

**ARCHAEOLOGICAL
FIELDWORK
IN ESTONIA**

2008

**ARHEOLOOGILISED
VÄLITÖÖD EESTIS**

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ARCHAEOLOGICAL FIELDWORK AT PÄRNU MEDIEVAL AND EARLY MODERN FORTIFICATIONS FROM 2007 TO 2009

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INTRODUCTION

From 2007 to 2009 substantial archaeological fieldwork took place in connection with new buildings and communication trenches in the north-eastern part of the former town of New-Pärnu in the Streets of Aida, Hommiku, Lai, Pikk and Põhja (Bernotas 2008; 2009a–b). More extensive work took place in the summer and autumn of 2007 in the plot of Aida St 5 (with the former address Aida St 7) where the foundation depression for a business and dwelling house was dug (Bernotas 2009b); in 2008 and at the beginning of 2009 in the plot of Lai St 7, where a parking house was built. Elsewhere archaeological monitoring in the area of the trenches for water pipes, sewage and electricity cables was carried out and in one section a part of a medieval corner tower was unearthed in order to specify the exact location of the construction (Bernotas 2009a). Sections of the medieval town wall as well as parts of the early modern rampart fortifications were excavated.

THE PARTS OF TOWN WALL

New-Pärnu was one of the five medieval towns surrounded by a town wall in the area of present Estonia. The exact construction time of the town wall that in the end had altogether six towers and eight gates (Altoa 1979), is not known. The first written reference to the existence of town fortifications originates from 1420 (Vaga 1965, 66). However, one third of the court expenses of the Pärnu Commander of the Teutonic Order had been allocated for the erection of town fortifications already with the first town privilege from 1265 and in 1318 the sum was raised to half of the profits of the administration of justice in Pärnu (*Quellen*, 18–20). The age of the log raft under the part of the town wall excavated in Munga St 2 in 1990s has been radiocarbon dated to 590±30 BP¹ (cal. 1310–1405 AD² with the probability of 68.2%). In the 15th century

¹ Tln.

² Calibrated by computer program CAL40.DTA OxCal v2.18 cub r:4 sd:12 prob[chron] (Bronk Ramsey 2005).

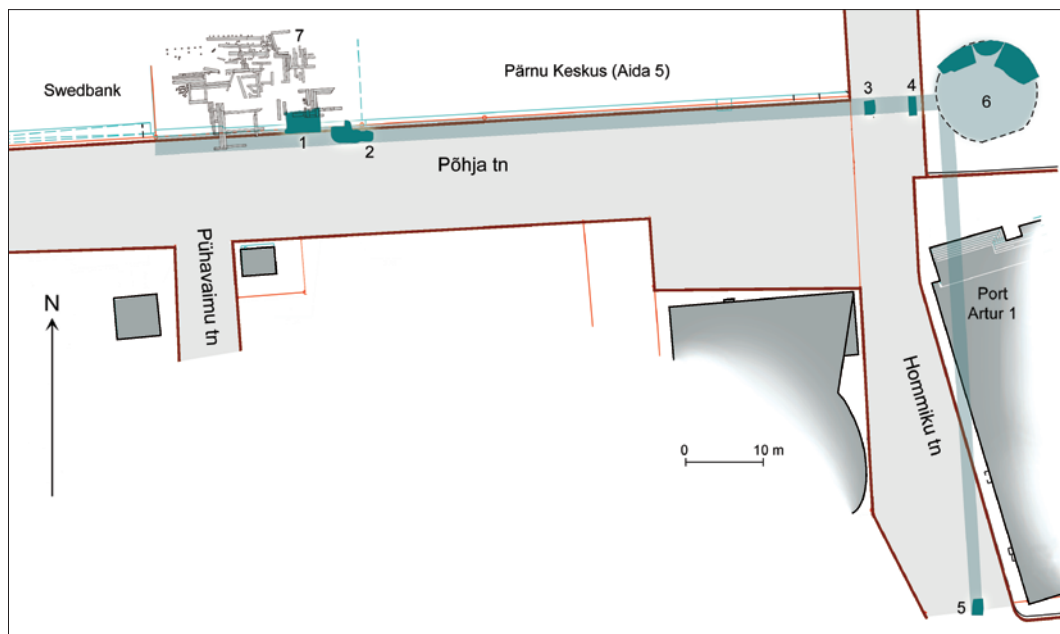


Fig. 1. Present Street network, medieval town wall and the positions of the opened sections (1 – 6) of the town wall and rampart fortifications.

Jn 1. Praegune tänavavõrgustik, keskaegne linnamüür ja välitöödel avatud keskaegse linnamüüri ning muldkindlustuste osad (1 – 6).

Drawing / Joonis: Kristel Külljastinen (Based on map by EOMAP Maamõõdukeskus OÜ)

the town wall enclosed an area of 7 ha. Since the wall was erected over a long period and several sections were repaired or rebuilt³, different constructional nuances were detected there, the most conspicuous of which was the existence of both square as well as round towers. At present nothing of the town wall of New-Pärnu can be seen anymore, except for a single tower – the Red tower named after its brick cladding – at Hommiku St in the present town centre of Pärnu. The rest of the wall parts have been destroyed to a smaller or bigger extent and preserved under the modern soil strata.

So far the parts of the town wall have been unearthed in the course of several archaeological excavations, more extensively – by the length of 23 meters – it has been researched during the excavations of Munga St 2 in 1990–1991 (Tamla 1992, 291). To a lesser extent the wall fragments have been documented in the course of other work (e.g. Vunk 1998; Kadakas *et al.* 2003). During the excavations of 2007–2009 in the north-eastern part of the medieval town the town wall was opened in six sections, and the so-called White tower in the north-eastern part of the town was localized with a small test excavation (Fig. 1).

³ The reinforcement of the town wall has been documented for example in the time span between 1533 and 1556 (Quellen, 282–290).



Fig. 2. Supposed section of town wall in the western side of the plot of Aida St 5.

View from the north-east.

Jn 2. Oletatav linnamüüri lõik Aida tn 5 krundi läänekülje.

Vaade kirdest.

Photo / Foto: Rivo Bernotas



Fig. 3. Section of town wall on the plot of Aida St 5.

View from the north.

Jn 3. Linnamüüri lõik Aida tn 5 krundil.

Vaade põhjast.

Photo / Foto: Rivo Bernotas

In the western side of the plot of Aida St 5 a supposed part of the town wall (Fig. 1: 1, 2), probably including a fragment of the gateway of the so-called Guild room, was excavated by a 4.5 m long (from east to west) and 2.7 m wide area. The stone construction exposed by 1.2 meters comprised of boulders⁴ with the diameter of 30 cm that had been irregularly piled together on top of each other. Unfortunately the described part of the town wall has been repeatedly damaged in the course of earlier construction work. The wall has probably been torn down already during

⁴ Here and henceforth it is the common name for igneous and metamorphic rocks.

Fig. 4. Section of town wall in Põhja St by the south-eastern corner of the plot of Aida St 5.
View from south-east.

Jn 4. Linnamüüri lõik Aida tn 5 krundi kagunurgas Põhja tänaval. Vaade kagust.

Photo / Foto: Rivo Bernotas



Fig. 5. Section of town wall in Hommiku St.
View from the south.

Jn 5. Linnamüüri lõik Hommiku tänaval. Vaade lõunast.

Photo / Foto: Rivo Bernotas



laying the stone pavement of Pühavaimu St in the 19th century and the northern part of the wall was probably demolished during the housing of the plot in the 20th century. In this way the archaeological material is considerably scarce and only the location of the unearthed stone formation on the same line with the parts of the town wall excavated so far allows us to suggest that the formation is a fragment of the town wall. We may assume that there was a gateway only on the basis of the town plans⁵ from the 17th century. The excavations destroyed the northern side of the wall fragment.

Another, an up to 1.6 m wide piece of the town wall, was opened in Aida St 5 in the vicinity of the supposed wall fragment described above (Fig. 1: 2, 3). The wall has been built of boulders with the diameter of 25–30 cm joined together with lime mortar. A raft of logs orientated in the same direction as the stone formation was detected under the wall. The raft had only been preserved in the southern side of the wall fragment. Two parallel logs with the diameter of 30 cm (the southernmost being 2.5 m and the northernmost 2.9 m long) were unearthed directly under the stone layer. It is possible that this piece of the wall has also been a part of the gateway of the Guild room.

Directly by the south-eastern corner of the plot of Aida St 5 another fragment of the town wall was unearthed. It was situated at the depth of 0.5 m from the present ground level and was 1.4 m long from east to west and 1.84 m wide from north to south (Fig. 1: 3; 4). Excavations did not reach the footing, thus leaving 1.55 m for the height of the opened part of the wall. The wall comprised of boulders with the diameter of up to 30 cm joined together with brittle lime mortar that contained pieces of brick. The wall was preserved and covered with sand; St covering was put on top of it.

In Hommiku St a town wall fragment (Fig. 1: 4) partly destroyed during previous excavations was unearthed approximately 1 m deep from the present ground. The wall fragment was opened by 1.2 m in length and 1 m in height (Fig. 5). The 2.3 m thick wall had been laid of boulders with the diameter of 30 cm joined together with lime mortar containing pieces of brick and limestone. The wall was preserved and covered with sand; a heating trench was established on top of it.

On the corner of Pikk and Hommiku Streets a north-south directed 2.9 m long and 1.2 to 1.8 m wide town wall fragment was excavated in the depth of 1.5 m from the present ground level (Fig. 1: 5). The wall had been laid of boulders with the diameter of 30 cm joined together with lime mortar. Pieces of brick were detected between the boulders. The wall fragment was preserved, the rainwater drainage was grounded on top of it.

⁵ E.g. Riksarkivet Krigsarkivet, 0406 H: 28: 039: 003 Pernau Pernow. The time of the building of the gate is not known but it is mentioned in 1540 in the inheritance records of the town. It was seriously damaged in the military action in 1575 when the Russians blew up the gate of the Guild room with a gun powder keg, possibly it was never restored again (Alttoa 1979, 18–19).

Fig. 6. Preserved part of White tower. View from the west.

Jn 6. Müürijäänused Valgest tornist.
Vaade läänest.

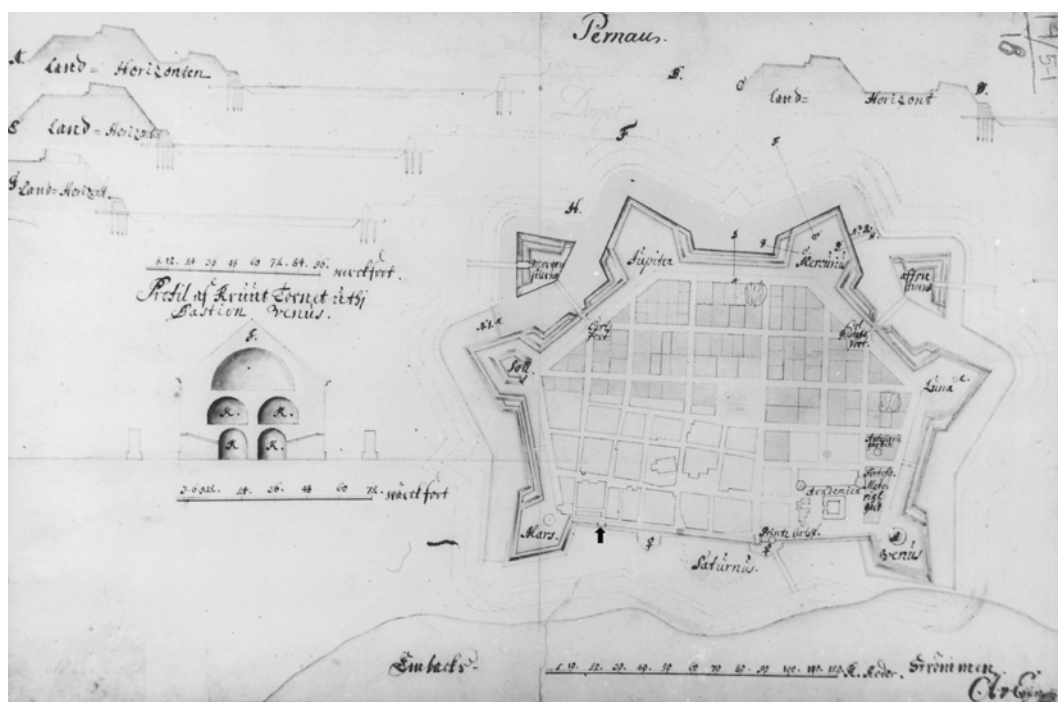
Photo / Foto: Rivo Bernotas



By Hommiku St near the Port Artur-1 trade centre a part of the so-called White tower located in the north-eastern corner of the town wall was reopened (Fig. 1: 6). The tower has been built between 1533 (after the predecessor of White tower was exploded) and 1543 (the new tower has been mentioned in historical records) (Laakmann 1956). The preserved part of the tower was excavated in 1976 (Vali *et al.* 1978, 5) but was thereafter covered with soil again. Its re-excavation in December 2008 was brought about by the need to specify the location of the remains of the tower in order to compile special conditions required for the establishment of a fountain in the historic area. The excavations opened a 62.5 m² large area (Fig. 6). The northern part of the tower with double-embrasures was unearthed. After documenting the results the foundation of the tower was re-covered with sand.

RAMPART FORTIFICATIONS

From the second quarter of the 16th century rampart fortifications on the basis of the medieval town wall were started to be built in New-Pärnu.



It is known from written sources that the entire town wall was supported with earthwork in 1560 (Renner 1995, 152). These fortifications were complemented during the time-span of 1562–1565 when New-Pärnu belonged to Sweden (Laakmann 1930, 724). Smaller reinforcement work was completed in the first half of the 17th century as well (Laakmann 1930, 729), however, a thorough rebuilding took place in the end of the 17th century. On the basis of the design ratified by king Karl XI in 1686 a heptangular 170 m wide belt of bastions was established under the leadership of the fortification engineer Paul von Essen (Kivimäe *et al.* 1998, 112, fig. III). The reconstruction design of the fortifications in Pärnu was compiled by von Essen already in 1667 (Raie *et al.* 1982, 4), but the work was completed probably only in the 1670–1690s (Laakmann 1930, 729). Among other things it meant filling up the small branch (Germ. *Kleine Becke*) of the Pärnu River in the northern part of the town. As it appears on the blueprint drawn by von Essen in 1693 in Tallinn, depicting a timber construction to be founded inside the earthwork of the bastion Saturnus, that branch had already partly overgrown by the time (Kaplinski *et al.* 1977, 5–6).

Fig. 7. Town plan of Pärnu (1699). The arrow marks the area where parts of rampart fortifications were opened in 2007–2009.

Jn 7. Pärnu linna plaan (1699). aastast. Noolega on tähistatud piirkond, kus 2007.–2009.a välitöödega avati muldkindlustuste osi.

(Riksarkivet Krigsarkivet, 0406: 28: 039: 005 a.)

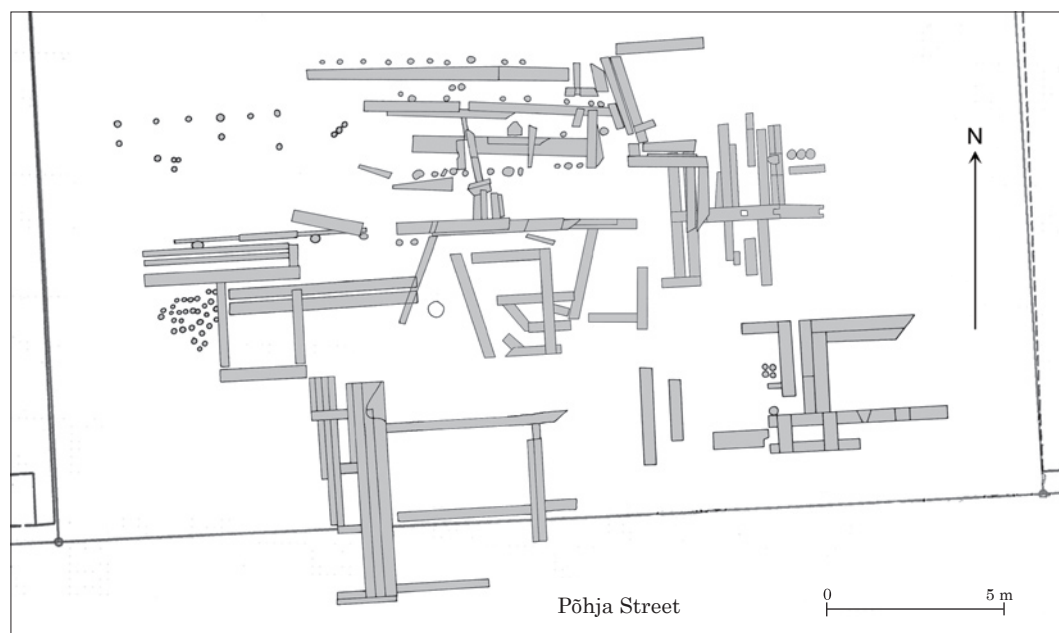


Fig. 8. Timber constructions of rampart fortifications.

Jn 8. Muldkindlustuste puitkonstruktsioonid.

Drawing / Joonis: Kristel Külljastinen

The belt of fortifications in Pärnu was significantly changed in the second half of the 19th century when the majority of rampart fortifications were dismantled and green areas were established instead (Kivimäe *et al.* 1998, 134). Rampart fortifications have been seriously damaged during later construction activity as well. By now only

Venus, Luna and Mercurius – or Vallikäär and Munamägi with present Estonian toponyms – have survived to some extent.

The area investigated in 2007–2009 remained between the bastions Mars and Saturnus (Fig. 7). A part of the rampart fortifications established alongside the town wall was opened in the plot of Aida St 5 (Fig. 1: 7) and single fragments of timber constructions that are probably connected with fortifications were documented in the plot of Lai St 7. An east to west oriented timber construction covering approximately 200 m² was unearthed in the plot of Aida St 5 (Fig. 8). The structure consisted of horizontally placed logs and stakes rammed into the ground. The logs used for construction work had the diameter of 15–35 cm and judging by the marks of hewing and the traces of dowels were at least partially in secondary use. The earthwork piled on the timber construction has been completely destroyed in this section during the town planning in the 19th century and the erection of later buildings, the structure cannot be dated more exactly, but it has probably been completed in the end of the 17th century together with the construction of the belt of the town bastions (Bernotas 2009b).

CONCLUSION

In 2007–2009 archaeological fieldwork took place in a very attractive area from the point of view of studying the fortifications of New-Pärnu. During the Middle Ages the town wall with a single tower and a gateway were located there, in the Early Period they were replaced by rampart fortifications. Although both defence structures could be investigated in the studied area only by small sections, they nevertheless offer additional information on fortifications here. Archaeological research of modern rampart fortifications is exceptional in whole Estonia. So far analogical work has been done in considerably smaller volume, the only exception being the inner constructions of the bastions excavated at Vabaduse Square in Tallinn in 2007–2009 (Kadakas *et al.* 2008, 184).

During the rescue excavations of 2007–2009 where the depth and width of the plot were determined by the intended measurements of the trench, the town wall could only be opened in small fragments. The foundation raft was reached in one case and even this was already partly destroyed, in other sections only the upper part of the preserved wall fragments was opened. Therefore the collected data adds nothing to the dating of the town wall. Since the soil in this part of the town is mostly mixed with the establishment and dismantling of the rampart fortifications and the construction work of the previous century, the stratigraphy or the gathered find material was of very little assistance. Various finds, including medieval stoneware and a fragment of a hewn limestone with a rose, were collected directly by the town wall from the plot of Aida St 5, but these originate from the filling layers of the 19th and the 20th century that started directly from the outer side of the wall and extended until the timber constructions of the rampart fortifications. Information about the preservation of the wall, main parameters of the construction and the more specific documentation of the position of the wall fragments is of primary importance. The gathered data, especially about the construction material, suggests that the town wall of New-Pärnu was homogeneous. In all opened pieces the town wall has been laid of boulders joined together with lime mortar. At least in sections the town wall has been erected on a foundation raft of logs.

In order to strengthen the horizontal defence system of the Early Period constructions of vertical and horizontal logs have been established before the piling of the soil. The hewing and dowel marks refer that some logs have been secondarily used; it is possible that these originate from smaller earth fortifications that lay in the same location before the extensive rebuilding of 1670.

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ARHEOLOOGILISED VÄLITÖÖD PÄRNU KESK- JA VARAUUSAEGSETEL KAITSEEHITISTEL 2007.–2009. AASTAL

2007.–2009. a toimusid seoses uusehitiste ja trasside rajamisega mitmed arheoloogilised välitööd omaegse Uus-Pärnu linna kirdeosas, tänapäevastel Aida, Hommiku, Laia, Pika ja Põhja tänavatel (jn 1). Mahukamad tööd leidsid aset 2007. a Aida tn 5 (endise aadressiga Aida 7) krundil äri- ja eluhoone vundamendisüvise rajamisel ning 2008. a ja 2009. a algul Lai tn 7 parkimismaja süvendi kaevamisel. Mujal toimusid arheoloogilised järelevalvetööd erinevate trasside alal. Välja kaevati nii Pärnu kesk-egse linnamüüri lõike kui ka uusaegsete muldkindlustuste osi. Arheoloogilisi päästetöid finantseerisid Muinsuskaitseasutuse §-st 40 lähtuva kohustusena OÜ Aida Partnerid ja OÜ Win Markets.

Välitöödel avati linnamüür kuues lõigus. Aida tn 5 krundi lääneküljel kaevati 4,5 m pikkusel ja 2,7 m laiusel alal välja oletatav linnamüüri osa (jn 2), sh arvatavasti ka fragment nn Gilditoa väravakäigust. 1,2 m kõrguselt väljapuhatatud kivikonstruktsioon koosnes korrapäratult üksteise peal paiknevatest kuni 30 cm läbimõõduga maakividest. Paraku on kirjeldatav linnamüüri osa saanud korduvalt kannatada tänavakatte ja hoonete rajamisel 19.–20. sajandil. Väljakaevatud kivikonstruktsiooni võiks pidada linnamüüri fragmendiks, sest see asub seni väljakaevatud linnamüüri osadega samal joonel. Väravakäiku võib seal oletada 17. sajandi linna-
plaanide järgi.

Elkirjeldatud oletatava müürikatke lähedal Aida tn 5 avati veel üks kuni 1,6 m laiune linnamüüri osa (jn 3). Müür on ehitatud lubjamõrdiga seotud 25–30 cm läbimõõduga maakividest ning toetub 30 cm läbimõõduga palkidest parvele. Võimalik, et see müürilõik on samuti osa Gilditoa väravakäigust.

Vahetult Aida tn 5 krundi kagunurga juures Põhja tänaval kaevati välja tänapäevasest maapinnast 0,5 m sügavuselt ida-läänesuunaline 1,4 m pikkune ja 1,84 m laiune linnamüüri fragment (jn 4). Müür koosnes kuni 30 cm läbimõõduga maakividest, mis olid omavahel seotud tellisetükke sisaldava pudedalubimõrdiga.

Hommiku tänaval avati tänapäevasest maapinnast ligi 1 m sügavuselt 1,2 m pikkuselt ja 1 m

kõrguselt varasematel kaevetöödel osaliselt lõhutud linnamüüri osa (jn 5). 2,3 m paksune müür oli laotud 30 cm läbimõõduga maakividest, mis olid omavahel seotud tellise- ja pakivide tükke sisaldava lubimõrdiga.

Pika ja Hommiku tänava nurgal kaevati välja tänapäevasest maapinnast ligi 1,5 m sügavuselt põhja-lõunasuunaline 2,9 m pikkune ja 1,2 kuni 1,8 m laiune linnamüüri osa. Müür oli laotud lubimõrdiga kuni 30 cm läbimõõduga maakividest, mille vahel esines ka tellisetükke.

Hommiku tänava äärest Port Arturi kaubanduskeskuse lähedalt taasavati osa linnamüüri kirdenurgas paiknenud 16. saj esimesel poolel rajatud nn Valgest tornist. Torni säilinud osa kaevati välja 1976. a, kuid seejärel kaeti uuesti pinnasega. Selle osalise väljakaevamise 2008. a tingis vajadus täpsustada tornisäilmete asukohta eritingimuste koostamiseks purskkaevu rajamiseks. Välitööde käigus avati 62,5 m² suurune ala (jn 6). Välja puhastati torni paarislaskeavadega põhjaosa.

Välitööd teostati ka muldkindlustustel 17. saj lõpul rajatud bastionide Mars ja Saturnus vahelisel alal (jn 7). Osa linnamüüri vastu rajatud muldkindlustustest avati Aida tn 5 krundil ja üksikuid arvata-
vaid kindlustuste fragmente dokumenteeriti ka Lai tn 7 alal. Aida tn 5 krundil kaevati välja u 200 m² ida-lääne-suunaline puitkonstruktsioon (jn 1, 8). Rajatis koosnes horisontaalselt asetatud palkidest ja maasse rammitud vaiadest.

Puitkonstruktsioonile kuhjatud muldkeha on selles osas hävinud 19. saj planeerimisel ja hilisemate ehitiste rajamisel. Seetõttu ei ole võimalik rajatist täpsemalt dateerida, kuid tõenäoliselt on see tehtud 17. saj lõpul koos linna bastionidevööndi ehitamisega (jn 7). Uusaegse horisontaalkaitseüsteemi tugevdamiseks oligi enne pinnase kuhjamist rajatud püst- ja rõhtpalkidest konstruktsioonid. Nagu osutavad tahumis- ja tapijäljed, on osa palke olnud sekundaarses kasutuses, võimalik, et need pärinevad enne 1670. aastate suurt ümberehitust samal alal paiknenud väiksematest muldkindlustustest.