Settlement and activities behind the rampart 1550–1650 AD

Results

This time phase represents findings and features behind the Post medieval fortification and after its demolition in the mid 1600s over the time span of approximately 1550–1650 AD. It is an urban area with the expected findings of building remains, roads, water pipes, pits, etc. The findings in this period were mainly concentrated around the area of Hviids Vinstue (Fig. 203 and 204).

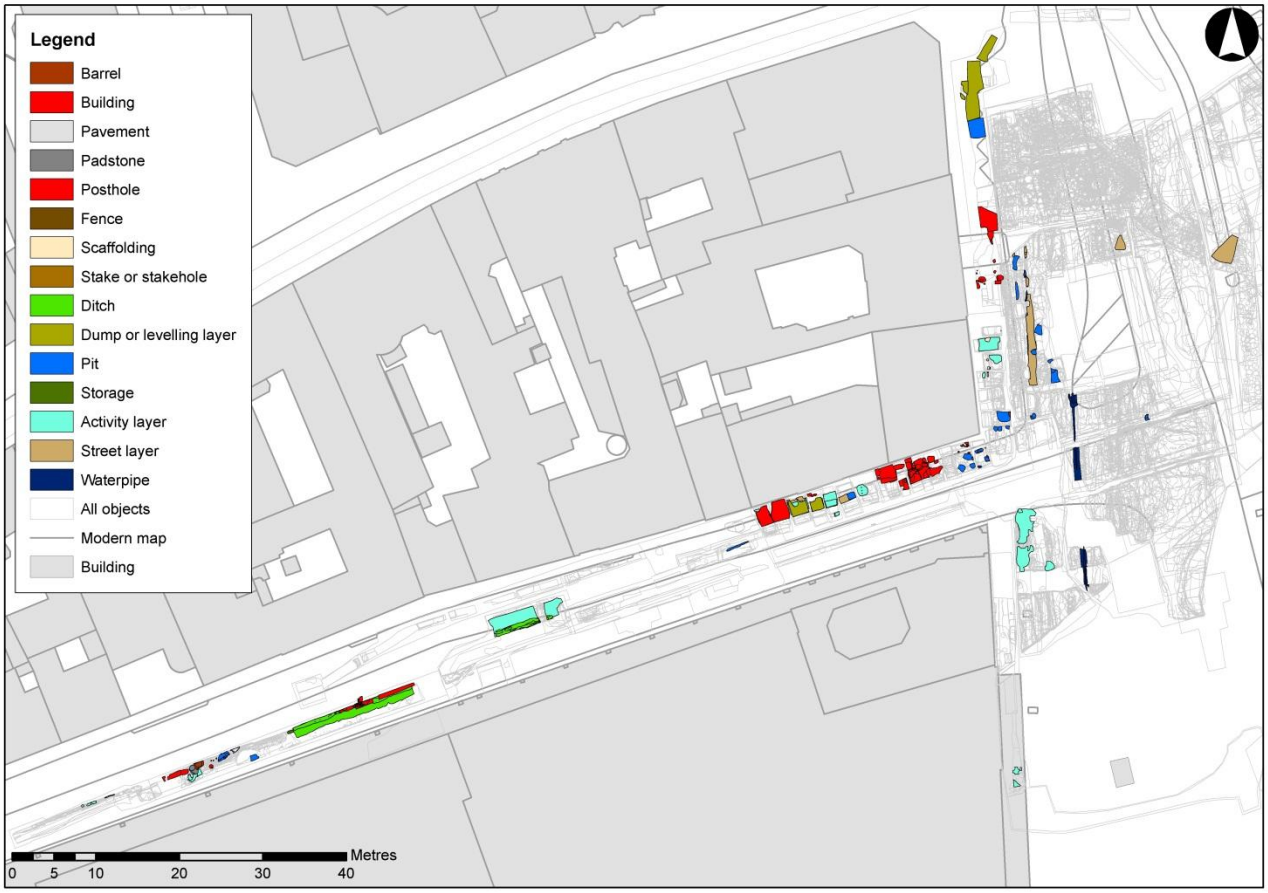

Fig. 203. All main features behind the rampart from 1550–1650 AD.

Due to fact that the area around Hviids Vinstue was excavated in 21 stages in order to protect the standing building, the linking of layers and features from the different stages of this part of the excavation was difficult. There was also the use of different archaeological methods from different stages due to safety issues and the standing building. This time phase was also affected by modern disturbances.

In the Post medieval period there is settlement both inside and outside the fortification, and in this chapter only the settlement inside the fortification has been described (see also Chapter High and Late medieval settlement and activities 1200–1550 AD above). Buildings that predates the current Hviids Vinstue was excavated and also in Lille Kongensgade predecessors to the known Kings booths excavated. The time phase is also dominated by a lot of urban activity like streets, pits, water pipes and different indications of craftwork. For more discussion on this time period see Chapter Urbanisation in the eastern part of Copenhagen/the area of Kongens Nytorv below.

Fig. 204. All building remains in the time period of 1550–1650 AD.

Buildings in the area around Hviids Vinstue

The area was excavated piecemeal due to the issues mentioned above, but the area carried evidence of the remains of at least three buildings (see also Fig. 207 below).

One of these building remains is thought to represent a foundation wall for one of the buildings which pre-dates the present standing building Hviids Vinstue built in 1723. It consisted of a row of large rolled boulders and smaller stones aligned ENE-WSW (Fig. 205). Three of the boulders were later packed around with small stones and other material. It appears that the building was built in orange-red bricks with a few yellow bricks between them. Also brickwork representing part of a step/stairs was excavated, but secondary added to the foundation wall because where there was no bond between the brickworks in the stair and the foundation. The foundation wall was revealed south of the current southern wall of Hviids Vinstue and was slightly out of alignment with the building. There were no traces of mortar or anything which could indicate the overlying structure. The boulders could, due to their size, have been reused from the former fortification in the 17th century.

Fig. 205. Boulders and stones in building the building likely to be a predecessor to Hviids Vinstue, facing north. Photo: Museum of Copenhagen.

A wooden structure consisted of several vertical timber posts, post- and stakeholes with backfills and a single plank and was interpreted as part of a structure constructed when building a predecessor to Hviids Vinstue. There is a possibility that the structure might be contemporary with building foundation described above – but since they were registered on either side of the standing building of Hviids Vinstue and the excavations conditions were difficult this can only be suggested. Two kalot slags recovered from the fill of one of the postholes belonging to the structure, but there were no other indications in the layers belonging to the structure, that some kind of smithing activity should had taken place.

Fig. 206. Remains of stable building marked with brown (timber) and black (cuts).

In the western end of current Lille Kongensgade a rather fragmented building believed to have functioned as stables (Fig. 206). The construction was rather simple with posts, stakes and wooden walls. The simple construction and a manure layer with decomposed organic material makes the interpretation as a stable building viable. A street layer with an observed wheel rut were excavated and together with the stable building indicates some sort of open fronted stable contruction with access straight of the street. The deconstruction phase of the building mainly consisted of ceramic building material and one of the deposits could be a collapsed roof since the layer was full of broken roof tiles.

North of the excavation another fragmented building with foundation stones and part of a brick wall was excavated. Situated with a north-south and east-west orientation most of the feature had been badly damaged by modern pipes and electrical cables.

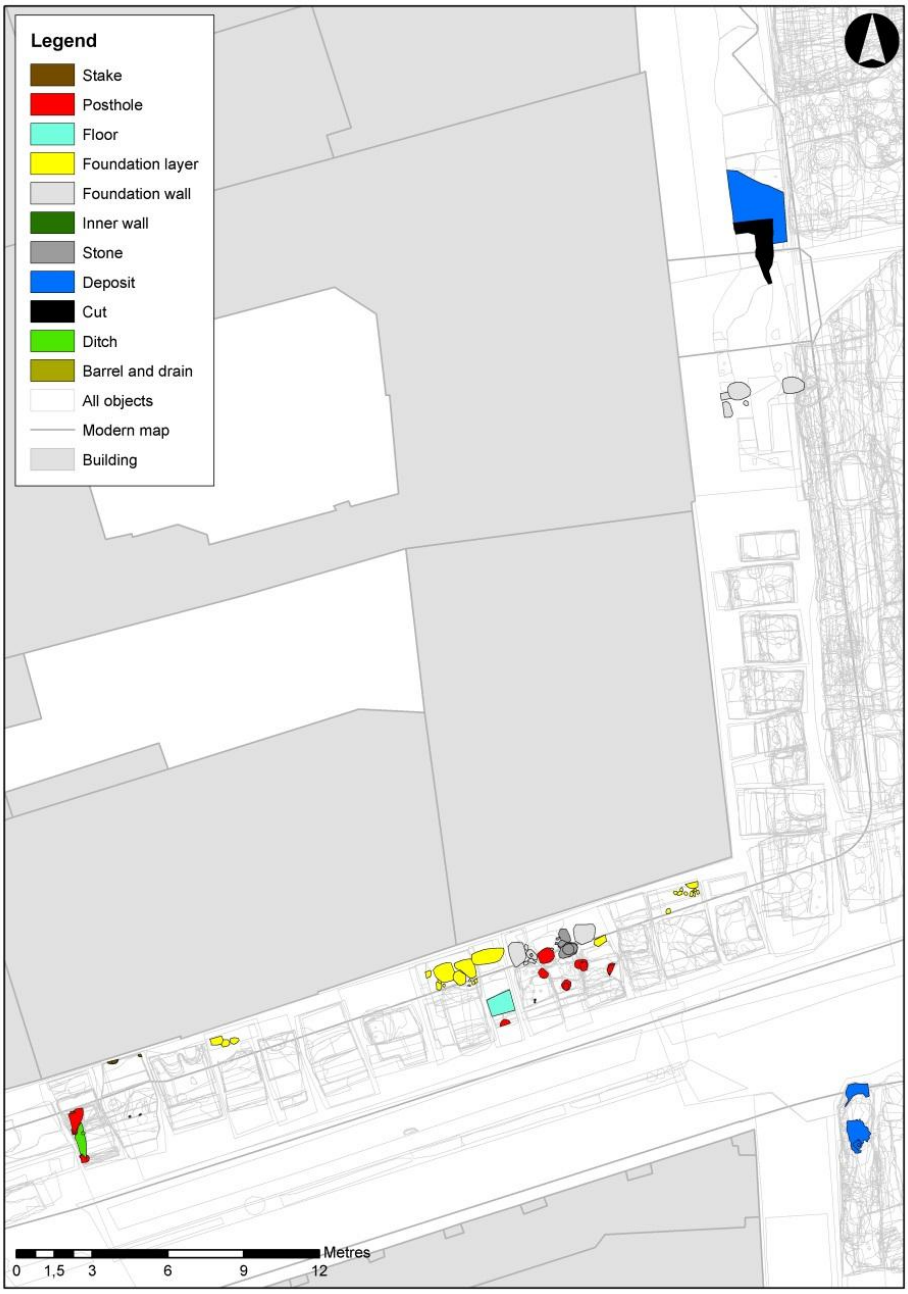

Fig. 207. Building remains in the area around Hviids Vinstue and other remains facing present Kongens Nytorv.

The foundation consisted of two large granite boulders; one serving as foundation and the other serving as part of the wall core. Three smaller natural stones of irregular shape were located immediately south of the brickwork, facing the northern side of the wall. They were probably part of the rubble core of the wall (Fig. 208).

Fig. 208. Granite boulders in foundation in the northern building, facing north. Photo: Museum of Copenhagen.

Mortar was partially present in a straight line along the top of theses stones and at either end some bricks were present mortared onto the stones. This appears to show that a brick wall was constructed directly on top of the foundation stones. The lime mortar was probably intended to bond two brick walls each on the northern and southern sides of the wall with a rubble core between. The preserved two courses of brick wall consisted of red bricks.

The size of the bricks indicates that the building could be medieval, but bricks were often re-used in later structures which means that the structure probably is Post medieval.

Buildings in Lille Kongensgade

The western end of Lille Kongensgade at least three building remains were excavated (Fig. 209). Some of them are believed to be remains of the Kings Booths which were built in the 1520s by King Frederik the 1st. For more information on this, see Chapter Urbanisation in the eastern part of Copenhagen/the area of Kongens Nytorv below.

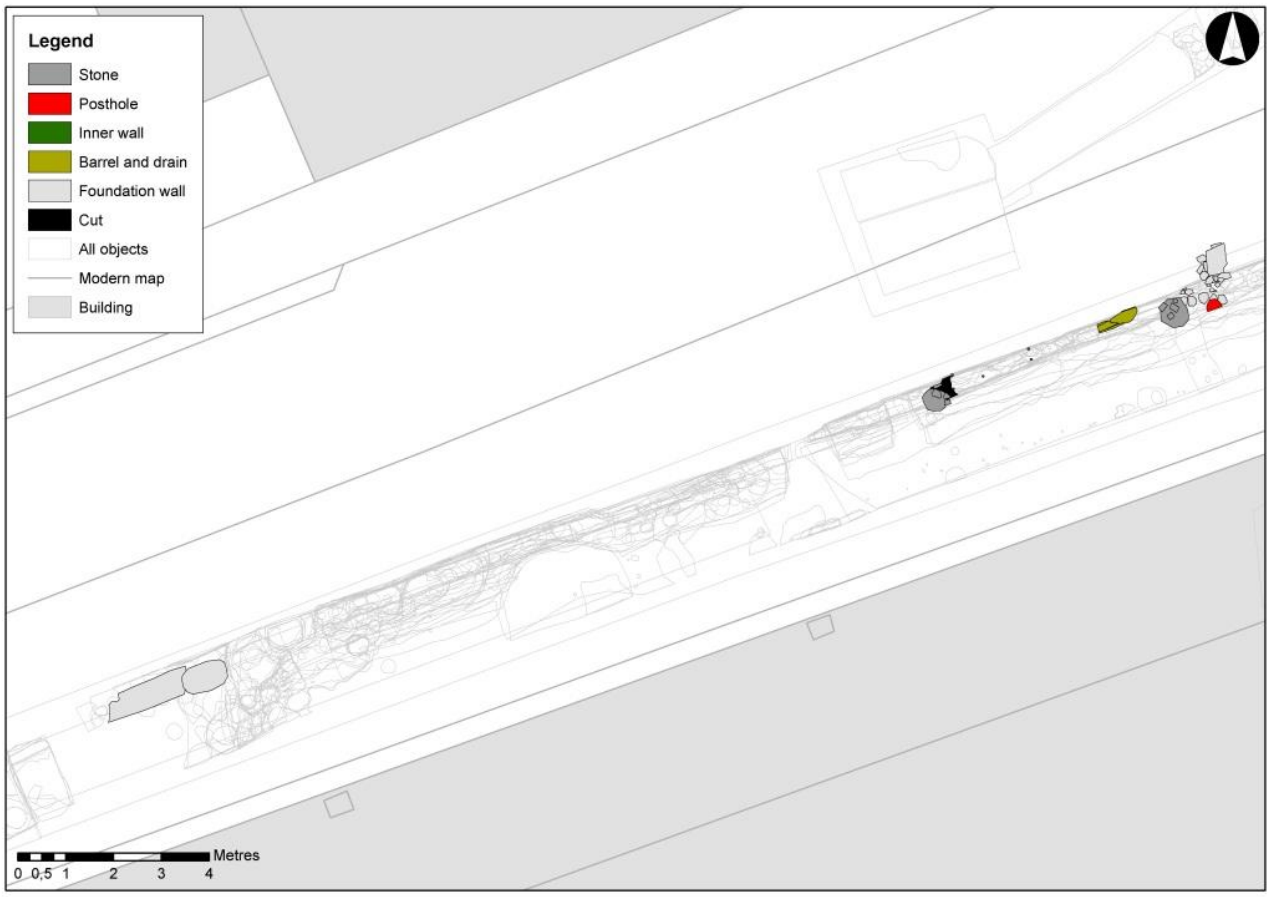

Fig. 209. Building remains in Lille Kongensgade.

The best preserved remains in this area were from a building that extended up to a length of 16 metres. The building had features of two foundation stones, floor layers, an inner wall and a barrel. This inner wall was represented by a 1.8 m long NE-SW alignment of stakeholes in two rows with backfills of mixed clay and charcoal. The stakes were cut through the floor layer, so the building had to have been constructed before this inner wall was added. Firm deposit with stones could represent an external hard standing to the west of the building. Firm clay deposit with frequent inclusions of ceramic building material was interpreted as a floor layer.

There were indications that could suggest that the building was not a domestic property. The amount and types of finds and the thickness of the lowest activity layers contained a lot of iron discolouration, and so this could indicate some iron working nearby. But there were no indications of iron working or smithing activities in other layers connected to this building and its demolition. An upper layer was very mottled, and could indicate a lot of foot traffic, which could support a theory of the building being a street front shop or workshop. A wooden barrel and a wooden drainage also indicates craftwork. The barrel was only visible as a faint outline, but the east side of the barrel was right up against the cut (Fig. 210). A horizontal wooden structure had been used as a drainage half pipe running NE-SW, leading water into the barrel. The inside of the hollowed structure contained clay deposit showing evidence of flowing water. The fill in the barrel contained fragments of roof tiles. It could have been a sump used to drain water from the floor in the building or more likely perhaps was connected to a smithy or some other kind of work area.

Fig. 210. Pre-excavation. Barrel with backfill of roof tiles, facing north. Photo: Museum of Copenhagen.

This is likely to be one of the Kings Booths along with other, more modest building remains, see Chapter Urbanisation in the eastern part of Copenhagen/the area of Kongens Nytorv below.

Other building activities

These following elements are not defined as actual buildings, so even though it contains elements of construction it is interpreted as short term activities.

The construction consisted of two very thin “leveling” layers and a posthole, and the usage phase was a white limestone layer surrounding a big boulder, which could have derived from mortar production, and layer which was a lime deposit related to mortar production (Fig. 211). Due to the sparseness of these deposits and their truncation, any definite interpretation is impossible, but this general activity could relate to some surrounding construction nearby, and due to its size it possibly has to do with the fortification or a larger nearby building.

Fig. 211. Possible mortar production feature with posthole and limestone layer, facing north. Photo: Museum of Copenhagen.

Street and pavements

Quite a few features in this time phase have been registered as road or street layers, the most dominating one being the rampart street just behind the fortification.

Part of the rampart street were most likely street layers that were established after the demolition of the city wall in the 17th century. The area probably had not been very easy to move around, and some extra roads and streets to guide the traffic were needed. Part of the area was also called Hallandsåsen after its characteristics which indicate that the area was left almost untouched after the demolition of the fortification with remains of the rampart and moat still characterizing the area. Some of these roads seem to be made out of demolition material very likely from the city wall. These remains represent an idea of how to get around the area after the demolition of the fortification.

The original last phase of the rampart street known from the medieval period behind the rampart (see Chapter High and Late medieval settlement and activities 1200–1550 AD) is dated to the 17th century based on the finds.

In Lille Kongensgade road layers also exist and confirm to some extent the route of the present road. From this area should be mentioned a pavement with an uneven surface (Fig. 212). However, the stones were well laid and formed a compacted surface overall, with their flattest faces exposed. Some of the stones seemed to have been heat affected. This surface might also have been part of a courtyard where some kind of production had taken place.

Fig. 212. Part of pavement in Lille Kongensgade, facing NW. Photo: Museum of Copenhagen.

Pits, postholes and stakes

Pits are a dominant feature in this phase, like in most of the other phases (see Fig. 203 above). Pits have been used for multiple reasons; for garbage, production, drainage, etc. The functions of a lot of the pits are no longer known, but a few can be identified by sampling of environmental samples or finds.

Also stakes were scattered around the area in this time phase without any significant relationship to other groups. Stakes are often used in minor structures or for marking an area. The amount of stakes in this area could also indicate that they had been frequently used in the reinforcement of existing structures or as stabilizing of areas.

Ditches and a water pipe

A drainage ditch which appeared to have been cut through a street surface was excavated (Fig. 213). No dating evidence was recovered. It is interesting that the drainage ditch should occur in the middle of a surface rather than at either side of it as usually happens – perhaps this indicates a change of use from one side of the ditch to the other. It is also interesting to note that while this ditch was not seen to extend southeast into another excavation area, it did however exactly align with a wheel rut seen in a street surface which occurred c. 0.90 m lower down, and was one of

the earliest street surfaces recorded. This could demonstrate continuity in street orientation in this area, potentially over several hundred years.

Fig. 213. Street layers with drainage ditch G-500877.

Water pipes in the area of the rampart were part of a 17th century water pipes of pine (Fig. 214). The thin water pipe had an external diameter that varied from 0.14 m to 0.32 m. The internal diameter was approximately 0.10 m. At least one joint was documented with traces of tool marks. Dendrochronological analysis dates the trees used in the pipeline to 1613 AD and the wood is imported either from Gotland or/and Åland (Linderson 2012).

Fig. 214. Exposed water pipe (ST90718), facing north. Photo: Museum of Copenhagen.

Barrel and wooden box

A circular barrel (d = 0.86 m) was excavated within a pit in the area of Lille Kongensgade (Fig. 215). Vertical timbers survived up to 0.23 m from the base. The circular wooden base was in good condition, whereas the upper parts of the barrel survived as a brown degraded stain. Approximately 24 upright wooden staves were recorded where the base consisted of five wooden planks. Six pieces of wood were wrapped around the barrel (hoops) for strength. These were 0.02 m in width and were flat on the barrel side and semicircular on the external face. A plank ran under the base for strength and was attached to the main barrel by a number of wooden pegs that were placed in peg holes in the upright/vertical timbers.

Fig. 215. Exposed barrel, seen from above. Photo: Museum of Copenhagen.

The barrel had been placed in the ground for specific reasons. Care was taken to place firm blue clay around it to make it watertight and the bottom fill of lensed, dark grey sand could have been deposited from water. It is likely that the barrel had to remain water tight and was not used for drainage. A construction like this could belong to smithing activities.

A large granite stone/padstone was pushed down into a pit and later covered with mixed material. The base of the stone was very eroded (rough) and flat. It had a smooth top surface perhaps with some kind of marks from the use of the surface. Barrel mentioned just above was excavated nearby, which is the reason why this stone might be interpreted as part of a smithy.

Wooden panels forming a wooden box with a sub floor space were also excavated in Lille Kongensgade. The timber consisted of horizontally and vertically set planks. The bottom was made of sticks and there were two small planks in the middle to divide it. The cut was almost exactly the same shape as the timber structure, except at the west end, where the cut was more rounded (Fig. 216).

Fig. 216. Wooden box made for storage (?), facing north. Photo: Museum of Copenhagen.

The box had most likely been used for storage/cold storage and it would most likely also have had a wooden lid for easy access.

Activity, dump and levelling layers

These layers are all layers that cannot for certain be connected to specific features or e.g. demolition layers. They are recorded as separate groups, and for some of the layers it is possible to interpret their function. Most of them are likely to be levelling layers to ground surface before building houses, streets, etc. They could also have been used for sealing features after demolition and before new constructions such as houses were made on the spot.

Activity layers are layers that for different reasons carry evidence of human or animal activity in the form of waste, trampled surface, etc. Activity layers can also be built up in areas of action or movement – for instance along a street or near workshops.

Outside the moat. Settlement and activities 1550–1650 AD

Results

The remains from the area outside the 17th century moat include different types of structures such as buildings, intermediate street or courtyard (timber structure), roads and wheel ruts, fences and stakeholes, pits, ditches and different surfaces (Fig. 217 and 240). Besides stratigraphical observations some of the deposits or features have been grouped in this time phase based on datable finds. Most of the section dealing with building No. 1 (G-790), its construction, usage and deconstruction phases, is based on text written by Rachel Morgan during post-excavation grouping work. After the overall description the features are placed in their structural and historical context.

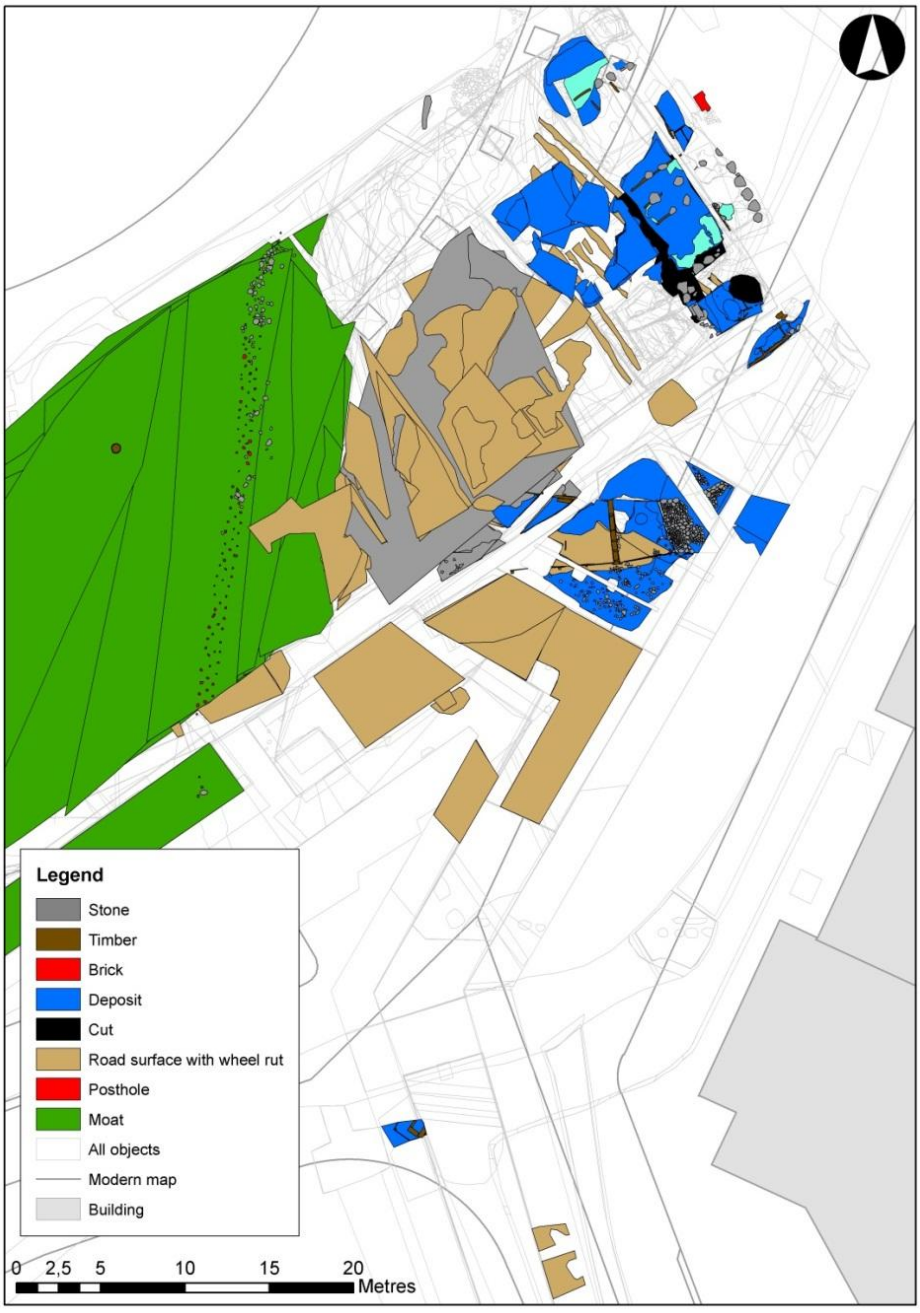

Fig. 217. Buildings, intermediate street/courtyard and road surfaces outside the 17th century moat.

Buildings and stone structures

Building No. 1

Construction:

Phase 1 represents several subgroups with different building phases and contexts (Fig. 218).

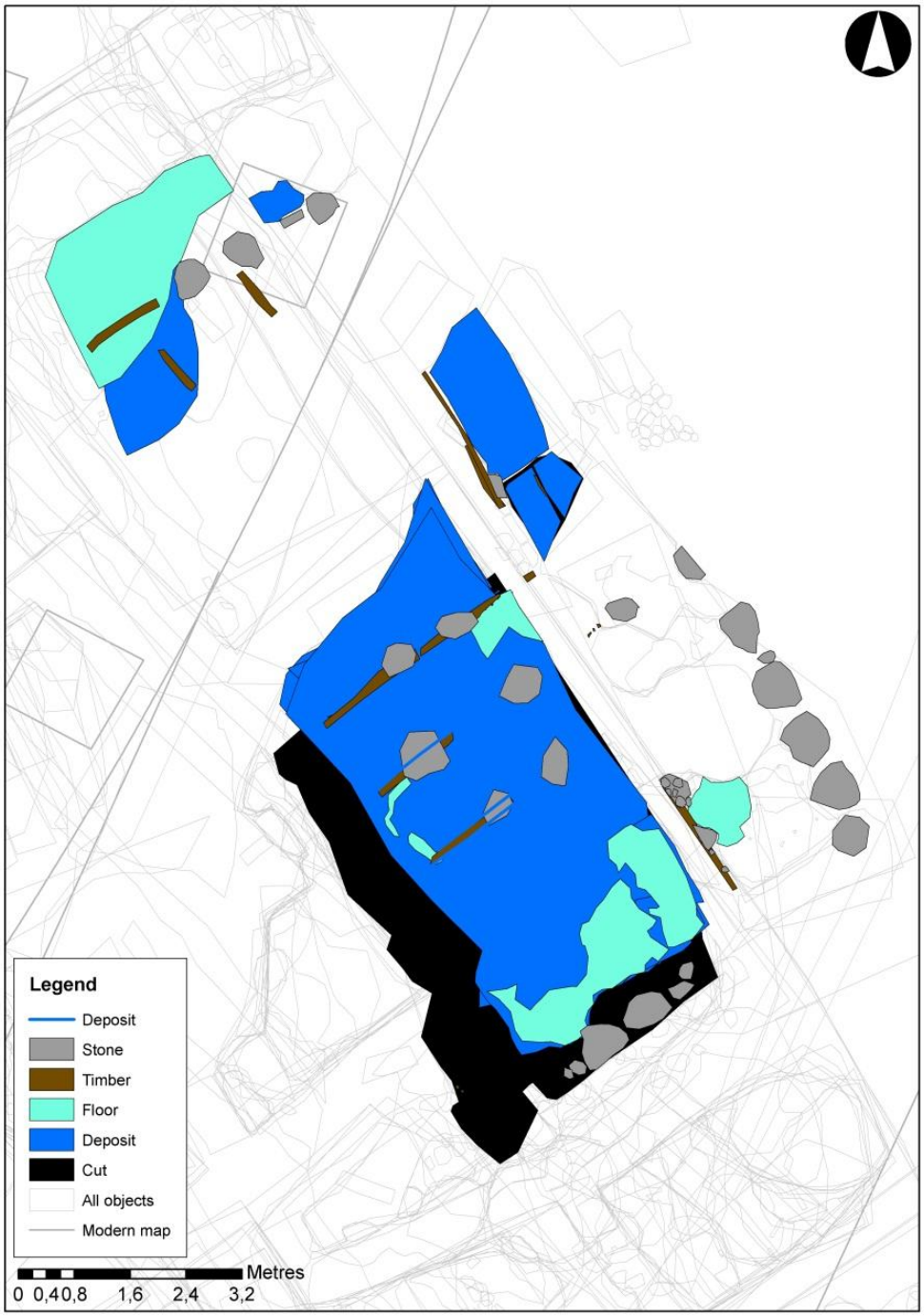

Fig. 218. Contexts belonging to the construction phase of building No. 1 including construction cut, foundation stone with sill beams, postholes, stakeholes and (chalk)floors. Initial floor layer SG-882 can be seen in the middle of the building, internal walls (SG-875) as foundation stones and timbers, as two NW-SE orientated sill beams to the right.

The structure was built in a full length and width cut instead of in wall foundation trenches forming a rectangular foundation cut. The outer wall consisted of a continuous stone foundation made from unfinished boulders (SG-886) of at least two courses, although only the lowest course remained during excavation, with the upper course(s) having been robbed out (Fig. 219).

Fig. 219. Foundation stones in SG-886, facing NE. Photo: Museum of Copenhagen.

The four extant internal timber sill walls rested on foundations of boulders which were spaced at intervals of c. 0.5 m to 1.0 m along the sill beams. The internal area created by the stone foundations was backfilled with deposits, which consisted of the re-deposition of dump material taken from the foundation cut, in order to create a solid foundation upon which the overlying floor layers were laid. Stakes (SG-909) and posthole (SG-881) have been interpreted as connected with the construction of the building, but in an unknown context.

Post (SG-881) could be associated with the construction of the building as it was associated with the first floor layer (SG-882), although its position between two closely spaced internal walls would mean that its use was short-lived. Otherwise there was no obvious function for this post.

SG-882 represents the initial floor layer in the middle of the building, and its associated usage layer. The amount of iron panning within the usage layer has led to the suggestion that there was some secondary metalworking activity

taking place over the floor; e.g. grinding. This floor layer was not clean clay, which could indicate that this area was always going to be a “working” area and so did not warrant the clean, green clays seen in the floors to the north and south.

The external walls were robbed out and so the details of their construction are unknown, however the amount of red brick in the foundation backfill and the overlying demolition material seems to indicate that red brick could have formed part of the walls.

Three extant internal walls (SG-875) were aligned NE-SW and were constructed from sill beams placed directly on the internal lines of boulders. Each beam had a vertical row of stakes above spaced c. 0.08 m apart, with no obvious joints or fixings to the beam, but both the stakes and the sill beams were quite degraded. There was no evidence of wattling, or any other internal structure. Clay was packed around the stakes forming the body of the walls. There was evidence of render on most sides of the clay walls down to the sill beams, but this was also highly degraded and did not cover the entire surface of the walls. There was evidence of NW-SE sill beams forming another internal wall which would have abutted the NE-SW walls at their eastern end. There was no superstructure remaining above these beams.

The sill beams appeared to create three rooms on the west side of the building, possibly joined by a corridor along the eastern side measuring c. 1.6 m across. The southern room was the largest measuring c. 3.23 m NW-SE, with two smaller rooms or alcoves in the middle of the building with a NW-SE width of 1.07 m. To the north of these was a larger room again, but modern truncation had destroyed the relationship this area had with the area of the house which was furthest north (Fig. 218). It is possible they represent one large room, but there could have been further internal wall divisions – there was a short line of foundation stones, which would suggest at least one further room division at the very north of the building, giving a small room, alcove, or corridor with an approximate NW-SE width of 1.2-1.5 m.

The southernmost room had an initial chalk floor which was badly preserved, but appeared to have a very small usage layer on top of it (Fig. 220). This could, however, have been trample from the building construction.

Fig. 220. Chalk floor layer, facing west. Photo: Museum of Copenhagen.

Above this layer was a much thicker and cleaner chalk floor (SG-874) which probably represented the first proper floor layer in this room. Above this was a thick, hard deposit of clean, green clay which contained eleven imprints (SG-873) which were thought to represent furniture, but which were in no discernible pattern.

These two floor layers (SG-874) represent a probable re-flooring of the southern room of the building (Fig. 221). They covered a very dirty, truncated chalk layer, so it is presumed that this layer had been worn away, and then probably cut away in some areas in order to lay the cleaner, thicker chalk layer and the clay corner. It has been suggested that the clay deposit could represent a different function occurring on that part of the floor, although it could represent a previous floor surface which was not totally removed before the light white and clean chalk/lime surface was laid.

Fig. 221. Floor surface and hard clean clay (SG-874), facing north. Photo: Museum of Copenhagen.

There were no clear indications of the types of activity which took place on the surface, but the surface of both the chalk and clay were very clean, so they may not have been used for long.

All the other rooms appeared to have very compact, clean clay floors as their initial surfaces, placed directly over the foundation layers around the foundation stones (SG-886). The clay floor in the room to the north of the “alcoves” had a very thin overlying usage layer and associated imprints (SG-876), which again could indicate furniture.

There also appeared to be a doorway, (SG-879), lying c. 1.75 m from the approximate line of the western external wall, creating an entrance from this room to the northernmost alcove. Some intact features which could be a door jamb and hinges or door furniture were recorded. This opening was filled with clay at some point (but not with the internal stakes or render found in the rest of the walls) in order to block the doorway and create a smooth wall.

Usage:

There appears to have been four or five phases of use or renovation of the building, mostly evidenced by episodes of re-flooring.

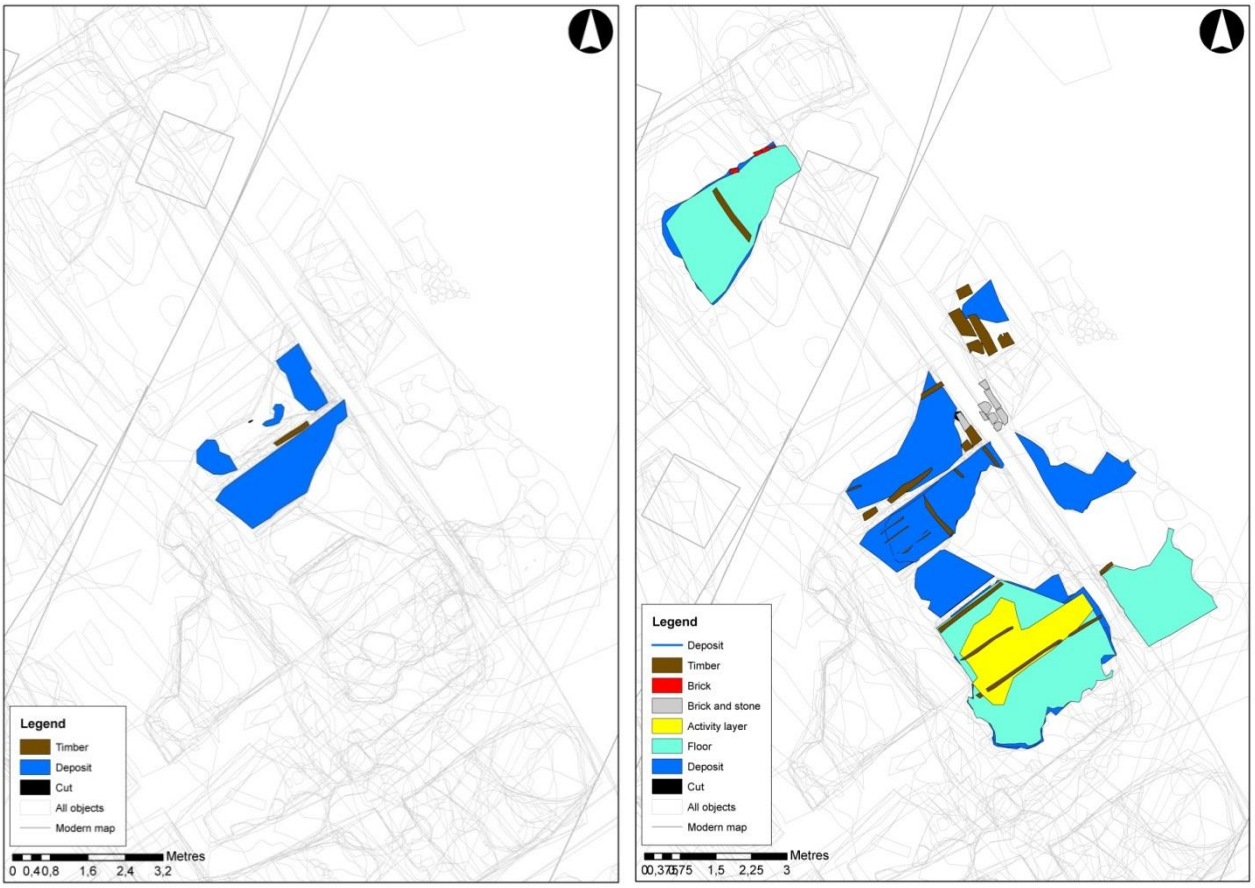

Fig. 222. Contexts belonging to the usage phase (a) and the alternation phase (b) of building No. 1 consisting of sill beams, clay floors and new interpreted doorway (SG-877) in the middle.

Phase 1 consisted of a chalk floor (SG-874) and the re-flooring of both the north and south alcoves with (SG-883) and (SG-885), both of which also contained an associated usage layer (Fig. 222a and 222b). Apart from some iron panning in these layers there was nothing to suggest what these “alcoves” could have been used for.

Subgroup (SG-885) represented an initial episode of re-flooring or use between two clay walls (Fig. 222a). Cut (SC183441) represented a recut into a pre-existing floor layer to facilitate new equipment or function within the housing structure. The fills within this recut were all very sterile and show no clear indication of function or purpose.

Phase 2 consisted of clay floors and imprints with an associated activity layer that had two interconnected pits dug through it (SG-871) (Fig. 223). The purpose of these pits was unclear, with no lining, burning, or evidence of in-situ activity, but they may represent some kind of industry taking place at the back of the building.

Fig. 223. Section through one of the floor layers, facing north. Photo: Museum of Copenhagen.

The remainder of the building also had new clay floors: the southern alcove was re-floored with (SG-888) (possibly multiple episodes of re-flooring), the northern alcove with (SG-884) (including their associated use layers), and the northern area of the building with a clay floor. The room to the north of the alcoves did not appear to have a new overlying clay floor at this stage (Fig. 222b).

Phase 3 represents the transition to wooden floors. At the northern end of the building this renovation consisted of a short row of bricks alongside the inner edge of what would have been the northern external wall, below a clay floor, which then had the impression of a wooden beam on it (Fig. 222b). The bricks could have been placed here in order to reinforce the floor area if it was to be exposed to heavy wear (e.g. from an entrance), or to bear weight (e.g. from heavy furniture), although neither of these possibilities were evident during excavation. The clay floor could have been a floor in its own right, or the base for the wooden floor indicated by plank impression. In the northern alcove, SG-870 and SG-869 represent beam impressions and a deconstructed posthole respectively, over the deliberate backfilling. It is unclear precisely what the posthole represents – it could be an alteration or repair to the wall just to the north – but it was contemporary with the beam imprints. This shows a major renovation of this area of the building from clay to wooden floors, and the raising of the floor by c. 15 cm depending on the thickness of the floor beams. Beam imprints (SG-880) in the room to the north of the alcove, also indicate that this room underwent a similar renovation, but without the additional raising of the floor by using a dump layer.

Phase 4 represents the second phase of wooden flooring which was evident from the in-situ floor beams in most areas of the building. This flooring was characterized by the layers of grey sand, which were used as levelling layers underneath the beams. In the southernmost room this layer appeared to cover floor beams, but this could be due to the degradation of the beam (Fig. 222b and 224).

Fig. 224. Sill beam (ST179845) with a underlying clay floor, facing west. Photo: Museum of Copenhagen.

In the southernmost room there were three parallel floor beams aligned NE-SW, each 0.72 m apart, which would have had wooden planks nailed across them (some of the nails were in-situ) (Fig. 222b). In the alcoves there was no evidence of a wooden floor at this level, but a small patch of clay floor in the NE corner of the northern alcove suggests that the wooden floor was at least partially replaced by clay. The room to the north of the alcoves showed the most development at this time. A patchy clay floor was placed over the removed beams (SG-880), presumably to raise the floor level and act as a foundation for NE-SW floor beams (Fig. 224).

Brick wall/foundation (SG-877), which also cut through this layer (SD184673), was aligned with the wall sill beam (ST168309) to the south, and could represent a new doorway between the “corridor” and this room (Fig. 225).

Fig. 225. Part of brick structure and interpreted doorway in SG-877 exposed in the Guide Wall trench, facing SW. Photo: Museum of Copenhagen.

It could also be at this time that doorway (SG-879) was blocked up. Posthole (SG-878) could be associated with these renovations as it appears short lived, and would have been covered over by wooden floor boards. Plank floor (SG-887) was all that remained of the actual floor surface, along with more grey sand, which could have acted as an additional foundation layer, or it could (possibly) represent the usage layer over the floor boards which fell through between them over time, however it was rather thick for that. In the northernmost room there were two small areas of clay floor laid during this phase. It could be that these were to act as further foundation layers for wooden planks, but this seems unlikely – perhaps plank (ST182666) only seemed to underlie the clay due to its poor preservation?

Phase 5: This phase only occurs in the southernmost room. It consisted of patchy clay "floors" and levelling layers (SG-890), but why replace a wooden floor with clay? It could be that these layers actually represent part of the abandonment, deconstruction and demolition of the building and only appear to be in-situ.

Deconstruction:

Phase 1: The deconstruction of the building is represented by dump layers (SG-889) over the plank floor, and possibly floor (SG-890) (Fig. 226).

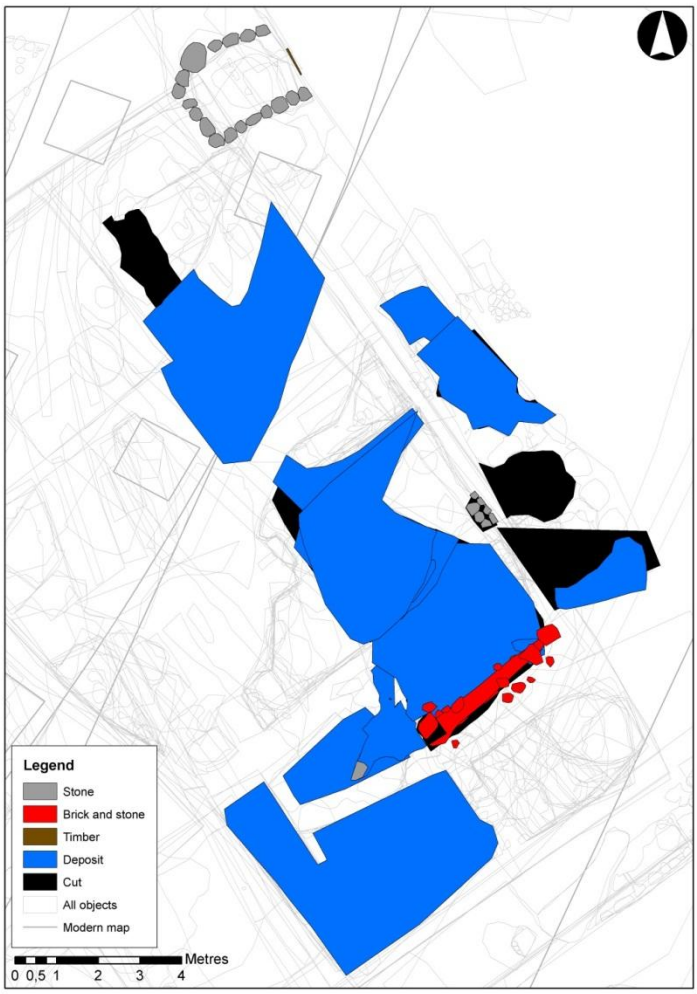

Fig. 226. Contexts belonging to the deconstruction phase of building No. 1 with robber pits and demolition layers. The figure also include a sub-rectangular feature and brick wall discussed below-

There is evidence of extensive robbing of the outer walls represented by SG-789 and SG-868. The latter robbed out at least one course of foundation stones, when the area delineated by the robber trench was backfilled with mixed

demolition material. The deconstruction cut also covered the northern wall of building (G-796; see below) to the south, suggesting that these buildings were demolished at the same time (Fig. 227).

Fig. 227. Part of robber cut belonging to SG-868, facing west. Photo: Museum of Copenhagen.

This cut represented the robbing of structural elements from the outer wall of the building. The shape of the irregularities and the presence of boulders at the base suggested that it was another layer of boulders which was removed. This must have happened at the time the building was destroyed, as the demolition layer directly covered the floor and filled this cut.

Appearance:

There were several pieces of painted plaster found in the demolition material which could give some indications of the building's appearance. The internal wall render where it was present seemed to be just white. A single piece of black painted render was found, but there were also several red painted pieces, one of which seemed to be painted in the outline of bricks. A demolition dump contained a high quantity of clay and almost no brick material, which would indicate that the building was constructed with clay rather than brick. So, this may have been a timber framed building which was painted to look as though it was brick built.

Function:

While buildings from this period tended to be multi-purpose, there are indications that there were some specific activities within the building. The chalk floor in the southernmost room of the building could indicate that livestock was kept here: chalk is the ideal base for livestock due to it being able to absorb urine from animals, keeping straw or other bedding drier, resulting in a more aerobic state, and hence producing less ammonia.

The function of the pits cut though the floor during the second phase of renovations is unclear, but it probably relates to a change of use of the room.

The function of the two middle, smaller rooms or alcoves is unclear, but they must have had a definite purpose as the placement of the foundation stones under the sill beams shows that the dimensions of the rooms were deliberately laid out during construction. The three or four phases of re-flooring also show that these areas were in use throughout the life of the building. The iron panning in the lower floors could indicate some specific function here, as it was not present in the floor layers in other areas of the building. Some secondary metal working has been suggested, but no definite evidence of this type of activity was found, however, all floor levels were sampled for evidence of different types of activity.

Dating:

Based on the finds material (ceramics and clay pipes) the building can be dated to the second half of the 16th century with its final destruction in the mid 17th century (probably in connection with the establishment of Kongens Nytorv).

Sub-rectangular feature

North of and connected to building No. 1, 18 stones were recorded making a sub-rectangular shape (G-784) (Fig. 228). Inside the rim of stones a lot of CBM was observed – all broken red and yellow bricks, but also large pieces. The stones extended out of excavation to the NE. The two SE stones were 5-15 cm higher than the opposite stones. The surface was not very even – meaning it would not have been suitable as a foundation for sill beams. No construction cut was observed, though the area was excavated by machine which could explain why this detail was not observed on site.

Fig. 228. Sub-rectangular stone structure with brick layers and a wooden pipe in the section, facing N-NE. Photo: Museum of Copenhagen.

The deposits within the feature consisted of dump layers of different colour, composition and homogeneity, where layers contained a large amount of household waste, decomposed, organic and demolition material – red bricks, roof tiles, but also a few yellow bricks (Fig. 228). Two concentrations of slag and charcoal were observed – one in the SE corner near a wooden pipe, and one close to the northern row of stones.

Finds from the construction phase consist of ceramics (stoneware), glass (window), iron nails and a few bones. The deconstruction phase had more varied material – ceramics (Jydepots, Late light fireware, Late redware, Majolica and stoneware), roof- and stove tiles, bricks, glass, window glass, iron nails, unidentified iron objects, a knife blade, -spade, -tool (?), slag, hard coal, a quern- and a whetstone.

The nature of the construction and purpose was at first unclear. There was no bonding material and the stones were unevenly shaped and did not present a level surface to use as a building foundation. Mortar occurred only sporadically on some of the stones. After the continued excavation of the Station Box area to the west and SW, building No.1 was identified. The northern wall of the building, which had been robbed, appeared to have been in the same alignment with the southern wall of this structure, however due to the limits of the areas of excavation, there was no evidence of the relationship between the robbing and the structure.

From photos (section) it seems there was a construction cut for the stone structure through one of the floor layers in building No. 1. In which case this small structure appeared to be an extension to the building, but there was no evidence for specific activities within this structure to clarify its function, etc. and therefore the feature has been considered to belong to the deconstruction phase of building No. 1.

Brick wall

G-891 consisted of a NE-SW orientated brick wall with rounded foundation stones and lime mortar, with a fully laid irregular brick wall with two or three courses. Both whole- and half-bricks had been used and the bonding material consisted of unfinished, fairly loose mortar with occasional charcoal inclusions. The wall was placed on a shelf of middle sized stones. A pad stone appeared to be the NW corner of building No. 1 that extended into the area from the SE.

This wall had a corner stone at its western end which had been pulled slightly out of alignment during excavation. The wall cut through the foundation cut of building No. 1 to the north, but was beneath the demolition cut of this building, and can therefore have been contemporary with it.

Building No. 2

Building No. 2 had approximately the same location and orientation as building No. 1 and consisted of construction cut, sill stones, sill beams, brick walls, floors, construction and levelling layers, a pit and a single posthole (Fig. 229).

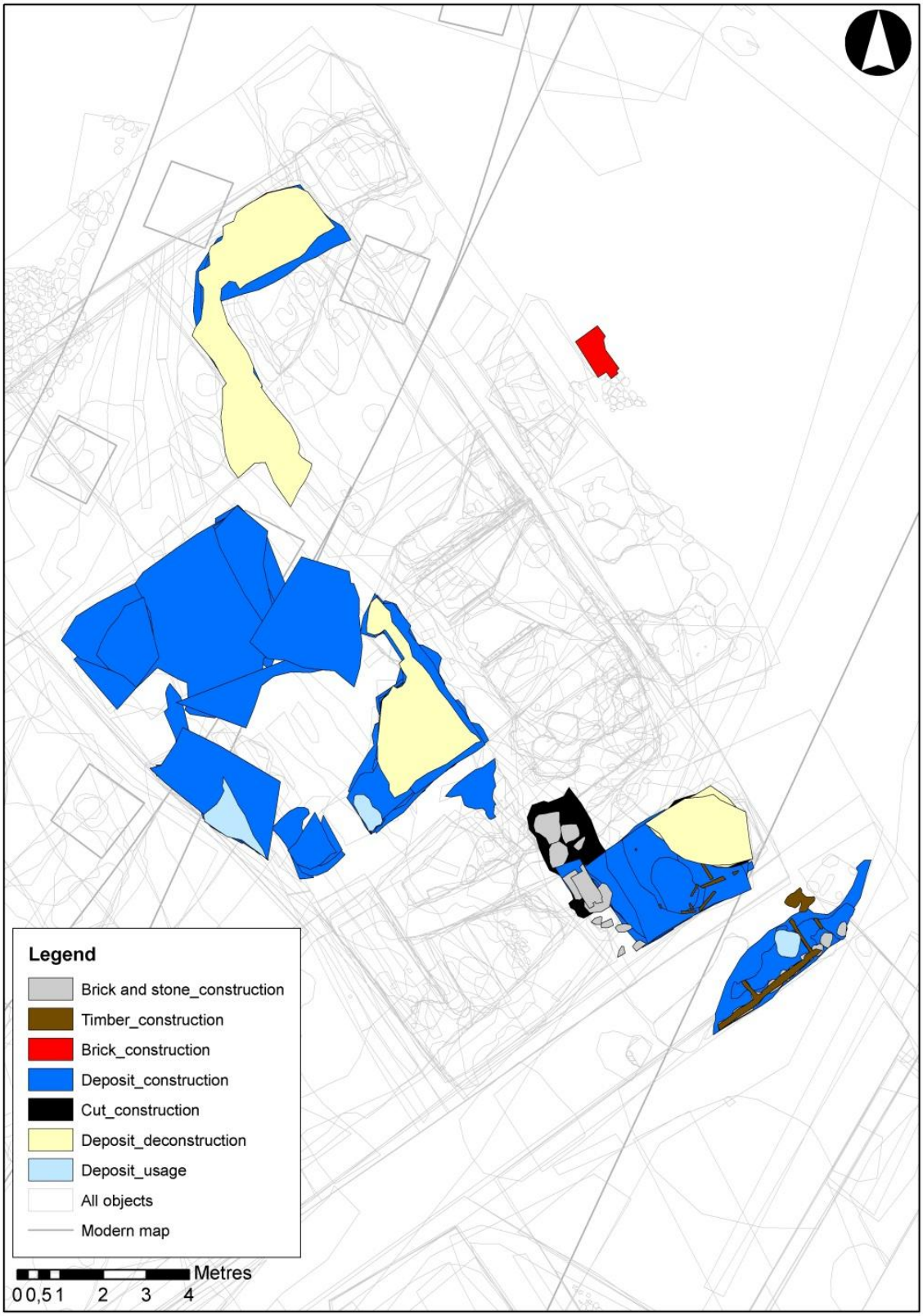

Fig. 229. Contexts belonging to all phases building No. 2 consisting of stone and brick walls, construction cut and different deposits. Construction cut with stones and brick wall is partly covered by later deposits and sill stones SS187710 by beam ST172861.

Rectangular cut SC182746 was the original cut for a brick wall backfilled with mixed clay, mortar and CBM fragments. The interpreted construction and levelling layers consisted of mixed deposits of different colour, composition and homogeneity, where some deposits contained large amounts of demolition material.

The sill stones consisted of a row of 13 mid grey and unfinished stones orientated in a NE-SW direction (Fig. 230).

Fig. 230. Sill stones, facing NE. Photo: Museum of Copenhagen.

The foundations for the brick wall was constructed out of large and medium sized stones and bricks (mostly half bricks, fully laid, bonded with yellow clay with mortar inclusions) running NW-SE (Fig. 231). Stones in the SW part of the building and north of brick and stone wall consisted of four stones not placed so that uppermost sides were flat.

Fig. 231. Foundation stones, facing south. Photo: Museum of Copenhagen.

The brick wall had its eastern side constructed with red bricks laid on stretcher end to form a doorstep. A short length of NW-SE wall with cobbles abutted to the east. A potential doorstep was disturbed during machining, so this could have been an entrance into a courtyard (or semi-basement?). It could be related to an E-W brick wall recorded further north, but both structures had been truncated so any clear relationship had been lost.

Surface (SG-902) represented a layer of cobbles and its associated foundation layer of bedding sand. It seemed to cover floor layers within building (G-796) and so probably represented a re-use of the space, however it was robbed out so the full extent was unclear. It may have been for a yard, or a cobbled semi-basement.

The recorded sill beams had white sand, used as bedding to stabilize the wood both in connection with the underlying sill stones and later interpreted foundation layer of clay. Smaller cross beams overlay the larger main beam (Fig. 232). The sill construction was disturbed by a large truncation to the north, where some of the beam fragments were not in situ.

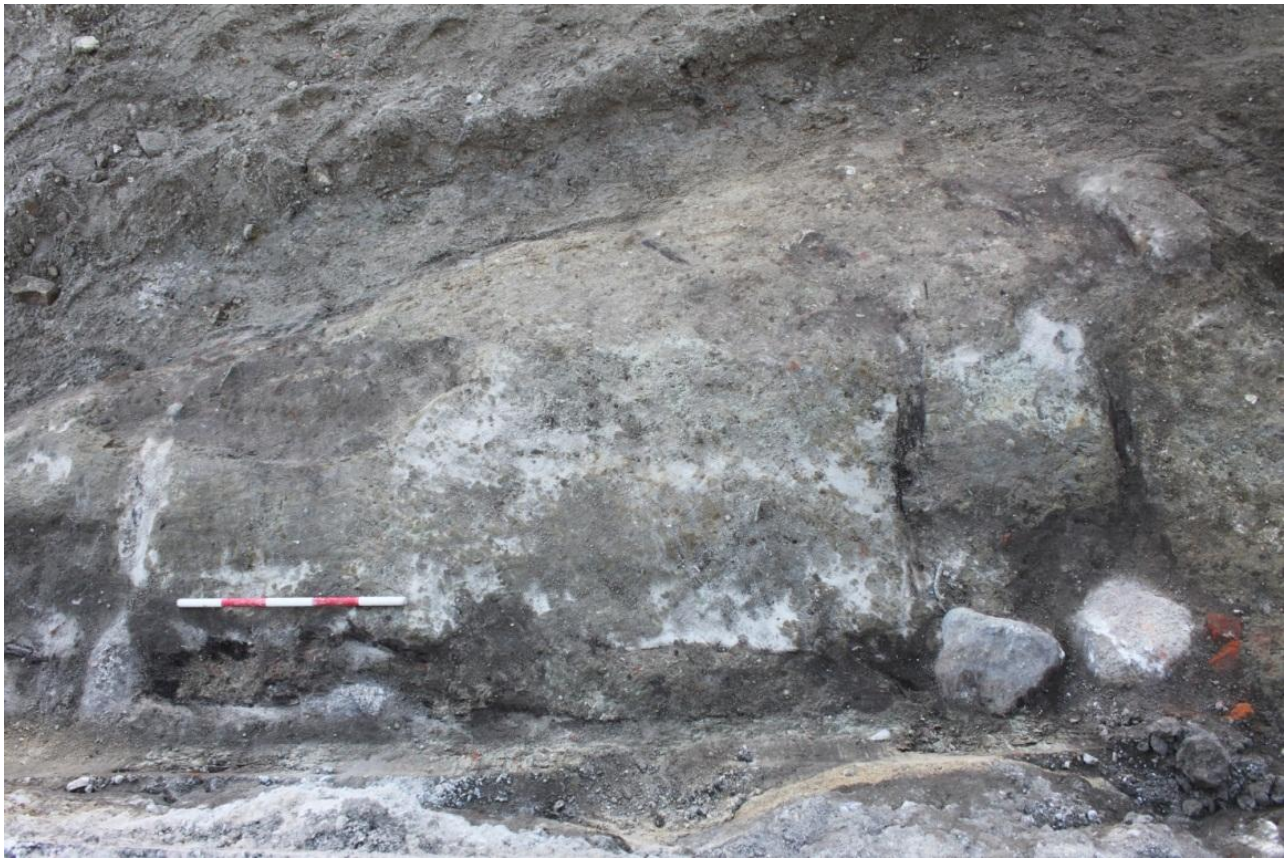

Fig. 232. Sill- and cross beams with sand bedding, facing NW. Photo: Museum of Copenhagen.

ST172829 consisted of a fragmentary wooden floor with an unknown number of planks. Compact, uniform clay, north of the sill stones was recorded as possible activity within the building, but this was not certain.

Subgroup SG-903 represents a subcircular pit, which consisted of a cut and two backfills, the lower of which was interpreted as possibly being connected to some sort of mortar production. The pit had been cut into levelling layers within the construction of building (G-796), and had been covered by a floor layer, so perhaps it had something to do with on-site construction. The finds consisted of ceramics (Late redware), a roof tile, an iron nail, part of a wooden barrel and bones. A single posthole (SG-794) was recorded in connection with building G-796. It was not possible to fully excavate it due to measuring problems.

Building No. 2 can be dated to the 17th century based on the finds – ceramics (Jydepots: 1500–1850 AD, Late light fireware; 1550–1650 AD, Late redware; 1500–1800 AD and stoneware; 1500–1800 AD) and clay pipes.

Timber structure

Timber structure G-503858 represents a trapezoidal and somewhat bent structure (length: c. 13.0 m and width 3.4 m) consisting of and limited by horizontal planks reinforced and abutted by vertical wooden beams. The timber structure was divided into at least three separable sections, two of which were divided by a north-south running drainage (Fig. 233). The function is unclear, but the planks probably had a supporting function for the cobblestones either in an intermediate street or a larger courtyard either in connection with building No. 1 or building No. 2 (see above).

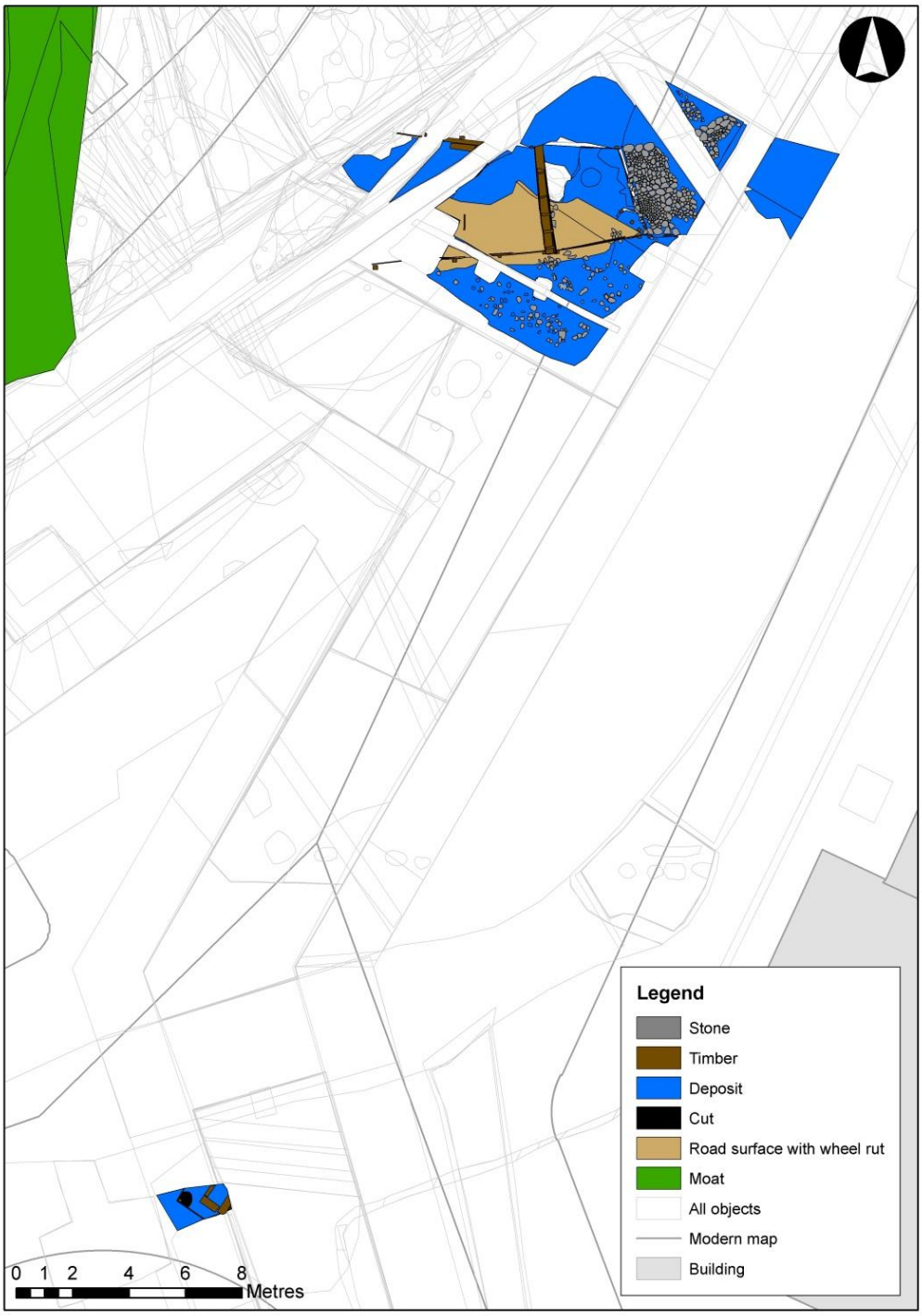

Fig. 233. Timber structure G-503858 with cobble surfaces and drainage. To the south similar structure G-504246.

There were no fastenings or joints to connect the timbers to planks and as a fulfillment and levelling assessment within the structure, varying deposits had been used – both homogeneous sandy clay layers and industrial waste. All parts – both inside and outside the structure have originally been covered by cobbles, although only the eastern parts were preserved during the investigation. The other parts had been looted for stones (recorded as stone imprints) and truncated by later activities such as several pits and a wooden water pipe. Similar features were investigated in the Station Box 2013 (G-866) and in the Guide Wall (G-504246) further to the south (see below) and probably represents similar or part of a larger structure (Fig. 234).

Fig. 234. Overview timber structure with drainage, bedding layers and cobble surfaces, facing NW. Photo: Museum of Copenhagen.

The transverse and dividing beam in the structure was actually two beams with a tenon joint (northern part) and mortise joints (southern part). The joints were 0.03 m wide and 0.27 m long and keyed into each other. The northern beam was 1.95 m and the southern beam 2.13 m long. When the beam was removed, an organic and rectangular shaped deposit was present, which had been pressed into the mortise joint. This appeared to be hay/grass.

All timber beams had been pushed into the underlying deposits. The length varied from 0.53 m to 0.95 m, width between 0.10-0.12 m and thickness from 0.08-0.14 m. Several timbers were re-used; cf. one side of ST314670 had six circular peg holes, varying in diameter from 3.0 cm to 5.5 cm, and with a depth of 4 cm (Fig. 235).

Fig. 235. Post (ST314670) with peg holes. The post has probably been part of a mill or a ladder-like fence to catch fish (Fig. 236). Photo: Museum of Copenhagen.

Fig. 236. Salmon farm at Sneum Å in western Jutland. From Daly 2017.

ST316149 at the southwestern boundary of the structure close to the Guide wall truncation consisted of a box-hearted post with vertical setting. The taper was 0.47 m long and the point 0.07 m long.

The lid of the drainage consisted of a plank lying horizontally with a north-south orientation and with the dimensions of 3.04 x 0.31 x 0.04 m. The plank was broken and collapsed slightly on the northern end and the drainage was filled with the overlying deposits. The plank rested on two vertically set planks, as well as timber slats. ST318779 formed the base of drainage G-503859 consisting of a linear N-S orientated plank lying horizontally on its wide side. The plank was 3.9 m long, 0.31 m wide and 0.05 m thick.

There were no joints to join plank ST318779 to planks ST315010 and ST315014 (see below), however, there were at least five iron nails with an approximate vertical inclination of axis. This connected ST315010 and ST315014 to plank ST318779 of which three nails were recorded in the western side and two nails in the eastern side. The nails were located in the northern end, opposite each other, and also opposite each other in the southern end. The nails had been entered into plank ST318779 from the underside, so that the nails were pointing upwards.

Timber plank ST315010 and plank ST315014 represent the western and eastern side of the drainage and was placed horizontally on their narrow side. The planks sloped slightly downhill from south to north. On the top of the planks there were five lap halving joints at approximately equal distance from each other (c. 0.55 m) (Fig. 237). The lap halving joints varied in size from 9-12 cm wide with a depth from 4-6 cm. There were also five iron nails fixing the wooden slats in ST318687 to plank ST315010 and ST315014. There was one nail in each lap halving joint. The nails had a vertical inclination of axis. Head dimensions of the nails were 3.0-3.5 cm in diameter and length 7.0-8.0 cm. Wooden slats ST318687 rested in the lap halving joints and protruded by c. 0.1 m from the side of the two planks.

Fig. 237. Close up photo of drainage SG-503859 with one of the iron nails, facing west. Photo: Museum of Copenhagen.

Lap halving joints for slats ST318687 shows that the drainage structure was a stout structure, in order to secure plank lid ST314703 and that the drainage was constructed as a “box” before being placed on the ground.

SS318743 consisted of a mix of stones, partial red brick fragments and tiles within the drainage, where all stones and bricks were lying flat, suggesting that they were purposefully placed and not dumped.

A sample from the base plank was submitted for dendrochronological analysis. The sample contained 123 tree-rings from pine, but despite the relatively long tree-ring series, no dating position could be identified (Daly 2017).

SD314103 and SS314711 consisted of a heavily truncated cobbled surface, associated with timber frame structure G-503858 which it abutted on its western edge. Its edges were apparent and marked by a larger row of rounded cobbles on its northern and southern edge. It was also apparent that it was laid in two halves – a southern half and a northern half (Fig. 238).

Fig. 238. Overview timber structure with drainage, bedding layers and cobble surface (SS314711), facing SE. Photo: Museum of Copenhagen.

This was clear from the line of larger stones that ran along its centre in an east-west orientation. This was confirmed upon the stone's removal showing the two separate deposits of sand to the south (SD317955) and the north (SD317621).

Other than the larger stones running along the edge and the centre this cobbled surface was not formerly laid, nor was it grouted with any mortar. Its construction consisted of a tightly packed levelled surface of water rolled beach cobbles. They were laid on a levelled layer of pure sand and directly abutted the eastern timber. These two features appeared to be closely related as the cobbles continued from the timber.

A truncation occurred when a constructed trench was dug for a wooden water pipe in the Late post medieval period running in NE-SW direction. All that remains of the eastern half of the cobbles was the northern edge; the rest had been heavily truncated by modern activity – a Guide Wall trench. Another interesting feature related to this surface was a patch of fragments of red brick that had been informally laid to create a surface north of the eastern half of the cobbled surface. Again this surface had been heavily truncated by the wooden pipe trench and modern Guide Wall trench. SS318500 consisted of a rough foundation layer to level/support beam ST314983 represented of red bricks, roof tiles and stones.

SS315807 represented a very roughly laid surface composed of broken re-used fragments of brick placed irregularly together to create some sort of surface. The surface had been significantly truncated by timber water pipe trench SC315790 (G-911) to the west and possibly by machining to the east. Subgroup (SG-504258) represented a cobbled surface including foundation and levelling layers south of the timber structure. SS316206 consisted of a spread of

rounded stones south of the timber structure, which appeared to look like dispersed cobbles, probably robbed and reused elsewhere. The stones were irregular shaped, but relatively uniform in size; c. 0.2 x 0.15 x 0.12 m.

With some exceptions, the bedding and levelling layers related to the construction phase and within the timber structure consisted of mixed grey-white silty sand with varied inclusions of finds. Both SD317693 and SD317747 consisted of dark brown-black clayish sand with a large amount of charcoal, soot and slag interpreted as industrial waste secondary used as levelling layers.

Finds from the construction phase can be dated to the late 16th century/early 17th century and consist of ceramics, clay pipes, copper alloys, iron, lead, slag, glass, leather and textile. One of the finds consists of a metal star shaped lattice object found in SD317982 (Fig. 239).

Fig. 239. Star-shaped fitting with a duck, eagle or griffin found in one of the levelling layers within timber structure G-503858. Photo: Museum of Copenhagen.

The star-shaped fitting (c. 10 x 12 cm) of either copper alloy or bronze shows a duck, eagle or a griffin. Looking at the Danish nobilities and their symbols, it is very well suited to the Danish nobility *Gaas*, and if this suggestion fits with the object it can be dated to before the 16th century. Alternatively the bird can be a heraldic eagle of later date from Jutland (cf. *von Deden* or *Glob*) or the southern Baltic Sea area – perhaps from Brandenburg, Poland or Preussen (Adelsvåben fra middelalderen 2017).

Group 866 investigated 2013 is a continuation of the timber structure further to the west. Levelling layer (SD166067) consisted of dark grey sandy silt with domestic waste – ceramics, CBM, slag and bones. Context (ST166138) consisted of six pieces of timber; two vertical posts, two vertical (on edge) planks and two horizontal planks. The two posts were square; the timber cuts were not obvious.

A similar feature (G-504246) was recorded further south representing some kind of timber box with three planks lying flat, set in to and filled by sterile clay (see Fig. 217 above). The wooden structure was set into or between two areas of grey/yellow clay and stone levelling type material (pebbles). The feature was a fragment, having been truncated on

two sides. It appeared to form one end of a square or rectangular wooden “box”, set into and or filled with levelling material. What remained were one vertical inner corner post, and two planks on edge meeting at a right angle at the post. The vertical post had a flat base, not pointed, so probably not driven in. The cut consisted of a concave posthole around a post ST314304, backfilled with more of the sandy clay, but including some CBM material (brick fragments).

The slag analyzed from the levelling and bedding layers in the timber structure (mainly from SD317693 and SDD317747) consisted of more or less molten clay mixed with varying amounts of iron oxide, probably in the form of hammer scale (Jouttijärvi 2017). There must therefore be speech clays that have been in forges that have been used for forging purposes.

As the clay has been blended with pure iron oxide, there were no signs of processes such as primary lubrication of lint iron and welding, suggesting that the ace had only been used in secondary forging (forming) of iron. This was confirmed by hammer scales analysis, which showed that these came from secondary forging.

Remarkable is the unusually large thickness of the hammer scales. Normally, dross from secondary forging is thus between 0.1 mm and 0.3 mm thick, but in this case the thickness of most of the scales was 0.5 mm to 0.8 mm. This indicates that there has been a strong and very long heating of the iron, only known when large objects have been smithed. The best known example of a workshop where the dime of this thickness was dominant, is Peyambert's cannon foundry in Frederiksværk in northern Zealand. The idea of this building, which was built in 1751 AD, was that cannons could be made stronger and more precise by forging instead of casting.

The indication that there were very large items that were produced may indicate that the material came from one of the smithers at Holmen. What has been smithed cannot be said with certainty, but it is nearby to think that there might have been anchors, and possibly larger fittings for shipbuilding. It is not known, however, whether one could also tried to forge cannons.

One of the pieces examined, first interpreted as a slag, was found to consist of sand and hammer scales, and enclosed by iron corrosion. This could represent part of a floor layer from a former smithy.

Among the slag, many rusty lumps also contained smaller pieces of iron. In most cases, however, it is not possible to say whether these are small objects or pieces cut from the forging of other objects. Of eight examined pieces, 5 showed a very high content of phosphorus (0.4-0.6%). Of these, it is likely that at least three were recovered within eastern Denmark. If the use of phosphorous iron had a special meaning cannot be said with certainty. However, phosphorous will make the iron more resistant to corrosion, and it has previously been observed that phosphorous iron has been used in rivets and fittings for ships.

Two of the pieces studied consisted of steel with high carbon content (0.8-0.9% C). Both of them, together with a piece of low carbon iron, have their likely origin in the central European region, including southern Germany, the Czech Republic and Austria.

Roads and wheel ruts

The documented road surfaces and associated levelling layers ran parallel and outside the 17th century moat and consisted of brown-grey and blue-yellow silty sand and clay with inclusions of red brick fragments, pebbles, stones, bones and in some cases manure/dung.

Fig. 240. Road surfaces and wheel ruts outside and in relation to the 17th century moat.

Several wheel ruts running in NW-SE direction was recorded as one of the oldest activities in the area, and probably represented the traffic going to and from Bremerholm in the late 16th century (Fig. 240 and 241). The wheel ruts, 0.9-1.1 m wide, were delimited by two parallel drainage ditches on both sides and acted as boundary markings for the road course (Fig. 242). The width of the ruts was between 0.30-0.60 m and depth varied from 0.02-0.10 m – deepest towards the north. This suggests that the road had been situated in a wet area which was also supported by the fact that there were eight parallel wheel ruts within an area of approximately 9 m.

Fig. 241. Wheel ruts, facing NW. Photo: Museum of Copenhagen.

Fence- and stake lines

Group (G-937) represents two parallel fence lines, aligned NW-SE across site (Fig. 242). All oak posts were in similar size and width, but some of the spacing differed. Some of the posts had been removed, especially where building group G-790 was constructed, which may have been the reason for their removal. All posts were oriented in a similar direction, with their longest sides parallel with the overall alignment.

These fence lines, along with the ditch to the east (which was later, but on the same alignment) could represent boundary lines crossing the area before it was developed. The same alignment was maintained by the later building, which could support this suggestion. Group (G-995) consisted of a stake line comprising seven stakes roughly aligned to form a short L-shaped fence line. It could represent a property boundary associated with the buildings further to the east.

Pits, ditches and boulder

With the exception of G-787 most of the pits were fairly anonymous and without further interpretation, though in some cases the secondary backfill indicates nearby iron working (cf. G-787 and G-867), waste handling and different types of garden activities. A number of ditches were documented and interpreted either as drainage or boundary ditches (Fig. 242). A large granite boulder had been placed in one of the drainage ditches, its position coinciding with the southern extent of building G-790, suggesting the boulder had been used as a boundary marker.

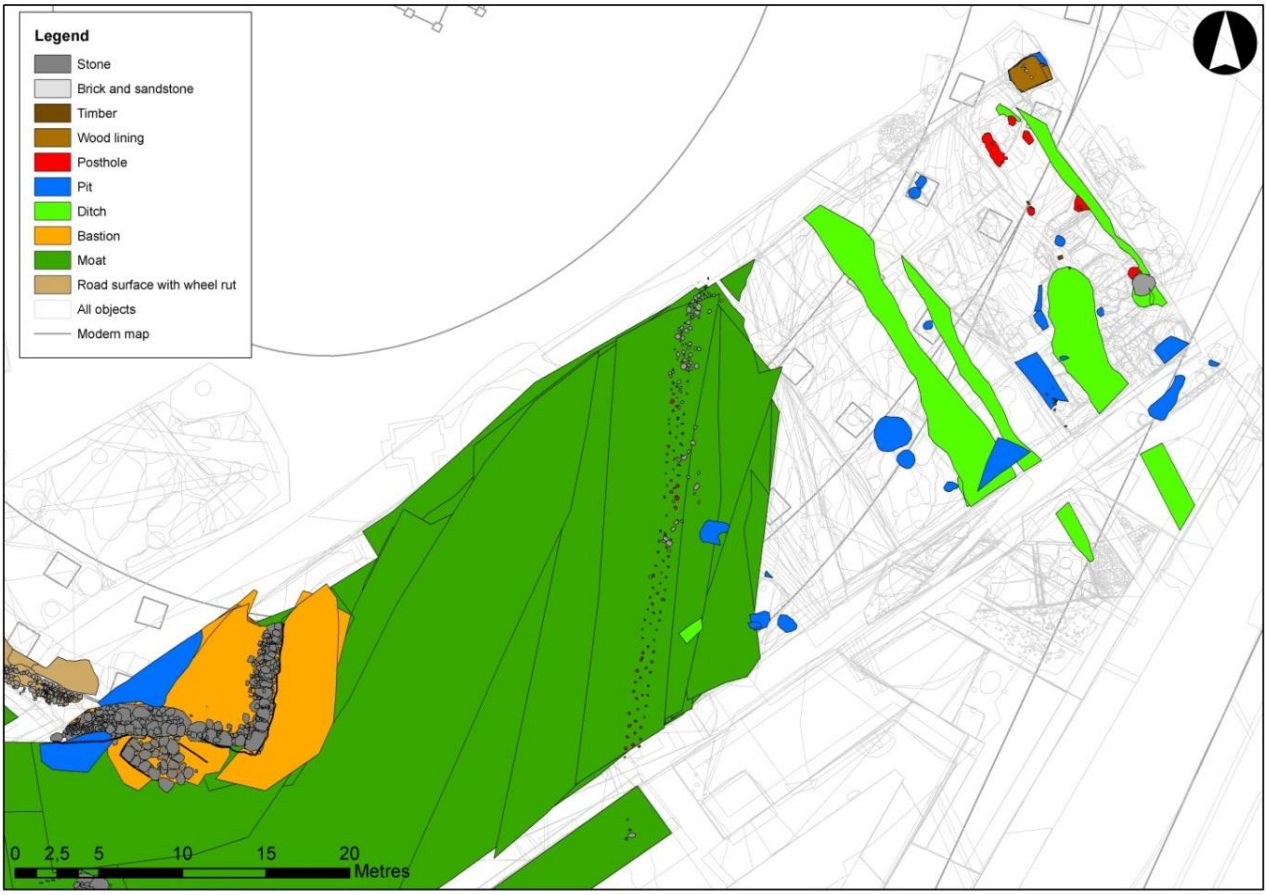

Fig. 242. Ditches, pits, fences- and stake lines recorded outside and predating the 17th century moat. A large pit with wood lining (G-787) can be seen in the NE part of the excavation area. Although the original function of the pit is unclear, the secondary dump could possibly be associated with iron working in the immediate vicinity, cf. timber structure (G-503859) above.

The suburbs outside the city gate

Buildings, courtyards and intermediate streets

There is very little information available about the settlement and other activities outside the medieval city gates if one looks at archaeological items, written sources and older maps. This is a fact that not only applies to Copenhagen, but also to other Hanseatic cities in the Baltic Sea area.

Here the residents also chose to site contaminating, flammable and space-intensive activities. A sulphur house was placed immediately outside Østerport at Store Kongensgade in the 16th century. Outside Lille Kongensgade the large three-storey Sejlhus was placed, originally intended for grain storage. Perpendicular to Sejlhuset was located the 100-metre Reberbanen (Hartmann and Hartmann 1988:6 et seq.).

Previous archaeological investigations carried out in close proximity to Kongens Nytorv and Rådhuspladsen have revealed stretches of roads and buildings dated to the Late Middle Ages or Renaissance period; buildings inhabited by the occasional visitor or wage workers, especially with regard to the large capital investment structures and in terms of the big fires in 1728 and 1795.

Based on the written sources there was no real settlement outside Østerport before the royal decree of 1547 issued after pressure from the city's citizens. The area was rapidly developed with fenced fruit and cabbage gardens, terraced houses and intermediate streets. The control of the new buildings must have been deficient for in 1575 a royal decree was sent out declaring that something should be done about the fact that many people lived outside the city walls and were not paying taxes. In 1622 as much as 163 families lived outside Nørreport and 110 outside Vesterport, mainly consisting of poor people (Nielsen 1885:386).

In the *Jordebog* from 1581 there is a long record of kitchen gardens outside the gates, but there are no details about how many buildings were associated with them. This emerges clearly in one of the basic drawings from the 17th century where several houses are marked between the plots (Fig. 243).

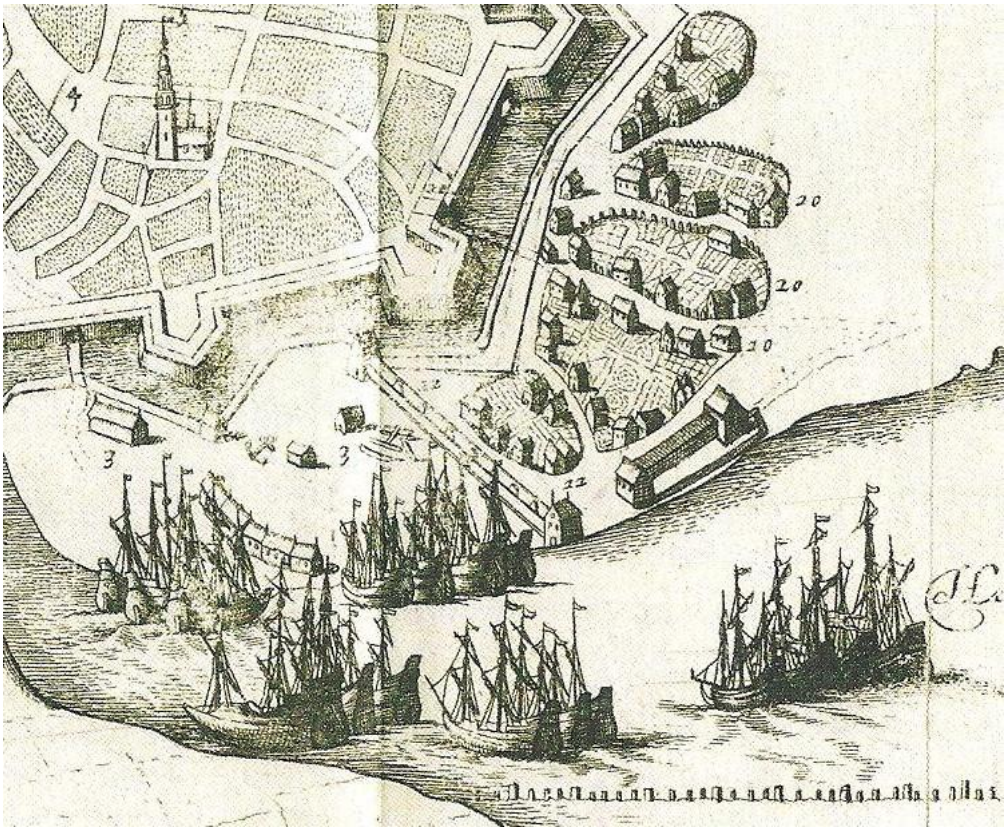

Fig. 243. Østervold's suburb outside Østerport. From Resen's map in "*Atlas Danicus*" 1677.

With the new fortification it was planned that these areas should be cleared of legal and illegal settlements, but the building and plans were delayed which emerges clearly in *Jordebøgerne*, and it is uncertain whether this was for political or economic reasons. There must have been resistance to Christian 4th's plans which stated that as late as 1645 there was still a comprehensive settlement outside Østerport. Besides small houses there were rent booths for poor people. There has been mention of rows of small houses, similar to today's Nyboder (Fig. 244), inhabited by one or two families. Up to 18 families could have lived in some sort of these rows of small houses.

Fig. 244. Present Nyboder from 1631 in Copenhagen. Photo: Morten Steineke.

Both building No. 1 and building No. 2 represent timber framed buildings with separate rooms, smaller alcoves and corridors. The examples of different phases of re-flooring (both chalk, clay and wooden beams/planks) suggest long-term use and possibly also a change of use of at least one of buildings over time.

The timber jointing technique was throughout the Middle Ages the dominant building technique adopted over large parts of Scandinavia. The houses, built of oak, were in plan quite uniform. Each building consisting of one room employed some sort of sill construction and was superficially quite small, about 3 to 5 metres wide, and 7 to 9 metres long. The technique was probably introduced in Copenhagen during the 1200s and came to be the dominant building technique during the medieval period and retained this position well into the 19th century. The advantage with the timber jointing technique was that it was wood-saving and the sill stone extended the life of the building. The building technique was also adapted in areas with little forest and lack of suitable building material. Bricks were introduced in the 12th century, but did not have final approval in Denmark and the cities before the second half of the 1200s.

In connection with the booths and buildings there have been intermediate streets and courtyards and the area has probably been divided into plots similar to the settlements behind the city gates.

After the relocation of the gate and rampart in 1647 Kongens Nytorv was left derelict, with half-demolished walls, massive soil piles and mud. The area was used as a landfill and dock for boats from and to the neighbouring counties Scania and Halland, in the tiny cove Krabbeløkke through the current Nyhavn. In 1647 the destruction of the city's fortification began, and with the facilities of Ny-København the city expanded yet again to the east and the old rampart terrain was laid out for squares and buildings.

Kitchen gardens, grazing and arable fields

In 1606 Christian the 4th bought up all the gardens and plots outside Østervold, i.e. the area between Østerport and the beach, as well as the area between the fortification and the shoreline to the northeast. The area where Rosenborg is located today had long been used as fruit and kitchen gardens, but when the area was developed under Christian the 4th, these were moved closer to the rampart which had hitherto been used as grazing and arable fields (Fig. 245).

Fig. 245. Gardens and plots outside Copenhagen as seen on Braun and Hogenberg's prospect from 1588.

The most common type of garden in medieval times was the vegetable garden (in Danish *Kålgård*). Almost everyone – independent social of position – had a vegetable patch (Hansson 1997). The word cabbage may be a bit misleading because the cabbage was a term used for many plants that had edible leaves. The turnip cf. was not grown until the latter part of the 16th century. *Kålgården* was probably an enclosure to keep the animals away. The fences were built from branches of willows which were intertwined. Inside the fence there were trodden paths and small raised areas where the plants were grown. The garden was probably not particularly large.

Different kinds of onions such as garlic, leeks, and chives, were well-liked vegetables. They were used both for cooking and medicinal herbs. Carrots and parsnips were also grown in the medieval kitchen garden. Besides cabbage, some people also had hops and orchards.

Bourgeois gardens in cities during the Middle Ages were similar to those that existed in the countryside. With time, however, there was less room to grow on and the bourgeoisie then moved their crops to the city outskirts, or even outside the city walls.

The apple orchard mainly consisted of apple trees, but also pears, cherries and plums. While the peasants' apple orchard was small, the monasteries had large plantations. Even noble people and the citizens had big apple orchards.

Hop gardens were also an important part of the plantations. The hops were probably transferred from Germany to the Nordic region by monks. In Germany hops had been cultivated since the 8th century, but it was not until the 1200s and 1300s that any one started to cultivate hops to a greater extent in Denmark. By then they had acquired a taste for beer spiced with hop, rather than the older style beer that was spiced with bog myrtle. The hops also helped to extend the beer's shelf life because it prevented the beer from fermenting.

The roads to Østerport

The wheel ruts and the drainage ditches represent traffic to and from Bremerholm in the late 1500s. The ship wharf was established by King Hans in the late 15th century. The road surfaces are dated to the second half of the 16th century and to when Østervold went out of use and with the establishment of Ny-København in the mid 17th century. Traces of the main road(s) at Kongens Nytorv had been recorded previously with an associated road ditch C14-dated

to 1182–1395 AD, though collected finds were primarily from the period c. 1550 to 1750 AD (Poulsen year unknown; Leen Jensen 2007).

The somewhat later roads recorded outside the moat probably represent traces after the main roads that radiated from Østerport, were Lille Strand Stræde, Store Strand Stræde and Den brede Gade (Fig. 246). Their extensions can fairly be based on the older *Jordebøger*. Lille Strand Stræde started approximately where Charlottenborg is today and Store Strand Stræde immediately east of Krinsen.

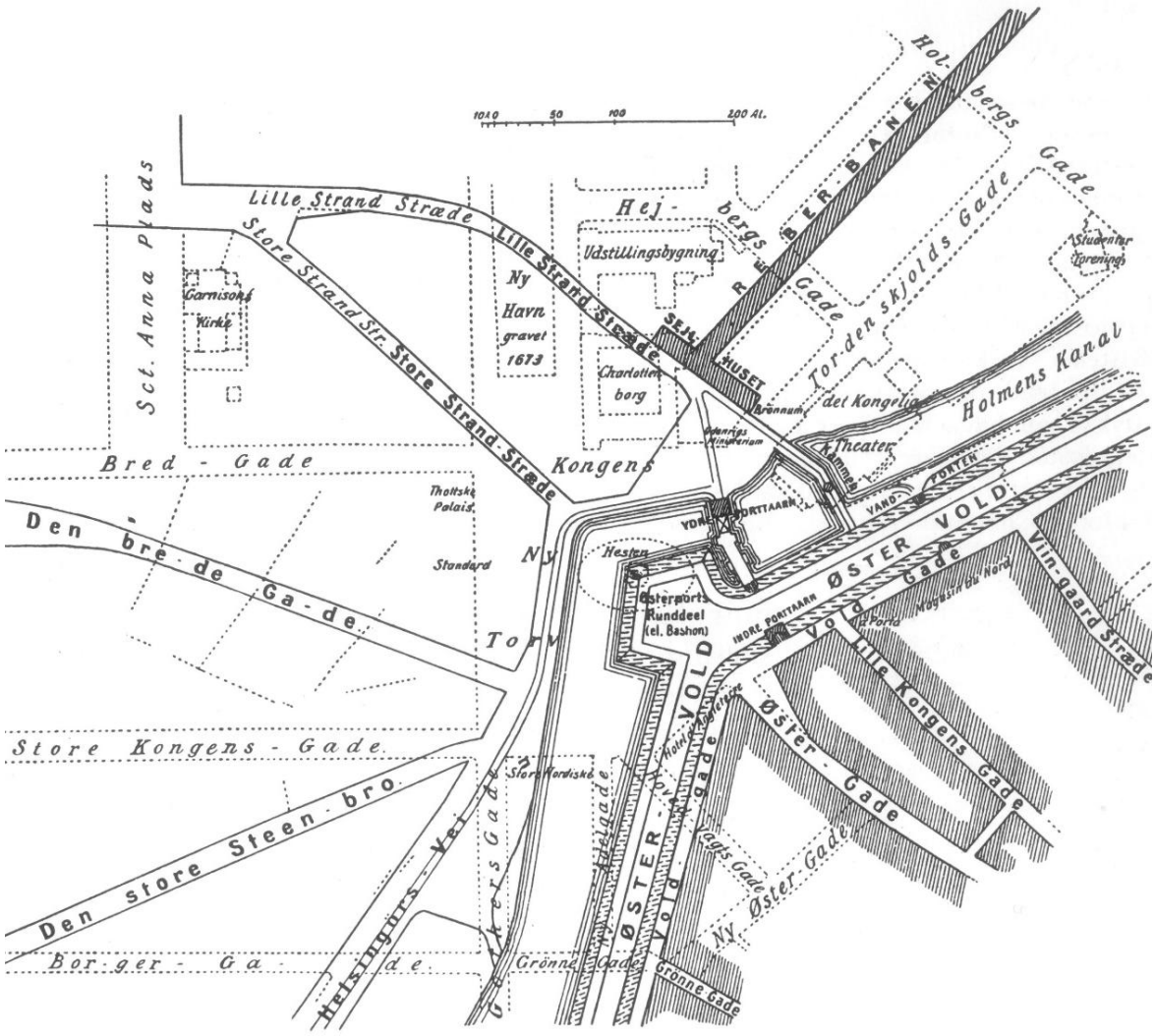

Fig. 246. Reconstruction map of the fortifications in 1611, by the later Kongens Nytorv. The map also shows the original main roads outside Østervold. Roads and fortifications are shown relative to the current street map. The map was prepared by taxidermist C. Chr. Andersen in 1900 and turned over to the compass. From Hartmann & Hartmann, 1988:7 and Leen Jensen 2007:5.

Den brede Gade initially during the Middle Ages to have been a cattle road. In the late 16th century it was the broadest thoroughfare from Østerport. In the *Jordebog* from 1620 there is a list of all streets outside the gates with information about who owned the gardens and the houses. Along Bredegade near the moat there was a majority of booths and gardens. The street followed a curved line from the present corner of Gothersgade and Store Kongensgade down to Sankt Anne gade (KD I:611 et seq.; KD IV:363; Nielsen 1885:387 et seq.; Fleischer 2006).