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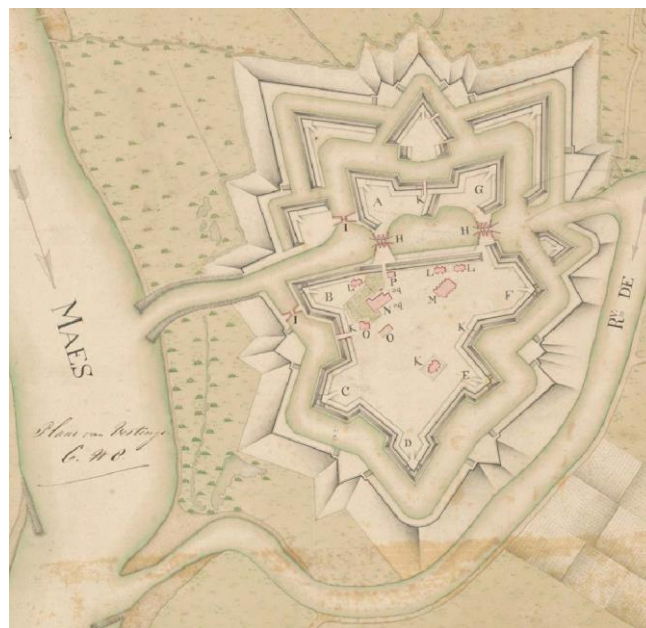


7 Most Endangered 2022

Programme run by **Europa Nostra**,
the European Voice of Civil Society Committed to Cultural Heritage,
in partnership with the **European Investment Bank Institute**

Crèvecoeur Fortress Den Bosch, The Netherlands

Technical Report



The Fortress in 1750

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The Nominator: Karel Loeff.

Europa Nostra team: Jeroen van der Werf, Lilian Grootswagers.

's-Hertogenbosch Municipality: Annalies de Graaf.

Central Government Real Estate Agency: Dhr. Edwin Maas.

TAK architecten: Herman van Essen.

Ministry of Defence: Ir. J.M.Hilhorst.

The photographs are from a report by Dhr. Edwin Maas of the Central Government Real Estate Agency and from TAK architecten documents.

The maps have been sourced from the Central Government Real Estate Agency's Review Report.



1. Summary

The Crèvecoeur fortress has a distinguished history in the early establishment of the Dutch Republic and has seen numerous visits from the French over the years. In its apogee, in the mid-18th century, it was a great example of a moated fortress but has since fallen into serious decay with few of the features of this past glory now visible. It remains under the ownership and control of the Royal Netherlands Army (the Army) who use it for training exercises with limited access to the public. It is situated in an important riverside nature zone.

In view of its importance in Dutch history and its heritage interest it has been designated a National Monument. As first steps the Municipality of 's-Hertogenbosch (Den Bosch) and local groups have persevered in efforts to protect the remains of the fortress and provide open access to the site. A strategic study has been undertaken by the Government giving long term options on the future of the site, notably on its potential environmental contribution. Numerous Government Ministries and Agencies are involved in the development of the site with various and maybe some conflicting interests which are still not resolved.

The present initiative is to protect seven structures comprising gunpowder magazines, casemates and remnants of the waterway. This programme still needs to be developed in detail with a pilot project being proposed initially. The presence of a rare species of bat in some buildings complicates matters as views differ on the best action to take. These studies and works will be undertaken under the responsibility and funding of the Army. A preliminary cost estimate for these works is €2 m. The programme expects, if permits are given appropriately, that the pilot phase could be completed by mid-2025 and the remaining works by 2027. There is thus some uncertainty on the costs, budget and programme which could impact on timely and successful completion.

The Municipality of Den Bosch intends to set up a Working Group to monitor progress and act as a focal and coordination point for the project, which is a key ingredient for success. Since 2010 The Municipality has a cooperation agreement with the Army which has been inactive until now but hopefully this can facilitate the planned progress and beyond.

Progress is now expected to be made in protecting some of the vestiges of the fortress. This initial programme is drawn out, with pilot works in 2025, and it needs to be more formally agreed and then closely monitored to ensure it continues to completion.

Discussions should be started on the longer-term strategy, perhaps usefully based on the Central Government Real Estate Agency's "Review Report" of 2022.

Overall technical aspects are being handled well but progress has been slow or insignificant and more is now necessary with greater emphasis on coordinated action.

In summary: real sustained action is now hoped for and required to complement the numerous studies and discussions already carried out over years.



2. Purpose, location

The purpose of the project is to protect the existing components of the Crèvecoeur fortress and to instigate a strategy of enhancement for the future, while taking into account the current constraints.

The fortress is located on the south bank of the River Meuse (Maas) at the confluence with the River Dieze. It lies close to and north of the city of 's-Hertogenbosch (Den Bosch), in the Province of Brabant, The Netherlands.

3. Context

Historical context:

The fortress has a long and convoluted history. It is located in a strategic position on the River Meuse, a principal waterway in the Netherlands. Its position on the Dieze tributary allows it to control access from the Meuse and the sea to the town of Den Bosch.

A small redout was built in 1587 and this was expanded under Spanish direction. In 1612 Prince Mauritz of Orange in his rebellion against the Spanish Authorities seized the fort, expanded it, and used it as a base to attack the nearby city of Den Bosch.

This action was repeated in 1629 on a greater scale with Prince Frederic-Henry of Orange using the fortress as a base for the siege of Den Bosch, which succeeded in isolating the city, partly through astute use of water engineering. A large European army was mustered by Prince Frederic-Henry which widened the international interest in his activities. The success of the siege was a turning point in the struggle of the United Provinces against the Spanish, which eventually led to the end of the Eighty Years' War in 1648 with the Treaty of Münster and then independence from Spain. The Peace Treaty of Westphalia consolidated this.

In 1672 the French under Louis XIV invaded and captured the fortress but failed to occupy Den Bosch. On leaving in 1674, this first fortress was destroyed by the French except for a small church.

In 1701 the Dutch Republic decided to rebuild the fortress to a design by Menno van Coehoorn which was only partly completed by 1735. It was much more extensive than previously, comprising seven bastions with guard houses, gunpowder magazines and other necessary buildings and, importantly, the waterways were rebuilt with an encircling moat and a lock to control the flow in the River Dieze, even blocking the river in times of threat.

In 1746 during the war of the Austrian Succession, the French again took the fortress which they then left in 1748 under the Treaty of Aix-la-Chapelle, this time without further destruction. However, the fortress was poorly maintained and manned thereafter and this led to its surrender in 1794 again to the French who remained there until the demise of Napoleon in 1814.

Another period of neglect followed with minimal repairs being undertaken until a major renovation in 1858-60. Further work was undertaken in 1870 -1874 in the aftermath of the



Franco-Prussian war. However, the ability to control the river flow, with the possibility of intentional flooding and the control of shipping, which was a great part of the fortress's strategic interest, was much reduced when the Dieze canal was built in 1890; this canal passed to the west of the fortress and partly diverted the river. Its decline as an active military fortress was inevitable and this was confirmed by the Government in 1926. In 1937 two of the eastern bastions were removed to make way for the national road from Hedel to Den Bosch.

In World War II the relics of the fortress sustained significant damage. After the war, the site was used by the Dutch Corps of Engineers and the canals and locks were filled in and the whole was abandoned to nature. The River Dieze continues to flow west of the fortress, controlled by a weir which has an important function in the local water system.

The fortress therefore has a distinguished history in the early establishment of the Dutch Republic and has seen numerous visits from the French over the years. In its apogee, in the mid-18th century, it was a great example of a moated fortress but has since fallen into serious decay due to neglect with few of the features of this past glory now visible.

The current state of the site:

The fortress site is now used as a training ground by the Army and for security reasons access to the public is controlled and limited. This policy by the Ministry of Defence is likely to continue for the foreseeable future following the recent threats to European security posed by the Russian invasion of Ukraine and other challenges. Some guided heritage tours for the public are arranged each year by the Ministry on part of the site.

Following an agreement with the Municipality of Den Bosch in 2010, the Ministry of Defence agreed to cooperate on preserving some historical aspects of the fortress and this has allowed some limited progress to be made. Separately the Municipality has developed a cycle path of 49 km in length around the defence positions of Den Bosch in the historical siege of 1629; this is termed "Linie 1629" and includes Crèvecoeur and includes some digital information.

The present site of some 16 ha. consists of the western part of the original fortress site. The main features remaining are individual building structures, some elements of the lock walls and the outline of the extensive ramparts and moats. These have all deteriorated badly and parts are in serious risk of collapse due to neglect and the forces of nature.

4. Description

The works currently being considered are to stabilise and consolidate the main existing buildings and structures, notably the following:

- Three gunpowder magazines (dating from 1748) in the west area. These are termed G3 (north), G4 (south) and G5 (large).
- Two casemates (dating from 1735, modified in 1859) termed G1 (Casemate east) and G2 (Casemate west).

These works will entail ensuring the overall structural stability by suitable repairs to the brickwork and by providing adequate protection to reduce the risk of further deterioration.

- Further work is envisaged on revealing and stabilising parts of the western lock walls (designated W5) and part of the beam lock (designated W6), both built about 1735.



In the longer term, it would be worthwhile to extend these consolidation works to include the ramparts, the moats and the main configuration of the fortress in its later phase. These works are currently not being considered in any detail.

5. Technical aspects

The gunpowder magazines are in poor condition structurally but are still standing. Studies in 2021 undertaken by consultants Burgy Bouwbedrijf B.V. and others have reviewed the detailed state of the buildings and found additional problems to the structural deterioration such as damp and the presence of bats.

A covering was put in place to dry out the buildings, but this has only been partly effective due to wind damage. The bats appear to be a rare species and should not be disturbed during either their mating season or when hibernating, which restricts work to the period between April and July. Efforts to relocate the bats safely are being considered. This is a sensitive issue, without full agreement yet, and followed closely by interested environmental groups; it forms an important part of the Official Authorisation (Permit) for the works.

The extent of the works, minimum repairs or larger rebuild, needs to be defined more clearly and then the most appropriate means of carrying out the works decided upon. To help this process, the work will be phased with G4 acting as a pilot to gain experience before the other buildings are addressed.

While not being part of the current works, the wider aspects of the regional and river side development and the long-term effects of rising water levels and local planning needs will have to be considered in the medium term. These wider issues have been reviewed in some detail by the “Review Report” (also termed Ambassador project) undertaken in 2022 by the Central Government Real Estate Agency. This report proposed three main development scenarios depending on the scale of military activities on the site. It made recommendations on many aspects for enhancing the use of the site and stressed the importance of the wider regional potential in terms of flood management and of retaining the landscape of this historic site. This could be a key strategic document and a summary is provided in Appendix 4.

6. Implementation

6.1 Relevant organisations

The owner

The Ministry of Defence owns the site on behalf of the Government and the Army uses it at times for training purposes of an undisclosed nature, but its particular interest seems to be with water related activities. Any access and thus progress of working on the site is controlled by the military. There seems to be agreement to allow adequate access to carry out the presently defined stabilisation works both for the consultants and the contractors.

The Ministry of Defence is responsible for the currently defined programme of stabilising the buildings and so is effectively also the overall Promoter for this phase.



Government departments involved

The Central Government Real Estate Agency is responsible for maintaining and managing physical assets belonging to the State and is under the Ministry of the Interior and Overseas Territories (BZK). It has a role at Crèvecoeur in the overall site management and has been an instigator of various studies.

The Cultural Heritage Agency (RCE) covers cultural aspects of any initiative.

A Board of Government Advisers provides advice on long term cultural and environmental issues.

The Municipality of Den Bosch

This is the local organisation responsible for the zone around the site which abuts the city's urban zone. It has the greatest direct interest in the site's development possibly to allow some controlled urban expansion as well as for its cultural and historical interest. The Municipality has an active heritage department with a fine record of achievements. The Municipality, under new environmental legislation, has an overall monitoring role on the fortress site.

The Municipality plans to set up a Working Group to follow the project's progress and this will include representatives from the Ministry of Defence's technical team. This is a key element in ensuring that the project and also the wider programme progress.

Various NGOs

There is a wide interest in the fortress by specialist organisations, the principal ones being Bond Heemschut, Stichting Menno van Coehoorn, and the Ecologist Peter Twisk.

6.2 Design & supervision teams

A detailed technical survey of the main structures on the site was undertaken in 2021 by Consultants Burgy Bouwbedrijf B.V. It is understood that the consulting work for the present project will be under TAK architecten who will undertake detailed documentation of the structures and then be responsible for the design and contract supervision. All these activities have been and will be directly under the Central Government Real Estate Agency.

6.3 Programme

Final details are awaited but it is understood that the pilot works on G4 will be carried out from April 2025 to August 2025, dependent on the accessibility due to the bats and the timely issuance of building permits from local and central Government Agencies. This process may result in delays but every effort to advance matters should no doubt be made.

After this pilot exercise, the remaining six structures would then be addressed, possibly with a refined design depending on the pilot experience.

Final completion could be achieved in 2027 if the works and approvals proceed smoothly.

7. Procurement

As Government Departments are involved, notably the Ministry of Defence, it can be assumed that the correct procedures will be followed for procurement for the project works and their design and the site supervision. This may include an exception to full open tendering due to the security aspects of the work which will be carried out on Ministry of Defence land.



8. Environment, sustainability, social

The fortress is situated on a flood plain adjacent to a major river. The overall planning in this zone is particularly sensitive and strictly controlled by the local and regional authorities as well as the Government Agencies. The fortress site may well form part of a long-term plan to create a National Park along the River Meuse (Maasoever Park).

There is particular concern in the Netherlands and especially at the site on the impact of climate change and its effect on rising water levels. Estimates show that by 2072 (50-year horizon) the water level may rise by 0.5 m and by 2122 (100-year horizon) by 1.2 m. These changes need to be incorporated in the development of the fortress and its surrounds. The future of the fortress and its immediate surrounds is a minor part of a much wider and serious existential problem for the country.

The wide swathe of relatively undeveloped land could be usefully employed to act as a buffer zone to help protect the adjacent town by ensuring it retains its integrity. Inevitably this may lead to allowing flooding of parts of the area and these parts will need to be designed to avoid serious erosion and failure. For example, the stability of parts of the fortress's ramparts will be at risk of higher water levels and so will need special attention.

9. Use, market, demand

The fortress is currently used by the Ministry of Defence (the Army) for training and exercises. Its particular interest is in the waterfront on the Meuse River and the possibilities for amphibious operations. The exact extent of these activities is obviously not available to the public. However, some limited access is allowed to the public with occasional visits being organised to the fortress site.

In the future it could be envisaged that access (on a suitably controlled basis) would increase as the potential historical interest in the site is great and it is an extensive area of natural beauty close by an urban area. No estimates of possible visitors are available, and these will obviously depend on the options chosen for the site's development, in particular the extent of the Army's activities and the ease of access.

It would be interesting to increase the information on the fortress and its history near or on the site, for example by means of panels and maybe even creating a small exhibition area or museum in one of the gunpowder magazines if they were further renovated. A digital exhibition also could be created, extending the existing one linked to "Linie 1629".

These are ideas for the future and are also referred to under §13 relating to the EIB Grant.

10. Operation and maintenance

The Central Government Real Estate Agency will be responsible for maintaining the project's structures. This will entail keeping excessive grass and plants from the immediate vicinity and generally keeping a regular check on the state of the works and taking any necessary preventive action. An appropriate budget seems to have been allocated to these activities.



11. Investment cost

Initial cost estimates for the works defined under §4 have been made but more accurate estimates may only be available with the conclusions of pilot works being undertaken in advance. In the meantime, a preliminary indication of the order of magnitude of the costs of the current programme is as follows:

Consolidation works (three magazines)	€ 1 180 000 – 1 600 000
Consolidation works (two casemates)	€ 100 000 – 150 000
Works on the lock and walls	€ 150 000 – 200 000
<u>Indicative total works</u>	<u>€ 1 430 000 – 1 950 000</u>
Consulting work, supervision 8%	€ 114 400 -- 156 000
<u>Indicative Total</u>	about <u>€ 2 000 000.</u>

12. Economic review and financing possibilities

The project investments cannot easily be justified on economic grounds. The relatively minor costs required to retain and preserve vestiges of an important historical heritage could be justified on general cultural and historical grounds. The longer-term potential to extend this programme to the wider area with benefits to the environment and for the health, wellbeing and interest of local inhabitants could be substantial but beyond the scope of the current project. The project could be seen as a step towards this objective.

Finance for the present project has apparently been promised by the Ministry of Defence but details are unavailable. It would be interesting to have an indication of the budget allocated in order to judge whether the works as defined can be completed correctly and the margin of contingency available should costs exceed expectations.

13. European Investment Bank (EIB) Grant

The EIB has provided a grant of €10 000 to each project selected for the 7 Most Endangered programme 2022. This is to act generally as a catalyst and also to help advance or enhance these projects in a suitable way, all in agreement with the Nominator and the key parties involved.

The Grant is a modest gesture of support. It is clear that funding appears not to be a major issue for this project but it might be used in several ways to benefit the project.

Ideas are still being sought and the following suggestions might act as examples:

- to enhance the knowledge of the historical fortress by providing information panels at selected points which have access to the public.
- to provide further technical advice on the “bat” issue.
- to assemble documents and maps relevant to the history of the fortress, perhaps to be displayed in a local museum or provided in a specific publication.
- to develop further an existing digital platform of the Municipality, with 3D “walk through” models of the fortress and additional historical information.



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Further discussion on the most appropriate way to use the Grant will be necessary.

It should be noted that this Grant is available only to the project and cannot be transferred to others so if it is not used it will simply be cancelled.

The Grant should be committed by the end of 2024, so time is pressing.



14. Conclusions: Proposed actions and recommendations.

Crèvecoeur fortress is an historical heritage site, designated as a National Monument, with important links to key events in the struggle for the independence of the Netherlands from the Spanish especially those in 1629.

The site is extensive and has few remaining vestiges of its former glory as a significant fortress. It still retains the historical military connection as an Army training base, which however complicates efforts to restore the site and to allow greater public access.

The project programme is modest in its immediate objective to prevent further deterioration of the few physical remains of the fortress, but it is a step in the right direction. The technical challenges are being competently handled with a phased approach including a pilot exercise, which is a sensible step.

The project is an initial tangible benefit of cooperation between the Ministry of Defence and the Municipality of Den Bosch, following up on an Agreement made in 2010 but so far not implemented.

It is important that the current momentum of this first stage of works continues and that it is completed satisfactorily. The apparent commitments made by the Ministry of Defence in terms of cooperation on the project and its appropriate funding is positive and this will need to be followed closely. The preliminary cost estimate is about €2m and this may change following the experience from the pilot works with some risk on the budget.

The Working Group planned to be established in 2024 by the Den Bosch Municipality will have a key role in ensuring good progress and its status, composition and objectives need to be appropriate and to be put into action soon to be effective.

It is important to build on this initiative to encourage further discussion on the medium-term and longer-term ideas for the Crèvecoeur fortress site. Options and ideas have been put forward in the Government's "Review Report" quoted in this report but so far there seems some reluctance to consider the implications by any of the key parties – no doubt due to greater and more urgent priorities.

Longer term, the site should be opened further to the public as consistent with the military needs of the site, which should be defined more clearly. It is a fine swathe of unspoilt land adjacent to the river Meuse and close to the city of Den Bosch and could be beneficial as a green buffer zone. The implications of sea level rises are very relevant and using this zone to help to protect the shore, in coordination with other wider initiatives, could be important.

Meanwhile, during these developments, provision should be made to enhance and retain as much as is feasible of the fortress's important heritage.

Action is now required to complement the numerous studies already carried out.



Appendix 1

Details of missions, contacts, meetings, persons involved

Brief mission to the site on 27th September 2023.

Peter Bond together with Karel Loeff attended a meeting to discuss progress; hosted by the Army with numerous attendees representing Den Bosch Municipality, Province of Noord-Brabant, Government agencies, ecologists, architects... A visit to view G4 was arranged.

Video Conference on 9th October 2022 between Europa Nostra team, Nominator and EIB-Inst. Initiation meeting and first discussions.

Video Conference on 24th March 2024 between Europa Nostra team, Nominator and EIB-Inst. Discussions on advancing the contacts with relevant parties to progress the appraisal.

Video Conference on 4th June 2024 between the Municipality, the Army, Architects and the EN / EIB-Inst. team. Discussion on details of the organisation, planning and details of the programme.

Main persons involved:

Nominator: Karel Loeff. CEO Director, Bond Heemschut.

Europa Nostra (EN): Jeroen van der Werf. EN Member.

Lilian Grootswagers. President Advisory Board, Future for Religious Heritage.

Ministry of Defence: Ir. J. M. Hilhorst. Adviser.

's-Hertogenbosch Municipality: Annalies de Graaf. Strategic Adviser, Heritage Department.

Huibert Crijns. Ext. Funding officer.

Central Government Real Estate Agency:

Merv. Tanya Couwenberg. Environmental manager.

Dhr. Ruud Smeets Technical adviser, Heritage & Arts.

Dhr. Edwin Maas. Project manager.

TAK architecten: Herman van Essen. Restoration architect.

Robin Barth. Project manager.



Appendix 2

References

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- The “Review Report” of Fort Crèvecoeur by J.Emmerik and L.Voerman. Atelier of Government Architect. Board of Government Advisers. Part 1. Cultural-historical research and analysis. February 2020. Part 2. Cultural-historical analysis and valuation. April 2021 Part 3. Spatial framework. December 2022.
- Letter of Intent Fort Crèvecoeur. Agreement between the Ministry of Defence and the Municipality of Den Bosch. 11th February 2010.
- Letter from the office of Secretary of State of the Ministry of Infrastructure and Water Management to the Commander of Fort Crèvecoeur. 11th January 2024. Confirming transfer of responsibility for monitoring progress to the Municipality of Den Bosch.
- Fort Crèvecoeur. Consolidation of buildings G1, G2, W5, W6. TAK Architecten. Provided by Dhr. Edwin Maas. June 2024.
- Fort Crèvecoeur. Gunpowder magazine. Plan for Action. Pilot project for G4. TAK Architecten. October 2024.



Appendix 3/1 Photographs

Overall situation of the Fortress (looking south)



Site showing project structures (north at top).

GI, G2 Casemates. G3, G4, G5 Gunpowder magazines. W5, W6 Waterway structures.





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Appendix 3/2

Entrance to Casemate G1



Damaged Magazine G4 south façade





Appendix 4/1

Summary of the “Review Report” also known as the Ambassador Project

Prepared for the Central Government Real Estate Agency by the Atelier of Government Architect and Government Advisers. 2021 to 2022.

Volume 1. The cultural and historical context.

This is a detailed review of the “roller coaster” history of the fortress, its development, destruction, neglect, and rebuild with its associated heroics and tragedies.

It shows its importance as an historical site and then briefly describes the current state of existing historical relics.

These can be summarised as follows:

Various sections of the ramparts, which rise up to 8 m above sea level.

Structures include elements of the western dam lock and traces of the eastern dam lock, remnants of two poternes (openings in the courtine) associated with two casemates, all dating from 1735. The most significant remains are a large gunpowder magazine and two casemates (later converted to gunpowder magazines), all being brick buildings dating from 1748 and in poor condition.

Volume 2. Details of the fortress.

This confirms the cultural/historical significance of the fortress and provides detailed descriptions. The Province of North Brabant has designated it a “Complex of Provincial Cultural history”.

The western rampart contour of the fortress is rated as an “historical geographical line of very high value” and similarly for the banks of the Oude Dieze.

It notes the uniqueness of the fortress as a defensive structure with its link to the rivers and water and stresses the important landscape dimension.

It poses questions on what is essential to do to reflect this cultural heritage without providing any answers.

Volume 3. The development framework.

(The most interesting volume as it explores solutions in an analytical manner.)

The Ministry of Defence is the owner and principal user of the western fortress and uses it for training. What are its future needs, considering recent developments in warfare?

The public is kept away from the site, which has resulted in some benefit as it has not been damaged except by benign neglect. It is a potential green zone of great value on the edge of a developing urban area (Den Bosch).

The report stressed the need to ensure that the potential environmental benefits are safeguarded and that effects of climate change are well incorporated into the long-term vision of development.

Three main themes were reviewed. These were “the impact of climate change”, “appropriate facilities for the Ministry of Defence” and the “needs of civil society”. These were analysed to identify the following five conclusions (the same numbering is used later):

1. Painful truths (inevitable impacts).
2. Solutions to resolving these.
3. “No regret” measures with small risk of being inappropriate.
4. Measures which would be regretted.
5. Need for further information to help decisions.



Appendix 4/2

Climate change:

1. The river flows around the fortress are congested by various constraints, (bends, bridges) and the discharge capacity is thus reducing at the same time as higher water levels are being observed.
2. Allow the area to be more freely flooded, abandoned to nature. Replace the adjacent bridge abutments with piles or eventually a tunnel. Use the historical lock zone for water storage. Eventually augment the natural drainage by a pump system.
3. Carry out some ecological management and similar means to improve the natural flows in the Meuse and the Dieze.
4. Recreation use should be restricted as conflicting with military needs and free nature. As the fortress is outside the protection dykes, care needs to be taken.
5. Further study needed on the effect of rising sea levels on the flow regime. The stability of the raised fortress under higher water levels needs review. Storage potential around the fortress and in the lock zone might also be useful.

Ministry of Defence's needs.

1. Security needs are important and becoming more so. Evident need for secrecy in many activities which are in conflict with public access and use. The location is not well or optimally used, and this should be improved to retain public support.
2. The Ministry should concentrate on stressing sustainable use in response to the climate change reality rather than on the architectural heritage. The changes to the bridge could provide more space for optimal usage. The Ministry's presence could contain and restrict the urban development.
3. Improve the optimal use of the available space.
4. Maintain the control of the area by preventing appropriation by others, which would be difficult to reverse. Preserve the military activities with concern for nature and remain adaptable to future changes.
5. Clarity needed on the Defence Real Estate's ideas and strategy. Also on the Ministry's views on the restoration and preservations of monuments on the site. Overall vision of the Ministry's training needs and strategy. Are there conflicts with these plans and the climate change impacts?

Society's needs.

1. The Ministry of Defence pays little attention to the heritage value of this national monument. The fortress is little known to the public due to restricted access and it is difficult to appreciate except from the air. There is increasing interest in expanding the housing and local urbanisation as well as in the history, culture and recreation interests. Thus a challenge for the Ministry to retain local goodwill.
2. Allow controlled visits by the public with an educational angle. Separate the military from the civil activities to facilitate these visits. Present the fortress as an historical ruin in decay. Concentrate on developing the inner fortress zone and allow the rest to return to nature.
3. Stabilise and restore the existing historical buildings. Make the site more accessible although without access it would need vantage points and viewing stations off-site. Improve general maintenance and care of the area.
4. Restoring the fortress without concern for the historical stratification. Using a non-holistic approach.



Appendix 4/3

5. Review what “no action” would imply for the site. Decide whether to consolidate or restore the gunpowder magazines. Review the development of the major infrastructure around the fortress.

The Report stresses the significant changes in the nature of the site in the coming 100+ years. Climate changes effects on the sea level, the temperature, loss of biodiversity and wetlands. All these are moving in the wrong direction, are man induced and are accelerating. The Netherlands is at particular risk of the sea level rise with the need to abandon progressively some areas to water and to reinforce the protections.

Three main long-term scenarios were developed. All included a role for the Ministry of Defence with a minimum, a maximum and a medium military activity. All scenarios included important respect for the environment (water level rise being a crucial development) and the landscape dimension with varying degrees of access for the public and restoration of parts of the fortress.

Scenario 1: Ecological paradise with medium military presence.

No new military buildings and activities concentrated on the east side. West of the site returns to nature with occasional military exercises but generally open public access. Bridge abutments in the Meuse River replaced by piles to allow better flow conditions.

Scenario 2: Expanded military activity.

Fortress zone taken over and eastern area expanded by the military with the main road put into a tunnel. Likewise, the Meuse River waterfront would be developed. Limited access and possible viewpoints from the southern dyke.

Scenario 3: Priority to nature and civil use.

Military use only on the waterfront and limited in extent, it not being used as a base anymore. The site is turned over to nature and acts as a defence against the flood risk. Controlled access for multicultural use and general enhancement of the historical and monumental dimensions.

In summary and key points.

It is concluded that the Army will be a permanent presence, and the scale of these military activities needs to be determined – a key issue.

The military heritage is also important, and attention needs to be given to preserving the remaining buildings in the short term. The general form of the fortress needs also to be preserved in harmony with nature. Public access should be controlled to ensure that the special “mystic” nature of the site is preserved. Major works on the Meuse in terms of facilitating flow will be necessary in the medium term e.g. the road bridge.

Wider concerns on the flooding of riverside land and the link with nature and the local pressures for urban development and recreation need resolving. This is a local but also a national issue.

Numerous Government Advisers have been involved but the exact terms of reference are unclear to an outsider and it would be interesting to know who controlled these studies.

Clearly the Den Bosch Municipality and the Province have a keen interest and certainly will have suggestions to make on how these ideas will be discussed, agreed and then put into action. Wider discussions on these issues based on this study and others is now essential and overdue.