

**Author:** Laura Allen of Smout Allen  
**Research Output 2:** *The Retreating Village*

**Co-Author:** Mark Smout

**Output Type:** Design

**Design shown in Group Exhibitions with associated Publications:**  
*The Retreating Village*

**Date:** 2005

**Exhibitions/ Locations/ Dates:** Royal Academy Summer Exhibition, London, 2005 and 2006; *Augmented Landscapes*, Royal Cambrian Academy, Conwy, Wales, 2007

## 300 Word Summary

The coastal village of Happisburgh in North Norfolk is falling into the sea. The cliffs, dunes and sea defence structures that protect this predominately low-lying county and its extensive freshwater Broads from inundation cannot contend with the force of rising sea levels and climate change. Government policies that allow coastal retreat by failing to intervene with an active policy such as a Shoreline Management Plan, have conspired to leave the village undefended from the action of the sea and the wind.

### Questions/Aims/Objectives

*The Retreating Village* looks at the threat of coastal erosion. The project questions whether vulnerable territories can remain occupied and considers how, if so, this occupation might be manifest. The project aims to propose an architectural language of representation and investigation that inhabits the disintegrating territory.

### Contexts

The project exists in the design research context of conceptual architectural design. Sustainability, climate change, alternative energy, dynamic landscape management and landscape retention schemes are considered, and also the historic context of peripatetic villages.

### Methods

Normative orthographic demonstrations of architectural space are avoided, and instead drawings utilize multiple viewpoints to emphasize disintegration. A lexicon of architectural devices allow the building to accumulate as the landscape retreats. Models in three scales exhibit the process of collapse and the architecture as it shifts to new ground.

### Dissemination/ Esteem

Exhibited and catalogued as *The Retreating Village* at the Royal Academy Summer Exhibition, 2005, and *Topographic Manoeuvres: 2 Models*, 2006. Blind-selected by Royal Academicians and RA President Sir Nicholas Grimshaw.

Exhibited in joint exhibition with John Smout RCA, *Augmented Landscapes*, the Royal Cambrian Academy, Conwy, Wales, 2007.

Discussed/documentated in Laura Allen and Mark Smout, 'Restless Landscapes', conference paper, 'In The Making', Copenhagen. Catalogue and internet publication, 2005, and Smout Allen, *Augmented Landscapes*, Pamphlet Architecture 28 (New York: Princeton Architectural Press, 2007).

### Authorship

As part of the joint architectural practice Smout Allen, Allen and Smout both contribute equally to the research.



Image 1 (above left)  
Slab footings of demolished  
properties at Beach Road.

Image 2 (above right)  
Beech Road, Happisburgh, North  
Norfolk.

Image 3 (middle and bottom)  
Happisburgh cliff and domestic  
debris, October 2004.

## General Description

The coastal village of Happisburgh in North Norfolk is falling into the sea. The cliffs, dunes, and sea defence structures that protect this predominately low-lying county and its extensive freshwater Broads from inundation cannot contend with the force of rising sea levels and climate change. (images 1–2) Government policies that 'allow coastal retreat through no active intervention', such as the Shoreline Management Plans, have conspired to leave the village undefended from the action of the sea and the wind. Streets, hotels, houses, sheds, and flowerbeds, which had always been perilously close to the cliff, have all gone over the edge. ( image 3)



Images 4-6  
Eroded revetment and cliffs  
produce a new landscape on the  
beach.

## Questions/Aims/Objectives

*The Retreating Village* looks at the threat of coastal erosion. The project questions whether vulnerable territories can remain occupied by man and, if so, how this occupation might be manifest. The project aims to propose an architectural language of representation and investigation that inhabits the disintegrating territory.

The village of small houses and streets is designed to respond to the forecast rates of retreat in this area. It is predicted that the coast will continue to retreat at rates of as much as five metres per year. For the linear coastal villages of Norfolk this could mean destruction of crucial local infrastructure as well as housing in as little as a decade. A different model for coastal inhabitation that can survive and prosper in this disintegrating territory between sea and stable land is necessary.



Image 7 (above)  
Tractors and haulage machinery  
now abandoned on the cliff top  
since the erosion overnight of  
Cart Gap.

Image 8 (below)  
Medieval field patterns.

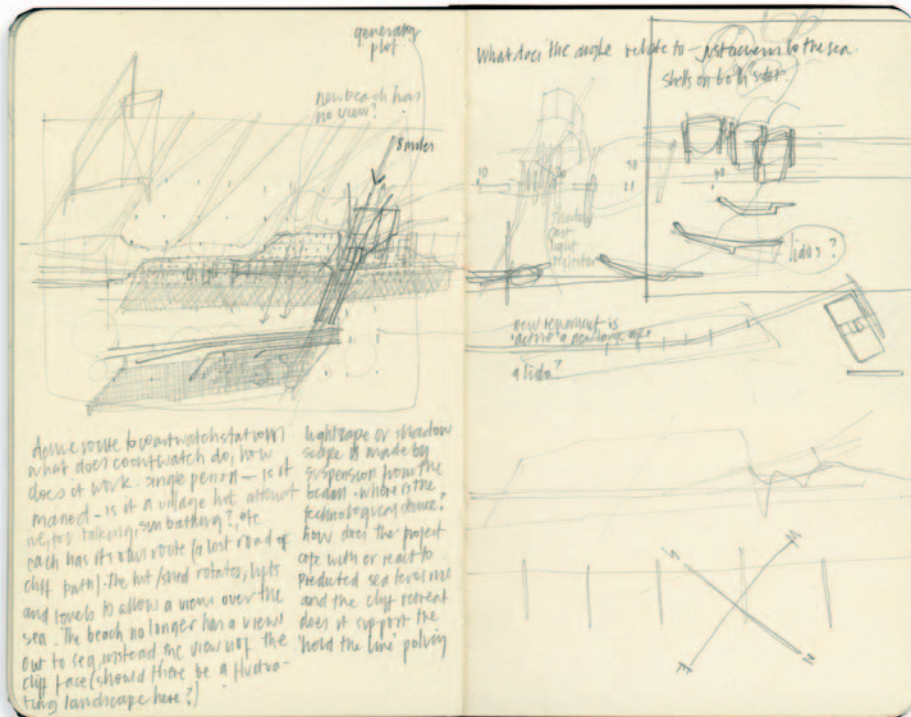
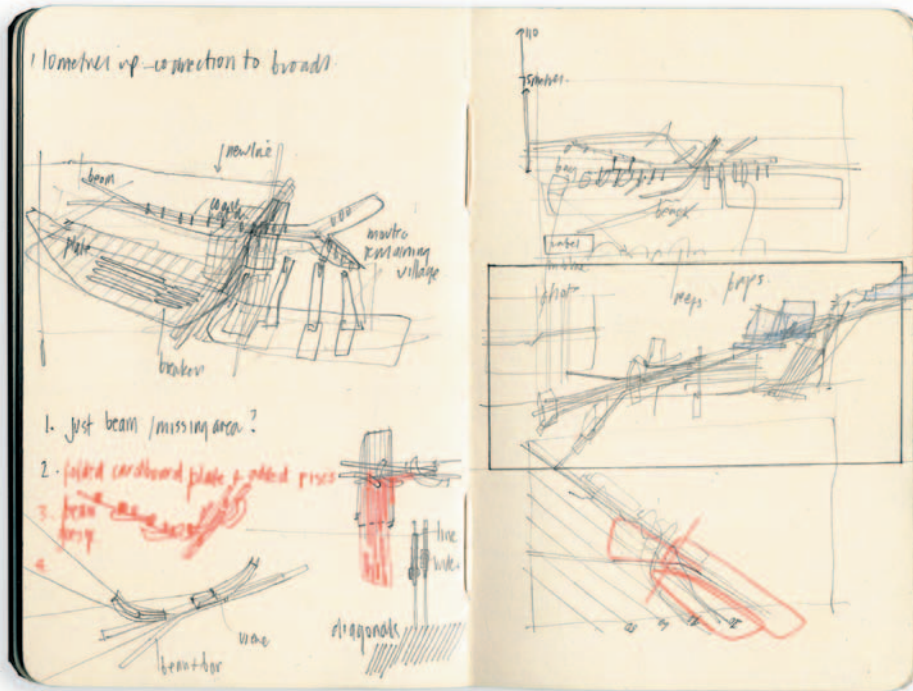
## Contexts

The project exists in the general design research context of conceptual architectural design; this project makes specific reference to issues of sustainability, climate change, alternative energy, dynamic landscape management and landscape retention schemes and considers the historic context of peripatetic villages.

The fifteen-mile stretch of coast from Cromer to Happisburgh is the most actively eroding stretch of Norfolk coastline. (image 4–6) The proposal responds to evidence that hard sea defences such as concrete sea walls, wooden revetments and groynes, although providing protection for the immediate beach and cliff, magnify problems elsewhere. Allowed to erode naturally, the cliffs supply sediment for beaches further along the coast, and these beaches safeguard other villages and towns. A natural deep beach provides protection against the waves until the cliff and beach reach a sustainable position. Further along the coast defences are provided and maintained where the local council deems them justifiable – particularly where the value of vulnerable properties is well in excess of the cost of revetment projects. However, for an extensive proportion of coastline of small villages and agricultural land, there is a long-term view to retreat and relocate. (image 7)

The retreating village is a sustainable settlement that responds to the changing conditions of the landscape. This is nothing new. T. Rowley and J. Wood, in their publication *Deserted Villages* (1995), suggest that 'Settlements are organic and constantly changing. Villages have prospered, declined and migrated to new sites for a wide variety of social, cultural and economic reasons as they have responded to changing conditions.' When read from the air the landscape provides evidence of the deserted villages. Former buildings and paths leave banks and hollows in the ground as markings of their layout and land use. (image 8)

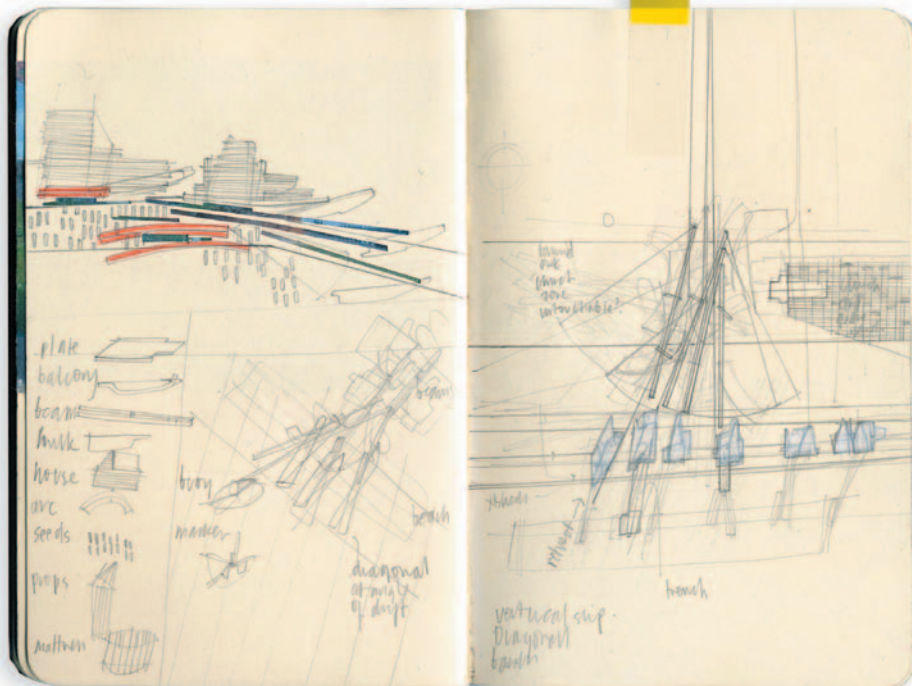
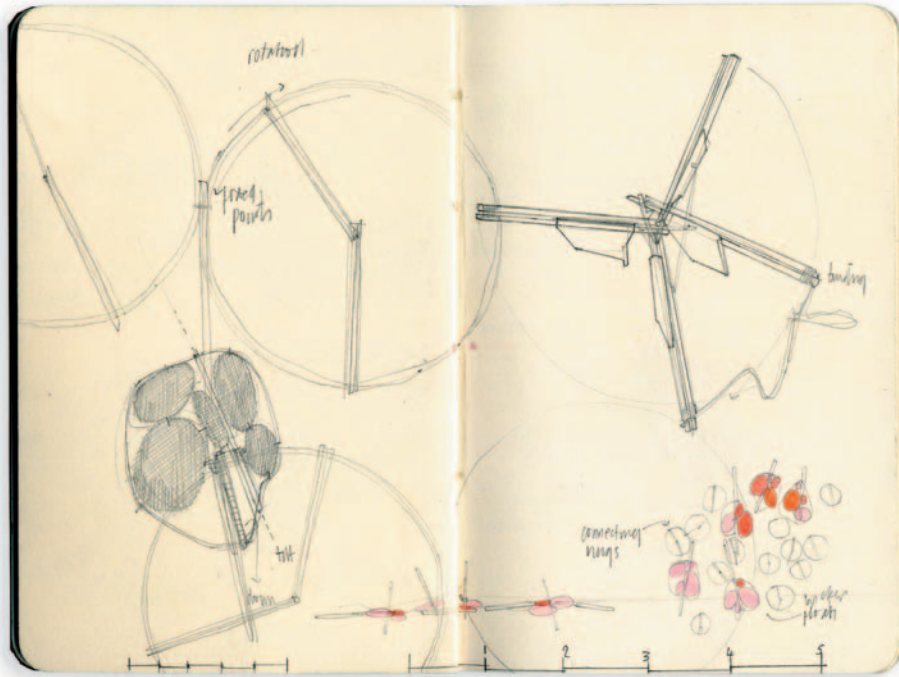




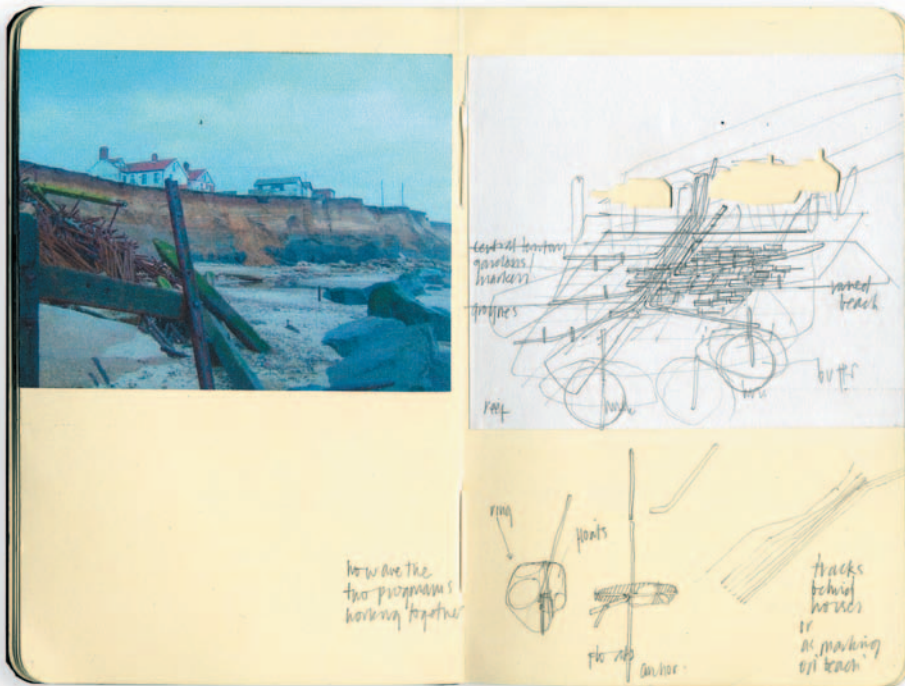
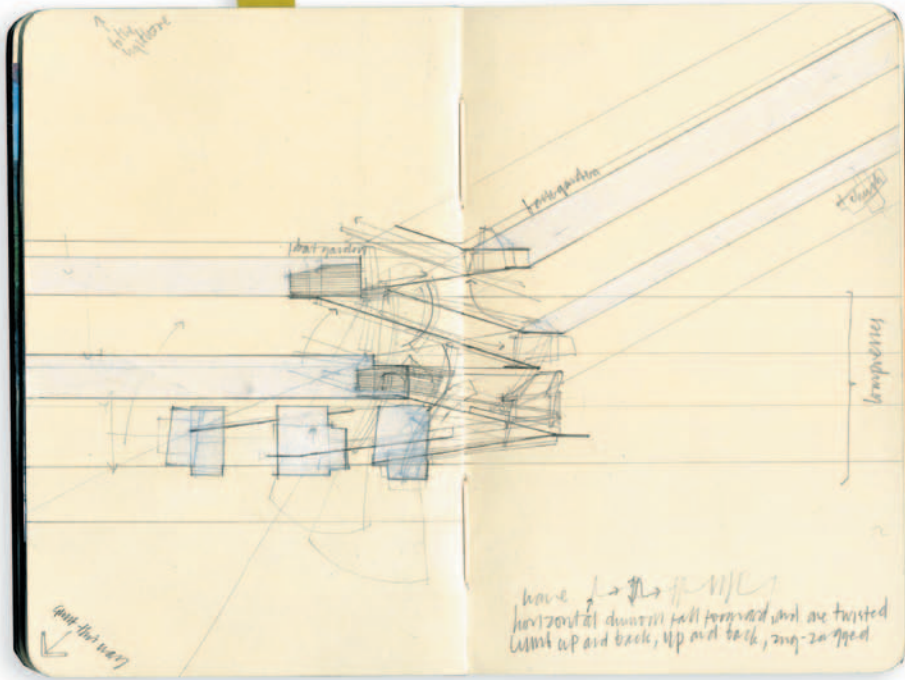
Images 9-10  
 Sketchbook studies.

## Methods

The drawings for *The Retreating Village* are developments from sketchbook investigations (images 9–14) typically made on flat sheets.



Images 11-12  
Sketchbook studies.



Images 13-14  
Sketchbook studies.

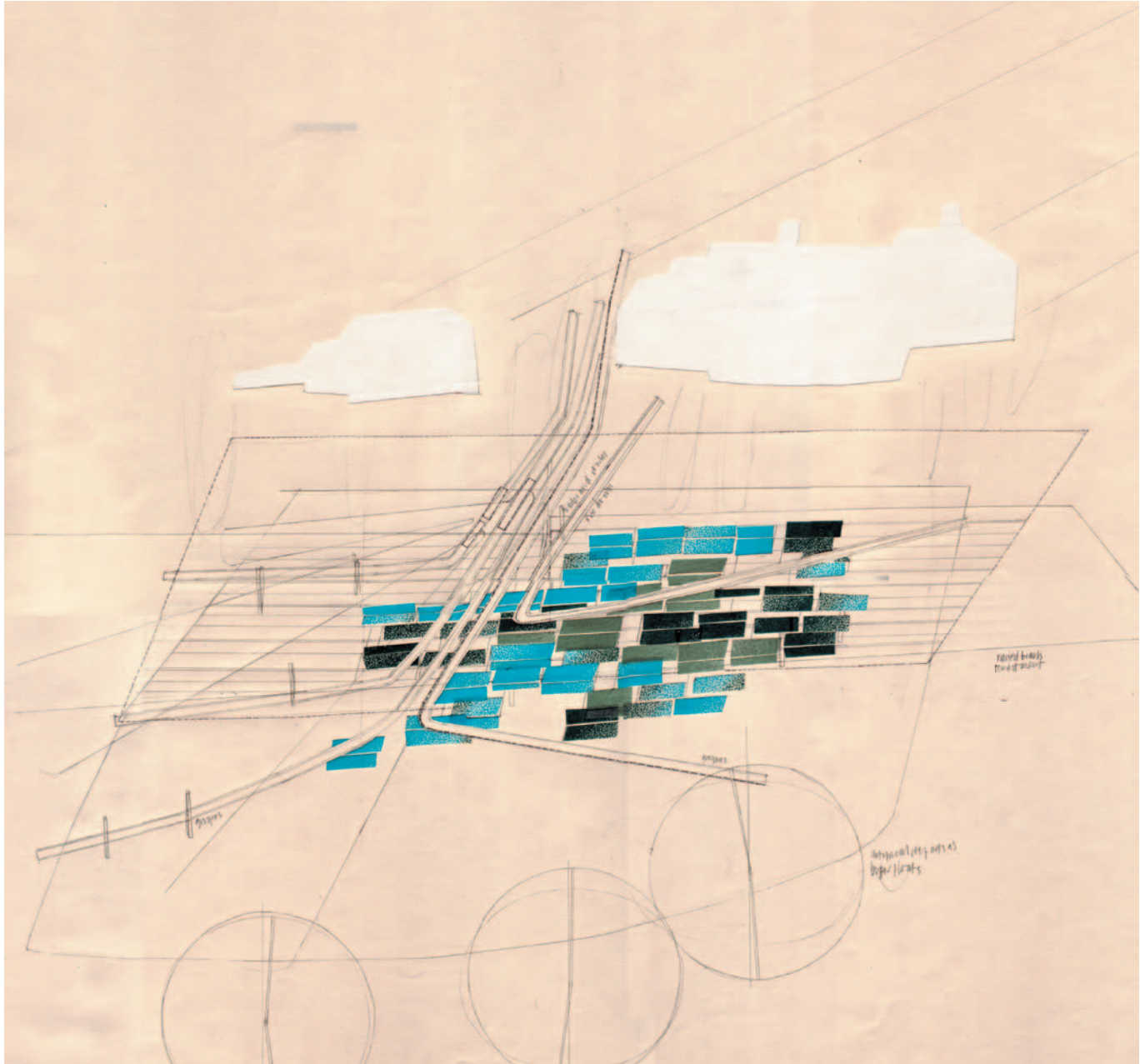


Image 15  
Lost homes are ghosted on  
the cliff, which is banded with  
remediating structures descended  
from the retreating village.

However, in the endeavour to realize both the scope and the scape of the landscape, to depict time and duration, and the dynamism of their disintegrating territory, they exist between the realm of sketch diagrams and architectural orthographic representations. They contain multiple viewpoints and simultaneous shifts of position. (images 15–21)

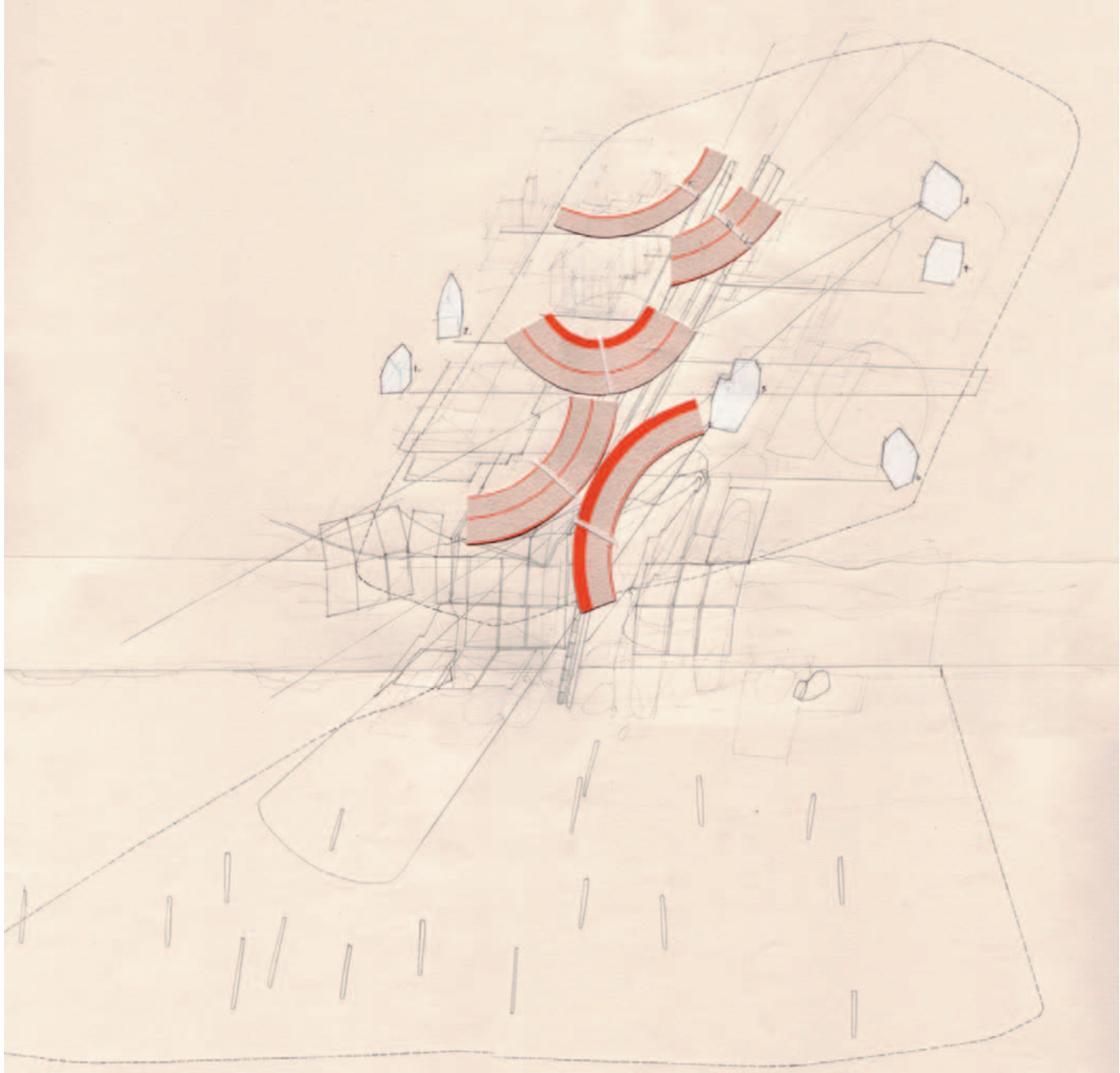


Image 16  
Beams, arcs and mattresses  
dominate the landscape.  
Remnants remain of footings and  
paths that evoke the past life of  
the village.

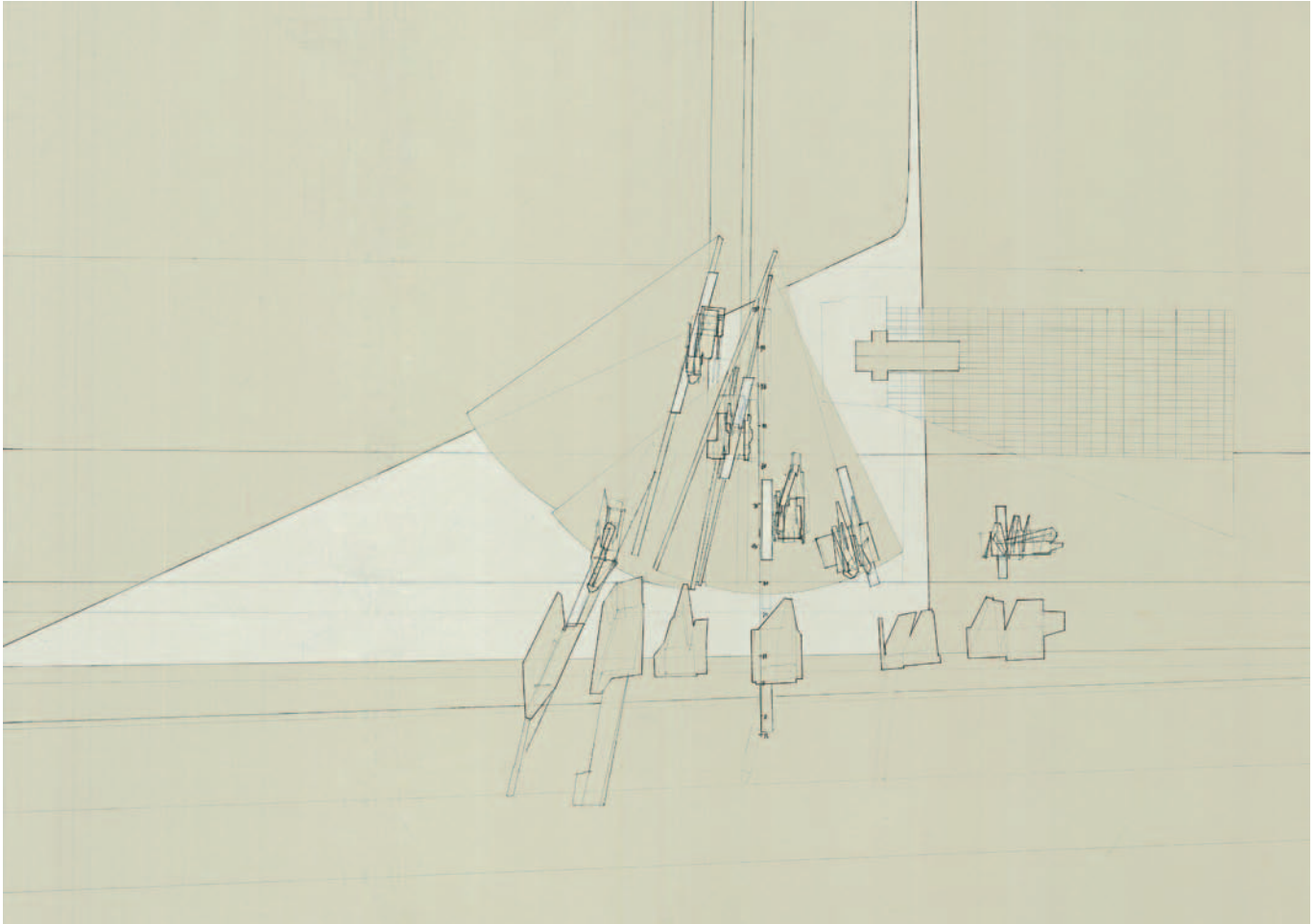


Image 17  
The church, in which many sailors who died at sea are buried, is engulfed by the retreating village. It has just a few decades before it is lost to the sea.



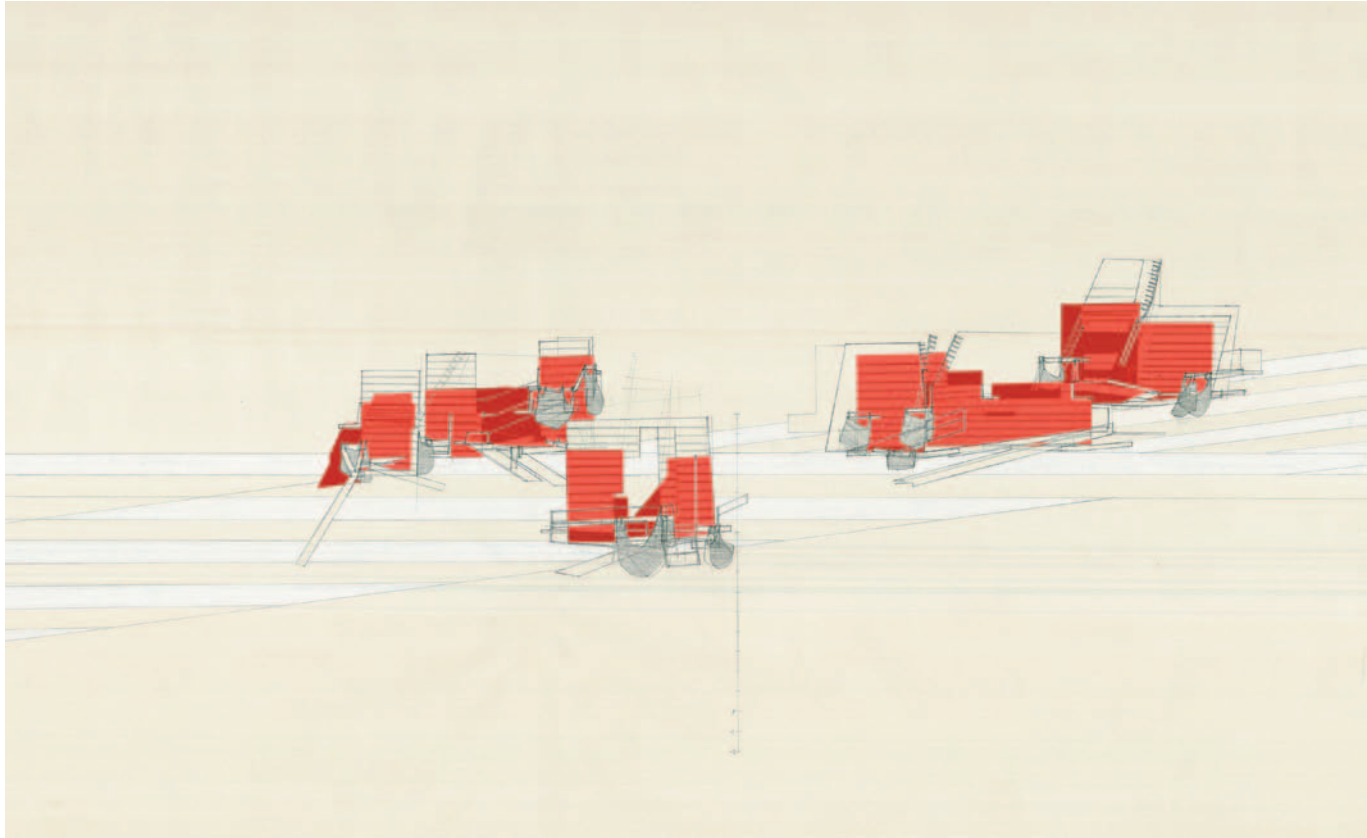


Image 18

Cliff elevation. The architecture responds to its position, sited on a shifting and elevated horizon. The main inhabitable spaces are concealed behind large slatted revetments that provide secondary protection from the elements. The slats are reflective on one side and are tilted and placed eccentrically to achieve a disruptive pattern. The pattern, which aims to disguise the village on the cliff and to make its elevation and location less tangible, adds to the sense of the site and the architecture losing ground to the sea. The village is constructed of revetment structures that are larger and more articulated than the hulk enclosures they conceal. Staircases, ramps and ladders infiltrate the disruptive pattern of the facades.

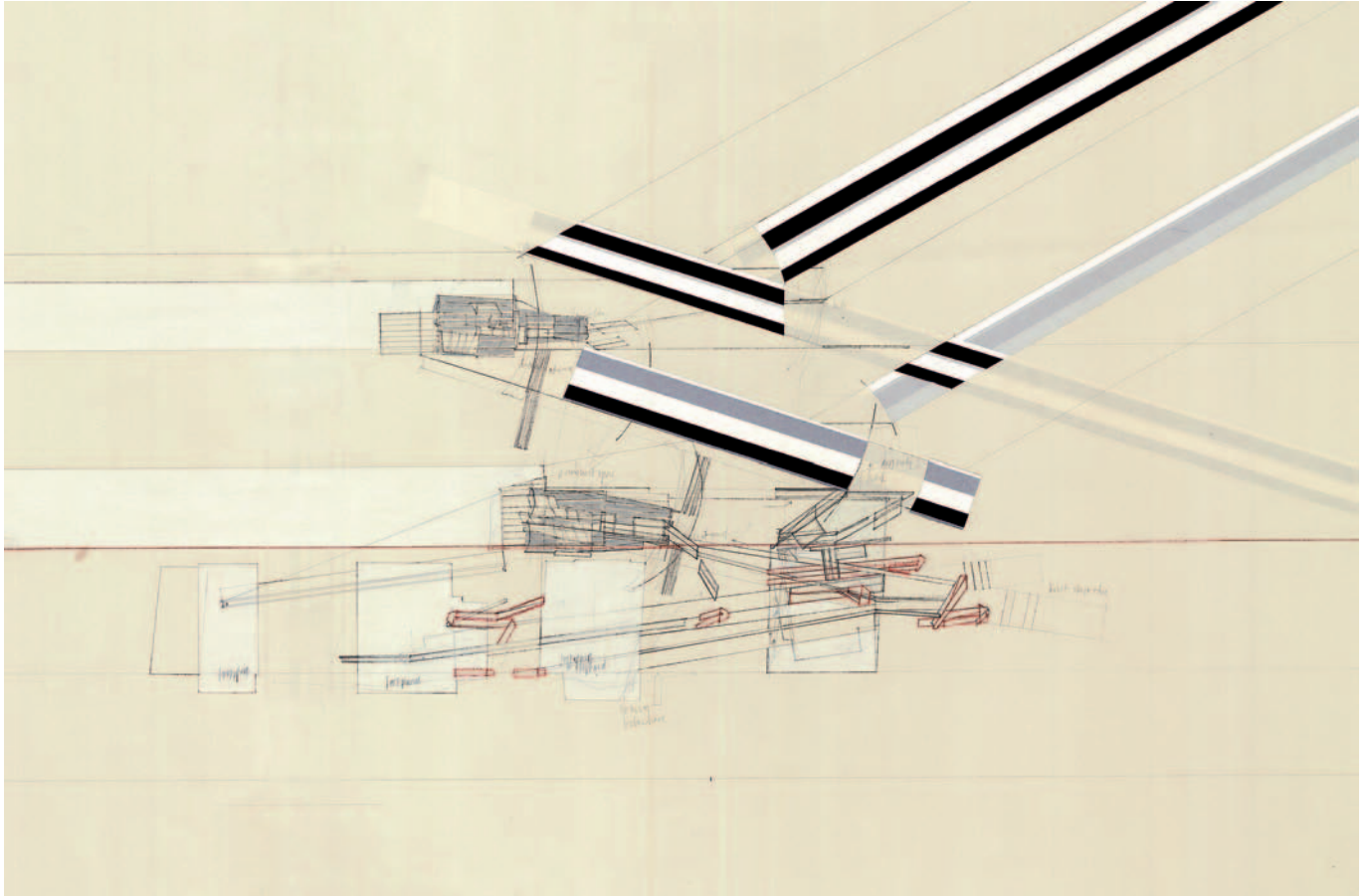


Image 19  
The village is shown, suspended in a twitchy attitude, in its inevitable withdrawal from the edge. The architecture and the landscape are marked by this continual performance.

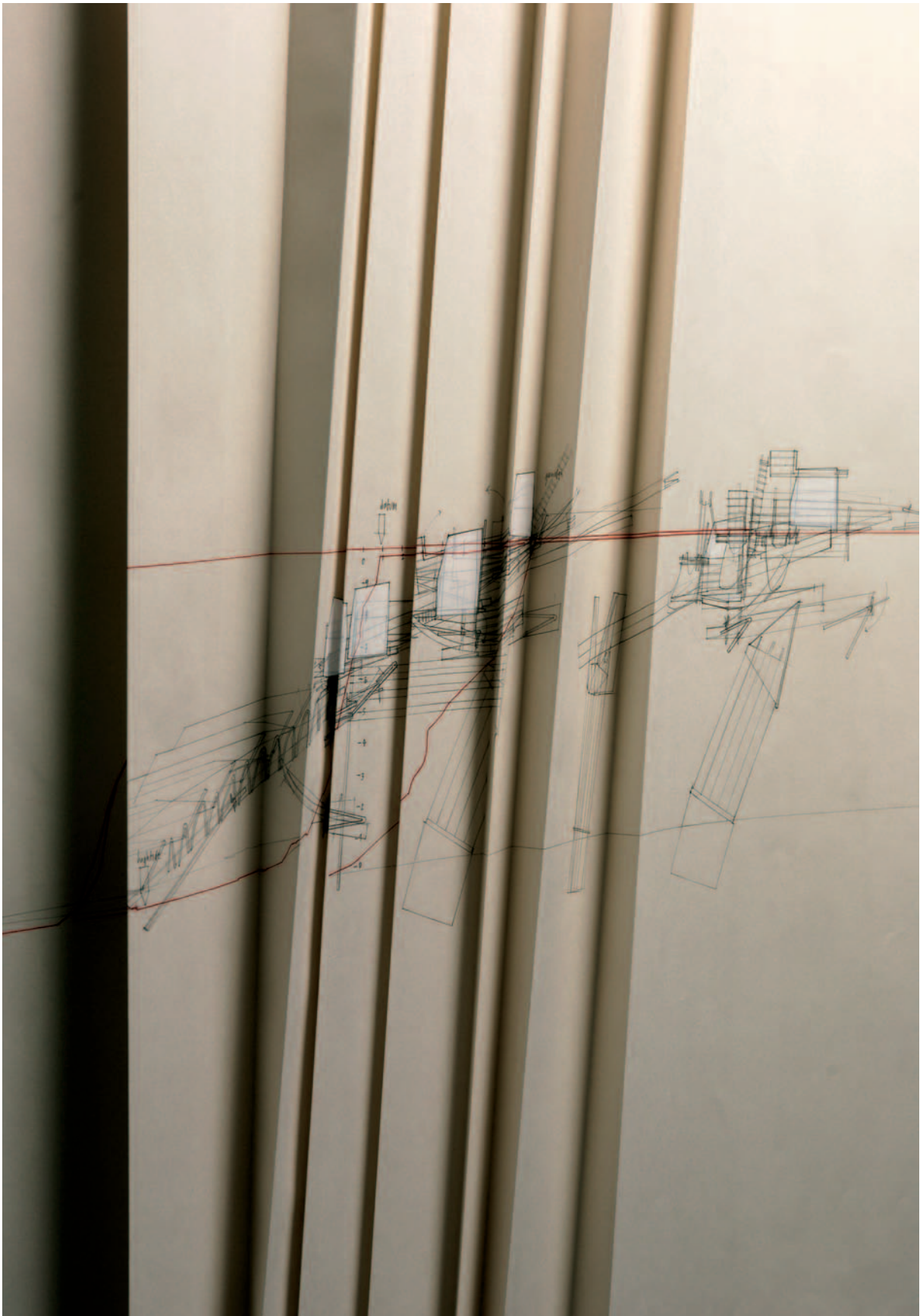


Image 20  
Cliff section showing  
repositioning and reconfiguration.

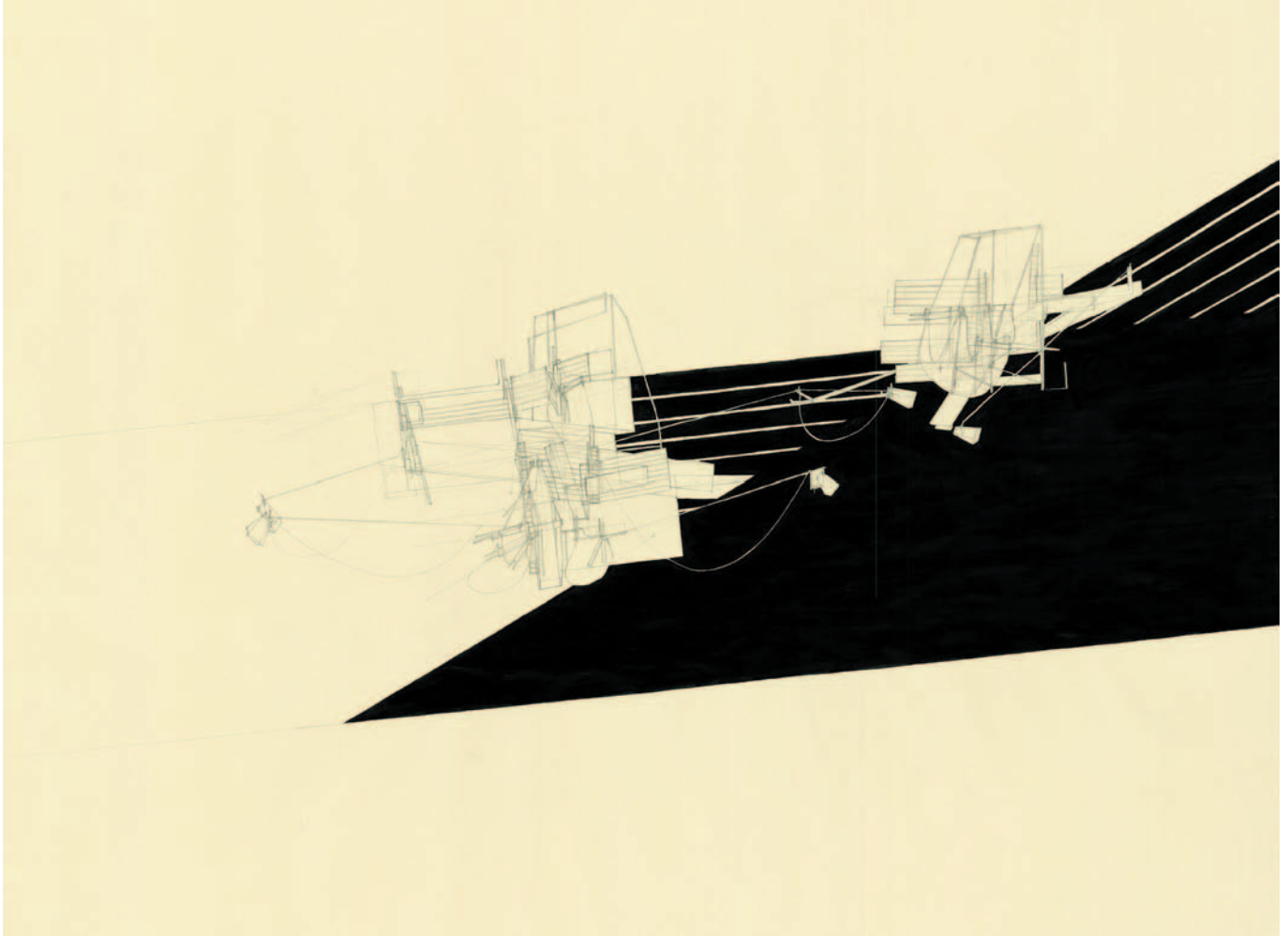
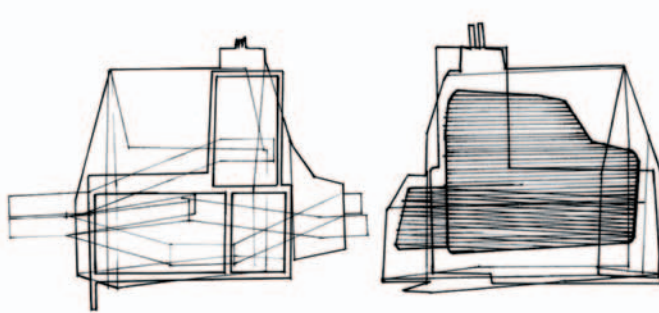
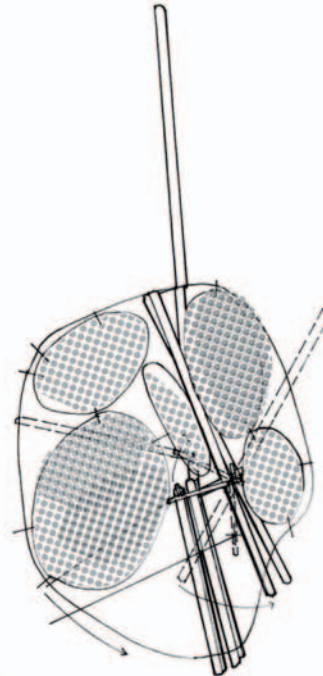


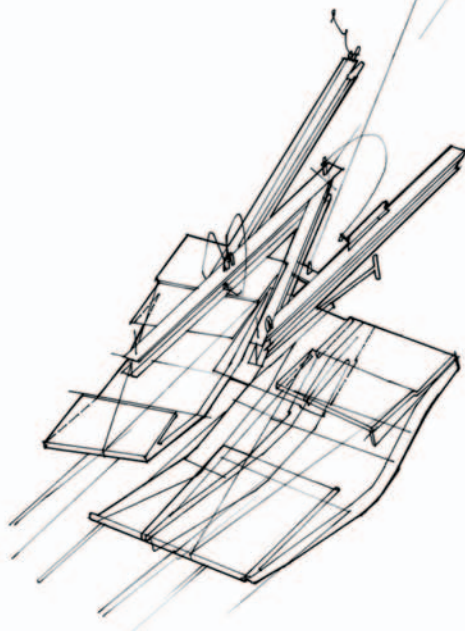
Image 21  
Two houses.



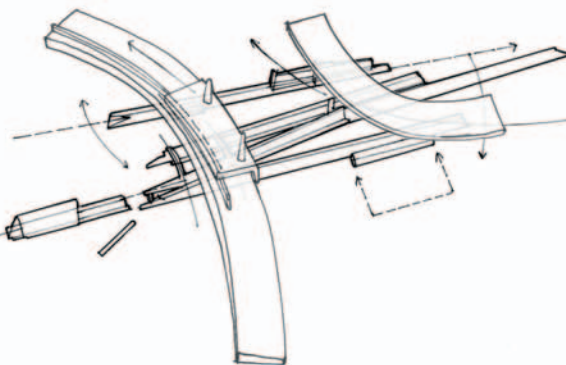
**Hulk:**  
 Each house occupies the silhouette of a lost property. The new house takes the form of a "hulk" or solid enclosure inside which most of the house's normal functions are placed. Revetment shutters appear to protect the hulk and its occupants from the weather. However, access ramps and ladder staircases puncture between the skins. The houses literally fold up or stretch out in their changing hinterland.



**Faggots:**  
 Bioengineering approaches for coastal defense are low-impact retaining techniques that retard erosion. Coir rolls, or "soft" revetments of planted nets, simultaneously control erosion and provide a natural habitat. In areas of more aggressive erosion they can be combined with faggots and fascines, made from live cuttings of hazel, chestnut, or willow bundles that provide the support for the coir rolls. The cuttings sprout and, as roots secure the soil, they become a living and sustainable revetment.



**Skids:**  
 The village is mounted on steel and concrete skids that allow each house to be dragged across the landscape. They are manipulated by no fewer than three pulleys that are anchored in the landscape and attached to the frame mounted above the skids and below the floor of the house.



**Beams and Arcs:**  
 The village is slipped, dragged, and rotated by a mechanism of anchors, ground beams, and concreted arcs.

Image 22  
 Lexicon of architectural devices.

Domestic typologies and vernacular architecture are replaced by a lexicon of architectural devices that allow the village to occupy and to take advantage of the precarious site and enable it to slide and shift to safer land. A mechanical landscape is created of winches, pulleys, rails and counterweights, mimicking techniques for hauling boats from the waves. This mechanical landscape also adopts an architectural language of impermanence, of permeable screens, loose-fit structures, and cheap materials that complement and contribute to the nature of the restless landscape. (images 22–23)

(1) Hulk core and enclosure

Each house occupies the silhouette of a lost property. The new house takes the form of a 'hulk' or solid enclosure inside which most of the house's normal functions are placed. Revetment shutters appear to protect the hulk and its occupants from the weather. However, access ramps and ladder staircases puncture between the skins. The houses literally fold up or stretch out in their changing hinterland.

(2) Faggots

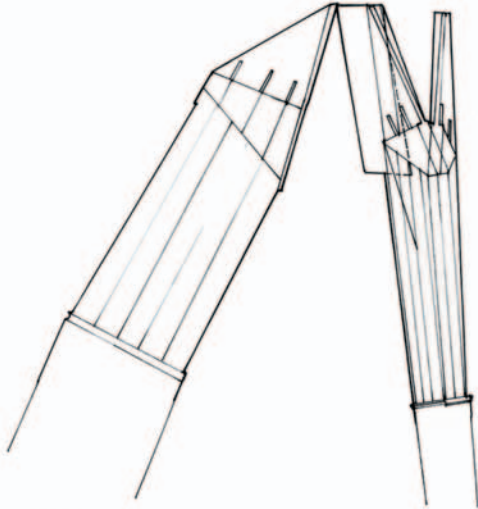
Bioengineering approaches for coastal defence are low-impact retaining techniques that retard erosion. Coir rolls, or 'soft' revetments of planted nets, simultaneously control erosion and provide a natural habitat. In areas of more aggressive erosion they can be combined with faggots and fascines, made from live cuttings of hazel, chestnut, or willow bundles, that provide the support for the coir rolls. The cuttings sprout and, as roots secure the soil, they become a living and sustainable revetment.

(3) Beams and arcs

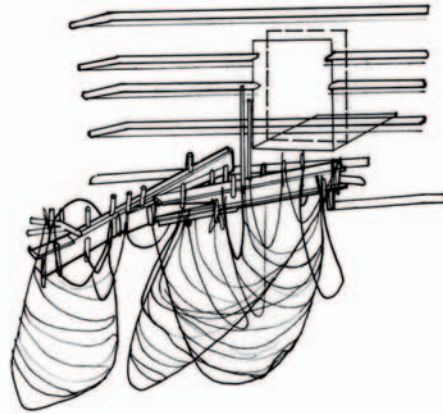
The village is slipped, dragged and rotated by a mechanism of anchors, ground beams and concreted arcs.

(4) Skids

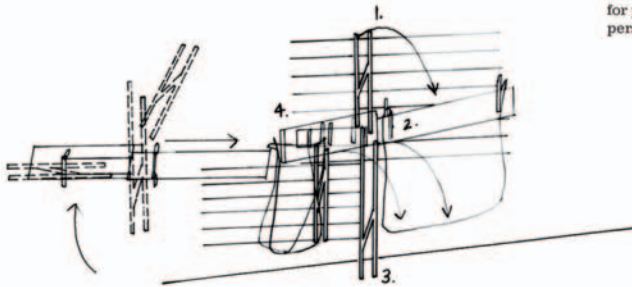
The village is mounted on steel and concrete skids that allow each house to be dragged across the landscape. They are manipulated by no fewer than three pulleys that are anchored in the landscape and attached to the frame mounted above the skids and below the floor of the house.



**Props:**  
Temporary timber props strengthen the cliff in critical areas until they are eventually engulfed by the landscape.



**Gardens:**  
Each house travels with a "garden" of rope that reinforces the surrounding soil. These three-dimensionally woven geotextile bags are connected to frames and fed out through "windows" in the revetments. For some villagers the baskets and rope gardens are used as allotments for prize-winning vegetables; for others they provide a personal space for sunbathing.



**Frame:**  
The rope gardens are fed out on a counterbalanced ratchet whose equilibrium is interrupted by the movement of the village and the cliff edge.

**Buoys:**  
The sea is populated by a swarm of floats that are flexible and dynamic to allow them to be reconfigured by the waves. The buoys act as beacons for the village to warn of inclement weather.

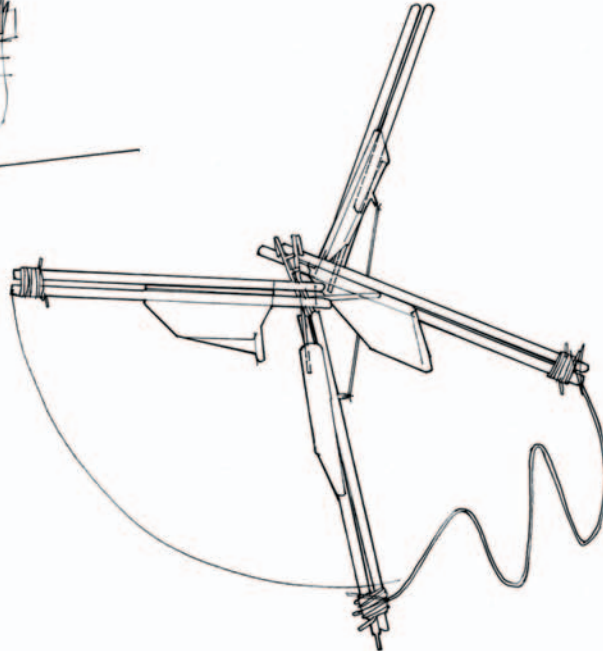


Image 23  
Lexicon of architectural devices.

(5) Frame

The rope gardens are fed out on a counterbalanced ratchet whose equilibrium is interrupted by the movement of the village and the cliff edge.

(6) Buoys

The sea is populated by a swarm of floats that are flexible and dynamic to allow them to be reconfigured by the waves. The buoys act as beacons for the village to warn of inclement weather.

(7) Props

Temporary timber props strengthen the cliff in critical areas until they are eventually engulfed by the landscape.

(8) Gardens

Each house travels with a 'garden' of rope that reinforces the surrounding soil. These three-dimensionally woven geotextile bags are connected to frames and fed out through 'windows' in the revetments. For some villagers the baskets and rope gardens are used as allotments for growing prize-winning vegetables; for others they provide a personal space for sunbathing.



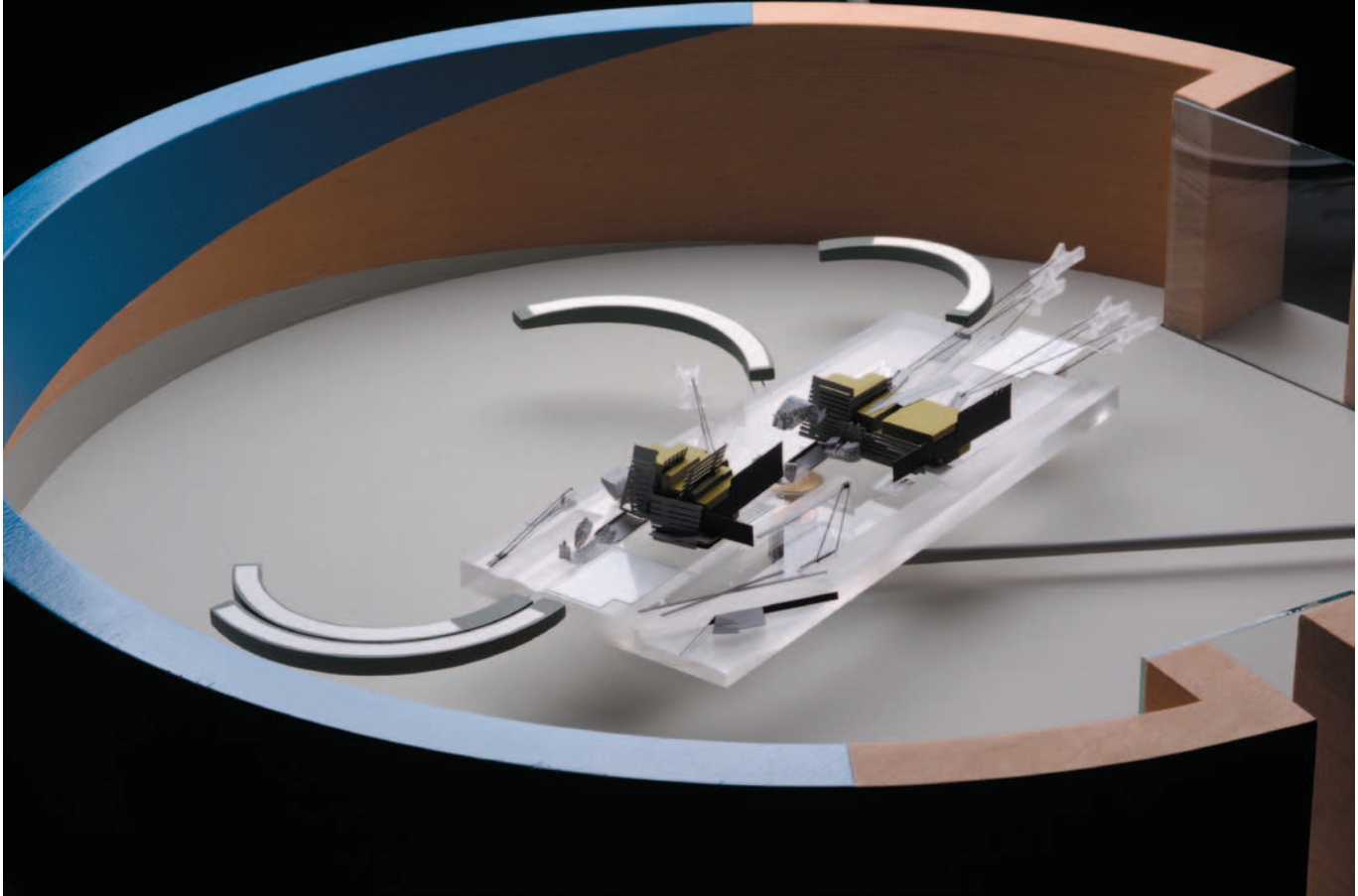


Image 24  
1:200 model.

Kinetic models in two scales exhibit the process of collapse and the transient nature of the architecture as it shifts to new ground. The viewer is invited to interact with the models. A 1:200 model of the village shows two houses, a strip of cliff, arcs, beams, rope gardens, and the paraphernalia of haulage set in a circular case. The village is rotated and viewed at eye level through breaks in the horizon, which is marked against the back wall. (images 24–27) A 1:500 model shows the traces and trajectory of the village locked onto a frame on the cliff top. The faggots that reinforce the edge appear as the cliff recedes in response to the action of the waves. (images 28–30)

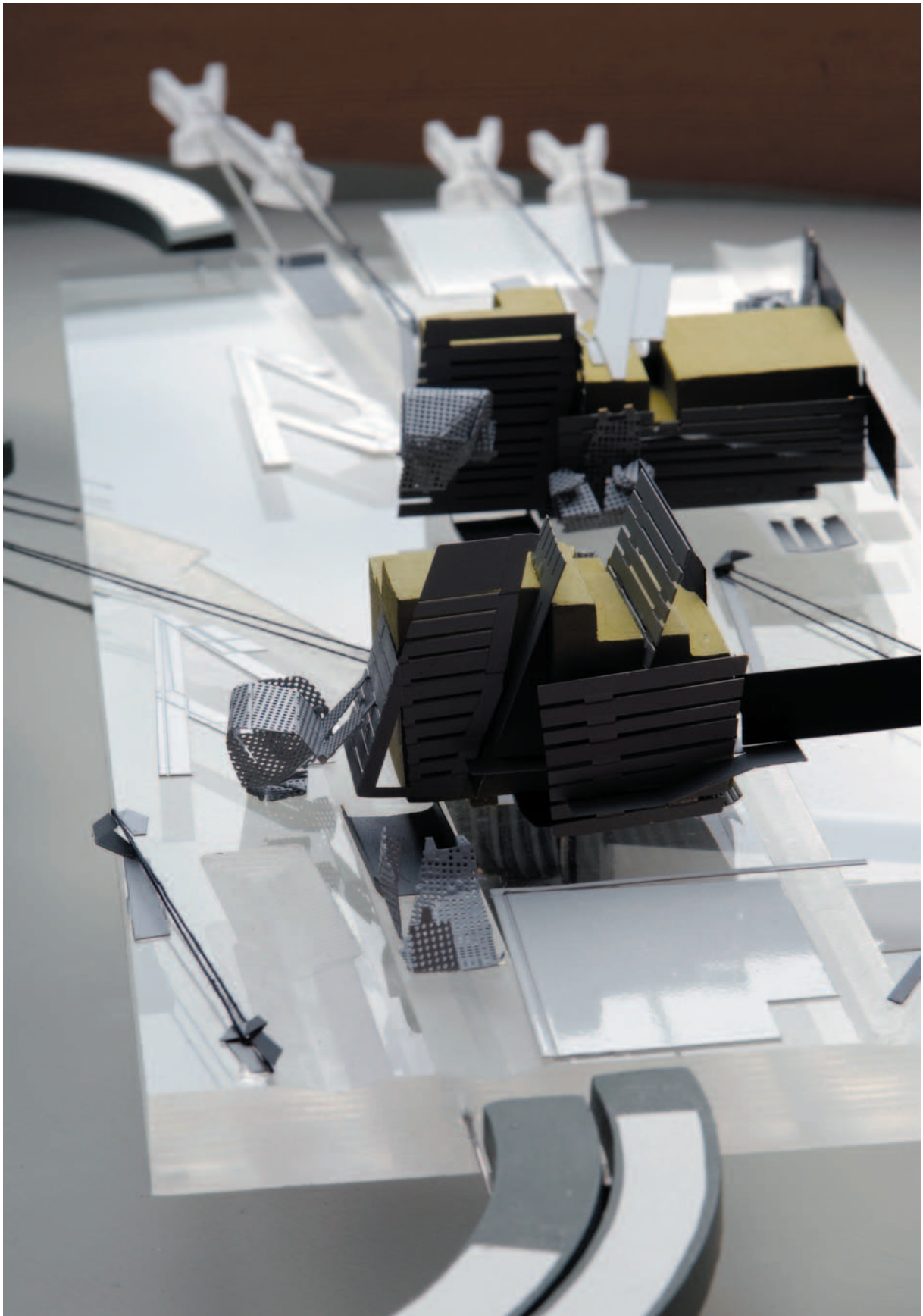


Image 25  
1:200 model.

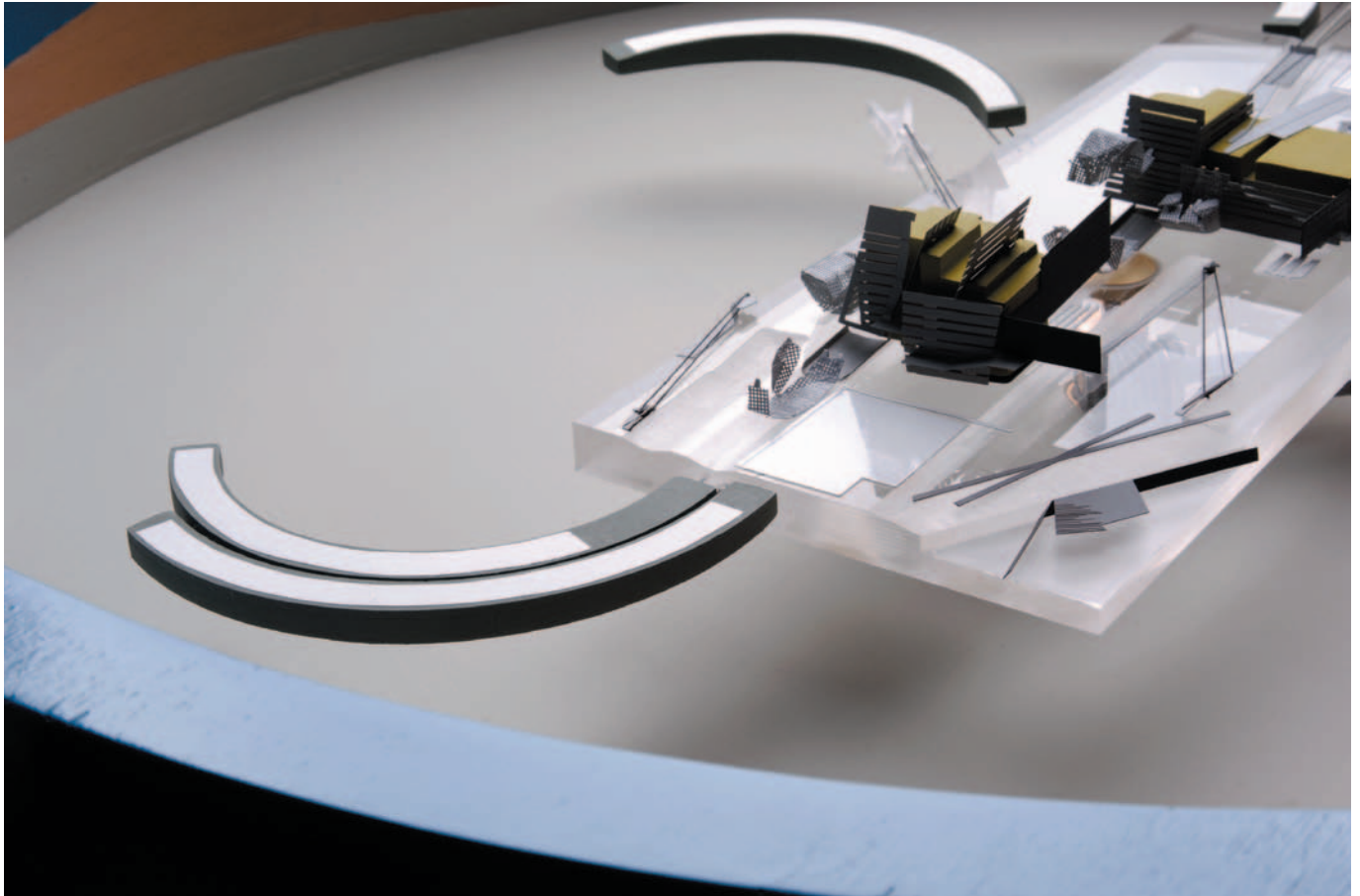


Image 26  
1:200 model.



Image 27  
1:200 model.



Image 28  
1:500 model.

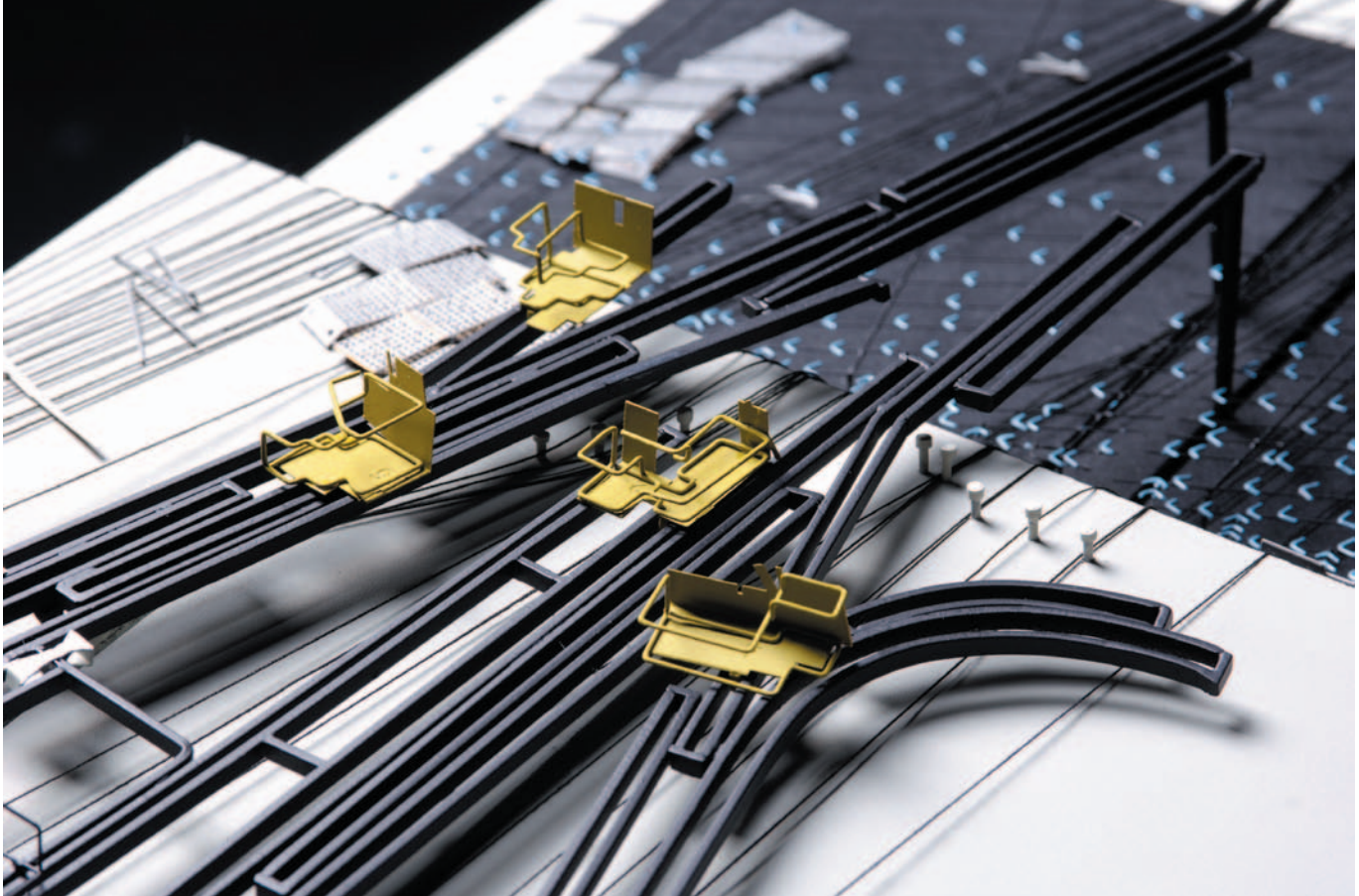


Image 29  
1:500 model.

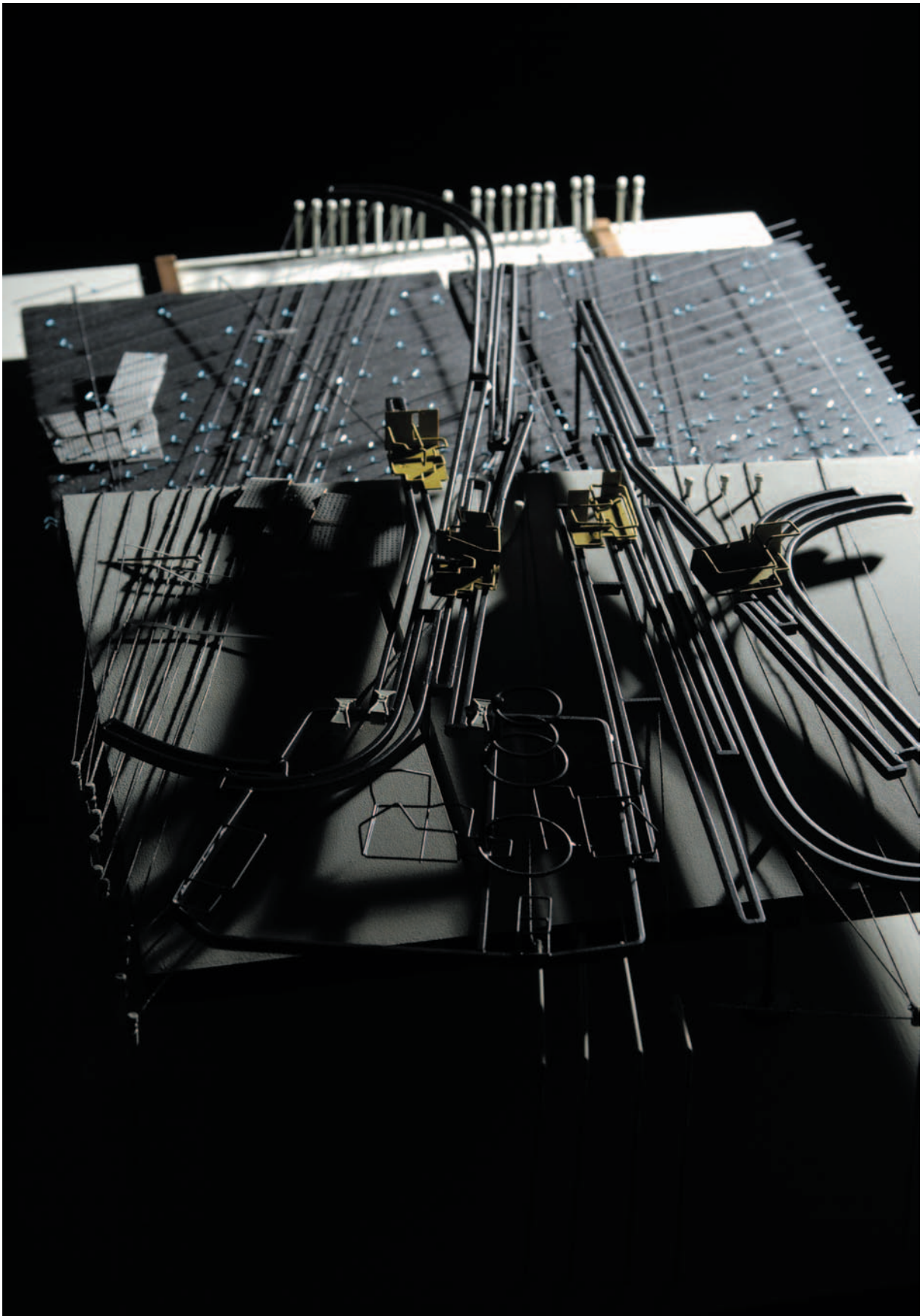


Image 30  
1:200 model.





## Dissemination/ Esteem

Exhibited and catalogued at Royal Academy Summer Exhibition, London, as *The Retreating Village*, 2005 and *Topographic Manoeuvres: 2 Models*, 2006. Blind selected by Royal Academicians and RA President Sir Nicholas Grimshaw.

Exhibited in joint exhibition with John Smout RCA, *Augmented Landscapes*, the Royal Cambrian Academy, Conwy, Wales, 2007.



## Appendix 1: Related Articles by Smout Allen

(1.1) Discussed and documented in Laura Allen and Mark Smout, 'Restless Landscapes', conference paper, 'In The Making', Copenhagen. Catalogue and internet publication, 2005. [see Laura Allen: Research Output 1]

(1.2) Discussed and documented in Smout Allen, *Augmented Landscapes*, Pamphlet Architecture 28 (New York: Princeton Architectural Press, 2007). [see Mark Smout: Research Output 4]



## Appendix 2: Critics' Reviews

(2.1) Drawings discussed in Peg Rawes, 'Plenums: Rethinking Matter, Geometry and Subjectivity', Katie Lloyd Thomas (ed.), *Material Matters*, (London: Routledge, 2007), pp. 55–66.

(2.2) Research drawings appraised in Peter Cook, *Drawings (Architectural Design Primers)*, (London: John Wiley and Sons, 2008). [forthcoming]

