

An aerial photograph of a lush green landscape. In the center, a large, circular, grassy area is visible, which is a Viking-Age Ring Fortress. The fortress has a raised earthen bank around its perimeter. A river or stream flows through the landscape, curving around the fortress. In the background, there are rolling green hills, some wind turbines, and a body of water under a clear sky.

Management Plan Viking-Age Ring Fortresses as a World Heritage Site

Management Plan Viking-Age Ring Fortresses as a World Heritage Site

A Danish nomination to UNESCO's World Heritage List

January 2021

Danish Agency for Culture and Palaces

Fejøgade 1, 4800 Nykøbing Falster

post@slks.dk

<https://slks.dk/>

Editors: Mads Thagård Runge and Barry Gamble

Print: Basistryk, Dronninglund

Graphic design: Kirsten Bach Larsen

Photo on cover: Trelleborg. Photographer: Anne-Christine Larsen,
Trelleborg/National Museum of Denmark

© 2021 The editors and the museums

Distribution

Historical Museum of Northern Jutland

Algade 48

DK-9000 Aalborg



ODENSE BYS MUSEER



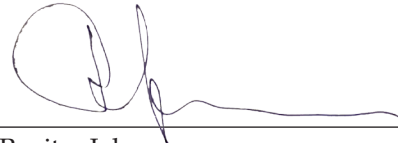
An aerial photograph of a rural landscape featuring a prominent circular ring fortress in the center. The fortress has a raised earthen wall and a central area with some internal structures. Surrounding the fortress are fields, some with wind turbines, and a winding river or stream. The background shows a distant shoreline with a large industrial facility emitting smoke.

Management Plan Viking-Age Ring Fortresses

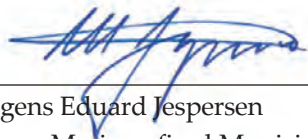
as a World Heritage Site



Per Bach Laursen
Mayor, Vesthimmerland Municipality (Aggersborg)



Regitse Johnsen
Landovner, Aggersborggård (Aggersborg)



Mogens Eduard Jespersen
Mayor, Mariagerfjord Municipality (Fyrkat)



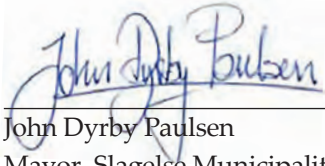
Bendt E. Andersen
Forest Ranger, Himmerland (Aggersborg)



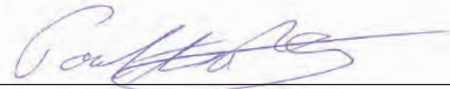
Peter Rahbæk Juel
Mayor, Odense Municipality (Nonnebakken)



Rane Willerslev
Director General, Ph.D.,
National Museum of Denmark (Fyrkat, Trelleborg)



John Dyrby Paulsen
Mayor, Slagelse Municipality (Trelleborg)



Poul Haahr Pedersen
Director, Giersing Private School (Nonnebakken)



Marie Stærke
Mayor, Køge Municipality (Borgring)



Per Emdal
Head of the Odd Fellow Guild, Odense
(Nonnebakken)



Keld Møller Hansen
CEO, Museum Sydøstdanmark (Borgring)

Foreword

This management plan has been prepared for the “Viking-Age Ring Fortresses” in a collaboration between the Danish Agency for Culture and Palaces, the five museums and the municipalities hosting the fortresses.

The five Danish Viking-Age ring fortresses – Aggersborg, Fyrkat, Nonnebakken, Trelleborg and Borgring – were included on the Danish Tentative List for UNESCO World Heritage in January 2018 and must therefore comply with the World Heritage Convention.

The management plan is an overall management and monitoring tool, which is to be implemented by the authorities to ensure that the value of the proposed World Heritage Site is sustained and that the balance between protection and use is appropriate.

As the national responsible authority, the Danish Agency for Culture and Palaces is to ensure that the requirements of the Convention and applicable operational guidelines are met. The sites – collectively and in a coordinated manner - are responsible for ensuring that the management plan is followed and kept up to date.

While the Danish Agency for Culture and Palaces is the national responsible authority for Danish World Heritage sites in relation to UNESCO, the following museums have the formal responsibility to work out the management plan locally and to administer the property in cooperation with the Danish National Museum (owner) and The Danish Nature Agency (owner and administrator): Vesthimmerlands Museum, Historical Museum of Northern Jutland, Odense City Museums, The Viking Fortress Trelleborg/The National Museum of Denmark and Museum Southeast Denmark. At a local level, the collaboration is further implemented with the municipalities of Vesthimmerland, Mariagerfjord, Odense, Slagelse and Køge, which, as the local authorities, have competence at the environmental level and are responsible for municipal and district plans. Another relevant partner is the landowners.

On behalf of the municipalities and the primary landowners we support the initiatives in the present management plan for the Viking-Age Ring Fortresses.



Content

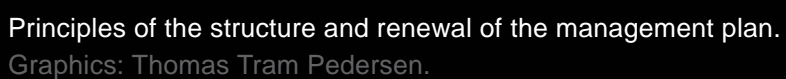
	Foreword	5
1	Introduction	11
	1.1 Preamble and purpose	11
	1.2 Vision	13
	1.3 Aim of Management Plan	14
	1.4 Objectives	15
	Integration	15
	Retention of value	15
	Sustainability	15
	Identification	15
	1.5 Organisation and participatory process	16
	Danish Agency for Culture and Palaces	18
	Steering Committee	19
	Organization level 1. Management board	19
	Organization level 2. Coordination on research, dissemination and management	19
	Organization level 3. The local level	20
	1.6 Legal status of Management Plan	20
	1.7 Contact data/responsible parties	20
2	Property Brief Description	23
	2.1 Summary property description	23
	2.2 Summary description of each component part of the series	27

3	Outstanding Universal Value	51
	3.1 Statement of Outstanding Universal Value (OUV)	51
	Statement of integrity	54
	Statement of authenticity	55
	3.2 Attributes table	57
	3.3 Summary contribution of each component part to OUV	57
4	State of Conservation	61
	4.1 Overall statement	61
	4.2 Statement for state of conservation in each component part	62
5	Protection	67
	5.1 Protection	67
	World Heritage sites	67
	National legislation	67
	Protection by component parts	69
	5.2 Protection goals	75
	5.3 Instruments of protection	75
6	Management System at the component parts	77
	6.1 Overall management structure	77
	6.2 Ownership	80
	6.3 Key stakeholders, and for each component part	81
	6.4 Risk management	82
	6.5 Threats and preventive action	82
	6.6 Monitoring	83
	6.7 Methodology	88
7	Sustainable Use	91
	7.1 Issues and policies	91
8	Resources	97
	8.1 Staff (coordination), and for each component part	97
	8.2 Budgets: coordination, and for each component part	99
9	Action Plan	105
	Overall property	105
	Website.	105
	Component parts (fortresses)	105
	Appendix	107



Trelleborg Ring Fortress.

Photo: Mortens Rasmussen, Danish Agency for Culture and Palaces.



Introduction

1

1.1 Preamble and purpose

The World Heritage Convention (1972) was ratified by Denmark on 25 July 1979. The Convention sets out a number of obligations to which State Party signatories to the Convention are committed.

Article 4 of the Convention states: *Each State Party to this Convention recognises that the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage referred to in Articles 1 and 2 and situated on its territory, belongs primarily to that State. It will do all it can to this end, to the utmost of its own resources and, where appropriate, with any international assistance and co-operation, in particular, financial, artistic, scientific and technical, which it may be able to obtain.*

World Heritage sites are deemed to have Outstanding Universal Value (OUV):

...cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. As such, the permanent protection of this heritage is of the highest importance to the international community as a whole. (Operational Guidelines for the implementation of the World Heritage Convention, version 2019).

The State Party therefore assumes the responsibility to ensure that World Heritage sites within its jurisdiction are protected by statutory powers and sustainable management. A World

Heritage Site Management Plan is a key tool for the protection and management of World Heritage properties. The principal objective of the management planning process is the strategic long-term protection of the World Heritage properties.

Viking-Age Ring Fortresses Management Plan (2022-2027) was prepared as part of the conventional management system for World Heritage sites in Denmark. It was produced by the nomination team in accordance with the statutes and guidelines of general management planning for World Heritage sites in Denmark. It received the full input and support of key local stakeholders, including monument protection authorities and planners, owners and managers, and the communities across the five fortresses. It serves as an annex to the World Heritage Nomination.

The majority of the responsibilities of the State Party are in practice delivered by other organisations, most notably local authorities that have the legal means to ensure the protection of the property. The Management Plan will be implemented under such appropriate administrative authorities to ensure that the property is preserved, protected, conserved and sustainably used. As the national responsible authority, the Danish Agency for Culture and Palaces ultimately ensures that the requirements of the World Heritage Convention and applicable operational guidelines are met.

The administration of all five fortress sites take care of day to day responsibility and management. They ensure that general actions of the Management Plan, and the particular respective actions for each fortress, are pursued and kept up-to-date. Provision for the implementation of the Plan is in cooperation with the Danish National Museum (owner) and The Danish Nature Agency (owner and administrator), and other owners as necessary. Formal responsibility for implementation of the Plan is designated to Vesthimmerlands Museum (administrators), The Historical Museum of Northern Jutland, Odense City Museums, Trelleborg Viking Fortress and the Museum Southeastern Denmark. At a local and practical level, close collaboration takes place with the local authorities that have the necessary legal status and competences, and which are responsible for consideration of the World Heritage Site in their municipal and district plans. The municipalities concerned are: Vesthimmerland, Mariagerfjord, Odense, Slagelse and Køge.

The format for the Management Plan is consistent with the Nomination Document, with which it should be read in conjunction. A commitment has been made for the Plan to be fully operational within six months of a successful inscription on the World Heritage List.

The primary function of the Management Plan is the effective management of the property to protect its Outstanding Universal Value and its primary users are those involved in that management process. Even for a stand-alone World Heritage property, the management plan will have other users since it may well be the only easily-accessible document describing a property and its Outstanding Universal Value and how it should be treated. Its implementation can affect the interests of all stakeholders and it should therefore be of interest to all concerned with the property.

The purpose of the Management Plan is broadly to:

- Explain the reasons for WHS designation and ensure that all users have a clear understanding of World Heritage values as expressed in the property and its OUV;
- Describe the property and some of its notable features;
- Define how it is protected;
- Outline the management and the key issues, corresponding policies and strategic actions.

1.2 Vision

We believe that the sustainable conservation and transmission of the World Heritage values of Viking-Age Ring Fortresses will enhance the understanding of this crucial period in European and world history and support the economic development of host communities

The vision is underpinned by a series of common principles formulated by the partners for the future development and management of the property:

- Orientation on the terms of reference of the UNESCO World Heritage Convention and its Operational Guidelines (that set out the procedure for management of World Heritage sites), including international co-operation;
- Protection will be undertaken proactively in safeguarding the substance and its authenticity, preventing the monuments' values from being compromised, and by long-term strategies, plans and measures which are monument-friendly;
- Decision-making will be in an open and inclusive manner on the grounds of the best information available;

- Best possible use will be made of the existing national and international legal framework, the responsibilities of relevant authorities, and other instruments;
- Participation of the population, relevant institutions and organisations, and other important interest groups will be promoted in an open, inclusive and transparent manner;
- Sustainable use of the monuments for interpretation and education, nature conservation and recreation, will be encouraged, and for activities and developments in the buffer zone which sustain the value of the monuments;
- Raising awareness and engendering respect for, and pride in, the monuments through information and education, as well as cultural and natural heritage in general.

1.3 Aim of Management Plan

Overall aims of the Management Plan are:

- To conserve, sustain and enhance where possible the attributes of OUV together with the historical authenticity, integrity and character of the property for current and future generations;
- To ensure that the audience and all users of the Management Plan understand the World Heritage Site and its unique value;
- To promote interest, respect and pride in the property among the local population and all stakeholders;
- To ensure that all users of the property should have the opportunity of enriching and informative experiences in an inclusive manner;
- To develop tourism on a sustainable basis that contributes to the local economy and to the financial viability of site management and presentation;
- To increase knowledge of the World Heritage Site through research, and to disseminate its findings through publication and wider interpretation;
- To implement the Management Plan in an accountable manner, to evaluate performance, to improve its content on an ongoing basis, and to agree further actions as necessary. The formal revision cycle will be initiated by the working group who will draft proposals for consultation and ultimate approval within the system of hierarchical responsibility.

Within the operational fields of management, protection and conservation, as well as sustainable use, resources are used in an optimal way to achieve long-term objectives. The fields of operation echo the legal and administrative situation and interests at the national and local level. Within each operational field there are specific long-term objectives (5-30 years) as well

as the responsibilities and schedules of annual and short-term measures (2-5 years) for the individual areas.

1.4 Objectives

A number of objectives have been set in order to meet the overall aims of the Management Plan.

Integration

Viking-Age Ring Fortresses are to be preserved, and to be perceived, as individual monuments within the context of an integrated historic complex or system of fortresses;

Retention of value

All features embracing the value of *Viking-Age Ring Fortresses* at each of the five component parts remain in place on the ground in their entirety. To these belong form and substance, spatial reference and spatial impact as well as their perceptibility.

Sustainability

Each of the five properties of the series which comprise *Viking-Age Ring Fortresses* are integrated into their cultural, social, ecological and economic settings and serve, through their sustainable development and use, as an engine for the development and improvement for quality of life.

Identification

The public is aware of the significance of the five monuments of the *Viking-Age Ring Fortresses* and actively supports the safeguarding and sustainable development of this World Heritage property.

In accordance with the World Heritage Convention and the Budapest Declaration (2002 and 2007) and in support of the World Heritage Convention and the Danish ratification of this convention, five additional strategic objectives have been formulated, stating that:

- The Credibility of the World Heritage List is strengthened through research, communication and management of the five properties in accordance with international standards;
- The effective Conservation of the World Heritage property is ensured through development and adaption of relevant new techniques and principles for the conservation of archaeological properties;
- The development of effective Capacity Building in Denmark is promoted through scholarly based education and information at all levels and through the recruitment of new scholars into the field;

- Public awareness, involvement and support for World Heritage is increased through active Communication to decision-makers and to the wider public and of the principles and the Danish support for the World Heritage Convention;
- The role of Communities in the implementation of the World Heritage Convention is enhanced through active support of local, regional, national and transnational co-ownership to the World Heritage Site.

Securing the necessary dialogue and coordination between the different authorities and other stakeholders is crucial, as is securing series-wide co-ownership for the property and securing funding for both common and local initiatives.

Strategic objectives must conform and support the statutes given in the Budapest Declaration (2002) and subsequent addition adopted at Christchurch in 2007 on the Five C's in the strategic objectives for the World Heritage Convention: Credibility, Conservation, Capacity-Building, Communication and Communities.

The annual, short-term (2-5 years) and long-term (5-30 years) objectives within the operational fields of management, protection and maintenance as well as sustainable use have to be oriented on making the vision become reality. The long-term objectives specify the ideas of the vision for the individual operational fields of the management. Annual and short-term objectives aim at accomplishing the long-term objectives.

Each objective must be formulated specifically and precisely in order to secure that the level of their attainment and implementation across the series and at each of the five component parts can be measured, documented and reported.

The basic principles serve as the operational guidelines and principles of the management plan for the series as well as for each of the monuments. All strategic and operative decisions must be oriented towards the formulated visions to achieve the long-term objectives and the realisation of the vision.

1.5 Organisation and participatory process

The Agency for Culture and Palaces has overall responsibility for the property and is responsible for direct contact with UNESCO via the World Heritage Centre. Management responsibility at each component part (fortress), and practical day to day aspects of management, takes place in cooperation between several stakeholders.

Coordination structure: *Viking-Age Ring Fortresses*

UNESCO/ICOMOS

The Danish Agency for Culture and Palaces

Viking-Age Ring Fortresses Management Board (annual meeting)

The five museum directors (a chairman is elected among these)

The five respective mayors (each component part)

Landowners

The Danish Agency for Culture and Palaces

Series Coordinator (secretary)

Research (annual meetings)

Series Coordinator (moderator)

The five heads of research at the museums (each component part)

Series Coordinator
(daily manager)

Dissemination/tourism/marketing (biannual meetings)

Series Coordinator (moderator)

Museum administrators (each component part)

The five municipal team managers

Management (annual meetings)

Series coordinator (moderator)

The five-museum ring fortress-administrators

The five municipal team managers

Aggersborg

Fyrkat

Nonnebakken

Trelleborg

Borgring

For each ring fortress (frequency of meetings and participants agreed locally).

Museum ring fortress-administrator: Coordinates the following and advises the CEO.

Research: The research initiatives of each museum (Museum staff and external project members).

Dissemination etc.: Museum staff and local/regional tourism organization(s).

Management: Museum staff, municipal caretaker, planning department and other authorities.

Citizen representation: Neighbours, land owners and other stakeholders.

Danish Agency for Culture and Palaces

The Agency for Culture and Palaces is the national Danish stakeholder referring to the Danish Minister for Culture handling all questions regarding Danish relations and activities within the World Heritage Convention (with both UNESCO and its advisory bodies). As part of this, the Agency offers advice to the authorities managing the World Heritage Site.

Further, the agency is the main authority responsible for the museums in Denmark as well as the main archaeological authority. The responsibility for monitoring the World Heritage Sites has been placed with The Danish Agency for Culture and Palaces which has requested that the Historical Museum of Northern Jutland conducts this for Aggersborg and Fyrkat, Roskilde Museum for Trelleborg, Odense City Museums for Nonnebakken, and the Museum of Southeast Denmark for Borgring.

Within this Management Plan, the Agency for Culture and Palaces has the following responsibilities:

- Tentative List entry;
- Formal nomination application;
- Revisions to the nomination;
- Approval and forwarding of management plans;
- Approval and forwarding of monitoring and status plans.

Being a series of five properties spread across various parts of Denmark, and with a large number of authorities, owners, museums and local interest groups involved, it has been seen as necessary to set up quite a sophisticated organisation to oversee the development and implementation of the World Heritage nomination and of the Management Plan (cf. previous page).

The properties have been known as circular banks for a long period of time but have not been identified as Viking-Age ring fortresses until the 1930ties (Trelleborg) and the rest following after World War II. The exception being Borgring, which has been known as a ring fortress for only a few years. Sites have developed their own management systems and organisations within the legal framework of the National Danish Museum Act. These stipulate the responsibilities of the national and local authorities in the research, communication and safeguarding of the monuments.

Since 2009, the organisations at the *Aggersborg*, *Fyrkat* and *Trelleborg* monuments cooperated within a new framework as part of a common project to nominate a number of Viking-Age properties across northern Europe in a transnational UNESCO World Heritage series nomination. While the transna-

tional initiative was aborted, the Danish Tentative List entry was revised in February 2018 to include the *Nonnebakken* and *Borgring* properties.

Steering Committee

During preparation of the Nomination, and until a decision is made on inscription, activities are coordinated in a steering committee with representatives from all museums and the Danish Agency for Culture and Palaces. Involvement of other stakeholders – municipalities, landowners and others – are done ad hoc. The committee has the following tasks:

- Preparation of the Nomination
- Preparation of revisions to the nomination
- Preparation of the Management Plan
- Preparation of monitoring and status plans
- Preparation of general guidelines and policies
- Series policy and guidelines conformance
- Series sustainability conformance
- Appointment and cooperation with the external advisory bodies

In the event of a successful inscription the following organisational structure will be as follows:

Organization level 1. Management board

The Management board is the responsible operational body of the nomination with the five mayors, the formal owners of the properties, the Agency for Culture and Palaces, the director of the museums responsible for the archaeology of each of the properties and a newly appointed serial coordinator. As such, the Management board is the highest authority within the serial nomination organisation.

The Management board has the following responsibilities across the series:

- Appoints and is head of the series manager.
- Operates at a superior strategic level, e.g, on changes to statutes and economy.
- Approval of larger efforts across all five fortresses.

Organization level 2. Coordination on research, dissemination and management

To coordinate the efforts on research, dissemination and management, a new position as serial coordinator will be appointed. The serial coordinator is also the secretary for the management board. The position is responsible for communication

and coordination between the different interest groups and for realisation of the set goals.

A group on resp. 1) research, 2) management and 3) dissemination/marketing/tourism with one representative from all fortresses and one representative from the relevant group of local stakeholders at each fortresses is established. The serial coordinator is head of each group and other relevant partners can be included, typically university staff.

Organization level 3. The local level

Each museum has a local ring fortress administrator who coordinates efforts on resp. 1) research, 2) management, 3) dissemination/marketing/tourism and 4) citizen representation. From each group a representative takes part in the coordinated actions on level 2.

Effective coordination across dedicated management at all five fortresses will ensure all necessary requirements for protection and management are met in full, and that monitoring is consistent in all aspects.

1.6 Legal status of Management Plan

The Management Plan is approved December 2020 in-principle by all responsible parties and stakeholders, with implementation contingent upon successful inscription on the World Heritage List at no later than 6 months from the date of inscription.

1.7 Contact data/responsible parties

The Danish Agency for Culture and Palaces
Address: Fejøgade 1; 4800 Nykøbing Falster
Tel: 4533954200 E-mail: post@slks.dk





The nominated property: 5 component part.

Graphics: Kirsten Bach Larsen.

Id n°	Name of the component part	Region / Municipality	Coordinates of the Central Point	Area of Nominated component of the Property (ha)	Area of the Buffer Zone (ha)	Map N°
1	Aggersborg	Northern Jutland/Vesthimmerland	N56°59'43" E9°15'17"	9.918	9,961	1e.i_a1.1.-1.2
2	Fyrkat	Northern Jutland/Mariagerfjord	N56°37'23" E9°46'13"	6.594	327.8	1e.i_a2
3	Nonnebakken	Southern Denmark/ Odense	N55°23'29" E10°23'21"	4.601	111.3	1e.i_a3
4	Trelleborg	Zealand/Slagelse	N55°23'39" E11°15'55"	22.38	306.5	1e.i_a4
5	Borgring	Zealand/Køge	N55°28'11" E12°7'24"	5.840	95.67	1e.i_a5
Total area (in hectares)				49.3	10,802	

Geographical coordinates to the nearest second

Graphics: Kirsten Bach Larsen.

Property Brief Description

2

2.1 Summary property description

Viking-Age Ring Fortresses comprises a unique and strategically positioned group of five archaeological sites which constitute royal fortresses of the emerging Danish kingdom in the last decades of the tenth century.

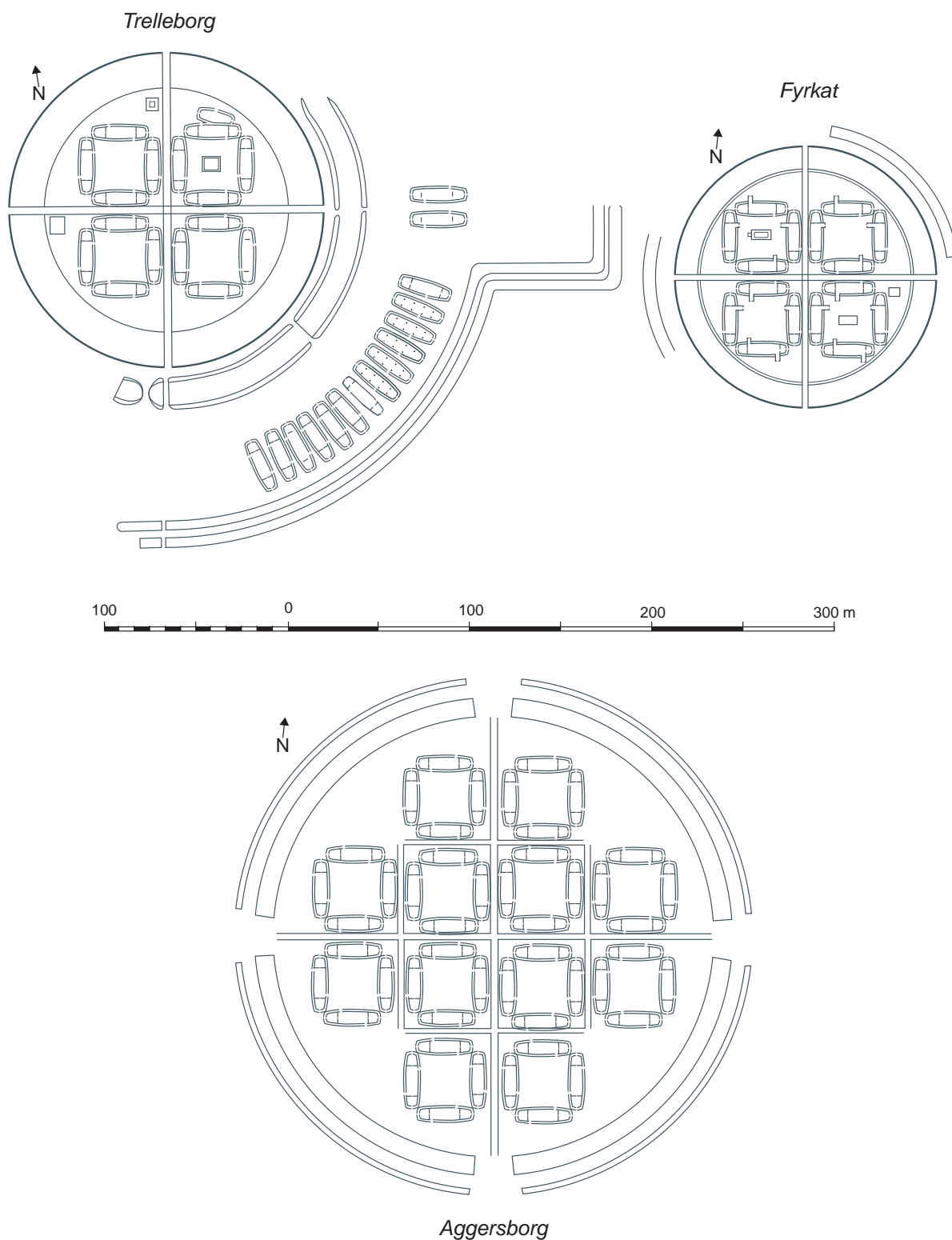
Component parts (individual fortresses) of the series are distributed across the Jutland peninsula and the islands Funen and Zealand: *Aggersborg* (the most northerly) and *Fyrkat* (around 50 km southeast of *Aggersborg*), both in the Northern Jutland peninsula; *Nonnebakken* on Funen; and *Trelleborg* and *Borgring* on Zealand (west and east, respectively).

Location and size

Each individual site is delimited to all sides by the extent of the known or presumably preserved archaeological material or features, including distinctive features of the natural topography that formed an integral part of the defensive structure of individual fortresses (for example river segments, marshland and steep banks). Buffer zones are designated around each component part.

Viking-Age Ring Fortresses were built as a contemporary system of permanent defensive enclosures. The five archaeological sites are intimately linked as a group and share:

- common and precise geometric design that evidences modular and scalable planning that is clearly displayed at each fortress;
- strategic spatial positioning as a chain of fortresses across the Viking-Age kingdom of Denmark, the first and only Viking-Age network of fortresses in Scandinavia;
- geography of fortresses linked to proximity of important communication and trade routes, including waterways (national and international) and cardinal land-routes;



Diagrammatic comparisons of *Viking-Age Ring Fortresses* as recorded by archaeological excavation in three of the sites.

Drawing: Lars F. Thomsen in Roesdahl, Roesdahl, E., Sindbæk, S.M. and Pedersen, A. (Eds.) 2014. *Aggersborg i vikingetiden*. Jysk Arkæologisk Selskabs Skrifter 81. Aarhus.

- similar specific locations in the landscape - at slightly elevated, relatively protected and reasonably defensible places with prominent visibility;
- incorporation of the natural topography (e.g. promontories and peninsulas, steep slopes, rivers, marsh/bog) and its modification into defensive capabilities;
- large-scale engineering characteristics, not only of the fortress itself (colossal earthworks for ramparts) but also in ground-levelling/filling preliminaries;
- sudden appearance in the landscape through a short period of construction (around 970-80 CE) under one ruler (King Harald "Bluetooth" Gormsson, ruled c. 959 -c. 987 CE);
- unique fortress interior (*Aggersborg*, *Fyrkat* and *Trelleborg*; and probably *Nonnebakken*) filled with geometrically-ordered and demonstrably-replicated wooden longhouses, with no "main building";
- short period of use, mostly abandoned within a generation (some possibly in only 10-15 years), and no traces of maintenance;
- imprecise, but strongly inferential, function of this landmark architectural intervention in tenth-century Scandinavia (the Viking-Age was characterised by an oral tradition).



*Aggersborg: Aerial view east to Aggersund Bridge which crosses the narrow strait of the Limfjord.
Photo: Lis Helles Olesen, 2007.*

2.2 Summary description of each component part of the series

1. Aggersborg Viking-Age Ring Fortress

Description

Aggersborg in north Jutland is the northernmost of the *Viking-Age Ring Fortresses*. Situated on the north side of the Limfjord, around 2 km west of the narrowing of the Limfjord at Aggersund, the fortress utilises a southerly-sloping predominantly open agricultural terrain and commands exceptional views over expansive open water. The fortress is highly-visible in the landscape, flanked to the east by low-lying fields, present-day Aggersborg village, and wetlands that border the shore of the fjord, and to the west by low-lying fields that lead to extensive wind-blown sand dunes and rows of sub-parallel wave-formed sand islands and spits that jut into the expanse of Løgstør Bredning wetland Ramsar site. To the immediate north is a 12th/13th-century church and walled cemetery, while in the south is a 15th/18th century farmstead and manor house called Aggersborggård. Part of the farm is located over the southernmost extent of the fortress, overbuilt on a segment of rampart and ditch. Beyond the farm is a patchwork of fields on both sides of the track that leads to the causeway that crosses the shallows of the strait to the small island of Borreholm. A royal fortified estate was found in 2009 in the garden of Aggersborggård and on the beach. This underlines the importance of Aggersborg island as a control point of the traffic on the Limfjord and the north-south transport route.

Aggersborg is in a grassed-over status and has not yet been fully excavated. The internal diameter of the circular rampart is estimated as c. 240 m, 9 m wide with a c. 8 m wide berm between the rampart and a 4.5 m-wide/1.5 m-deep concentric V-shaped ditch. An outwork extended across the berm from

the front of each of the four gateways. The rampart was re-marked in the terrain by the Danish Forest and Nature Agency in 1992 and the gateways re-marked and the ditch re-defined by excavation under close supervision of the National Museum of Denmark.

Within the rampart, the structure was divided into four main quadrants by two wood-paved axial streets. Each quadrant is further divided by short transverse streets into three smaller blocks of buildings arranged around rectangular courtyards. In each quadrant there were 12 longhouses, arranged in three blocks. In total 48 buildings were arranged to form 12 blocks, each of four longhouses. The buildings have curved longitudinal walls and measure c. 32 m in length and have a maximum width at the middle of c. 8 m. They were divided internally into three rooms, with a 19.5 m long hall in the middle, often with a central hearth. At each end of the longhouse there was a smaller gable room. The longhouses are of the same type as seen in the blocks at *Trelleborg*, *Fyrkat* and probably also *Nonnebakken*. Wall construction is not clear, but there are indications that double earth-set wall posts were used - the same as at *Fyrkat* and *Trelleborg*. However, the filling of the wall may have been wattle and daub instead of wooden planks. The buildings had sloping external bracers, i.e. buttress support posts.

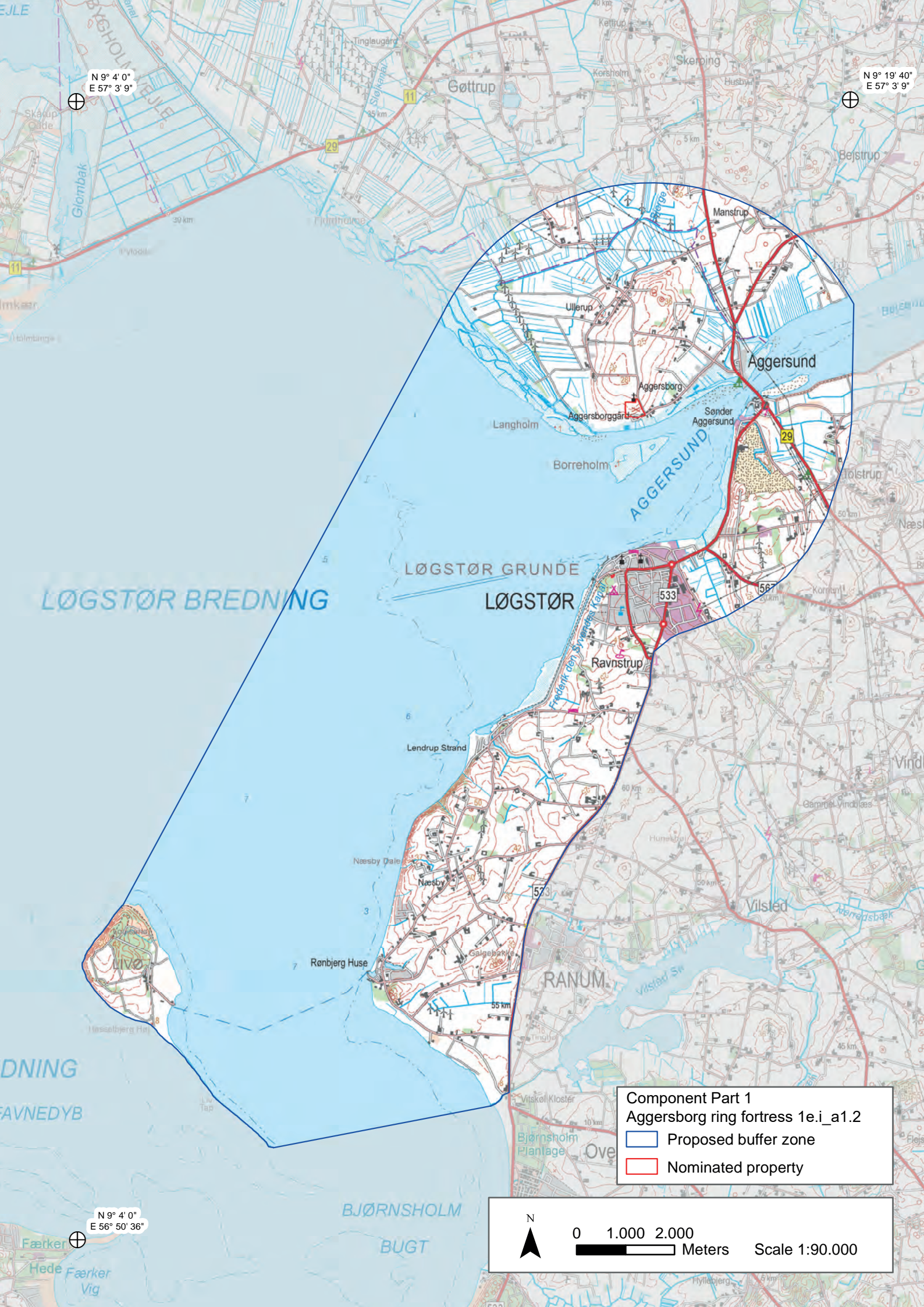
1. *Aggersborg*: Boundaries and buffer zone

The nominated property of the component part *Aggersborg* is centred on the fortress. The boundary extends north to the boundary of the medieval Christian church and cemetery in its walled enclosure, and south to include the southernmost segment of the fortress which was incorporated into the manor farm “*Aggersborggård*” at least by the 18th century. In the east the boundary is the western edge of the road that passes the fortress and leads to a T-junction at the present-day *Aggersborg* village, where it is extended west, parallel with a field and ownership boundary. In the west, the boundary is the field boundary which marks the extent of ownership of the Danish Nature Agency and, where this meets the ownership of “*Aggersborggård*” in the south, it is continued along the same line to meet the shoreline. The deep sailing channel of the Limfjord remains on the southern side of the fjord, whereas the northern side has shifting sands with a causeway across the shallows that links “*Aggersborggård*” with the small island of *Borreholm*. The extent and pattern of water was likely different in the Viking-Age so this immediate area is not included as nominated property but protected instead as setting in an inner “special control zone” of the buffer zone (existing *Natura 2000* provides compatible protection for the specific cultural purposes in this instance).



General panoramas and key views

In the Viking-Age the strategic location of the fortress provided uninterrupted views out over the water routes (south, east and west) with a limited view over rising terrain to the north; much as it does today. Aggersborg's position suggests that, in addition to the strategic land route, the fortress must have been directed towards one of Denmark's most important navigation routes – the link for seagoing traffic between Western Denmark, Western Europe and the North Atlantic on the one side and Eastern Denmark and the Baltic region on the other. The best panorama over the fortress is gained from the observation point near the car park and this key view extends beyond to the Limfjord.



N 9° 4' 0"
E 57° 3' 9"

N 9° 19' 40"
E 57° 3' 9"

LØGSTØR BREDNING

LØGSTØR

AGGERSUND

RANUM

BJØRNSHOLM
BUGT

Component Part 1
Aggersborg ring fortress 1e.i_a1.2

Proposed buffer zone

Nominated property



0 1.000 2.000

Meters

Scale 1:90.000



Fyrkat: aerial view west over the fortress to the wide valley of the river Onsild Å.
Photo: Morten Rasmussen, Danish Agency for Culture and Palaces, 2016.

2. *Fyrkat Viking-Age Ring Fortress*

Description

Fyrkat is located on a promontory overlooking the wide glaciated valley of the river Onsild Å, with lakes and extensive areas of wetland bordered by open agricultural fields rising to woodland. The fortress is close to both Hærvejen (the historic main road north-south through the Jutland Peninsula) and Mariager Fjord with access to the Kattegat. In the Viking-Age, *Fyrkat* was constructed at the head of Mariager Fjord, at the point where the fjord meets the river Onsild å, and only c. 10 km from rivers on which you can sail to the Limfjord. *Fyrkat* then controlled both N-S and E-W axis. Here, the fortress stood well-protected on its scarp-sided promontory with open water to the north-east and bordered by the Onsild Å immediately to the north and west along with boggy meadows, including in the south. The water by the fortress was probably between 0.5 and 1 m deep. Today the area has been re-established as a wetland area – boggy inaccessible terrain – recapturing the Viking tactical inclusion of natural defensive barriers. Prior to the construction of the fortress, some ground-levelling to the south had been undertaken. The main access to the ring fortress has been through the western and northern gateways. *Fyrkat* is in a grassed-over status. Post-holes filled with concrete mark the cruciform axial streets, the ring-street and the longhouses/yards/yard-houses in each of the three excavated courtyards/quadrants. The fortress comprises a precisely-circular 12 m-wide rampart with an inner diameter of 120 m. The outer face was formed by a wooden palisade. At c. 10 m from the rampart is a V-shaped ditch, 7.5 m wide and 2 m deep. At the four cardinal points of the compass the rampart was interrupted by gateways which were

covered by a wooden construction. Two wood-paved main axial streets link the gateways, crossing each other at the centre of the fortress, thereby dividing the structure into quadrants. In addition to these main axes there was a wood-paved road running around the inner side of the rampart.

In the enclosure/inner ward there were 16 longhouses arranged to form four blocks (courtyards); one block in each quadrant. Each block comprised four identical wooden longhouses arranged as wings around a quadratic yard. Only three of the four blocks have been excavated. The length of the houses at *Fyrkat* was c. 28.5 m and their width 7.3 m in the middle and c. 5 m at the straight gables.

A cemetery is located northeast of the fortress and around 30 inhumation graves of men, women and children have been excavated (GPR data suggests that there are more graves).

Dendrochronological dates around 975 CE demonstrate that the fortress was in use, at the latest, at the same time as *Trelleborg*.

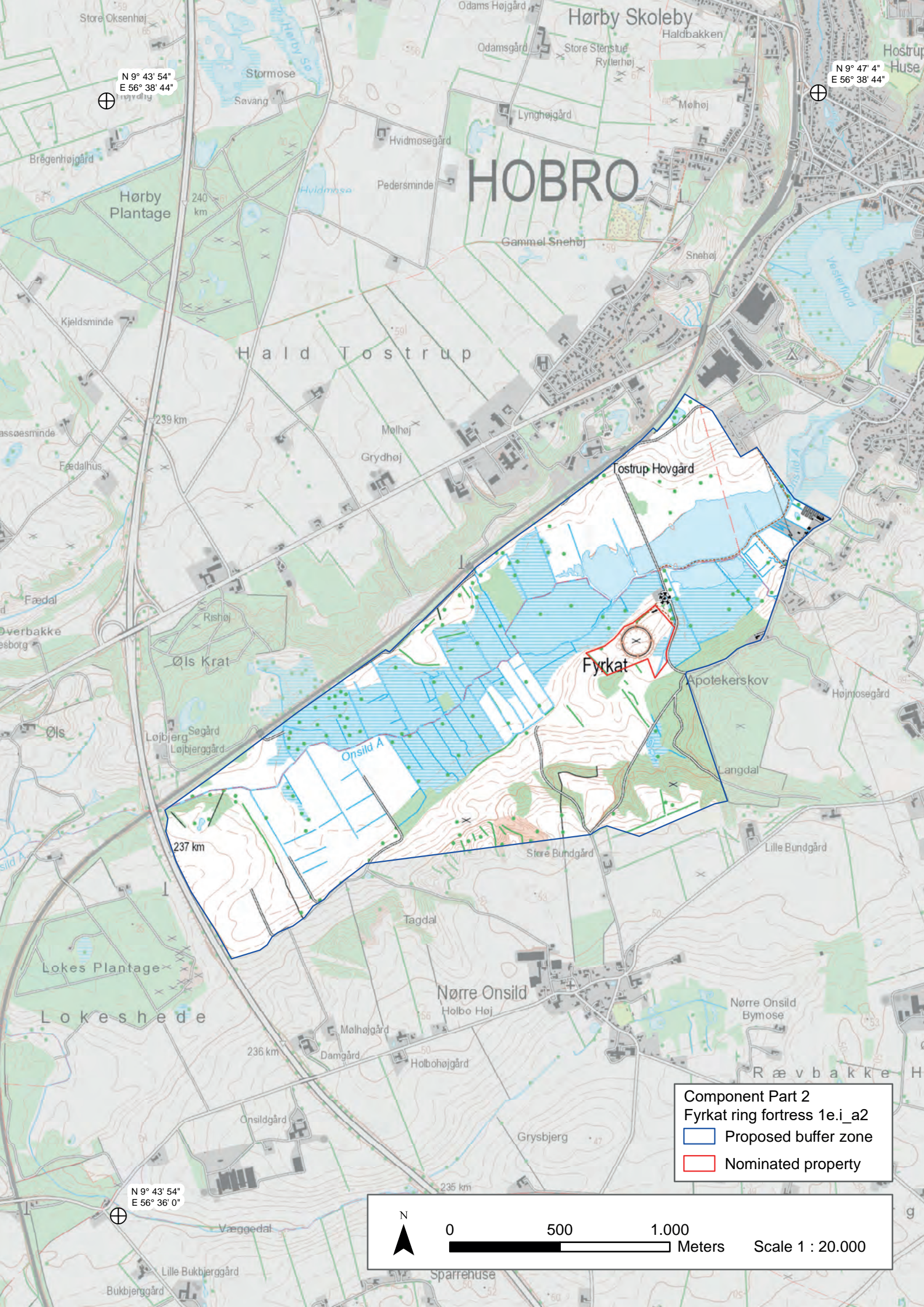
2. *Fyrkat*: Boundaries and buffer zone

The nominated property of the component part *Fyrkat* is centred on the fortress located in the middle of the distinctive ENE-WSW-oriented plateau, including the cemetery immediately outside the fortress to the northeast. The boundary follows the ownership boundary of the National Museum of Denmark.

A buffer zone surrounds the nominated property and is guided by the northeast-southwest trending river valley for around 3.6 km. North of the nominated property the buffer zone extends for around 500 m, with around 300 m to the south.

General panoramas and key views

In the Viking-Age the strategic location of the fortress on the promontory provided uninterrupted views out over the water routes in the valley (north, east and west); much as it does today. Due to its situation on high ground, panoramas over the fortress are best gained from the ramparts themselves, a key view extending from the northern rampart into the river valley.



HOBRO

Hald Tøstrup

Fyrkat

Component Part 2
Fyrkat ring fortress 1e.i_a2
Proposed buffer zone
Nominated property



0 500 1.000 Meters

Scale 1 : 20.000



Nonnebakken: visible as an elevated area in the modern city.

Graphics: Mads Runge. Background Map: Danish Geodata Agency.

3. *Nonnebakken Viking-Age Ring Fortress*

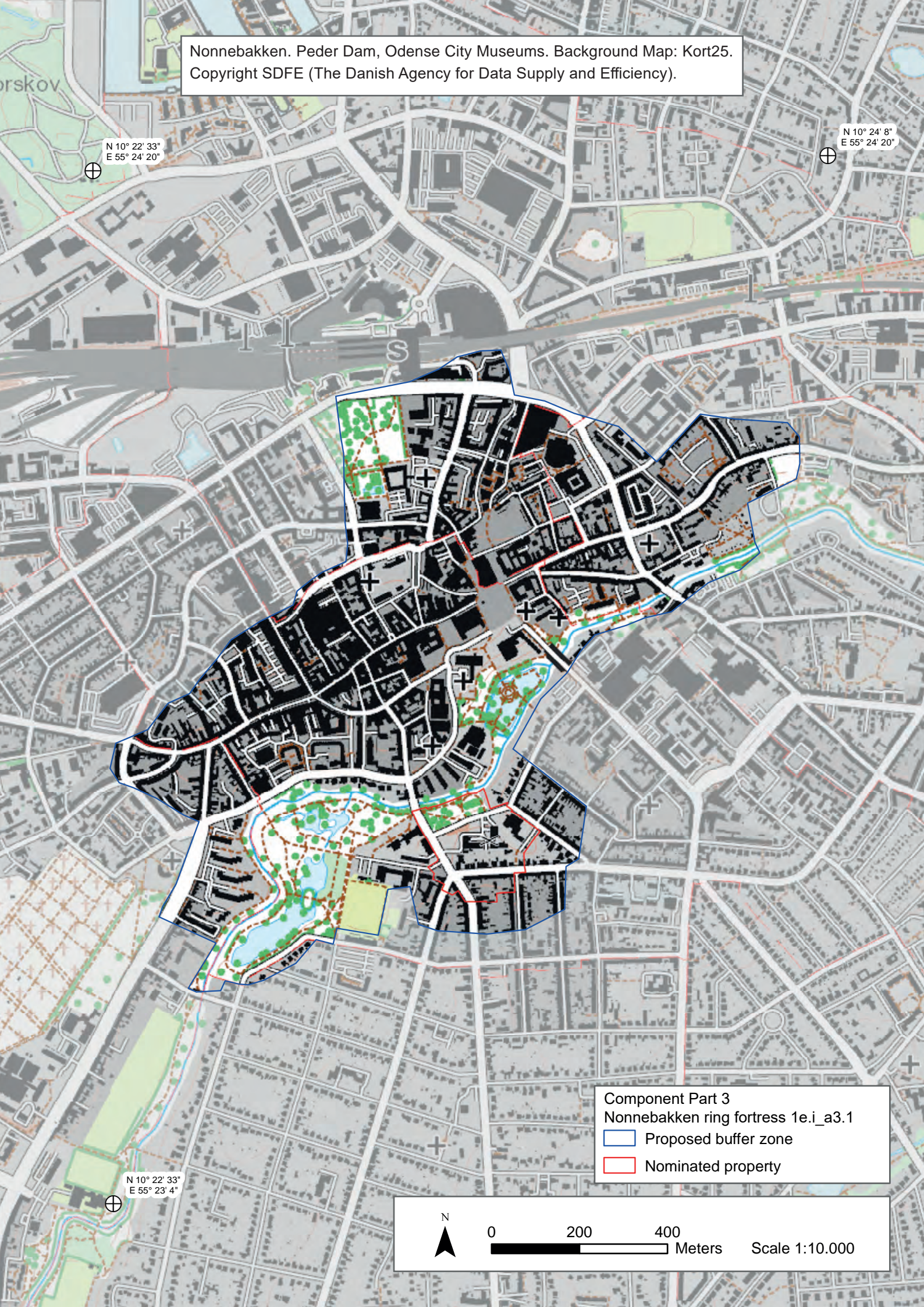
Description

Nonnebakken was built on a clay-rich promontory, adjacent to the river Odense Å and around 400m south of the proto-urban Viking-Age settlement of Odense. To the north, west and east the fortress was surrounded by the looped course of the river Odense Å and wetlands bordering it; a topography that corresponds with other ring fortresses. To the south, a semi-circle with a radius of 1 km was without other contemporary finds, indicating a cleared landscape. Prior to the construction of the fortress some ground-levelling had been undertaken, involving the addition of soil, and a layer of clay for the foundation of the rampart. Today it lies in the central area of the modern city of Odense, with the meandering river and a number of ponds set in open areas of green parkland. The city is dominant in the setting of the fortress, however, and this even extends to the property itself which has been built on with several structures during its history.

The fortress was placed at the easiest and presumably original passage of the river Odense Å, at the present-day course of the roads Klaregade-Hunderupvej. At the northern side of the river another promontory extends to the water, on which some of the oldest urban-like structures of Odense (pit-houses and permanent houses) have been excavated. The distance from *Nonnebakken* to the sea is about 6 km as the crow flies but the meandric course of the river Odense Å means that the sailing distance is about double.

Archaeological excavations at *Nonnebakken* revealed a circular rampart with an inner diameter of c. 120 m, together with an outer concentric ditch. The rampart is c. 14.5 m wide and

Nonnebakken. Peder Dam, Odense City Museums. Background Map: Kort25.
Copyright SDFE (The Danish Agency for Data Supply and Efficiency).



Component Part 3
Nonnebakken ring fortress 1e.i_a3.1

Proposed buffer zone

Nominated property



0

200

400

Meters

Scale 1:10.000

Nonnebakken. Peder Dam, Odense City Museums. Background Map: Matrikelkort
(Copyright GST, Danish Geodata Agency) and GeoDanmark-data (Copyright Danish
municipalities and SDFE, Danish Agency for Data Supply and Efficiency).

N 10° 23' 13"
E 55° 23' 36"

N 10° 23' 28"
E 55° 23' 36"

Component Part 3
Nonnebakken ring fortress 1e.i_a3.2

Proposed buffer zone

Nominated property



0 25 50
Meters

Scale 1:1.500

N 10° 23' 13"
E 55° 23' 23"

was built from earth-and-turf with a wooden façade on both its inner and outer face. In an excavation in 2015, a ditch c. 30 cm-wide and 50 cm-deep was recorded with large closely-spaced posts marking a vertical inner wall. To support this wall, a row of obliquely-set smaller posts, with a diameter of c. 5-10 cm, had been placed on its inner side. Outside the rampart there was a flat c. 8.5 m broad section, the so-called berm, followed by a ditch with a v-shaped cross-section, a minimum width of 9 m and a maximum depth of 4 m.

Historical maps and drawings of *Nonnebakken*, together with geophysical site surveys, indicate that the ring fortress has four gateways rotated slightly to the west in relation to the principal points of the compass. Moreover, the geophysical survey and several excavations revealed a large number of postholes and made the existence of the large building blocks very/more than plausible. The ring-street along the inner side of the rampart has been encountered several times and was c. 1.6m wide corresponding roughly to that at *Fyrkat*. The entire rampart is now evidenced around the fortress and, in the SW area, is very well preserved up to about 1.5-1.7m in height and in the NW around 1m in height.

3. *Nonnebakken*: Boundaries and buffer zone

The nominated property of the component part *Nonnebakken* is centred on the archaeological site of the fortress, distinguished from its surroundings by a marked elevation and sloping rampart, especially visible in the northwest. It is located in a developed urban context with buildings (including a school) and hard-surfaced areas covering much of the site. The property boundary extends to the external edge of the circular ditch (a buried structure) and the low-lying area towards the North, the possible location of the so-called “Odins Vi” and the direct connection to the river Odense Å.

Important setting is included within a buffer zone which surrounds the nominated property. This extends 500 m to the west to include the river valley, 300 m to the north to include the river valley and associated sites in the known contemporary area of Odense, and around 170 m to the south and 200 m to the east over an area of predominantly residential housing.

General panoramas and key views

In the Viking-Age the strategic location of the fortress provided a view over the river valley to the north and the proto-city beyond; a situation easily conjured today. Key views to understand the fortress are gained mostly from the north and northwest where the rampart is visible in the topography.

Nonnebakken: depicted on the panorama of Odense published by Braun & Hogenberg 1593.





Trelleborg: aerial view south across meandering rivers.
Copyright: Trelleborg, National Museum of Denmark, 2007.

4. *Trelleborg Viking-Age Ring Fortress*

Description

Trelleborg lies a little over 3 km east of the Great Belt, in a cultivated, flat coastal landscape virtually lacking in woodland. It stands on a promontory where the large watercourses Tude Å and Vårby Å meet and encircle the site. Consequently, the fortress occupies a good strategic position with expansive views and is protected on all sides by, respectively, the two rivers and the outer ward which runs between them. The outer ward has a separate rampart and ditch and protects the fortress from land in the east (and southeast) where there is access to the promontory. In the Viking-Age, the landscape was characterised by extensive wetland areas with bogs, meadows and commons, and the rivers may have been larger and deeper than they are now. The ring fortress now constitutes part of a rehabilitated natural area around the rivers Tude Å and Vårby Å.

Trelleborg consists of a main fortress and an outer ward. The main fortress itself was fortified with a circular rampart with an internal diameter of 136 m and a width of 18 m. This was clad with an oak palisade both internally and externally, the sides being bound together with transverse timbers. The front of the palisade reached almost 8 m in height and, filled with turf, stones and clay, the wooden constructions have survived for more than a thousand years. Towards dry land, the rampart was further fortified with a V-shaped ditch segment c. 18 m wide and c. 4 m deep in the east and south (today to be seen to almost join the two rivers). Towards the outer edge of the promontory, excavations in 2008 documented the presence of an additional ditch which similarly followed the course of the

rampart (but it did not have the same dimensions as the ditch towards dry land). In this ditch a wooden shield was found.

There are four gateways in the circular rampart, one at each principal point of the compass. The gateways were reinforced with boulders and took the form of covered tunnels which were sealed outermost by a gate. Charred planks have been found in all four gateways showing that they had been exposed to fire.

The inside of the main fortress was divided into quadrants by two wood-paved axial streets. These ran between the gateways and met at right angles at the centre, thereby forming the main axes within the fortress. In each of the quadrants, a block comprising four identical longhouses (Trelleborg-type) was built around an enclosed yard.

Outside the rampart of the main fortress is a ward/bailey, formerly containing 15 longhouses and a cemetery which was probably in use from the time of the construction of the fortress (135 inhumation graves contained the remains of 157 individuals). The ward was similarly protected by an outer rampart with a gateway.

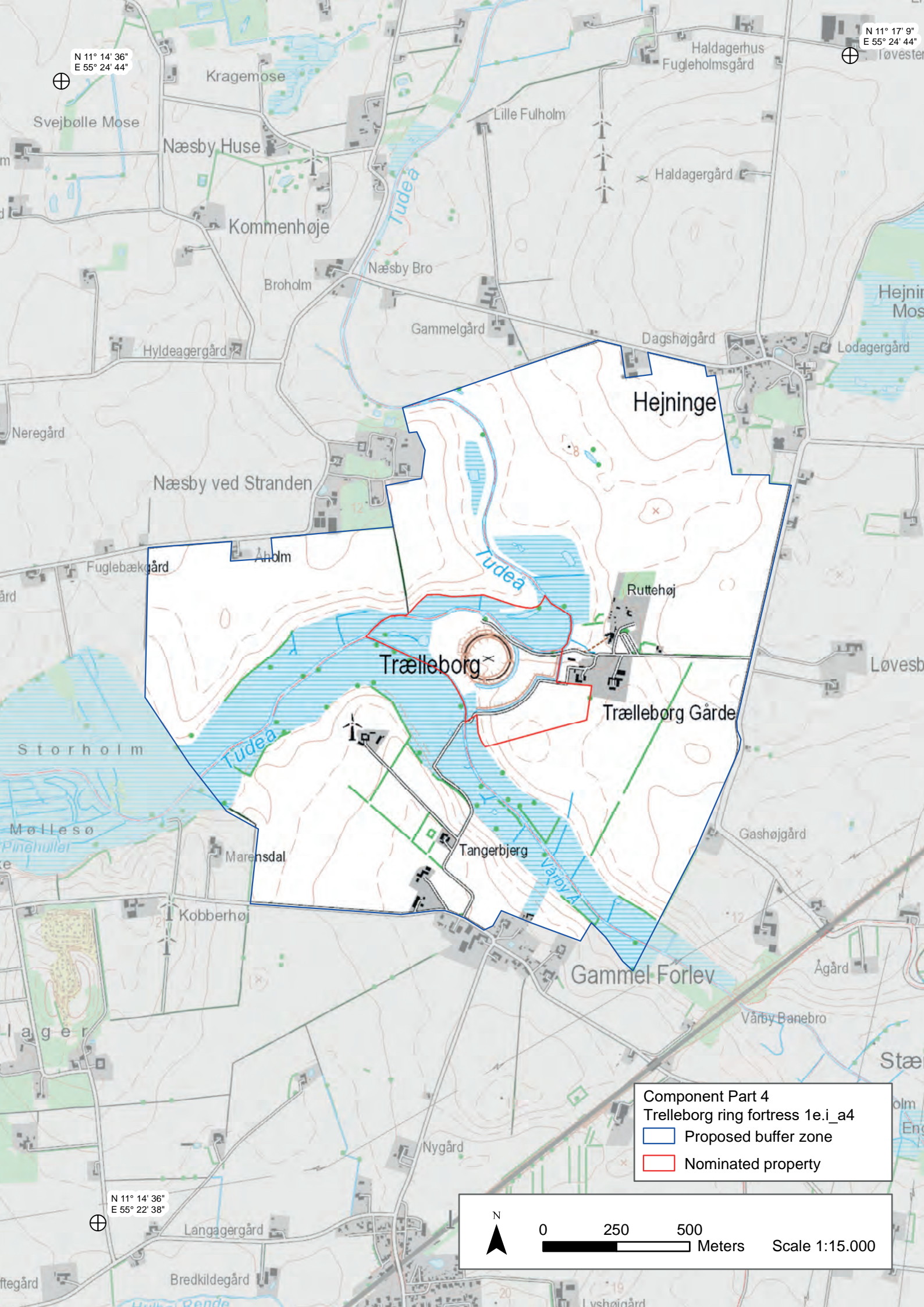
4. *Trelleborg*: Boundaries and buffer zone

The nominated property of the component part *Trelleborg* is centred on the fortress, located on a promontory between two rivers (Tude Å and Vårby Å). The boundary includes the additional quadrant in the southeast where a bailey and an arc of longhouses was sited (protected by a separate rampart and ditch) and beyond to the east, where the known cemetery with mass graves is located, and to the southeast and south where further graves are thought probable. To the north, the boundary follows the river (Tude Å), in the southwest the river (Vårby Å), while in the west it includes a newly-found fortress ditch.

The buffer zone surrounds the nominated property and extends for around 600 m across the valley to the south, 600 m along the valley to the west, 630 m across the visitor centre and farmland to the east, and around 670 m across rising fields in the north.

General panoramas and key views

In the Viking-Age the strategic location of the fortress on the promontory/peninsula provided uninterrupted views out over the rivers (north, west and south) and the land approach; much as it does today. The best panorama over the fortress is gained from the area in front of the visitor centre. Panoramas may also be obtained from the ramparts, both across the fortress and to and beyond the river valleys.



N 11° 17' 9"
E 55° 24' 44"
Løvesten

N 11° 14' 36"
E 55° 24' 44"

Hejninge

Trølleborg

Trølleborg Gårde

Gammel Forlev

Component Part 4
Trølleborg ring fortress 1e.i_a4

Proposed buffer zone

Nominated property



0 250 500
Meters

Scale 1:15.000

N 11° 14' 36"
E 55° 22' 38"



Borgring: aerial view of the fortress and past the highway in an easterly direction that follows the shallow valley of the Køge River to the city of Køge and Køge Bay (less than 5 km distant).

The expansive open water of the Bay is part of The Sound between Denmark and present-day Sweden; a strategic strait in the Viking-Age where territory on both sides was ruled by Bluetooth.

Photo: Steen Knarberg, Museum Southeast Denmark, 2019.

5. *Borgring* Viking-Age Ring Fortress

Description

Borgring is located in a rural landscape adjacent to the northern bank of the Køge River Valley, less than 1 km northeast of the village of Lellinge, part of the municipality of Køge in the eastern part of Zealand. To the east of the site, an esker stretches from the ring fortress to the wash land of the Køge Bay, some 3 km away. To the west the esker continues more than 15 km along the north side of the Køge River Valley. The fortress itself stands on a sloping terrain where the esker was already eroded away by the end of the last Ice Age. Here the terrain offered an opportunity to cross the river valley (more than 500 m wide) by foot, horse or cart: a few hundred metres west of *Borgring*, an archaeological excavation has revealed an ancient hollow-way leading to a ford.

A survey performed by the Danish National Museum and Geoscience at Aarhus University has mapped the historical landscape around *Borgring*. The mapping concludes that it was not possible to navigate from the Køge Bay to *Borgring* on the Køge River in the Viking-Age. Instead land-based traffic has been in focus. In this respect, the ring fortress has been protected by natural topographical conditions: the river valley to the south, a brook with steep sides to the west, and an area to the north and east has water locked depressions. This also explains the absence of a ditch in association to the rampart. The main access to the ring fortress has been through the northern gateway.

The fortress is characterised by a circular rampart with an inner diameter of c. 123 m. The rampart is divided into quarters by four gateways rotated approximately 17 degrees to the east,

in relation to the principal points of the compass. The rampart is constructed of turf-and-earth and has been clad with planks on the front. Protruding into the river valley the southern part of the rampart and the south gate were built on the top of a 1 m-thick layer of clay, which was laid out on the soggy terrain before construction began. The best-preserved part of the turf-and rampart is just over 1m-high.

Three of the four investigated gateways seem to have been destroyed by fire (possibly started from within the gateways). This was established in a rare and innovative collaboration with the National Forensic Services of the National Danish Police. Two samples from charred logs in the northern gateway have been radiocarbon dated. One sample of elm had a calibrated calendar age between 895–1017 CE, and the other sample of oak had a calibrated calendar age between 893–1012 CE. There are no signs of an attack on the gates or the rampart. The overall results of the excavations bear witness to a ring fortress that, if finished at all, was only used either briefly or perhaps just for symbolic purposes.

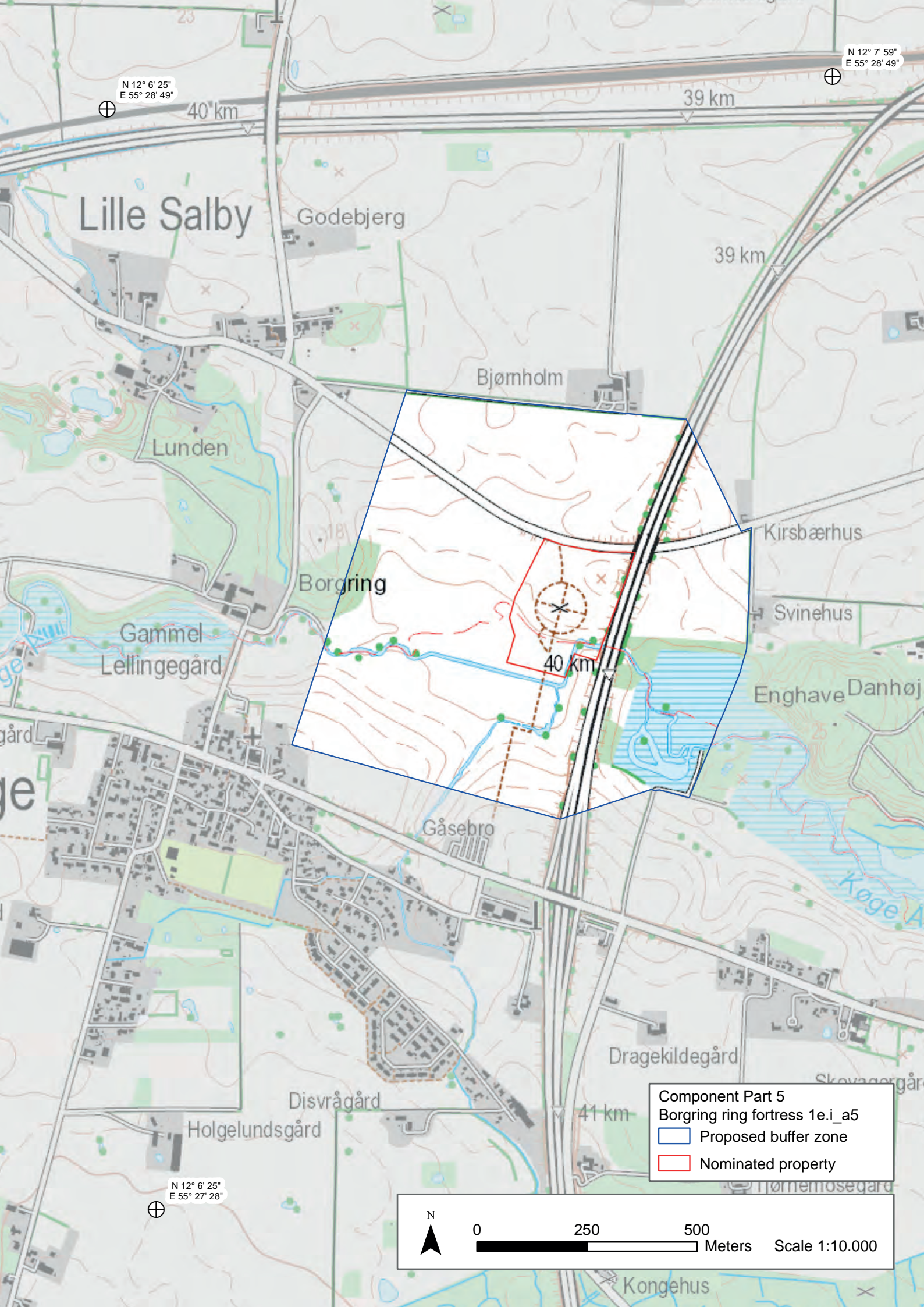
5. *Borgring*: Boundaries and buffer zones

The nominated property of the component part *Borgring* is centred on the fortress. In the east it is bounded by the modern embankment of the north-south dual-carriageway road that crosses the east-west river valley. In the north the boundary extends to the east-west Lille Salby road, in the west to the boundary of the scheduled area, and in the south to meet the river.

Other immediate setting is contained within the buffer zone which surrounds the nominated property and extends around 300 m across wetland and into rising farmland to the south, around 350–400 m across farmland to woodland in the west, 300 m north of the road that forms the northern boundary of the nominated property, and 250 m to the east of the north-south highway embankment.

General panoramas and key views

In the Viking-Age the strategic location of the fortress provided a clear view out over the river valley (south) with lateral views (east and west) over the sloping terrain of the northern valley side; much as it does today. The best panorama over the fortress is gained from the observation point near the car park.



N 12° 6' 25"
E 55° 28' 49"

N 12° 7' 59"
E 55° 28' 49"

Lille Salby

Godebjerg

Bjørnholm

Lunden

Borgring

Gammel
Lellingegård

Kirsbærhus

Svinehus

Enghave Danhøj

Gåsebro

Dragekildegård

Skovagergård

Holgelundsgård

Disvrågård

N 12° 6' 25"
E 55° 27' 28"



0

250

500

Meters

Scale 1:10.000

Component Part 5
Borgring ring fortress 1e.i_a5

Proposed buffer zone

Nominated property



Trelleborg Viking-Age Ring Fortress. View west to The Great Belt.
Copyright: Slagelse Municipality

Outstanding Universal Value

3

3.1 Statement of Outstanding Universal Value (OUV)

Viking-Age Ring Fortresses is a coherent group of fortified defensive enclosures that was constructed in 975-980 CE across the Jutland peninsula and the islands Funen and Zealand. Each stronghold of the strategically planned system was not far from open water and was positioned near important land and sea routes. Moreover, all conform to a distinctive architectonic masterplan based on precise geometrical and symmetrical form, an assertion of functional and symbolic expression of state power across clearly demarcated territory.

The fortresses (*Aggersborg*, *Fyrkat*, *Nonnebakken*, *Trelleborg* and *Borgring*) created a monumental character in the landscape (some still do), their uniform geometric construction reflecting a highly-developed technical expertise and organisational manifestation. They range in diameter from 120 metres to 240 metres (standardised measurements based on the Roman foot) and merge different traditions of defensive and residential architecture into a new and distinctive type of enclosure. In most cases, fortified circular earthen ramparts clad with timber, supplemented by a full or partial concentric ditch, protected an internal arrangement of wooden axial-streets in the form of an equilateral cross in a circle. Where present, the ring-street provided access to the palisaded ramparts while the axial-streets led to gates located close to the four cardinal directions. In three of the earliest-excavated fortresses, ranks of geometrically-arranged longhouses with curved walls and straight gables were laid out in the four prescribed quadrants with a precision never attained elsewhere. Moreover, at *Nonnebakken*, recent archaeological investigation provides a high degree of certainty that these features were also present (i.e. the fortress was “fully built”).

Together the fortresses form the largest monuments left from the Viking-Age, the most impressive materialisation of a new type of centralised governance in late tenth-century southern Scandinavia. Their coordinated construction under King Harald “Bluetooth” Gormsson (r. 958-987 CE), as part of his wider infrastructure works (e.g. the Danevirke reinforcements and the Ravning Enge Bridge), plays an important role in the unification of the Danish realm and the official religious and societal transformation from pagan tribal Scandinavian culture into a unified Christian state society. Spread across what is now Denmark, northern Germany, southern Sweden and Norway, this heralded the formation of the Nordic States and the ultimate transition of the Viking-Age into the Scandinavian Middle Ages.

The property is justified on the basis of two UNESCO criteria (iii) and (iv):

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

Viking-Age Ring Fortresses bears exceptional testimony to a cultural tradition that is located in South Scandinavia, the Viking homelands, a meeting ground of extensive cultural, social and political networks which stretched across vast territories. The system of fortresses is a functional and symbolic expression of the new concept of state power in late tenth-century southern Scandinavia, its landform-scale circular ramparts further signi-



Drawing: Sune Elskær.

fying nobility, kingship and authority; and, together with the axial- and ring-streets, perhaps a symbolic expression of a new, Christian, cultural identity.

As one of the great building projects of King Harald Bluetooth, it represents a key period of transition in Northern Europe, coinciding with the transformation of pagan tribal Nordic culture into a centralised and predominantly Christian state society, which also introduced literacy alongside oral tradition. This heralded the formation of the Nordic States, their ultimate integration with Continental Europe, and the consequent end of the Viking-Age along with its traditional and far-reaching culture and civilization.

Construction of the fortresses was a colossal task and could only have been resourced by a king. Drawing by Sune Elskær, Danish Agency for Culture and Palaces, 2014.

Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history.

Viking-Age Ring Fortresses is a group of outstanding monumental military building works without parallel or obvious precursors in Scandinavia; it is also exceptional as a system within the wider European Early Medieval context. The strategically positioned ensemble was constructed in 975-980 CE in a regular, strategic pattern across the Jutland peninsula and the islands Funen and Zealand. The system stands out as notable Viking-Age building works and is testimony to a strong central power in the emerging Danish kingdom, an antecedent to the Nordic States and the end of the Viking-Age.

Characterised by a rich, well-founded and well-preserved archaeological record, precise symmetrical layout and a strategic position in the landscape, the ensemble makes a key contribution to the interpretation of the historic developments in Viking-Age Scandinavia and Northern Europe, including how early state formation was performed.

Intrinsic links demonstrate a unified system (cultural, social, functional) and shared characteristics, including: narrow date of construction and use under a single ruler; position in the landscape and proximity to cardinal communication and transport routes; succession to older religious or political centres; monumental appearance; precise geometrical and symmetrical layouts; circular shape enclosing a cross; and similarity in construction including massive resource-commanding features.

Variations provide essential archaeological and scientific data defining the attributes and characteristics of the Viking-Age Ring Fortress, including: specificity of location; size; location of gateways and presence of axial roads; extent and placement of buildings; cemeteries; and perhaps even a reflection on the development in the perception of the fortresses.



Aggersborg.

Photo: Morten Rasmussen,
Danish Agency for Culture and Palaces, 2017.

In addition, the following conditions of integrity and authenticity are a necessary qualification:

Statement of integrity

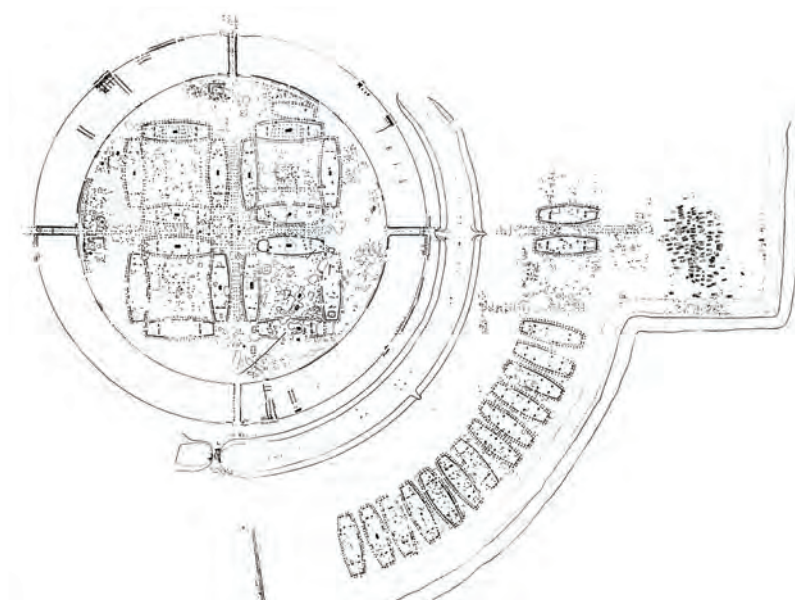
Viking-Age Ring Fortresses comprises a series of five archaeological sites that constitute a single property of great historical and scientific value. In terms of size and wholeness, the series as a coherent group contains the architectural and cultural attributes necessary to convey the significance of the fortress system as a whole.

The nominated property includes all elements necessary to express proposed outstanding universal value. The known level of preservation of the monuments and all associated archaeological remains, together with their overall state of conservation, is sufficiently high to demonstrate principal attributes. Individual contributions by each component part are clearly defined and, together, the series adequately satisfies compositional integrity.

The buffer zones are legal managerial entities that protect the nominated property and its integral geographical features in the immediate setting. They also protect visual integrity.

Overall, the nominated property has endured remarkably well for over one thousand years. The remote rural situation and specific topographical characteristics of four out of five

fortresses has meant that there has been little development at these sites. One component part is conversely situated in an urban context and has suffered from adverse effects of development but nonetheless contains buried archaeology with proven preserved values that are essential to the series. There are no future threats from development, or neglect.



Trelleborg: excavated areas.

Graphics: P. Nørlund, National Museum of Denmark, 1948.

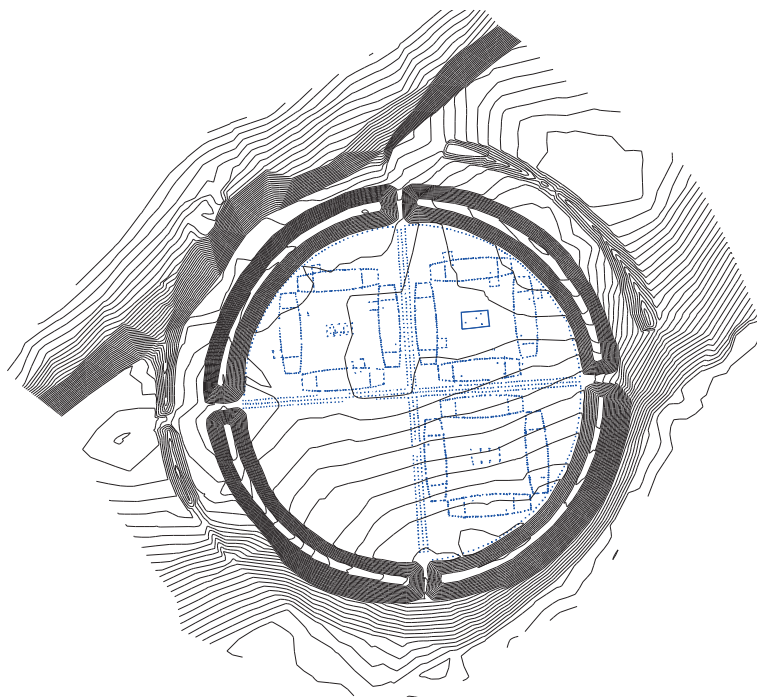
Statement of authenticity

Authenticity of the *Viking-Age Ring Fortresses* is high, backed by extensive documented evidence from archaeological investigations over many years. Four of the five fortresses are located in relatively remote rural areas and (other than partially at *Aggersborg*) have not been inhabited or otherwise built upon since they were abandoned, ensuring the authenticity of their archaeology and their location and setting. One thousand years of weathering, and to a certain extent farming, had eroded ramparts and earth has filled ditches, preserving their form. Following important archaeological work undertaken at three component parts (*Trelleborg*, *Fyrkat* and *Aggersborg*), ramparts were partially reconstructed to protect ground-level and buried archaeology – and to re-mark them in the terrain for interpretive purposes, enhancing value and increasing protection for each monument. Work also included excavating and redefining the defensive ditches in the landscape, together with the marking of other structures within or close to the fortresses.

All work was carried out on the basis of the comprehensive and detailed records produced by the excavations and did not impair the original substance.

At *Borgring* its very recent discovery means that a more sensitive and light-touch contemporary approach was adopted. The exception is *Nonnebakken*, located in the city of Odense, where urban activities have impacted on the visibility of the fortress. Recent excavations, however, proved that significant parts of the archaeology survive intact; roads, parking places and lawns have actually created a protective layer.

Large parts of the fortresses remain unexcavated and have high archaeological potential.



Fyrkat: Archaeological structures of the fortress and site contours emphasise the coordination between anthropogenic and natural topography.

Graphics: Jan Slot-Carlsen, Historical Museum of Northern Jutland.

3.2 Attributes table

<i>Viking-Age Ring Fortresses: basis for comparison</i>	
1	Systematic development of a planned and unified system of fortifications over a short period of time with innovative design and symbolism demonstrating royal power, ideological authority and prestige, (perhaps even Christianity) during the process of state formation in the late Viking-Age; occupied and used for only a short period
2	Strategically sited across state territory (in conjunction with fortified towns) and tactically located close to important land and sea routes (surveillance and/or military logistics) with strong regard to local landscape features
3	Distinctive, innovative and largely consistent plan for circular fortresses with shared characteristics of a unique scalable design that displays precise geometric and mathematical order and strict alignment of gateways and internal axial roads in the four cardinal directions, regardless of terrain, together with distinctive and uniform building typology and layout within the fortified enclosure

3.3 Summary contribution of each component part to OUV

1. Aggersborg Viking-Age Ring Fortress

This is the largest of the fortresses in every respect (twice the diameter of *Fyrkat*), and the most northerly situated (one of two fortresses in Jutland). It illustrates the successive use of a pre-existing important site and has an afterlife with a medieval church and a royal estate on the shoreline just south of the abandoned ring fortress. This long-term situation is an exemplar strategic siting to control a vital sea lane and nearby land route. The fortress is in an attractive marine coastal setting with high environmental quality, is substantially complete (apart from the southernmost portion of the rampart and ditch within the farm) and has significant archaeological potential.

2. *Fyrkat Viking-Age Ring Fortress*

This is one of the smaller fortresses (very close in size to *Nonnebakken* and *Borgring*), located on a Viking-Age land-route southeast of *Aggersborg*. It is strategically sited on a promontory which gives it a commanding view over the river valley and the appearance of a logical defensive site. It is largely complete in plan and is one of two fortresses which has a cemetery. The immediate setting is of compatible rural character and an adjacent centre provides interpretive activity. The site has yielded some important finds.

3. *Nonnebakken Viking-Age Ring Fortress*

This is one of the smaller fortresses (very close in size to *Fyrkat* and *Borgring*) and is the only one on Funen. It is strategically sited on a slight promontory which gave it a commanding view over the river valley to Odense. This is the only fortress developed in conjunction with a Viking-Age proto-city and the only place where the ambition of Harald Bluetooth on gathering the realm, including the formation of cities and bishop seats, has seen its full scale after the fortress has gone out of use. The urban character of the site, combined with a high level of associated interest in today's Odense makes it logical to present the site in conjunction with the city and its museums. The site has yielded some important finds.

4. *Trelleborg Viking-Age Ring Fortress*

The size of this fortress (136 m) is intermediate between *Aggersborg* on the one hand and *Fyrkat*, *Nonnebakken* and *Borgring* on the other hand and the most sophisticated with an outer ward and cemetery (one of the two fortresses with a cemetery). It is the 'type' fortress and gave name to the longhouse construction. It is located as one of two fortresses in Zealand and is strategically sited on a peninsular promontory which gave it a commanding view over the two river valleys, with a landward approach to the main entrance. The Trelleborg Shield was found here.

5. *Borgring Viking-Age Ring Fortress*

The size of this fortress is similar to the smaller fortresses of *Fyrkat* and *Nonnebakken*. This is the most recently discovered fortress and perhaps never finished. Another possibility is that it had a more symbolic meaning and therefore did not need to have all the inner structures that characterises the other fortresses. It is located as one of two fortresses in Zealand and is strategically sited on a valley side which overlooked the river valley.

Together, the series of fortresses embody the apogee of site selection, fortress design, construction and use of materials that is highly representative of Viking-Age, and Viking, tradition. Although each has an individual and varied contribution to OUV, it is as a group of fortresses that stand out in terms of high integrity, authenticity and readable topographic setting. Moreover, as a prestigious royal system, their spatial layout across the emergent Danish nation is crucial. Their design and construction are elevated to an outstanding level of consistently applied precision ordered geometry and symmetry, including the placement of prototype 'Trelleborg-type' longhouses in a settlement layout that is simply exceptional.



State of Conservation

4

4.1 Overall statement

Viking-Age Ring Fortresses comprises a series of five archaeological sites (earthworks) which, overall, possess a general state of conservation that is good.

Four out of five of the sites are highly legible and have not experienced any substantial re-use and, except for contemporary fires and perhaps recycling of valuable timbers from long-houses and palisades, there has been no purposeful large-scale removal of features; although *Aggersborg* has approximately 10% of the southern rampart and ditch incorporated into/subsumed by an 18th-century farm-holding. The fifth site (*Nonnebakken*) is the only one to host some buildings in the main enclosure (a lodge and school constructed in the 19th and 20th centuries, respectively) while also having part of its rampart removed for nearby creek infill a century ago. However, archaeological investigations, including geo-radar, excavation and drillings, have recently (2015 to today) confirmed the exceptional pervasive preservation of buried archaeological features across the site (partly due to the historical use of the site for dumping 'night soil'), confirming acceptable integrity and *Nonnebakken's* place in the group of fortresses.

The most obvious structures of the fortresses are the circular earthwork ramparts (with gateways at the cardinal points) and concentric ditches/segments. A millennium of abandonment has caused the natural denudation of the ramparts and the partial filling of ditches, accentuated at some sites by farming. Areas of the enclosures/courtyards had become covered with a mantle of loess, protecting archaeology beneath. Archaeological investigations, beginning as early as the 1930s, have cumulatively advanced the physical protection at *Aggersborg*, *Fyrkat*

The Trelleborg Shield, during recovery in 2008.

Anaerobic conditions in wet clay led to excellent preservation.

Photo: Museum Vestsjælland

and *Trelleborg* – by covering and marking the eroded remains of ramparts, and excavating and re-cutting ditches.

At *Fyrkat* and *Trelleborg* all excavated postholes have been marked to define the axial- and ring-streets, longhouses and other features, while cemetery graves are protected and sensitively marked with low mounds. All investigations were carried out by professional institutions with high skills in conservation. All finds are stored in appropriate institutions, with exceptional artefacts on public display in various museums. Investigations at *Nonnebakken* and *Borgring* are substantially geophysical, with precision excavations used to confirm data and to obtain carbon dates. Features at *Borgring* are marked sensitively and appropriately, using reversible modern materials and techniques, with similar action to be implemented at *Nonnebakken* in 2022/23.

4.2 Statement for state of conservation in each component part

1. *Aggersborg Viking-Age Ring Fortress*

Following selected archaeological investigations, the original remnant of circular rampart remains buried beneath a protective and stable layer of earth and turf that was placed as a partial reconstruction to mark out the structure in the landscape for conservation and interpretive purposes. The original ditch was archaeologically investigated, re-cut and stabilised with turf following excavation. The four gates were re-marked and shallow timber steps placed at each of the corresponding adjacent rampart slopes to mitigate erosion from visitors who may walk the entire circular rampart to experience expansive views over the monument and into the maritime setting. The entire site (including berm and ditch; as far as the perimeter of the museum property) is maintained as a mown-grass sward (the axial streets more closely mown) with no use of pesticides or artificial fertilisers (moles are controlled only to the extent considered necessary). There are no current physical threats to the site and the contribution this component part makes to the proposed Outstanding Universal Value of the series.

2. *Fyrkat Viking-Age Ring Fortress*

Following selected archaeological investigations, the original remnant of circular rampart remains buried beneath a protective and stable layer of earth and turf that was placed as a partial reconstruction to mark out the structure in the landscape for conservation and interpretive purposes. The original segments of ditch (it was never concentrically continuous) were archaeologically investigated, re-cut and stabilised with turf following excavation. The four gates were re-marked and timber steps

placed at each of the corresponding adjacent rampart slopes to mitigate erosion from visitors who may walk the entire circular rampart to experience expansive views over the monument, over the cemetery and into the river valley setting which is being returned to a semi-natural wetland status. Concrete marker posts identify and protect original archaeologically-excavated post-holes which mark the positions of segments of axial streets, the ring street and longhouses. Outside the rampart, the berm is level and grassed and the natural steep slope to the river valley is stable and covered with natural vegetation that extends up from the scrub and marshland. In the cemetery area, which is passed on the visitor route into the fortress, archaeologically excavated graves are protected and respectfully marked by low turf mounds. The entire site has been maintained as a mown-grass sward (the axial streets and the area of excavated longhouses more closely mown) with no use of pesticides or artificial fertilisers (moles are controlled only to the extent considered necessary). There are plans to introduce periodic grazing by sheep in order to create a less-heterogeneous (less-manmade/manicured) presentation of the grassed-over site. There are no current physical threats to the site and the contribution this component part makes to the proposed Outstanding Universal Value of the series.

3. Nonnebakken Viking-Age Ring Fortress

The site survives in an urban context, with much of the setting however easily readable. Before scheduling of the site in 1967, some damage to the site was incurred (see above). Archaeology, however, is well-preserved and extensively buried (and protected) beneath an up to 2 m-deep veneer of gardens and lawns, school playground, parking places, roads and some buildings. The rampart is visible in the terrain in several places while excavations, geophysical surveys and drillings confirm the rampart is (at a minimum) up to 1,5 m high, together with the berm and concentric ditch in a number of places. Also, postholes confirm the presence of the ring-street and of former wooden buildings. Parts destroyed seem to be confined to the northern segment of rampart (removed in 1909) and in areas of the buildings. There are no current physical threats to the site and the contribution this component part makes to the proposed Outstanding Universal Value of the series.

4. Trelleborg Viking-Age Ring Fortress

Following archaeological investigations, the original remnant of circular rampart remains buried beneath a protective and stable layer of earth and turf that was placed as a partial reconstruction to mark out the structure in the landscape for conservation and interpretive purposes. The four gates were re-marked (unusually there being substantial evidence of medium-sized stone



side-walling and returns) and timber steps have been placed to gain visitor access to the rampart segments near to each gate (in order to mitigate erosion from visitors who may otherwise climb the embankment slopes). Expansive views over the monument and into the fluvial marshy setting may be thus gained from prospects in the north, south and west, while a good view over the landward entrance approaches and the outer ward and cemetery is provided in the east and southeast. The original ditch segments were partly archaeologically investigated, re-cut and stabilised following excavation, and a timber bridge reconstructed for visitor access over the ditch to the entrance (this was informed by original evidence). The enclosure/internal courtyard is grassed over, with axial- and ring-streets marked with timber walkways and postholes and longhouses marked with concrete and stones (the same technique is applied to the outer ward). In the cemetery, excavated graves are protected and sensitively marked by low turf mounds. The entire site (including berm and ditches; as far as the perimeter of the museum property) is maintained as a periodically sheep-grazed grass sward (the axial streets are timber walkways) with no use of pesticides or artificial fertilisers (moles are controlled only to the extent considered necessary). There are no current physical threats to the site and the contribution this component part makes to the proposed Outstanding Universal Value of the series.

5. Borgring Viking-Age Ring Fortress

The circular rampart survived as a low earthwork in farmland, a certain amount of damage no doubt inflicted from ploughing in addition to a millennium of natural denudation. Geophysical surveys and archaeological excavations have however confirmed that the general state of conservation of archaeology is good, and features (where constructed; as the fortress is assumed to have been not wholly completed) are evidenced substantially, corroborating contemporary common design features and justification as inclusion in the fortress group. The ring-street and axial-streets are not documented at the site. The rampart profile and gateways are additionally marked out in Corten steel, although this may be subject to change in the future. There are no current physical threats to the site and the contribution this component part makes to the proposed Outstanding Universal Value of the series.

Fyrkat: Wooden steps facilitate visitor access to the ramparts, overlooking excavated postholes marked in concrete to indicate positions of longhouses and ring-street.

Photo: Barry Gamble, 2019.



Trelleborg Viking-Age Ring Fortress.

A view from the fortress area to the museum.

Photo: Museum Southeast Denmark.

Protection

The legislation and planning material (including maps) mentioned in this section is to be found on the web-portal:

<https://en.natmus.dk/viking-age-ring-fortresses/>

5.1 Protection

Viking-Age Ring Fortresses, comprising five individual archaeological sites of Viking-Age ring fortresses, is fully protected by a hierarchy of laws and planning legislation that apply variously to the World Heritage property, the buffer zones, and in certain cases the wider setting. These act in combination to guarantee the protection and safeguarding of the attributes of Outstanding Universal Value, over time, as manifest in the property. The nominated property is covered by extensive legal protection, substantially through national legislation and through municipal planning which also extends to buffer zones, together with other national and international designations in certain cases. Denmark has a long history of the protection of cultural and natural heritage and ratified the World Heritage Convention on 25th July, 1979, ensuring implementation of the protection goals under its national legislation.

World Heritage sites

Denmark ratified the World Heritage Convention in 1979 and currently (2020) has seven cultural and three natural World Heritage sites. The Danish Agency for Culture and Palaces, under the Danish Ministry of Culture, is the ultimate authority for the implementation of protective measures at *Viking-Age Ring Fortresses*.

National legislation

Danish Museum Act. All ring fortresses (component parts) are legally protected by the Danish Museum Act (consolidated act no. 1505 of 14th December 2006) and may not be damaged or otherwise altered. A prime objective of the Museum Act is to preserve as much archaeological heritage as possible underground. This helps to secure valuable material in situ for fu-

ture archaeological work in which new non-invasive investigative technologies are becoming increasingly sophisticated and helpful in understanding our sites. The Danish Agency for Culture and Palaces, under the Danish Ministry of Culture, is the ultimate authority for the implementation of protective measures under the Museum Act at all five component parts (fortresses). In practice, implementation is delegated to respective museums.

Archaeology in Denmark is seen as an academic profession with great respect for qualifications. Archaeology is the responsibility of local cultural heritage museums in what is deemed to be a unique and effective system for protection. Each area of Denmark is covered by one museum, and an obvious benefit of this system is that those professionals with long-term continued engagement with a given institution accumulate a high standard of local / regional knowledge and its archaeological context.

Protection of Nature Act. Some fortresses are also subject to the Protection of Nature Act (consolidated act no. 1042 of 20th October 2008). This contains sustainable and compatible controls and management regimes that are suited to archaeological sites (such as the fortresses with their rampart, courtyard, berm and ditch) and their immediate settings of landscape with various layers of cultural history, together with outdoor recreational areas including beaches and seashores, lakes, rivers and marshes, and forests. The Act, which balances between environmental goals and the need to improve quality of life, includes a 100 m protection zone around any scheduled ancient monument in which no buildings (including sheds and caravans) are able to be located without the approval of the Agency.

Planning Act. The Planning Act (consolidated act no. 1027 of 20th October 2008) is reflected in Municipality Plans and Local Plans. The Act aims to ensure that the planning system unites social interests in land use and contributes to the protection of Denmark's nature, environment and culture in a way that society can develop sustainably. The Planning Act sets the framework for land use planning on the national, regional and local level in Denmark, and the responsible authorities are the Danish Nature Agency (under the Ministry of the Environment and Food), the Danish Business Authority (under the Ministry of Industry, Business and Financial Affairs) and the municipalities;

Cultural Heritage Areas. This national designation provides information on specific cultural heritage across designated are-

as, including to prospective developers, and therefore provides indirect protection.

Natura 2000. This EU wildlife protection policy is built on international agreements and made vertically binding on its Member States. It consists of the Natura 2000 network of ecologically protected areas and a strict system of species protection where Member States have obligations to establish preventive and restorative measures. Its protection applies in several cases in the buffer zones of the fortresses where the objectives for the protection of setting are entirely compatible with those of sustaining the ecology of habitats, especially wetlands.

Protection by component parts

1. *Aggersborg Viking-Age Ring Fortress*

The property is protected by the Danish Museum Act and cited in the municipal plan that, in turn, is regulated by the Danish Planning Act. The property is designated as an “archaeological site of irreplaceable cultural importance”, which is an area of land that contains known archaeological remains of national (international) scientific, cultural or historical importance. This designation does not have protective effect but is of an informative character.

Aggersborg lies within an International Nature Reserve according to the Danish Nature Protection Act and the Danish Environmental Objectives Act. *Aggersborg* is the subject of protective legislation pursuant to chapter 6 of the Danish Nature Protection Act. The southernmost part of *Aggersborg* lies within a coastal protection zone according to the Danish Nature Protection Act.

The main building of the *Aggersborggård* manor is the subject of a registered listing pursuant to the Danish Building Preservation Act.

In the 2009 Municipal Plan for Vesthimmerland Municipality, *Aggersborg* lies within the following designated areas pursuant to the Danish Planning Act: a natural amenity area; a coastal protection zone; a valuable historic environment; an afforestation undesirable area; and an ecological corridor. In the same Municipal Plan, and again pursuant to the Danish Planning Act, *Aggersborg* lies in conjunction with the following designations which have an influence on the use and protection of the areas around the property: wind-turbine area; agricultural area; geologically-valuable area; and area of special landscape value.

Designation under the Danish Nature Protection Act has the aim of conserving and protecting the area’s cultural-historical and archaeological assets and, in particular, the remains of *Ag-*

gersborg Viking-Age Fortress, as well as ensuring public access to the area to the extent such access is consistent with other preservation aims. In the southernmost part of the area, within the coastal protection zone, no changes may be made to the status of this area. The area also lies in conjunction with protected habitats such as meadows and coastal meadows which are regulated by the Danish Nature Protection Act.

The area lies within an International Nature Reserve (Løgstør Bredning, Vejlerne, and Bulbjerg) governed by the Environmental Objectives Act and the Danish Nature Protection Act. Within international nature reserves (Natura 2000 areas), it is not permitted to designate new areas as urban zones or areas for holiday homes, to plan large, new traffic facilities or associated installations such as service stations, maintenance depots, or similar structures, to plan new or significant expansions of other traffic and technical facilities such as airports, airfields, railways, harbours, landfill near coastal waters, overhead power lines, wind-turbine clusters and parks, refuse dumps, and other deposit facilities or to designate new areas for aggregate land extraction.

Protection, care, conservation and maintenance of *Aggersborg* is implemented by the Vesthimmerlands Museum, which reports under the Danish Museum Act to The Danish Agency for Culture and Palaces, which has ultimate authority over the property. The Museum also liaises with the Danish Nature Agency which has a specific operational budget for the area. The Historical Museum of Northern Jutland has the supervision of the scheduled monument.

In the Municipal Plan (2017) for Vesthimmerlands Municipality: the easternmost area of the inner “special control zone” of the buffer zone is appointed as a particular agricultural area; almost all of this “special control zone”, and the areas west, south and east of this, are appointed afforestation undesirable; almost all of the “special control zone” is appointed as particular valuable landscape; most of the “special control zone” is appointed “Natura 2000” area; the southernmost part of the “special control zone” is appointed as “valuable nature”; the middle part of the “special control zone” is appointed as “nature”; and the northwest part of the “special control zone” is appointed as “potential nature”; the southern part of the “special control zone” is appointed as an “ecological connection”; the southern part of the “special control zone” is appointed as a “geologically valuable area”; almost all of the “special control zone”, and a large area north of this, is appointed as a continuous “valuable historic environment” (*Aggersborg*, Viking-Age fortress, Manor and Church); all of the “special control zone” is located in Coastal protection zone A, and the southern part of the “special control zone” is also located in the shore protection

area; the southern part of the “special control zone”, along the coast, is in risk of flooding of the diked areas when there are high water levels in the fjord.

The buffer zone for the nominated component part is extensive - to the south, especially (with key views across the Limfjord and along the coast south of Løgstør), but also to the east, west and north. The inner “special control zone” is covered by multiple aspects of existing laws and plans which prevent any threat to the nominated property. Outside the “special control zone”, while many laws still cover the territory, the large buffer zone is intended to mitigate any new proposals for wind farms, or even large isolated wind turbines, outside of the existing approved clusters. Although these may be far in the distance, key views out of the fortress are to be protected and enhanced in the longer term.

2. *Fyrkat Viking-Age Ring Fortress*

The property is protected pursuant to the Danish Museum Act and cited in the Municipal Plan which, in turn, is regulated by the Danish Planning Act.

The property is designated as an “archaeological site of irreplaceable cultural importance”, which is an area of land that contains known archaeological remains of national (international) scientific, cultural or historical importance. This designation does not have protective effect but is of an informative character.

The property is protected by four protection orders pursuant to the Nature Conservancy Board.

In the Municipal Plan for Mariagerfjord Municipality, the area (including the buffer zone) is covered by the following guidelines: wetland area; historic environment worthy of conservation; Natural Amenity Area; low-lying area; Landscape of special value; Area of geological value. In the Coastal zone, *Fyrkat* is mentioned in the Municipal Plan under the following categories: historic environments; valuable historic environments that should be protected in urban zones, areas with holiday homes, and rural zones. Furthermore, afforestation is seen as being undesirable in the area.

Fyrkat and the Onsild river valley are included in a number of designations relating to nature, landscape, and historic environment that protect the property against interventions or new development. The guidelines for land use within the designated areas all have as their primary aim to protect these areas against interventions or new development that may remove or disturb natural values such as flora and fauna, landscape values such as the river valley, and historic environment values such as *Fyrkat*. As a consequence, the property itself is well-protected. Through its administration, the municipality is to ensure

that the guidelines and legislation are observed and respected. *Fyrkat* is conspicuous in the landscape, and the property is visible from the town of Hobro.

Protection, care, conservation and maintenance of *Fyrkat* is implemented by the Historical Museum of Northern Jutland under an agreement between the National Museum of Denmark and Mariagerfjord Municipality. Reporting under the Danish Museum Act is to The Danish Agency for Culture and Palaces, which has ultimate authority over the property.

The Property is protected by three registered protection orders under the Nature Conservancy Board and one under the Supreme Nature Conservancy Board.

A total of ten covenants have been registered on the property. In relation to *Fyrkat*, the following are relevant: In the Municipal Plan 2009-2013 for Mariagerfjord Municipality, the area (including the buffer zone) is covered by the following guidelines: Wetland area; Historic environment worthy of conservation; Natural Amenity Area; Low-lying area; Landscape of special value; Area of geological value; Coastal zone.

3. *Nonnebakken Viking-Age Ring Fortress*

The property is protected pursuant to the Danish Museum Act and cited in the Municipal Plan which, in turn, is regulated by the Danish Planning Act.

The area is part of the so-called cultural heritage area; an area of land that contains known archaeological remains of national (international) scientific, cultural or historical importance (which covers the Viking-Age/Middle Ages town of Odense). This designation does not have protective effect but is of an informative character.

The buffer zone and the northern most part of Nonnebakkens' ditch is lying inside the protected area *Odense Ådal etape III* (The river valley of Odense Å part III). The purpose of the protection is among others to keep the river valley free of further settlement.

The area is protected under the Natural Protection Act, that includes prohibition towards e.g. buildings and earthworks, with an exception to existing built up areas. Because of the city context the protection lines are limited to the following: the river protection line § 6 – 150 m from registered watercourses (the river Odense Å); Protection of ancient monuments §18 – 100 m around the monument protected by the Danish Museum Act.

In the District Plan that applies to the major part of the area, the protection of the fortress and the protected area toward the river Odense Å are mentioned with reference stating the demand of allowance due to other laws. The District Plan also defines that both existing and new settlement occurs in a way that the existing environment is conserved and strengthened.

The area just west of *Nonnebakken* is also protected by the district plan, covering a very small part of the ditch. The District Plan states that the buildings might be used for dwellings and service functions in the future; a clause that has no negative effect on the protection of *Nonnebakken*.

Protection, care, conservation and maintenance of *Nonnebakken* is implemented by Odense City Museums. The museum reports under the Danish Museum Act to The Danish Agency for Culture and Palaces, which has ultimate authority of the area.

4. *Trelleborg Viking-Age Ring Fortress*

The property is protected pursuant to the Danish Museum Act. The property is protected by a protection order for the Tude River, the Tude river valley, and the Vårby river valley. The property is cited in the Municipal Plan which, in turn, is regulated by the Danish Planning Act.

The property is designated as an “archaeological site of irreplaceable cultural importance”, which is an area of land that contains known archaeological remains of national (international) scientific, cultural or historical importance. This designation does not have protective effect but is of an informative character.

The *Danish Nature Protection Act* and the *Danish Planning Act* are enforced by Slagelse Municipality. The Slagelse 2013-2025 Municipal Plan covers *Trelleborg* with respect to the following areas: tourist areas – “Countryside area” as an historical visitor centre that can be extended; Regional trails, served by the regional trail running from Korsør, south of Slagelse, to Kongskilde; Coastal Zone, which is a planning and protection zone for new development with non-coastal functions; Historic environments – *Trelleborg*, together with the Vårby river valley, is covered by historic environment resolutions; Landscape protection – the area around *Trelleborg* is a designated river valley with the highest level of protection; Nature protection – a zoned core area for nature conservation.

Trelleborg is cited in the Municipality Plan which includes an intent to continue the expansion of *Trelleborg* Museum – visitor centre, etc. The Municipal Plan contains the following provisions: The main structure of the municipal plan should be implemented with respect to land use, provision of services, recreational opportunities, etc.; the principles for the expansion of the traffic network should be followed – with reference to regional recreational trails, although special account should be taken for nature protection; the area is used for agriculture, horticulture and forestry, recreation and residential purposes. Non-agricultural/horticultural/forestry businesses may not be established in the area; the area will remain a rural zone; ex-

isting residences should continue to accommodate year-round occupancy. Replacement houses are normally not permitted to be established; recreational activities should be adapted to conservation interests; new construction, alterations, and extensions should respect the traditional local building tradition – for example, with respect to building form, roof construction, dormers, and choice of materials, including doors and windows; technical facilities, including those relating to renewable energy, can only be established in exceptional circumstances; extensive account should be taken with respect to the conservation of animal and plant life in the area as a whole, potentially through protective legislation.

The Municipal Plan's guidelines for rural areas generally prohibit new use without a connection to agriculture. The area around *Trelleborg* is also governed by regulations for coastal zone and the highest landscape protection.

The area around Tude river valley from *Trelleborg* to the Great Belt is covered by a protection plan. The protection plan specifies that the area must be maintained in its present natural state and may not be developed. The western boundary of the district plan area coincides with that of the protected area. *Trelleborg* is situated in a natural river valley with wet meadows and marshes along the river. The area between *Trelleborg* and the Great Belt is protected, and the Municipality of Slagelse is currently working on a large-scale restoration and conservation project in the river valley. The project will support the story of the strategic position of *Trelleborg* along the coast of Great Belt. The intent is to restore the meadows and marshes in the delta area.

Protection, care, conservation and maintenance of *Trelleborg* is implemented by Viking Fortress *Trelleborg*, Slagelse Municipality and The National Museum of Denmark. Reporting under the Danish Museum Act is to The Danish Agency for Culture and Palaces, which has ultimate authority over the area.

5. *Borgring Viking-Age Ring Fortress*

The property is scheduled according to the Danish Museum Act. The property is cited as an area of Natural preservation, Cultural preservation and of Cultural Value in the Municipal Plan 2013 which, in turn, is regulated by the Planning Act. The Property is also protected by two registered protection orders: Water Stream Protection Lines, regulated by Danish Spatial Planning Act, and the Nature Protection Act; Specific Geological Preservation Interest which is regulated by Danish Spatial Planning Act and National Geological Interest Area.

Buffer zones have been designated to protect the nominated property from potentially negative impacts arising from potential development, to preserve key views into and out of the nominated property, and to protect important setting.

Protection, care, conservation and maintenance is implemented by monitoring of the scheduled ancient monument and is carried out on a ten-yearly basis by Museum Southeast Denmark. The museum reports under the Danish Museum Act to The Danish Agency for Culture and Palaces, which has ultimate authority of the area.

5.2 Protection goals

Sustaining attributes through protection and management takes place at the level of the individual component parts (fortresses), with responsibility remaining at each component part. The overall property will have a Coordinator who has responsibility for the integrated delivery of the *Viking-Age Ring Fortresses* Property Management Plan.

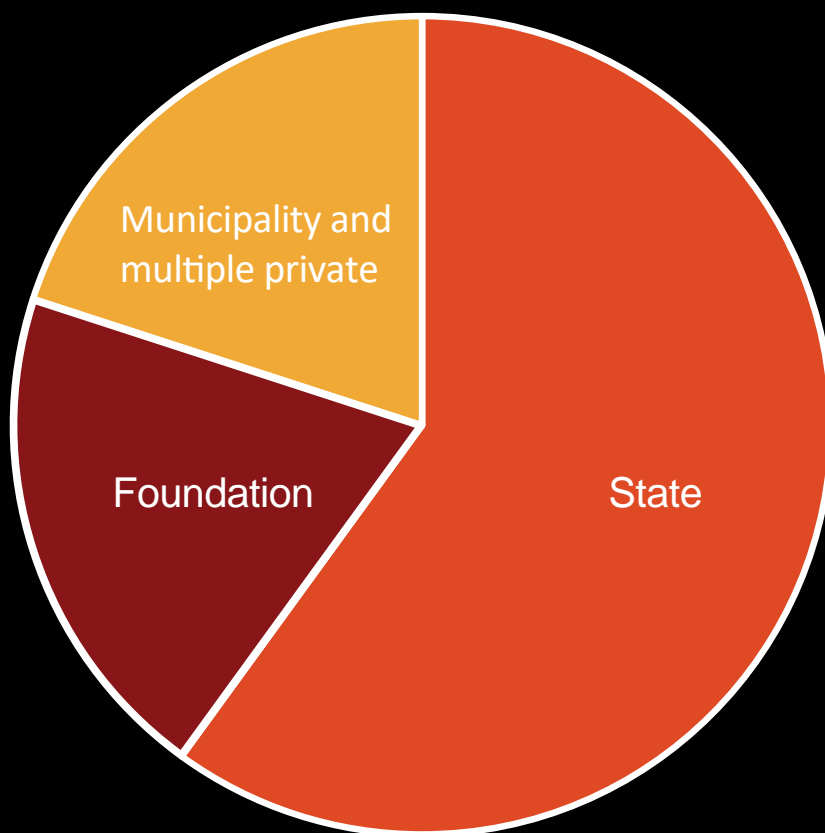
Management planning has been adjusted within the framework of the established network between component parts, the hosting municipalities and the State Party, in order to produce a coordinated and integrated single plan, and to optimise the effective delivery of a property-wide Action Plan. The various mechanisms employed are robust and guarantee the protection and preservation of Outstanding Universal Value and its integrity and authenticity.

In terms of specific long-term expectations for the protection of the property, or any long-term challenges, threats or vulnerabilities anticipated, there are none. There are therefore no changes envisaged in the current level of protection.

5.3 Instruments of protection

Legislation is administered partly at State level and partly at municipality level. It includes protection as: scheduled ancient monuments (Danish Museum Act) – all component parts; Municipal Plans – all component parts; District Plan (3. *Nonnebakken*); and by various cultural heritage areas, cultural heritage protection resolutions and covenants, and the Nature Protection Act.

Ownership



Ownership of the nominated property is vested in: the Danish State (1. *Aggersborg*, 2. *Fyrkat* and 4. *Trelleborg*); a wholly compatible foundation (5. *Borgring*); and the municipality plus multiple private owners (3. *Nonnebakken*).

Graphics: Kirsten Bach Larsen.

Management System at the component parts

6.1 Overall management structure

The overall management of the property is described in section 1.5 and is a co-operation among a hierarchy of parties. A Management Board is the upper level of direct management. Co-ordination of activities on a transverse level is maintained via a Series Coordinator (daily manager). Contact with UNESCO is maintained via The Danish Agency for Culture and Palaces.

As a supplement to the coordinated work within the serial nomination a day to day management system at the local level has been in function for many years and will also continue after an inscription. This system is necessary because of the physical distance between the fortresses, their location in different municipalities and museums districts.

Aggersborg Viking-Age Ring Fortress

The Danish Agency for Culture and Palaces has national supervisory responsibility via the local museum, Vesthimmerlands Museum, which is also in charge of daily supervision. The Danish Nature Agency is as landowner in charge of daily supervision in collaboration with Vesthimmerlands Museum. The artefacts from the *Aggersborg Viking-Age Fortress* at the Danish National Museum are under the care of a conservator. Overall monitoring and administration of the listed monument is carried out by the Danish Agency for Culture and Palaces with delegation to the Historical Museum of Northern Jutland.

Vesthimmerlands Municipality is by national Danish law responsible for the spatial planning and management throughout the municipality. Vesthimmerlands Museum is a formally national recognised museum within the national Danish law. The museum is responsible for archaeological surveys, exca-

vations, collections, research and dissemination throughout the Vesthimmerlands Municipality. The Historical Museum of Northern Jutland has the responsibility for the monitoring and reporting of all listed monuments within the area.

Fyrkat Viking-Age Ring Fortress

The Danish Agency for Culture and Palaces has national supervisory via the local museum, the Historical Museum of Northern Jutland, which is also in charge of daily supervision. Artefacts from *Fyrkat* at Hobro Museum are under the care of a conservator at the Historical Museum of Northern Jutland. The artefacts kept at the Danish National Museum are in the care of a conservator. Overall monitoring and administration of the listed monument is carried out by the Danish National Museum as landowner and the Historical Museum of Northern Jutland. Responsible for the listed monument is the Danish Agency for Culture and Palaces, which has delegated the practical responsibility to the Historical Museum of Northern Jutland.

Mariagerfjord Municipality is by national Danish law responsible for the spatial planning and management throughout the municipality. The Historical Museum of Northern Jutland is a formally national recognised museum within the national Danish law. The museum is responsible for archaeological surveys, excavations, collections, research and dissemination throughout the Mariagerfjord Municipality as well as for the monitoring and reporting of all listed monuments within the area.

Nonnebakken Viking-Age Ring Fortress

The Danish Agency for Culture and Palaces has national supervisory via the local museum, Odense City Museums, which is also in charge of daily supervision. Artefacts from *Nonnebakken* at Odense City Museums are under the care of a conservator. The artefacts kept at the Danish National Museum are in the care of a conservator. Overall monitoring and administration of the listed monument is carried out by the Danish Agency for Culture and Palaces and Odense City Museums. Responsible for the listed monument is The Danish Agency for Culture and Palaces, which has delegated the practical responsibility to Odense City Museums.

Odense City is by national Danish law responsible for the spatial planning and management throughout the municipality. Odense City Museums is a formally national recognised museum within the national Danish law. The museum is responsible for archaeological surveys, excavations, collections, research and dissemination throughout the Odense Municipality as well as for the monitoring and reporting of all listed monuments within the area.

Trelleborg Viking-Age Ring Fortress

The Danish Agency for Culture and Palaces has the national supervisory responsibility via Roskilde Museum. Trelleborg Viking Fortress/The National Museum of Denmark is in charge of the daily supervision and monitoring of the ancient monument. The daily monitoring of the ancient monument and the original artefacts in the exhibition is the responsibility of the manager/ keeper of Trelleborg Viking Fortress. The overall monitoring and administration of the listed monument and the National Museum of Denmark's artefacts are the responsibility of the manager/ keeper of Trelleborg and the representative of the National Museum. Responsible for the listed monument is The Danish Agency for Culture and Palaces, which has delegated the practical responsibility to Roskilde Museum.

Slagelse Municipality is by national Danish law responsible for the spatial planning and management throughout the municipality. Museum Vestsjælland (Museum Western Zealand) is responsible for archaeological surveys, excavations, collections, research and dissemination throughout the municipality in general, while the National Museum takes care for archaeological surveys, excavations, collections, research and dissemination on their own property. Roskilde Museum is responsible for the monitoring and reporting of all listed monuments within the area.

Borgring Viking-Age Ring Fortress

The Danish Agency for Culture and Palaces has national supervisory responsibility via Museum Southeast Denmark, which is also in charge of daily supervision. Artefacts from *Borgring* at Museum Southeast Denmark are under the care of a conservator. Overall monitoring and administration of the listed monument is carried out by the Danish Agency for Culture and Palaces.. Responsible for the listed monument is The Danish Agency for Culture and Palaces, which has delegated the practical responsibility to Museum Southeast Denmark.

Køge Municipality is by national Danish law responsible for the spatial planning and management throughout the municipality. Køge Municipality is also the local responsible stakeholder for *Borgring* and formal co-signatory of the nomination application.

Museum Southeast Denmark is a formally national recognised museum within the national Danish law. The museum is responsible for archaeological surveys, excavations, collections, research and dissemination throughout the Køge Municipality as well as for the monitoring and reporting of all listed monuments within the area. Further, the sole landowner of *Borgring* is the manor Vallø Stift, which owns not only the property but also the main part of the surrounding landscape. Vallø Stift is part of the Borgring Management Group

6.2 Ownership

1. Aggersborg Viking-Age Ring Fortress

The Property (scheduled area) is owned by the Danish State (Danish Nature Agency), while the buffer zone contains multiple owners, including the church and farmland in the immediate setting north of the Limfjord, and including the village of Aggersborg. South of the Limfjord the ownership of the buffer zone is in a greater number of municipal and private ownerships, with the greatest density in Løgstør (3 km south of Aggersborg, across Borreholm Island and the open expanse of the Limfjord) which has a population of 4,164 (2019).

2. Fyrkat Viking-Age Ring Fortress

The Property (scheduled area) is owned by the Danish State (National Museum of Denmark), while in the buffer zone there is a single property owned by a private local community foundation whereas the rest of the area is owned privately by a small number of landowners.

3. Nonnebakken Viking-Age Ring Fortress

The Property (scheduled area) lies mostly in areas owned by a number of private landowners (there are 140 inhabitants). Exceptions are smaller areas, that are lying under public roads and a park. The two major landowners combined, Odd Fellow Logen (the Odd Fellow Guild) and Giersings Realskole (Giersings Private School), owns 2/3 of the nominated property. To the south a series of smaller houses with gardens are placed. Agreements exist with Odd Fellow Logen and Giersings Realskole for public access. The buffer zone immediately to the north of *Nonnebakken* includes a larger municipal area which today is used for park-like recreation. Elsewhere there are multiple owners in the dense urban buffer zone (over 7,000 inhabitants) which concentrates on the contemporary historic core indicated as from the Viking-Age. The buffer zone occupies a substantial portion of the central area of what ranks as the third largest city in Denmark, with a total population of around 200,000. The city extends across a much larger area than the buffer zone.

4. Trelleborg Viking-Age Ring Fortress

The Property (scheduled area) is owned by the Danish State (National Museum of Denmark), while in the buffer zone a part of an area of 7.1 ha, is included in the fortress ownership and accommodates the reconstructed longhouse and public toilets. The rest of the 7.1 ha which contains the Museum building and the area around the museum are owned by the Property Fund of The Museum at Trelleborg.

5. *Borgring Viking-Age Ring Fortress*

The Property (scheduled area) is owned by Vallø Stift. The buffer zone is owned by Vallø Stift; except the highway which is owned by the Danish State. Almost all of the historic landscape which extends way beyond the buffer zone and into the setting of *Borgring* is owned by Vallø Stift (self-governing institution and trade fund established in 1737 by Queen Sophie Magdalene). It is a wholly compatible landowner which owns and sensitively manages c. 4,200 ha. of landscape (including Vallø Castle and Park) located immediately south of Køge and extending from Køge Bay approximately inland for 10 km.

6.3 Key stakeholders, and for each component part

1. *Aggersborg Viking-Age Ring Fortress*

- Vesthimmerland Municipality
- Vesthimmerland Museum
- Museum of Northern Jutland
- Danish Nature Agency
- Aggersborggaard A/S

2. *Fyrkat Viking-Age Ring Fortress*

- National Museum of Denmark
- Mariagerfjord Municipality

3. *Nonnebakken Viking-Age Ring Fortress*

- Odense Municipality
- Odense City Museums
- The Odd Fellow Guilding
- Giersings Private School
- Other private landowners in the scheduled area

4. *Trelleborg Viking-Age Ring Fortress*

- The National Museum of Denmark
- Slagelse Municipality
- The property Fond of The Museum at Trelleborg
- Trelleborg Friskole
- Volunteers e.g. The Society of the Friends of the Viking Fortress Trelleborg and other Viking groups
- Other private landowners in the scheduled area

5. *Borgring Viking-Age Ring Fortress*

- Køge Municipality
- Museum Southeast Denmark
- Vallø Stift

6.4 Risk management

The property is not associated with particular known fixed risks. A large number of activities take place within *Viking-Age Ring Fortresses*, however, and these may lead to increased pressure and may otherwise constitute a threat to the property if not managed appropriately. Accordingly, it is necessary that such activities are controlled through management initiatives.

6.5 Threats and preventive action

In general terms, the properties are not threatened by development or natural conditions. The properties, and their setting are variously located within areas that are protected by a combination of legislation. Over-exploitation of the property that could lead to visitor erosion of the terrain is managed by careful routing of the visitor around sites and sufficient earth used in marking/covering significant features, a situation that is monitored carefully. A significant part of the property's authenticity lies in its appearance in the landscape, and existing legislative and planning regulations already secure this so as to ensure that this aspect is never threatened.

6.6 Monitoring

The responsibility for monitoring the World Heritage Site (see section 6.1) has been placed with The Danish Agency for Culture and Palaces which has requested that the Historical Museum of Northern Jutland conducts this for *Aggersborg* and *Fyrkat*, Roskilde Museum for *Trelleborg*, Odense City Museums for *Nonnebakken*, and the Museum Southeast Denmark for *Borgring*.

The state of conservation of the proposed Outstanding Universal Value of the nominated property will be regularly monitored through the assessment of the condition of attributes. The methodology adopted, and indicators established, is tabulated below.

Indicator	Periodicity	Location of records
A State of conservation of attributes of Outstanding Universal Value		
A1: Assess condition of each attribute of OUV at the beginning/ end and midpoint of each cycle of Periodic Reporting, using the Periodic Reporting methodology and a condition survey of archaeological elements of all components	Every 3 years	At each component part (museum at each fortress)
A2: Aerial photograph or satellite photo as a basis for documenting any change in the condition of each component part and its surroundings (see also B2)	Every 3 years	At each component part (museum at each fortress)
A3: Fixed point site photography, particularly of any pinch points on circulation routes, to assess condition and presence/absence of erosion (see also B3)	Every 3 years (spring and autumn)	At each component part (museum at each fortress)
A4: Water level/ground moisture (influence on survival of buried archaeology, e.g. wood)	Every 3 years (spring and autumn)	At each component part (museum at each fortress)

Indicator	Periodicity	Location of records
B Factors affecting the property		
B1: Impact of factors affecting the property and (as appropriate) its buffer zone, using the Periodic Reporting methodology	Every 3 years	At each component part (museum at each fortress)
B2: Aerial and satellite imagery (see also A2) as a basis for tracking general factors in the nominated property and buffer zone (e.g. development pressure)	Every 3 years	At each component part (museum at each fortress)
B3: Fixed point photography (see also A3), evidencing any changes to views from/ into the nominated property	Annually	At each component part (museum at each fortress)
B4: Planning applications for developments (nominated property and buffer zones) with the potential to have an adverse impact on Outstanding Universal Value – recording annual number and the outcome of applications	Annually	At each component part (museum at each fortress)
B5: Number of Heritage Impact Assessments carried out annually (this is also a measure of management effectiveness as well as an indication of development pressure on the property)	Annually	At each component part (museum at each fortress)
B6: Severe weather events such as torrential rain, flooding (sea/rivers), or drought	Annually	At each component part (museum at each fortress)
B7: Number of intrusive archaeological investigations, or other excavations, in the nominated property (recording purpose and referencing report)	Annually	At each component part (museum at each fortress)

Indicator	Periodicity	Location of records
C Effectiveness of management system		
C1: Existence and regular revision of Property Management Plan; setting of annual Action Plan to implement Property Management Plan	Annually	Series Coordinator
C2: Number of meetings of management board	Annually	Series Coordinator
C3: Monitoring of implementation of annual action plan and overall implementation of management system	Annually	Series Coordinator
C4: Extent to which management system includes policies for developing/improving sustainable development (including gender equality, ecosystem services/benefits to the local community, social inclusion and equity, improving opportunities for all, integrating a human-rights approach, fostering inclusive local economic development and enhancing livelihood	Annually	Series Coordinator
D Finance and human resources		
D1: Recording of annual budgets for management of property, for its regular maintenance, and for projects carried out on the property	Annually	At each component part (museum at each fortress) & Series Coordinator
D2: Number of staff working on nominated property, including professions and gender balance	Annually	Series Coordinator
D3: Number of volunteers working on nominated property, including gender balance	Annually	At each component part (museum at each fortress) & Series Coordinator

Indicator	Periodicity	Location of records
D4 Number of training events for staff and volunteers	Annually	At each component part (museum at each fortress) & Series Co-ordinator
E Scientific studies and research projects		
E1: Research strategy in place with mechanisms for implementation and review	Every 3 years	Series Coordinator
E2: Project reports produced and published in a timely manner	Annually	At each component part (museum at each fortress)
F Education, information and awareness-raising		
F1: Education and awareness-building/communication strategy in place	Every 3 years	Series Coordinator
F2: Number of events/programmes/ actions to improve public awareness in local communities and number of participants in those events/ programmes/ actions	Annually	At each component part (museum at each fortress) & Series Co-ordinator
F3: Number of events/ programmes/ actions organised for schools and colleges, and number of participants in those events/ programmes/ actions	Annually	At each component part (museum at each fortress) & Series Co-ordinator
G Visitor management		
G1: Visitor numbers, including foreign visitors and educational visitors	Annually	At each component part (museum at each fortress) & Series Co-ordinator

Indicator	Periodicity	Location of records
G2: Days carrying capacity exceeded (and by how many visitors, and month)	Annually	At each component part (museum at each fortress) & Series Co-ordinator
G3: Presence/absence of erosion caused by visitors	Annually	At each component part (museum at each fortress) & Series Co-ordinator
G4: Quality of visit, measured by surveys (% visitor satisfaction)	Annually	At each component part (museum at each fortress)
H Implementation of the World Heritage Strategy for the integration of sustainable development into the processes of the World Heritage Convention		
Collation. See measures C4, D2, D3, F2, F3		

Monitoring indicators.

Intervals of monitoring are proposed at the beginning and mid-point of each cycle of Periodic Reporting – i.e. once every three years. Factors affecting the property – either positively or negatively – will be recorded annually.

Regarding protection and management, any change in protection (property and buffer zone) will be recorded annually, while management effectiveness will be measured annually using performance against policies of the Management Plan. Concerning financial and human resources, the nomination date will serve as a baseline from which annual records of income/expenditure/staffing levels are kept, together with the involvement of volunteers and of local community activities at the nominated property/each component part (fortress).

In terms of scientific studies and research projects, these are recorded annually and publication references are added to the bibliography for *Viking-Age Ring Fortresses* on an ongoing basis. In terms of education, information and awareness-building, the annual number of students visiting component parts is recorded where possible, as is the number of visitors to planned awareness-raising events such as special exhibitions or community consultations.

Visitor management is informed by the annual recording of visitor numbers to component parts, together with the analysis of visitor surveys (satisfaction, interpretation, etc.)

6.7 Methodology

The state of conservation of attributes of proposed Outstanding Universal Value will be assessed according to a four-point scale, guided by the UNESCO Third Cycle Periodic Reporting Questionnaire, Section II):

Preserved: *This attribute is essentially intact, and its overall condition is stable or improving. Available evidence indicates only minor, if any, disturbances, to this attribute.*

Compromised: *Some loss or alteration of the aspects of this attribute has already occurred, but their overall condition is not causing persistent or substantial effects to this attribute.*

Seriously compromised: *Loss or alteration of many aspects of this attribute has occurred, which is leading to a significant reduction in the significance of this attribute.*

Lost: *Loss or alteration to most aspects of this attribute has occurred and has caused a major loss of significance of this attribute.*

Site managers will also record how conditions have changed between six-yearly cycles of reporting, and their predictions for future trends.

In preparation for Periodic Reporting, monitoring of *Viking-Age Ring Fortresses* will record whether the factor being monitored has a positive or negative impact or both, is current or potential, and originates either inside or outside the property. For each factor being monitored using the respective indicator, this will be followed by a six-part assessment covering the following aspects:

Spatial scale - whether the area affected by the factor is/would be restricted (i.e. affecting less than 10% of the property's area at any one time); localised (i.e. affecting between 11 and 50%); extensive (i.e. affecting between 51-90%) or widespread (i.e. affecting between 91-100%);

Temporal scale - whether the occurrence of the impact is/would be one off or rare; intermittent or sporadic; frequent or on-going;

Impact - whether the impact on the attributes that express proposed Outstanding Universal Value are/would be insignificant; minor; significant or major;

Management response - which assesses the capacity (i.e. staff time, resources, budget, knowledge) of management to respond to the negative or positive factors as being of either: no capacity and/or resources, low capacity, medium capacity or high capacity;

Trend - how the trend has developed over the last 6 years (cycle of Periodic Reporting) and whether the overall impact of the negative or positive factor is decreasing; static or increasing;

Sustainable development – whether the selected factor impacts negatively/positively to the contribution to either environmental sustainability, inclusive social development, inclusive economic development, and peace and security.

By using the above methodology, cumulative trend information will increasingly contribute to the enhancement of overall knowledge of the nominated property and ensure future assessment as to whether the situation is improving, remaining constant or declining.



SUSTAINABLE DEVELOPMENT GOALS



Sustainable Use

7

7.1 Issues and policies

Issues which affect the property are assessed as the basis for developing policies to deal with them. Policies, strategic actions, and lead agencies have then been devised and assigned.

Policy	Strategic action	Lead agency
P Protection		
P1: Update statutory protection of any extended boundaries to the WHS	Report on scheduling of the WHS	Danish Agency for Culture and Palaces
P2: All relevant strategic documents and programmes will incorporate regard to the vision and aims of this Management Plan	Include policies in Local Plans	Local planning authorities
P3: All relevant strategic documents and programmes will make provision for the protection of the WHS and its setting	Develop supplementary planning guidance	WHS coordination, monument protection and local planning authorities

Policy	Strategic action	Lead agency
P4: Any new development will protect the WHS and its setting	Develop supplementary planning guidance and training for LPA staff	At each component part (museum at each fort WHS coordination and local planning authorities res)
C Conservation and enhancement		
C1: Local authorities and other agencies will make full use of the powers available to them for the conservation of the WHS	Develop supplementary planning guidance and training	At each component part (museum at each fortress)
C2: The conservation and continuing maintenance of the WHS will be undertaken in a timely manner and to the highest appropriate standards to sustain authenticity and integrity	Advocate for funding and allocate necessary resources on an ongoing basis	At each component part (museum at each fortress)
C3: Sustainable heritage-led development to enhance the values of the WHS will be encouraged and supported	Prioritise developments and advocate for support	At each component part (museum at each fortress)
C4: Landscape, nature conservation and agricultural environment management regimes will have regard to WHS values	Develop protocols	At each component part (museum at each fortress)
C5: The setting of the WHS will be maintained and enhanced where possible	Support actions in the setting that contribute to the historic character and understanding of the WHS	At each component part (museum at each fortress)

Policy	Strategic action	Lead agency
T Interpretation, presentation and transmission		
T1: Promote inclusive access to the sites that is sustainable to the environment and consistent with WHS values	Sustainable transport plan, including the provision of WHS-related information at key transport nodes	WHS coordination and relevant organisations
T2: Present sites in a way that is compatible with their values and not unnecessarily intrusive to their character and setting	Formulate an interpretation strategy which gives regard to the ICOMOS Ename Charter for the Interpretation and Presentation of Cultural Heritage Sites	WHS coordination and site museums
T3: Marketing and interpretation of the WHS should be coordinated to be consistent with one property (series of 5 sites)	Develop a marketing strategy underpinned by the interpretation strategy	WHS coordination, site museums and relevant tourism organisations and networks
T4: WH Values should be communicated to a wide range of audiences	Develop a learning strategy, and a single web portal that also provides links to site museums and resources	WHS coordination, site museums
T5: Research will be encouraged, and publication supported for dissemination	Develop/update the research agenda	WHS coordination, site museums
S Integrating WHS management with UN Sustainable Development Goals		
S1: The WHS will contribute to sustainable life on land and below water	Continue to enhance environmental and ecological values of the WHS and its setting	WHS coordination, Danish Nature Agency

Policy	Strategic action	Lead agency
S2: The WHS will contribute to climate action	Continue to engage with climate resilience work	WHS coordination, Danish Nature Agency, local planning authorities
S3: The WHS will contribute to sustainable communities	Refine and further develop practices of community engagement and seek further integration of the community into the activities of the WHS	WHS coordination, site museums
S4: The WHS will use its sites to create opportunities for the improvement of health and well-being	Explore new opportunities for the WHS to contribute towards good physical and mental health and well-being	WHS coordination, site museums
S5: The WHS will contribute towards quality education	Develop a WHS education strategy	WHS coordination, site museums, national and local education authorities
S6: The WHS should contribute to local economic well-being, including local employment opportunities	Measure economic impacts and monitor job creation/levels	WHS coordination, site museums, local authorities

Policies, actions and lead agencies.



Trelleborg. Grazing regime used for ground maintenance. Photo: Trelleborg, National Museum of Denmark



Resources

8

Staff (coordination), and for each component part

8.1 Staff (coordination), and for each component part

The overarching Series Coordinator is a new post for the property, and has been agreed to be funded by stakeholders following a successful inscription on the World Heritage List. In addition to site staff and support from museums and other agencies, the Series Coordinator will also further coordinate any expertise from owners and stakeholders needed by individual component parts (fortresses), if required.

1. *Aggersborg Viking-Age Ring Fortress*

Vesthimmerland's Museum has academic staff appointed within the field of archeology, history, conservation, communication and didactic. The museum has a Ph.D. student in prehistoric archeology who finishes his studies in 2021 and the head of research has a Master of Research degree (mag. art). The staff has carried out multiple excavations and extensive research at Aggersborg, writing articles on the subject and also contributed to book publications, including "The King's Fortresses" (2013) and "Aggersborg: The Viking-Age settlement and fortress" (2014). Furthermore, the museum has an ongoing collaboration with Vesthimmerlands Municipality, the Danish Nature Agency, the Agency of Culture and Palaces, the National Museum of Denmark and the University of Aarhus and Copenhagen with respect to various professional, conservation and management aspects regarding the site. Vesthimmerlands Municipality is also able to provide expertise in relation to the administration of the Planning Act and Building Act, roads and traffic, etc.

2. *Fyrkat Viking-Age Ring Fortress*

The Historical Museum of Northern Jutland has academic staff appointed within the fields of archaeology, history and

ethnology; further to these is a conservation team. Archaeologists from the Museum assist with research and monitoring. At Viking Centre Fyrkat, which is located close to the fortress, there is a museum curator, and the museum has an ongoing collaboration with the involved municipalities, the Agency for Culture and Palaces, the National Museum of Denmark and the University of Aarhus with respect to various professional, conservation and management aspects of the daily work. Mariagerfjord Municipality is also able to provide expertise in relation to the administration of the Planning Act and Building Act, roads and traffic, etc.

3. Nonnebakken Viking-Age Ring Fortress

Odense City Museums has a direct responsibility for the site and has academic staff appointed within the fields of archaeology and history, together with a conservation team. The staff have carried out excavations and extensive research at *Nonnebakken*, writing and publishing a series of articles on the subject. The museum is located at a 10 minutes walking distance from *Nonnebakken*. The Museum has an ongoing collaboration with the involved municipalities, the Agency for Culture and Palaces, the National Museum of Denmark and the University of Aarhus and Copenhagen with respect to various professional, conservation and management aspects of the daily work. Archaeologists from Odense City Museums assist with monitoring. Odense Municipality is also able to provide expertise in relation to the administration of the Planning Act and Building Act, roads and traffic, etc.

4. Trelleborg Viking-Age Ring Fortress

The National Museum of Denmark/Trelleborg Viking Fortress has academic staff appointed within the fields of archaeology, didactic, history and ethnology. Further to this is a conservation team. Various articles have been and are in the process of being published on the subject. At *Trelleborg*, there is a head of museum and museum curator and the Museum has an ongoing collaboration with Slagelse Municipality, the Agency for Culture and Palaces, the Danish National Museum, the University of Copenhagen, the University of Southern Denmark, the University of Aarhus and Roskilde University with respect to various academic, conservation and management aspects of the daily work. Archaeologists from ROMU (Roskilde Museum) assist with monitoring. Slagelse Municipality is also able to provide expertise in relation to the administration of the Planning Act and Building Act, roads and traffic, etc.

5. Borgring Viking-Age Ring Fortress

Museum Southeast Denmark has academic staff appointed within the fields of archaeology, history and conservation. Be-

tween 2016 and 2018 the Museum has carried out the excavations of the ring fortress in collaboration with Aarhus University and the National Museum of Denmark and supervised by an international scientific advisory board. The Museum's formal board has decided that developing and managing *Borgring* is a strategic focus for the Museum. A new 'Borgring Exploratorium' will be established on the Southside of the river valley hosting a research unit and the Museum's archaeological department. Museum archaeologists assist with monitoring. Museum Southeast Denmark has an ongoing cooperation with academic institutions, both National and International. Koege Municipality is also able to provide expertise in relation to the administration of the Planning Act and

8.2 Budgets: coordination, and for each component part

For the property, as a whole, coordination of management at each component part, and the most efficient use of resources is paramount. Each fortress in the series has its own established arrangements and economic history concerning finance and accounting. Collaborative working as a new body that represents a single World Heritage Site does not necessarily represent a new and separate demand on resources. Rather, it is a time to combine and optimise resources within existing budgets and, of course, to explore opportunities for additional local and national sources of income coincident with World Heritage listing. Such additional contributions may contribute to collective issues or projects as a series or may apply to individual fortresses.

An example of such aforementioned partnership working is, following a successful inscription on the World Heritage List, that the new Series Coordinator function will be funded collectively by existing stakeholders responsible for component parts (fortresses).

Sources and base levels of finance for the Series Coordinator post, on an annual basis as agreed by collective stakeholders, is a direct financial contribution of between 30,000 to 50,000 DKKR (between 4,000 and 6,700 Euro) from each component part (fortress).

Sources and levels of finance at each component part are currently (2020):

Aggersborg Viking-Age Fortress

The day to day running and maintenance of *Aggersborg* is already funded in the form of staff from the Danish Nature Agency. Finance for capital works such as archaeological investigations, conservation, interpretation and presentation is funded on a project basis (e.g. the Agency for Culture and Palaces'

project “Danish Prehistory in the Landscape”, 2010-15, or new interpretive signage by Vesthimmerlands Museum concerning the latest dissemination of the site and the Limfjord area, 2019). Vesthimmerland Museum has recently initiated a development process whereby local landowners, the parish council, the local citizen association, the municipality’s administration and the tourism organisation work together in order to enhance the interpretation and visitor reception at *Aggersborg*. The process is managed by a project group headed by the Vesthimmerland Museum and the project team has initiated the preparation of a comprehensive plan for the area in 2020/2021.

Fyrkat Viking-Age Fortress

Fyrkat has 1 craftsman, plus a budget of 200,000 DKKR (26,800 Euro) per year to maintenance, primarily to *Fyrkat Møllegård* of which the fortress itself is only a part.

The day to day running of *Fyrkat* is taken care of by staff of the Historical Museum of Northern Jutland, which receives financial support from both the Danish State and Mariagerfjord Municipality. Finance for capital works such as interpretation and presentation of the fortress was recently funded through the Agency for Culture and Palaces’ project “Danish Prehistory in the Landscape” (2010-15). If Mariagerfjord Municipality wishes to carry out care and maintenance operations in the area, these take place without any expenses being incurred by the site owners. The Municipality has an annual sum in its budget for nature preservation of around 800,000 DKK (107,000 Euro). Interpretation and presentation of the area is mainly financed by the municipality’s funds for nature presentation and promotion, around 150,000 DKK (20,100 Euro) per year. A small part of the expenses for this communication work can be expected to be met from external funds received from foundations, other organisations and the Danish State.

Nonnebakken Viking-Age Fortress

The day to day maintenance of *Nonnebakken* is taken care of by staff from Odense Municipality. The Municipality has an annual sum in its budget for nature preservation, around 800,000 DKK (107,000 Euro). Interpretation and presentation of *Nonnebakken* is taken care of by staff from Odense City Museums. The Museum has dedicated one archaeologist for half a year to *Nonnebakken* in each of the years 2017- 2022, estimated to a yearly sum of c. 200,000 DKK (26,800 Euro); some of this finance being met by external funding. To this can be added varying resources from Museum staff in interpretation/dissemination, press, and graphic design, together with participation in projects from other institutions financed by external funding. For

example, the National Museum of Denmark participates in a project on *Nonnebakken* (2020-2022), funded by 713,000 DKKR (95,540 Euro) from the Cultural Ministry of Denmark. Odense Municipality and Odense City Museums has funded the work of architect Erik Brandt Dam for on-site interpretation and presentation of the fortress. The Municipality has also funded a pre-project on realisation of the dissemination visualisations and plans.

Trelleborg Viking-Age Fortress

The day to day running of Viking Fortress Trelleborg/The National Museum of Denmark is taken care of by the staff of Trelleborg, National Museum of Denmark and by Slagelse Municipality and the National Museum of Denmark, together with income from the education and interpretation/dissemination programs and shop sales. The total annual budget is c. 5,000,000 DKK (c. 666,667 Euro) (2019).

Interpretation and presentation of Trelleborg was recently updated through the Danish Agency for Culture and Palaces' project "Danish Prehistory in the Landscape" (2010-15). Special initiatives encompassing research projects, major exhibitions, publications and other interpretation and presentation work have, for many years, been financed primarily by external funding, but also partly by the museum's own resources. For example, the museum is at present planning a new permanent exhibition at Trelleborg, making use of modern forms of presentation and communication. Work on this exhibition has been financed so far by the museum, but it will be necessary to obtain external funding in order fully to realise the final exhibition. There are plans to further develop Trelleborg through realisation of a new project 'New Trelleborg', which includes partial reconstruction of a segment of the fortress in the Museum interpretive area. This involves the establishment of an international knowledge and adventure centre which can provide a foundation for high-quality research, interpretation, presentation and education and promote a productive interplay between these areas. Project 'New Trelleborg', which will be financed by Slagelse Municipality and a variety of sponsors, also has the intention of developing Trelleborg into one of the region's most important beacons and making a positive contribution to providing visitors with an all-round total experience. The realisation of this project, which will encompass new modern initiatives for interpretation and presentation, will offer a unique combination of events, activities and experiences to the public. Applications for resources to realise the 'New Trelleborg' project is presently developed by Slagelse Municipality and the National Museum of Denmark.

Borgring Viking-Age Fortress

The day to day running of Borgring is taken care of by Museum Southeast Denmark. The Museum receives financial support from both the Danish State and the Koege Municipality.

The total budget per year for the proposed 'Borgring Exploratorium' is estimated to c. 8,000,000 DKK (c 1, 073,000 Euro). The Interpretation and presentation of Borgring is also carried out by Museum Southeast Denmark. The present exhibition and interpretation as well as the major scientific research project (2016-18) have been funded by a donation from the AP Moller Foundation and Koege Municipality.



Borgring Viking-Age Ring Fortress, rampart markings at night.
Copyright: Museum Southeast Denmark

Action Plan

The objectives as set out in the Management Plan will be achieved through the implementation of a range of actions carried out by a wide variety of responsible and interested parties. The Action Plan is geared towards management initiatives that build upon a successful inscription of the property on the World Heritage List. Actions are sometimes standalone, and sometimes part of a wider incremental strategy. They may take place across the series (i.e. as one World Heritage Site) or they may take place at individual fortresses. Their cumulative outcomes are designed to support the fundamental conservation of the property and the wider aims of the Management Plan.

Overall property

Protection. The property, in some cases, was extended beyond the scheduled area in response to ICOMOS upstream advice (2019). The process to extend the scheduling to correspond precisely with this new boundary variation is due to be complete in 2021.

Website

Viking-AgeRingFortresses.dk
Viking-AgeRingFortresses.com

Component parts (fortresses)

Actions for each fortress are in a form which responds to local needs and preferences as well as being clearly part of this overarching Management Plan in order to achieve consistency in the implementation of policies and actions.

1. *Aggersborg Viking-Age Ring Fortress*

- Windfarms in the buffer zone: The municipality plan will ensure that the existing windfarms within buffer zone 2, will not be re-erected when they are worn out.
- Gravel extraction in the buffer zone: The existing chalk grave within buffer zone 2, has chalk resources approximately until year 2100.
- Visitor plan for Aggersborg: Vesthimmerlands Municipality is working on an overall plan for the development of Aggersborg.

2. *Fyrkat Viking-Age Ring Fortress*

- Developers work in the buffer zone: Historical Museum of Northern Jutland is in dialog with the municipality concerning the expanding city of Hobro. Both parties are interested in keeping visible buildings, roads etc. at a minimum.
- Updated visitor facilities: Viking-Age Ring Fortress Fyrkat is today an attraction which meets its visitors with several localities and entrances. These localities are spread over a larger area and several kilometers from Hobro City to the Viking Fortress itself. The future aim is to lower the number of localities and to center them at og in connection to the fortress. A plan taking care of this costing 15 mio. DKK includes the following elements:
 - Moving the finds from the exhibit at Hobro Museum (2,5 km from Fyrkat) to a new exhibit at Fyrkat Møllegård (200 m from Fyrkat).
 - Renovate and upgrade visitor facilities at Fyrkat Møllegård, including the old watermill.
 - Establishing new signs along Fyrkat Engsø (the fjord next to Fyrkat) describing Viking-Age, Fyrkat, landscape and nature.
 - Renovate the reconstructed Fyrkat long house lying only 100 m from the fortress, making it possible to use it for e.g. Reenactment and plays in the future.
 - Upgrade the exhibit at the reconstructed farm lying 1 kilometer from Fyrkat.

3. *Nonnebakken Viking-Age Ring Fortress*

- Dissemination: A proposal for an updated, on site dissemination of the fortress and the link to other Viking-Age localities of the city is finished 2020 and the municipality and the museum are in collaboration aiming at an establishment in 2022/2023. The dissemination in the city will be directly linked to a new, permanent exhibition at the museum a 10 minutes walk from Nonnebakken. The exhibition has two main themes, the modern city and the Viking-Age city.

4. *Trelleborg Viking-Age Ring Fortress*

- The wind turbine visible to the west-south-west of Trelleborg will not be replaced when it is worn out.
- The New Trelleborg Project with the reconstruction of a sections of the original fortress, extending and developing the museum building and exhibitions as well as developing digital programs for the fortress are in the process of being realized.
- Renovate the reconstructed Trelleborg long house from 1942, situated to the east of the fortress, making it possible to use it for e.g. reenactment and plays.
- Research and excavation programmes.
- Ph.d. program which combines empirical studies and archaeological experiments.
- Continue developing the exhibition, the education and dissemination programmes.

5. *Borgring Viking-Age Ring Fortress*

- Dissemination: A new and innovative way of marking the ring fortress.
- Updated visitor centre: Establishing the 'Borgring Exploratorium', a visitor's centre with exhibition, event and service centre along with an archaeological research unit.

Appendix

See <https://en.natmus.dk/viking-age-ring-fortresses/> for relevant planning documents and legislation.

