

Hidden in Plain Sight

From Shelter to Mediated Sequence

by

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Abstract

This graduation project investigates how former Cold War aircraft shelters at Airbase Soesterberg can be transformed into a visitor center that represents military heritage while mediating between public accessibility and ecological protection. The airbase, once a closed and highly secured military site, has been transformed into a public nature reserve. However, its Cold War history and the presence of the former USAFE infrastructure remain only partly visible and understandable to visitors, while ecological restrictions continue to limit movement and access.

The project focuses on three third-generation aircraft shelters: 623, 625 and 626. Instead of treating the visitor center as a single building, the design proposes a distributed sequence of shelters, routes and thresholds. Shelter 626 functions as the Visitor & Event Center, shelter 623 as the Experience Center, and shelter 625 as the Museum Center. These shelters are connected by partly sunken corridors and introduced through a small pavilion on the former taxiway.

Through research-by-design, heritage analysis, ecological mapping, precedent research and spatial testing, the project develops an architectural strategy based on controlled accessibility. The existing military qualities of the shelters, such as their arched volumes, heavy concrete and steel construction, darkness, enclosure and introverted atmosphere, are preserved and used as design material. New interventions are inserted as readable contemporary layers.

The project concludes that Cold War military heritage can become meaningful public architecture when preservation, accessibility and ecological restraint are treated as interdependent design conditions. Architecture does not simply open the site, but carefully guides how visitors move through, understand and experience the former military landscape.

BERLIN, 13. AUGUST 1961

MAUERBAU

Die Welt hält den Atem an
Niemand hat die Absicht,
eine Mauer zu errichten!



NORWEGEN

OSTSEE

PÖLEN

UDSSR

TSCHECHO-SLOWAKEI

SCHWARZES MEER



THE COLD WAR

A time of tension.
A world divided.
Technology, power
and ideology in
constant balance.
And fear of the
unknown.

LOCKHEED F-104G STARFIGHTER
32 TACTICAL FIGHTER SQUADRON
USAF
Soesterberg, the Netherlands



Hidden in Plain Sight

★
From Shelter to Mediated Sequence

AR4AH120 | Adaptive Reuse of Heritage Graduation Studio (2025/26)

Damian Klein | 5085535

03-06-2026

ir. A.W. Hermkens,
dr. I. Nevzgodin

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ABSTRACT

This graduation project investigates how former Cold War aircraft shelters at Airbase Soesterberg can be transformed into a visitor center that represents military heritage while mediating between public accessibility and ecological protection. The airbase, once a closed and highly secured military site, has been transformed into a public nature reserve. However, its Cold War history and the presence of the former USAFE infrastructure remain only partly visible and understandable to visitors, while ecological restrictions continue to limit movement and access.

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Through research-by-design, heritage analysis, ecological mapping, precedent research and spatial testing, the project develops an architectural strategy based on controlled accessibility. The existing military qualities of the shelters, such as their arched volumes, heavy concrete and steel construction, darkness, enclosure and introverted atmosphere, are preserved and used as design material. New interventions are inserted as readable contemporary layers.

The project concludes that Cold War military heritage can become meaningful public architecture when preservation, accessibility and ecological restraint are treated as interdependent design conditions. Architecture does not simply open the site, but carefully guides how visitors move through, understand and experience the former military landscape.



Figure 1. Former aircraft shelter as a concealed object in the landscape at Airbase Soesterberg (photograph by author, 2025)

Part 1. Introduction

What and why?

1.1 PROBLEM STATEMENT

Reason, problem description and/or design assignment

Airbase Soesterberg functioned during the Cold War as a closed and highly secured military airbase, including a system of aircraft shelters used by the USAFE. The site was deliberately isolated and inaccessible, both physically and socially (Volkers, 2009). After decommissioning, the area has been transformed into a nature reserve and public park under the ownership of Utrechts Landschap, becoming part of a large protected natural landscape. However, this transformation is not a simple opening-up of the former airbase. The official management strategy defines the site through the combined ambitions of nature, cultural history and recreation, while also emphasizing that ecological improvement and public access should be balanced through careful zoning and routing (Stuurgroep Vliegbasis Soesterberg, 2011, p. 28).

Although the area is now partially accessible, the former military character of the site (including its Cold War history and the presence of American forces) is only limitedly visible and understandable to visitors. At the same time, the current ecological value of the site places strict limitations on accessibility, movement and use, for instance through protected zones, seasonal restrictions and limited infrastructure. As a result, the area remains perceived as ambiguous: formally public, yet spatially and atmospherically still closed and difficult to enter, particularly around the aircraft shelters.

This creates a tension between the ambition to disclose military heritage, the desire to invite and guide public use, and the necessity to protect and strengthen nature and biodiversity within the reserve. Within this context, adaptive reuse becomes not an functional conversion, but an architectural design challenge, in which the spatial logic of former military shelters must be carefully transformed to accommodate public use. This challenge is not only spatial, but also experiential, requiring strategies that organise access, guide movement and frame how visitors encounter both the heritage and the landscape. Architectural intervention therefore operates as a mediator between preservation, accessibility and ecological restraint.



Figure 2. Location of Airbase Soesterberg in the Netherlands



Figure 3. Aircraft shelters in Airbase Soesterberg

1.2 RELEVANCE

Contribution to profession and society

The project addresses the architectural challenge of **adaptive reuse of Cold War military infrastructure within a protected natural landscape**. It contributes to the professional discourse on how robust, introverted military structures, originally designed for defence, concealment and control, can be transformed into public and educational architecture without undermining their spatial identity or ecological values. Cold War military heritage represents a relatively underexplored and distinctive category within adaptive reuse: the RCE identifies it as a major heritage challenge in the Netherlands, noting that little research has been done, that a comprehensive overview is lacking, and that many objects have lost their original function (Contant et al., 2019). Cold War military heritage therefore represents a relatively underexplored and distinctive category within adaptive reuse, with specific spatial, historical and ecological conditions that differ from more established forms of heritage reuse (Kruidenier, 2007).

This relevance is reinforced by the cultural-historical assessment of Airbase Soesterberg, which identifies the ensemble of seventeen 3rd generation aircraft shelters and the central bunker as unique within the Netherlands and of high monumental value (Stenvert & Viersen, 2007, p. 35).

Unlike industrial heritage, which is usually embedded within urban or post-industrial contexts, Cold War military structures are characterized by their hidden and isolated nature. In the case of Airbase Soesterberg, decades of restricted access and specific military land management have produced a landscape with high ecological and biodiversity values (Stuurgroep Vliegbasis Soesterberg, 2011). Therefore, adaptive reuse becomes not only an architectural challenge, but also a landscape and ecological design challenge in which interventions must carefully mediate between spatial transformation, environmental protection and public accessibility, particularly through the way access and movement are organized within the site.

At the same time, this type of heritage has the potential to contribute to emerging forms of landscape-based tourism. As interest in outdoor recreation and walking grows, former military landscapes such as Soesterberg Airbase offer opportunities for leisure and education. This positions architecture not only as a means of preservation, but also as a tool to guide visitors through the landscape and structure their understanding of the site.

Finally, the relevance of Cold War military heritage is intensified by current geopolitical tensions, which have renewed public interest in the similar military history of the second half of the twentieth century. This emphasizes the importance of engaging with such sites as part of our cultural history. The project therefore positions adaptive reuse as a means to reinterpret military heritage in a way that is public accessible, ecologically responsible and spatially legible.



Figure 4. Dutch headlines about popularity of recreation

1.3 OBJECTIVE AND MOTIVATION

Ambitions and special interest

The objective of this graduation project is to design a **visitors center** within a selection of the former aircraft shelters at Airbase Soesterberg that communicates both **the military history of the site** and **its current role as a nature reserve**. The visitors center is intended to function not as a singular destination, but as part of a spatial system of shelters, routes and viewpoints that guides visitors through the landscape and the former military infrastructure, encouraging visitors to engage with the site through walking, learning and observation.

The architectural ambition lies in exploring how existing Cold War military structures, characterised by their robustness, introversion and defensive spatial logic, can be carefully transformed to accommodate public use. This allows the shelters to become legible and accessible, while preserving their spatial identity and the ecological values and while organising how visitors access and experience these spaces.

Furthermore, the project explores how robust concrete and steel military structures can be adapted for public use through careful interventions in access, daylight, climate, acoustics and structural integration, while maintaining the legibility of the original shelter architecture.

The project is motivated by an interest in architectural transformation of military heritage and in the challenges of Cold War architecture as a form of underexplored heritage. In particular, the project reflects an interest in how architecture can act as a mediator between formerly closed infrastructures, public accessibility and fragile ecological systems. Through this project, architectural strategies are developed to engage with Cold War military heritage that carefully mediate its spatial identity and its ecological context, not only through form but through movement, sequencing and spatial experience.

1.4 RESEARCH

Research and design questions

The graduation project is developed through a combination of architectural design and design research, in which analytical investigation and design exploration inform one another. The research focuses on understanding the spatial, material and contextual characteristics of the 3rd generation Cold War aircraft shelters, as well as the ecological zoning, routing logic and biodiverse landscape conditions.

As outlined in the preceding chapters, the aircraft shelters at Airbase Soesterberg are characterized by a robust and introverted military architecture, originally designed for isolation and control. Meanwhile, these structures are now located in a publicly accessible nature reserve, where ecological values and landscape qualities impose strict limitations on accessibility and movement. This results in a spatial tension between openness and restriction.

In order to bring together the representation of Cold War military heritage, the transformation into publicly accessible architecture, and the need for ecological mediation, the project is guided by the following main design question:

How can former Cold War aircraft shelters at Airbase Soesterberg be transformed into a visitors center that architecturally represents military heritage while mediating public accessibility and ecological protection?



Cold War heritage representation:

How can Cold War military history be represented through architectural space, materiality and atmosphere rather than through conventional exhibition methods?



Identity and transformation:

Which spatial, material and atmospheric characteristics define the military identity of Cold War aircraft shelters, and how can these characteristics inform architectural intervention?



Architectural consequences:

What architectural design consequences emerge when transforming a Cold War military structure into a visitors center, in terms of access, spatial organisation and intervention strategy?



Context / Site mediation

How can the transformation of aircraft shelters at Airbase Soesterberg respond to ecological restrictions and landscape conditions while remaining accessible and legible to visitors?

These subquestions guide the development of the architectural design strategy. The first subquestion focuses on how architectural space, materiality and atmosphere can communicate Cold War heritage. The second subquestion identifies which characteristics of the shelters define their military identity and how these inform intervention. The third subquestion examines the spatial and technical consequences of reuse, including access, organization and installations. The fourth subquestion addresses how architectural intervention mediates between visitors and the protected landscape.

1.5 SCOPE

Location and program

The project is situated at Airbase Soesterberg and focuses on three of the seventeen existing 3rd generation Cold War aircraft shelters, buildings 623, 625 and 626. These shelters are part of the larger shelter ensemble, which has been identified as unique within the Netherlands and of high monumental value (Stenvert & Viersen, 2007, p. 35). The selection of shelters is based on their central position within the shelter area and their potential to connect the visitor sequence to the entrance route, the former runway, bunker 600 and the National Military Museum. The scale of intervention is architectural, with attention to the immediate landscape and infrastructural context, including walking routes, access points and the normally less accessible forested areas around the shelters.

The design strategy is focussed on the transformation of selected aircraft shelters into a hybrid visitor center that combines characteristics of a heritage center, museum, experience center and educational center. The shelters are not treated as isolated buildings, but as key spatial elements within a larger landscape sequence. This sequence is organized through a new system of partly sunken corridors, which connect the shelters and guide visitors through areas that are normally less accessible. A small pavilion on the former taxiway marks the entrance to this sequence, functioning as a threshold between the route from the National Military Museum and the route towards the visitor center and museum. Together, the shelters, corridors, pavilion and the surrounding route network structure how visitors **access**, **move** through, **interpret** and **experience** the site. The project therefore approaches the visitor center as a distributed sequence rather than a single building. This allows the program to mediate between **public accessibility**, **Cold War heritage** and **ecological restraint**.

Programmatically, each shelter receives a distinct role within this sequence. *Shelter 626* functions as the Visitor & Event Center, containing the reception, cloakroom and lockers, toilets, a small café with kitchen, a shop, an auditorium with a retractable tribune, a flexible event space and a smaller hall. Its upper floor provides an additional café terrace, workshop and teaching rooms, meeting spaces and a shared office area for staff and site management. *Shelter 623* functions as the Experience Center. Here, the existing shelter is restored close to its original state and activated through an aircraft display and immersive projection on the ceiling with image and sound. *Shelter 625* functions as the Museum Center, combining exhibition spaces with experiential rooms in which Cold War history is not only explained, but spatially and atmospherically encountered. From this shelter, guided tours can continue towards bunker 600, which is already identified as a Cold War relic suitable for guided access (Stuurgroep Vliegbasis Soesterberg, 2011, p. 43).

The project further acknowledges the specific conditions of the site including fluctuating use due to seasons, daylight conditions and ecological regulations. Since parts of the airbase are subject to seasonal access restrictions, including the breeding season from March 15 to June 30, the visitor center is conceived as a public facility with controlled accessibility during specific periods (Stuurgroep Vliegbasis Soesterberg, 2011, p. 51).



Figure 5. Chosen ensemble & connection to Bunker 600 and National Military Museum

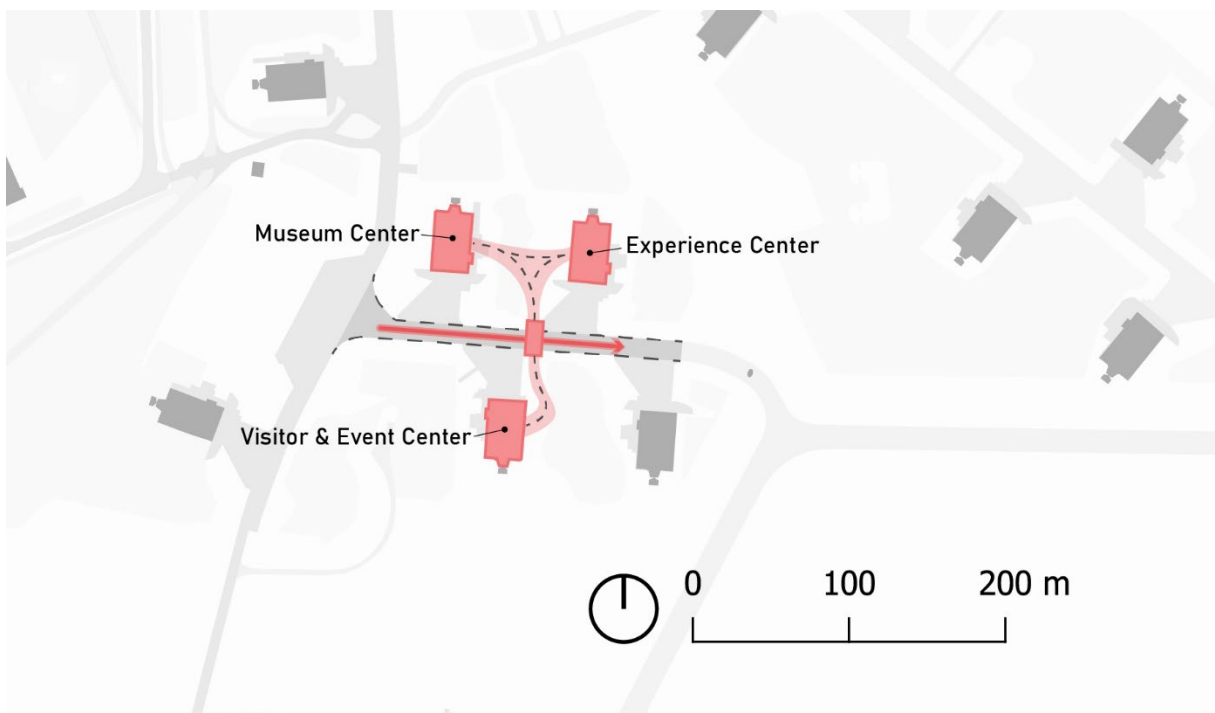


Figure 6. Ensemble with functions & connection with pavilion on taxiway

Part 2. Approach

How?

2.1 METHODS

Research and design

The approach used in this project is **research-by-design**. Analytical research, case-study research and design exploration were developed in parallel, allowing findings from the site, heritage and precedent studies to directly inform spatial decisions. The method was structured around the central tension defined in Part 1: the mediation between Cold War heritage, public accessibility and ecological protection.

2.1.1 STRATEGY

To translate this central tension into the design process, each design decision was tested against three questions: what should remain legible as Cold War heritage, how can visitors access and understand the site, and where must movement be controlled in response to ecological restrictions? In this way, heritage, accessibility and ecology were not treated as separate topics, but as interdependent conditions that had to be confronted through design.

Heritage analysis determined which spatial, material and atmospheric qualities of the aircraft shelters should remain visible or intact. Public accessibility analysis informed the organisation of routes, thresholds and visitor sequences. Ecological analysis indicated where access had to be limited, guided or seasonally restricted. These findings allowed the design to be evaluated as a spatial mediation between the existing shelters, the protected landscape and the visitor.

This strategy resulted in a design approach in which architecture does not simply add program to existing shelters, but creates a controlled sequence through the site. The selected shelters, the taxiway pavilion and the partly sunken corridors together form the main architectural instruments through which the project mediates between military heritage, public use and ecological restraint.

2.1.2 TECHNIQUES

The research and design techniques used four main techniques: heritage and shelter analysis; site and ecological mapping; precedent and typological research; and design exploration. Together, techniques were used to translate the central tension between Cold War heritage, public accessibility and ecological protection into architectural decisions.

Heritage and shelter analysis focused on the existing 3rd generation aircraft shelters as architectural and cultural-historical objects. The analysis examined their spatial logic, materiality, structure, atmosphere and military identity. This made it possible to identify which qualities had to remain legible, such as the introverted spatial character, the robust concrete and steel construction, the large arched volume and the defensive logic of enclosure. The analysis also informed a value-based distinction between elements to be preserved, adapted or removed.

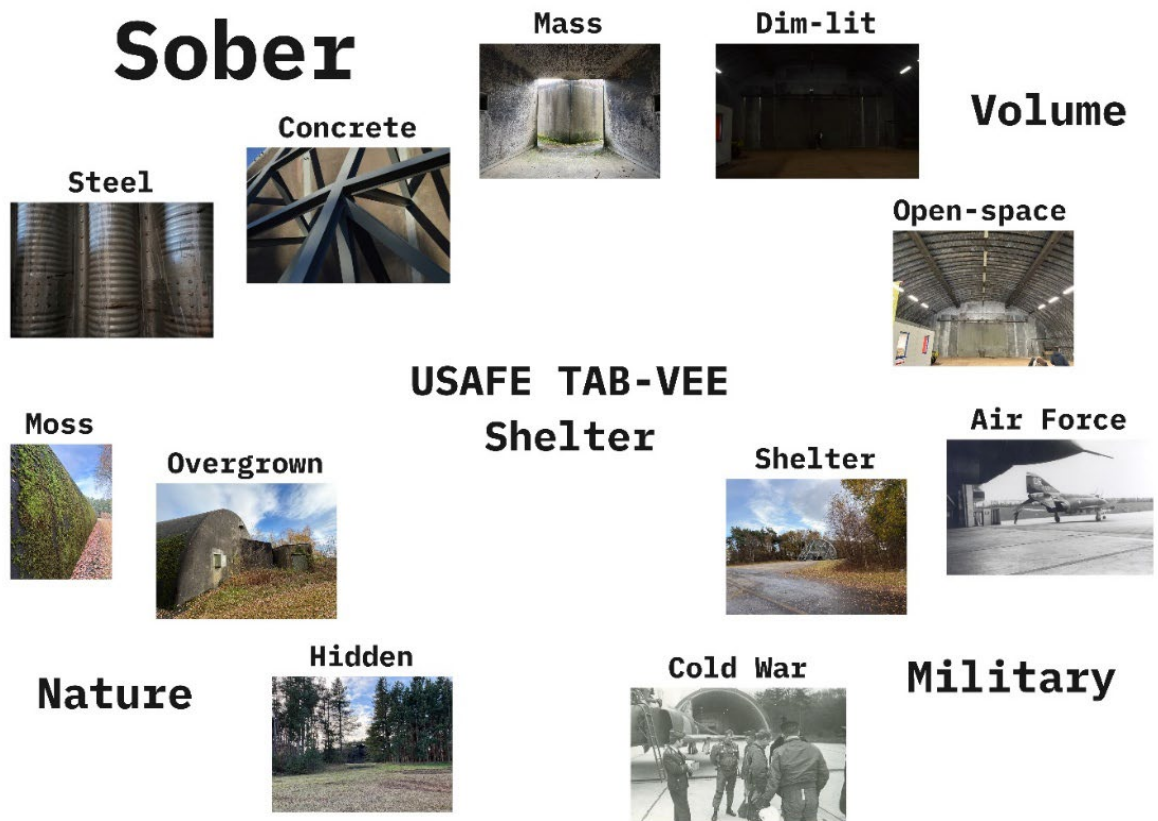


Figure 7. Moodboard of atmosphere



Figure 8. Workmodel to explore corridor variants

Site and ecological mapping was used to understand the shelters within their wider landscape and ecological context. This included the mapping of existing walking routes, access points, the former runway and taxiway, the relation to bunker 600, the National Military Museum and the surrounding forested areas. Ecological restrictions and seasonal limitations were also mapped in order to define where public movement could be introduced, where it had to be guided, and where access had to remain controlled.

Precedent and typological research was used to position the project within a broader field of visitor centers, heritage centers, museum-related visitor facilities and bunker museums. The case studies were not used as direct models, but as references for programmatic organization, landscape integration, routing, sequencing and the representation of heritage through spatial experience. This research contributed to the definition of the visitor center as a hybrid typology and as a threshold between site, visitor and landscape.

Design exploration and testing translated the analytical findings into spatial strategies. Different scenarios were explored for the relation between shelters, routing, landscape and program. This included the testing of a distributed visitor center, the positioning of the taxiway pavilion, the use of partly sunken corridors and the distribution of program across shelters 623, 625 and 626. Through drawings and models, these explorations tested how movement, visibility, enclosure and controlled access could become architectural tools for mediation.

2.1.3 TOOLS

The techniques are supported by a combination of analytical, representational and design tools. Archival and document research was used to understand the historical development of Airbase Soesterberg, the cultural-historical value of the shelter ensemble and the ecological and management conditions of the site. Site visits and field observations were used to study the atmosphere of the shelters, the experience of distance and enclosure, the current accessibility of the area and the relationship between the shelters, runway, forest and surrounding routes.

Mapping was used as a primary analytical tool. Site maps were produced to compare heritage structures, ecological restrictions, existing and potential routes, access points and spatial relationships between the selected shelters, bunker 600 and the National Military Museum. These maps informed the choice of shelters 623, 625 and 626 and the position of the new route system.

Case-study matrixes were used to compare precedents according to program, relation to landscape, heritage strategy, routing and relevance for Soesterberg. This resulted in design principles that were later translated into the spatial concept of a distributed sequence.

Architectural drawings, including plans, sections, axonometrics and sequence diagrams, were used both to analyse and to design. They helped test how the existing shelters could be entered, connected and transformed while maintaining their original spatial character. Physical and digital models were used to study massing, landscape integration, corridor sections, roof conditions and the relation between new interventions and existing shelters. In this process, drawings and models functioned not only as presentation tools, but as instruments for testing and refining the design strategy. These drawings are included in Part 3. Results.

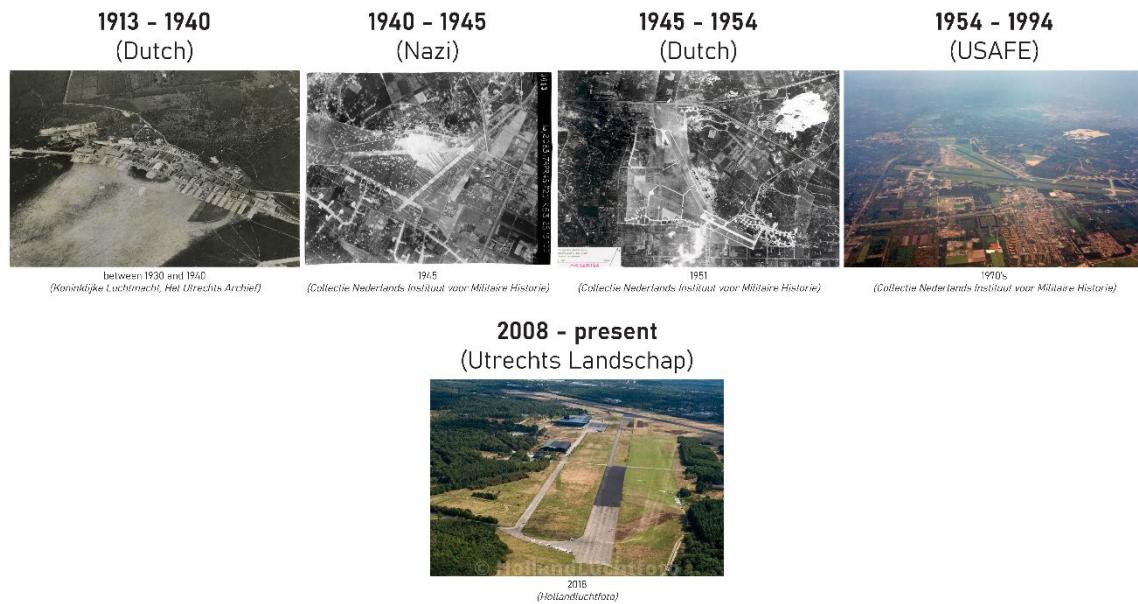


Figure 9. Historical development of Airbase Soesterber, from Nederlands Instituut voor Militaire Historie, 1945, 1951, 1970; Koninklijke Luchtmacht, z.d.; Hollandluchtfoto.nl, 2018

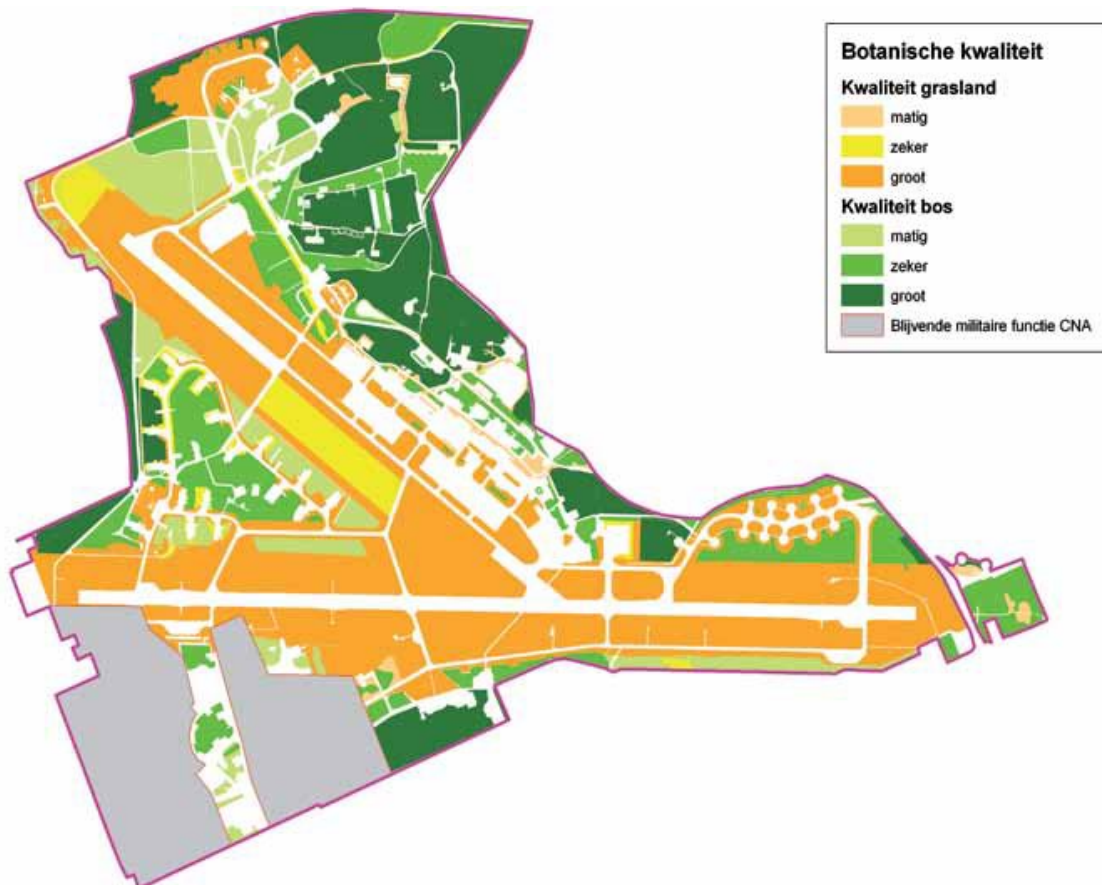


Figure 10. Natuurwaardenkaart (Nature values map), from Stuurgroep Vliegbasis Soesterberg (2011, p. 20)

2.1.4 OUTPUT AND PROCESS

The output of this research-by-design process consists of analytical, conceptual and architectural design outputs that support the development of the final design proposal.

Analytical outputs include spatial, material and atmospheric analyses of the existing aircraft shelters, value assessments and drawings that indicate elements to be preserved, transformed or removed, as well as landscape and ecological mappings related to public accessibility and environmental constraints. Conceptual outputs include the definition of the visitor center as a hybrid typology, the formulation of design principles for Soesterberg and the spatial concept of a mediated sequence between shelters, landscape and visitors.

The project results in an architectural design proposal for the transformation of shelters 623, 625 and 626 into a distributed visitor, museum and experience center. The proposal is presented through drawings and models that demonstrate the transformation of selected aircraft shelters and their relation within their landscape context.

The project is developed through a phased planning that aligns research, design exploration and final design development.

Period	Phase	Research focus	Design focus	Expected output	Milestone
Nov – Dec 2025	Pre-design research	• Reference and precedent studies • Context and landscape analysis • Analysis of existing aircraft shelters • Architectural and landscape value assessment	-	• Reference overview • Context and ecological maps • Shelter analysis drawings • Value assessment diagrams	
20 Dec – 4 Jan	Christmas break	-	-	-	
January 2026	Research elaboration & positioning	• Elaboration of research findings • Clarification of heritage, landscape and architectural values • Structuring research questions	• First architectural positions • Overall design approach	• Elaborated research framework • Clear research and design questions • Initial design position	Kick-Off (A1) 26-01-2025
2 – 8 Feb 2026	Winter break	-	-	-	
February 2026	Transition research → design	• Interpretation of research in relation to design possibilities	• Development of initial design concepts • Exploration of access, routing and use	• Concept sketches • Diagrams linking research and design	
March 2026	Design development (research-informed)	• Use of research outcomes as reference and validation	• Development of architectural design options • Testing of different spatial strategies	• Developed design concepts • Comparison of design options	
April 2026	Architectural elaboration	• Graduation report largely completed	• Translation of selected concept into architecture • Development of plans, sections and models	• Elaborated graduation report (draft complete) • Preliminary architectural drawings • Spatial intervention strategy	Midterm (A2) Week 15 (06–12 Apr 2026)
May 2026	Architectural & technical design development	• Final editing of graduation report	• Architectural design development • Structural and material logic of interventions • Relationship between new interventions and existing shelters	• Developed architectural plans, sections and elevations • Key spatial sections through shelters • Structural and material design principles	
Early June 2026	Final design development	-	• Finalisation of architectural and technical design	• Final architectural drawings (plans, sections, elevations) • Selected construction details • Integrated building-landscape drawings • Final graduation report	Green Light (A3) Week 24 (08–14 Jun 2026)
Late June 2026	Final design & presentation	-	• Final representation and presentation	• Final presentation drawings • Physical and/or digital models • Visualisations and explanatory diagrams	Final (A4) Week 26 (22–28 Jun 2026)

Figure 11. Planning

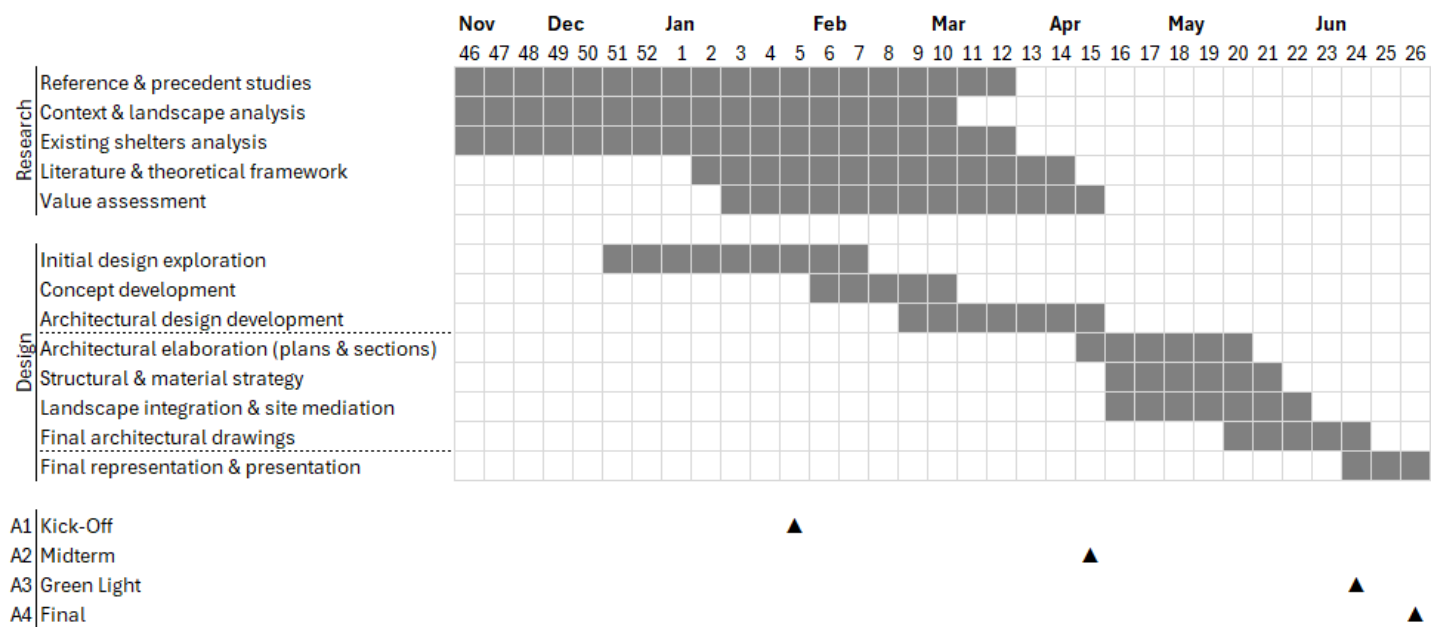


Figure 12. Grantt-planning

2.2 THEORETICAL FRAMEWORK

Literature and precedent research

The theoretical framework brings together literature, precedent research and site analysis to clarify the project's approach. It is structured around three components that directly relate to the central tension of the project:

- 1. Adaptive reuse and heritage values**
(how to determine 'identity', and what can you change?)
- 2. Heritage representation and visitor legibility**
(how to communicate history through spatial sequencing, light/darkness, materiality and atmosphere)
- 3. Access & mediation in ecological constraint landscapes**
(visitor management, routing, thresholds, seasonal logics and controlled accessibility)

These components were developed through pre-design research, including site visits, documentation research, historical research into the aircraft shelters and precedent studies. Together, they define how the project approaches the former aircraft shelters not as neutral vacant structures, but as heritage objects within a protected landscape that require a careful architectural strategy.

2.2.1 PRE-DESIGN RESEARCH

The theoretical framework was developed through pre-design research combining field observations, document research and historical background research. Site visits were used to understand the first spatial impressions of the airbase, including the atmosphere of distance, enclosure, silence and restricted accessibility around the shelters. Documentation research focused on maps, management documents, cultural-historical assessments and ecological restrictions in order to understand the airbase as both a heritage landscape and a protected natural area.

In parallel, historical research into the aircraft shelters was used to understand their typology, construction logic and military function. This included the development of the Wonder structure, the typology of Hardened Aircraft Shelters, their spatial logic and their role within Cold War military infrastructure. These initial studies formed the basis for the three theoretical components below and informed the later site analysis, precedent selection and design exploration.

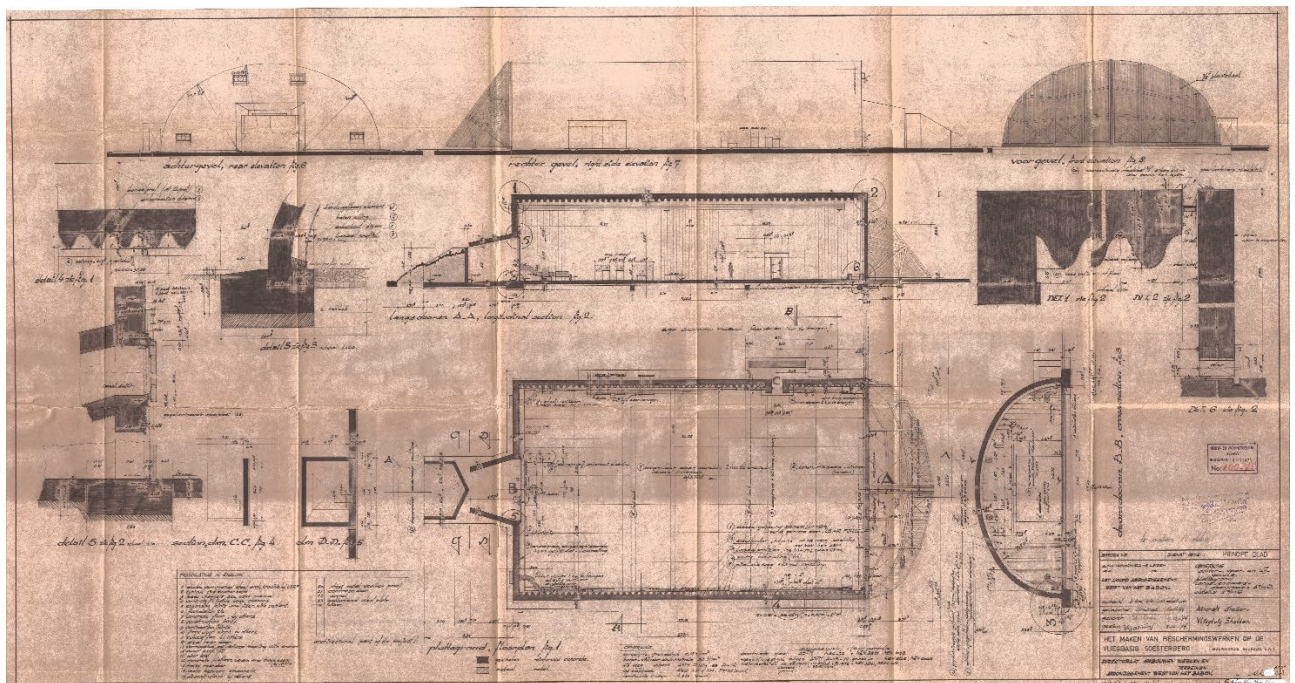
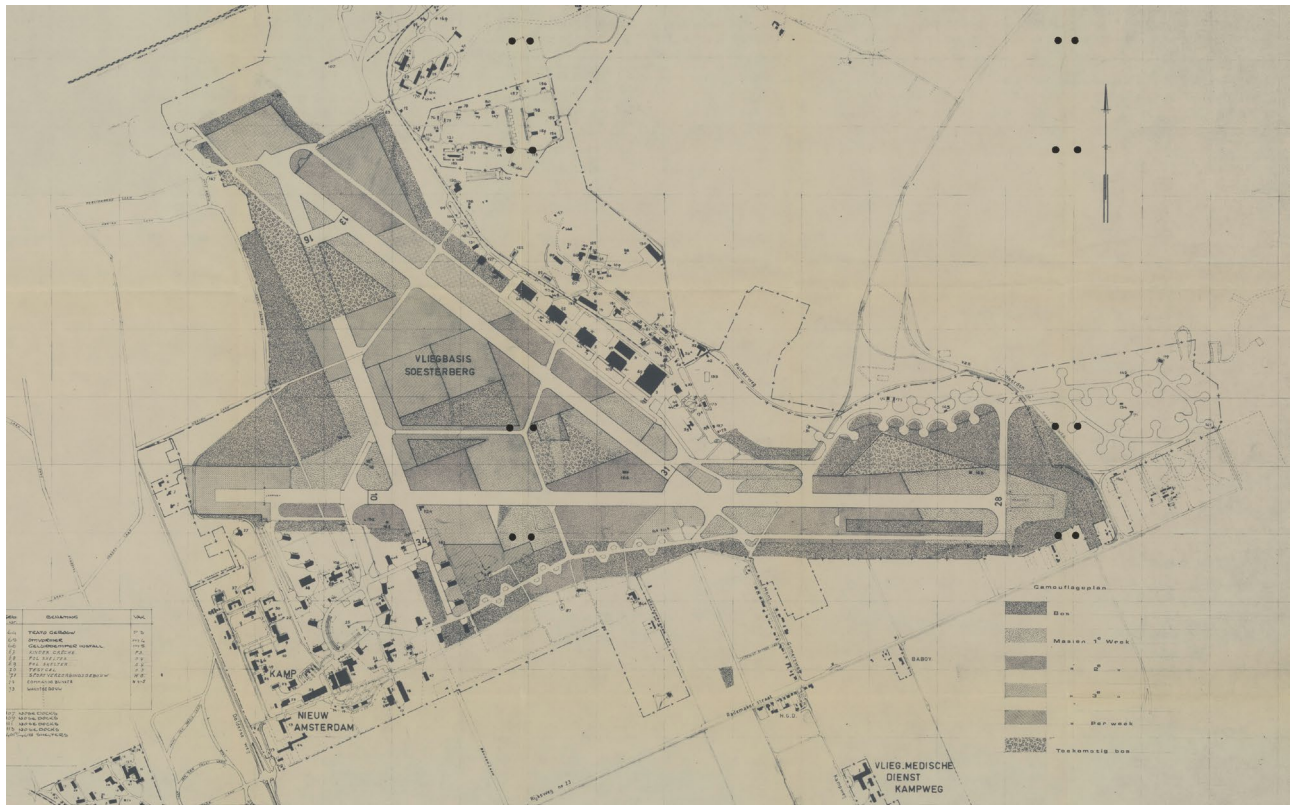


Figure 13. Camouflageplan & Construction drawings Aircraft Shelter, from Utrechts Landschap

2.2.2 ADAPTIVE REUSE AND HERITAGE VALUES

The first component is adaptive reuse and heritage values. This part of the framework is based on heritage-based design literature, especially Meurs (2016), Kuipers & de Jonge (2017), Bosma & Kole (2010), and Plevioets & van Cleempoel (2019). These sources frame adaptive reuse not as a neutral act of functional conversion, but as a design process in which existing cultural, material and spatial values must first be identified before they can be transformed. Meurs argues that cultural heritage values should be the starting point for design, while still allowing designers to take their own position and add new significance to the existing site. Kuipers and de Jonge have a similar position that research as an integral part of the design strategy and emphasize the importance of analysis, interpretation and valuation as a basis for conservation and transformation.

For this project, this literature is combined with the site-specific heritage sources on military and Cold War heritage. The RCE's (Rijksdienst voor het Cultureel Erfgoed) military heritage research (2019) identifies Cold War heritage as an important and still developing heritage task, while Balfort, et al. (2022) situates aircraft shelters within the broader history of NATO infrastructure, air defence and the Dutch role during the Cold War. The cultural-historical assessment of Airbase Soesterberg by Stenvert & Viersen (2007) further supports the relevance of the shelter ensemble itself. The *Wonder buildings: Assembly and specification manual* is used as a technical-historical source to understand the constructional logic of the arched, self-supporting steel structure that informed the later shelter typology (Wonder Trussless Buildings, Inc., 1958).

Together, these sources provide the basis for identifying which spatial, material and atmospheric qualities of the shelters should remain legible, and which elements can be adapted or transformed.

2.2.3 HERITAGE REPRESENTATION AND VISITOR LEGIBILITY

The second component concerns heritage representation and visitor legibility. This part of the framework is based on literature and precedents that address how heritage can be communicated through spatial experience rather than through exhibition content alone. The UNESCO visitor center report (2023) is relevant because it frames visitor centers as interfaces between visitors, site managers, communities and protected territories. *Cold War Museology* is used to position Cold War heritage as a museological challenge in which material remains, memory and public interpretation are closely connected (Douthwaite, et al. 2024). This is especially relevant for Soesterberg, where the Cold War narrative is not only located in objects, but also in atmosphere, spatial restriction, military infrastructure and landscape.

Peter Zumthor's *Atmospheres* (2006) is used as a theoretical reference for the experiential side of the project. Zumthor describes atmosphere as something produced through material presence, sound, temperature, thresholds and the tension between interior and exterior. For this project, this supports the use of light, darkness, sound, enclosure and materiality as architectural means to make the Cold War history spatially legible.

This component is also supported by precedent research into visitor centers, heritage centers and bunker museums. These precedents are used to study how routing, thresholds, descent, compression, framed views and controlled movement can structure visitor understanding. The detailed filtering and design consequences of these precedents are developed further in Part 3.



Figure 14. Wonder Building, Assembly and specification manual (Wonder Trussless Buildings, Inc., 1958)



Figure 15. Value Assessment "Shelters North" (Stenvert, R., & Viersen, A., 2007)

2.2.4 ACCESS AND MEDIATION IN ECOLOGICALLY CONSTRAINED LANDSCAPES

The third and final component concerns access and mediation in ecologically constrained landscapes. This part of the framework is based primarily on the *Inrichtings- en beheerplan voormalige Vliegbasis Soesterberg* (Stuurgroep Vliegbasis Soesterberg, 2011), supported by landscape theory and precedent research. The management plan is essential because it defines the site through the combined ambitions of nature, cultural history and recreation, while also showing that public access must be balanced with ecological zoning, quiet areas and seasonal restrictions.

This site-specific framework is supported by *Landscape Biographies* (Kolen, et al. 2015), which approaches landscapes as layered and dynamic systems in which physical structures, meanings, memories and forms of use are produced over time. Griffiths' *Hidden Architecture* (2022) is also relevant as a design reference because it collects examples of buildings that are buried, embedded, covered with greenery or designed to visually blend into their surroundings. For this project, these sources support an approach in which accessibility is not understood as unrestricted openness, but as a controlled spatial condition shaped through routing, thresholds and landscape integration.

The critical translation of this component into the design, including the partly sunken corridors, the taxiway pavilion and the controlled sequence between shelters, is developed further in Part 3.

2.2.5 SITE ANALYSIS AS DESIGN FRAMEWORK

The site analysis translates the theoretical framework into spatial conditions for the design. The analysis focuses on the relationship between the selected shelters, the former runway and taxiway, existing and potential access routes, bunker 600, the National Military Museum and the surrounding forested areas. These mappings clarify the spatial potential of shelters 623, 625 and 626 and show how the visitor center can operate as a distributed sequence rather than as a single building.

The site-analysis drawings therefore function not only as documentation, but as design instruments. They define where public access can be introduced, where movement must be guided, and how the architectural intervention can mediate between heritage, visitor experience and ecological restraint.

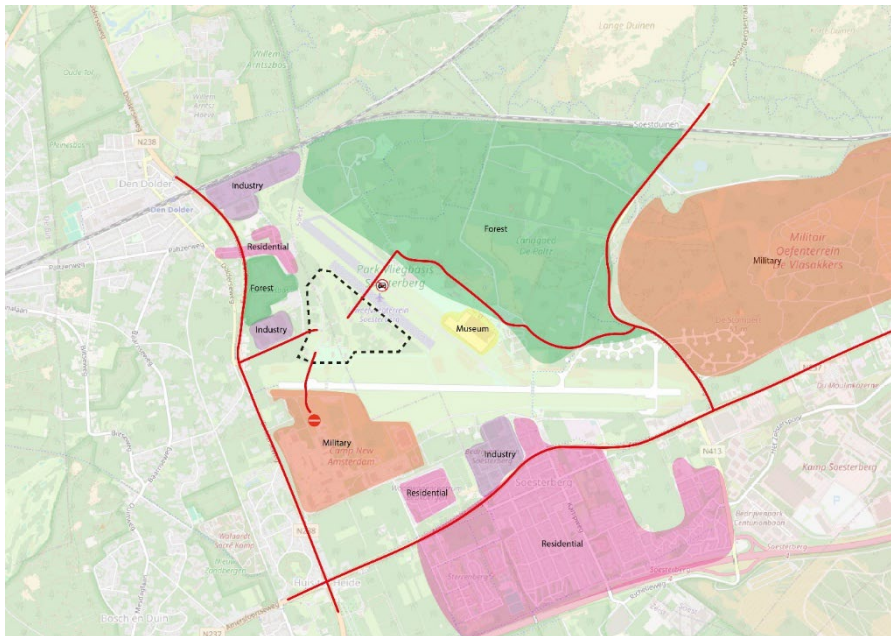


Figure 16. Airbase Soesterberg surrounding context

Airbase Soesterberg is defined by a large open landscape shaped by the former runways and military aviation infrastructure. This open area is surrounded by forests, heathland and other green structures. To the south lies the former military camp of Soesterberg, while the National Military Museum is located within Park Vliegbasis Soesterberg itself. Further surrounding context includes industrial areas and, at a greater distance, residential zones.

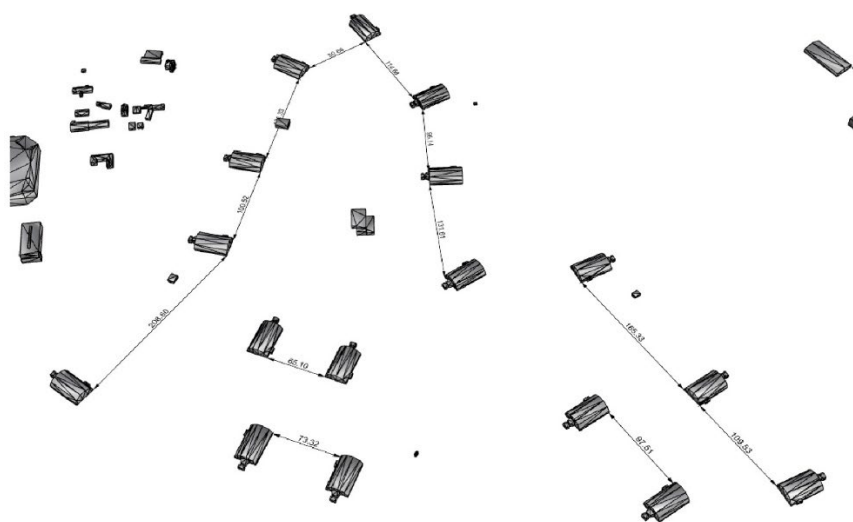


Figure 17. Distances between shelters

The aircraft shelters are positioned at strategic distances from one another to reduce the risk of collateral damage in the event of an attack. Their spacing is not uniform: measured distances vary from approximately 65 metres to more than 208 metres, resulting in an irregular but deliberate spatial distribution across the shelter area.



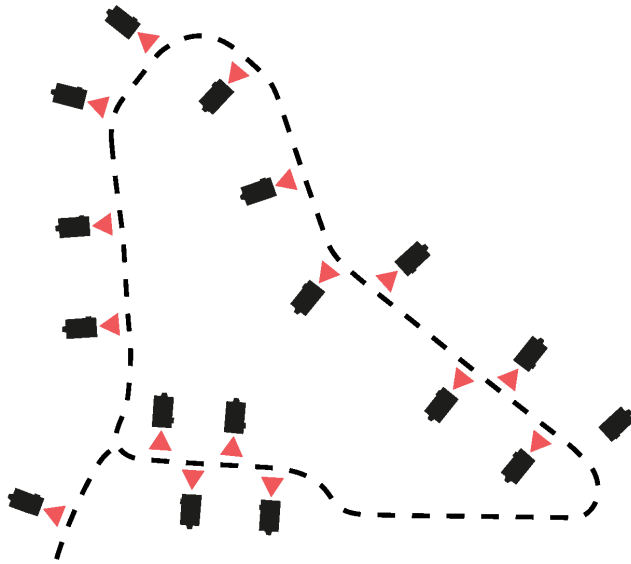
Figure 18. Accessibility – Current

The current accessibility of Park Vliegbasis Soesterberg is organised around a main access road and entrance route. Although several walking paths are publicly accessible, visitors are required to remain on designated routes. As a result, large parts of the landscape, including areas around the shelters, remain visually present but physically restricted.



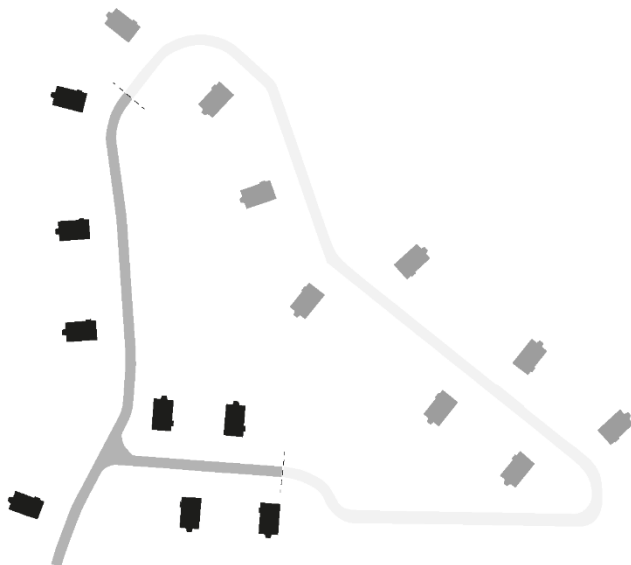
Figure 19. Accessibility - Potential

The existing military infrastructure offers several potential access points for a new visitor sequence. The former runways and taxiways provide clear spatial lines and possible connections through the site, creating opportunities to link the shelter area more directly to existing routes and nearby public destinations.



Each aircraft shelter is accessible from one side, oriented towards the former taxiways. Although the shelters are irregularly positioned to avoid predictability and reduce vulnerability, their access orientation creates local clusters and spatial relationships between groups of shelters.

Figure 20. Access Shelters



Of the seventeen aircraft shelters, Utrechts Landschap intends to allow nine to decay gradually and become absorbed into the surrounding natural landscape. The remaining eight shelters already have or are intended to have specific functions, including office space for Utrechts Landschap, an atelier, storage facilities and an event shelter.

Figure 21. Used/Decay Shelters

Part 3. Results

What has been achieved?

3.1 FROM VISITOR CENTER TO MEDIATED SEQUENCE

Case-study synthesis and programmatic strategy

3.1.1 DEFINING THE VISITOR CENTER

A visitor center functions as a spatial and programmatic mediator between a site and its visitors. Rather than functioning as a destination in itself, it prepares, informs and guides visitors in their engagement with a larger context such as a landscape, heritage site or institution. Appendix A (Preliminary Research Visitors Centers), provides a preliminary inventory of visitor center types and functions. It shows that visitor centers commonly combine orientation, information provision, education, interpretation, exhibition, visitor services and amenities such as cafés, shops and sanitary facilities.

For this project, the visitor center is therefore not approached as a conventional museum, but as a spatial threshold. The report *The Role of Visitor Centres in UNESCO Designated Sites* describes visitor centers as “an interface between designated territories, visitors, communities, the site managing system and other partners” (UNESCO, 2023, p. 26). Although Airbase Soesterberg is not an UNESCO designated site, this understanding is relevant because the project similarly deals with the overlap between cultural heritage, natural values, visitor experience and site management. The report further argues that visitor centers can help “manage visitor flows, influence visitor behaviour, and develop visiting experiences that are meaningful” (UNESCO, 2023, p. 14).

This shifts the role of the visitor center from a container of exhibition spaces to an architectural device that structures encounter, movement and understanding. The building does not only accommodate program, but frames how visitors enter, read and experience the site. At Airbase Soesterberg, the visitor center must therefore reveal relationships between Cold War heritage, public access and ecological protection through the way the visitors are received and guided through the site.

3.1.2 TYPOLOGICAL POSITION

Appendix A distinguishes that a visitor center can be categorized into several overlapping types. Nature or park centers focus on environmental education, landscape experience and ecological awareness. Historical heritage centers focus on cultural narratives, site-specific history and interpretation. Museum-related visitor centers support exhibition, orientation and introductory storytelling, often preparing visitors for a larger institution or site.

For this project, the visitor center at Airbase Soesterberg is approached as a hybrid typology, combining aspects of these three categories. It functions as a nature / park center because the project is situated within a protected landscape and must address ecological awareness and responsible access. It functions as a historical heritage center because the former aircraft shelters and Cold War history form the cultural narrative of the site. It also functions as a

museum / experience center because the project uses spatial sequence, atmosphere and controlled movement as means of interpretation.

It is therefore approached as a mediating typology, which aligns with the defined project scope (Chapter 1.5), where the building mediates between military heritage, public accessibility and ecological protection. This typological position directly informs the distribution of the program across the three selected shelters: orientation and public facilities are concentrated in shelter 626, immersive experience is located in shelter 623, and exhibition and interpretation are placed in shelter 625.

3.1.3 CASE-STUDY FILTERING

To translate this general understanding into architectural strategies, a comparative case study analysis was conducted in Appendix B. The full study includes 21 references: 6 visitor centers in the Netherlands, 11 visitor centers outside the Netherlands and 4 bunker museums. Rather than treating these examples as models to copy, the cases were filtered according to their relevance for the design question: program, relationship to landscape, heritage strategy, routing or sequence, and their specific relevance for Airbase Soesterberg.

Case study	Program	Relationship to landscape	Heritage strategy	Routing / sequence	Relevance for Soesterberg
Kinderdijk Visitor Centre	Orientation, ticketing, introductory film, café, shop	Low and embedded; landscape remains dominant	Frames the heritage landscape rather than competing with it	Clear arrival-to-departure sequence	Visitor center as gateway to a larger landscape
Biesbosch Museum Island	Exhibition, education, auditorium, café, shop	Roof and landscape merge into one continuous experience	Connects ecology, water management and human intervention	Gradual movement through exhibition and landscape	Architecture as landscape continuation
Waterliniemuseum	Exhibition, immersive spaces, orientation courtyard	Fort landscape activated through roof and routes	Existing defensive structure reveals military logic	Movement through the fort and over the roof	Routing as a way to understand defensive heritage
Netherlands American Cemetery Visitor Center	Orientation, introductory film, exhibition, archive access	Visual and physical connection to memorial landscape	Creates a contemplative threshold to memory and history	Enclosed storytelling to open memorial landscape	Emotional preparation before entering sensitive heritage
Stonehenge Visitor Centre	Ticketing, exhibition, café, shop, outdoor interpretation	Positioned at distance; monument remains primary	Interprets heritage before direct encounter	Interpretation followed by landscape approach	The site itself as the primary exhibit
Skamlingsbanken Visitor Center	Orientation, interpretation, education, café	Building extends terrain with roof landscape	Interprets cultural and natural landscape together	Movement over and through architecture	Architecture as topographical mediator
Ilulissat Icefjord Centre	Exhibition, café, research, education	Roof promenade and viewpoints integrated with landscape	Landscape and climate narrative remain dominant	Slow choreographed movement with framed views	Movement and views as interpretive tools
REGAN Vest Cold War Museum	Surface pavilion, guided underground bunker route	Discreet pavilion; main experience underground	Preserves Cold War secrecy, enclosure and preparedness	Controlled descent into original bunker spaces	Depth, enclosure and controlled access as Cold War experience
Bunker 599	Walkable intervention through bunker and landscape	Bunker becomes landscape-scale marker	Reveals military construction through a cut	Direct route through the sectioned bunker	Spatial revelation instead of conventional exhibition
Tirpitz Museum	Underground museum, preserved bunker, café, shop	Main programme placed below ground	Historic bunker remains dominant and untouched	Gradual immersive descent	Subordinate intervention that frames military heritage

Table 1. Case-study filtering

The filtering shows that the most relevant precedents demonstrate how visitor centers (and bunker museums) use architecture to structure the relation between visitor, site and meaning. Across the references, programs are generally reduced and sequential rather than accumulative: arrival and orientation are followed by interpretation, after which visitors are released toward the landscape, heritage site or experiential route. In bunker-related cases, this sequence becomes more controlled and immersive through descent, enclosure and guided movement. In landscape-based visitor centers, the building often becomes visually subordinate to the terrain, allowing the site to remain the primary object of attention. Together, these findings supports the project's approach to the visitor center as a spatial mediator rather than a single building or conventional museum.

3.1.4 DESIGN PRINCIPLES FOR SOESTERBERG

The preliminary research in Appendix A and the case-study filtering in Appendix B lead to four design principles for the visitor center at Airbase Soesterberg. First, the visitor center should operate as a **threshold**. It prepares visitors before they enter the site, both practically through orientation and spatially through a gradual transition from arrival to interpretation and experience. This follows the understanding of the visitor center as an interface that can manage visitor flows and structure meaningful engagement with a site (UNESCO, 2023).

Second, the visitor center should be based on **landscape integration**. The case studies show that visitor centers in sensitive landscapes often avoid becoming dominant objects. Instead, they are embedded, lowered, covered or visually subordinated to the terrain. This aligns with the idea of hidden architecture, in which buildings reduce their visual presence by blending into the landscape (Griffiths, 2022). For Soesterberg, this is essential because the landscape is not a neutral setting, but part of the site's ecological and historical value.

Third, the visitor center should use **choreographed movement** as an interpretive tool. Rather than relying only on exhibition content, the design should communicate through routing, sequence, compression, enclosure, framed views and moments of release. This is especially relevant to Cold War heritage, where secrecy, control and restricted movement are central spatial themes (Douthwaite et al., 2024).

Fourth, the **site itself should function as the primary exhibit**. The shelters, runway, landscape structures and ecological conditions carry the main narrative. This corresponds with the landscape-biographical approach, where landscapes are defined as layered systems of physical elements, historical memories and meanings and changing uses over time (Kolen et al., 2015). The architectural intervention should therefore not replace the site with a conventional museum logic, but make the existing relations more legible.

Together, these principles define the visitor center not as a single building, but as a mediated sequence. This provides the basis for the design translation in Chapter 3.2, where program, routing, shelters and landscape are combined into one spatial system.

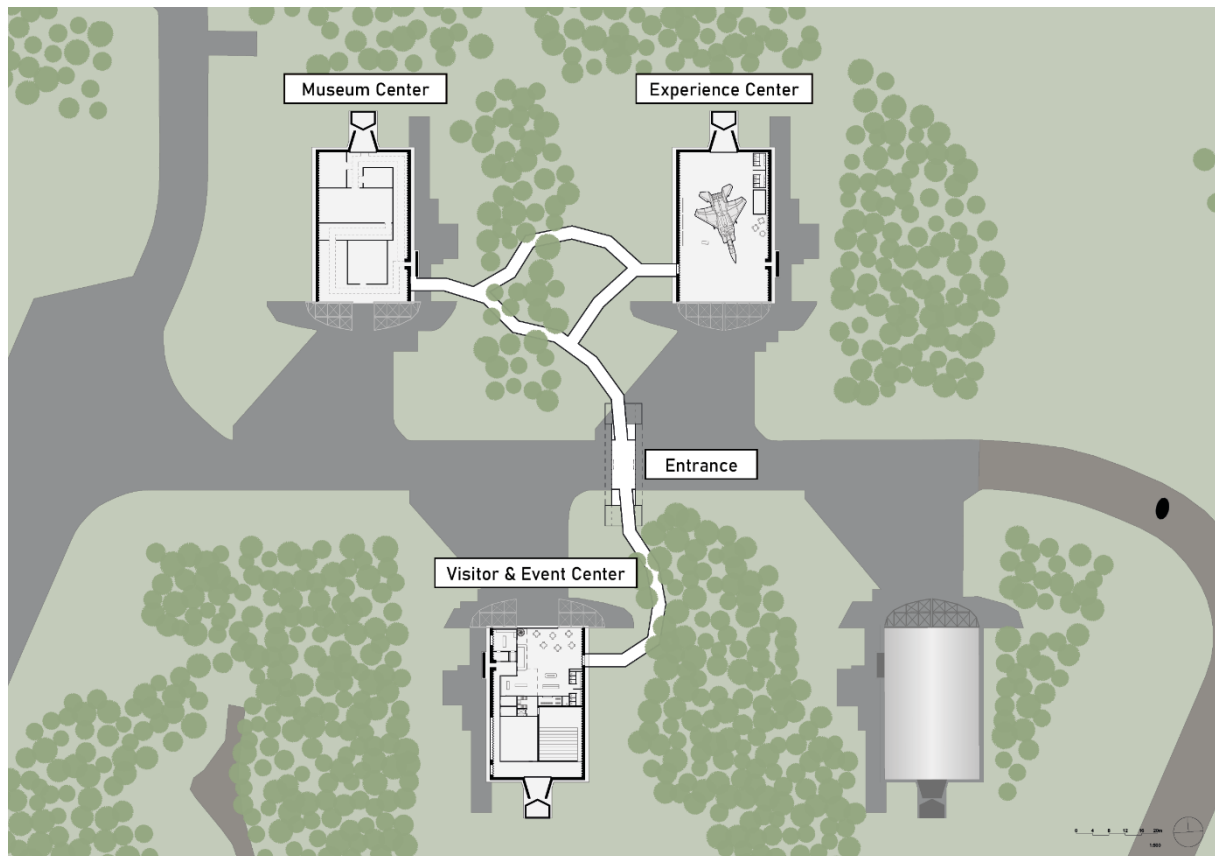


Figure 22. Masterplan

3.2 DESIGN TRANSLATION

The identified strategies are translated into a spatial system consisting of three main architectural instruments: the selected shelters as programmatic hubs, a small pavilion on the former taxiway as threshold, and partly sunken corridors as controlled connectors. Together, these elements organise movement, visibility and experience across the site.

3.2.1 SPATIAL CONCEPT: CORRIDORS & SEQUENCE

The project responds to the tension between visibility, accessibility and ecological restraint through a spatial system based on hidden architecture. Visitors enter the site through an arch-shaped pavilion positioned centrally on the former taxiway, deliberately expressed as a visible landmark that attracts attention and marks the entrance to the project. From this point, the route transitions from an exposed condition into a more concealed spatial system, as visitors descend approximately one meter into a network of sunken corridors connecting the existing aircraft shelters 623, 625 and 626.

Rather than introducing dominant new volumes, the intervention is embedded into the landscape through these corridors. They operate as the primary connective structure of the project, organising movement as a controlled sequence while minimizing visual impact on the surrounding landscape and maintaining the shelters as the primary heritage objects.

The sunken position of the corridors creates a spatial condition in which visitors move through the landscape while remaining partially concealed. This establishes a continuous tension between exposure and enclosure, where views towards the surroundings are present but always framed and controlled. At the same time, the lowered circulation reinforces the idea of hidden architecture, allowing the intervention to merge with the terrain through green roofs and minimal above-ground expression.

Through this system, movement is not only guided but also controlled, allowing visitors to experience the landscape from within a defined path while preventing uncontrolled access to the surrounding protected environment. In this way, the corridor network operates as a spatial mediator between landscape, heritage and visitor experience.

The corridor system was tested through different geometries. An initial approach based on straight and linear corridors resulted in long, monotonous spatial sequences with limited experiential quality. As a result, alternative geometries were explored. One approach follows a more organic logic, introducing curvature to create dynamic sightlines and moments where visitors anticipate future spaces through partial views. Another approach draws more directly from trench typologies, using a zigzagging geometry that creates a fragmented and less predictable route. This second strategy reinforces the military logic of concealment and controlled movement, positioning the corridor not only as circulation, but as spatial interpretation of Cold War conditions, in which movement is neither direct nor convenient.

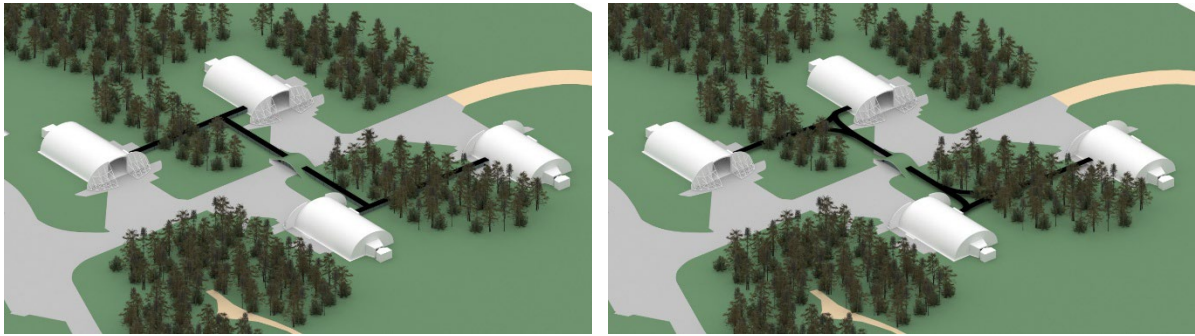


Figure 23. Overview of shelters with two versions of corridors: straight (left) and organic (right)

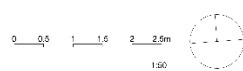
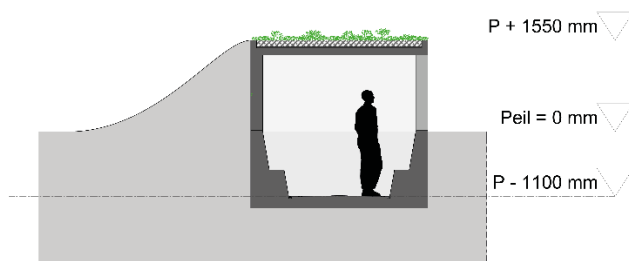
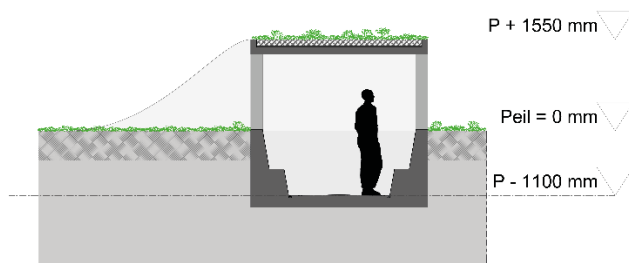
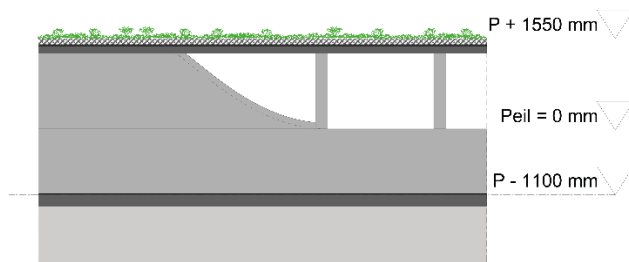


Figure 24. Corridor sections

3.2.2 SHELTERS AS PROGRAMMATIC HUBS

The existing aircraft shelters function as fixed hubs within the spatial system, each accommodating a distinct part of the visitor center program. Rather than concentrating all functions in a single building, the program is distributed across three shelters: 623, 625 and 626. This distribution reinforces the visitor center as a sequence in which each shelter represents a different mode of engagement with the site: orientation and public use, immersive experience, and historical interpretation.

Shelter 626 functions as the Visitor & Event Center and forms the main public anchor of the project. It accommodates reception, cloakroom and lockers, toilets, a small café with kitchen, a shop, an auditorium with a retractable tribune, a flexible event space and a smaller hall. Its upper floor contains an additional café terrace, workshop and teaching rooms, meeting spaces and a shared office area for staff and site management. This shelter therefore combines the practical role of visitor orientation with the social and educational role of the wider complex.

Shelter 623 functions as the Experience Center. Here, the existing shelter is restored close to its original spatial condition and remains deliberately minimally adapted. A jet aircraft is positioned within the large arched volume, while image and sound projections onto the existing structure create an immersive experience of the Cold War, USAFE presence and the military atmosphere of the airbase. The shelter itself becomes the primary spatial exhibit.

Shelter 625 functions as the Museum Center. It combines exhibition spaces with experiential rooms in which Cold War history is not only explained, but spatially and atmospherically encountered. This shelter provides the most curated interpretive environment of the three, using controlled lighting, material contrasts and spatial sequencing to structure the visitor's understanding of the Cold War landscape. From this shelter, guided tours can continue towards bunker 600, connecting the museum route to a larger network of military relics on the site.

Across all three shelters, interventions are deliberately limited and precise in order to preserve the original military character. This follows the heritage-based design attitude established in Part 2: the shelters are not treated as empty containers, but as structures whose spatial logic, material presence and atmosphere carry heritage value. New interventions are therefore positioned to support public use while keeping the original arched volumes, concrete and steel construction, introverted character and defensive atmosphere legible.

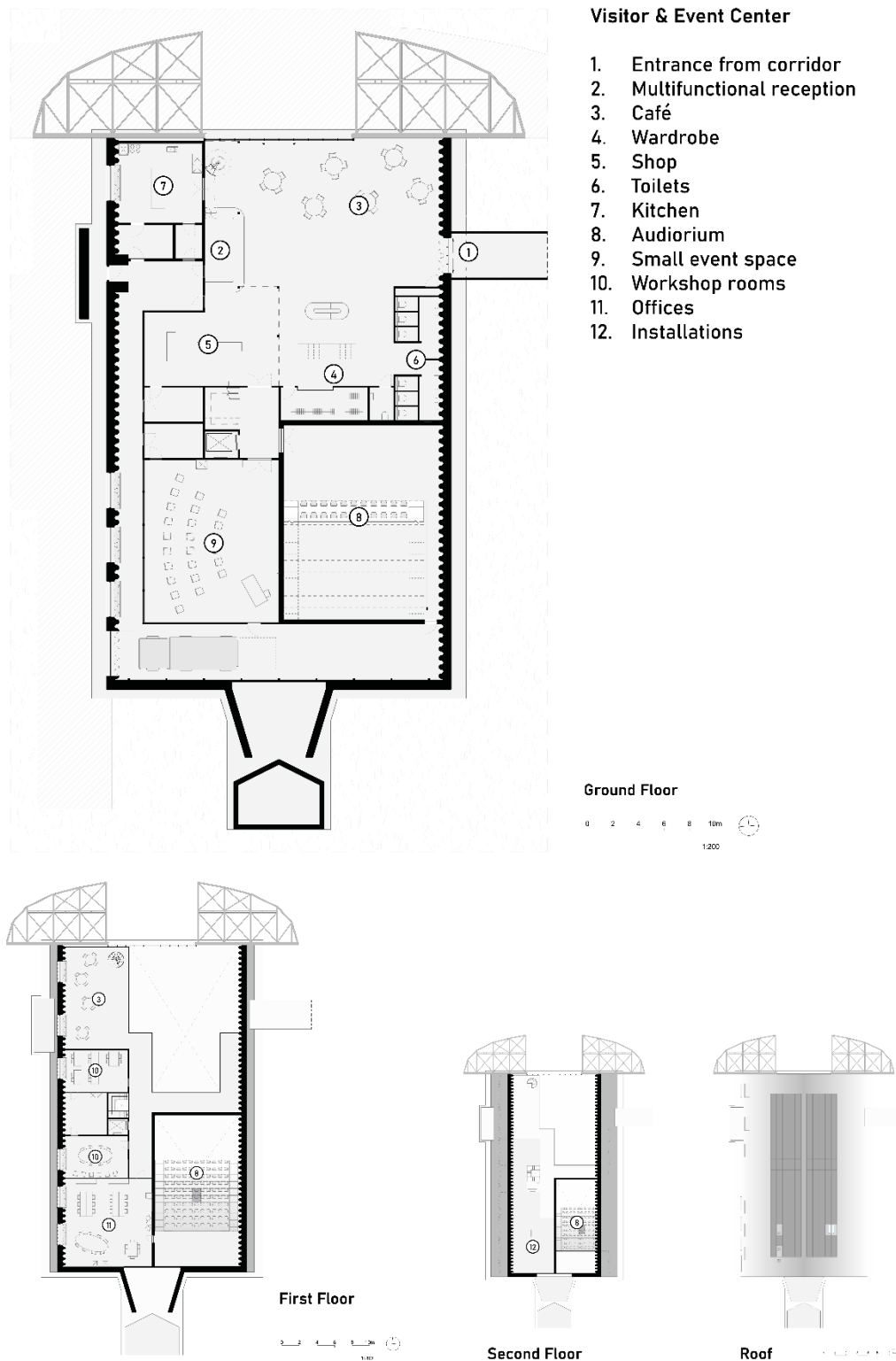


Figure 25. Floorplans Visitor & Event Center

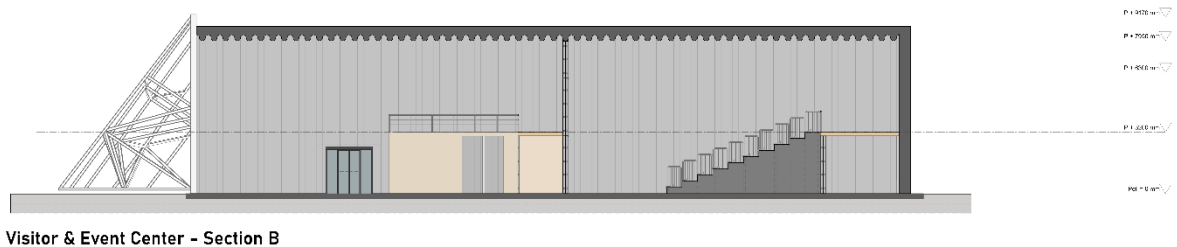
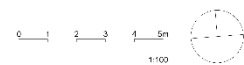
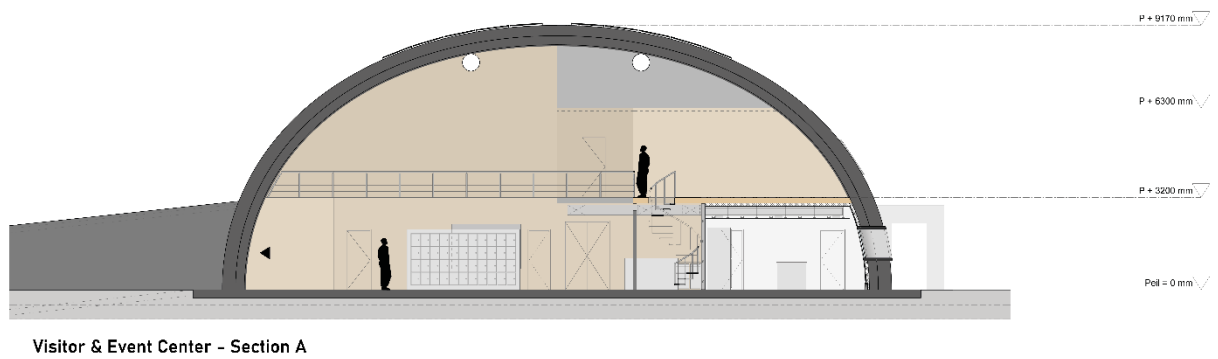
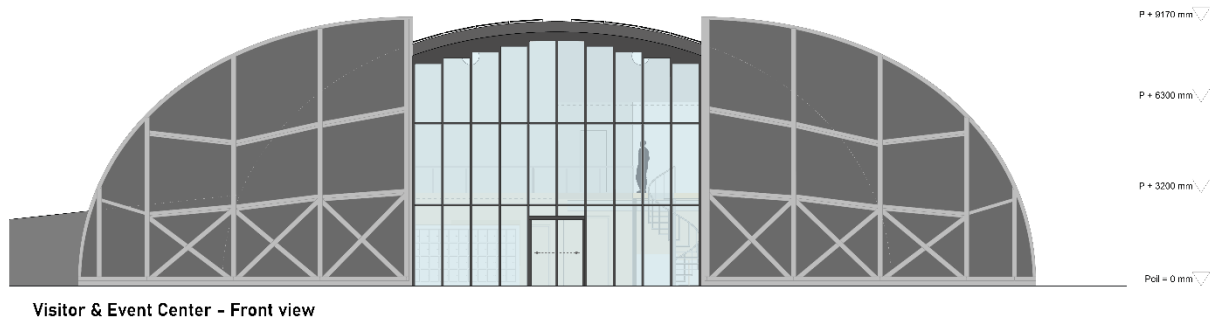


Figure 26. Facade and Sections Visitor & Event Center

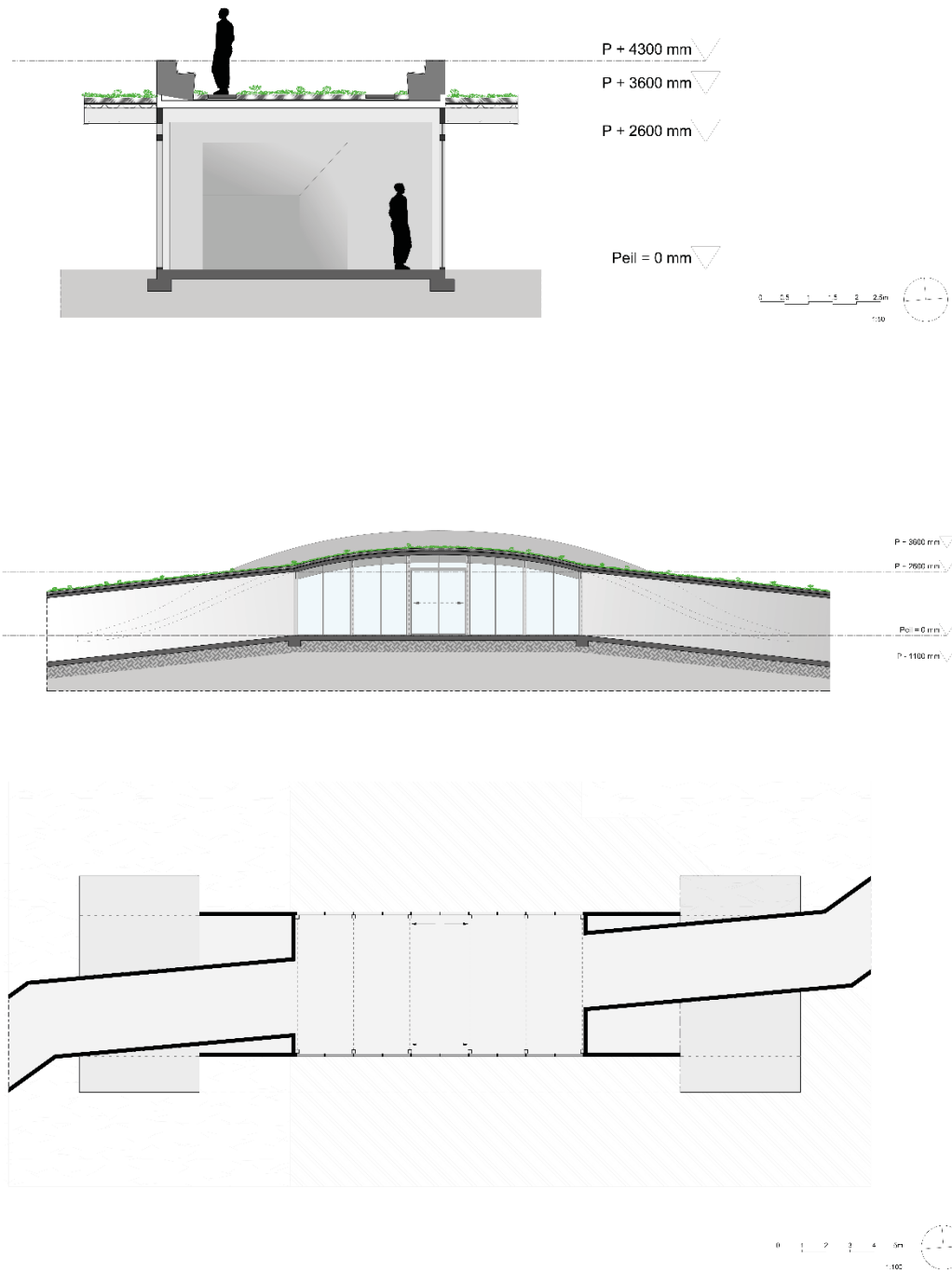


Figure 27. Sections and Floorplan Entrance Building

3.2.3 CONTROLLED ACCESSIBILITY AND LANDSCAPE INTEGRATION

The design does not interpret public accessibility as unrestricted openness. Instead, accessibility is organised as a controlled spatial condition, responding to the ecological restrictions and seasonal sensitivities of the airbase. This follows the management strategy of the former airbase, which combines nature, cultural history and recreation while requiring careful zoning, quiet areas and controlled routing (Stuurgroep Vliegbasis Soesterberg, 2011).

The partly sunken corridors are therefore not only spatial and experiential devices, but also instruments for visitor management. They concentrate movement within a defined route, allowing visitors to enter areas that are normally less accessible without opening the surrounding forested landscape to uncontrolled use. In this way, the project creates access through restraint: visitors are brought closer to the shelters and landscape, but their movement remains guided and legible.

Landscape integration is achieved by minimizing above-ground additions and allowing new interventions to merge with the terrain. The sunken corridors, green roofs and limited visible structures reduce the visual impact of the intervention, while the taxiway pavilion remains the only clearly marked entrance element. This creates a contrast between a visible threshold and a largely concealed route system.

The seasonal conditions of the site also influence the use of the visitor center. Since parts of the airbase are subject to seasonal access restrictions, including the breeding season from March 15 to June 30, the project allows for controlled opening regimes. The Visitor & Event Center in shelter 626 can function as a more stable public facility, while guided routes through the landscape and towards bunker 600 can be adjusted according to ecological restrictions, daylight conditions and management requirements.

In this way, landscape integration is not only a visual strategy, but also an operational one. The project makes the site more accessible and legible while maintaining the principle that ecological protection determines where, when and how visitors may move through the landscape.

3.2.4 INTERVENTION STRATEGY: PRESERVE, ADAPT, INSERT

The intervention strategy is based on a value assessment of the existing aircraft shelter area. This assessment identifies which existing elements should be preserved, which can be carefully adapted and which later elements can be removed. Elements that define the military identity of the shelters, such as the arched volume, heavy concrete and steel construction, large shelter doors, weathering and introverted atmosphere, are preserved or kept legible.

New interventions are inserted as readable contemporary layers rather than disguised as original fabric. This allows the shelters to accommodate new public functions while maintaining a clear distinction between existing military structure and new architectural additions. The matrix therefore forms the basis for the design strategy: **retain and reveal** the elements with high heritage value, carefully **adapt** elements where use requires it, **guide** movement through sensitive areas, **avoid** unnecessary disturbance and **remove** elements with conflicting value.

Value Assessment Matrix — Existing Air Shelter Area

Assessment of existing heritage, ecological and use values + design response actions

Existing element / layer	Main value	Value	Vulnerability	Design action	Design Implication
Shelter ensemble: 17 third-generation HAS shelters + central bunker	Historical, military, ensemble value	+++	High	● + →	Retain the ensemble logic and keep the shelters readable as a collective Cold War system.
Individual shelter shell	Architectural, structural, age value	+++	High	● + ①	Preserve the concrete shell, curved geometry, massiveness, weathering and traces of ageing.
Concrete blast doors and rail system	Historical, technical, experiential value	+++	Medium	● +	Keep the door mechanism, rails and threshold condition visible as part of the military narrative.
Interior spatial character	Spatial, experiential value	+++	High	● ①	Preserve the introverted atmosphere: darkness, silence, long axis, heavy enclosure and controlled entry.
Existing openings and service entrance	Functional, historical, use value	++	Medium	① +	Use existing openings as much as possible before making new cuts. They already explain access, control and operation.
Jet blast deflector / exhaust zone	Technical, military-use value	++	Medium	● +	Keep as evidence of the original aircraft function and the relation between shelter and runway logic.
Existing technical systems: cables, lamps, pipes, door	Use, nostalgic, process value	++	Medium	+ ①	Selectively reveal; keep representative traces, but remove only damaged or obstructive fragments.
Patina, moss, stains, weathering	Age, material, atmospheric value	++	High	● X	Avoid over-restoration; cleaning should not erase the sense of time.
Shelter floor markings / paint lines	Use, process, nostalgic value	++	High	● +	Retain where possible, because they show former workflows and aircraft positioning.
Surrounding forest edge / camouflage	Landscape, rarity, experiential value	+++	High	● → X	Preserve the hidden character; guide visitors rather than opening the landscape completely.
Existing paths, roads and hardened surfaces	Functional, historical, ecological value	++	Medium	→ ①	Concentrate movement on existing hardened surfaces to protect vulnerable habitats.
Vulnerable grassland, heath and ecological zones	Ecological value	+++	Very high	X →	Avoid new access or informal routes; use restriction as part of the visitor experience.
Later fences, barriers and security remains	Historical / atmospheric value	+ / ++	Low-medium	① -	Keep representative fragments, but remove elements that block public understanding or safe routing.
Later clutter, loose storage, non-original additions	Limited or conflicting value	0 / -	Low	-	Remove where it weakens the legibility of the shelter and landscape.
Damaged or redundant technical additions	Limited value	0 / -	Low	- / ①	Remove if they confuse the Cold War narrative, unless they show meaningful later use.
Current event/use infrastructure	Contemporary use value, but potential ecological conflict	+ / -	Medium	→ X	Allow only controlled use; avoid high-impact use where it conflicts with ecology, silence or spatial atmosphere.

Value level
 +++ High / essential to retain ++ Positive / adaptable + Supporting 0 Neutral - Conflicting or removable

Design actions
 ● Retain ① Adapt carefully + Reveal → Guide X Avoid - Remove

Figure 28. Value Assessment Matrix of the existing air shelter area

In shelter 626, the Visitor & Event Center, the intervention is more active because the program requires daylight, comfort and longer occupation. Carefully positioned cuts are introduced into the shelter shell to bring daylight into spaces such as the café, teaching rooms and work areas. These openings are limited and strategic: they make the new program usable without erasing the closed and defensive character of the original shelter.

The material strategy is based on both contrast and harmony. New structural additions are primarily expressed in steel, creating a material relationship with the existing industrial and military character of the shelter. In contrast, timber and CLT are used as interior layers in places where a warmer and more comfortable atmosphere is needed, such as the café, auditorium, smaller hall and workshop spaces. In this way, the project keeps the original shell legible, while the new program is made inhabitable through a clearly readable material layer.

This strategy forms the bridge towards the technical development of the project. The cuts in the shell, inserted floors, steel structure, CLT elements and requirements for daylight, ventilation, acoustics and climate control all have direct consequences for the structural and environmental strategy developed in Chapter 3.3.

Part 4. Conclusions and Discussion

What is the impact?

4.1 CONCLUSIONS

4.1.1 ANSWERING THE RESEARCH QUESTION

This graduation project was guided by the main research question: **How can former Cold War aircraft shelters at Airbase Soesterberg be transformed into a visitors center that architecturally represents military heritage while mediating public accessibility and ecological protection?** The final design answers this question by approaching the visitor center as a distributed sequence of shelters, routes and thresholds. Shelters 623, 625 and 626 each receive a specific role within this sequence: **experience, interpretation and public orientation**. Together with the taxiway pavilion and the partly sunken corridors that connect the three shelters, they form a spatial system in which visitors are gradually guided through to the history, atmosphere and landscape of the former airbase.

The project therefore shows that the transformation of the shelters begins with redefining their role within the former airbase. By giving each shelter a specific function within a visitor, museum and experience center, the design makes the Cold War heritage more accessible and understandable while keeping the military character of the shelters legible. In this way, the design mediates between the former military logic of restriction, the public ambition of a visitor center and the ecological sensitivity of the site.

4.1.2 REPRESENTING AND TRANSFORMING COLD WAR HERITAGE

The first subquestion asked *how Cold War military history can be represented* through architectural space, materiality and atmosphere rather than through conventional exhibition methods. The project concludes that this history can be made legible by treating the shelters themselves as spatial exhibits. In shelter 623 (the Experience Center) the existing arched volume, darkness, large doors and robust materiality are preserved close to their original condition and intensified through aircraft display, sound and projection. In shelter 625 (the Museum Center) Cold War history is communicated through a sequence of exhibition and experiential rooms, where light, enclosure and material contrast guide interpretation.

This also answers the second subquestion, concerning *which spatial, material and atmospheric characteristics define the military identity of the shelters*. The project identifies the arched concrete and steel structure, introverted character, heavy doors, defensive enclosure, darkness and sense of isolation as essential qualities. These characteristics inform the intervention strategy: they are not erased or hidden, but preserved, adapted or contrasted with new readable layers. As a result, the transformation does not neutralize the military character of the shelters, but uses it as the basis for a new public and educational function.

4.1.3 ACCESS, ORGANIZATION AND SITE MEDIATION

The third subquestion concerned the *architectural consequences* of transforming a Cold War military structure into a visitor center, particularly in terms of access, spatial organization and intervention strategy. The main consequence is that the program cannot be inserted as a

conventional visitor center or museum layout. Instead, it has to respond to the existing shelter logic and to the wider but also restricted landscape. The architectural consequences are therefore also technical: new access, daylight, comfort and public use require precise interventions, but these have to remain subordinate to the original arched volumes, heavy materiality and introverted military character. This led to a distributed program, with different shelters serving different visitor experiences, and to a strategy of limited, readable interventions rather than complete openness.

The fourth subquestion asked *how the transformation can respond to ecological restrictions and landscape conditions while remaining accessible and legible*. The project answers this through the principle of **access through restraint**. The partly sunken corridors guide visitors through normally less accessible areas while preventing uncontrolled movement into sensitive ecological zones. The taxiway pavilion marks the entrance, while the concealed corridor system stages the transition into the shelter landscape.

Overall, the project concludes that Cold War aircraft shelters can become meaningful public architecture when heritage, accessibility and ecology are treated as interdependent design conditions. The impact of the proposal lies in making a formerly hidden and restricted military landscape publicly experienceable without fully dissolving the restrictions that shaped its identity.

4.2 IMPLICATIONS AND RECOMMENDATIONS

4.2.1 COLD WAR HERITAGE AS AN ADAPTIVE REUSE CHALLENGE

The significance of this project lies in its approach to Cold War military heritage as a specific and relatively underexplored field of adaptive reuse. Former military structures such as aircraft shelters differ from more familiar forms of industrial heritage. They were designed for defense, secrecy, concealment and control, and are often located in isolated landscapes rather than urban environments. Their value is therefore not only found in material remains, but also in spatial qualities such as distance, enclosure, darkness, robustness and restricted accessibility.

The project shows that these qualities should be treated as design materials, rather than as obstacles to reuse. Transforming Cold War heritage into public architecture does not require the removal of its defensive character. Instead, this character can help shape a meaningful visitor experience. This means that adaptive reuse of military heritage should begin with a careful reading of both tangible and atmospheric values.

4.2.2 DESIGN THROUGH MEDIATION

A broader implication of the project is that adaptive reuse in sensitive landscapes requires architecture to act as a mediator. At Airbase Soesterberg, the design does not only mediate between old and new, but also between public access and ecological protection.

The distributed visitor center demonstrates how architectural intervention can structure these relationships. By dividing the program across three shelters, the project avoids concentrating all functions in one dominant new building. By using a controlled route system, it makes the shelter area more accessible while limiting uncontrolled movement through the surrounding landscape. This suggests that architecture can guide behavior spatially, rather than depending only on signs, fences or regulations. This approach is relevant for other heritage landscapes where public interpretation and environmental protection must be balanced. It shows that accessibility does not always have to mean openness. In some contexts, a more careful and guided form of access can create a stronger relation between visitor, heritage and landscape.

4.2.3 RECOMMENDATIONS FOR SIMILAR HERITAGE LANDSCAPES

For future projects involving military heritage or sensitive landscape sites, several recommendations can be made. First, heritage assessments should include spatial and atmospheric qualities alongside historical and material values. In the case of the aircraft shelters, the experience of enclosure, silence, darkness and restricted access is essential to their identity. These qualities should guide the design strategy from the beginning.

Second, ecological restrictions should be used as design parameters rather than treated as external limitations. Seasonal access, protected zones and quiet areas can inform routing, program distribution and opening regimes. This allows ecological protection to become part of the architectural concept instead of a separate management issue.

Third, new interventions should remain readable as contemporary additions. This avoids confusion between original military fabric and new architectural layers. In former military structures, this distinction is important because the existing buildings already carry a strong spatial and historical identity.

4.3 REFLECTION

4.3.1 SCALE AND SCOPE

One of the main difficulties during the process was dealing with the scale of the site. Airbase Soesterberg is much larger than it first appears, and the distances between the shelters, the former runway, bunker 600 and the National Military Museum are substantial. The shelters themselves also proved to be larger and more spatially demanding than expected. With a floor area of more than 750 m² each, they cannot be treated as small objects within the landscape, but function almost as large autonomous buildings.

This issue of scale strongly influenced the development of the project. In the first masterplan, the design covered a much larger part of the former airbase and included more shelters. However, this made the project too broad and reduced the architectural precision of the intervention. During the process, the scope was therefore narrowed to shelters 623, 625 and 626. This allowed the project to focus more clearly on the transformation of a specific ensemble, while still relating it to the wider landscape, bunker 600 and the existing visitor routes.

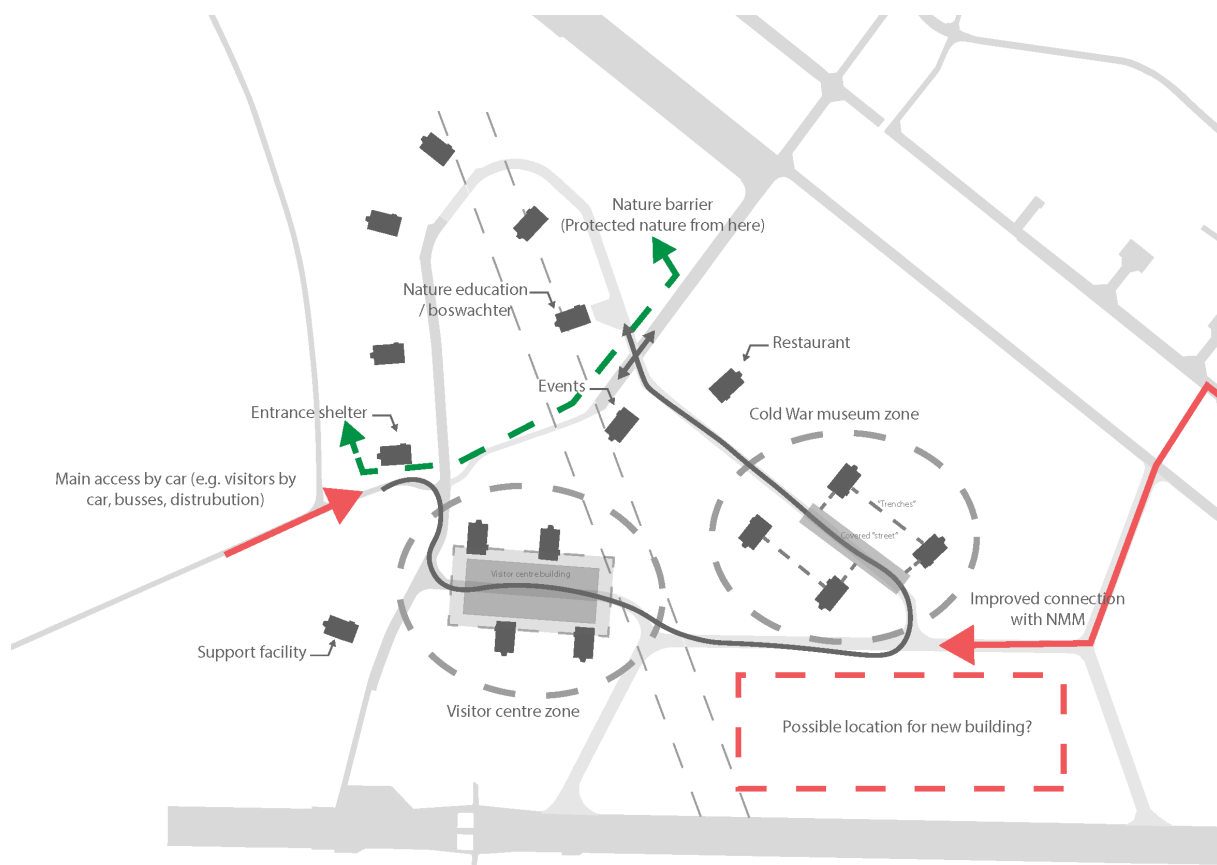


Figure 29. First draft of masterplan

4.3.2 WORKING BETWEEN HERITAGE AND ECOLOGICAL RESTRICTION

Another challenge was the combination of vulnerable cultural-historical structures and a highly restricted landscape. The aircraft shelters have a strong heritage value, but they are also located within a nature reserve where public access, movement and disturbance must be carefully controlled. This made the project more complex than a conventional adaptive reuse assignment. Every intervention had to be considered in relation to both the existing military architecture and the ecological sensitivity of the site.

This tension influenced the design strategy. The project could not simply open the shelters and their surroundings completely to the public. At the same time, keeping them too closed would not answer the ambition of making the Cold War history more accessible and understandable. The final design therefore developed around the idea of controlled accessibility. The partly sunken corridors, the distributed program and the seasonal logic of access are all attempts to balance these conflicting conditions. Looking back, this tension became one of the most important drivers of the project, because it forced the design to mediate rather than choose between preservation, publicness and protection.

4.3.3 DESIGNING WITH NON-STANDARD STRUCTURES

The most difficult aspect was working with the aircraft shelters themselves. These buildings are highly specific and do not resemble standard architectural structures. Their arched shape, massive construction, limited daylight, large doors and introverted organization make them difficult to reuse. They offer a powerful atmosphere, but also restrict what can be inserted into them. Conventional architectural solutions, such as regular floor layouts, façades, windows or flexible museum spaces, do not easily fit within their form and spatial logic.

The precedent research provided useful information about visitor centers, heritage centers, bunker museums and landscape integration, but it also revealed a limitation. Very few projects came close to the specific conditions of these Cold War aircraft shelters. Most precedents were useful for understanding routing, thresholds, immersion or landscape embedding, but none could be directly translated into the design. As a result, the case studies functioned mainly as a way to extract design principles rather than as models to follow.

This made research-by-design essential. Drawings, models and spatial testing were needed to understand what the shelters could realistically become. The project developed through testing, reducing and redefining the scope, rather than through applying an existing typology. In the end, this difficulty also became the strength of the project: the unusual character of the shelters forced the design to become site-specific, and led to a visitor center that responds directly to the military identity, scale and landscape conditions of Airbase Soesterberg.

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- Damian Klein

Bibliography

Balfoort, H., Boissevain, G., Van Leeuwen, K., Neisingh, K., & De Vries, B. (Eds.). (2022). *Trouwe bondgenoot met Hollanditis: Sporen van de militaire en civiele verdediging, en hun maatschappelijke impact, in Nederland tijdens de Koude Oorlog (1945–1991)*. Rijksdienst voor het Cultureel Erfgoed.

Bosma, K., & Kolen, J. (Eds.). (2010). *Geschiedenis en ontwerp: Handboek voor de omgang met cultureel erfgoed*. Vantilt.

Contant, I., Van Doesburg, J., Kosian, M., Linssen, M., Luger, T., Van Meggelen, W., Oldenhavé, M., Stappers, M., Van Tijn, N., De Vries, B., & Wokke, R. (2019). *Op Verkenning 2.0: Twee eeuwen militair erfgoed in het vizier. Rapportage Verkenning Militair Erfgoed*. Rijksdienst voor het Cultureel Erfgoed.

Douthwaite, J., Nehring, H., & Alberti, S. J. (2024). *Cold War Museology*. Taylor & Francis.

Griffiths, A. (2022). *Hidden architecture: Buildings that blend in*. Lannoo Publishers.

Hollandluchtfoto.nl. (2018). *Soest - Luchtfoto vliegbasis Soesterberg* [Luchtfoto].

Hollandluchtfoto. <https://www.hollandluchtfoto.nl/>

Kolen, J., Renes, H., & Hermans, R. (Eds.). (2015). *Landscape biographies: Geographical, historical and archaeological perspectives on the production and transmission of landscapes*. Amsterdam University Press.

Koninklijke Luchtmacht. (z.d.). *Luchtfoto van vliegbasis Soesterberg* [Luchtfoto]. Het Utrechts Archief, Collectie Koninklijke Luchtmacht. <https://hetutrechtsarchief.nl/>

Kruidenier, M. (2007). *Militair erfgoed: Categoriaal onderzoek wederopbouw 1940–1965*. Rijksdienst voor Archeologie, Cultuurlandschap en Monumenten.

Kuipers, M., & De Jonge, W. (2017). *Designing from heritage: Strategies for conservation and conversion*. TU Delft – Heritage & Architecture.

Nederlands Instituut voor Militaire Historie. (1945). *Luchtfoto van vliegbasis Soesterberg tijdens de Tweede Wereldoorlog*. [Luchtfoto]. Beeldbank Nederlands Instituut voor Militaire Historie.

<https://beeldbank.nimh.nl/>

Nederlands Instituut voor Militaire Historie. (1951). *Luchtfoto van de vliegbasis Soesterberg*.

[Luchtfoto]. Beeldbank Nederlands Instituut voor Militaire Historie. <https://beeldbank.nimh.nl/>

Nederlands Instituut voor Militaire Historie. (1970). *Luchtfoto van de vliegbasis Soesterberg*.

[Luchtfoto]. Beeldbank Nederlands Instituut voor Militaire Historie. <https://beeldbank.nimh.nl/>

Meurs, P. (2016). *Heritage-based design*. TU Delft – Heritage & Architecture.

Plevoets, B., & Van Cleempoel, K. (2019). *Adaptive reuse of the built heritage: Concepts and cases of an emerging discipline*. Routledge.

Rijksdienst voor het Cultureel Erfgoed. (2019). *Op Verkenning 2.0: Twee eeuwen militair erfgoed in het vizier. Rapportage Verkenning Militair Erfgoed*. Rijksdienst voor het Cultureel Erfgoed.

Stenvert, R., & Viersen, A. (2007). *Vliegbasis Soesterberg, Dolderseweg 34, Huis ter Heide: Cultuurhistorische inventarisatie met waardestelling*. Bureau voor Bouwhistorie en Architectuurgeschiedenis V.O.F.

Stuurgroep Vliegbasis Soesterberg (2011). *Inrichtings- en beheerplan voormalige Vliegbasis Soesterberg, maatregelen voor natuur, cultuurhistorie en recreatie*. Utrechts Landschap

UNESCO Regional Bureau for Science and Culture in Europe (2023). *The role of visitor centres in UNESCO designated sites: Report of the second regional workshop for Europe*. UNESCO.

Volkers K. (2009). *Geheim landschap, 200 jaar militairen op de Heuvelrug*. Tweede, herziene en uitgebreide druk. Stokerkade Cultuurhistorische Uitgeverij.

Wonder Trussless Buildings, Inc. (1958). *Wonder buildings: Assembly and specification manual*.

Zumthor, P. (2006). *Atmospheres: Architectural environments, surrounding objects*. Birkhäuser.

Appendix A

Preliminary Research Visitors Centers

A.1 VISITORS CENTER

This appendix provides a preliminary typological and programmatic study of visitor centers. The aim is not to define one fixed building type, but to understand which roles visitor centers can play in relation to landscape, heritage, museums and public orientation. The findings support the programmatic and typological positioning of the visitor center at Airbase Soesterberg.

A.2 VISITOR CENTER AS INTERFACE

Visitor centers are understood as interfaces between visitors and a larger site. The UNESCO report *The Role of Visitor Centres in UNESCO Designated Sites* describes visitor centers as mediating spaces between designated territories, visitors, communities, site management and other partners. It also emphasizes their role in managing visitor flows, influencing visitor behavior and developing meaningful visiting experiences (UNESCO, 2023). Although Airbase Soesterberg is not a UNESCO designated site, this definition is relevant because the project also deals with the relationship between cultural heritage, natural values, visitor experience and site management.

A.3 TYPOLOGICAL CATEGORIES

Visitor centers do not form one fixed architectural typology. Their role and program depend strongly on the type of site they serve, the kind of information they communicate and the way visitors are expected to move through or understand the surrounding context. For this reason, the preliminary research distinguishes several visitor center types that may be relevant for Airbase Soesterberg.

- **Nature / Park Centers**
 - Located by: national parks, nature reserves, landscape parks
 - Focus on: Environmental-education, nature experience
 - Include: Wildlife-observation (bird watching), hiking routes, info about nature conservation
- **Historical heritage centres**
 - Associated with historical sites
 - Focus on: cultural stories and history
 - Include: Small museum exhibitions
- **Museum centres**
 - Located by: Museums or cultural institutions
 - Focus on: visitor facilities and orientation
- **Other types:**
 - Urban information points
 - Industrial visitor centers
 - Science or technology centres
 - Infrastructure centres

A.4 COMMON PROGRAMMATIC FUNCTIONS

Common visitor center functions include reception and orientation, information provision, education and interpretation, exhibition and experience, café or food facilities, retail, sanitary facilities, ticketing or access control, and additional spaces such as meeting rooms, staff offices, classrooms, viewpoints or outdoor facilities. These functions are not always all present in one building; they are often selected and combined according to the character of the site.

- **Reception & orientation:**
 - an entrance hall with an information desk, clear signage, maps, and introductory presentations (e.g., films or displays) that help visitors understand the site and plan their visit.
- **Information provision:**
 - a central hub offering knowledge about the area, activities, rules, and facilities. Information is shared through staff, brochures, digital tools, and interactive media.
- **Education & interpretation:**
 - exhibitions, guided tours, lectures, and school programmes that explain the significance of the site. The goal is not only to share facts but to foster appreciation and understanding.
- **Exhibitions & experience:**
 - immersive displays, interactive installations, multimedia, models, or even living elements (such as aquariums) that allow visitors to engage with the story of the place in an experiential, museum-like way.
- **Food & beverage:**
 - cafés or restaurants that extend the visit, improve comfort, and support financial sustainability (often aligned with the character of the site).
- **Retail:**
 - a gift shop selling books, maps, local products, and souvenirs, reinforcing the visitor experience and generating additional revenue.
- **Sanitary facilities:**
 - essential amenities such as toilets, waste bins, drinking water points, lockers, and first-aid provisions that ensure visitor comfort.
- **Ticketing & entrance control:**
 - sale and control of access tickets for the site or related activities, especially at heritage or commercial attractions; sometimes a major income source.
- **Additional functions:**
 - meeting rooms, offices for site staff or rangers, educational spaces, children's play areas, and outdoor facilities such as viewpoints or picnic spots. Modern centres increasingly integrate accessibility and sustainability in their design.

A.5 RELEVANCE FOR AIRBASE SOESTERBERG

The comparison shows that three visitor center types are particularly relevant for Airbase Soesterberg. The nature or park center relates to the protected landscape, ecological awareness and responsible access. The historical heritage center relates to the Cold War history, the aircraft shelters and the interpretation of the former military airbase. The museum-related visitor center relates to orientation, exhibition, visitor facilities and the nearby National Military Museum. Rather than choosing one of these types, the strongest direction is to combine them into a hybrid visitor center. This hybrid approach supports a program that brings together reception, education, exhibition, experience and visitor amenities, while also requiring a design strategy that guides visitors through the site and makes the relation between landscape, heritage and public access legible.

A.6 SOURCES

This appendix is based on the UNESCO visitor center report, precedent research in **Appendix B** and a programmatic comparison of visitor centers, heritage centers and museum-related facilities.

Sources used

UNESCO. (2023). *The role of visitor centres in UNESCO designated sites*. UNESCO.

Appendix B. Comparative case-study research on visitor centers and bunker museums.

Appendix B

Comparative case-study research on visitor centers and bunker museums

B.1 VISITORS CENTERS IN THE NETHERLANDS

Visitor Center Unesco World Heritage Site Kinderdijk

M& DB ARCHITECTEN | KINDERDIJK, NL | 2019 | 1180M²

Program

Arrival volume: Ticketing and information desk | Orientation and introduction space | Introductory film theatre; Departure volume: Café | Museum shop | Outdoor terrace; Rooftop: Panoramic viewing platform

Synopsis

The visitor centre acts as a gateway that structures the visit through a clear sequence from arrival to departure, guiding visitors from enclosed orientation spaces to open views of the landscape. The building remains low and embedded, allowing the windmill landscape to stay visually dominant while being framed and interpreted.



BIESBOSCH MUSEUM ISLAND

STUDIO MARCO VERMEULEN | WERKENDAM, NL | 2015 | 1300M²

Program

Main volume: Permanent exhibition on landscape and water management | Interactive and educational displays; Secondary functions: Auditorium / presentation space | Café | Museum shop; Exterior: Roof landscape integrated with walking routes and viewpoints

Synopsis

The museum is conceived as a landscape building, where architecture, roof, and surroundings merge into one continuous experience. Visitors gradually move through exhibitions while remaining visually and physically connected to the Biesbosch landscape, reinforcing the relationship between water, ecology, and human intervention.



WATERLINIE MUSEUM

JONATHAN PENNE ARCHITECTS + RAPP+RAPP + WEST 8 | BUNNIK, NL | 2015 | 2500M²

Program

Fort interior: Permanent exhibition on the Dutch Waterline | Immersive and interactive exhibition spaces; Covered courtyard: Central orientation and gathering space; Exterior: Fort landscape with accessible ramped roof and walking routes

Synopsis

The museum uses the existing fort structure to create an immersive, inward-focused experience where architecture, exhibition, and landscape are inseparable. By routing visitors through the fort and over the roof, the design reveals the defensive logic of the Waterline while maintaining the fort's robust, introverted character.



NETHERLANDS AMERICAN CEMETERY VISITOR CENTER

KAAN ARCHITECTEN | MARGRATEN, NL | 2023 | 600M²

Program

Entrance volume: Orientation and introduction space | Immersive introductory film; Exhibition sequence: Permanent exhibition on WWII and personal stories | Interactive media and archive access; Memorial interface: Visual and physical connection to the cemetery and memorial court

Synopsis

The visitor centre is designed as a quiet, contemplative threshold that prepares visitors emotionally and historically before entering the cemetery. Architecture and exhibition work together to choreograph a gradual transition from enclosed, immersive storytelling spaces to open views of the memorial landscape, reinforcing reflection and remembrance.



'KASTEELTUIN SLOT ASSUMBURG' VISITOR CENTER*LAB03 | HEEMSKERK, NL | 2015***Program**

Garden pavilion: Visitor information and orientation | Interpretation of the castle garden and historical landscape; Exterior: Direct connection to themed garden routes and outdoor gathering space

Synopsis

The visitor centre functions as a modest pavilion that introduces the historical garden as the primary experience. Its small scale and direct relationship with the outdoor routes emphasize the garden itself as the main exhibit, positioning the building as a subtle mediator between visitor and landscape rather than a dominant object.

**PARK PAVILION THE HOGE VELUWE NATIONAL PARK***DE ZWARTE HOND + MONADNOCK | OTTERLO, NL | 2019 | 3360M²***Program**

Central pavilion: Orientation and park information | Exhibition and interpretation space; Public facilities: Restaurant and park shop; Exterior: Terrace with views into the park landscape

Synopsis

The pavilion acts as a contemporary threshold to the national park, combining orientation, exhibition, and hospitality in one compact structure. Its transparent and open character visually extends the park into the building, reinforcing continuity between interior experience and surrounding landscape.



B.2 VISITORS CENTERS OUTSIDE THE NETHERLANDS

STONEHENGE VISITOR CENTRE

DENTON CORKER MARSHALL | WILTSHIRE, UK | 2012

Program

Arrival building: Ticketing and orientation | Introductory exhibition on Stonehenge and its landscape; Exhibition spaces: Permanent exhibition with archaeological artefacts and interpretation | Reconstructed Neolithic houses (outdoor); Departure zone: Café | Museum shop

Synopsis

The visitor centre is deliberately positioned at a distance from the monument, framing Stonehenge as a destination rather than an object of the building itself. A clear sequence from interpretation to landscape approach reinforces the ritual transition from everyday arrival to encounter with the prehistoric site.



CAIRNS BOTANIC GARDENS VISITORS CENTRE

CHARLES WRIGHT ARCHITECTS | CAIRNS, AU | 2011

Program

Main pavilion: Visitor information and orientation | Interpretation of tropical flora and ecology; Community functions: Exhibition and education space | Café; Exterior: Veranda and shaded outdoor spaces connected to garden paths

Synopsis

The visitor centre is designed as an open, climate-responsive pavilion that blurs the boundary between inside and outside. Its lightweight, shaded architecture supports a relaxed transition into the gardens while responding directly to the tropical climate and landscape.



PUNANGAIRI VISITOR CENTRE

SHEPPARD & ROUT ARCHITECTS | PUNAKAIKI, NZ | 2024 | 1350M²

Program

Main pavilion: Visitor information and orientation | Cultural and natural heritage interpretation;
Community functions: Exhibition and education space | Café; Exterior: Shaded veranda and outdoor gathering space connected to surrounding landscape

Synopsis

The visitor centre operates as an open, pavilion-like structure that supports orientation and cultural interpretation while remaining closely connected to its natural surroundings. Its open layout and shaded edges create a soft transition between visitor, building, and landscape, reinforcing a relaxed and welcoming arrival experience.



SKAMLINGSBANKEN VISITOR CENTER

CEBRA | SJØLUND, DK | 2021 | 500M²

Program

Main building: Orientation and interpretation space focused on landscape and history |
Exhibition and educational space; Public functions: Café; Exterior: Roof landscape and integrated viewpoints connected to walking routes

Synopsis

The visitor centre is conceived as a landscape-integrated building that extends the terrain rather than standing apart from it. By allowing visitors to move over and through the architecture, the design reinforces Skamlingsbanken as a continuous cultural and natural landscape experience.



EDUCATIONAL AREA AND VISITOR SERVICE CENTER OF CHAPULTEPEC ZOO

TEAM730 | MEXICO CITY, MX | 2021 | 1500M²

Program

Educational zone: Environmental education and interpretation spaces | Interactive learning facilities; Visitor services: Orientation and information | Support facilities for zoo visitors; Exterior: Shaded outdoor areas connected to zoo routes

Synopsis

The visitor centre is conceived as an educational interface within the zoo, prioritising learning and awareness alongside visitor services. Architecture supports clear orientation and informal education, embedding environmental themes directly into the visitor experience.



PUFFING BILLY LAKESIDE VISITOR CENTRE

TERROIR | EMERALD, AU | 2021

Program

Arrival building: Visitor orientation and ticketing | Interpretation of railway and landscape history; Public functions: Café | Retail / museum shop; Exterior: Lakeside terrace and direct connection to railway platforms and walking routes

Synopsis

The visitor centre acts as a mediating structure between lake, landscape, and heritage railway, organising arrival while framing views and movement. Architecture supports a smooth transition between leisure, interpretation, and travel, positioning the building as part of a broader experiential route rather than a standalone object.



KANGIATA ILLORSUA ILULISSAT ICEFJORD CENTER

DORTE MANDRUP | ILULISSAT, GL | 2021 | 900M²

Program

Main volume: Orientation and introduction space | Permanent exhibition on the Icefjord, climate, and local culture; Public functions: Café | Research and education facilities; Exterior: Roof promenade and viewpoints integrated with the landscape

Synopsis

The visitor centre is conceived as a landscape-forming structure that guides visitors through a slow, choreographed movement aligned with the Icefjord. Architecture, exhibition, and roofscape work together to frame vast views and deepen awareness of climate, scale, and place without competing with the surrounding landscape.



IMMERSIVE VIVARIUM AT ANIMÁLIA BIOPARK

AM2 ARQUITETURA | COTIA, BR | 2023 | 10.000M²

Program

Main volume: Immersive vivarium environment | Thematic exhibition spaces simulating animal habitats; Educational layer: Environmental interpretation and learning zones; Visitor route: Continuous interior path integrated with landscape and animal enclosures

Synopsis

The vivarium is designed as an immersive spatial sequence where architecture dissolves into habitat and exhibition. By guiding visitors through controlled sensory transitions, the building prioritises experiential learning and proximity to nature over conventional display.



THE NATURE EDUCATION CENTER OF TANGJIAHE

CLAB ARCHITECTS | TANGJIAHE, CH | 2023 | 1350M²

Program

Main building: Orientation and nature interpretation | Permanent exhibition on biodiversity and conservation; Educational functions: Learning and workshop spaces; Exterior: Terraces and viewpoints connected to surrounding forest landscape

Synopsis

The visitor centre is conceived as a quiet, landscape-responsive structure that supports learning through proximity to nature. Architecture frames views and movement, allowing education, exhibition, and landscape experience to merge into a continuous spatial sequence.



DAGUAN INTEGRATED SERVICE CENTER FOR RURAL TOURISM

CADG | DAGUAN, CH | 2023 | 23.500M²

Program

Service hub: Visitor orientation and information | Exhibition and interpretation of local culture and landscape; Community functions: Multipurpose hall and public gathering spaces; Exterior: Covered outdoor spaces connected to village routes and landscape

Synopsis

The centre functions as a multifunctional threshold between village, landscape, and visitors, combining tourism services with community use. Architecture emphasises openness and adaptability, supporting both everyday local life and seasonal visitor flows.



LEARNING CENTER AT THE CENTRAL CAMPUS OF USTC

HEIMAT ARCHITECTS | HEFEI, CH | 2025 | 1100M²

Program

Main volume: Learning and study spaces | Exhibition and academic communication areas;

Public interface: Lecture and presentation spaces | Informal gathering and exchange zones

Synopsis

The learning centre is conceived as an academic hub that supports both focused study and informal knowledge exchange. Architecture organises movement and encounter, reinforcing the campus as a place of collective learning rather than isolated study.



B.3 BUNKER MUSEUMS

REGAN VEST - DANISH COLD WAR MUSEUM

AART ARCHITECTS | SKØRPING, DK | 2023 | 1200M²

Program

Bunker complex: Guided underground route through original Cold War spaces | Interpretation of political, military, and civil defence functions; Surface pavilion: Arrival and orientation | Exhibition and contextual interpretation of the Cold War period

Synopsis

The museum is structured as a controlled descent into an intact Cold War bunker, using movement, depth, and enclosure to convey secrecy and preparedness. The contrast between the discreet landscape pavilion and the immersive underground route reinforces the experiential transition from everyday life to Cold War reality.



BUNKER 599

RAAAF + ATELIER LYON | AMSTERDAM, NL | 2010

Program

Linear intervention: Sectioned World War II bunker revealed by a full-length cut; Exterior route: Walkable path through bunker and surrounding water landscape; Interpretation: Landscape-scale heritage marker rather than enclosed exhibition

Synopsis

The project transforms the bunker into an experiential section through history, prioritising spatial revelation over traditional museum display. By cutting the structure open, the intervention makes construction, thickness, and military logic immediately legible within the landscape.



BUNKER COMPLEX IN BRANDENBURG

MAEDEBACH & REDELEIT ARCHITEKTEN | BRANDENBURG, DE | 2023 | 1850M²

Program

Bunker complex: Guided visitor route through interconnected Cold War bunkers | Interpretation of military infrastructure and everyday bunker life; Surface interventions: Minimal entrances and landscape integration marking access points

Synopsis

The project reveals the bunker complex through a restrained architectural approach that preserves its raw, utilitarian character. By carefully choreographing movement through underground spaces and limiting above-ground presence, the experience emphasises isolation, repetition, and the spatial logic of Cold War defence infrastructure.



TIRPITZ

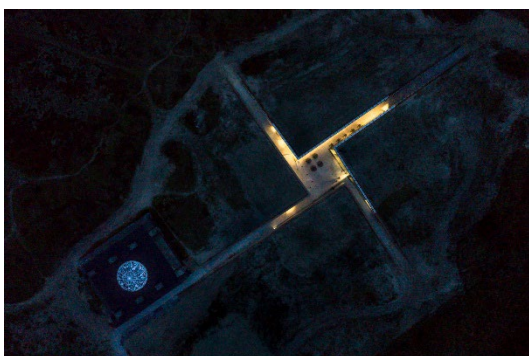
BIG | BLÅVAND, DK | 2017 | 2800M²

Program

Bunker remains: Preserved WWII coastal bunker as central artefact; Underground museum: Exhibition on WWII history | Interpretation of the Atlantic Wall | Amber exhibition; Arrival building: Orientation and introduction | Café and museum shop

Synopsis

The museum is conceived as an underground extension of the landscape, allowing the historic bunker to remain visually dominant and untouched. By placing the main programme below ground, the design creates a gradual, immersive descent that frames the bunker as a powerful spatial and historical anchor rather than an object to be altered.



B.4 CONCLUSION: CONSOLIDATED VISITOR CENTER PROGRAM

Program

Arrival / Threshold

Orientation and information space | Ticketing / access control (where applicable) | Introductory exhibition or film;

Interpretation / Exhibition

Permanent exhibition | Immersive or experiential exhibition route | Interactive or educational interpretation | Landscape, heritage, or ecological narrative spaces;

Education / Knowledge

Learning and workshop spaces | Educational exhibition zones | Research or archive interface (selective);

Public Interface

Café / restaurant | Museum or park shop | Informal gathering or meeting space;

Landscape Integration

Roof landscape or accessible roof | Viewpoints / lookout points | Outdoor exhibition or interpretation elements | Direct connection to routes, trails, or heritage paths;

Experiential Routing

Sequenced visitor route | Guided or controlled circulation (especially in bunker contexts) | Transition zones between interior and exterior;

Synopsis

Across the references, the visitor center program is consistently organized around **orientation**, **interpretation**, and **transition**, rather than extensive museum functions. Core spaces prepare visitors and provide focused contextual knowledge before deliberately releasing them into the landscape, heritage site, or experiential route, positioning the site itself as the primary exhibit.

Programs are therefore **reduced** and **sequential** rather than accumulative. Most projects combine a clear arrival function, such as orientation, ticketing, or an introductory film, with a concise interpretative layer, including a permanent exhibition, immersive route, or educational space, followed by a spatial release toward landscape or heritage through views, routes, or open terrain.

Hospitality and commercial functions, such as cafés and shops, appear selectively and are typically placed in the departure phase, reinforcing a linear visitor flow. In bunker museums, this logic is taken further through experiential routing, where guided paths, controlled access, and spatial immersion replace conventional exhibition rooms. Overall, the program functions as a tool to **choreograph experience and movement**, rather than as an accumulation of functions.

Recurring Architectural Strategies

1. Threshold architecture

Many projects act as gateways that prepare visitors mentally and physically before entering a larger landscape or heritage site (e.g. Kinderdijk, Netherlands American Cemetery, Stonehenge). The building frames the experience rather than competing with it.

2. Landscape integration

Buildings are frequently embedded, roofed with landscape, or treated as extensions of terrain (Biesbosch Museum Island, Waterliniemuseum, Skamlingsbanken, Ilulissat Icefjord Centre). Architecture dissolves into topography to reinforce continuity between interior experience and exterior context.

3. Choreographed movement and immersion

Visitor routes are deliberately sequenced to create gradual transitions: compression and release, descent and ascent, inside to outside. This is especially explicit in bunker museums (REGAN Vest, Tirpitz, Bunker 599), where spatial experience replaces conventional exhibition logic.

Across the collected case studies, visitor centers and bunker museums consistently function as spatial mediators rather than destinations in themselves. Architecture is used to structure a clear experiential sequence: from arrival and orientation, through interpretation, toward direct engagement with landscape, heritage, or memory.

Overall, the bundle shows a shift from object-based museum architecture toward experience-driven, site-specific structures, where program, movement, and landscape together construct meaning.