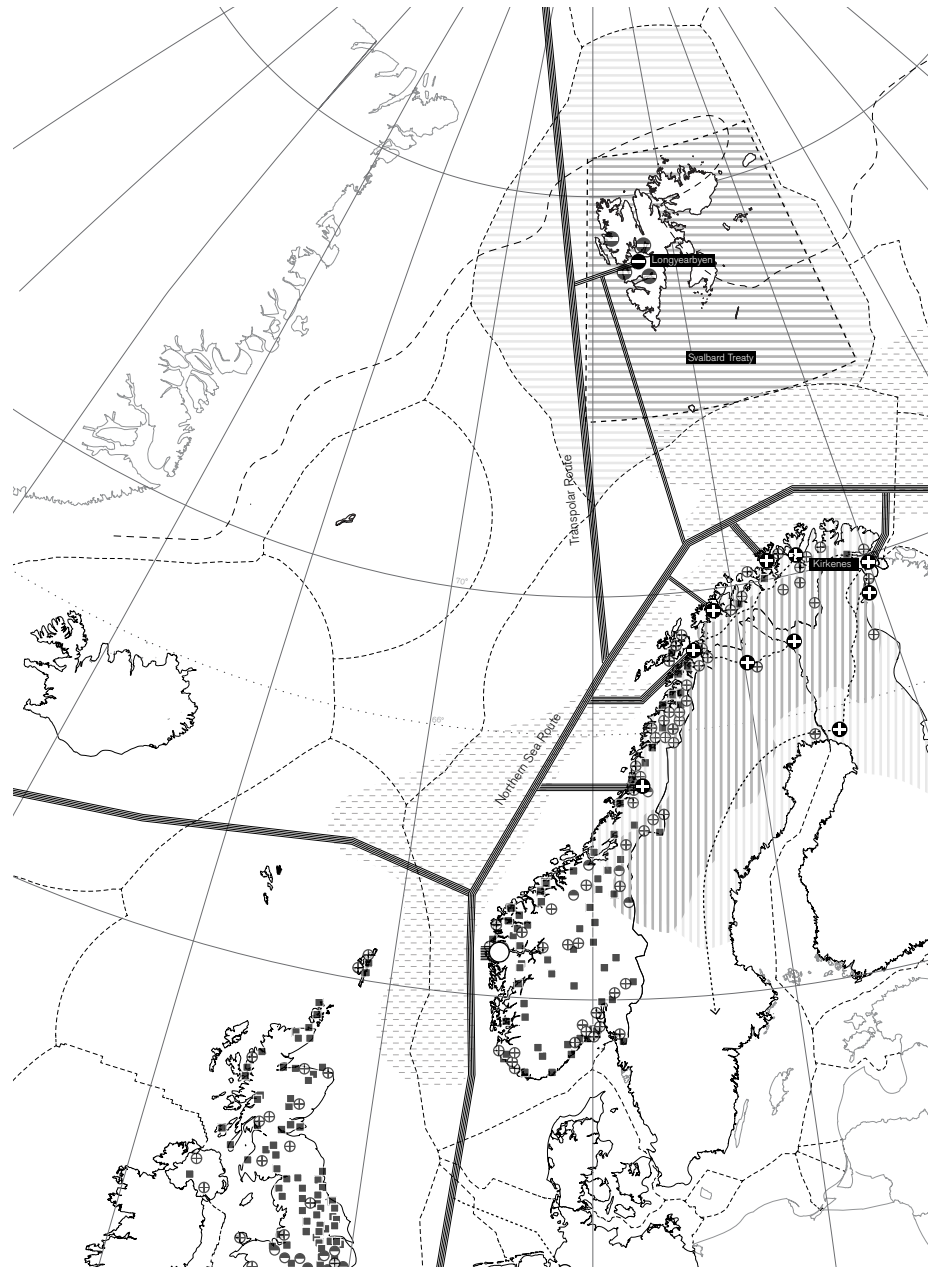


*The Svalbard Free Zone*

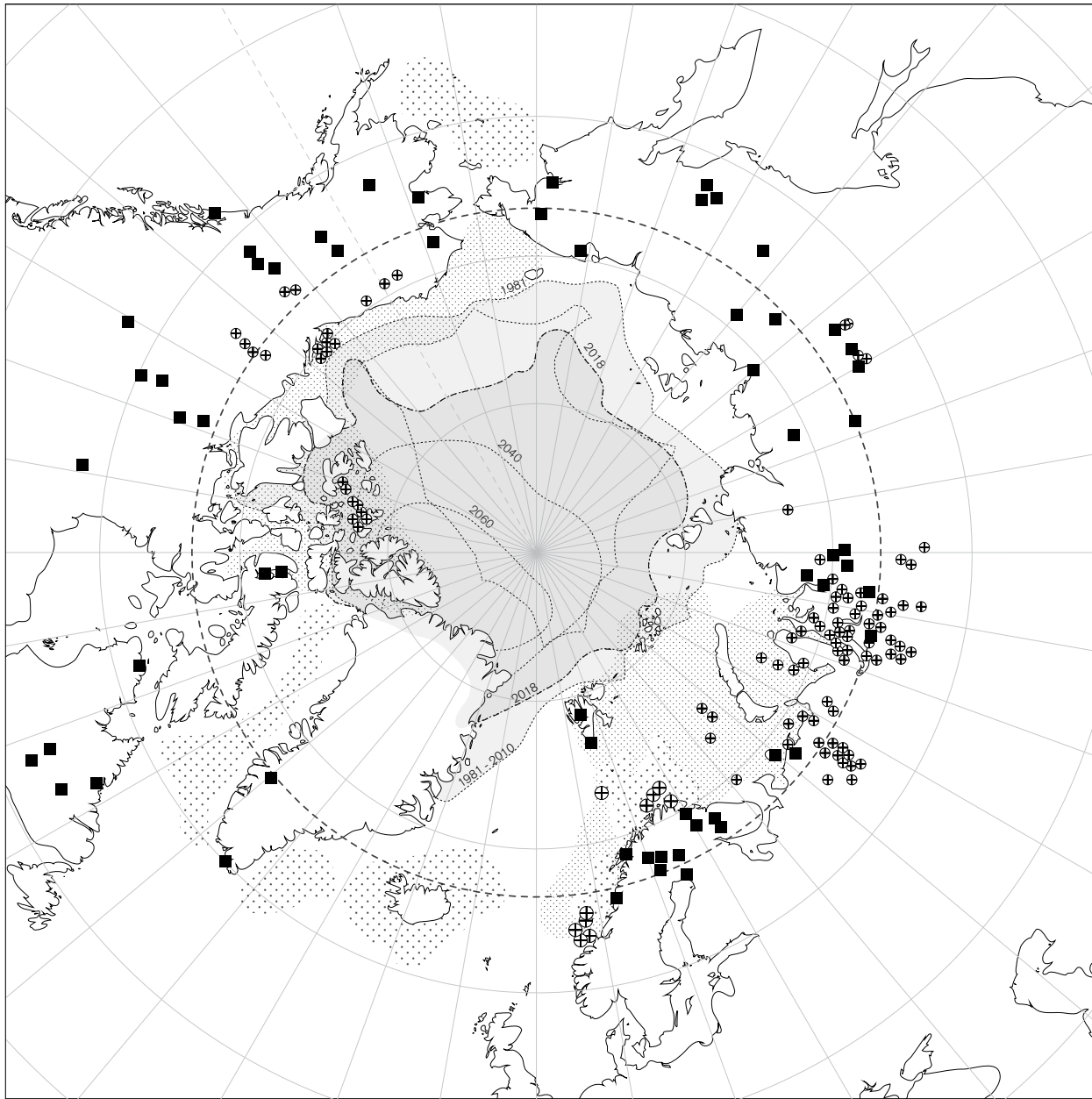
*Opportunity!*



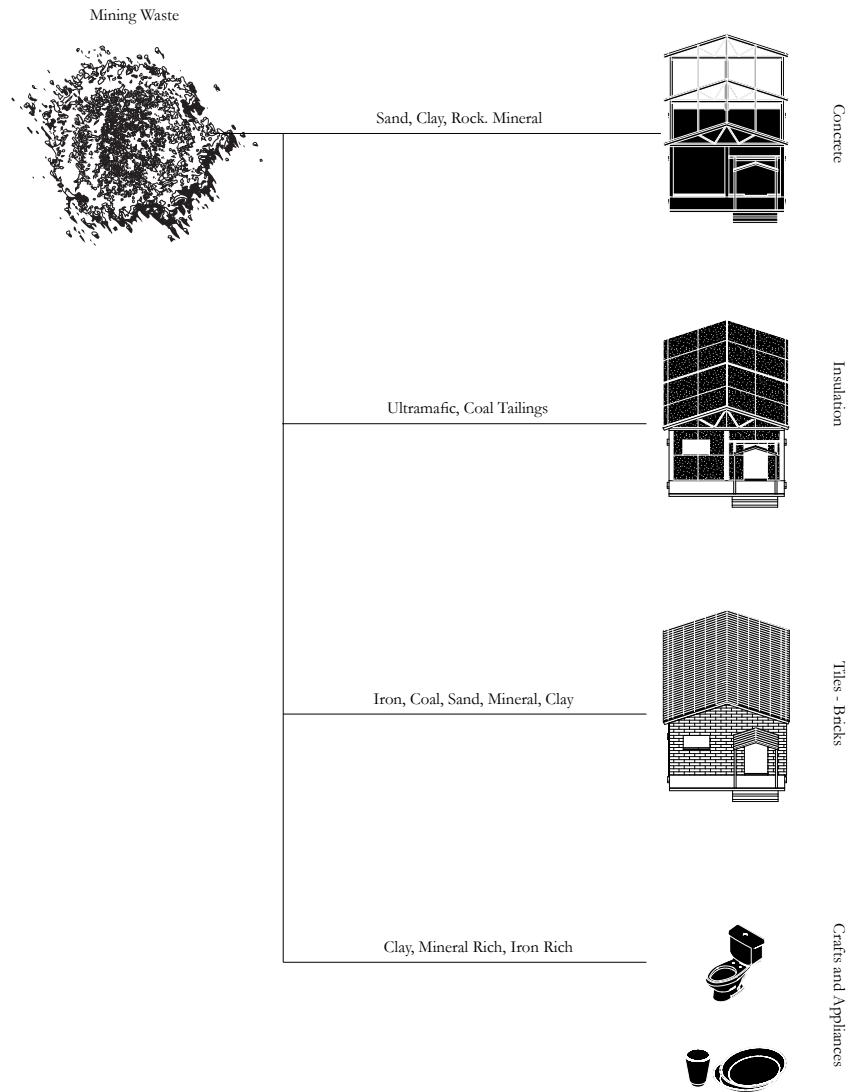


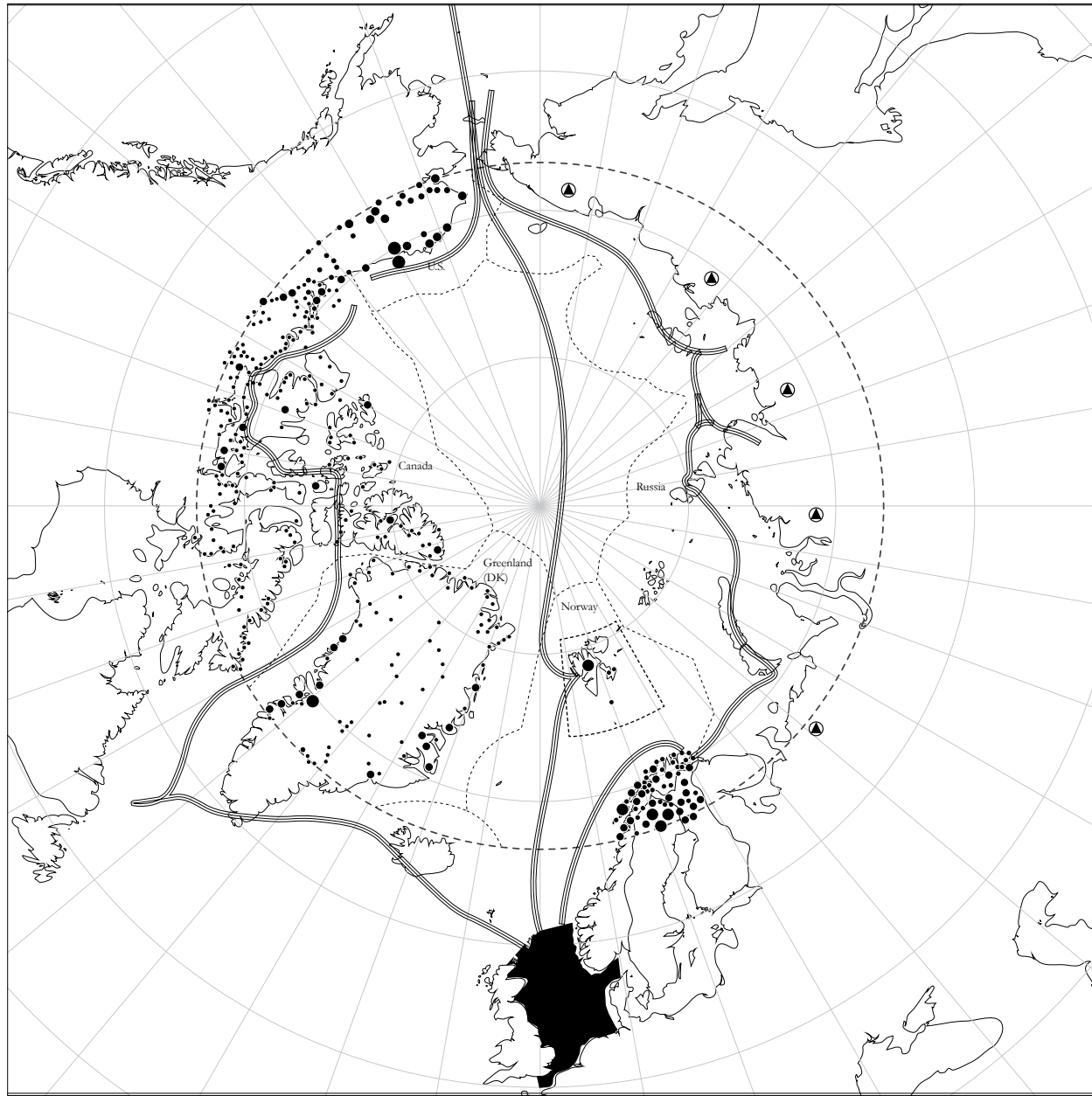


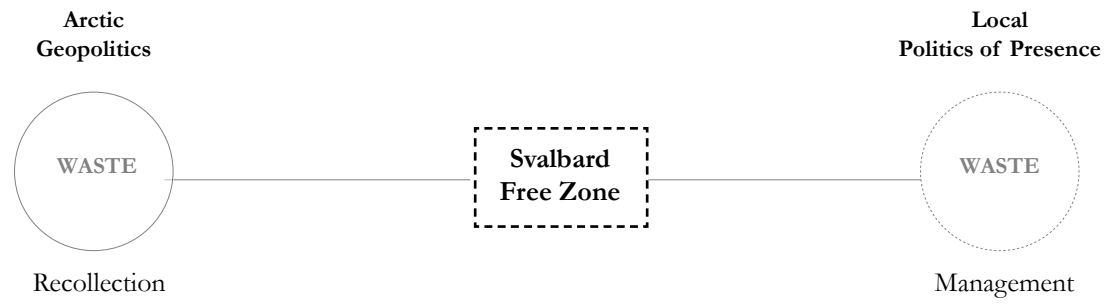
*Energy Paradox*

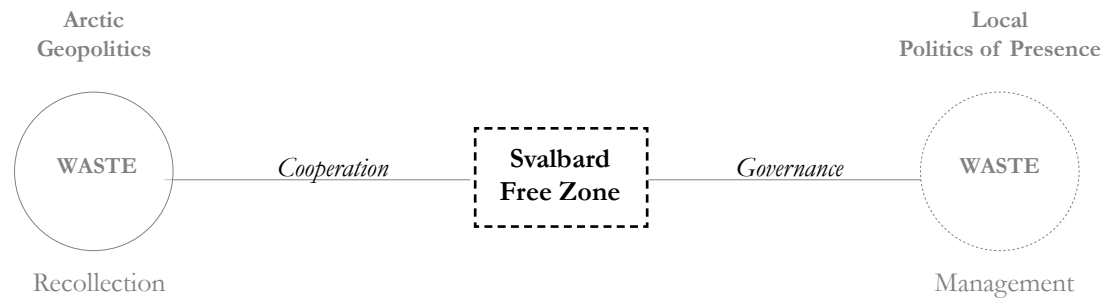






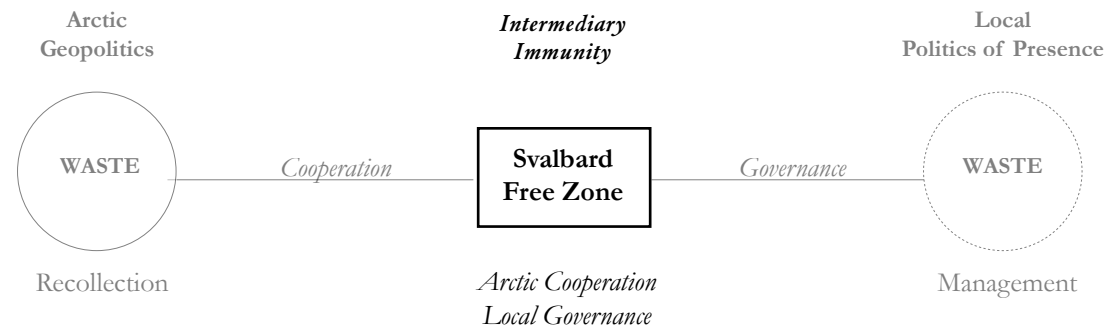






# EMBASSY OF WASTE

Svalbard Free Zone



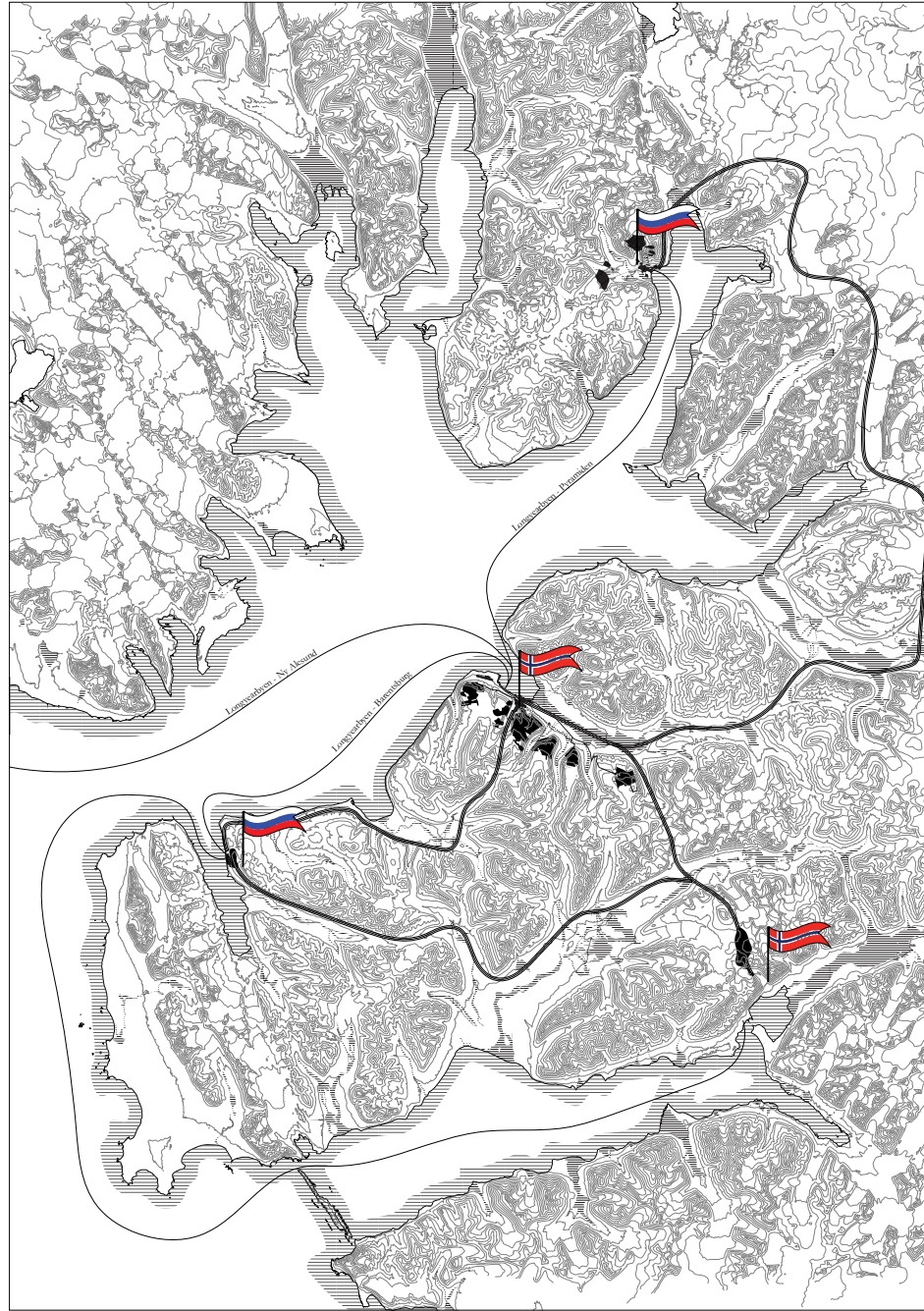


*Research Question*

*How can the management of mining waste become a tool for governance and self sufficiency in the Arctic?*

# Manifesto

*Embassy of Waste*



*Isfjord, Svalbard*

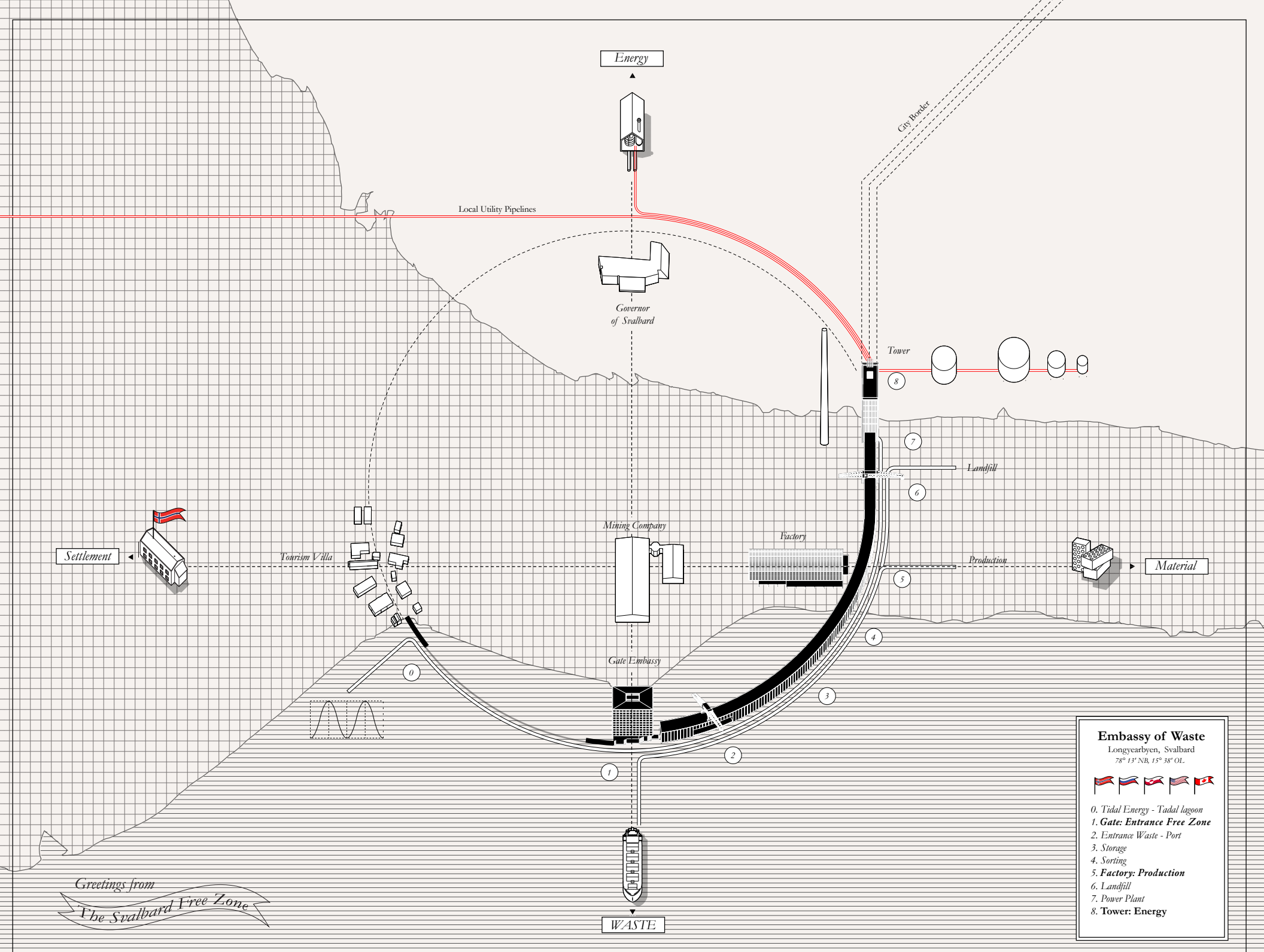


*Longyearbyen*





*Externalities to Mining*



Energy

Local Utility Pipelines

Governor of Svalbard

City Boundary

Tower

8

7

Landfill

6

Mining Company

Factory

Production

Material

5

4

Gate Embassy

3

2

1

WASTE

Settlement

Tourism Villa

**Embassy of Waste**

Longyearbyen, Svalbard

78° 13' NB, 15° 38' OL



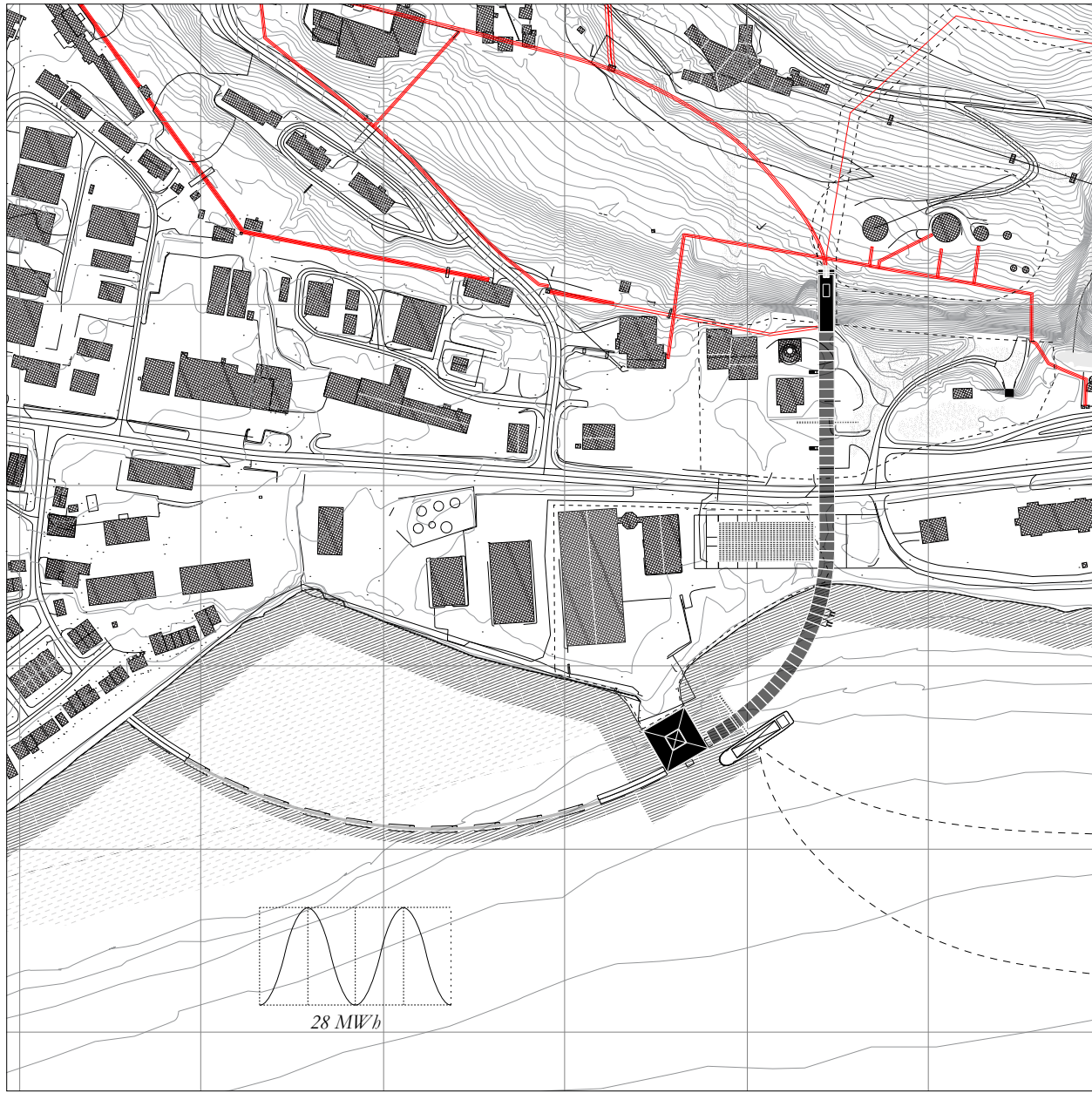
- 0. Tidal Energy - Tadal lagoon
- 1. Gate: Entrance Free Zone
- 2. Entrance Waste - Port
- 3. Storage
- 4. Sorting
- 5. Factory: Production
- 6. Landfill
- 7. Power Plant
- 8. Tower: Energy

Greetings from  
The Svalbard Free Zone

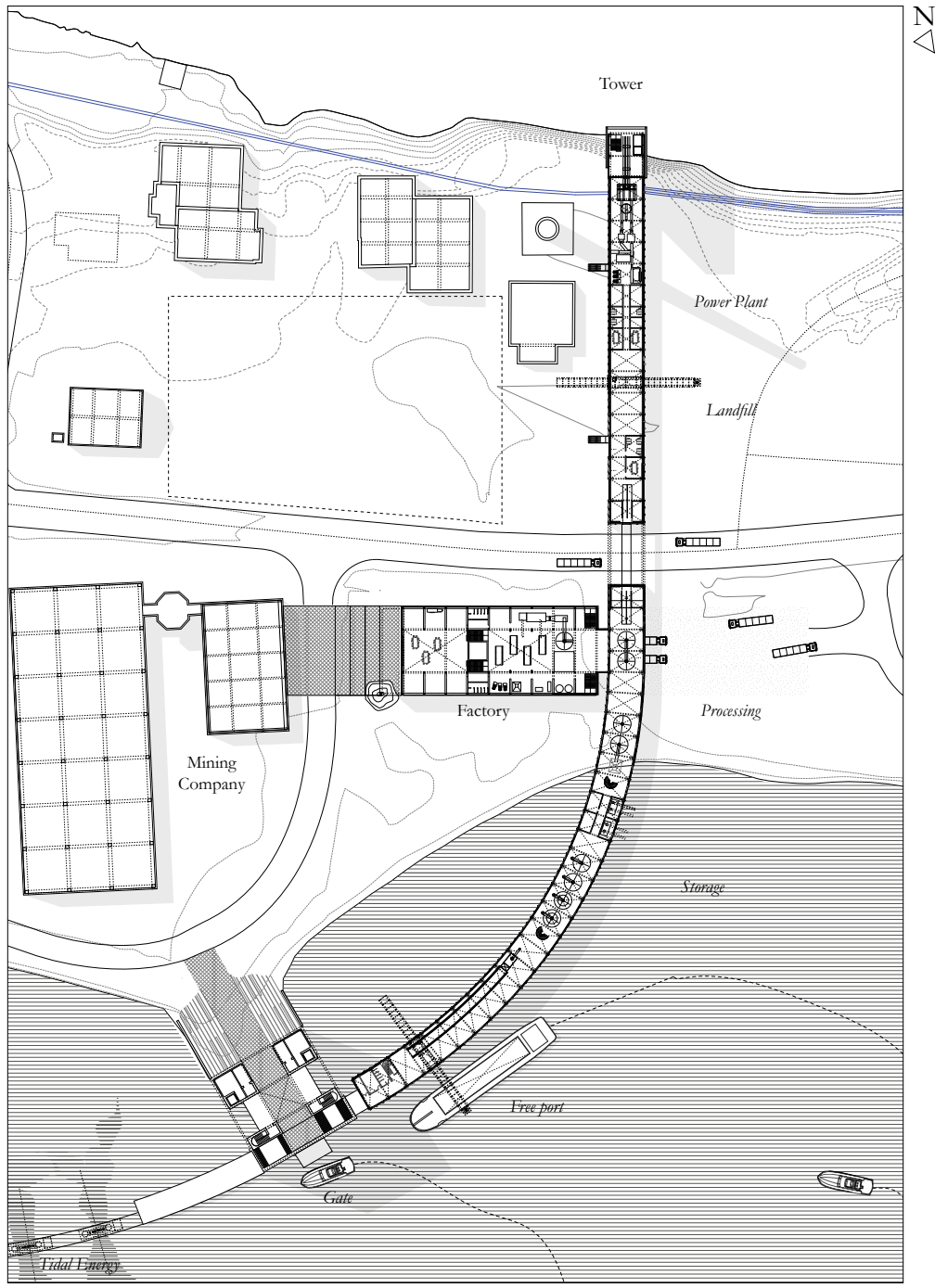


*Site*



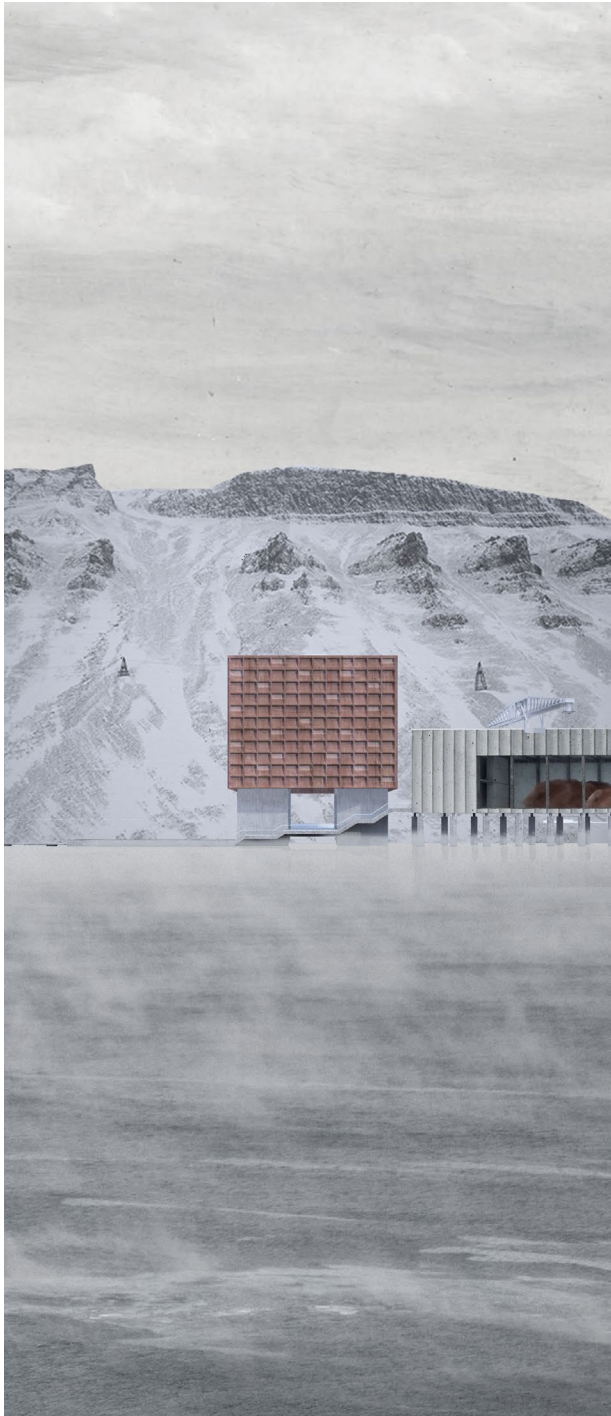


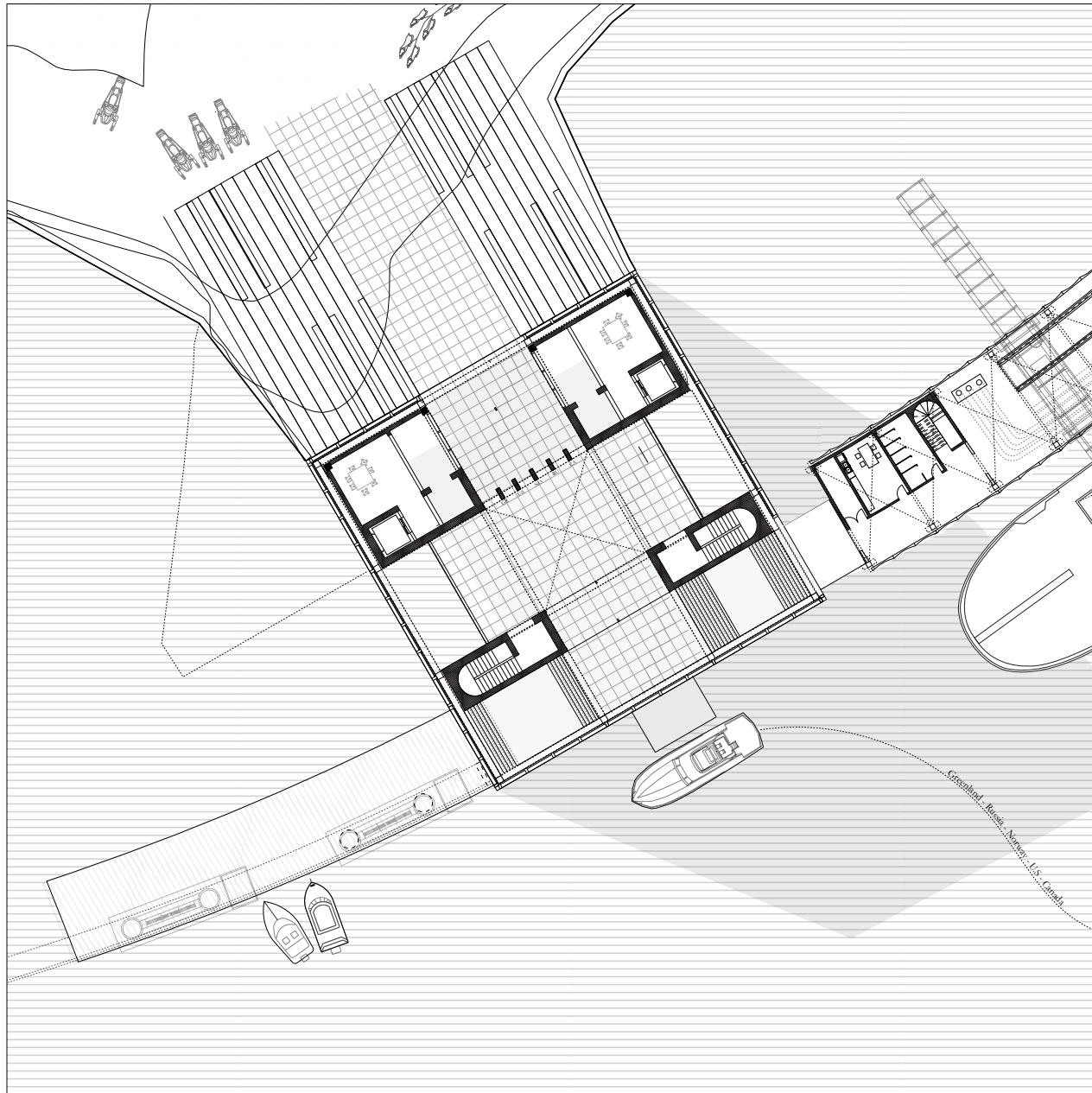
*Tidal Energy*



# **The Gate**

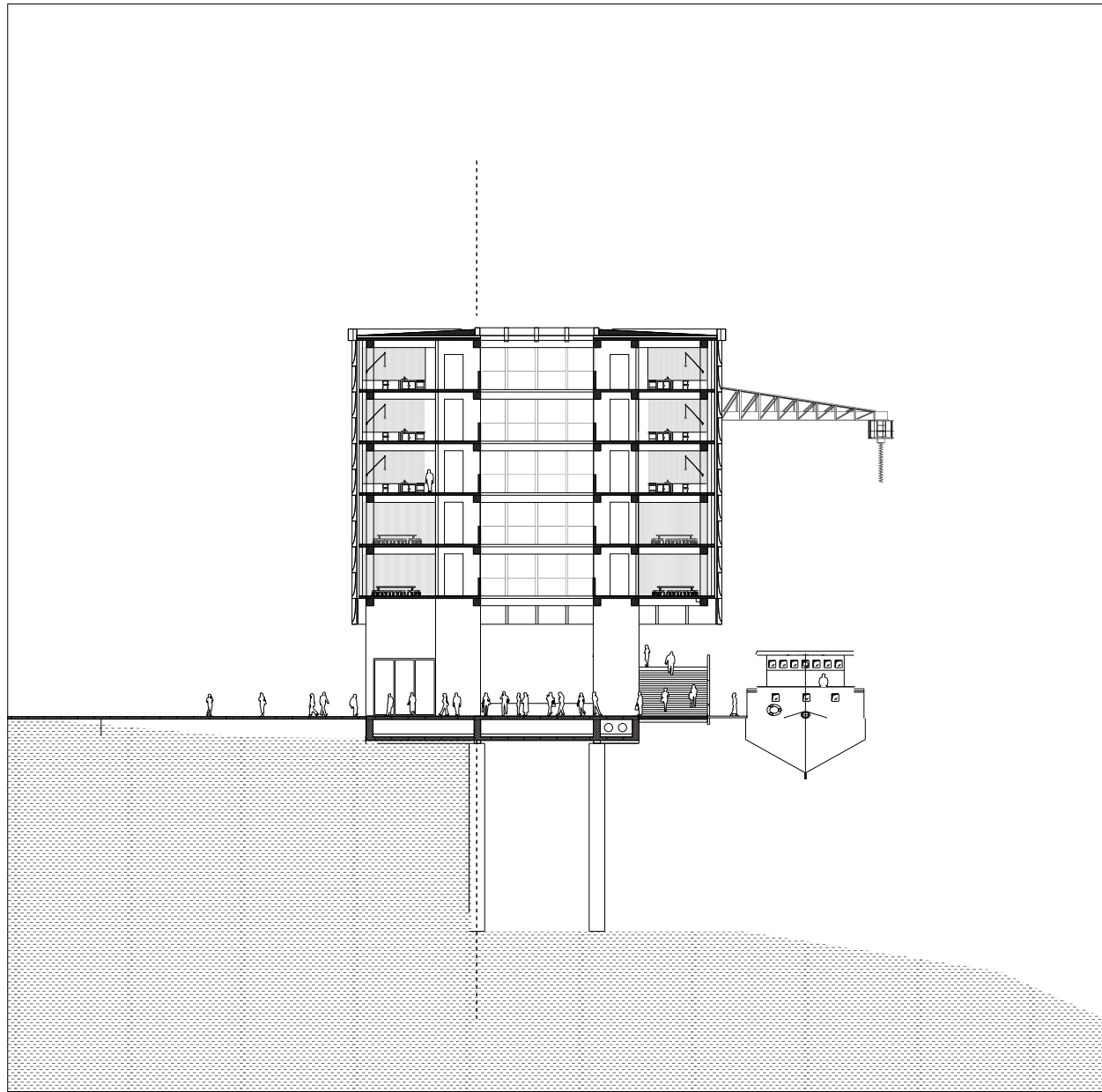
*Arctic Cooperation - Free Port*



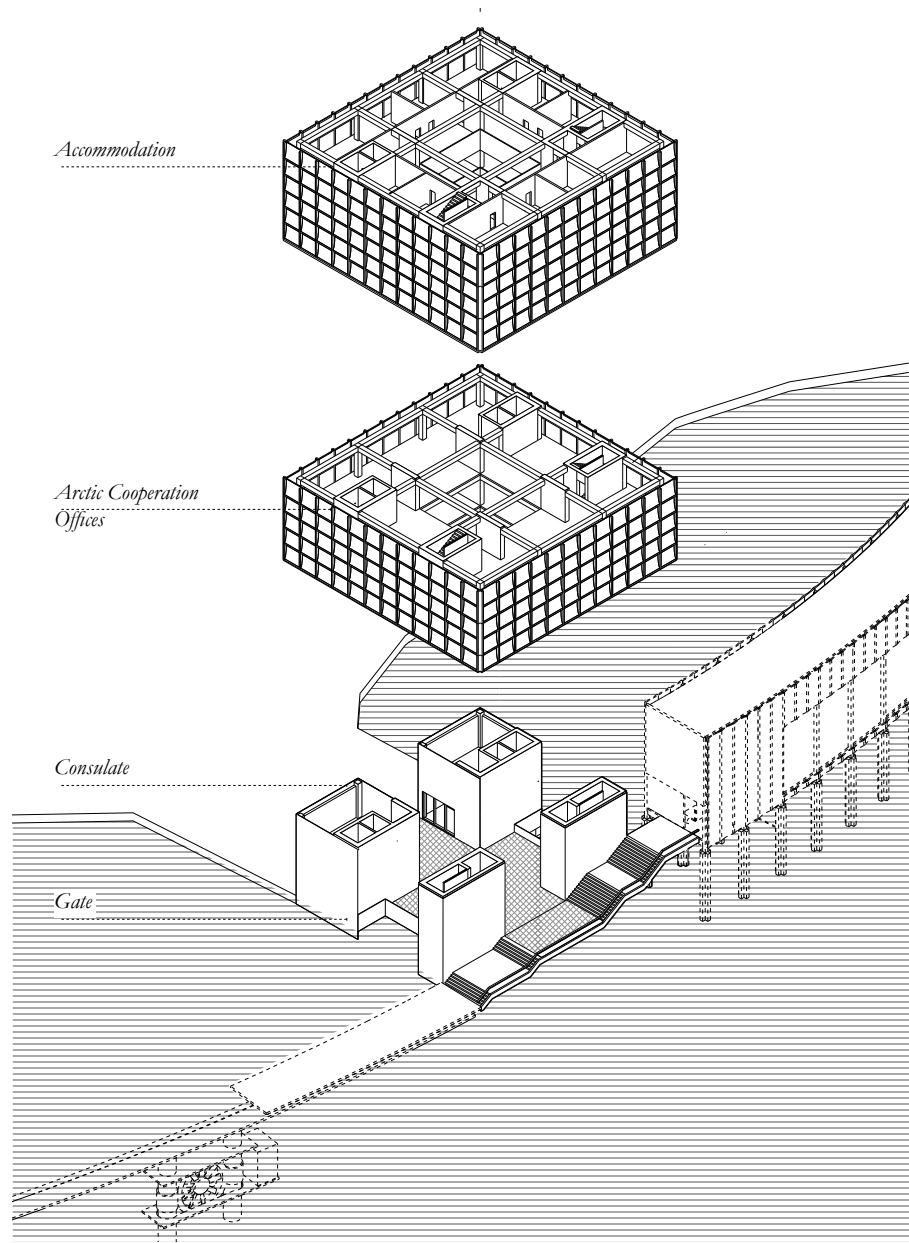


0m 5 15 30m

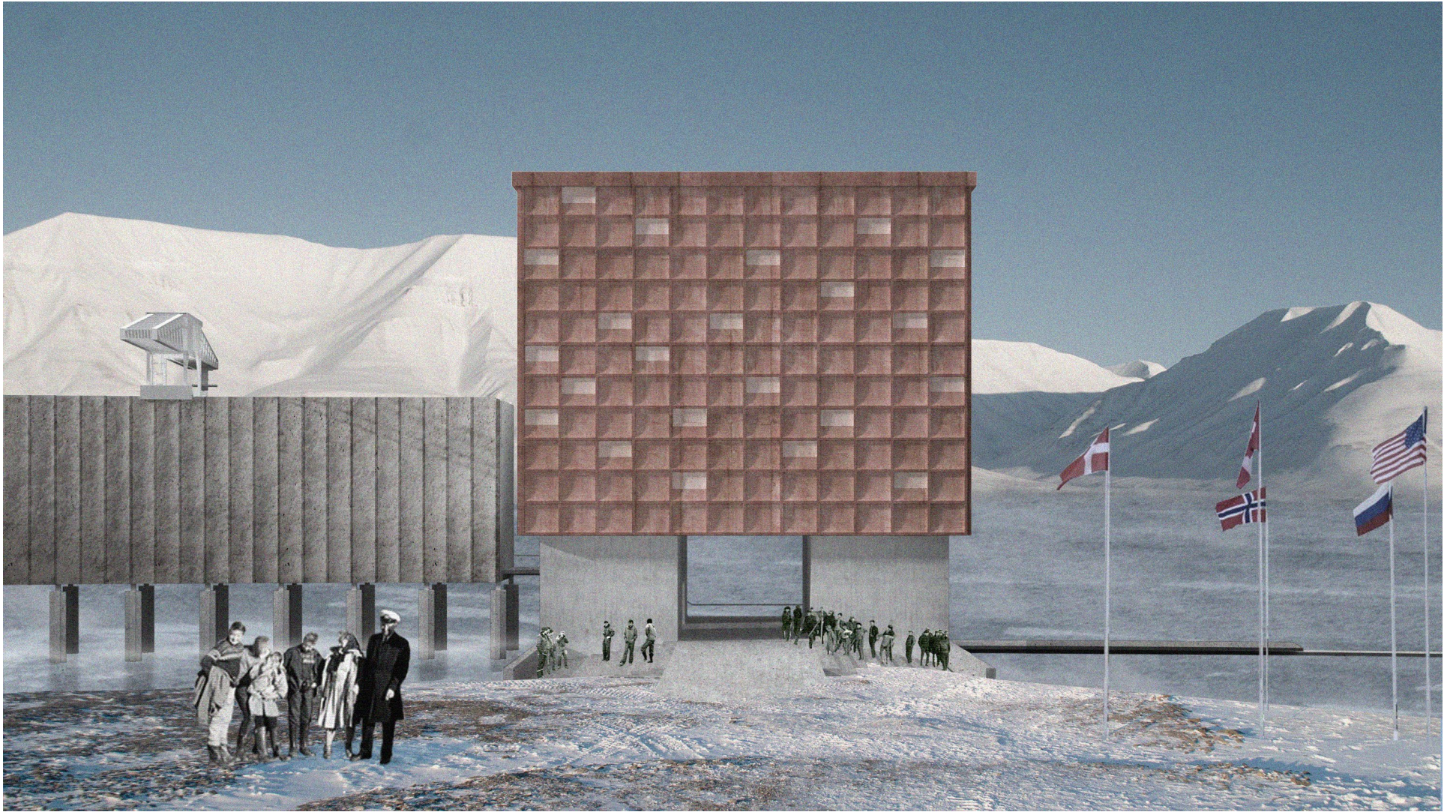




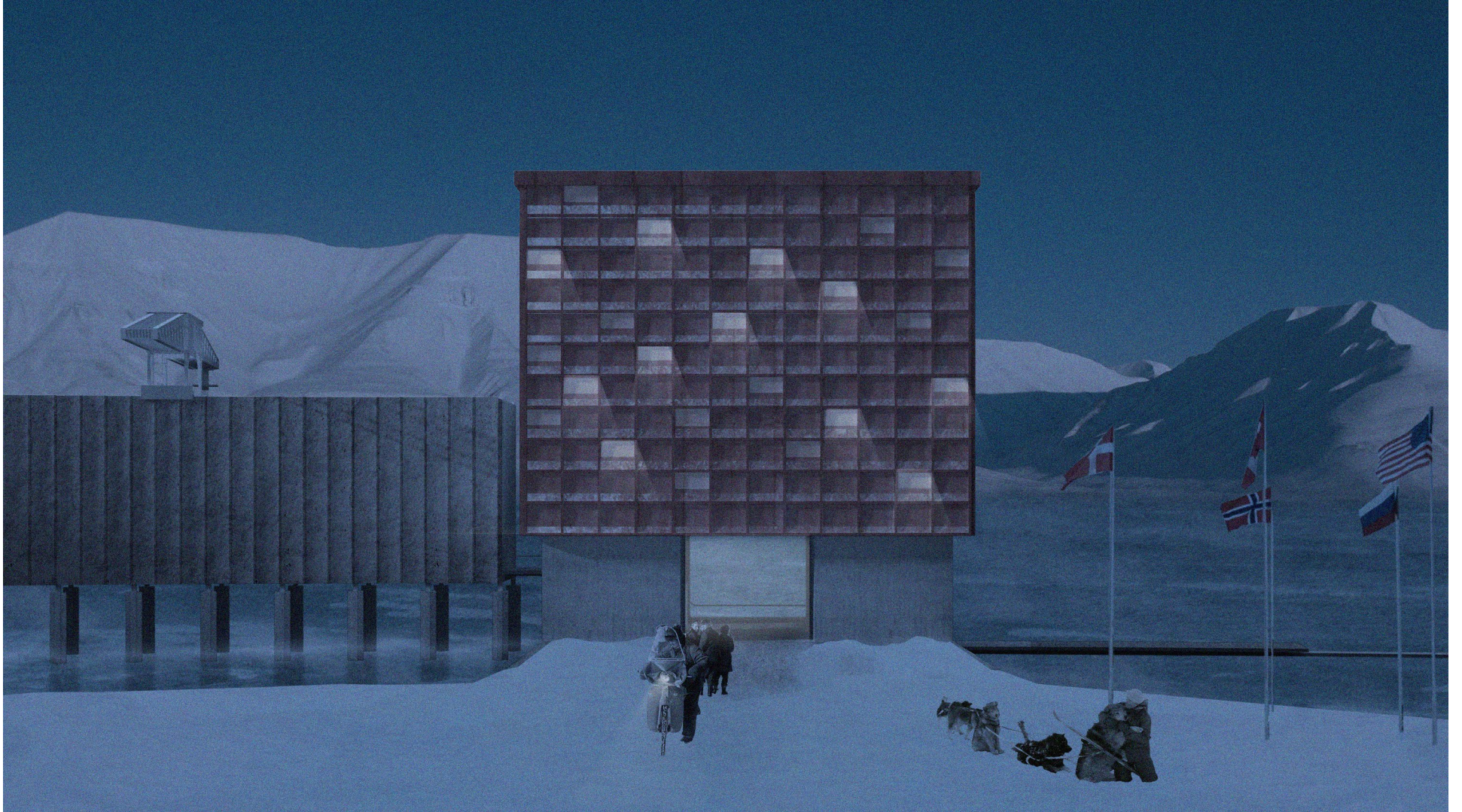
0m 5 15 30m



*Programme*









*The Gate*

## **The Gate**

*Arctic Cooperation - Diplomatic*

### **Article 3**

Free Trading Zone

*“Equal liberty of access and entry for any reason or object “*

### **Article 4**

*“Absolute equality to communications*

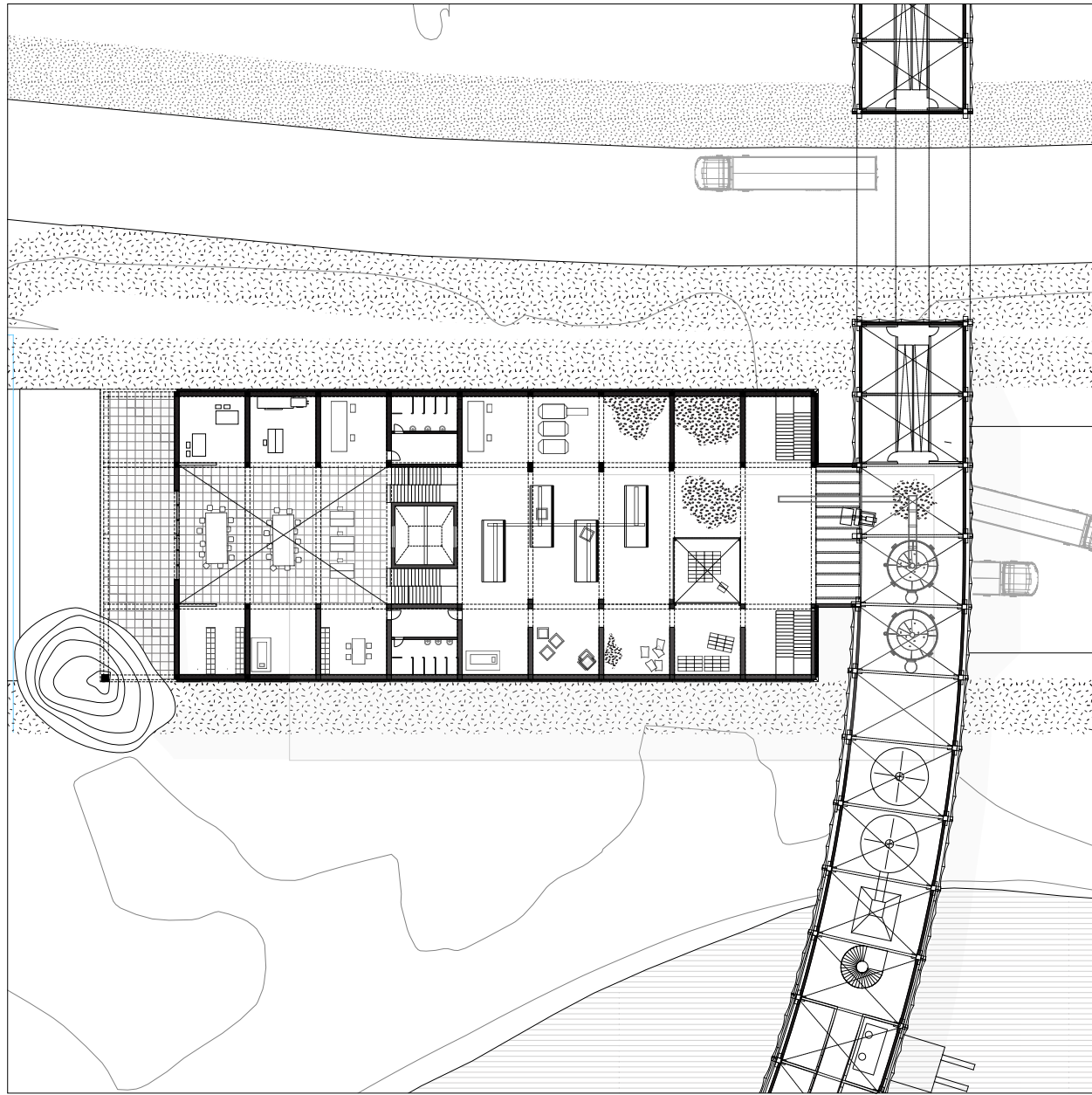
*Between all flags”*



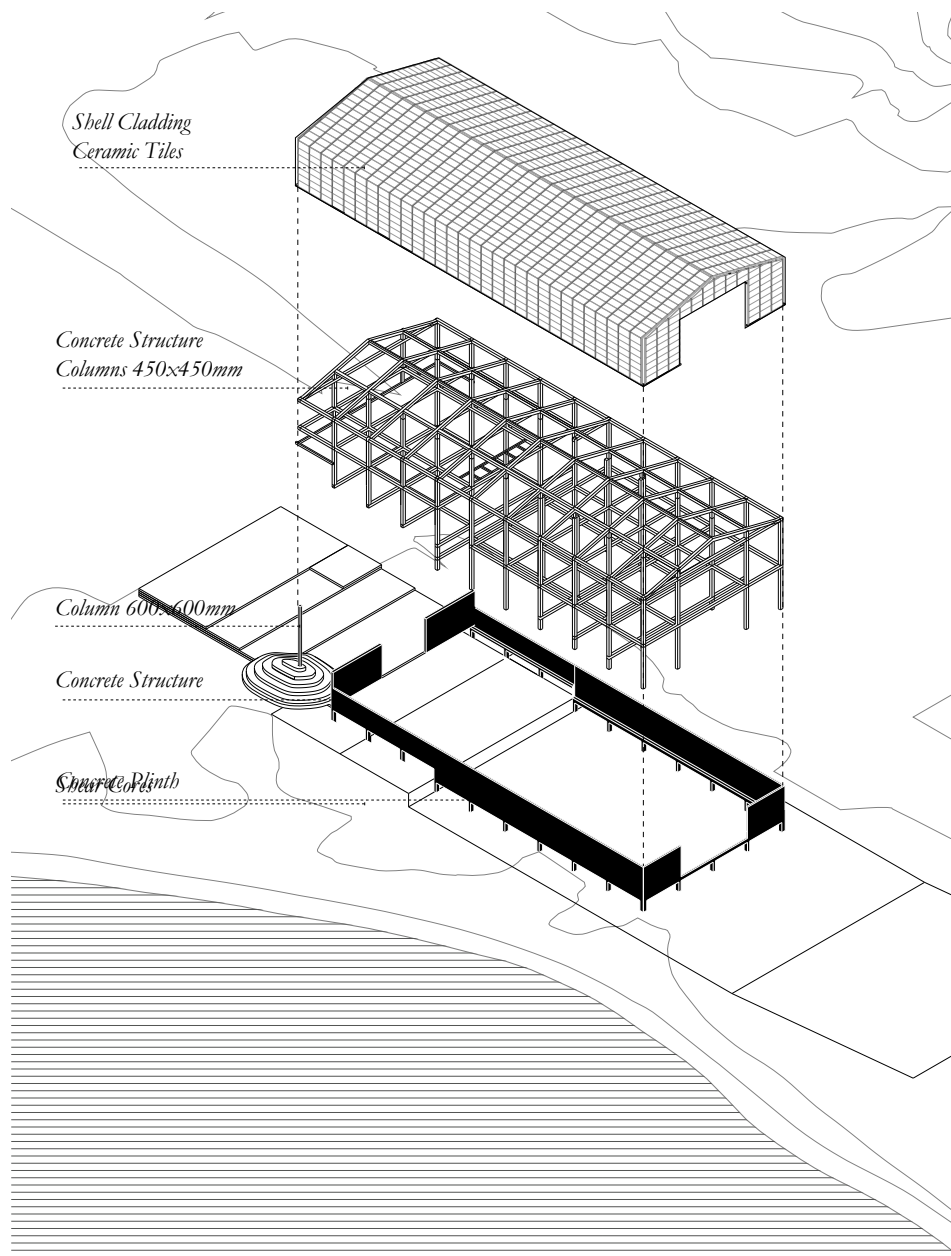
# The Factory

*Svalbard's Workforce - Waste Re-use*

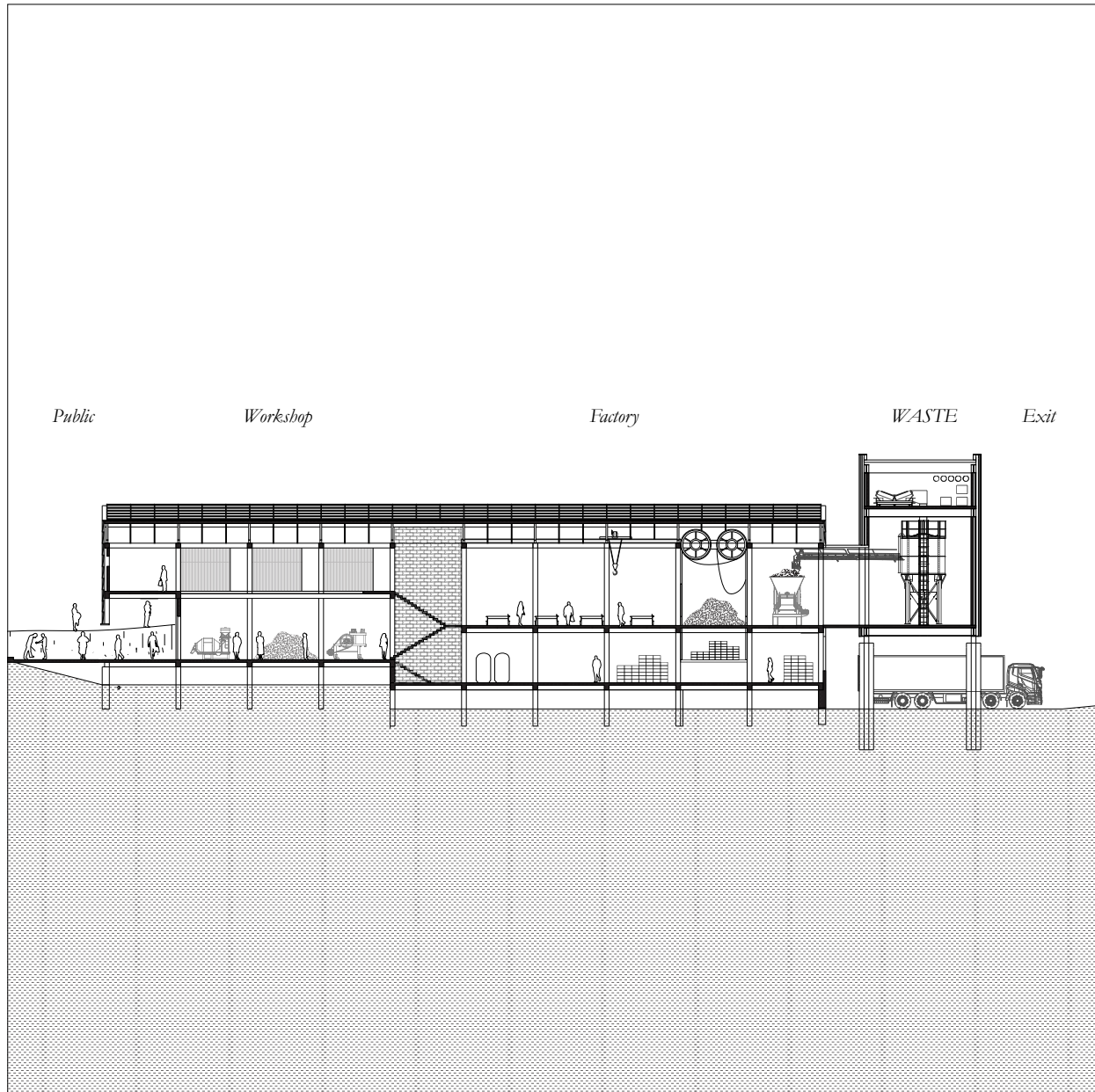




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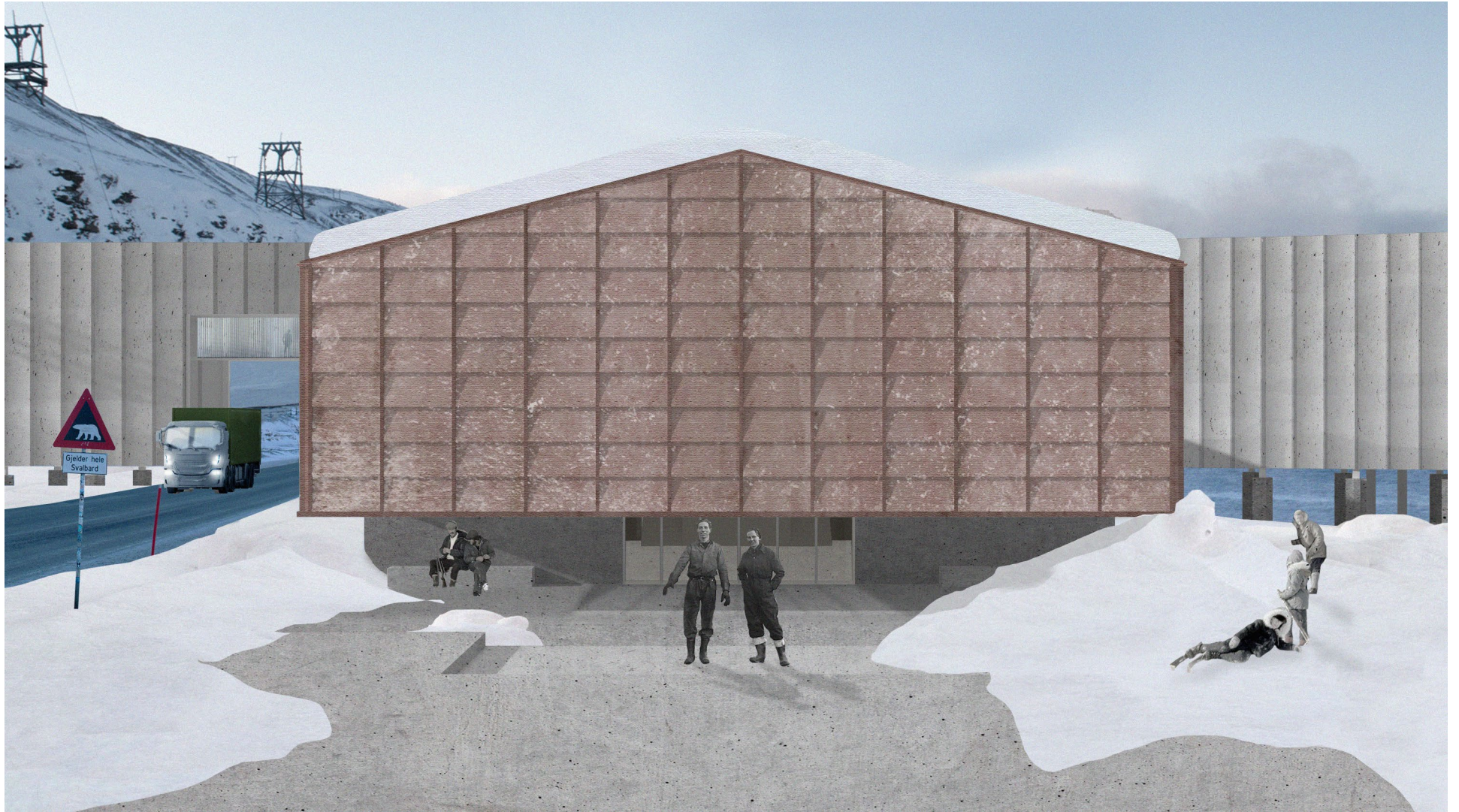


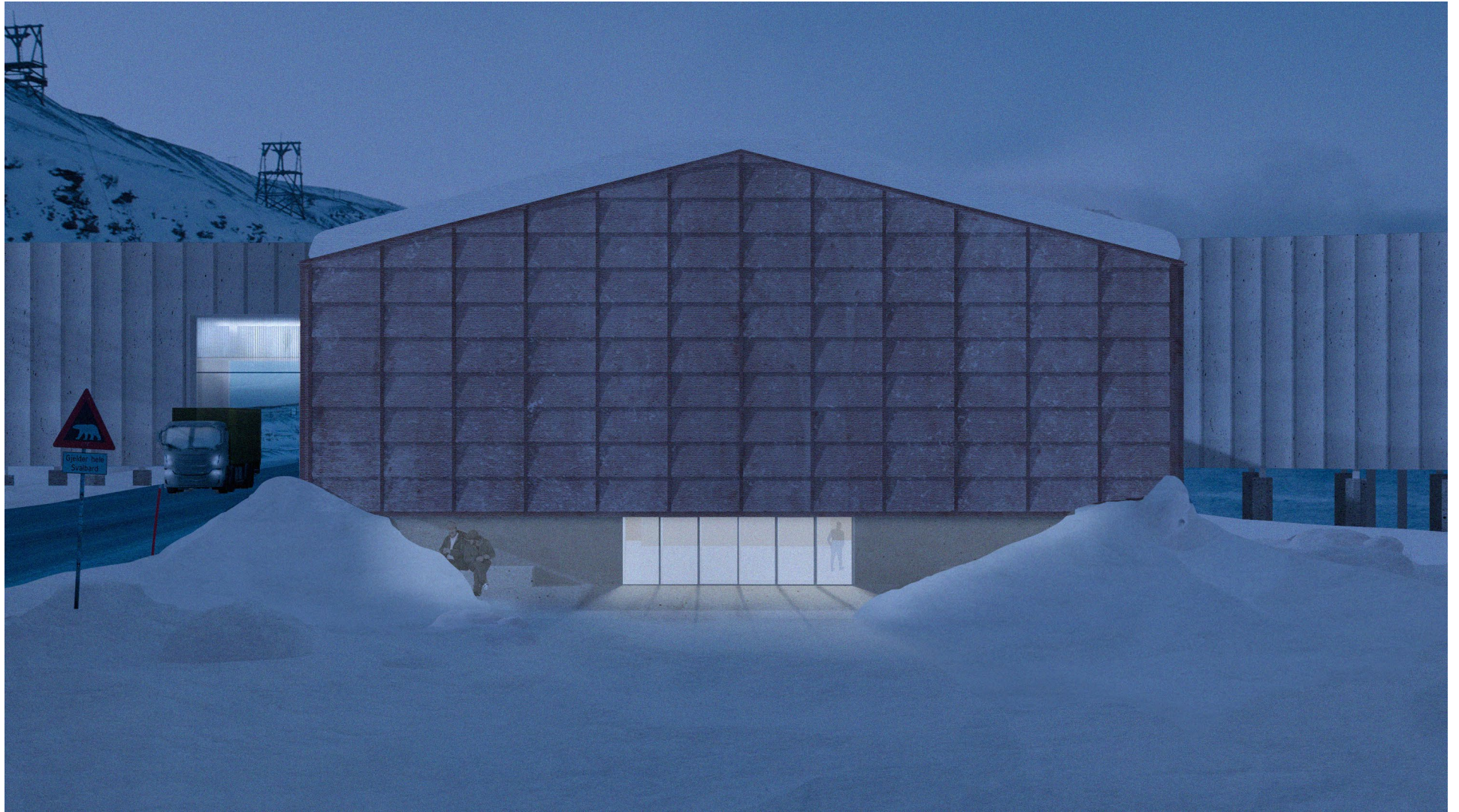
*Structure*



0m 5 15 30m









*The Community Workshop*

## **The Factory**

*Workforce - Production*

### **Article 3**

*“Subject to the observance of local laws and regulations, they may carry on there without impediment all industrial, mining and commercial operations on a footing of absolute equality. “*

### **Annex**

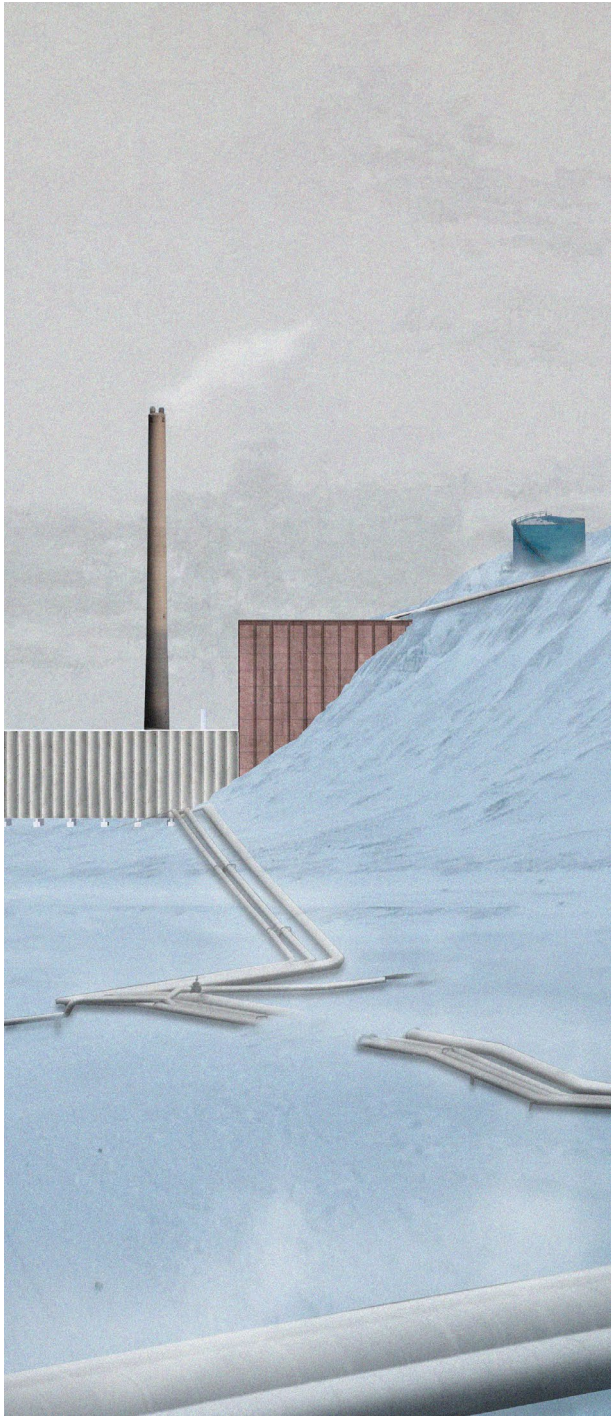
Russian Mining Community

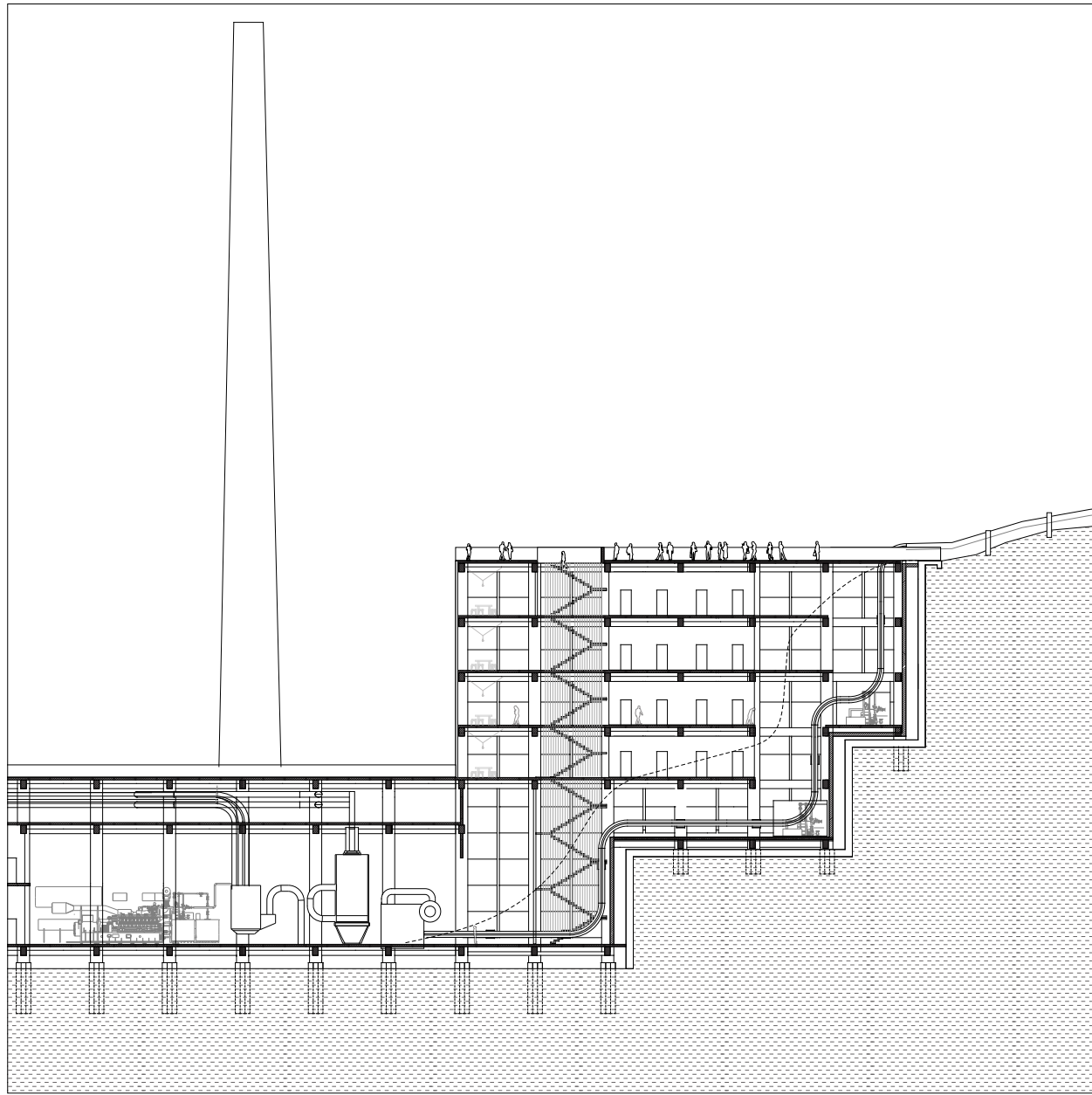
*“Russian nationals and companies shall enjoy the same rights as nationals of the High Contracting Parties.”*



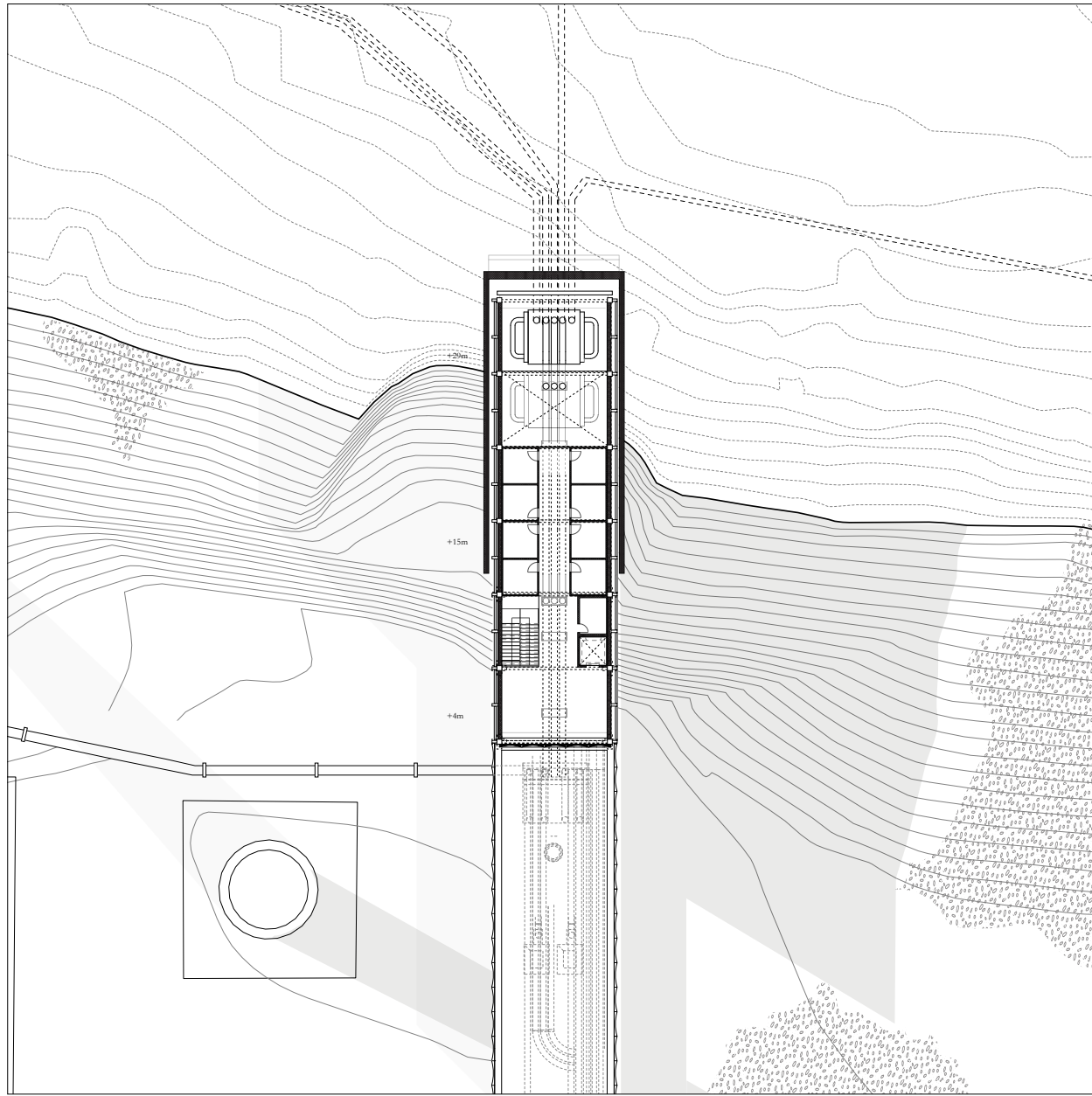
# The Tower

*Longyearbyen's Energy - Public*



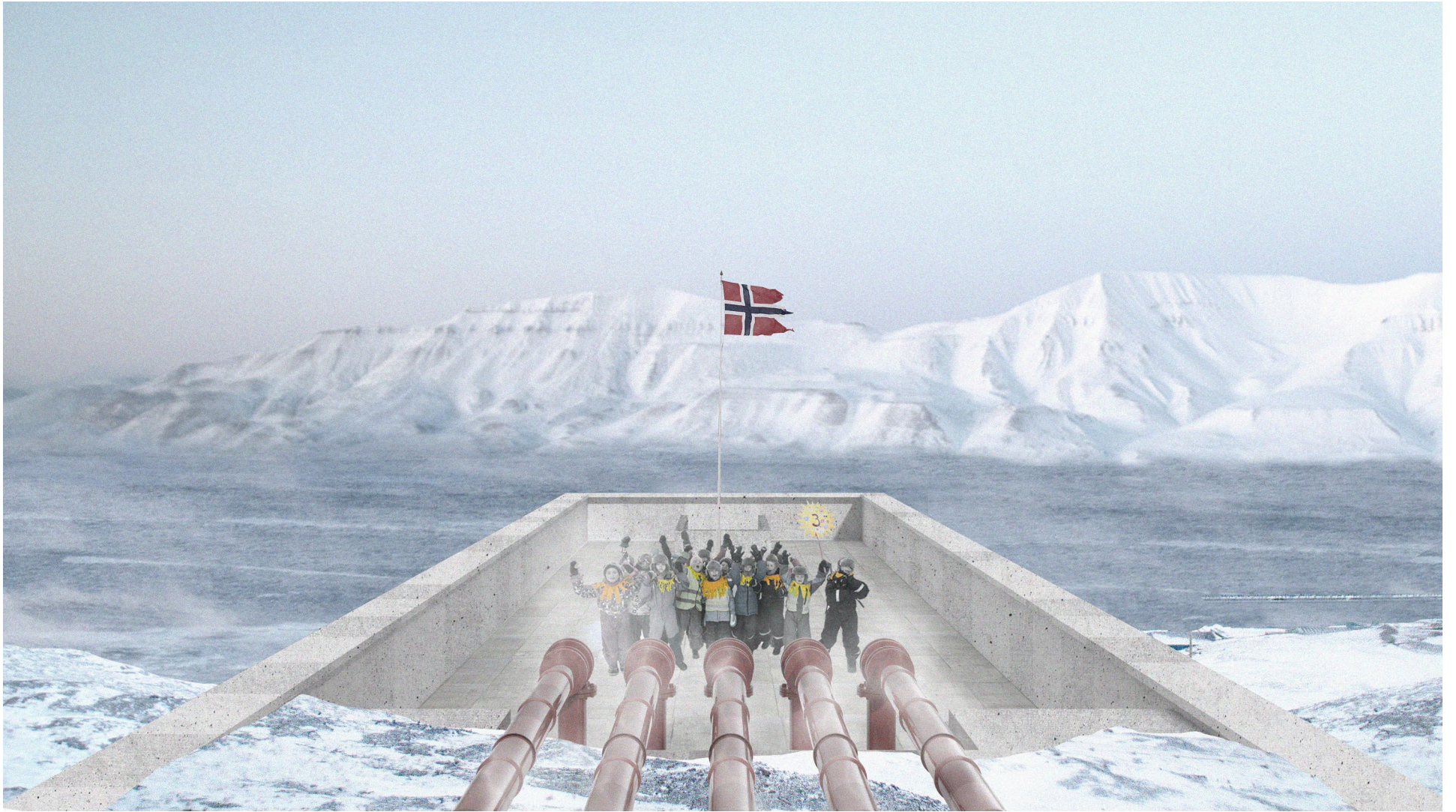


0m 5 15 30m



0m 5 15 30m









*The Offices*

## **The Tower**

*Energy - Public*

### **Article 8**

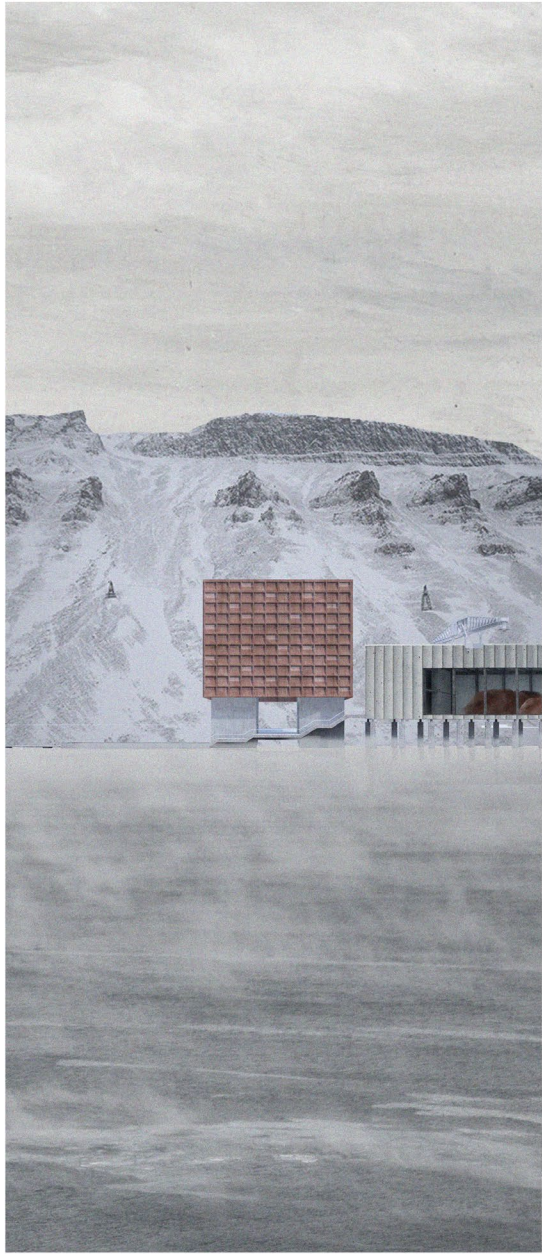
“Norway undertakes to provide the (Svalbard) territories of regulations (...) and guarantee welfare”

Today manifested in Norway being responsible for the provision of the basic services.

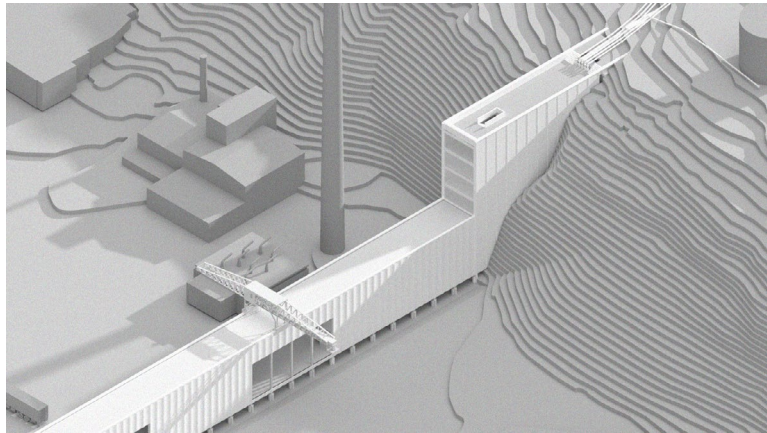
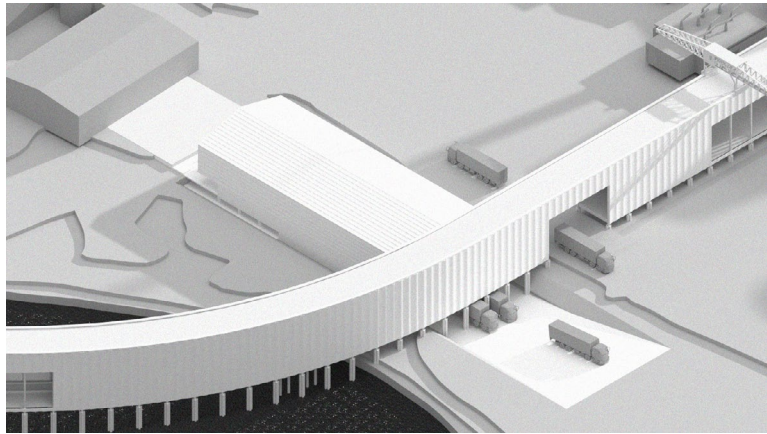
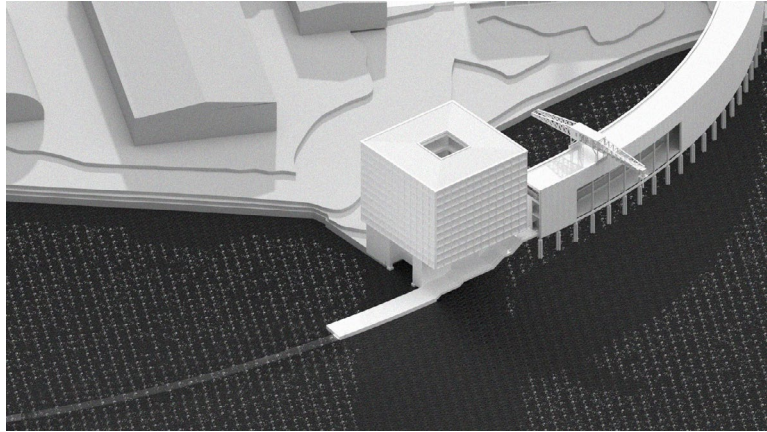


# The Bar

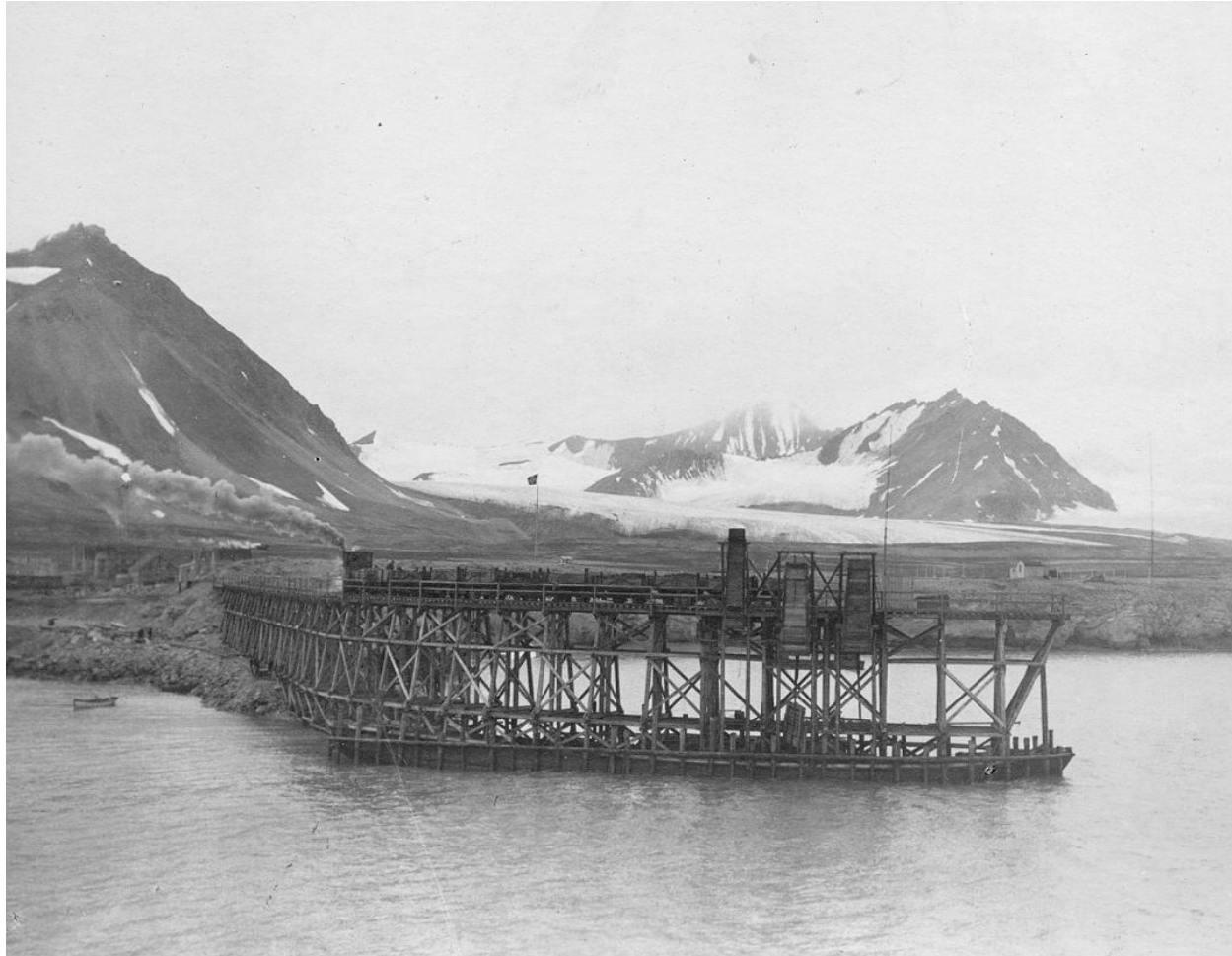
*Process - Border - Monument*











*Mining Quay Ny Alesund, Svalbard*



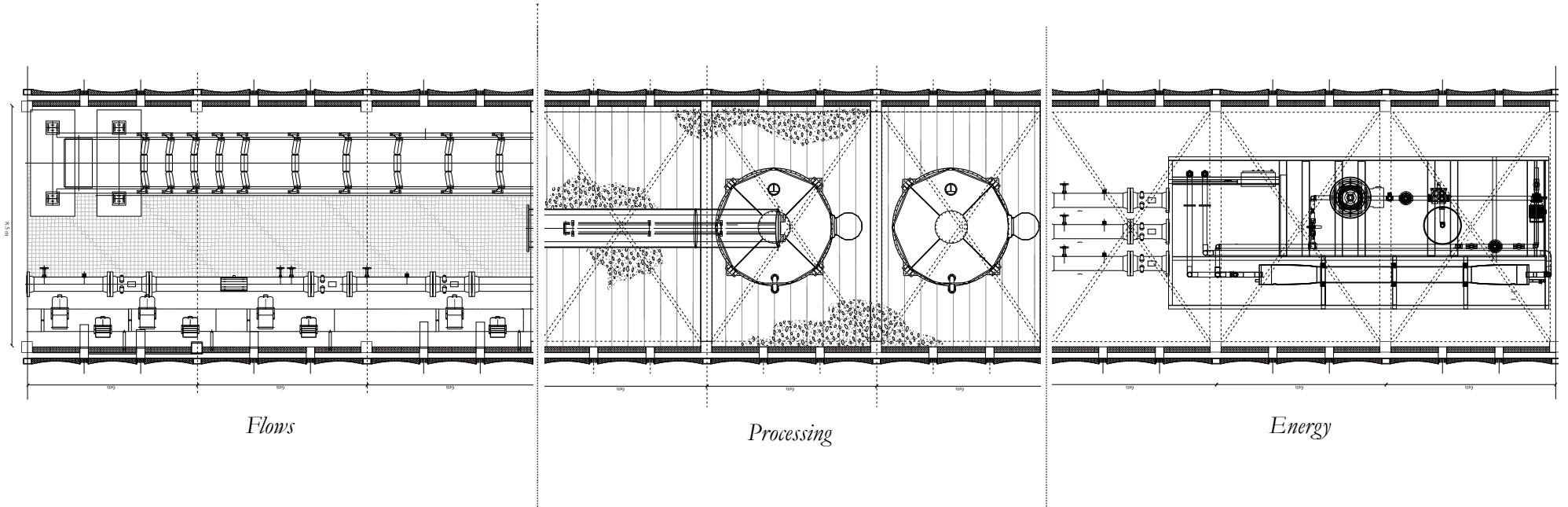
*Flows*

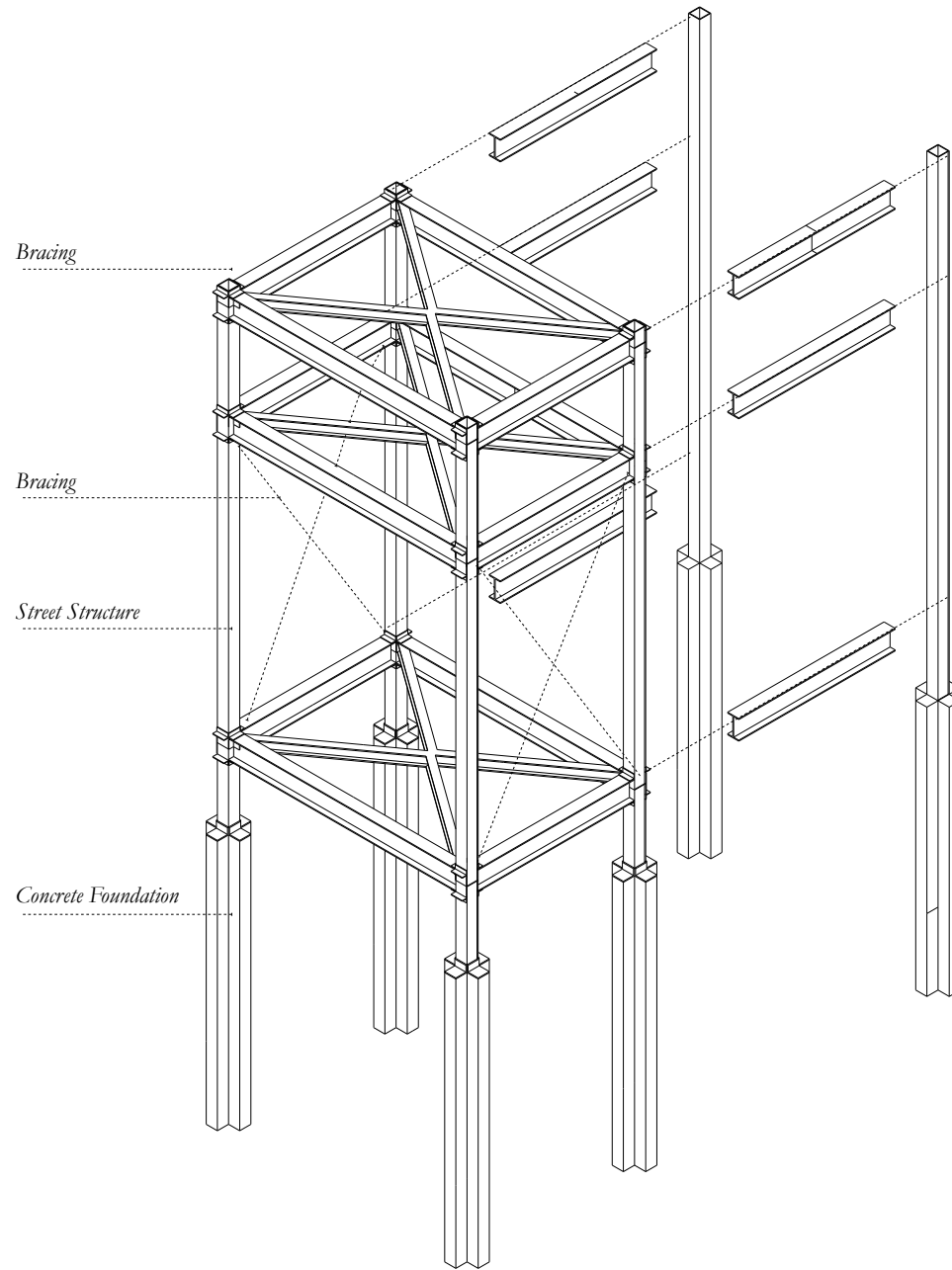


*Processing*

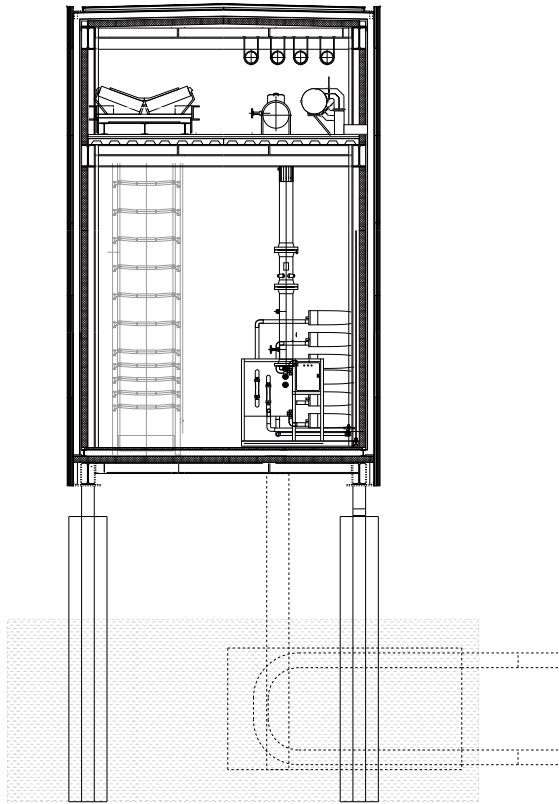


*Energy*

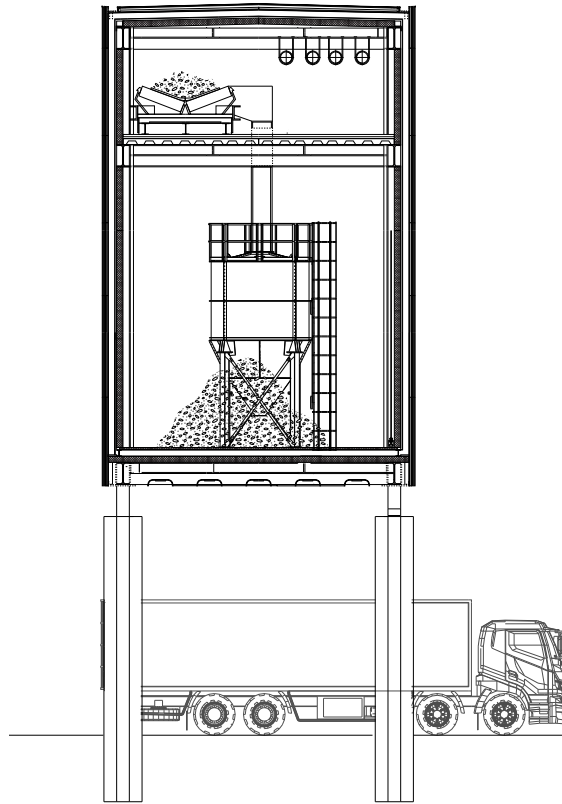




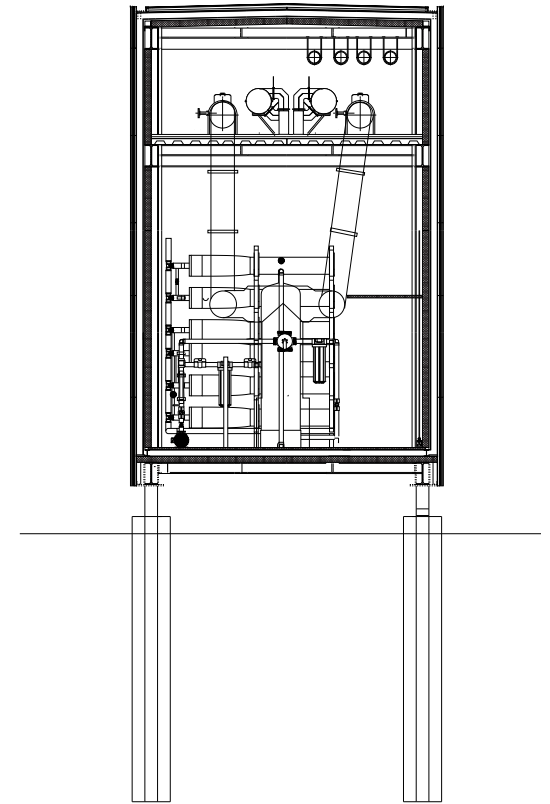
Structure



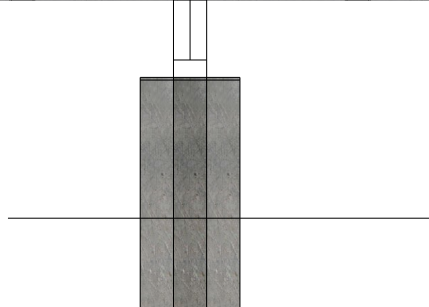
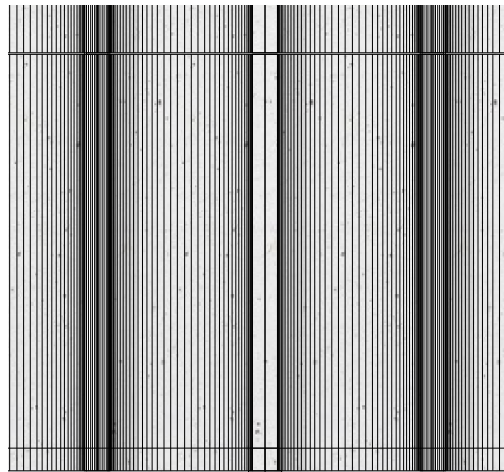
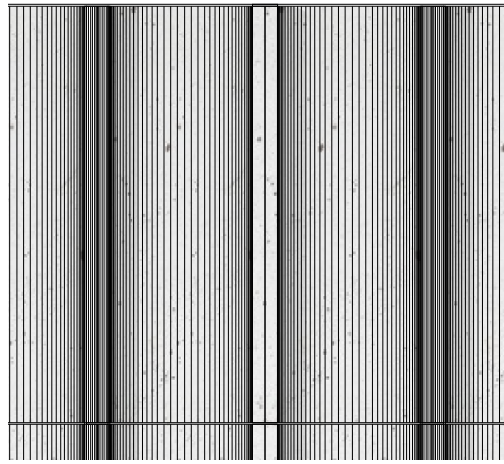
*Flows*



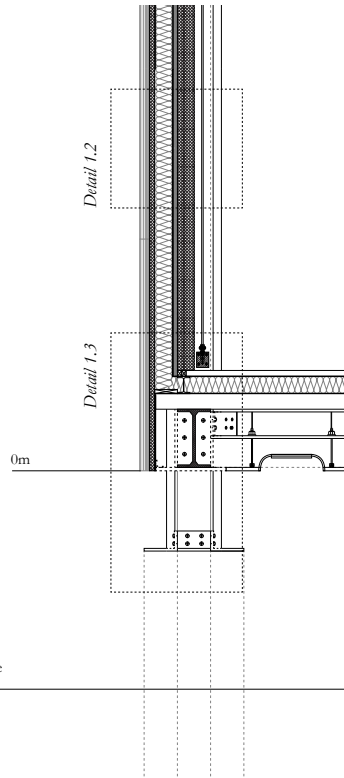
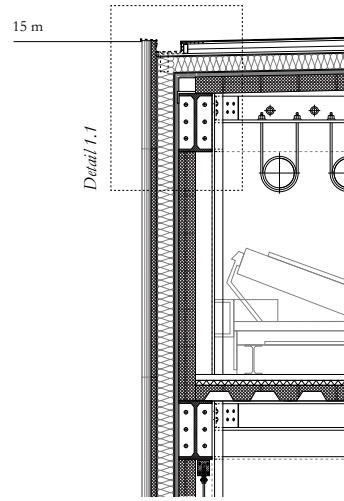
*Processing*

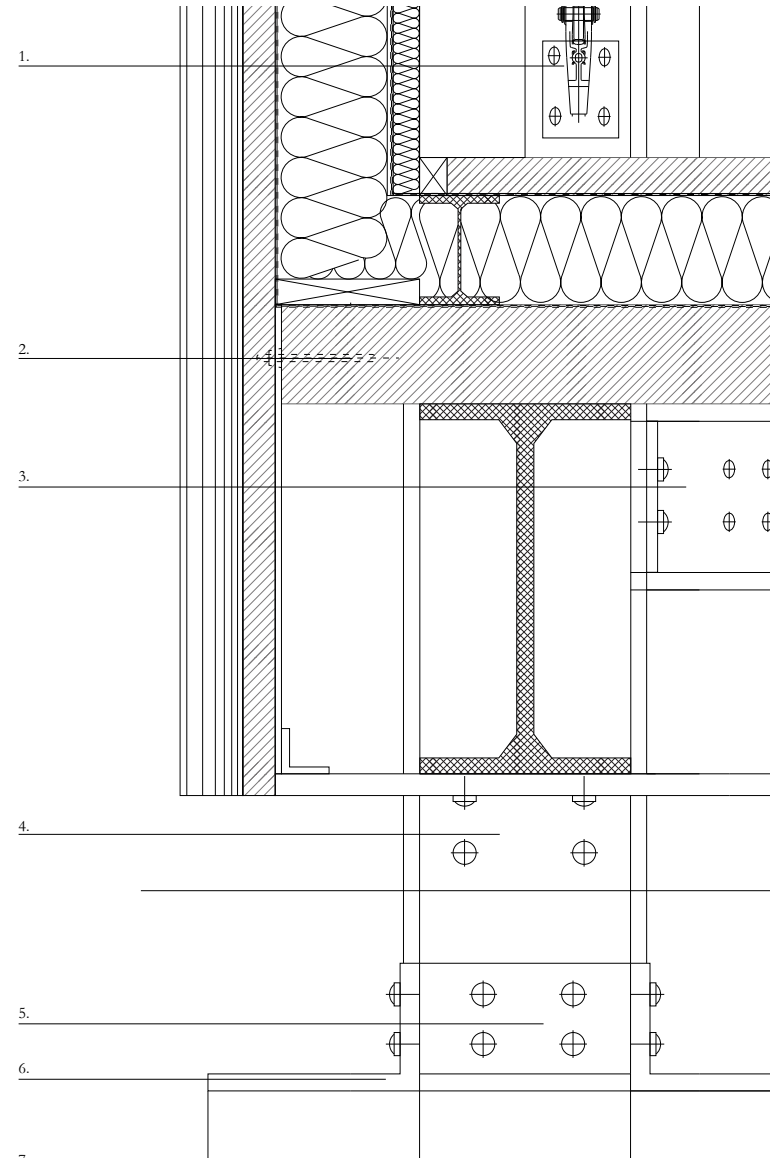
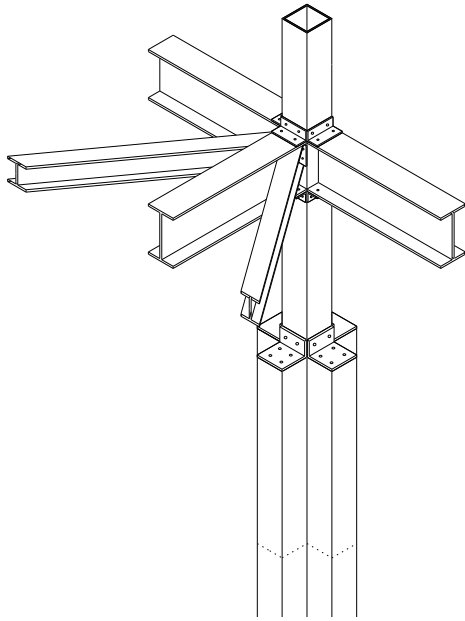


*Energy*



Terrain Level Relative

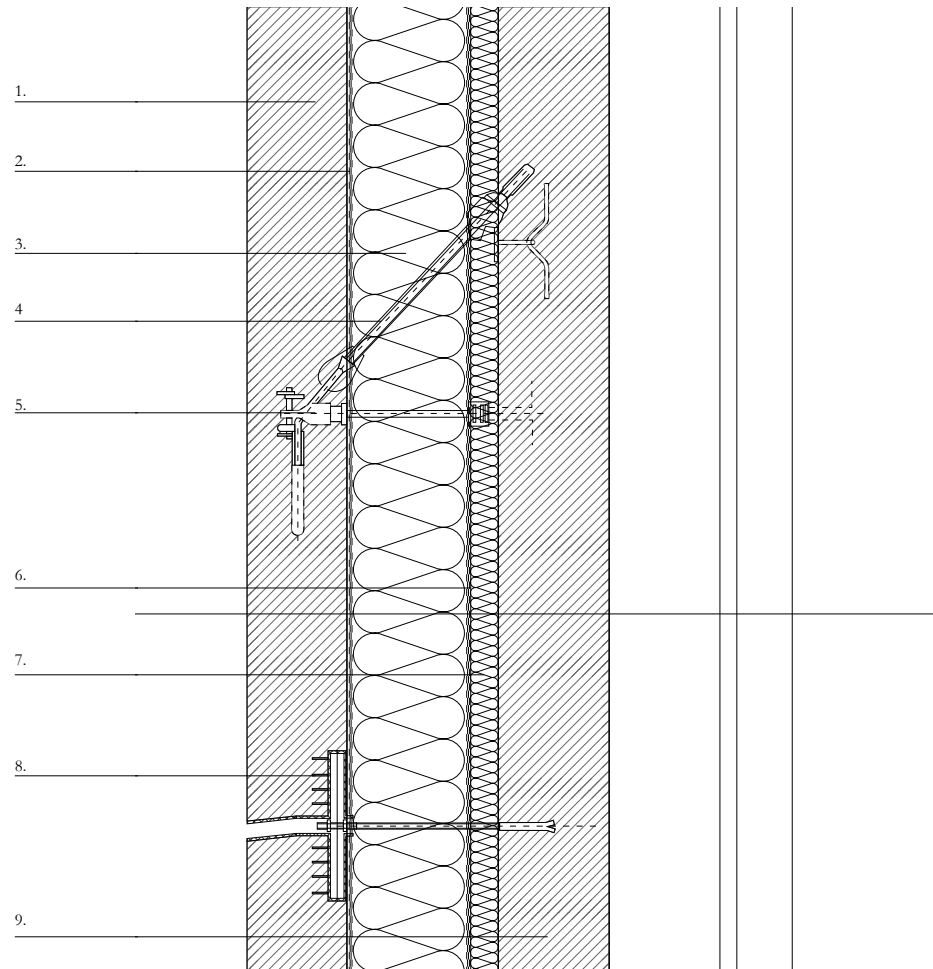




**Detail 1.3**

- 1. Interior Tension Rod
- 2. Retaining Anchor - Precast Cladding - Slab
- 3. Steel Plate with Anchor Bolts
- 4. End Steel Plate with Anchor Bolts
- 5. L Shape steel Plates
- 6. Base Steel Plate 500x500mm
- 7. Cross Concrete Pillar Foundation

*Foundation*

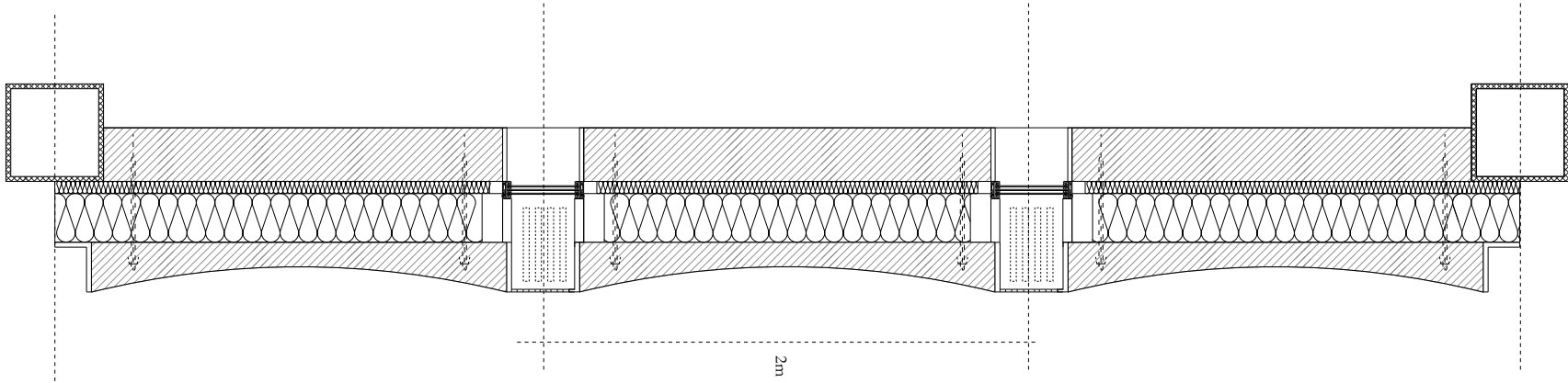


**Detail 1.2**

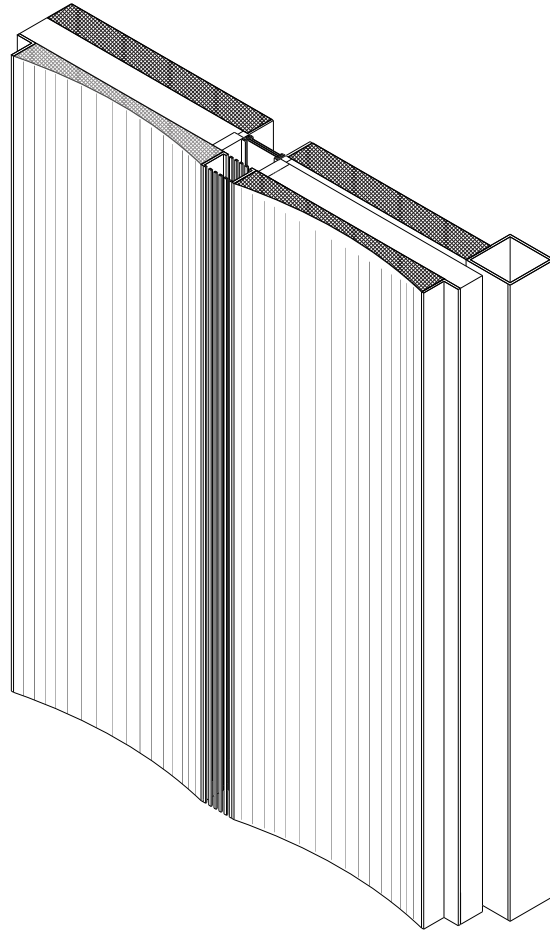
- 1. Precast Element 200mm Concrete + Mining Waste Aggregates
- 2. Vapour Barrier 10mm + Asphalt
- 3. Thermal Insulation - Mineral Wool Insulation
- 4. Schöck Type TA-H - Polyester Insulated Rebar
- 5. Anchor to Precast Element - Concrete Wall
- 6. Vapour Barrier
- 7. Soft Thermal Insulation
- 8. Retaining Anchor for Tolerance Gaps - Precast Cladding
- 9. Concrete Wall

*Facade*





*Facade*



*Pre-cast Panel*

*Mining Waste*

*Copper Slag*



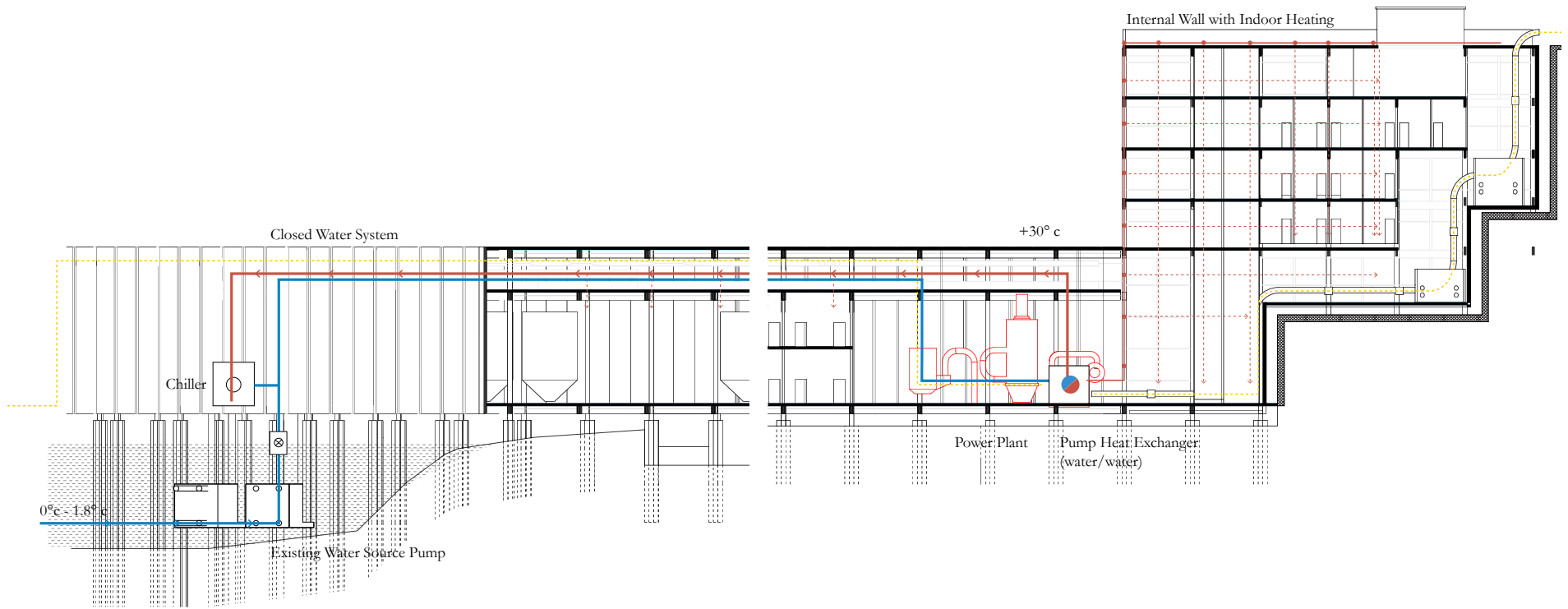
*North Sea*  
*Norway*  
*Canada*  
*Russia*  
*U.S*  
*Greenland*



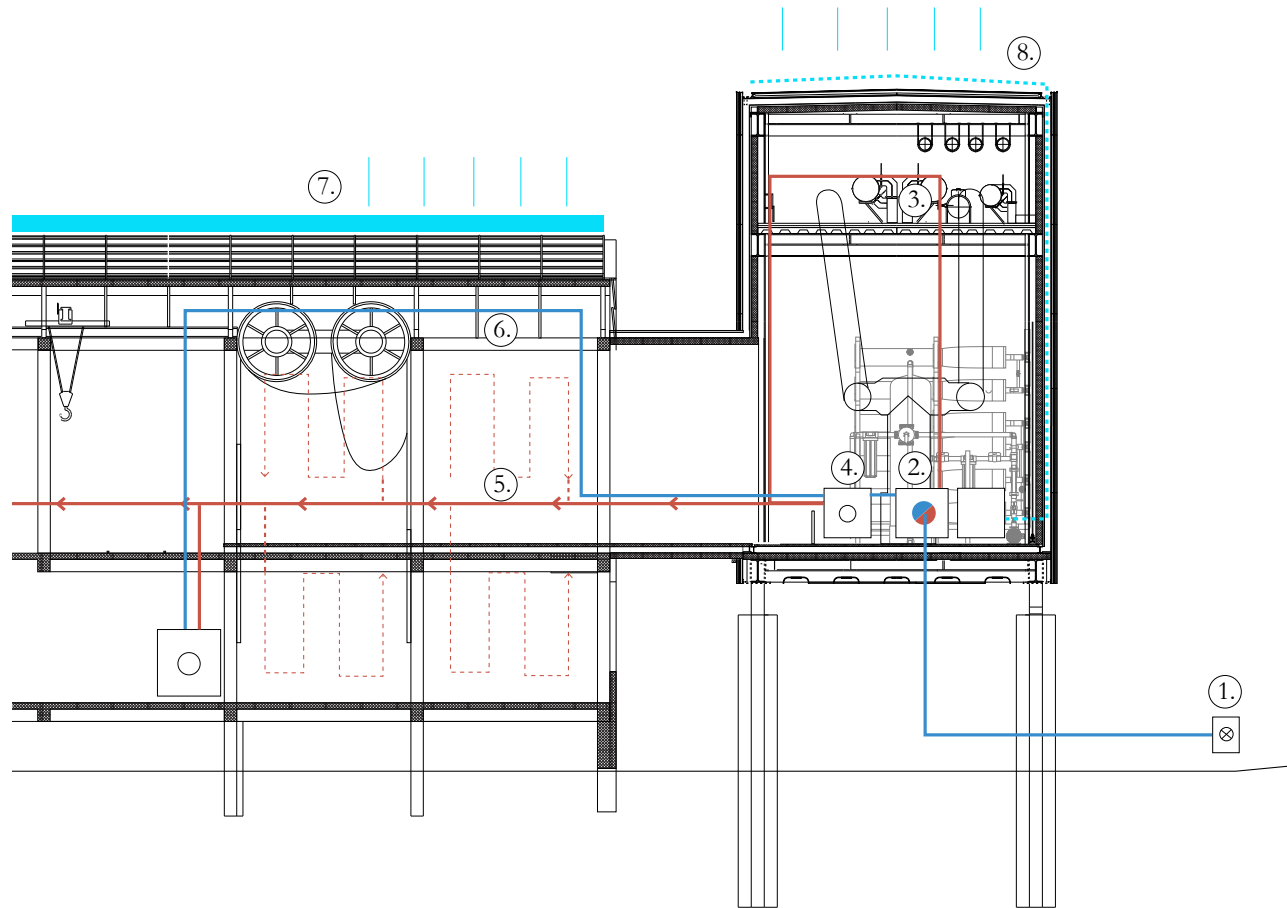
*Replacement for Cement*  
*70% less CO2*



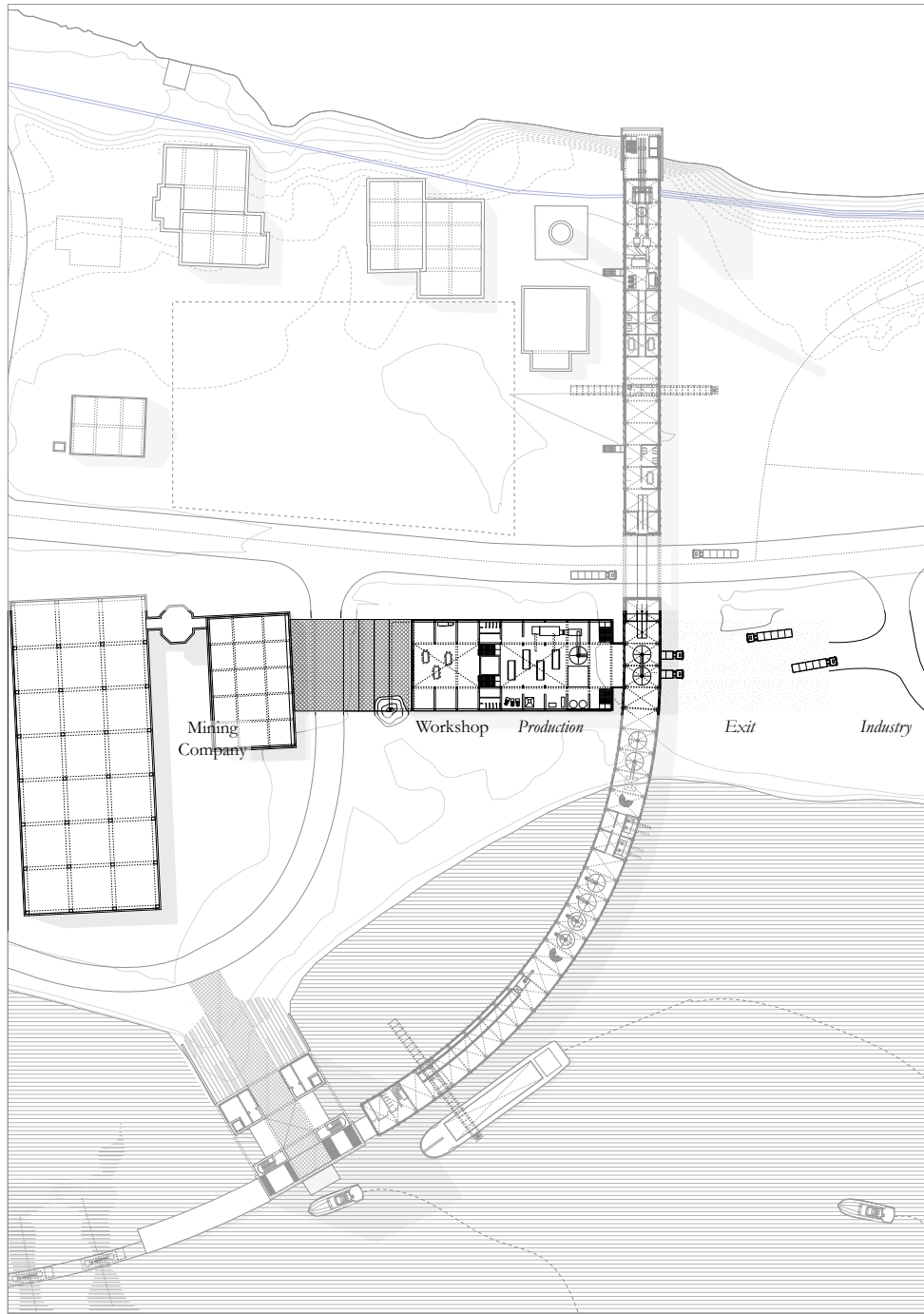
*Non Human Interior*

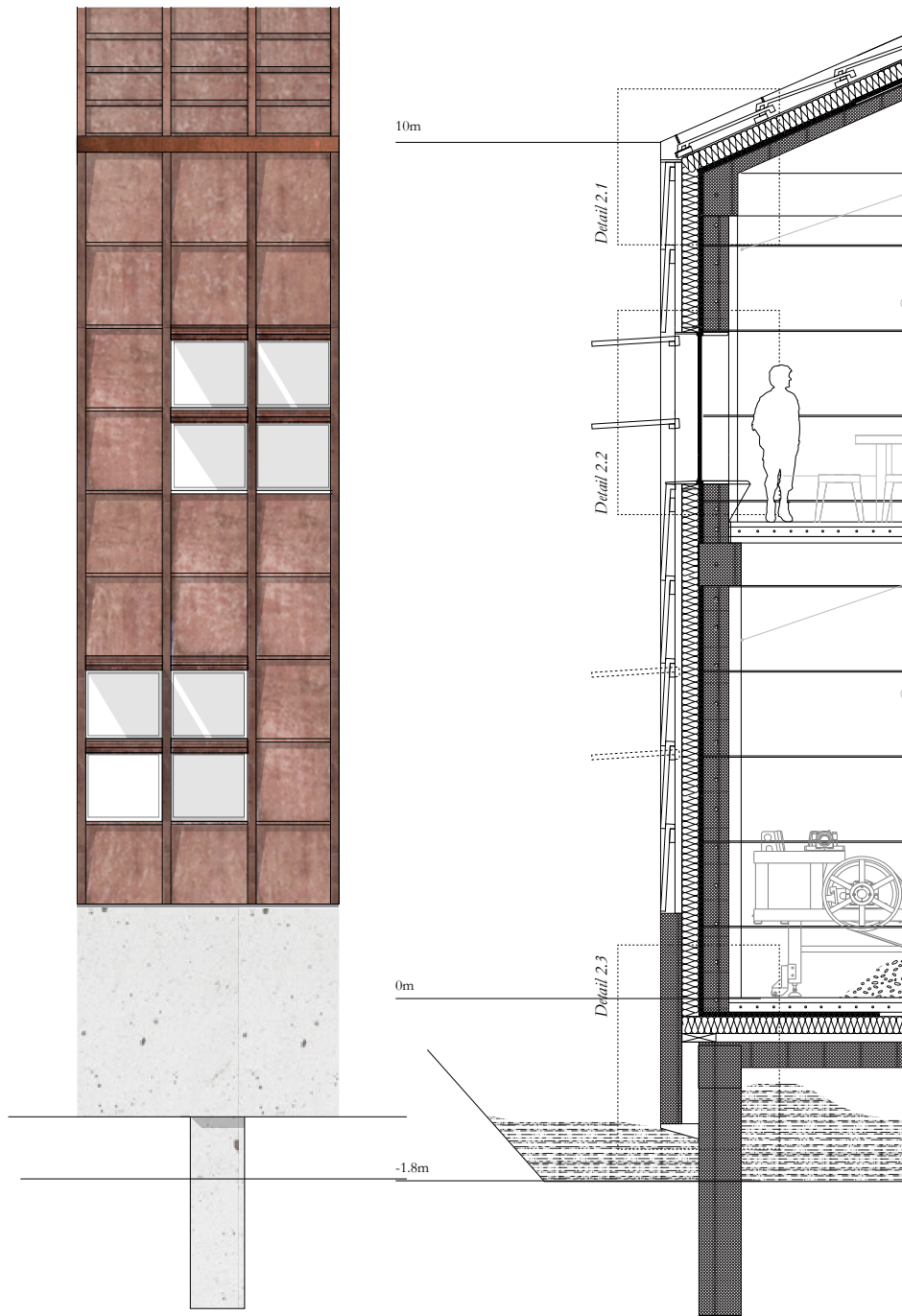


- Electricity (from Tidal Energy to Power Plant)
  - Liquid Heating System
  - Liquid Cooling System
  - Interior Heating System
  - Snow water recollection
- Closed Water System



- Liquid Heating System
- Liquid Cooling System
- - - Interior Heating System
- ..... Snow water recollection
- █ Snow as insulation
- ..... Closed Water System

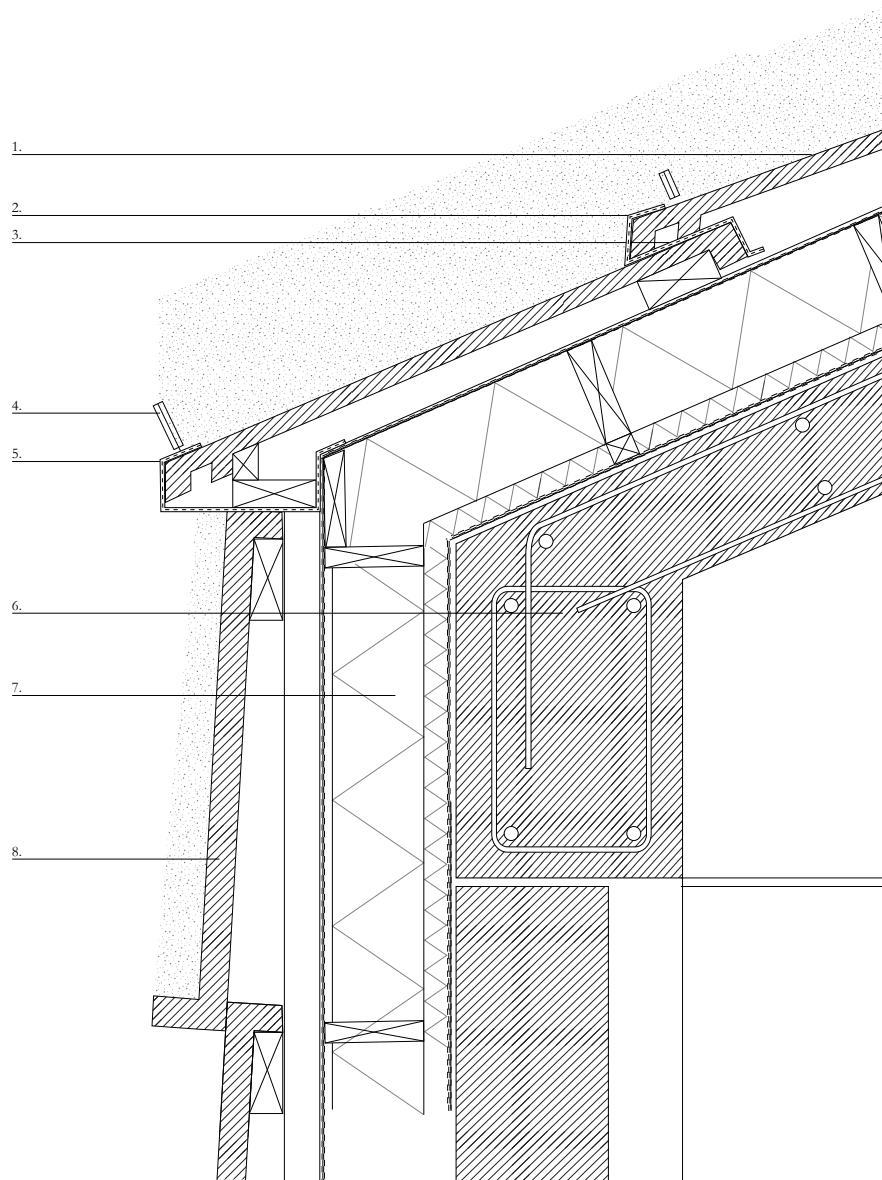




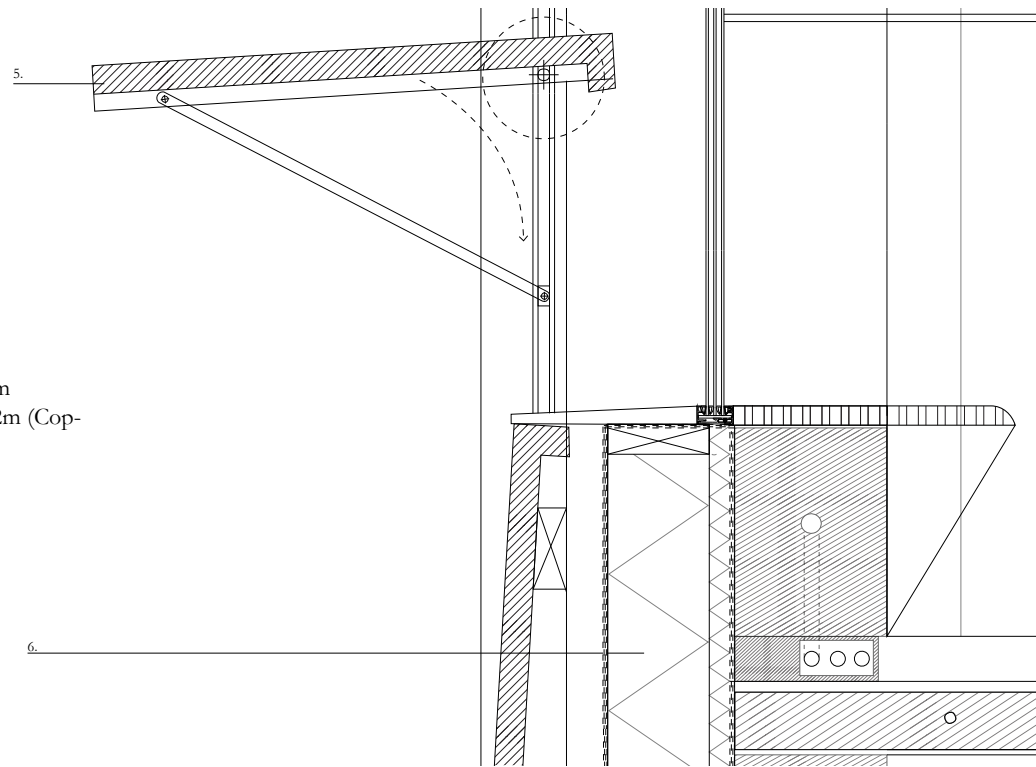
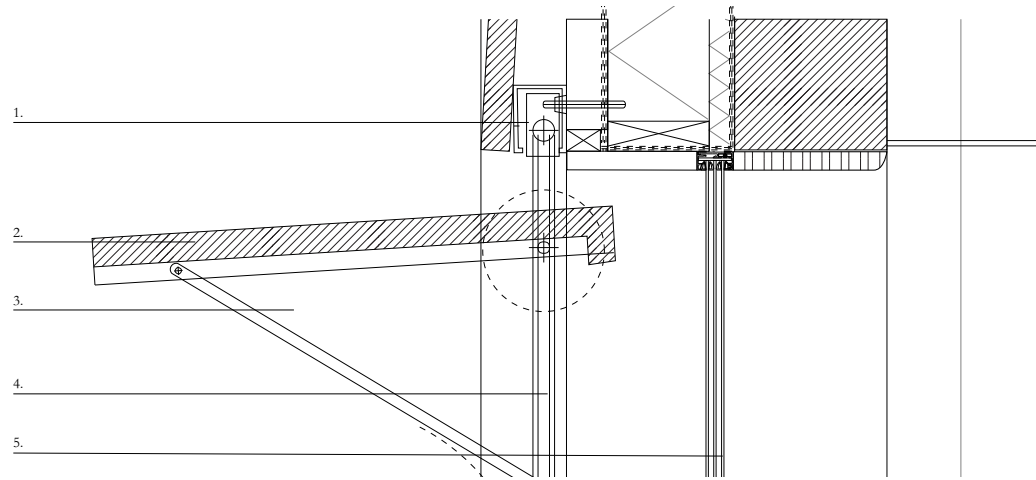


**Detail 2.1**

- 1.
- 1.1 Precast Roof Cladding
- 1.2 Wooden Battens Cladding Substructure
- 1.3 Back Ventilation Space
- 1.4 Water Proof Roofing felt
- 1.5 Rigid fibre insulation 200mm with battens
- 1.6 Soft Insulation
- 1.7 Vapour Barrier
- 1.8 Interior Finish
2. Fixed Aluminium Gutter
3. Rubber Seal
4. Aluminium Snow Guards
5. Aluminium Flashing + Dripper
6. Reinforced Concrete Beam
7. Rigid fibre insulation Mineral rock wool
8. Precast Facade - Ceramic Tile Cladding 1.2x1.2m



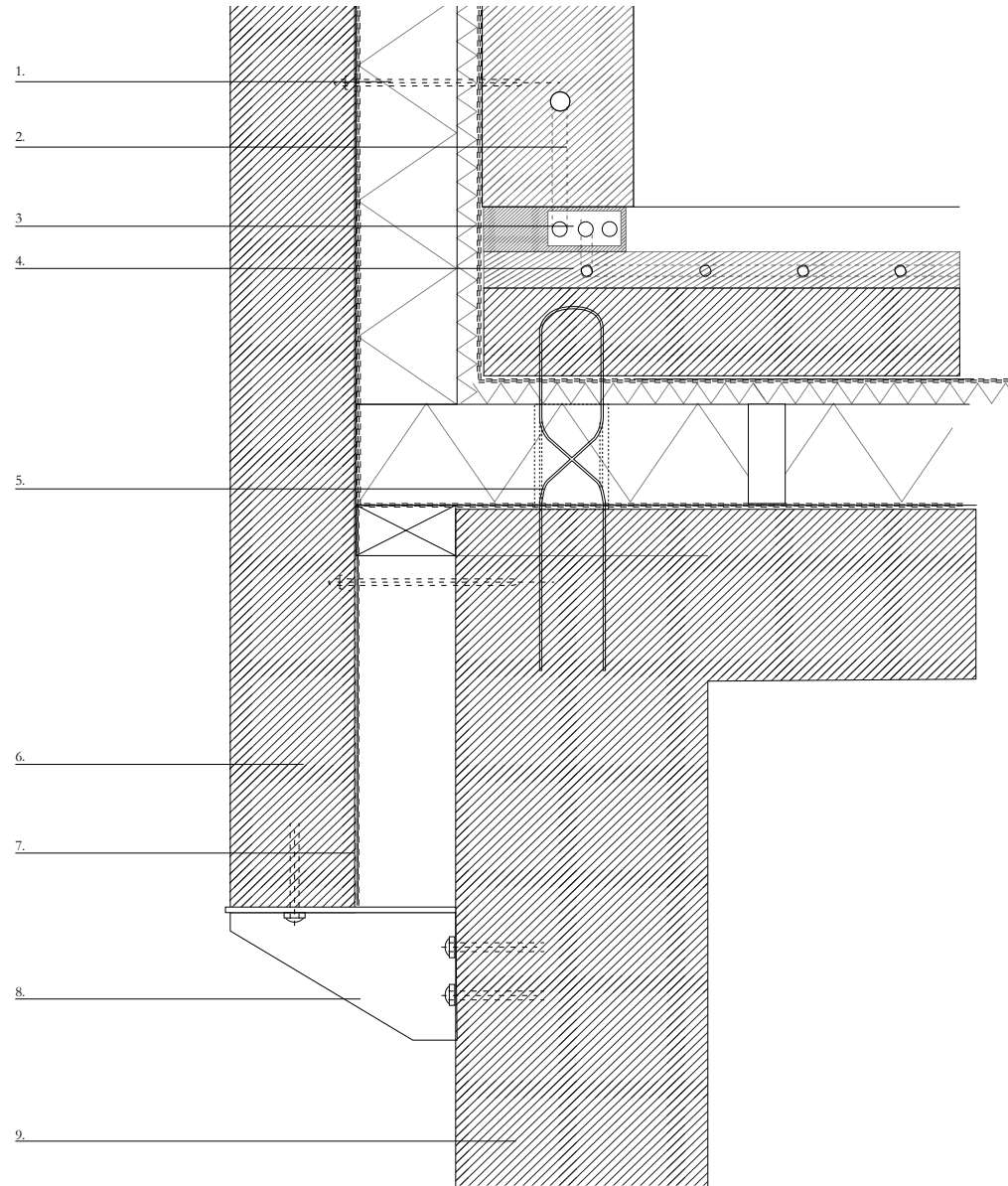
Roof



*Operable Facade*

**Detail 2.2**

- 1. Aluminium Bracket - Substructure Operable Mechanism
- 2. Operable Pre-cast Panel - Ceramic Tile Cladding 1.2x1.2m (Copper Slag) With steel framing .
- 3. Aluminium Mechanism Support Panel
- 4. Aluminium Rail
- 5. Triple Glazing Window
- 6. Wall Composition
  - 6.1. Pre-cast Ceramic Tile Facade Cladding
  - 6.2. Wooden Battens Cladding Substructure
  - 6.3. Battens in different Direction
  - 6.4 Vapour Permeable asphalt panel
  - 6.5 Rigid fibre insulation 200mm with battens
  - 6.6. Soft Insulation
  - 6.6. Soft Insulation
  - 6.7. Vapour Barrier



*Plinth*

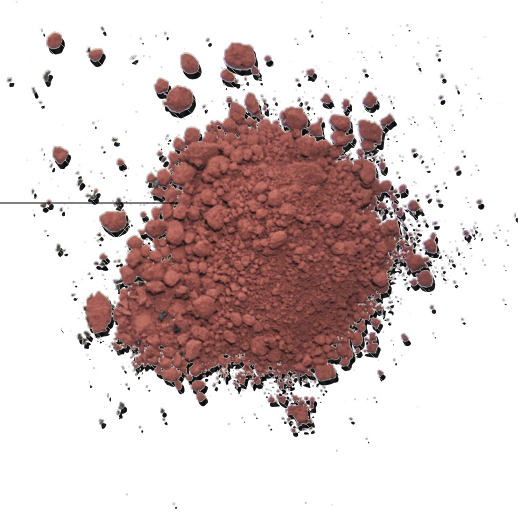
**Detail 2.3**

- 1. Schock Polyester Re-bar : facade panels Anchor
- 2. Interior Thermal Heating Embed on Pre-cast Panel
- 3. Floor Plinth with heating pipes
- 4. Slab Composition
  - 4.1. Floor Heating
  - 4.2. Vapour Barrier
  - 4.3. Rigid Fibre Insulation Rigid fibre insulation 200mm with battens (Rock Wool)
- 5. Schock Isokorb type A
- 6. Exterior Concrete Plinth
- 7. Waterproof Line
- 8. Steel Plate Anchored to Foundation
- 9. Concrete Foundation

*Mining Waste*

*Alumina Residue*

*North Sea*  
*Norway*  
*Canada*  
*Russia*  
*U.S*  
*Greenland*



*Red Mud*  
*Ceramics and Concrete*  
*Pigmentation - Lightweight*



*Factory  
Operable Tiles*

*Prefabricated Elements*



*Gate  
Ornament*



*Factory  
Operable Tiles*



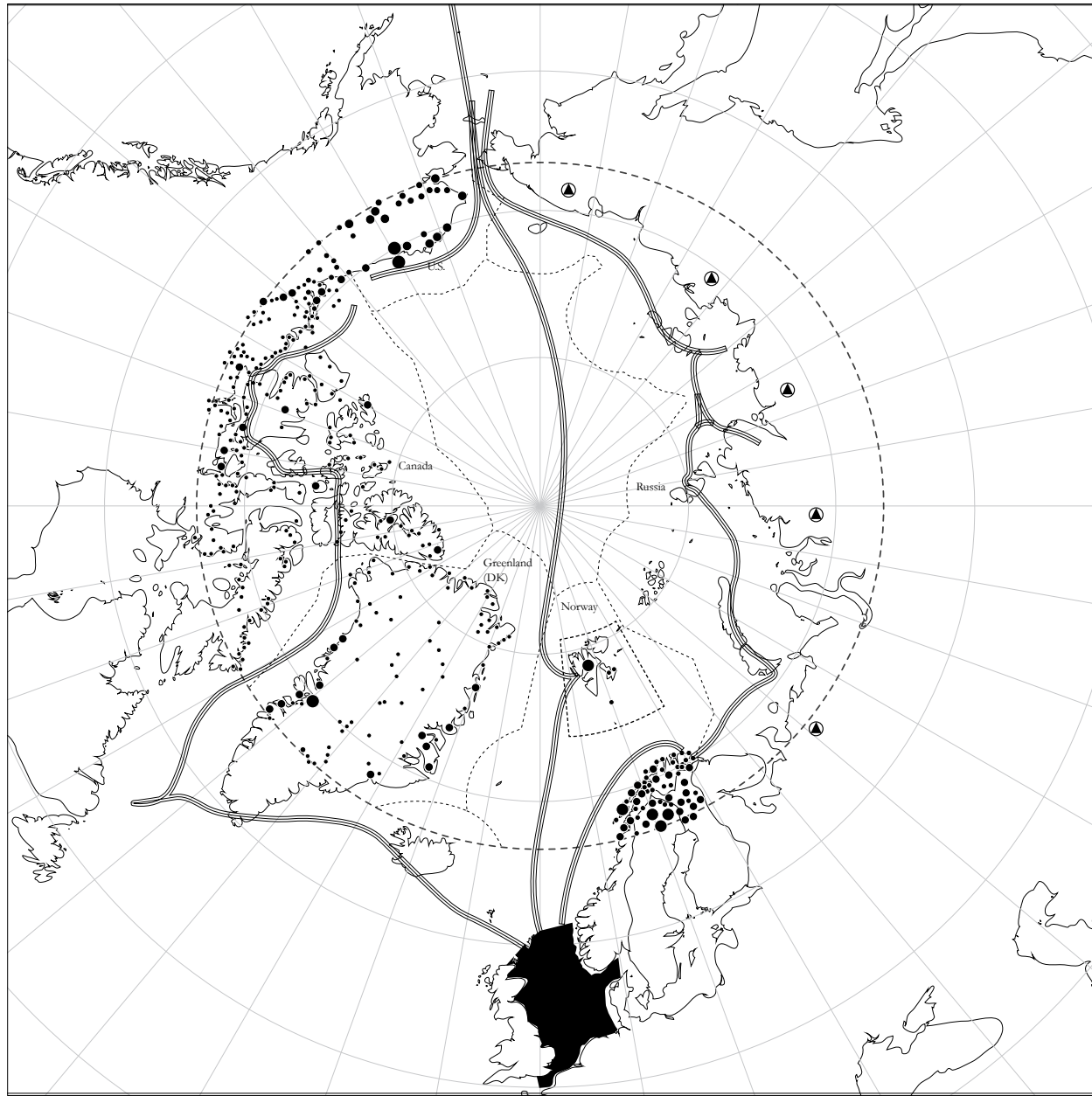
*Tower  
Functionality*

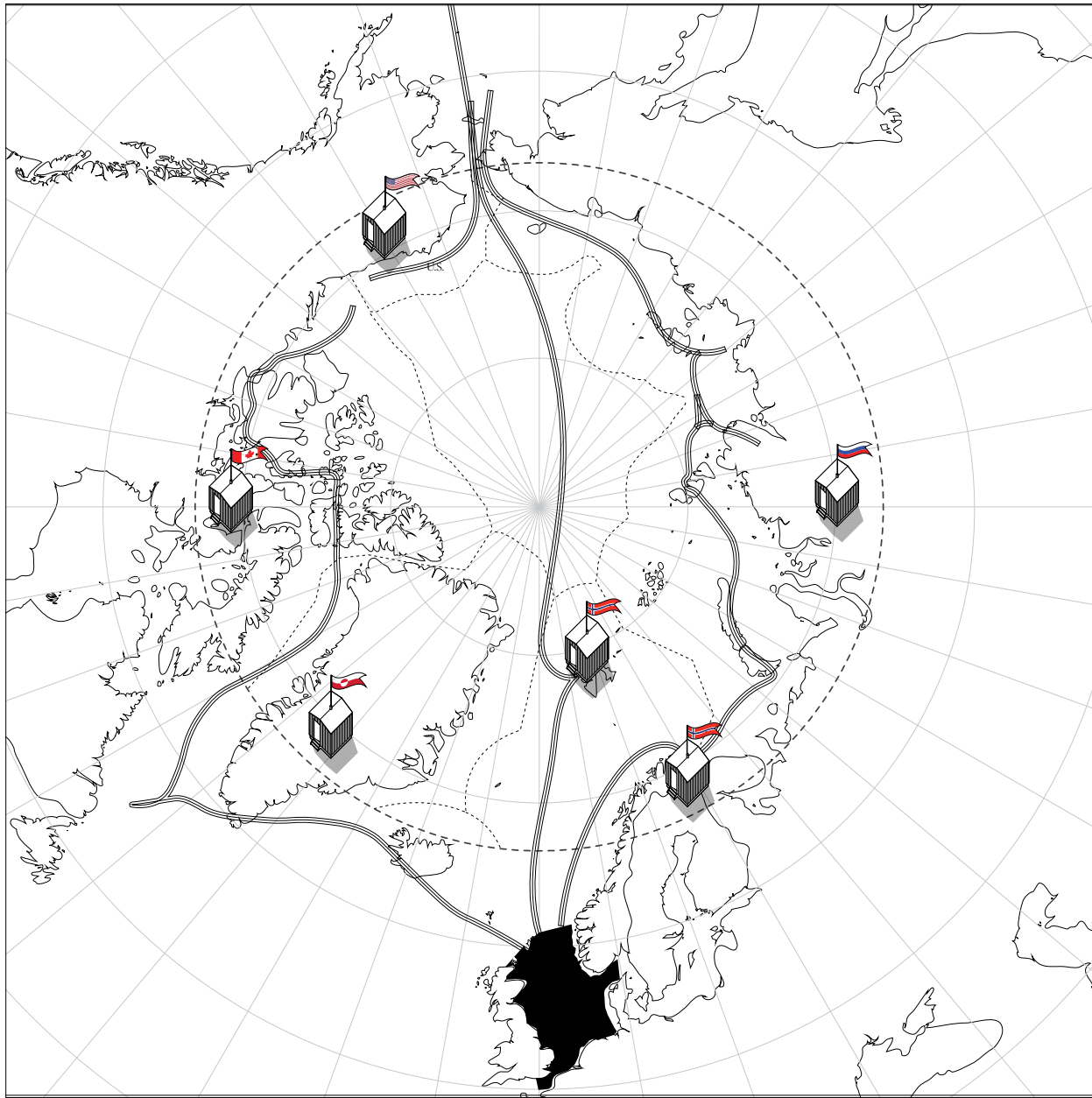




*The Growth of the Arctic City*











*Thank You*

*Greetings from*  
*The Svalbard Free Zone*