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STRUCTURE № 18 OF 'NEAR SUBURBS' OF DYKYI SAD FORTIFIED SETTLEMENT

***Kyrylo Horbenko*[1], *Leonid Smyrnov*[2], *Yurii Zhyrok*[3]**
[1, 2] V.O. Sukhomlynskyi National University of Mykolaiv (Mykolaiv, Ukraine)
[1] e-mail: dikiysad1@gmail.com; ORCID: https://orcid.org/0000-0002-0510-3792
[2] e-mail: Gnom-8@ukr.net; ORCID: https://orcid.org/0000-0002-1955-9117

[3] Mykolaiv Lyceum No 38 named after Volodymyr Chaika (Mykolaiv, Ukraine)
e-mail: suprematicspace@gmail.com; ORCID: https://orcid.org/0000-0002-8582-1101

ABSTRACT

The purpose of the research paper is to characterize and determine the arrangement and constructional features of structure № 18 located within the territory of the 'Near Suburbs' of Dykyi Sad fortified settlement dated to the Final Bronze Age (12/13-12/11 centuries BCE).

***Scientific novelty*.** The constructional features of the walls of the structure's stone foundations construction and the nature and structure of its utility pits filling are analyzed. Localization and description of specific material objects (pottery, bronze items, stone and horn produced items) found in the filling of the structure and pits are presented.

***Conclusions*.** It is found out that structure № 18, based on the constructional features of the construction, the nature, and filling of the pits, as well as the found artifacts, can be classified as residential, deepened construction. It was probably the house of a large family engaging in metalwork (stone and horn produced items and a trove of bronze items near the house). In terms of construction, the structure was a part of a single system of buildings of the 'Near Suburbs' of Dykyi Sad which followed the bend of the moat of the 'Citadel' (structures № 21, 13, 17, 18, 22, and found, but not studied structure № 23). The context of their location shows that the building system of this part of the fortified settlement had a radial-ring character. It formed the additional protection for the 'Citadel'. This fact indicates the sustainability of the entire fortified settlement.

Almost all the structures of the 'Near Suburbs', practically, are built according to the same principle and have similar characteristics – they are built at the same distance from the moat, deepened for more than one meter to the subsoil, and have strong stone foundations. Only structure № 17 with outbuildings on both sides is singled out (ground-based wattle and daub construction without stone foundations).

Structure № 18 is typical for Dykyi Sad fortified settlement itself as well as for other settlements of the Western part of the Upper Black Sea region of the Final Bronze Age (post-Sabatynivka and early Bilozerka times).

***Keywords*:** Final Bronze Age, Bilozerka culture, Dykyi Sad fortified settlement, building constructions, dwelling, material objects

ПРИМІЩЕННЯ № 18 «БЛИЖНЬОГО ПЕРЕДМІСТЯ» ГОРОДИЩА ДИКИЙ САД

Кирило Горбенко[1], Леонід Смирнов[2], Юрій Жирок[3]
[1, 2] Миколаївський національний університет імені В.О. Сухомлинського (Миколаїв, Україна)
[1] e-mail: dikiysad1@gmail.com; ORCID: https://orcid.org/0000-0002-0510-3792

[2] e-mail: Gnom-8@ukr.net; ORCID: https://orcid.org/0000-0002-1955-9117

[3] Миколаївський ліцей № 38 імені В.Д. Чайки (Миколаїв, Україна)
e-mail: suprematicspace@gmail.com; ORCID: https://orcid.org/0000-0002-8582-1101

АНОТАЦІЯ

Метою статті є характеристика, визначення структури та конструктивних особливостей приміщення № 18, що розташовується в межах території «ближнього передмістя» городища доби фінального бронзового віку Дикий Сад (13/12-12/11 ст. до н.е.).

Наукова новизна. Аналізуються конструктивні особливості будови кам'яних фундаментів стін приміщення, характер і структура заповнення господарських ям досліджуваного приміщення. Надаються локалізація й опис характерних матеріальних предметів (керамічний посуд, бронзові речі, вироби з каменя та рогу) зафіксованих у заповненні приміщення та ямах.

Висновки. Встановлено, що приміщення № 18, виходячи з конструктивних особливостей будови, характеру та заповнення ям, а також зафіксованих артефактів, можна віднести до житлових, заглиблених споруд. Ймовірно, це будинок для великої родини, яка займалася металообробкою (предмети з каменю, рогу та скарб бронзових предметів біля будинку). Конструктивно приміщення входило до єдиної системи будівель «ближнього передмістя» Дикого Саду, що повторювали вигин рову «цитаделі» (приміщення №№ 21, 13, 17, 18, 22 і зафіксоване, але не досліджене приміщення № 23). Контекст їх розташування вказує на те, що забудова цієї частини городища мала радіально-кільцевий характер. Це створювало додатковий захист «цитаделі». Цей факт вказує на сталість усього городища.

Майже усі приміщення «ближнього передмістя» практично збудовані за одним принципом і мають схожі характеристики – побудовані на однаковій відстані від рову, заглиблені у материк на понад один метр, мають міцні кам'яні фундаменти. Виокремлюється тільки приміщення № 17 з прибудовами з обох боків (наземна глинобитна споруда без кам'яних фундаментів).

Приміщення № 18 є характерним як для самого городища Дикий Сад, так і для інших поселень західної частини Надчорноморського регіону доби фінальної бронзи (постсабатинівський і ранньобілозерський час).

Ключові слова: фінальний бронзовий вік, білозерська культура, городище Дикий Сад, будівельні споруди, житло, матеріальні предмети

INTRODUCTION

On a high plateau of the left bank of the Inhul River at its confluence with the Pivdennyi Buh River (the historic center of the modern city of Mykolaiv, the intersection of Naberezhna and Artyleriiska streets) the Final Bronze Age fortified settlement, Dykyi Sad is located (fig. 1). In terms of its layout, the fortified settlement

is oval in shape (the total known area is over 4 ha). Conventionally, its territory can be divided into three parts: '*Citadel*' (0.6 ha); '*Suburbs*' (2.4 ha), consisting of 'near' (adjacent to the 'Citadel') and 'far' (extending further west of the 'Citadel'); '*Posad*' (a known part of about 1.0 ha) (fig. 2). Chronologically, the period of existence of human life on the territory of the fortified settlement covers the time from the middle of the 13th to the end of the 11th century BCE *(post-Sabatynivka – early Bilozerka times).*

The study of the fortified settlement has been conducting, with breaks, for over 90 years. The most fundamental excavations have been taking place over the last 30 years. During this time, 55 archaeological objects are studied (residential, utility, and religious constructions, defensive structures, and public areas)[1]; a large collection of material objects (pottery[2], bronze objects[3], stone, bone, and animal horns produced items) is accumulated; a number of analyses, including paleobotanical ones[4], are carried out.

The purpose of the proposed publication is to describe the constructional features of the remnants of the building constructions of structure № 18, the statistical characteristics of the material objects found in the filling and pits, and to determine the nature of the archaeological object among other constructions of the fortified settlement.

CHARACTERISTICS OF STRUCTURE № 18

Structure № 18 is located in the middle part of the 'Near Suburbs', opposite the moat of the fortified settlement 'Citadel' (figs. 2, *3*). According to the general layout, it is rectangular with rounded corners. The central axis runs along the West-East line. (fig. 3; 10). The level of the fixed entry into the structure (according to the level of the subsoil clay outcrops) is 22.0 m above sea level. The floor level of the structure is 20.80 m above sea level. Dimensions of the structure are 9.50×8.50 m, the deepening into the subsoil is 1.20 m. The total area is 80.75 m^2.

The upper filling of the structure (thickness 1.05 m) is a dark-colored humus with inclusions of loam, sand, fragments of unclassified ceramics, and a small amount of animal bones (cattle and small cattle). At the depth of 21.80-21.50 m, the structure walls' stone foundations were found and its contours were outlined (fig. 3).

Fragments of pottery (pots, beakers, bowls, roasters, etc.), fragments of stone tools (rounded and hemispherical stone grindstones made of tight sandstone) (fig. 9, *18*), remnants of clay coating of the walls, bones and horns of animals and fish, fragments of turtle shells, shells, limestone, fragments of human bones (Table 1) prevail in the main filling of the structure.

In the filling of the northwest part of the structure, at different depths, some objects were found: fragments of four large boat-shaped stone tools (grindstones

[1] *Gorbenko K., Trygub O.* History of Exploration of Final Bronze Age Fortified Settlement (Hillfort) 'Dykyi Sad' (Mykolaiv, Ukraine). *Revista Arheologică*. 2022. Vol. 18, Issue 2. P. 17-34.

[2] *Горбенко К.В.* Посуд ділянки «Цитадель» городища Дикий Сад. *Археологія*. 2018. № 4. С. 28-46; *Горбенко К.В.* Посуд з рову ділянки «Цитадель» городища Дикий Сад. *Археологія*. 2019. № 2. С. 19-39.

[3] *Горбенко К.В, Гошко Т.Ю.* Металеві вироби з поселення Дикий Сад. *Археологія*. 2010. № 1. С. 97-111; *Гошко Т.Ю.* Состав металла изделий в кладе из Дикого Сада. *Stratum plus*. 2019. № 2. С. 161-166.

[4] *Горбенко К.В., Пашкевич Г.О.* Палеоетноботанічні дослідження на території городища Дикий Сад. *Емінак*. 2010. № 1-4 (5). С. 5-19.

made of tight sandstone) (figs. 9, *9*; *13-15*); two slabs with tool marked edges and worn down work surfaces of tight sandstone (grindstones) (figs. 9, *12; 16*); a fragment of a granite anvil (figs. 9, *17*), and the accumulation of astragals (10 pcs.).

Under the stone foundation of the wall in the northwestern corner of the structure, fragments of a ceramic pot with ornamentation (teardrop-shaped impressions in two rows) were found (fig. 9, *22*). Probably, the pot originally stood in the foundation of the wall in a specially created niche (it is possible that it was an element of sacrifice during the construction of the structure).

The lower filling of the structure is burned soil with an admixture of sand, loam, humus inclusions, and clay rolls. The rolls are well dried with an admixture of organic residues (straw, humus).

The walls of the structure have stone foundations, except for the southern one (wattle and daub). Stones in the foundation pit are set in combination (socle and siding systems) (fig. 10-13).

The **eastern masonry** is a two-facade construction. The western facade faces the inner side of the structure (the masonry stones slid evenly inside the structure), and the eastern facade faces the courtyard, which adjoins the 'Citadel' moat. The lower course of stones of the eastern facade rests on clay subsoil. The stones in the masonry are set in a bed-spoon pattern or with an inclination. It can be assumed that some of the stones were originally in the masonry and moved inward. The length of the preserved part is 6.70 m, height – from 0.15 m to 0.60 m, width – from 0.20 to 0.60 m.

Coursed masonry – three courses have been preserved, but, based on the piles of stones, the masonry was up to 5 courses in the central part and up to 8 courses in the northern corner. The masonry is made using a mud mortar with joints having a width of 0.01-0.03 m. The joints are not pointed. Small, medium, and large crushed limestone and flagstone of different sizes (0.08 – 0.75×0.05 – 0.50×0.02 – 0.20 m) are used in the masonry construction. There are no processing marks, the stones are torn along the layers. However, the flat or slightly marked sides of the slabs may be the result of the splitting of massive flat slabs into smaller ones (fig. 4).

It should be emphasized that behind the eastern wall of the structure, a trove of bronze objects was found in the clay soil. This is, so far, the only trove found in the fortified settlement dated to the studied period in the region. The trove includes 15 items with a total weight of 3,172 grams (13 looped and double-looped socketed axes (celts), a knife, and a javelin tip) (fig. 9, *23*). It combines the types of the Dnipro and Carpathians-Transylvania regions' origin[5].

The **northern masonry** is a two-facade construction. The southern facade faces the interior of the structure; the northern facade faces the courtyard (the lower course is located on sandy subsoil). The masonry stones partially slipped inward. They are set in a bed-spoon pattern or with an inclination. It can be assumed that some of the stones were originally in the masonry and moved inward. The length of the northern masonry is 7.40 m, with height – from 0.15 m to 0.60 m, and width – from 0.20 m to 0.50 m. Coursed masonry – one to four courses are preserved, but, based on the piles of stones, the masonry was from 3 to 5 courses in the central part and up to 8 courses in the western and eastern corners. The western and eastern

[5] *Панковский В.Б., Горбенко К.В.* Клад бронзовых изделий из укреплённого поселения Дикий Сад. *Stratum plus*. 2019. № 2. С. 121-160.

corners of the masonry are reinforced using the orthostat system. The masonry is made using a mud mortar. Small, medium, and large crushed limestone and flagstone of different sizes (0.08 – 0.80×0.04 – 0.25×0.10 – 0.40 m) are used in the construction of masonry. There are no processing marks, the stones are torn along the layers. However, the flat or slightly marked sides of the slabs may be the result of the splitting of massive flat slabs into smaller ones (fig. 5).

The **western masonry** is partially preserved in the northern and southern parts of the western wall of the structure (along the entire western wall, there is a massive pile of stones that fell inside the structure from the western masonry). Probably, it also was a two-facade construction. The eastern facade faces the inner side of the structure, and the western one – the courtyard (the lower course of stones rests on the sandy subsoil). Masonry stones are set in a bed-spoon pattern. It can be assumed that some stones were originally in the masonry and moved inward. Based on the preserved corner parts, the approximate length of the western masonry was 6.25 m, height – from 0.20 m to 0.60 m, width – from 0.15 m to 0.80 m. Coursed masonry – from one up to three courses have been preserved, but, based on the piles of stones, the masonry was up to 4 courses in the central part and up to 6 courses in the northern corner. The masonry is made using a mud mortar with joints having a width of 0.01-0.03 m. The joints are not pointed. Small, medium, and large crushed limestone and flagstone of different sizes (0.08 – 0.50×0.06 – 0.35×0.03 – 0.20 m) are used in the masonry construction. There are no processing marks, the stones are torn along the layers. However, the flat or slightly marked sides of the slabs may be the result of the splitting of massive flat slabs into smaller ones (fig. 6).

Thus, three walls of the structures (northern, eastern, and western) had stone foundations, and the southern wall was wattle and daub and adjoined utility structure № 17-A. The western and eastern masonry were *siding*. The northern masonry was *socle* (the northeastern corner was reinforced using the orthostat system – the corner stone set on the edge). The stones in the masonry were set on the subsoil using the bed-spoon pattern. The northeastern and northwestern corners, based on the found piles of stones, were much higher than the main height of the masonry, thus, those corners of the structure served as the framings of the construction. The southeast and southwest corners, based on the filling, did not have such framings. They probably were wattle and daub and rested on the stone foundations of the walls (the function of additional reinforcing of the southern wall was performed by the northern wall of the structure № 17-A). So, in the architecture of structure № 18, the influence of house building of Sabatynivka culture, creatively developed by Bilozerka culture population, can be traced.

In the western part of the structure, at a distance of 1.60 m to the east of the western wall, stone masonry was found. The masonry is lined along the north-south axis and almost crosses the entire structure, forming a kind of partition wall. Masonry is a two-facade structure. The lower course rests on sandy soil, almost on the floor of the structure. The stones are set in a bed-spoon pattern with a slight inclination to the east. The length of the masonry is 5.15 m, the height is from 0.20 m to 0.45 m, the width is from 0.25 m to 0.75 m. The coursed masonry – from one to three courses have been preserved, but, based on the piles of stones, the masonry was from 3 to 5 courses. The masonry is made using a mud loam mortar with joints having a width of 0.02-0.05 m. The joints are not pointed. In the construction of the masonry (small,

medium, large) crushed limestone and flagstone of different sizes (0.07 – 0.70×0.15 – 0.50×0.02 – 0.30 m) are used. There are no processing marks, the stones are torn along the layers. However, the flat or slightly marked sides of the slabs may be the result of the splitting of massive flat slabs into smaller ones.

Probably, this masonry is the foundation of the internal partition wall. It separated the western part of the structure, forming a utility block (a storage room or a sheep shelter). A similar construction of a structure with an outbuilding was also found in the 'Citadel' of the fortified settlement, in particular, in structure № 25)[6].

Based on the location of the stone foundations, the entrance was located in the southeast corner and had the form of an inclined descent or stairs.

CHARACTERISTICS OF THE PITS

10 pits were found at the floor level of the structure № 18. Among them are five utility ones (fig. 3, *1, 2, 3, 5, 10*), five postholes (fig. 3, *4, 6, 7, 8, 9*), and 1 hearth (Table 1; fig. 7; 8).

Pit № 1, is round in shape, located in the northwestern part of the structure, near the stone foundation of the western wall. Dimensions: width – 0.60 m, depth – 0.30 m, the pit narrows to the bottom, width of the bottom – 0.40 m. Filling: humus of gray-ashy color with fragments of ceramics, fish bones, and inclusions of estuarine clay. The walls of the pit are clay, smoothly sloping to a flat sandy bottom. It is probably a utility pit (storage of vessels with fish).

Pit № 2, is oval in shape, located in the northwestern part of the structure, near the stone foundation of the northern wall. Dimensions: 0.75×0.50 m, depth – 1.10 m. Upper filling: humus of gray-ashy color with ceramic fragments. At a depth of 0.10 m, there are fragments of two pots of brown color with ornaments: round in shape impressions and rounded applied cones (figs. 9, *19*, *21*). Beneath them, at a depth of 0.15 m, there are fish bones and estuarine clay. At a depth of 0.30 m, there is a clay plug (thickness 0.05 m). Under the plug, at a depth of 0.35 m, there is a layer of gray humus with admixtures of sandy loam. There are fragments of charcoal in the bottom part of the pit. The walls of the pit are clay-sandy, smoothly transitioning into a flat sandy bottom. Probably, a pit is of utility type (storage of vessels with fish).

Pit № 3, is round in shape, located in the northern part of the structure, near the stone foundation of the northern wall. Dimensions: width – 0.95 m, depth – 1.30 m. The pit widens to the bottom, the width of the bottom is 1.80 m. From the upper part to a depth of 0.25 m in the northern part and to a depth of 0.50 m in the southern part, the pit walls are straight. From this level, the pit widens sharply to the bottom. Upper filling is gray-ashy humus.

At a depth of 0.20 m, there is a clay plug (thickness 0.10 m). At a depth of 0.30 m, there is a layer of loam with fragments of pottery and pieces of estuarine clay.

At a depth of 0.60 m, emerges gray-ashy soil with a large number of fish and animal bones (cattle and small cattle), crushed limestone (63 small stones), and fragments of ceramics (the bottom of a pot with a cross-shaped selvage on the inner surface). At a depth of 0.70 m, there is a layer of loam with an admixture of white ash.

The walls of the pit are covered with a clay-limestone mortar, well dried with a

[6] *Горбенко К.В., Піструіл І.В.* Приміщення № 25 городища Дикий Сад. *Емінак*. 2020. № 1 (29). С. 324-341.

smooth transition into a flat sandy bottom. The remnants of millet grains were found in the southern part of the bottom. The pit was used for utility purposes (storage of foodstuffs and grain).

Pit № 4, is round in shape, located in the northern part of the structure. Dimensions: width – 0.50 m, depth – 0.50 m. A pit is of a cylindrical shape. Filling: humus of gray-ashy color with crushed limestone (31 pcs.). The walls of the pit are clay, smoothly transiting into a slightly concave sandy bottom. It is probably a posthole.

Pit № 5, is oval in shape, located in the western part of the structure near the stone foundation of the wall. Dimensions: 1.65×1.10 m, depth – 0.50 m. A pit is of cylindrical shape. Upper filling: brown humus with crushed limestone (28 pcs.). At a depth of 0.10 m, there is a layer of burned black soil with fish bones and scales (this layer reachers the bottom of the pit).

At a depth of 0.20 m, a fragment of a tool made of a burr part of an antler (a hammer for processing bronze produced items: dimensions: 10.0×8.5×6.2 cm) was found (fig. 9, *20*).

At a depth of 0.45 m, in the eastern part of the pit, a spiral bronze borer with a diameter of 0.5 cm, and a thickness of 0.1 cm was found (fig. 9, *5*).

The walls of the pit are clay-sandy, smoothly transitioning into a flat sandy bottom. Utility pit (storage for fish).

Pit № 6, is round in shape, located in the central part of the structure. Dimensions: width – 0.50 m, depth – 0.50 m. A pit is of a cylindrical shape. Upper filling: humus of gray-ashy color with crushed limestone (10 pcs.). At a depth of 0.10 m, there is a layer of humus with admixtures of loam. The walls of the pit are clay, smoothly transiting into a slightly concave sandy bottom. It is probably a posthole (the thrust of the central post).

Pit № 7, is oval in shape, located in the central part of the structure, near the hearth. Dimensions: 0.30×0.20 m, depth – 0.15 m. A pit is of a cylindrical shape. Filling: burned black humus with small crushed limestone pieces. The walls of the pit are clay, smoothly transiting into a slightly concave sandy bottom. It is probably a posthole (the thrust of the second central post).

Pit № 8, is oval in shape, located in the central part of the structure, near the hearth. Dimensions: 0.55×0.35 m, depth – 0.35 m. A pit is of a cylindrical shape. Filling: gray-ashy humus with crushed limestone (2 pcs.). The walls of the pit are clay, smoothly transiting into a slightly concave sandy bottom. It is probably a posthole (the thrust of the third central post).

Pit № 9, is round in shape, located in the central part of the structure, near Pit № 10. Dimensions: width – 0.50 m, depth – 0.40 m. A pit is of a cylindrical shape. Filling: humus with admixtures of loam and charcoal. The walls of the pit are clay, smoothly transiting into a flat sandy bottom. Posthole.

Pit № 10, is oval in shape, located in the southern part of the structure, near Pit № 9. In the southern part of the pit, there is a rise (length – 0.40 m, width – 0.80 m, depth from the level of the pit cut – 0.35 m). Pit dimensions: 0.85×1.05 m, depth – 0.70 m. A pit is of a cylindrical shape. Upper filling: humus of gray color with admixtures of sandy loam. At a depth of 0.15 m, in the northern part, there is an accumulation of small crushed limestone pieces, a fragment of a stone anvil, and

remnants of pottery. At a depth of 0.45 m, there is a burned layer with a small limestone piece (0.25×0.25×0.10 m). At a depth of 0.70 m, there is a rounded stone grindstone. At the bottom of the pit, there is an accumulation of estuarine clay. The walls of the pit are clay-sandy, smoothly transiting into a flat clay bottom (coated with clay and well dried). Probably, it is a pit of utility purpose.

Hearth № 1, is geometrically irregular in shape, located almost in the center of the structure. Dimensions: 1.15×1.0 m, depth – 0.40 m. The walls of the hearth have the remnants of burned soil. On the northern side of the hearth, there is a small niche. On the eastern side, there is a small pit for a pot (width – 0.20 m, depth – 0.15 m. The filling of the pit is burned soil). Upper filling of the hearth is a gray humus. From a depth of 0.15 m, it is black burned soil, unclassified fragments of ceramics – the wall of a beaker with a polished surface ornamented with incised lines in the form of triangles; the wall of the pot with a selvage and oval impressions on it (fig. 9, *1, 3*).

The walls of the fire pit are clay, well dried and burned, the bottom is sandy. This is the central fireplace of the structure. Functional purpose – heating, cooking (it is possible to assume the production purpose – remelting of bronze).

The walls of the structure were probably wattle and daub, built on a stone foundation. Air-dried bricks were used in wall construction. The roof was covered with straw or reeds (characteristic ashy upper filling). The ceiling rested on the walls and was probably single-pitch (inclined to the east). The floor of the structure is almost flat, light yellow-sand.

ARTIFACTS OF STRUCTURE № 18

All the artifacts found in the fillings of the structure and pits are typical of the assemblage of material objects of Dykyi Sad (Table 1). The largest category is pottery (open and closed shape types – large pots, various types of pots, beakers, bowls). Closed shape type vessels predominate among them. Ornamental motifs are diverse – oval impressions, incised lines, a serrated stamp, grooves, selvages, and applied cones of a rounded shape (fig. 9, *1-4, 6-8, 10-11, 19, 21, 22*). Pottery with polished surfaces (inner and outer) makes up approximately 5%.

Among the tools are stone objects (anvil, grindstones of various shapes), objects made of antler (hammer for processing bronze), and bronze borer which can be attributed to the decorations (fig. 9, *5*). The osteological material is represented by the bones of cattle and small cattle, fish, turtle shells, shells, and small human bones.

CONCLUSIONS

Therefore, based on the constructional features of the structure, nature, and filling of the pits, as well as the found artifacts and ecofacts, it is possible to classify structure № 18 as a residential, deepened construction with a central hearth, and utility pits and postholes.

It may be the house of a large family engaging in metalwork (stone and horn produced items and a trove of bronze items near the house).

Actually, the structure № 18 is also typical for other fortified settlements of the Western part of the Upper Black Sea region of the Final Bronze Age (post-Sabatynivka and early Bilozerka times), namely Voronivka II, Yalpuh IV, and may be related to the economic activities of the population of the Upper Black Sea region steppes

(agriculture and cattle breeding)[7]. Also, it is possible to raise the question of the presence of professional differentiation within the 'Suburbs' of the fortified settlement (structures № 18 – metalworking, № 21 – bone-carving craft, № 13 and № 22 – social and ritual).

In terms of construction, the structure was a part of a single system of buildings of the 'Near Suburbs' of Dykyi Sad which followed the bend of the moat of the 'Citadel' (structures № 21, 13, 17, 18, 22, and found, but not studied structure № 23). The context of their location shows that the building system of this part of the fortified settlement had a radial-ring character. It formed the additional protection for the 'Citadel'. This fact indicates the sustainability of the entire fortified settlement (fig. 2).

Almost all the structures of the 'Near Suburbs' are built according to the same principle and have similar characteristics – they are built at the same distance from the moat, deepened for more than one meter to the subsoil, and have strong stone foundations of the walls. Only structure № 17 with wattle and daub outbuildings on both sides is singled out (ground-based construction without stone foundations)[8].

They were assumedly built at the same time and demonstrate the process of population growth in Dykyi Sad, which required expanding the settlement beyond the 'Citadel' and organizing additional protection.

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Fig. 1. Situation plan.
Mykolaiv Peninsula. The historical part of the city of Mykolaiv.
A confluence of the rivers Ingul and Pivdennyi Bug.

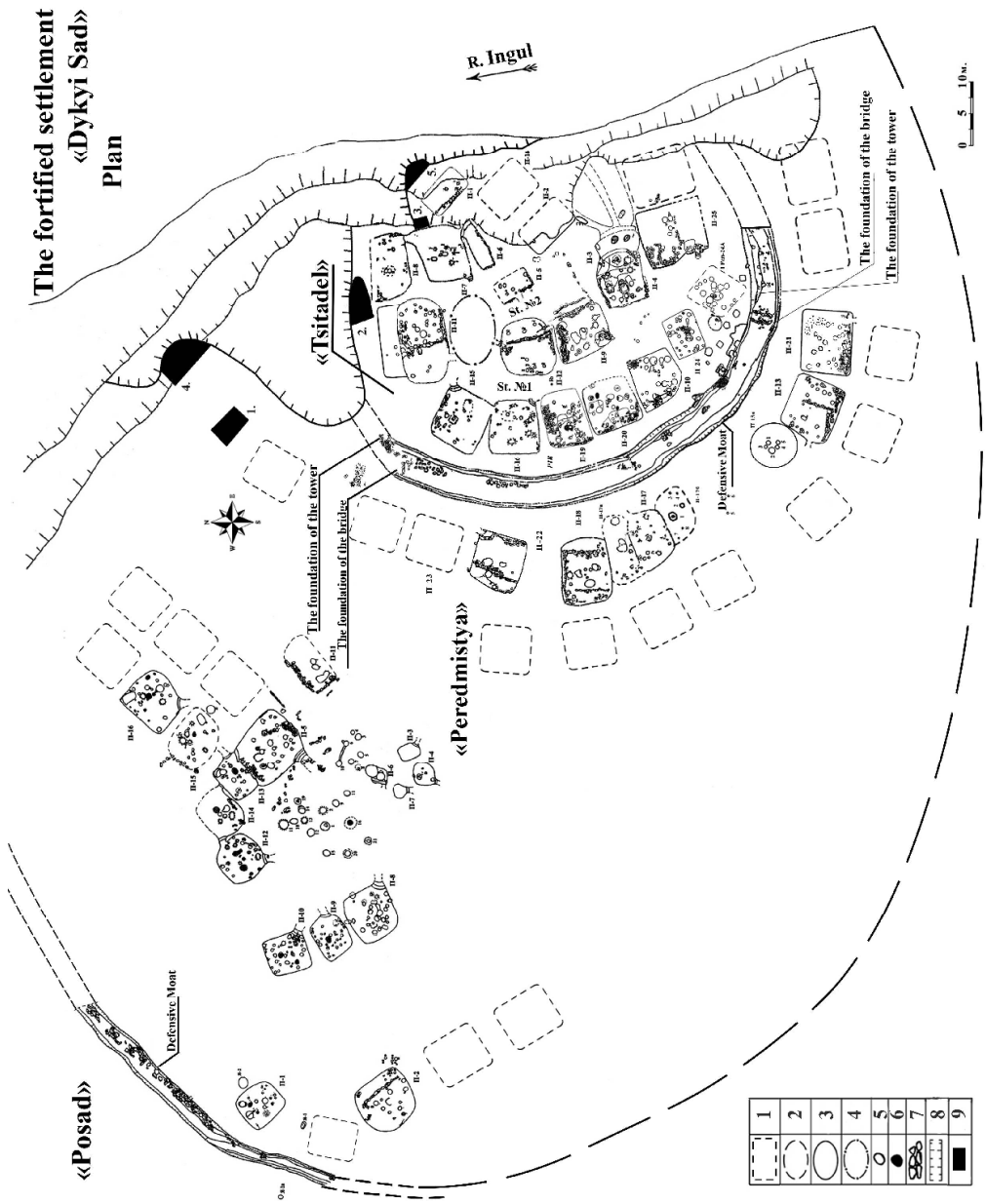

Fig. 2. Fortified settlement 'Dykyi Sad'.
1 – boundaries of probable objects; 2 –boundaries of the fortified settlement;3 –outlines of the structures; 4 –central plot; 5 – pits; 6 – hearths; 7 – masonry; 8 – moat; 9 – contours of excavations in 1956.

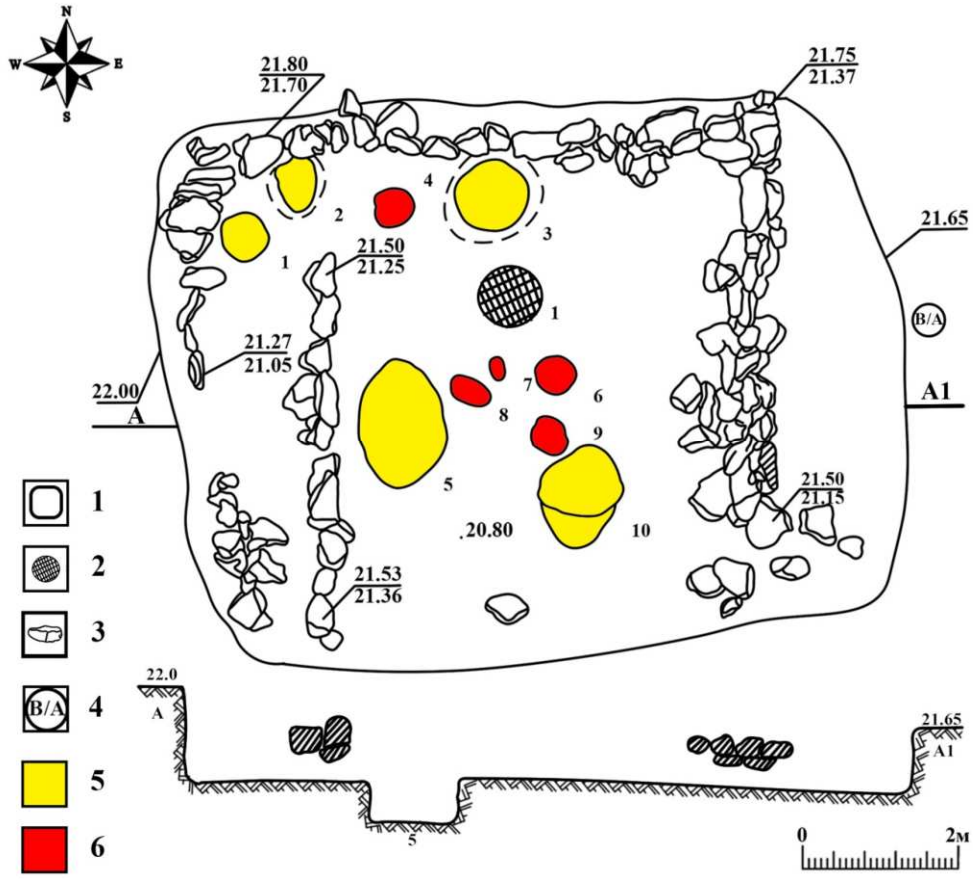

Fig. 3. Plan of structure № 18.
1 – building outlines; 2 – masonry;3 – utility pits; 4 – pillar pits;
5 – a treasure trove of bronze axes.

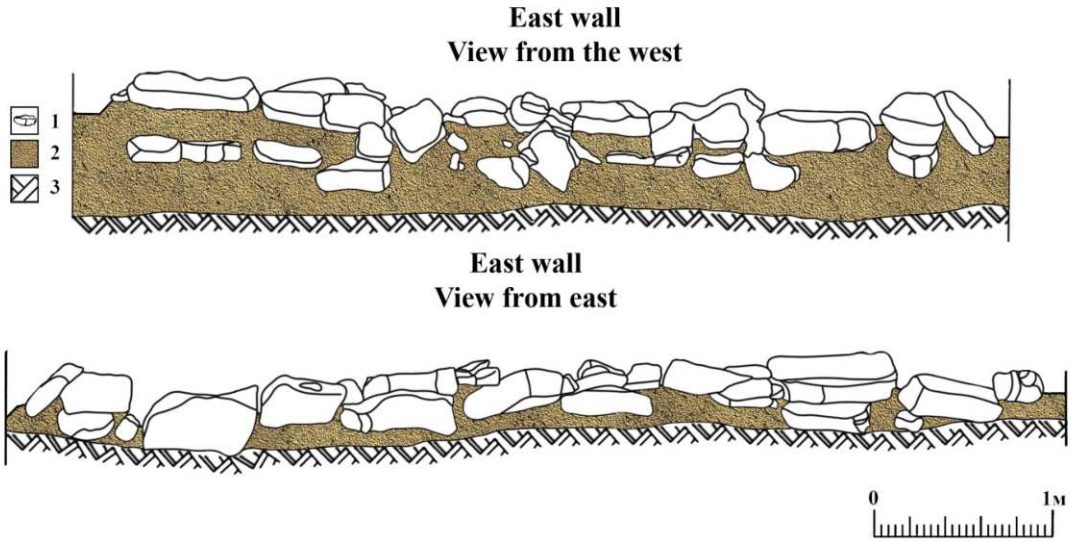

Fig. 4. Structure № 18. Section of the eastern wall.
1 – masonry (limestone); 2 – sandy loam layer; 3 – mainland.

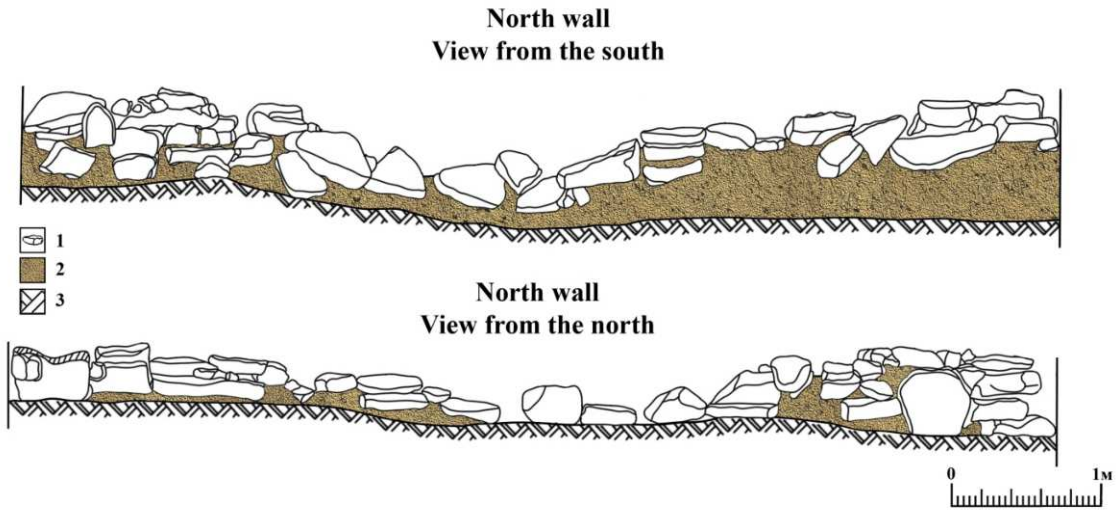

Fig. 5. Structure № 18. Section of the northern wall.
1 – masonry (limestone); 2 – sandy loam layer; 3 – mainland.

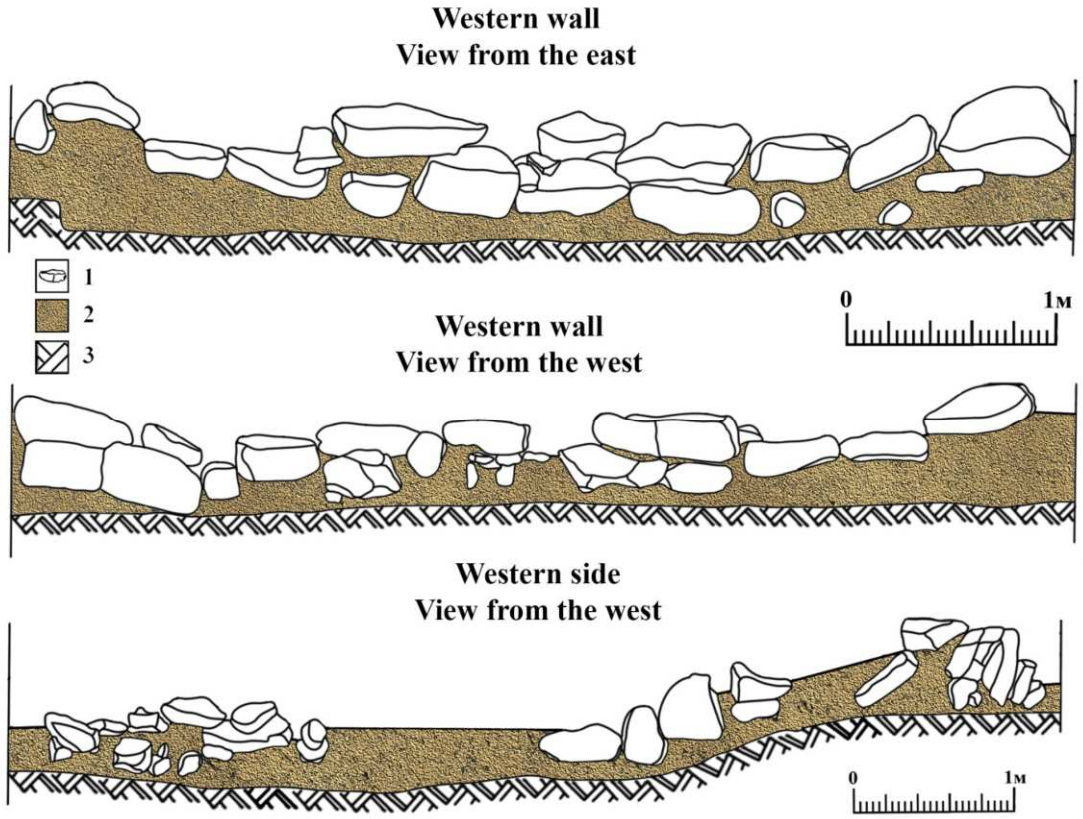

Fig. 6. Structure № 18. Section of the western wall.
1 – masonry (limestone); 2 – sandy loam layer; 3 – mainland.

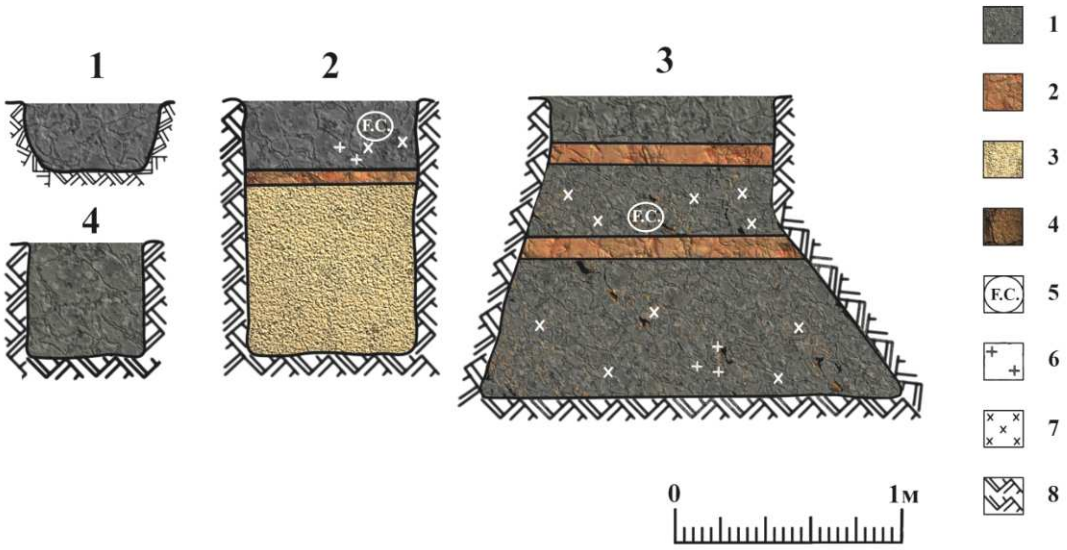

Fig. 7. Structure № 18. Cut pits № 1-4.
1 – humus of a grey-ash color; 2 – clay plug ; 3 – grey humus with impurities of sandy loam ;
4 – firth clay; 5 – animal bones; 6 – fragments of pottery; 7 – mainland.

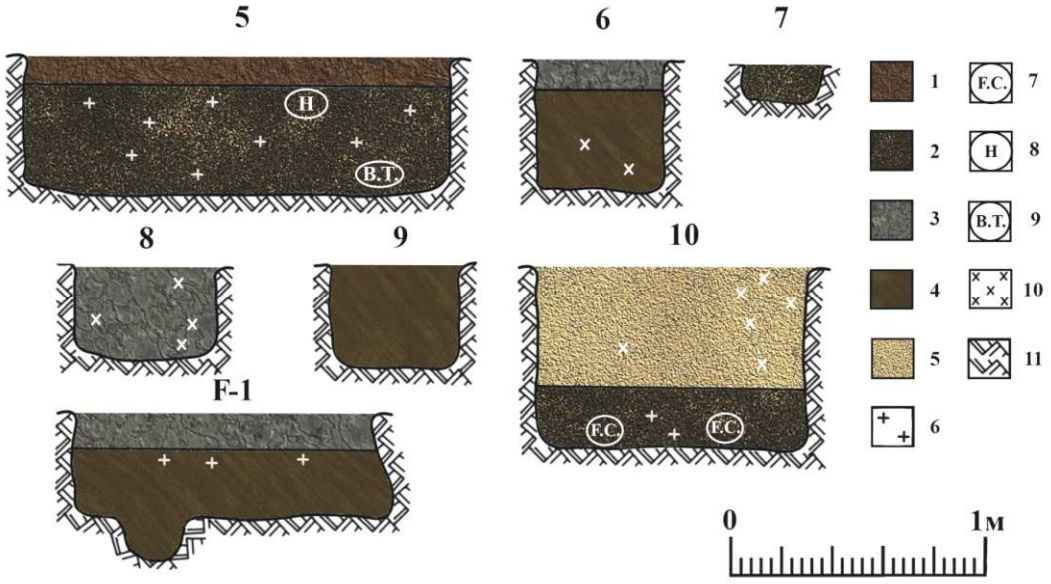

Fig. 8. Structure № 18. Cuts of pits. 5-10 and fire pit.
1 – brown humus ; 2 – burnt soil of black color ; 3 – humus of a grey-ash color;
4 – humus with loam impurities; 5 – grey humus with impurities of sandy loam;
6 – animal bones; 7 – firth clay; 8 – deer antler hammer; 9 – bronze threading;
10 – fragments of pottery; 11 – mainland.

Fig. 9. Structure № 18. Artifacts.
Ceramic ware (1-4, 6-8, 10-11, 19, 21-22): pots (2, 3, 4, 7, 8, 10, 19, 21, 22), cups (1, 6, 11);
Stone objects (13-18, 20): grinders of various shapes (9, 12, 13-16, 18); anvil (17);
Hammer made of deer antler (20);
Bronze items (5; 23): thread (5); treasure (23).

Fig. 10. Structure № 18.
View from the north.

Fig. 11. Structure № 18.
View from the east.

Fig. 12. Structure № 18.
View from the southeast.

Fig. 13. Structure № 18.
View from the northwest.

INDOOR LOCATION	FRAGMENTS OF CERAMIC VESSELS									ITEMS										ECOFACTS								
	closed				open					bronze, horn			clay and stone															
	pots of different types	large pots	cups	Total amount	bowls	braziers with a side	flat roaster with a cut edge	flat roaster	Total amount	Bronze thread	hammer from deer antler	Total amount	fragment of clay wall plaster	flat stone slabs	ceramic disk with machined edges	rounded stone tools (grinders)	anvil	boat-shaped grinders	Total amount	animal bones (big cattle, small cattle, pig)	astragals	fish bones (catfish, pike, pikeperch)	antlers (deer, saiga)	clam shell	tortoise shell	hoof (of a horse)	human bones	Total amount
Filling	*32*	*15*	*17*	**64**	*10*	*17*	*10*	*1*	**38**	-	-	-	*2*	*2*	*2*	*2*	*1*	*4*	**12**	*157*	*10*	*13*	*2*	*1*	*1*	*2*	*3*	**189**
Pit 1	4	2	2	**8**	4	4	-	-	**8**	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	**1**
Pit 2	6	3	1	**10**	-	5	2	-	**7**	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	**3**
Pit 3	4	4	-	**8**	2	-	2	2	**6**	-	-	-	-	-	-	-	-	-	-	7	-	10	-	-	-	-	-	**17**
Pit 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 5	5	3	1	**9**	-	1	-	-	**1**	1	1	**2**	-	-	-	-	-	-	-	2	-	4	-	-	-	-	-	**6**
Pit 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 8	-	1	-	**1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pit 9	2	3	-	**5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	**9**
Pit 10	1	-	1	**2**	-	1	-	-	**1**	-	-	-	-	-	-	1	1	-	**2**	9	-	1	-	-	-	-	-	**10**
Fire pit 1	1	-	1	**2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pits	*33*	*6*	*6*	*45*	*6*	*11*	*4*	*2*	*23*	*1*	*1*	*2*	-	-	-	*1*	*1*	-	*2*	*27*	-	*19*	-	-	-	-	-	*46*
Total	**65**	**21**	**23**	**109**	**16**	**28**	**14**	**3**	**61**	**1**	**1**	**2**	**2**	**2**	**2**	**3**	**2**	**4**	**14**	**184**	**10**	**32**	**2**	**1**	**1**	**2**	**3**	**235**

Table 1: Categories of finds in Structure 18
Utility pits (№ 1, 2, 3, 5, 10). Pillar pits (№ 4, 6, 7, 8, 9).