#### 7.7. Re-infiltration trenches

#### 7.7.1 Introduction

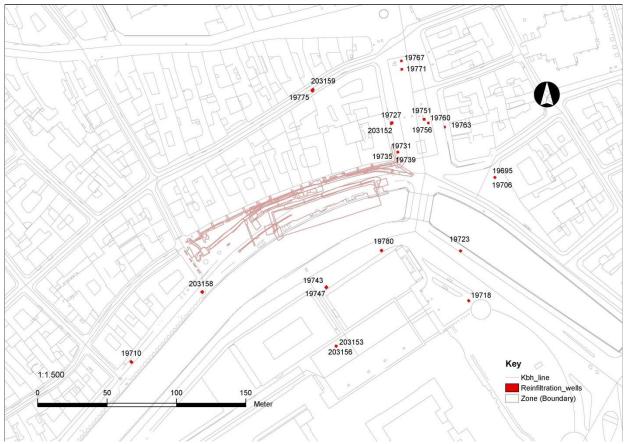


Fig. 371 Plan showing location of Re-infiltration wells/trenches surrounding the project area.

From 11<sup>th</sup> December 2012 to 19<sup>th</sup> April 2013 the Museum of Copenhagen followed the excavation of 16 trenches for the Metro Cityring project. The purpose of these trenches was for the re-infiltration of the water services around Gammel Strand and Slotsholmen in advance of building the Guide Wall for the new metro station on Gammel Strand. The project comprised a watching brief format, following the excavation of trenches by mini diggers. All trenches were recorded in single context methodology, photo documentation and surveying by total station. Contexts and surveying information was then uploaded into the IntraSiS database. This report will describe each of the trenches followed by the highlightof the archaeological and artefactual findings.

#### 7.7.2. Re-infiltration trenches

This section will comprise short descriptions of each re-infiltration trench along with their measurements and locations.

#### 7.7.2.1. Trench ZT203158, Re-infiltration well

Location: Opposite Kulturministeriet, Nybrogade No.2.

Dimensions: 1.87 m by 1.7 m by 1.5 m deep

Beneath the surface, G100 was G103, a group comprising modern soils between the depths of 0.3 m and 1.4 m below present ground level. At 1.4 m below the ground level, deposit SD203160 was uncovered. The dark brown grey sandy clay contained flint and pebbles. Excavation ceased at 1.5 m below the surface.

#### 7.7.2.2. Trench ZT19710, Re-infiltration well

Location: Nybrogade, outside No.12.

**Dimensions:** 1.75 m by 1.7 m by 1.5 m deep

Beneath the modern paving, G100, and the modern dump material, G103, there were two deposits. In the southeastern area there was modern sand fill and in the northeastern part, a modern water pipe. Below the modern water pipe was a levelling layer, SD19714, which was exposed at 1 m below the surface. This was suggested by the excavator to represent soil before the city fire in 1795. The soil was exposed to 0.5 m and continued downwards and in all directions, except southeast. Finds within the layer comprised clay pipes, late redware and animal bone.

#### 7.7.2.3. Trench ZT19731, Re-infiltration well

Location: Outside Højbro Plads No. 10.

**Dimensions:** 1.5 m by 1.35 m by 1 m deep.

The trench comprised modern paving, G100, overlying modern fill, G103. Below G103 was wall SS19735. The wall was north-south orientated, measuring 0.8 m long by 0.4 m wide by 0.3 m thick. Only the uppermost part was observed and it was built of natural stones and brick rubble in a characteristic reddish mortar (crushed red bricks were used for tempering).

The excavation was ended at 1 m below the street surface as modern pipes SD19739 and the construction cut from G105 were uncovered. The modern pipes and the construction cut had truncated the wall at some point in the last 100 years

Part of a stone wall was also found in Højbro Plads excavation KBM 3941 (Hadevik 2012).

#### 7.7.2.4. Trench ZT19775, Re-infiltration well

Location: Outside Læderstræde No. 5.

Dimensions: 1.45 m by 1.76 m by 1 m deep

The machine excavated through paving G100 and modern layers G103 before ceasing at 1 m where the modern gas pipe was found. The trench was then backfilled.

#### 7.7.2.5. Trench ZT203157, Re-infiltration well

Location; Outside Læderstræde No. 5.

**Dimensions**; 1.57 m by 1.51 m by 1.5 m.

Excavation of this trench featured the re-excavation of the NE corner of Trench ZT19775. The trench featured only modern deposits and modern paving between 0-1.3 m below the modern ground surface. At 1.3 m, SD203159 was uncovered. The layer comprised dark grey brown organic soil with flint and Late Medieval redwares. Excavation ceased at 1.5 m below surface.

#### 7.7.2.6. Trench ZT19751, Trial trench for re-infiltration well

Location: Højbro Plads central area.

**Dimensions:** 1.5 m by 1.4 m by 0.5 m deep.

The trench was excavated through paving G100 and modern group G103 to the depth of 0.5 m, where modern cables were found and the trench was backfilled.

#### 7.7.2.7. Trench ZT19756, Re-infiltration well

Location: Højbro Plads central area, located 1.5 m southeast of Trench ZT19751.

**Dimensions:** 1.07 by 1.36 m by 1.5 m deep.

Within this trench a few deposits were uncovered. The modern surface paving, G100, was approximately 0.3 m deep. This overlay the modern fill, G103, which continued to 0.85 m below ground level. This ended where a demolition layer was uncovered.

In another part of the trench beneath the modern fill, G103, was a dark brown sandy clay deposit, SD19760. This was exposed up to 0.65 m, where the digging ceased at 1.5 m below the surface. Truncating G103 and SD19760 was modern disturbance, G105, which in this area is a modern service pipe. The modern cast iron pipe in the SW corner cut measured 0.77 m by 1.19 m and was on a northwest-southeast orientation.

#### 7.7.2.8. Trench ZT19763, Trial trench for re-infiltration well

Location: Outside Højbro Plads no. 19.

**Dimensions:** 1.39 m by 0.89 m by 0.3 m deep.

The trench was excavated below surface G100 to c. 0.3 m, where modern cables were found and the trench was backfilled.

#### 7.7.2.9. Trench Z19767, Trial trench for re-infiltration well

**Location**; Højbro Plads. Located 4.4 m north of Trench Z19756

Dimensions; 1.8 by 1.2 m by 1.5 m deep.

This trench was excavated to 1.5 m below surface G101 where a modern concrete structure was found and the trench was backfilled. No archaeology was uncovered.

#### 7.7.2.10. Trench ZT19771, Re-infiltration well

Location: Central Højbro Plads outside no. 9-11.

**Dimensions:** 1.32 by 1.28 m by 1.5 m.

This trench contained only modern fills down to the base of the trench at 1.5 m below the present ground surface. These lay below modern paving, G100.

#### 7.7.2.11. Trench ZT19695, Re-infiltration well

Location: Outside Ved Stranden No. 18.

**Dimensions:** 1.38 m by 1.55 m by 1.5 m deep.

The trench contained one archaeological layer and two archaeological groups. The lowest layer was SD17906, a dark grey brown sand rich deposit containing a flint flake and a clay pipe stem. It was suggested by the excavator that this layer may represent the burnt layers from the fire in 1795. The layer was exposed to 0.6 m. The remaining 0.9 m was a mixture of a modern dump from the 20<sup>th</sup> Century, G103, and modern paving from 0.3 m below the surface (G100).



Fig. 372 Working photo of the excavation of Trench ZT19695 Re-infiltration well. C03\_20121220\_5516.

#### 7.7.2.12. Trench ZT203153, Re-infiltration well

**Location:** South of Thorvaldsen's museum. **Dimensions:** 1.61 m by 1.36 m by 1.5 m deep.

The trench comprised one archaeological layer beneath two modern groups. The uppermost part was modern surface G100 and modern dumped soil found within G103 which comprised the largest area in the trench. They continued to the depth of 1.1 m below the surface. The bottom of the trench consisted of 0.4 m of exposed deposit SD203156, an anaerobic layer containing leather off-cuts, animal bone waste, 18<sup>th</sup> Century redware and glass bottle fragments. Excavation ceased at 1.5 m below the surface.

#### 7.7.2.13. Trench ZT19718, Re-infiltration well

Location: Northeast of Christiansborg slot on Slotsholmen.

**Dimensions:** 1.29 m by 1.49 m by 1.5 m deep.

Beneath modern surface G100 was approximately 1.3 m of mixed modern deposits, presumably deposited to increase the ground level. The excavation ceased at 1.5 m below the ground level. No archaeology was uncovered at this depth.



Fig. 373 Working photo of Trench ZT19718 Re-infiltration well. C03\_20121220\_5535



Fig. 374 Working photo of Trench ZT19718 Re-infiltration well. C03\_20121220\_5536

#### 7.7.2.14. Trench ZT19723, Re-infiltration well

Location: Slotsholmen, on Christiansborg Slotsplads

**Dimensions**; 1.41 m by 1.49 m by 1.5 m deep

Beneath modern surface G100, was approximately 1.3 m of mixed modern deposits which were part of G103. No archaeology was uncovered at this depth.

#### 7.7.2.15. Trench ZT19780, Re-infiltration well

Location: Slotsholmen, Vindebrogade by NE corner of Christiansborg Slotskirke

**Dimensions**; 1.51 m by 1.49 m by 1.5 m deep

Beneath modern surface G100 was approximately 1.3 m of mixed modern deposits. No archaeology was uncovered at this depth.

#### 7.7.2.16. Trench ZT19743, Re-infiltration well

Location: Slotsholmen, Vindebrogade by NW corner of Christiansborg Slotskirke

**Dimensions:** 1.5 m by 1.48 m by 1.5 m deep.

Beneath modern surface G100 was approximately 1 m of mixed modern deposits, G103. Underneath this was SD19747, a dark grey organic layer, exposed to 0.2 m deep before the limit of excavation was reached at 1.5 m below surface. No archaeological structures were seen.

#### 7.7.3 Conclusion

The excavation revealed little significant archaeology or features, although fragments of former structures were revealed and recorded. What was significant was the new knowledge obtained of areas that had been created from land reclamation in the last few centuries. This knowledge can now be compared with older map data and may possibly reveal local urbanisation of the harbour area, and perhaps when this happened.

# Chapter 8: Assessment of results and future research potential

The Gammel Strand Metro Cityring project comprised excavations that were undertaken between 2010 and 2014. For this chapter, the results of the 2010 excavations will also be incorporated to obtain an overall viewpoint of the project. The aim of the project was to excavate the area that will be used for the new Metro Cityring station at Gammel Strand, and to undertake documentation of archaeology discovered. The project largely ceased in autumn 2014 after the completion of thorough excavation and documentation leading into the post excavation process. The project has provided a large amount of information showing the development of the city, society and trade and the transformation of connections between Denmark and the world over a long period of time.



Fig. 375 Excavation of the Guide Wall trench, September 2012. Trenches 2B and 3. Looking SW. C19\_20120824\_3707

This chapter will be split into three subchapters or sections. The first section will assess the results of the excavation, chronologically, through the various archaeological periods. This will undertaken using site specific themes relating to the site questions that are discussed in Chapter 5, Aims and Objectives. The second section looks at the results linked to the original three Metro Cityring project objectives. The third section briefly summarises the research potential of the results relating to the internal Metro Cityring research strategy.

#### 8.1 Assessment of the Gammel Strand Results

The aim of this section is to summarise the results of the excavations chronologically, into the various archaeological phases and periods, and then discuss the potential of the results. These discussions will be linked to the overall site questions and aims of the Metro Cityring project (Thomasson & Høst-Madsen 2009), which are described in Chapter 5.

#### 8.1.1. Site specific themes relating to site questions

- The urbanisation of Copenhagen
- Health and living conditions in the city
- City life in Copenhagen
- Harbour infrastructure
- Trade and trading route changes
- The southern city border zone

#### 8.1.2. Assessment of the archaeological periods

The material evidence from the Prehistoric periods and the earliest origins for the city from the Early Medieval period from Gammel Strand is very small and linked to a few finds that have reached Gammel Strand either from land reclamation or fluvial activity within the harbour. A total of 77 fragments of flint representing a period of a few thousand years characterize the Prehistoric periods, and the only definite Early Medieval activity is linked to a 12<sup>th</sup> Century Pingsdorf ware fragment and Baltic ware sherds found within an early 18<sup>th</sup> Century land reclamation deposit.

This type of activity is seen also in the High Medieval period, where more fragments of pottery and glass are seen in deposits relating to the Late Medieval period onwards, but no settlement activity is discovered. Previous excavations have revealed that archaeological remains of bulwarks and land reclamation are seen just north of the Gammel Strand area, dating from 1200-1400. This area lies just north of the Metro Cityring project area.

It is from the Late Medieval period, Phase 1 on Gammel Strand, that we first see structural evidence within the excavation area. The harbour front, and thus southern boundary, reaches Gammel Strand in the early 1400s and is extended southwards at least two or three times within this period. It becomes the centre of the harbour area, within which the administrative buildings such as the *Vejerhus* (probably identical to one of the structures excavated in 2010), are located. From the land reclamation deposits, located to the north of the new harbour fronts, evidence is found of society through the archaeological finds in the phase showing evidence of trade, wealth, diet and fashion. Although Copenhagen has become the capital of Denmark in this phase, it is only in the next phase (Phase 2) that it becomes an important international capital and Scandinavian metropolis. This is reflected in the remains from the Early Post-medieval period at Gammel Strand.

The Post-medieval period (Site Phases 2-6) comprises the majority of archaeological evidence at Gammel Strand. It portrays a period of immense wealth in the Early Post-medieval period, where the harbour is extended southwards again and is equipped with a large stone harbour front and a 3 storey high new *Vejerhus*. The materials to build these structures are obtained from within Denmark and the surrounding areas, and are then worked, brought to the harbour and used for the construction in the area. From the

continuing reclamation of land towards the south, we see an increase in the trade routes, and changes in trade patterns from primarily a northern European centred trade to trading with a wider area – the rest of the world. A general increase in types of foreign artefacts as well as increasing quantities of these is also a clear indications of changes in the Copenhageners' consumption patterns (especially in glass, ceramics and decorative objects). This is supported by the evidence from the natural science analysis of zoological material, macrofossils and timbers.

From the interpretation of map work, we also see the boundaries of the city being extended southwards in this period with the creation of Christianshavn and the merging of 3 small islands to form a large castle island (Slotsholmen). The eastern boundary is also moved far to the east, and the areas in-between the old and new boundaries begin to become filled. Gammel Strand transforms from being a harbour situated on the southern border of the city to an area within the centre of the city.

The nature of the harbour changes by the end of the 1700s. The land is expanded farther south, providing more land for construction of buildings and storage of goods, but due to the increased size of ships, the harbour takes on a more administrative role. The new land obtains a Bargemen's Guild House whose guild members are now fully involved with bringing the goods from the large ships moored in the new greater Copenhagen harbour to the *Vejerhus*, for weighing, measuring and taxing. The goods were then quality assessed after tax in the adjacent *Vragerbro*, located between the *Vejerhus* and Bargemen's Guild House. This area was developed into an area with booths, which were replaced a few times during the use of the area.

From the artefactual remains and natural science results from land reclamation in the Later Post-medieval period (AD 1700), we perhaps see a change in the character of the finds and general remains. Although there is an increase in global goods, there is a decrease in the amount of high status goods. This is replicated through the natural science results. Rather than this reflecting the rubbish from the Gammel Strand area, it may instead reflect the change in refuse systems around the city, where the rubbish used for levelling and land reclamation is brought from designated dumping areas.

By the end of the period, the trade route patterns were very different from the Early Post-medieval period. The hegemony of trade from the Netherlands and Germany was decreasing; there were more locally produced artefacts from within Copenhagen and Bornholm with increased mercantile ties with the British Empire seen from ceramics, glass and various tools and equipment.

By the mid 1800s, the harbour was no longer used for commercial trade and instead became a fishing harbour. With the change in the tax laws, the need for the *Vejerhus* complex had ended, and so it was demolished. The area then became famous for the fishwives selling fish at Gammel Strand. Although this area was famous both within Denmark and further afield, partly through increased media, its international importance had come to an end. The area is now a tourist area with bars, restaurants and museums.

The finds assemblage was vast and well preserved because of the anaerobic soil conditions. Due to a combination of budget and time, the **Bulk Finds** were heavily prioritized, resulting in 52% (in number of Finds Units, not weight) of the bulk material being analysed for the report. The non-prioritized material is stored in the archives of Copenhagen Museum. It was also decided that a greater number of artefacts from the Medieval and Early Post-medieval periods would be chosen for registration. This decision was made

due to the lack of information for the finds assemblage in Copenhagen for this period. It has been found that the assemblage is of international importance as it represents an unbroken line of 600-700 years of artefacts, which help to reveal evidence about all manner of society within this time frame

The finds are of particular importance from the High Medieval to the Early Post-medieval period. The artefacts within these phases show evidence of trade routes which change and increase in number over time. The finds also increase in quantity and change in status in various periods, which helps to answer questions about globalisation, consumption, glocalization and fashion. At present, the textile remains are incorporated into Charlotte Rimstads' PhD on Metro Cityring textiles. There are good opportunities to undertake further research into the **Bulk Finds** such as, ceramics, clay pipes, glass and natural science remains in the form of animal bone, macrofossil analysis and dendrochronology (from the 300 plus samples undertaken on wooden structures from Gammel Strand).

From the archaeological remains and themes, there is a great potential of research topics linked to the development of Copenhagen, harbour urbanisation, border archaeology, land reclamation and identity. These themes develop greatly when linked to the natural science remains and artefactual evidence, where trade and the effects of trade can be seen a new holistic method of research.

# 8.2. Metro Cityring Project objectives with relation to the results from Gammel Strand

The aim of this sub-chapter is to summarise the results from the Gammel Strand excavation using the various objectives from Chapter 5, Aims and Objectives. These questions were used when discussing the three overall Metro Cityring Project objectives, for which knowledge was to be obtained from each excavation.

#### 8.2.1. Metro Cityring project objectives

- Background, organisation, direction and characterization of urbanisation.
- Economic and demographic fluctuations.
- Cultural and social implications and consequences of town life.

#### 8.2.1.1. Background, organisation, direction and characterisation of urbanisation

This Metro Cityring project objective relates to the first Gammel Strand research theme, the urbanisation of the harbour area. The results from Gammel Strand regarding the organisation, direction and type of urbanisation is in great quantity, showing evidence of public organisation to provide a harbour area that can fulfil its role in relation to the needs of the city, its inhabitants, foreign merchants and sailors using it. Set within the publicly owned harbour area was also a privately owned part consisting of private houses with the finds from land reclamation representing the local inhabitants.

There are 600 years worth of archaeological remains from the Gammel Strand excavation and it is clear that 1 of the major themes that results from this is urbanisation, in particular harbourside urbanisation. The harbour area developed in the same style as many leading urban port centres, i.e. Hamburg, Amsterdam, London, and Lübeck, by creating extra land into the waterside areas behind new harbour fronts. The purpose of this was twofold; the first purpose for land reclamation was for the creation of cheap, new land for the city, utilizing rubbish from the city. This was especially the case in Copenhagen because the other boundaries of the city were limited by the fortifications, so the easiest way for the city to expand was

southwards. The second purpose was for technical reasons linked to the style and size of ships using the harbour from the High Medieval period onwards. The new ships, such as cogs and caravels, needed either a straight faced harbour front or piers for docking and offloading cargo. As the ships expanded in size, a deeper harbour base was needed for the ships to utilize. It is this process that characterizes the expansion of Gammel Strand from the 1400s-1700s, represented by Phases 1-3 of the excavation. This movement south comprised a large amount of organization, manpower, economic control, coordination between merchants, construction workers, masons, etc. and continual maintenance for the constant expansion southwards. This could only have happened through public organization by the Mayors of the city with consent from the King.

The public ownership is linked to the public areas controlled by the city at the time. This is linked to the administration buildings such as the Weighing house/Vejerhus, and the nearby customs and excise house/Accisehus, the latter of which was not located during the archaeological investigation. These buildings date from the Late Medieval and Renaissance (Early Post-medieval periods). They were joined by the Bargemen's Guild House, the Vragerbro booths and storage area in Phases 4 and 5 (Late Post-medieval period). These final buildings represent the beginning of Gammel Strand as the administrative centre for the new expanded harbour in Copenhagen. As the larger ships could not frequent the harbour at Gammel Strand due to needing a larger and deeper water region, it was monopolized by the Bargemen to transport the goods from the large ships to the harbour area.

All these public buildings were destroyed in the mid 19<sup>th</sup> Century, and their former location and public space was used by fishwives selling their goods at the harbourside, presumably renting their space. The housing on Gammel Strand still continues as private holdings to this day.

#### 8.2.1.2. Economic and demographic fluctuations

This Metro Cityring project objective relates to the second Gammel Strand research theme, the lives of Copenhageners. The economic and demographic fluctuations at the harbour area are very intertwined with urbanisation and the cultural and social consequences of town life. The finds, archaeological remains and natural science remains point to an area growing in wealth, with increasing contact between their surrounding trading partners and nations. We see from the artefactual remains and provenance of finds that the trading partners increase, and by the 1600s (Phase 2) become more global in their location and globalisation and glocalization become noticeable amongst the artefactual record.

As well as the expanding trade routes, we see evidence of consumption from the material remains starting from the Late Medieval period to the true consumer period at the end of Phase 3. This has been possible, largely, due to the good preservation from the anaerobic soils in the area. In that way the usual inorganic finds are joined by the organic remains in-situ. This is seen through certain ceramics, glass, clay pipes, leather and personal and household finds such as rings, tokens, coins and other decorative objects. From natural science we have charted the import of materials to Gammel Strand for building the structures, animal bone and macrofossils representing diet (and trade), and molluscs charting travel to the settlements in the United States. There was heavy prioritisation of **Bulk Finds** (resulting in approximately 52% of the **Bulk Finds** being analysed) and animal bone (approximately 15% analysed), so the already important international results will be increased after further analysis and research.

The evidence from the site is more centred on trade and, from natural science and certain discovered structures, the fishing industry. There is little evidence of craftwork from the archaeological assemblage, apart from woodworking linked to the large quantity of wooden structures from the excavation. Neither is there much evidence of items that have been repaired. They were not discarded into the land reclamation deposits at Gammel Strand.

There is a change in pattern of the finds from the end of the 1600s. The finds if they come from the surrounding area, suggest a less wealthy neighbourhood. Although there are more finds from around the globe, they are not as prestigious. This may be linked to the amount of prioritisation for the later periods, but it is more likely it is linked to the city's infrastructure and control of rubbish. The rubbish is linked to the new *Brofoged* position from 1624, which is in charge of transporting refuse from the houses, streets and the dump areas in the city. It is likely that he controls where the rubbish is distributed hence the difference in wealth of the dumps in the later 17<sup>th</sup> Century between Rådhuspladsen (a quick infill in the early 1670s) and Gammel Strand (continuous quick infills in the late 17<sup>th</sup> Century), and Gammel Strand being a wealthier neighbourhood. This situation is of great potential for research, and should be explored.

Another sign of economic wealth is seen from other infrastructure evidence. This can be seen through the administration buildings complex which includes the Weighing house (*Vejerhus*), quality assessment centre (*Vragerbro*) and Bargemen's Guild House (*Pramlaugets Hus*). It shows communal control and organisation, and wealth. Between the 1500s and 1850s a whole administration complex was built. The aim of the complex was to control the trade (and especially the maritime trade) within Copenhagen. Along with the complex were other public infrastructure such as roads, large brick and stone arched culverts, drains, water pipes and wells. These were used by both the private housing and the general public.

The harbour's use as a large international trading site comes to an end when the administrative building complex becomes obsolete. Although its new function as a fishing harbour and fish market suggests that an economic downturn had occurred in the area, this is not reflected in the surrounding area due to the large quantity of expensive private housing, shops, museums and restaurants which survive to this day. It is just the use of the harbour area that has changed.

#### 8.2.1.3. Cultural and social implications and consequences of town life

This Metro Cityring objective relates to the third Gammel Strand research theme, Connections Near and Far, and the fourth theme, Life on the Borders.

The area, as stated, was a maritime boundary zone. It was where seafaring trade occurred, where information was diffused between Copenhagen and Denmark, and Copenhagen and the world. It was also the border, from the 1400s, between Slotsholmen and the royal inhabitants and the city of Copenhagen with Gammel Strand and the local elite. It was for this reason that the identity and material culture of the people in the Gammel Strand area developed slightly differently to other areas of Copenhagen, due to the trade links, networking and contacts abroad.

The artefactual remains are a result of rubbish dumped during land reclamation which is linked to each harbour expansion. As each harbour expansion probably occurred every 50 years, shown by the dendrochronological analysis, we can see change over time. We can therefore start to assess the cultural identity of the society around Gammel Strand and their houses from the material dumps from the

households. Themes such as fashion, wealth, diet and profession can be seen, along with habits such as smoking, leisure activities and evidence of education. From the household, building materials, coarse ware and tableware ceramics and glass, interior fittings and furniture can help us see the effect of networking and contact on society. When looking at the assemblage as a whole, we can assess the change in identity, which can be compared with other societies within Denmark and beyond over many periods from 1400-2000 and different types of regions within the city. There is of course the change in rubbish patterns from 1700-2000, which is reflected in the assemblage mirroring the everyday life of the average Copenhagener

The study of diet from the prioritized animal bone, molluscs and macrofossil remains shows a society eating mainly food from Denmark and the surrounding waters. A few of the remains suggest high status food, from wild animals which were only allowed to be consumed by certain classes (between 2-4% from Phases 1-4) and imported figs from the Mediterranean, but that represents the minority. The presence of a slaughter booth, historically located on Gammel Strand through documentary evidence, but not seen in excavation, may explain the large quantity of cow craniums from Phases 3 to 6, but there is little to suggest a poor malnourished society. As the majority of the animal bones (including bird and fish bones) remains un- prioritized (approximately 85% of the find units) and stored for research, potential for further study and research from these remains is very high. The 47,000 animal bone fragments already studied for the report have already provided good results and new information for diet in Copenhagen.

#### 8.3. Metro Cityring Projects research themes for Gammel Strand

To conclude, the research potential from Gammel Strand is vast, and can be split between four research themes.

- 1. Urbanisation of the harbour area
- 2. The lives of Copenhageners
- 3. Connections near and far
- 4. Life on the borders

Each of these themes utilise the physical, artefactual and natural science remains from the excavation, and were developed from the overall research strategy made by the Museum of Copenhagen for the Metro Cityring Project (Metro Cityring Research Strategy. 2012, Internal Museum document). Although the excavation results have provided new information that has increased the knowledge of the site and area, only by undertaking the analysis of the non prioritised finds and samples and then using the data for research will we truly see the full potential of the excavation results.

## Chapter 9: Site Potential

The Gammel Strand Metro Cityring project comprised a combination of excavations and watching briefs in advance of the construction of the new Metro Cityring station. The excavation box was located at NW (1172851.4, 652101.9), NE (1172875.1, 652187.3), SE (1172863, 652180.6), and SW (1172830.7, 652109.2). It comprised the former Guide Wall trenches, Main Excavation trench and the Stairway trench and was fully excavated down to the natural geology. The area within the new Metro Cityring station box, measured 1458.39 m² and was split into 2 methods of excavation; full excavation of an area measuring 729.74 m², and a watching brief featuring both excavation and recording (when needed) of the modern harbour front and canal/harbour base, measuring 728.65 m². The Guide Wall excavation that comprised the perimetres of the station box on the western, northern and eastern sides measured 570.09 m². There is no potential archaeology remaining within the station box area, as it has been excavated and recorded to the depth of 6.5 m from the present surface. The remaining geological layers have been removed to the depth of approximately 37 m by the Metro Company, which was not observed by the archaeologists.

The remaining Gammel Strand area, located north, west and east of the station box is an area of high potential, comprising significant archaeological remains. The western area measures 37 m by 67 m, the northern area, 12 m by 80 m with eastern area approximately 18 m by 11m. These areas were subject to archaeological watching briefs in 2010 and 2012, an Oil Container trench in 2012 and Re-infiltration trenches in 2012 & 2013. Within these watching briefs, Late Medieval and Post-medieval archaeology was found, consisting of structural remains and archaeological finds (of organic and inorganic nature) preserved in anaerobic soil conditions. The possibility of unearthing further remains of these structures, new structures, finds, and earlier archaeology is potentially high, with the new information being of local, national and international importance.

This importance and high potential for significant remains can be expanded into the area surrounding Gammel Strand. This area has been briefly excavated as part of the Re-infiltration trenches and other archaeological projects revealing archaeology from the Mesolithic period to the modern day. This was spread over an area measuring 80 m north, 200 m wide and 50m south, has been found to contain, well preserved, in-situ archaeological remains and material culture, within the area covered by the Re-infiltration trenches.

To conclude, the Metro Cityring excavations at Gammel Strand have revealed archaeological remains and finds enriching the knowledge of settlement and use of the area that is of importance, locally, nationally and internationally. It is clear that the area surrounding the station box is very highly archaeologically sensitive, containing well preserved in-situ remains. Further development in these areas will therefore uncover more information about the earlier phases of Copenhagen, the expansion of the town towards the south, the former inhabitants of the city and other various social and industrial activities over a broad period of time.

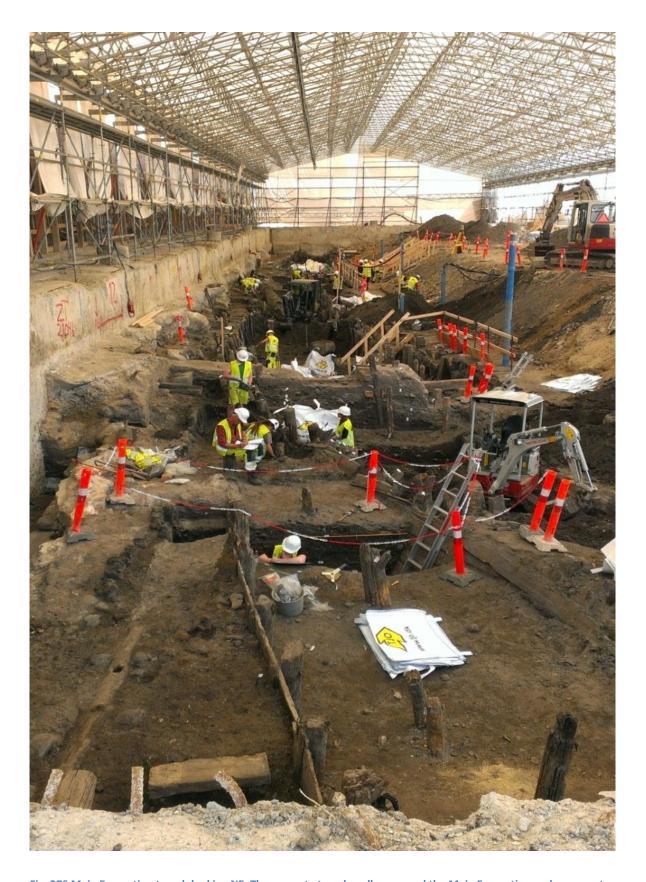


Fig. 376 Main Excavation trench looking NE. The concrete trench walls surround the Main Excavation and represent the former location of the Guide Wall trench. The Stairway trench is located behind (unseen) the eastern trench perimetre (at the far end of the photo). Photo: K. K. Tayanin

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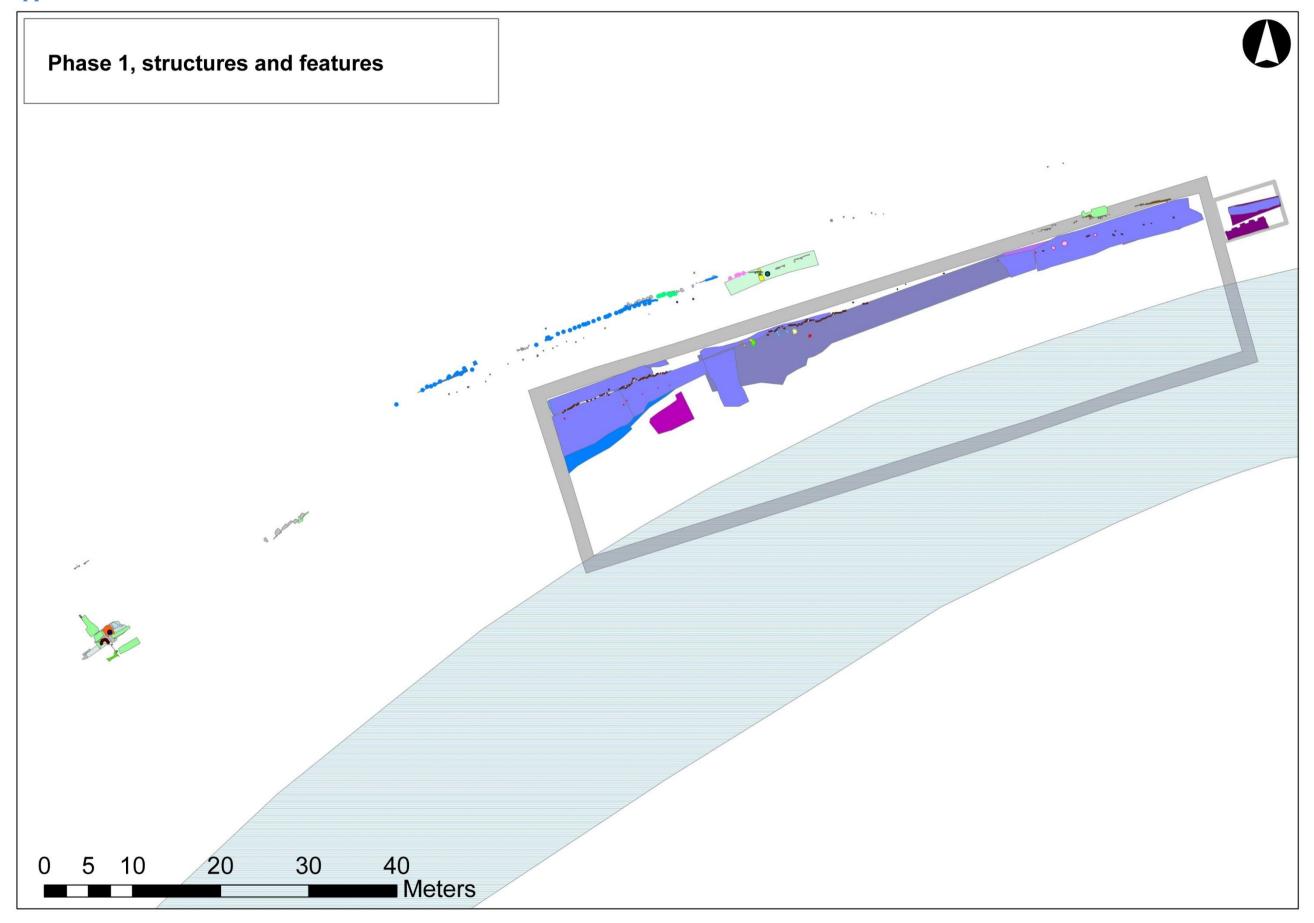
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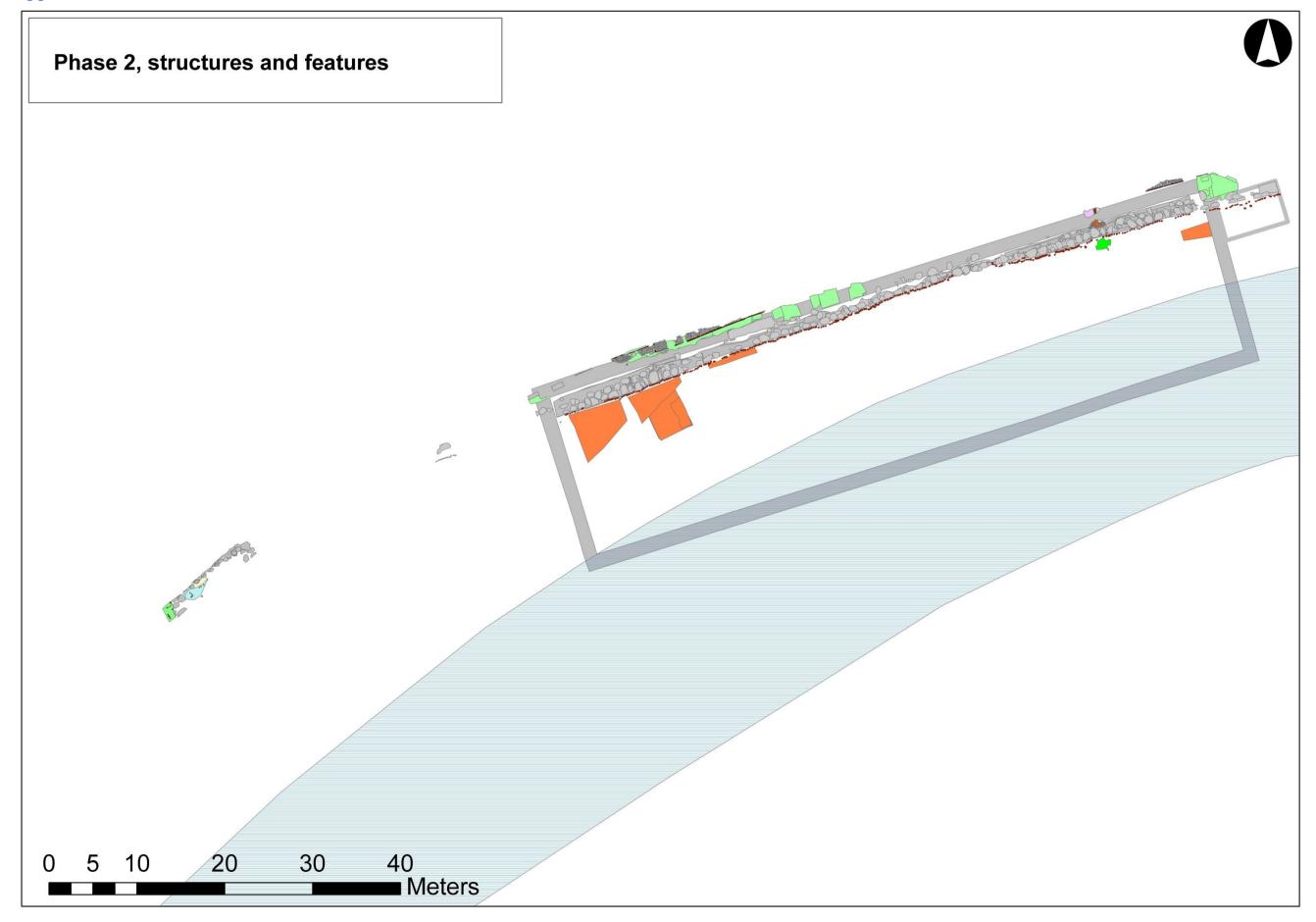
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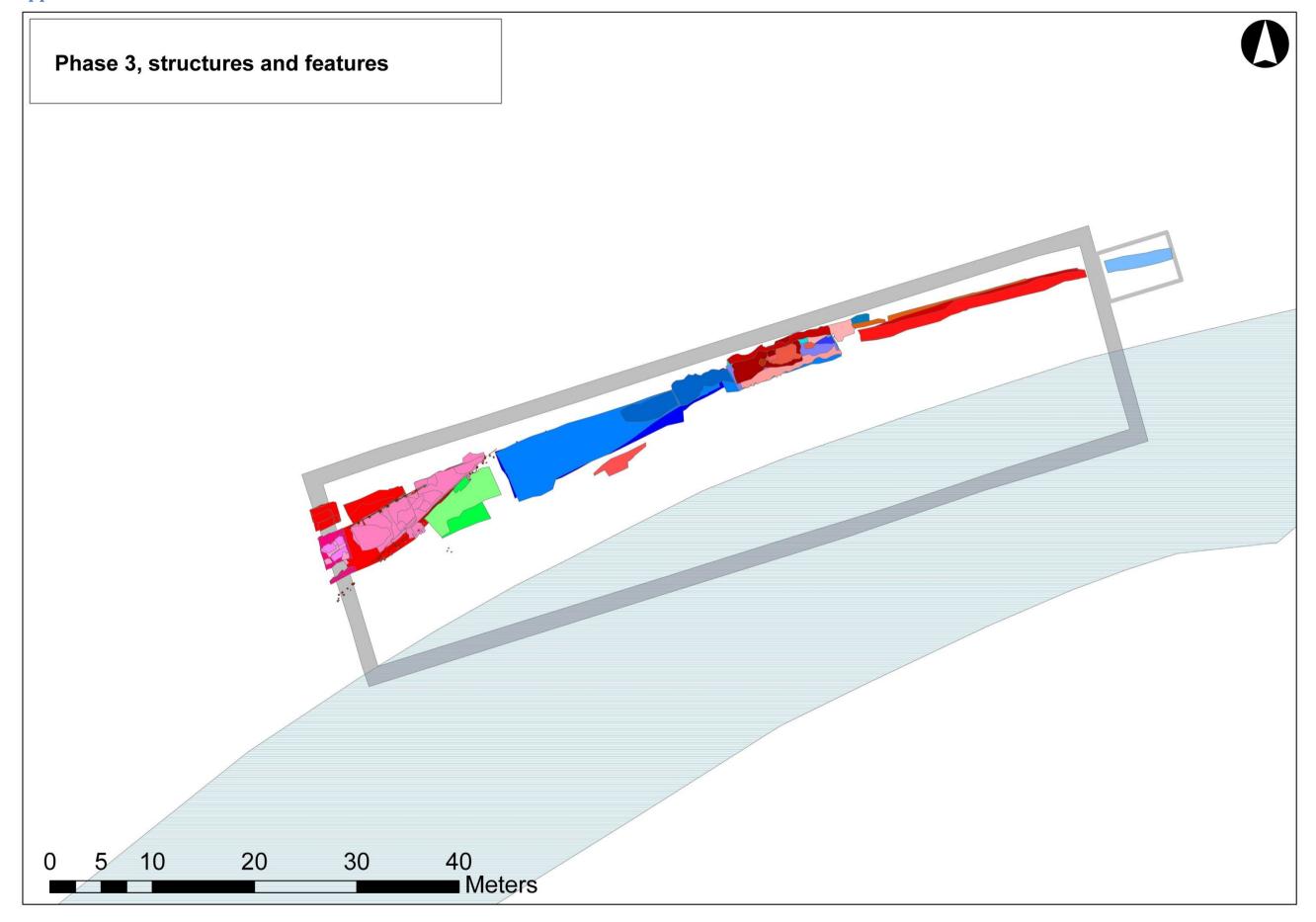
**Appendix A - Phase 1 structures and features** 



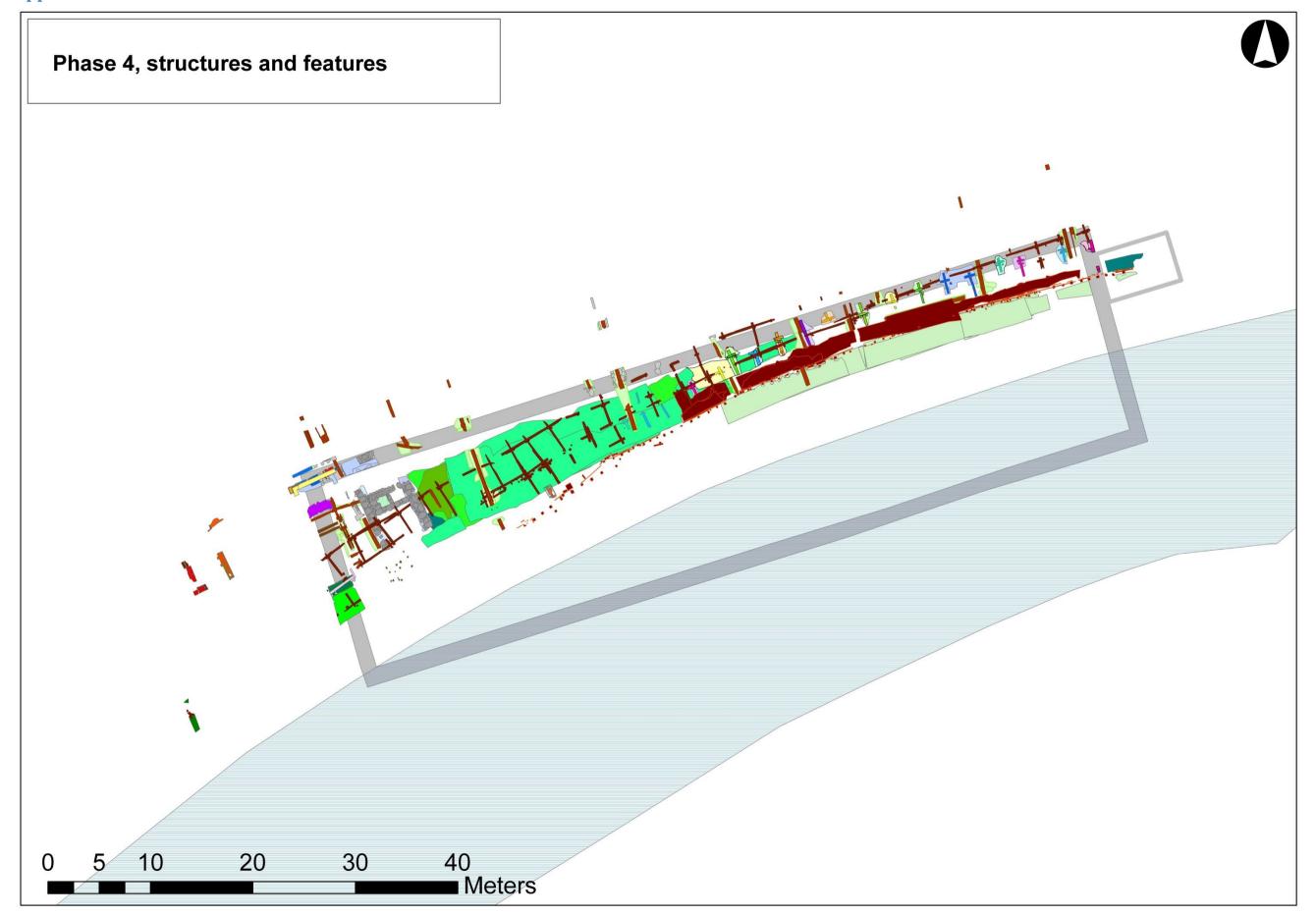
**Appendix B - Phase 2 structures and features** 



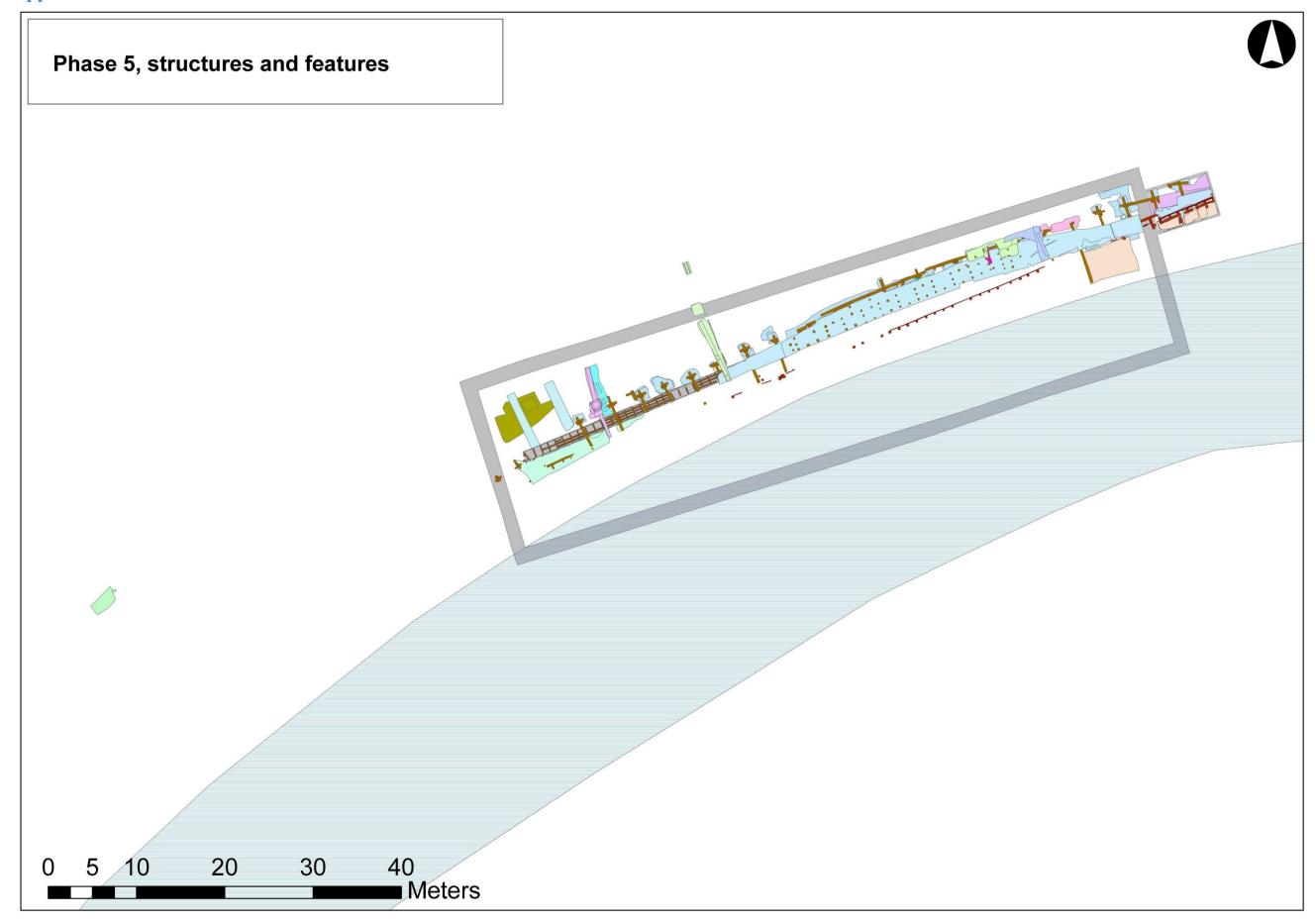
### **Appendix C - Phase 3 structures and features**



**Appendix D - Phase 4 structures and features** 



**Appendix E - Phase 5 structures and features** 



**Appendix F - Phase 6 structures and features** 

