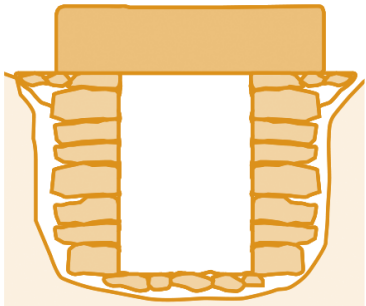
Where does the water go? A comparative technological and chronological study of water-related conduits in the Agora and adjacent areas of Nea Paphos, Cyprus



Abstract: This paper examines the rock-cut and masonry-built conduits designed to convey liquids discovered during excavations in the Agora and adjacent areas in Nea Paphos, Cyprus. Analysis of these structures has led to the identification of five general types of structural solutions. A comparative study, supported by parallels from other urban sites across Cyprus and the Eastern Mediterranean, suggests that most examples were designed for rainwater drainage. Additionally, a chronological analysis based on stratigraphic studies of the archaeological site has allowed for the reconstruction of four main stages in the development of this infrastructure, reflecting architectural changes in both the Agora and the wider city of Nea Paphos.

Keywords: Hellenistic-Roman Cyprus, Nea Paphos, Agora, hydro-technical infrastructure, water channels, tunnels, rainwater drainage

INTRODUCTION

Vitruvius (Vitr. 8.6.1) describes three methods of conducting water: lead pipes, clay pipes, and masonry conduits. The latter are referred to in Latin as *specus* or *rivus*, and in ancient Greek as *ὑδραγωγία* or *ὑπόνομος* (Smith 1859: 108). Rock-carved or stone-built conduits used for water supply and drainage are commonly found

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at Graeco-Roman archaeological sites across Cyprus. Despite their significance for understanding past urban life, the structures found on the island have received limited scholarly attention.[1] Meanwhile, these archaeological features offer valuable insights into water supply and drainage systems across different periods of Cypriot history, shedding light on hydraulic engineering, evolving water-use habits, and ancient urban development.

This paper investigates a set of conduits —tunnels as well as channels— identified during excavations in the Agora of Nea Paphos and its immediate surroundings, aiming to address this gap. The structures discussed here were unearthed during the Paphos Agora Project (2011–2019)[2] and the Maloutena and Agora Archaeological Project in Paphos, Cyprus, Joint Polish Warsaw and Jagiellonian Universities Expedition (MA-P) (2020–2024),[3] both of

Fig. 1. Satellite view of the Nea Paphos archaeological site showing the locations mentioned in the text (Base map Google Earth, imagery © 2024 CNES / Airbus | processing M. Michalik after Papuci-Władyka 2020b: 83, Pl. 5)

1 In-depth studies of water tunnels and channels have so far been conducted in Kition (Callot and Salles 1981; Salles 1983), on the Kourion aqueducts (Last 1975), the sanctuary of Apollo Hylates in Kourion (Scranton 1967: 62–63; Soren and Sanders 1984), and the Maloutena site in Nea Paphos (Młynarczyk 1990: 160–184).

2 For more, see https://paphos-agora.archeo.uj.edu.pl/en_GB/odkrycia

3 For more, see https://pcma.uw.edu.pl/en/2023/02/18/project-ma-p-maloutena-and-agora-in-paphos

which were directed by Ewdoksia Papuci-Władyka. Additionally, an attempt was made to reinterpret the results of Kyriakos Nicolaou's excavations in the Agora (1968–1978), summarized by Łukasz Miszk (2020b), as well as salvage excavations on Fanari Hill (1958–1959), published by Jolanta Młynarczyk (1990: 201–208; 1996; 2022) [see below, *Fig. 2*].

The presented structural analysis encompasses a reconstruction of the spatial organization of the examined architectural remains, accompanied by a detailed evaluation of their constructional features. This assessment is contextualized through comparative analysis with analogous archaeological sites in Cyprus and selected Hellenistic-Roman contexts across the Eastern Mediterranean. In addition, the study incorporates a chronological framework derived from stratigraphic evidence associated with the investigated structures.

NEA PAPHOS AND ITS AGORA

Nea Paphos was a Hellenistic-Roman harbor city situated on a peninsula between the estuaries of the periodical rivers Koskinas and Limnaria [*Fig. 1*]. Developed from the end of the 4th century BC, it became an important administrative center of the island from the end of the 3rd century BC onward, maintaining its significance at least until the 4th century AD (for a detailed outline of the city's history, see K. Nicolaou 1966; Maier and Karageorghis 1984; Młynarczyk 1990; Papuci-Władyka and Miszk 2020a; Papuci-Władyka forthcoming).

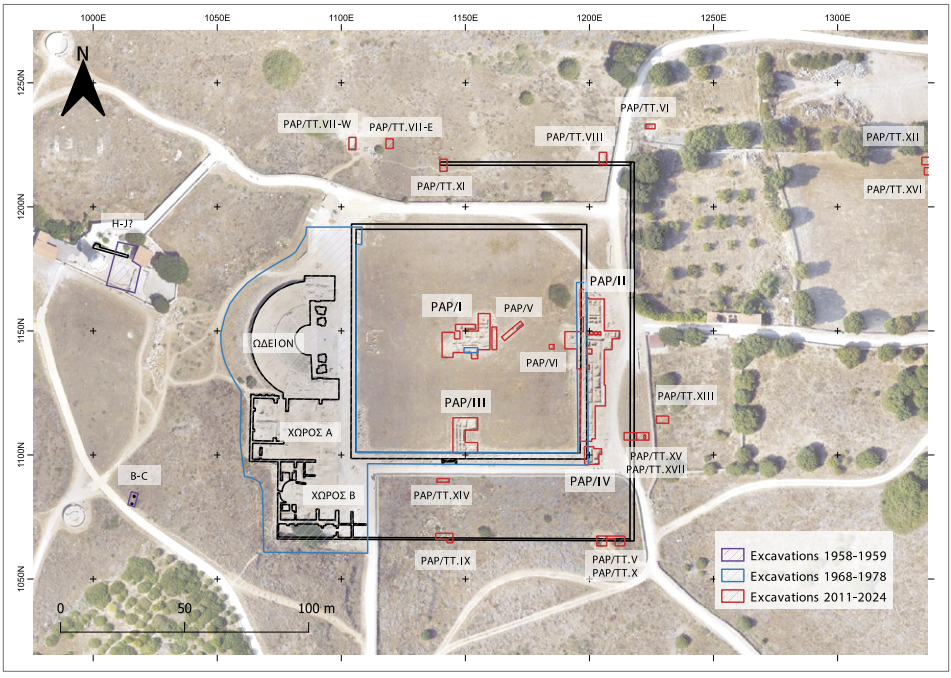

Fig. 2. Orthophoto of the Agora of Nea Paphos indicating the extent of archaeological excavations (Base map Paphos Agora Project Archive | processing M. Michalik)

The Agora, a centrally located representative space [*Figs 1, 2*], was a dominant public area in the urban landscape of Nea Paphos from the 2nd century BC to the mid-2nd century AD. The architectural complex, estimated to cover 2.5 ha, is the largest public area from the Hellenistic-Roman period in Cyprus (Papuci-Władyka and Miszk 2020b).

The Agora is sheltered from western winds and sea breezes by the imposing Fanari Hill, which rises to 20 m above mean sea level (henceforth AMSL). Below it, the modern plateau of the site lies at an elevation of 7–8 m AMSL. The geological substrate consists of a marine terrace composed of carbonate rocks —calcarenites uplifted in the Quaternary (Kalicki, Chwałek, and Frączek 2020)— while the multi-phased anthropogenic stratification extends to 2.0–2.5 m below the modern surface (cf. Miszk 2020a).

The chronology of material[4] collected during excavations at the site spans from the late 4th century BC to the 7th century AD (see outline in I. Nicolaou 1990; 2005; Papuci-Władyka and Miszk 2020b). This broad timeframe has allowed researchers to distinguish seven phases in the site's development [see below, *Table 2*] (cf. Papuci-Władyka 2020b: 80, Table 1, based on Miszk 2020a). However, the stratigraphic data can be correlated with the architectural development of the Agora only until the mid-2nd century AD.

The earliest remains (associated with Phases I, II, and III), which at the current stage of research are believed to pre-date the transformation of the area into the Agora, include Hellenistic Building B[5] and Building A,[6] whose function remains unclear. The late 2nd century BC (Phase IV) brought the construction of a square-shaped *tetrastoon* peristyle, a key indicator of the emergence of the Agora at this site. Additionally, a new multi-room *stoa*, Building C, was constructed in place of Building A. These structures were subsequently used, with various alterations, until the mid-2nd century AD (Phases V, VI, VII), as indicated by the stratigraphic sequences investigated in rooms and wells[7] (for more detailed analyses of the stratigraphy and architecture of the Agora, see Papuci-Władyka and Machowski 2016; Papuci-Władyka, Machowski, and Miszk 2018; Miszk 2020a; Papuci-Władyka et al. 2020; Rosińska-Balik 2020).

4 This includes coins, pottery (mainly table ware along with amphora stamps), and oil lamps, which are the primary chronological markers for the site (for detailed analyses of these artifacts by various authors see Papuci-Władyka 2020a).

5 Building in use between the late 4th and 3rd century BC (cf. Miszk 2020a: 128–130, 133–137, 143–145, 155, 165, 167).

6 Building in use between the late 3rd and 2nd century BC (cf. Miszk 2020a: 128, 130–133, 137–140, 144–146, 155).

7 Excavation of rooms in the East Portico revealed its destruction by an earthquake (Miszk 2020a: 151–154). At present, a weight from Seleucia in Pieria, found in Room 3 and dated to AD 142/143, provides a *terminus post quem* for this event (Papuci-Władyka et al. 2020; Łajtar 2021).

Some features of the Agora's West Portico may have been rebuilt following an earthquake that struck the city in the 2nd century AD,[8] although clear evidence for this is lacking. Structures in the area of the West Portico, including the Odeon/Bouleuterion (for an interpretation, see Młynarczyk 1990: 210; Papuci-Władyka 2020b: 73) and the complex of rooms to the south (the so-called "Asclepieion" inventoried as Χωροσ A and B),[9] were dated to the 2nd–4th century AD by their excavator.[10] However, no stratigraphic or architectural justification has been presented to date (for a discussion of K. Nicolaou's reports, see Miszk 2020b).

MATERIALS AND METHODS

The conduits in the Agora of Nea Paphos are composed of architectural features documented and georeferenced within the archaeological trenches during the excavation process (for documentation procedures, see Ostrowski et al. 2020: 484, Pl. 145; for the application of orthophotogrammetry, see Ostrowski et al. 2024). In the course of the Paphos Agora Project and MA-P Project research, two types of abbreviations were used in recording the architectural remains: "S." for structures unearthed in Trenches I–VI, and "TS." for those discovered in Trial Trenches I–XVII. Separate inventory numbers were assigned to structural elements of the water conduits, including the footing, side walls forming the channel bed, and masonry roofing. Detailed inventories were not kept during excavations in 1958–1959 and 1968–1978.[11] In this article, all the discussed conduits are designated with letters of the alphabet [*Fig. 3*], following an inventory approach used by David Soren and Guy Sanders (1984) in their study of channels from the Sanctuary of Apollo Hylates in Kourion. A detailed inventory of all accessible information on the structures discussed herein is provided in *Table 1*.

8 See Cayla's (2018: 250) interpretation of the inscription concerning Caracalla from the Odeon/Buleuterion.

9 The southern room of the "Asclepieion" (documented as Χωροσ B) is now interpreted as a basilica by Anna Kubicka-Sowińska, the architect of the MA-P Project. This interpretation is scheduled for future publication.

10 K. Nicolaou attributed the studied area to the Roman period and proposed several more precise dates in his reports (cf. Miszk 2020b). The most recent dating, adopted herein, was reported by this researcher (K. Nicolaou 1980: 71; 1981: 68–71) as well as by Ino Nicolaou (2005: 359), who published part of the finds from the site.

11 These features were also omitted from the cadastral plan of the excavations (cf. K. Nicolaou 1981: 69, Fig. 77).

Table 1. Details of the discussed structures

Designation	Form	Type	Trench	Inv. No.	Recognized length (m)	Flow orientation	Elevation of the channel footing (m AMSL)	Shape in cross-section	Size standard (height × width in m)	Function
A	Tunnel	I	H–J?	?	7.5 (25?)	NE–SW	17.5	Rectangular	Large; 1.32 × 0.56	Water supply?/ drainage?
B	Tunnel	I	H–J?	?	15?	NW–SE	15.8	Trapezoidal	Large; 0.90 × 0.55	Water supply?/ drainage?
C	Tunnel	I	?	?	4	NE–S	16.00–15.92	Rectangular	Large; 0.94 × 0.45	Water supply?/ drainage?
D	Channel	IV	ΩΔΕΙΟΝ	?	45?	W–E	?	Rectangular	Large; ? × 0.6	Drainage
E	Channel	II	ΑΣΚΛ/ ΧΩΡΟΣ Α	?	34	W–E	8.54–7.51	Rectangular	Large; 1.00 × 0.60–0.70	Drainage
F	Channel	IV	PAP/II	S.103, S.104, S.153, S.214	16.50	W–E	6.30–6.20	Rectangular	Large; 1.20 × 0.80	Drainage
G	Channel	III	PAP/II	S.150, S.209	13.00	S–N	6.47–6.30	Rectangular	Medium; 0.40 × 0.30	Drainage
H	Channel	V	PAP/I	S.19	3.80	W–E	5.80	Rectangular	Small; 0.08 × 0.16	Drainage
I	Channel	IV	PAP/II	S.241	3.50	S–N	7.27–6.66	Rectangular	Medium; 0.50 × 0.30	Drainage
J	Channel	V	PAP/ TT.VII-W/	TS.61, TS.62	2.40	N–S	5.95–5.78	Rectangular	Small; 0.18 × 0.19	Drainage
K	Channel	II	PAP/ TT.VII-W/	TS.65	3	W–E	4.71–4.66	Inverted trapezoidal	Large; 2.00 × 1.40	Drainage
L	Channel	IV	PAP/ II, PAP/ TT.XVII/	S.194, TS.163, TS.164, TS. 165	22	W–E	6.35	Rectangular	Large; 0.80 × 0.95	Drainage

The partial exposure of the structures within archaeological trenches, along with their often-poor state of preservation, limited the possibility of conducting a comprehensive hydrological analysis (e.g. Ortloff and Crouch 1998). As a result, this study focuses on the technological design of the examined structures, comparing them with similar features found elsewhere in Nea Paphos, as well as at other sites in Cyprus and the Eastern Mediterranean. This approach aims to facilitate the identification of the structures' functions.

In addition, the study incorporates a diachronic and contextual analysis based on stratigraphic research conducted on the site, offering insights into the chronology and architectural context of the conduits.

Excavations of both the Paphos Agora Project and the MA-P Project followed an adapted version of Edward C. Harris's matrix method (1997). Strata were identified and excavated following differences in granulation and soil color. In post-excavation analysis, stratigraphic relationships were determined according to the law of superposition, and the chronology of the collected material was linked to the corresponding strata (cf. Papuci-Władyka, Machowski, and Miszk 2018; Miszk 2020a; Michalik et al. 2024: 88–89). The chronology of architectural features exposed before 2011 remains uncertain, relying on reports, parallels, and field observations by the author.

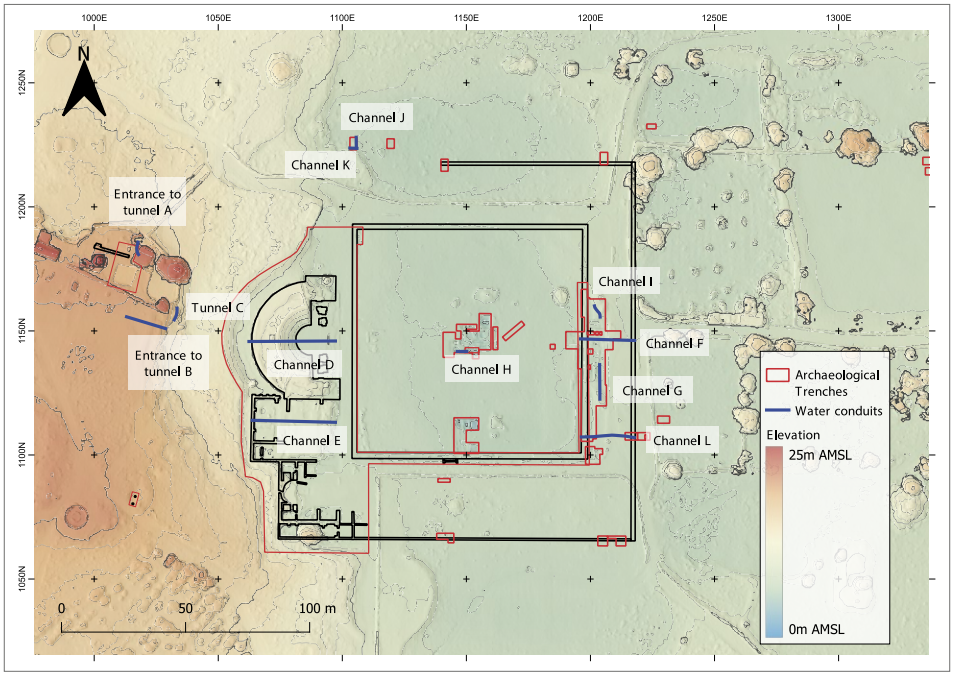

Fig. 3. Digital elevation model of the Agora with the investigated structures indicated (Base map Paphos Agora Project Archive | processing M. Michalik)

RESULTS AND DISCUSSION

CONSTRUCTION TECHNIQUES AND FUNCTION

Water-related conduits from the Agora of Nea Paphos include subterranean and semi-subterranean structures (tunnels and channels), with the latter group featuring open and roofed constructions. Both tunnels and channels operated by gravity, with their inclination determining the direction of the flow.[12] Therefore, the research has centered on reconstructing the alignment, source, and outlet of each conduit. However, since only sections of these features were uncovered within the archaeological trenches, the analysis has focused on identifying technological differences in the arrangement of the ducts.

Following Vitruvius (Vitr. 8.6.3), two basic categories of water ducts can be distinguished: features carved into the bedrock and stone-built constructions. In the Agora of Nea Paphos, the latter exhibit different forms of stonework, allowing five general types of water conduits to be distinguished [*Fig. 4*]. However, these types are not chronologically indicative and could have been used complementarily within the same conduit. The surveyed structures can also be classified into three categories based on duct clearance size: small (less than 0.2 m × 0.2 m), medium (up to approximately 0.5–0.4 m × 0.3 m), and large (0.9 m × 0.5 m or more).

Type I: tunnels

This type comprises tunnels carved in the bedrock. Their carving was a meticulous process, often carried out simultaneously from both ends (cf. Zambas, Dounias, and Angistalis 2017: 67), or in sections, beginning with vertical shafts known as *puteus* or *lumen* (cf. Hodge 1992: 126–129; Aicher 1995: 11–13; Sargentis et al. 2022: 272–276). Type I conduits belong to the large-sized category group, with gallery cross-sections that are either rectangular or trapezoidal (wider at the bottom). Despite their association with water, these tunnels bear no traces of waterproof mortar today, unlike similar tunnels linked to cisterns elsewhere in Nea Paphos.[13]

Two entrances to Tunnels A and B, as well as a section of Tunnel C [*Fig. 5*] have been identified on the eastern and northern slopes of Fanari Hill. However, quarrying activity in this area (Vörös 2006: 298; Miszk 2020b: 117) may have destroyed portions of these structures, making it uncertain whether the observed openings were the original ends of the water system.

The entrance to Tunnel A lies beneath a modern house near a tourist walkway leading to the lighthouse complex. Its opening's footing is located at 17.5 m AMSL,[14] and since the duct descends southwest into the hill, it may have served as an inlet. The entrance to Tunnel B, in

12 Given the limited exposure of the features and the post-depositional processes associated with earthquakes, these conclusions should be regarded as preliminary.

13 Rock-carved tunnels coated with layers of waterproof plaster and leading to cisterns are known from Nea Paphos but have not yet been identified in the Agora. Examples include features in the area of the Amphitheater. (cf. du Plat Taylor 1934), the moat of the Saranta Kolones castle (cf. Hayes 2003: 450, Fig. 1).

14 The structure interior is currently inaccessible.

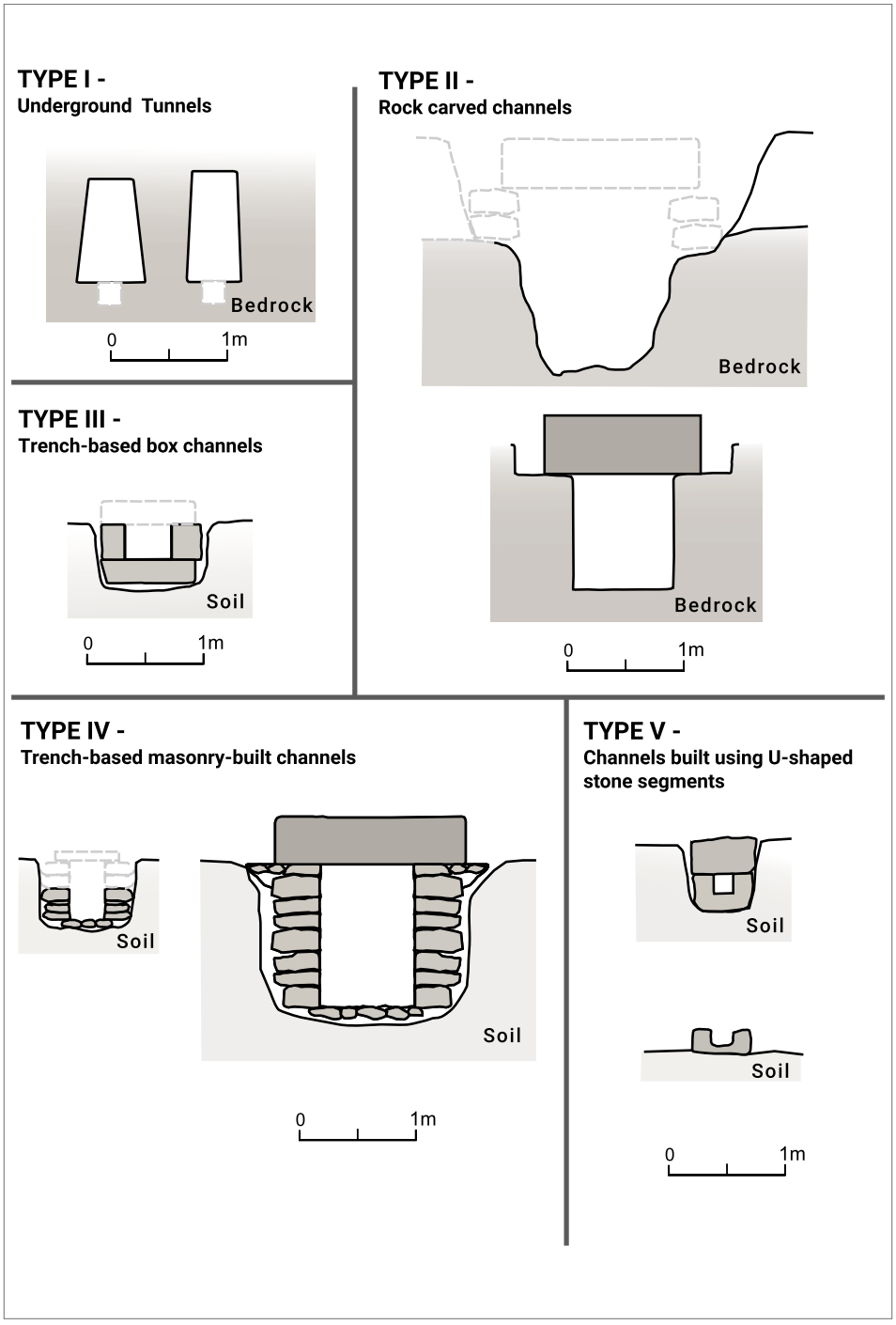

Fig. 4. Schematic representation of types of conduits discussed in the article (Paphos Agora Project and MA-P Project Archive | drawing M. Michalik)

turn, is situated on the eastern slope of the hill, with its gallery descending to an opening at 15.80 m AMSL, possibly one of the system's outflows. Interestingly, Tunnel B is directed toward the Agora. A section of Tunnel C, found on the eastern slope, meanders from 16.00 m to 15.91 m AMSL, descending toward a hypothetical continuation of Tunnel B. This suggests Tunnel C may have been a tributary branch of the same system.

A survey of Fanari Hill by a Hungarian team documented Tunnels A and B extending 7.5 m and 15 m into the hill, respectively (Vörös 2006: 299, Fig. 8), though these measurements should be treated with caution. It is likely that these tunnels were part of a more extensive water system associated with square-shaped cisterns excavated in 1958–1959,[15] and possibly with a large pool recently uncovered after the dismantling of a modern house (Młynarczyk 2022: 125). A schematic map of these excavations (Młynarczyk 1996: 197, Fig. 5) appears to show an intersection of the two tunnels. Tunnel A is clearly identifiable, as a curve marked on the map matches the location of its entrance and a vertical *lumen* indicated in the feature sketch is visible on the hill's surface. This gallery is reportedly 25 m long (Młynarczyk 1990: 206) and aligns with an only partially sketched perpendicular tunnel identified as a continuation of Tunnel B.

Discussing Trench H–J excavations, Młynarczyk (1996: 198) notes a possible bedding for a pipeline or an actual pipeline laid at the bottom of one of the tunnels (Młynarczyk 2022: 128).[16] Such constructions are typical of urban aqueducts, as seen in Athens (Tölle-Kastenbein 1994: 29, Abb. 23), Pergamon (Garbrecht 2001: Taf. 10, 1), Olynthus (D.M. Robinson 1946: Pl. 96.2), and Samos (Zambas, Dounias, and Angistalis 2017: 67, Fig. 5.4). It is reasonable to suggest that pipelines from Fanari Hill were part of a fragmentarily preserved water supply system extending toward the hill from the direction of the North-West Gate (cf. K. Nicolaou 1966: 569–577). Similar rock-carved tunnels were also identified by Last (1975: 58–59) as being associated with the aqueduct of the city of Kourion.

Due to its dominant topographical position in the city's western part, Fanari Hill has been interpreted as the probable site of the second *castellum divisorium* after Fabrika Hill (Młynarczyk 1990: 223; Romaniuk 2021: 387–388). However, the architectural complex on Fanari Hill requires further chronological and architectural analysis. The intersections of its galleries remain unclear, as does the source of Tunnel B. Additionally, the identification of hypogea as cisterns requires verification, as subterranean rooms and caves may have served purposes beyond water storage, as seen at the Acrop-

15 Documentation from the excavations survives in the form of scanty field notes, making it difficult to locate the unearthed monuments. According to Młynarczyk (2022: 124, Fig. 2), Trench H–J is in a different location. However, the map caption and K. Nicolaou's (1966: 595) remark appear to support the proposed hypothesis.

16 It should be noted that the presence of channels at the bottom of the tunnel does not, by itself, confirm the existence of a pipeline, as they may have also been constructed to improve the gradient of a poorly profiled tunnel (Landels 2000: 39).

olis in Rhodes (Neumann 2016). Quarrying activity in Nea Paphos frequently intersects earlier rock-cut features (e.g. Bessac 2016: 112), suggesting that the elements under discussion —now no longer available for examination— may have

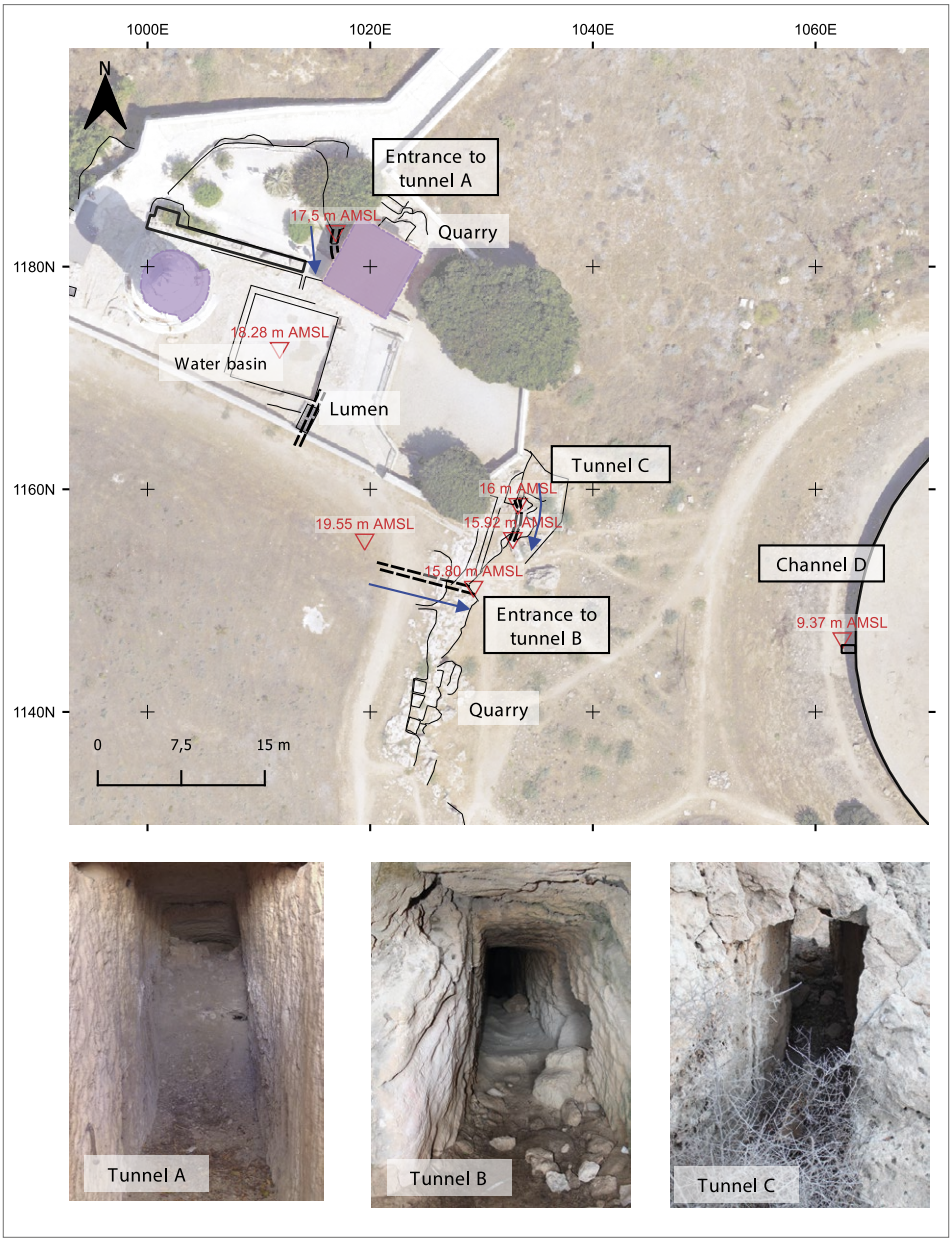

Fig. 5. Entrances to Tunnels A, B, and section of Tunnel C (Type I) (Base map MA-P Project Archive | processing M. Michalik)

originated from different chronological phases that are not necessarily reflected in excavation documentation or schematic records. The function of the large pool at the top of the water system also remains ambiguous. It may have served as an *impluvium* for rainwater collection or as part of a *nymphaeum*. Its shape resembles pools from the *nymphaeum* in the Agora of Kourion (Christou 2013: 99, εικ. 77) and the gymnasium of Salamis (North Annex rooms, Karageorghis 1966: 16, εικ. 3). Regardless of its function, two drains in its north and east walls directed the water underground, likely into Tunnels A and B, suggesting the galleries may have had a different function than previously assumed.

The reported pipeline at the bottom of Tunnel B may be a later addition, as parallel tunnels within the city do not exhibit similar solutions. Several other rock-carved gallery entrances have been identified in Nea Paphos. One, cut by the quarry or moat of the medieval Saranta Kolones castle, was identified as a tomb (Hayes 2003: 448). Similar tunnels on Fabrika Hill were interpreted as an aqueduct (cf. Balandier and Guintrand 2016: 137–138; Bessac 2016: 106, Fig. 1, 109, Fig. 3), and those near the North-West Gate as city drainage outlets and a sally port (cf. K. Nicolaou 1966: 570, Fig. 5; Bessac 2016: 117, Fig. 14, 119, Fig. 18). Another tunnel was excavated in the hypogeum at Toumpallos (Giudice, Giudice, and Giudice 2010: 479, Fig. 2) but its function remains unknown.[17] At the moment it is uncertain whether these tunnels constituted a single integrated system —similar to the subterranean conduits beneath the Agora in Corinth, which channeled water from the "Peirene" spring to a large urban nymphaeum (B.A. Robinson 2011: 11–17)— or whether they represent independent structures from different phases of the urban development. Notably, water-related rock-carved tunnels are not unique to Nea Paphos on Cyprus. A similar tunnel, possibly linked to water management and religious practices, was found at Amathus (Flourentzos 2004).

Type II: rock-cut channels

Type II comprises trench-shaped channels excavated in the bedrock. These semi-subterranean structures had masonry roofs positioned at the surface level. In the Nea Paphos Agora, they belonged to the large size[18] category and had rectangular or inverted-trapezoidal cross-sections. Their construction technique was likely similar to Type I, as chiseling marks were in some cases visible inside,

17 Tunnels or galleries beneath the ancient city are also mentioned in local legend, as recorded by Turner (1820: 562–563). Such structures have also been identified outside the walls of Nea Paphos, for example, during salvage work preceding the construction of the "Kings Mall" supermarket (Raptou 2016: 60). Additional examples have been noted near the Aghios Georgios church in Geroskipou village (Młynarczyk 1985: 71) and at the site of Aghia Arkona, near Timi Beach (Hogarth 1889: 42).

18 Although not represented in the Agora, small and medium ducts of the same type were present in Nea Paphos, particularly in the area of Fabrika Hill (Rowe 1999: 274, Fig. 4/1; Balandier, Młynarczyk, and Rekowska 2022: 252, Phot. 1; 253, Phot. 2) and the North-West Gate (K. Nicolaou 1966: 570, Fig. 5), where they were used as drains or saddle for a pipeline.

and no waterproofed mortar was attested. The main difference between Types I and II was the open ceiling of the latter, covered with stone slab roofing. In some cases, additional masonry walls were built to enlarge the structure.

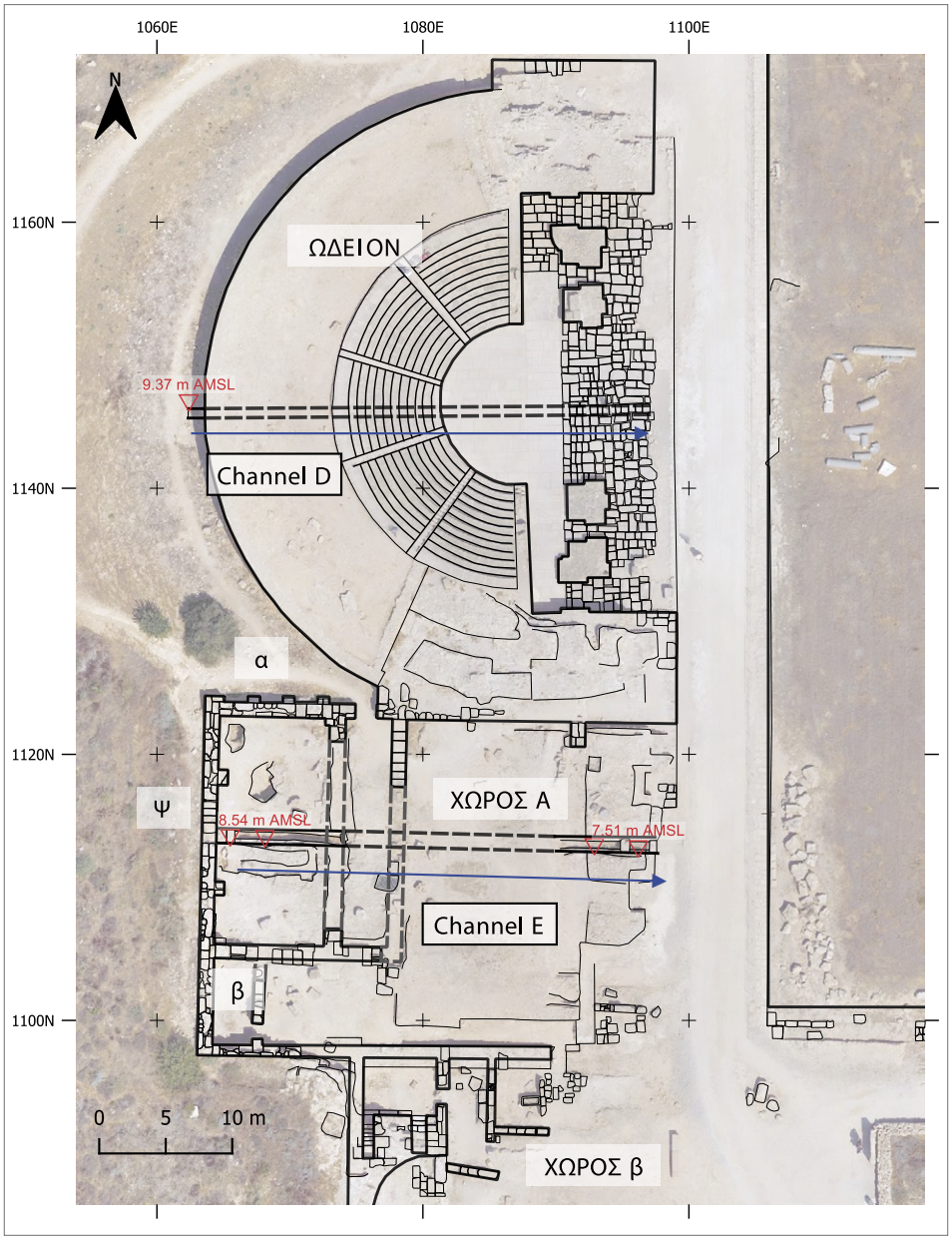

Fig. 6. Channels D and E of the West Portico (Types II and IV, Stage IV) (Base map MA-P Project Archive | processing M. Michalik)

Channel E, running across the northern rooms of the so-called "Asclepieion" (Χωροσ Α) [*Fig. 6*], is a prime example of Type II.[19] Excavations have revealed more than 34 m of this badly eroded feature, running along the deteriorated podium of the building. Most of its flat masonry roofing has not survived, and only a few large stone slabs remain. These slabs were set perpendicularly to the duct, and were fitted into saddles carved at the edges of the channel. There is no evidence that Channel E served for drainage of rooms of the edifice; rather, as a large-sized conduit, it likely collected water from the eastern slope of Fanari Hill. The source of the water, however, remains unknown, as the western end of the channel disappears under the building's outer edge, where excavations were halted. A flat arch was set in the external western wall of the building.[20] Channel E outflow was aligned along a west–east axis, directing water toward the Agora's inner square. Its bed slopes from 8.82 m to 7.72 m AMSL. Notably, the end of the channel is blocked with a stone wall, possibly added after the structure fell into disuse or indicating a concealed or lost structural solution in this place.

Parallels to Channel E can be found in buildings constructed on stone podiums, such as the Asclepius complex in Corinth (Roebuck 1951: Pl. 26, Fig. 1-2) and the Serapeion of Alexandria (Sabottka 2008: Taf. 151). In both cases, the channels likely served for water drainage rather than being associated with religious activity. The form of such channels was likely dictated by the rocky substrate of the edifices. The same interpretation seems to apply to Channel E in Nea Paphos.

Type II construction is also represented by Channel K, located west of the Agora [*Fig. 7*]. Only 3 m of this duct were uncovered in Trial Trench TT.VII-W. The duct is partially hewn into heavily eroded bedrock, with its upper part embedded in a substantial leveling screed. The channel has an inverted-trapezoidal cross-section and a footing at 4.71–4.66 m AMSL. Due to the limited exposure of the duct, the gradient of the feature cannot be ascertained with confidence. Given the channel's association with the bedrock sloping eastwards, the same direction of outflow is likely. Analogous rock-carved channels have been reported in the Apollo Hylates precinct at Kourion, where Soren and Sanders (1984) interpreted them as plant beds in the sacred grove. This interpretation, however, seems unconvincing for Channel K, as simple rock-carved trenches could serve various purposes. Channel K was cut by later Byzantine or Medieval inhumation burials, which destroyed part of its original structure. Some drainage channels in Nea Paphos feature a rock-carved bottom with a masonry superstructure built over it, as seen in the channel beneath Street B (Młynarczyk 1990: 172, Fig. 22) and Street P (Rowe 1999: 271,

19 Channel D was excavated by K. Nicolaou but not published. All observations concerning the site are by the present author.

20 The flat arch, characteristic of Roman structures, was rarely used in Greek architecture. Examples are known from Sillyon in Pamphylia, Olba in Cilicia, and Dura Europos (Boyd 1978: 91).

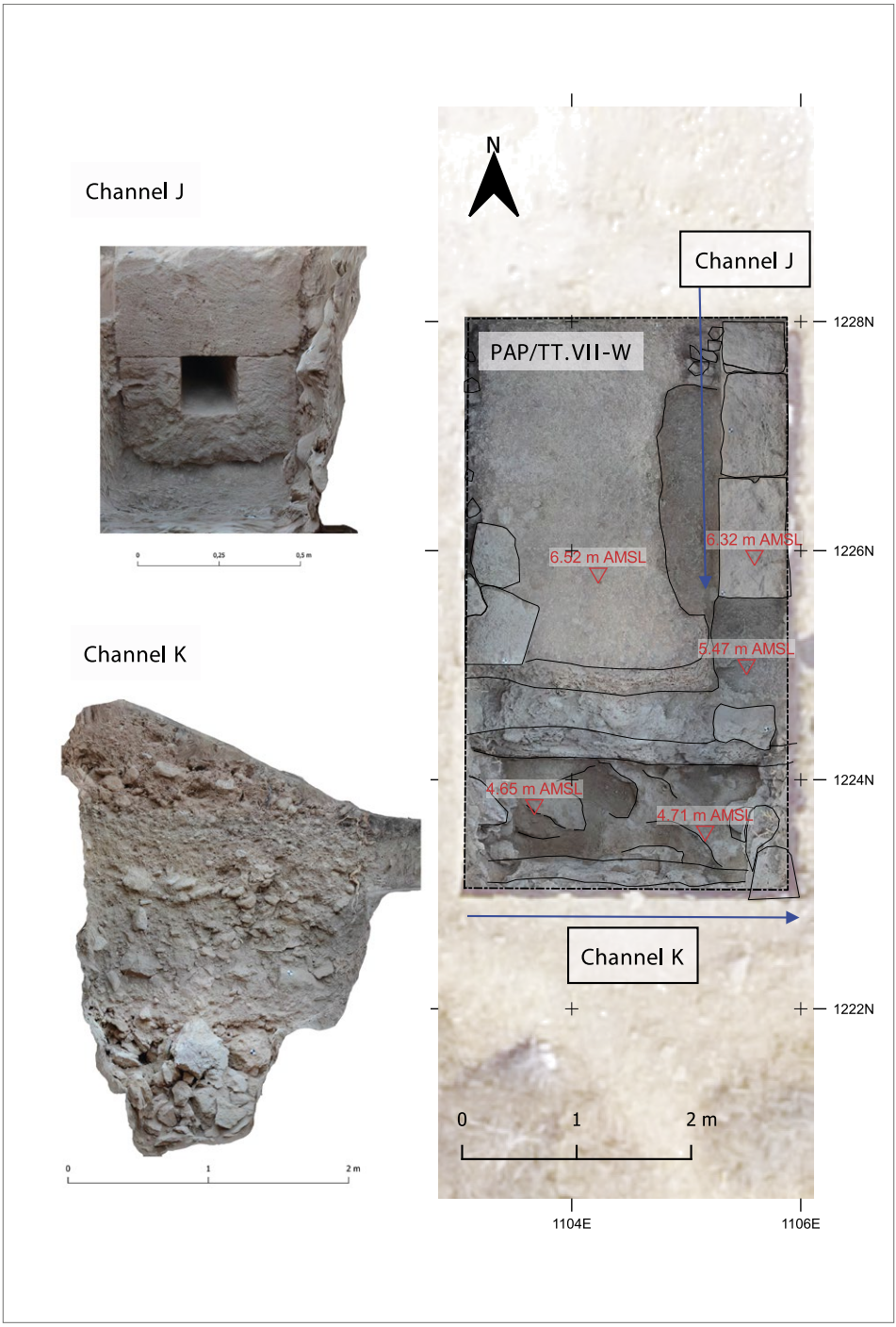

Fig. 7. Channels J (Type V, Stage I) and K (Type II, Stage I) in Trench PAP/TT.VII-W (Base map Paphos Agora Project Archive | processing M. Michalik)

Fig. 2). This construction method is also attested in the drains of Kition (Salles 1983: 13, Fig. 5). Notably, an imprint observed in the leveling screed associated with Channel K construction indicates the prior presence of channel walls in a similar configuration. Furthermore, the identification of tributary Channel J (Type V) suggests that both conduits were part of the drainage infrastructure associated with Street P.

Type III: box channels

Type III channels in the Agora of Nea Paphos are medium-sized, trench-based semi-subterranean structures with a box-shaped masonry framework made of stone slabs. Their rectangular beds are sealed with a thin layer of waterproof lime plaster. Analogies from outside the Agora show that such channels were typically covered with a flat masonry roof.

Among the excavated examples, only Channel G[21] belongs to Type III. Remnants of its bed were found in Rooms 5 and 20 of the East Portico (Trench II) [*Fig. 8*], though they are poorly preserved due to frequent modifications in this area. Parts of Channel G were later incorporated into the multi-phase foundation (S.112) of the portico. Its construction resembles the stone aqueduct from the Athenian Agora (Lang 1968: 14–15; Tölle-Kastenbein 1994: 42, Abb. 49). However, box channels, such as the one beneath the north colonnade of the Square Peristyle in the Athenian Agora, were also used for drainage (Townsend 1995: 64, Ill. 6). A similar design was used in the drains beneath the streets of Priene as well (Wiegand and Schrader 1904: 74, Abb. 41). The drainage function seems more plausible for Channel G, which was positioned below the floor level of Phase IV rooms within the East Portico. At least 13 m of Channel G can be reconstructed, although its segment in Room 14 is missing. The alignment of the duct is puzzling. Unlike later Channels F and L, it was laid along the north–south axis within the Portico. A similar arrangement (along and within the portico) is seen in the Southern Portico of the Sanctuary of Demeter in Pergamon (Bohtz 1981: Taf. 33), though the reasons for such positioning remain unclear. The slope of Channel G at the Paphian Agora likely directed the water toward the north, as suggested by the descending elevation of its bed from 6.47 to 6.30 m AMSL. Channel G is not unique to the Agora, as a similar feature was found during excavations at Toumpallos (Giudice 1992: Tav. 64). Only a small section of this structure was exposed, and its function is unknown, but it also appears to have been related to drainage.

Type IV: masonry channels

Type IV channels are semi-subterranean, trench-based structures with rectangular masonry-built beds. They come in medium and large channel bed size categories, with hydraulic mortar —when present— serving as a binder for the masonry rather than a sealing layer. These channels are

21 On the conduit's elements, see also Papuci-Władyka, Machowski, and Miszk 2018: 538; Miszk 2020a: 146–147, 151; Rosińska-Balik 2020: 192.

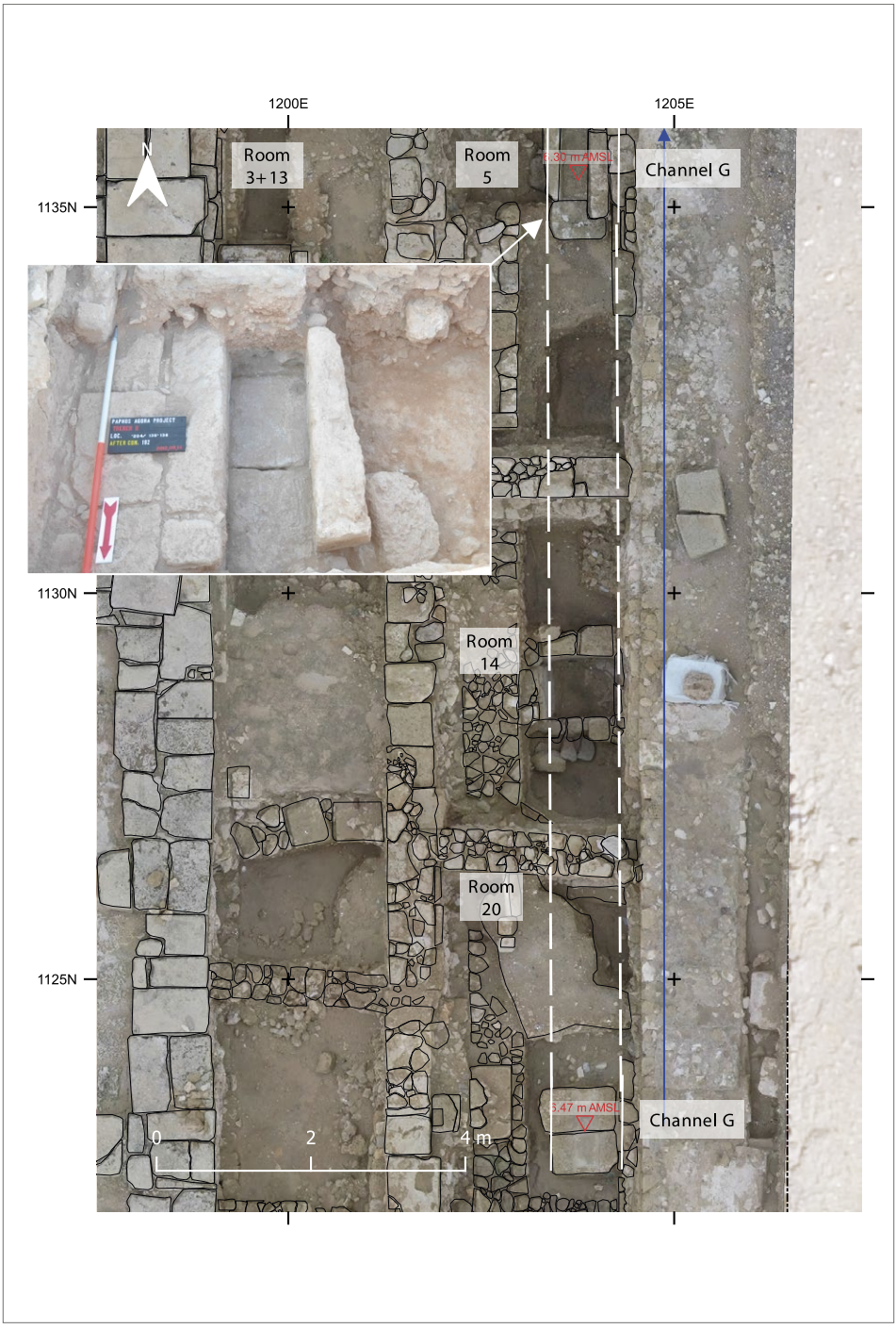

Fig. 8. Channel G (Type III, Stage II) in Trench PAP/II (Base map Paphos Agora Project Archive | processing M. Michalik)

typically covered with large, heavy stone slabs aligned with the contemporary pavement.

Channel I, a medium-sized example of Type IV [*Fig. 9*], was found in Room 22 of the East Portico of the Agora. Its side walls and footing are built from irregularly worked stones of various sizes. Notably, Channel I is the only curved water duct uncovered in the Agora. An imprint in the southern wall of Room 22 suggests that it may have begun in Room 12 or 23. The channel slopes from 7.27 m to 6.66 m AMSL, ending in a culvert in the northern wall. Interestingly, its northern end terminates in a small space (1.3 m × 0.6 m) within adjoining Room 24, likely a later addition. However, no contemporary hydraulic infrastructure or evidence of water were found in this area. Well S.233 could be a related feature, but in the light of stratigraphic analysis it appears to be a later addition to the room. No direct parallels have been reported from Nea Paphos, though similar small channels for water transport and drainage below the floors of buildings are common in Mediterranean public and domestic architecture. Examples include buildings in the Athenian Agora (Townsend 1995: Pl. 18, Fig. b), Eretria (Reber 1998: 49, Abb. 63), and Alexandria (Rodziewicz 1984: 129, Fig. 143). Drainage channels passing through walls of buildings were also present elsewhere in Cyprus, e.g. in the Classical-period palace in Vouni (Gjerstad et al. 1937: 169, Fig. 106).

Channel F[22] is another example of Type IV, albeit distinguished by a substantially larger channel bed [*Fig. 10*]. Its remains were found in the center of the East Portico of the Agora (Trench PAP/II), where excavations exposed 16.5 m of its length. The channel bed with a rectangular cross-section is set in a specially prepared ditch, with partly worked stone blocks bonded using a large amount of mortar. Though no waterproof plaster was used to coat the channel bed. The channel inlet is associated with the construction of the crepidoma of the East Portico (S.100) and the entrance to the peristyle, where the blocks of the stereobate protrude slightly from the face, creating an entry to the duct. It is unclear whether this inlet was open or if it had a grating. The euthynteria is arranged in a flat arch, with a keystone and springers smaller than those used in Channel E. Inside the portico, Channel F ran below the contemporary floor (7.44 m AMSL) and was covered by massive stone slabs laid perpendicularly to the duct. Although much of the roofing had been looted, its remains survived in Rooms 25 and 26. The absence of inlets or tributary drains within the peristyle suggests that Channel F functioned as a culvert for the entire East Portico rather than drainage of particular rooms.

In contrast to other structures in the edifice, Channel F appears to have been constructed rather carelessly. Though generally aligned west–east, it deviates slightly to the south, possibly due to its late construction date. The builders likely cut through older remnants of the East Portico, partly incorporating them into the new structure. The outlet of the duct remains unidentified, but the channel bed

22 On the conduit's elements, see also Papuci-Władyka and Machowski 2016: 73–75; Papuci-Władyka, Machowski, and Miszk 2018: 537; Miszk 2020a: 141, 146, 149–151, 155; Rosińska-Balik 2020: 192.

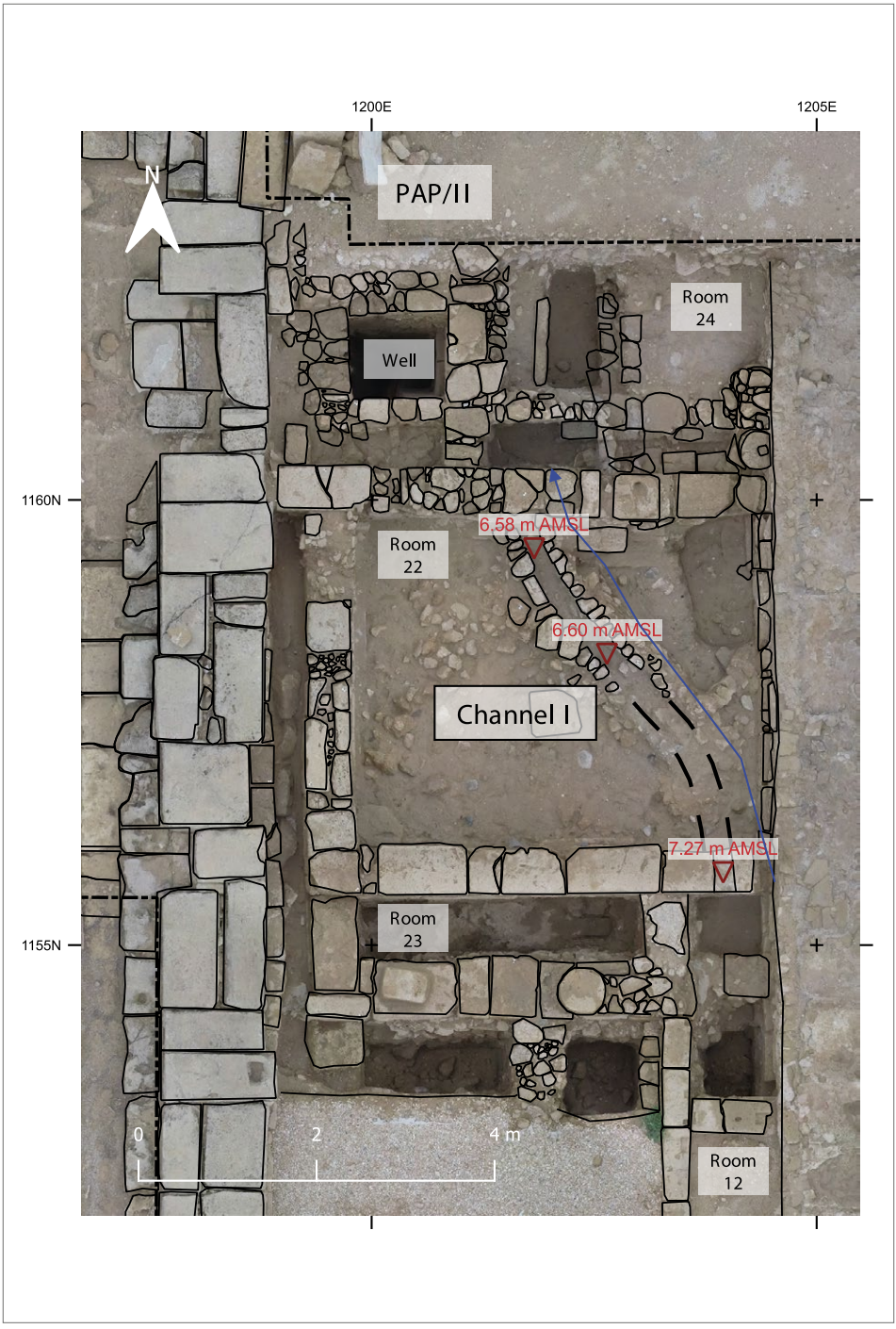

Fig. 9. Channel I (Type IV, Stage III) in Trench PAP/II (Base map Paphos Agora Project Archive | processing M. Michalik)

slopes from 6.30 m to 6.20 m AMSL, directing liquids eastward beyond the complex.

Likely a twin structure to Channel F, Channel L [see *Fig. 10*] was found in the southern part of the East Portico, at the southern edge of Trench PAP/II and in PAP/TT.XVII [see *Fig. 9*]. Its architectural design mirrors that of Channel F. The duct entrance opens to the Agora's inner courtyard, featuring a protruding stereobate block and a jack arch where it crosses the crepidoma of the East Portico. The passage then widens and is covered by stone slabs. The layout of Channel L is irregular, extending 23 m along a west–east axis and cutting across the whole East Portico. Notably, its outlet (found in PAP/TT.XVII) opens to the street flanking the Portico from the east, supporting the interpretation of Channels F and L as culverts. This set of channels was undoubtedly designed for water drainage from the inner plaza of the Agora. The use of a similar system was reported in the South Portico of the Forum of Zeus in Salamis (Munro, Tubbs, and Wroth 1891: Pl. VII), though the schematic representation of the Salaminian drains and their current inaccessibility prevent accurate comparison.

Channel D [see *Fig. 6*], found during excavations in the Odeon/Bouleuterion, is another example of this type. However, its structure is not well described, and the feature was reburied during a modern reconstruction of the building. Channel D runs beneath the cavea and orchestra of the Odeon/Bouleuterion, over an estimated stretch of at least 45 m. K. Nicolaou supposed that the conduit sloped eastward, following the gradient of the Fanari Hill (Karageorghis 1969: 558). While its characteristics may resemble those of Channels F and L, only a small section at the back of the Odeon/Bouleuterion remains accessible. Channel D likely drained rainwater and provided a soakaway for runoff from the watershed west of the building, similar to parallel Channel E. The channel's catchment area at the Odeon/Bouleuterion is unclear, as its westernmost section had been cut by the foundation of an unidentified structure at the back of the edifice, as noted by K. Nicolaou (1971: 21). Comparable drainage systems are known from similar venues, such as the Theater (Krinzinger and Ruggendorfer 2017: Taff 82–84) and the Odeon/Bouleuterion in Ephesus (Bier 2011: Pl. 15), as well as the Odeon in Corinth (Broneer 1932: Pls II, III, IV). Excavations at the Nea Paphos Theater also revealed a corridor beneath the orchestra; however, its large size suggests it served as a Charonian tunnel for stage performances rather than a drain (Barker 2015: 39, Fig. 7).

Type V: segment channels

Type V channels consist of ducts made from rectangular stone segments supported by a U-shaped gutter carved along their longitudinal axis. These ducts fall solely within the small-size category. Type V channels were used for both subterranean and surface conveyance of liquids. Depending on their function, these channels could be either on the surface or below ground, open or covered with additional masonry roofing.

An example of this solution in the Agora of Nea Paphos is Channel H,[23] located

23 On the conduit's elements, see also Papuci-Władyka, Machowski, and Miszk 2018: 535, 537; Miszk 2020a: 132, 138; Rosińska-Balik 2020: 186.

in the center of the plaza (Trench PAP/I) [*Fig. 11*]. Only a 3.8 m stretch of the conduit remains. It was constructed from rectangular masonry blocks with a small channel bed inside. Three segments are preserved *in situ*, and another was found in a secondary deposit nearby within a feature recorded as Pit 1 (cf. Miszk 2020a: 138). Channel H was laid along a west–east axis, with its bottom at 5.80 m AMSL. The inlet and

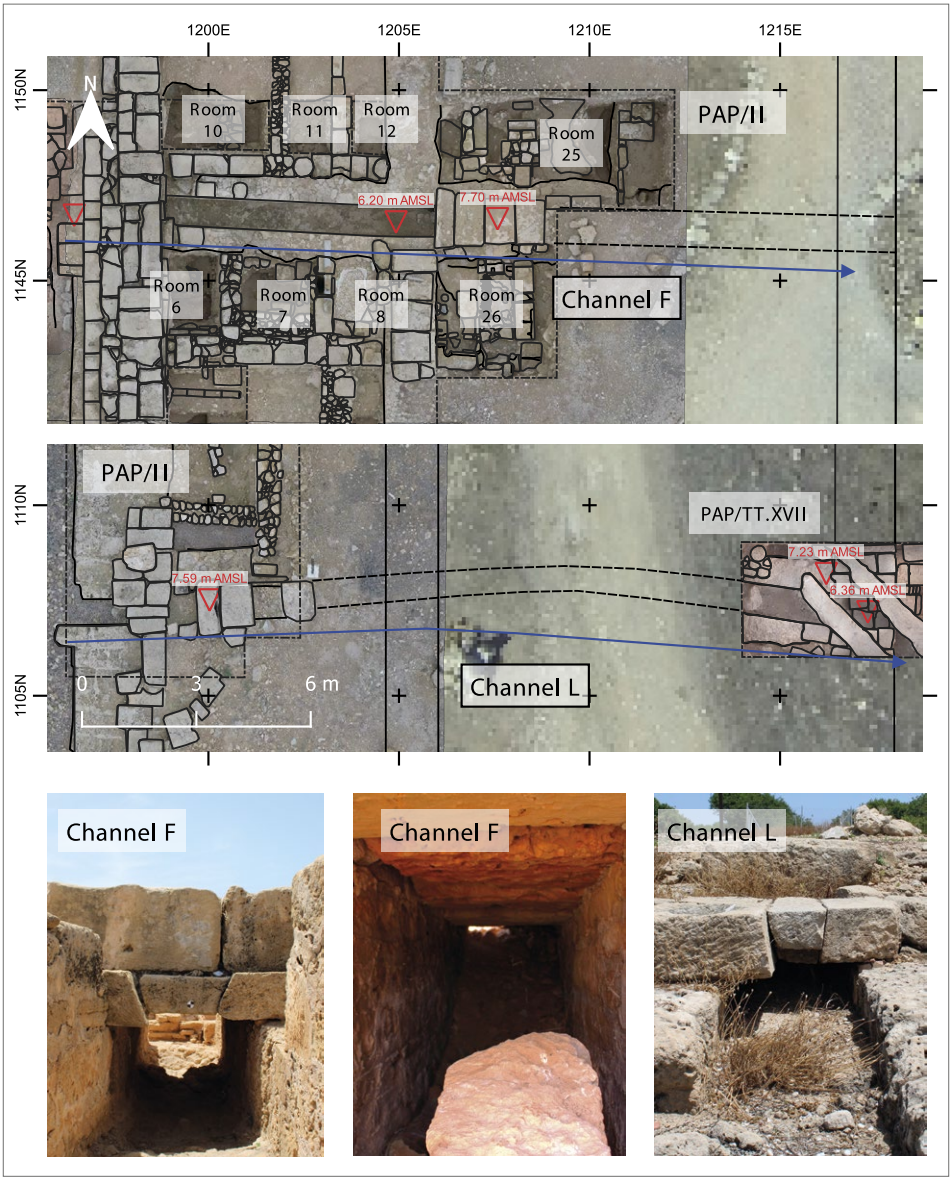

Fig. 10. Channels F (Type IV, Stage IV) and L (Type IV, Stage IV) in Trench PAP/II (Base map Paphos Agora Project Archive | processing M. Michalik)

outlet of the conduit are unknown, making its gradient impossible to determine. A drain cover was not preserved, and there are no signs of its existence, suggesting the channel was open. Based on its relationship with contemporary wall S.16, Channel H seems to be associated with a street or passage outside Building A. It likely functioned as a sidewalk gutter.

Another example of Type V is Channel J [see *Fig. 7*]. It was uncovered in the northwestern vicinity of the Agora (Trench PAP/TT.VII-W). The exposed section is 2.4 m long and includes three masonry segments. At least one other fragment of the conduit was removed, leaving an imprint in the leveling screed that served as the bedding for the channel. Like in Channel H, its bed was constructed of rectangular U-shaped masonry blocks supported by small flumes. Additionally, segments are covered with blocks laid lengthwise in each unit. No waterproof lining was found inside. Channel J descends to an outlet located at 5.78 m AMSL and is a tributary to the larger Channel K mentioned above. The presence of a masonry curb on the western side of the trench suggest that, like Channel H, Channel J served as a sidewalk gutter running along an early street perpendicular to Street P.

Channels of Type V were common throughout the Mediterranean and served various functions. They were used in aqueduct conduits (e.g. Patara, cf. Sürmelihindi et al. 2013: 965, Fig. 2), with fountains that provided both supply and drainage (e.g. in the Agora of Athens cf. Tölle-Kastenbein 1994: 42, Abb. 49), in supply systems of cisterns (e.g. in Pergamon, cf. Garbrecht 2001: 31–32, and in Antioch, cf. Lassus 1972: 72, Pl. 36, 121, 122, 123), and in tributary drainage channels of houses (e.g. in Eretria, cf. Ducrey, Metzger, and Reber 1993: 76, Abb. 83) and porticoed buildings (e.g. in Pompeion from Keramikos, cf. Hoepfner 1976: Taf. 15). Additionally, long open drains ran along streets in public plazas such as the Athenian Agora (cf. Chiotis 2011: 177, Fig. 9) and the Asklepieion of Pergamon (Ziegenaus and De Luca 1968: Taf. 20, 69).

This type was also variously employed elsewhere in Cyprus. For instance, such a channel was used as a drain within the propylaea to Temenos B in Kition (Karageorghis and Demas 1985: Pl. 71/4, 7). Another example played a part in the Hellenistic drainage system in the city of Ledroi (Michaelides and Pilides 2012: 40–41, Fig. 65). Additionally, such a feature was part of the drain/supply system of porticos in the Agora of Kourion (Christou 2013: εἰκ. 3, 4). Segment channels were also present in the residential quarter of Nea Paphos at Maloutena, where they formed part of the drainage system. These conduits served as drains for the porticoed courts of houses (Karageorghis 1981: 1005, Fig. 72) and constituted the main drainage lines running below the streets (cf. Michalik et al. 2024).

CHRONOLOGY

Establishing a secure chronology for the tunnels and channels under discussion presents considerable challenges, as —unlike datable materials such as coins or pottery— architectural features typically lack short, well-defined use-lives. Additionally, the construction techniques used in these features rarely changed significantly enough to provide a basis for dating. As

mentioned in the previous section, various types of channels were often used together in a single supply or drainage line. However, it would be overly simplistic to conclude that the conduits in the Agora of Nea Paphos, or the entire water supply and drainage system, remained unchanged over the many years of the plaza's existence.

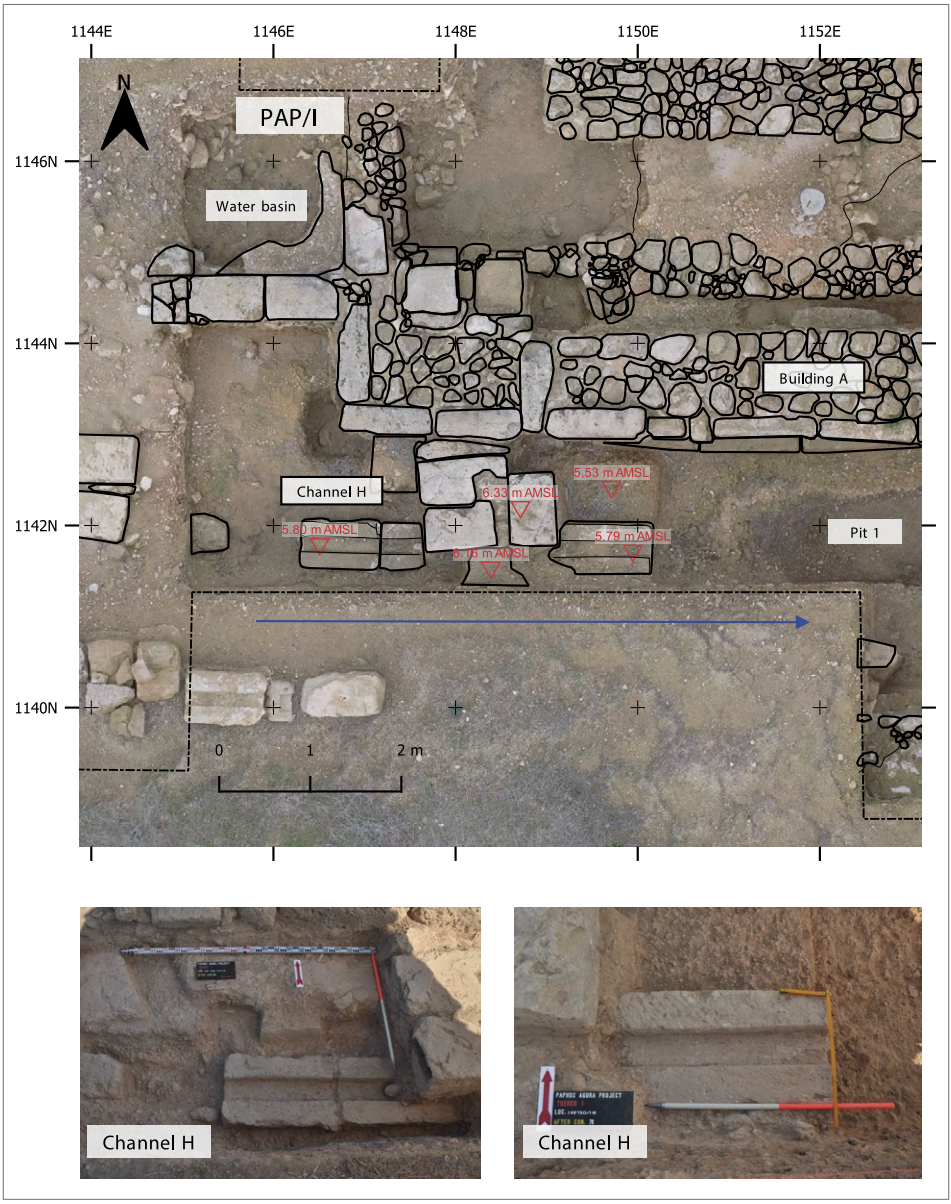

Fig. 11. Channel H (Type V, Stage I) in Trench PAP/I (Base map Paphos Agora Project Archive | processing M. Michalik)

This study draws on stratigraphic analysis, which relies on the principle of superposition. According to this principle, the stratum into which the channel bed was buried is either older or contemporary to the channel itself, thereby determining the *terminus post quem* for its construction and use. Conversely, depending on the character of the layer, the periods of use and subsequent disuse of the feature are determined by the stratum deposited within the channel.

In general, the currently recognized assemblage of channels represents four stages in the development of this infrastructure in the Agora of Nea Paphos, which can be correlated with the site's chronological phases [cf. *Table 2*]. Stage I is dated to the Early and Middle Hellenistic periods (Phases II and III), Stage II to the Late Hellenistic period (Phase IV), Stage III to the Julio-Claudian and Flavian sub-phases of the Early Roman period (Phase V/VI), and Stage IV to the Antonine sub-phase of the Early Roman period (Phase VII).

Table 2. Chronological development of water conduits (Agora chronology based on Papuci-Władyka 2020b: 80, Pl. 1 | processing M. Michalik)

Date	Late 4th–early 3rd century BC	3rd century BC	2nd century BC	Late 2nd–late 1st century BC	27 BC–AD 69	AD 69–96	AD 96–142/143*
Phase of Agora development	Phase I Transitional period	Phase II Early Hellenistic period	Phase III Middle Hellenistic period	Phase IV Late Hellenistic period	Phase V Early Roman Julio-Claudian sub-phase	Phase VI Early Roman Flavian sub-phase	Phase VII Early Roman Antonine sub-phase
Stage of conduit development		Stage I		Stage II	Stage III		Stage IV
Tunnel A							
Tunnel B							
Tunnel C							
Channel D							
Channel E							
Channel F							
Channel G							
Channel H							
Channel I							
Channel J							
Channel K							
Channel L							

*For final dating see Papuci-Władyka et al. 2020; Łajtar 2021

Stage I

Stage I of water conduit development in Nea Paphos predates the *tetrastoon* Agora but aligns with major early developments in the city, likely linked to the arrival of important Ptolemaic officials in Nea Paphos (cf. Młynarczyk 1990: 121–122). Stage I conduits were laid on or incorporated into a thick screed used for leveling the area before the construction of Building A in the 3rd or 2nd century BC (Miszk 2020a: 132).[24] Channel H, found in Trench PAP/I, and Channels J and K, located in PAP/TT.VII-W, are examples of this infrastructure. A precise dating of their construction is currently impossible, as no datable material can be obtained from the hard screed.

The drainage infrastructure in the residential quarter unearthed at Maloutena was also constructed around this period (i.e. at the turn of the 3rd and 2nd century BC), as evidenced by recent excavations and analysis of materials from a section of the Street A drain (cf. Michalik et al. 2024). This Hellenistic drainage system in the residential quarter remained in use until at least the 1st or early 2nd century AD (cf. Młynarczyk 1990: 160–177).

The infrastructure in the Agora has a more complex history. Channel H was decommissioned in the 2nd century BC (Phase III), as indicated by materials deposited in the cut remaining after the dismantlement of one of its segments.[25] This decommissioning was likely related to the refurbishment of Building A, as evidenced by subsequent fragmentarily preserved pavements and structures such as S.18 or pool S.23 [see *Fig. 11*]. Constructions along the edges of the main plaza were more permanent; Channels J and K continued in use until the late 2nd or 1st century BC (Phase IV). The chronology of the deposit within Channel J remains inconclusive, but the homogenous rubble layer[26] and clayish bottom filling[27] excavated within Channel K have provided a satisfactory dating. Given the construction of the porticoed Agora during this period, it is possible that the decommissioning of these channels occurred in the late 2nd century BC, or later in the 1st century BC. This period also saw the transformation of the Agora into a square *tetrastoon* and the destruction of Buildings A and B (cf. Miszk 2020a: 143–145). It is equally tenable that these architectural interventions included a reorganization of Street P, as indicated by the abandonment of Channels J and K. A driving force behind these changes may have been the anticipated arrival of Ptolemaic royalty in the city during the following stage (cf. Młynarczyk 1990: 125–126).

Stage II

Late Hellenistic infrastructure in the Agora is represented solely by Channel G

24 A similar screed layer was used under the building situated on Fabrika Hill. Based on the presence of a pebble mosaic, its construction is dated between the 3rd and 2nd century BC (cf. Balandier, Młynarczyk, and Rekowska 2022).

25 Deposit excavated as contexts 58, 67, 80 (dating based on the Paphos Agora Project documentation).

26 Deposit excavated as context 647 (dating based on the Paphos Agora Project documentation).

27 Deposit excavated as context 648 (dating based on the Paphos Agora Project documentation).

(Trench II), which was used exclusively during this period. Convincing evidence is derived from the stratigraphic relations of its section unearthed within Room 5 to surrounding strata. The layers into which the channel had been dug, as well as its backfill,[28] contained material typical of Phase IV.[29] The short lifespan of Channel G may be explained by the earthquake that destroyed the city at the end of the 1st century BC (17/16 BC) (cf. Ambraseys 2009: 104).

Stage III

A significant sum of imperial money was transferred to Nea Paphos for the rebuilding of the city after the earthquake (Ambraseys 2009: 104). Nonetheless, the 1st century AD (Phases V and VI) is represented only by medium-sized Channel I. The dating of both the threshing floor,[30] into which the feature had been built, and of the channel's backfill[31] suggest that it functioned no later than the 1st century AD. While there may be other reasons for its abandonment, the earthquake of AD 76/77 (Ambraseys 2009: 119) provides a satisfactory explanation.

Stage IV

The final Stage IV of Agora conduit development is associated with the appearance of major works in the 2nd century AD (Phase VII), represented in architecture by details such as marble Corinthian capitals (cf. K. Nicolaou 1981: 71, Fig. 82; Miszk 2020a: 183, Pl. 48.1) and granite column drums (cf. Williams-Thorpe and Webb 2002). This period also saw the installation of new Stage IV rainwater drains for the massive porticoes of the square.

Among these features, Channel F is the most thoroughly investigated, offering convincing arguments for its dating. The structure of this channel disrupted earlier constructions of the East Portico, which originated in the Hellenistic Period and the 1st century AD. This stratigraphic relationship has become particularly evident during excavations in Rooms 6 and 7. The southern wall of Channel F cuts through strata until the early 2nd century AD[32] (cf. Miszk 2020a: 152), establishing a *terminus post quem* for its construction. Additionally, Channel F is contemporary with the youngest parts of the East Portico, such as the remodeled crepidoma (S.100) and foundation (S.112).

Though excavations of a similar Channel L are less advanced, its association with Phase VII is based on similarities in construction, elevation, and connection to the East Portico crepidoma (S.100).

In contrast, no stratigraphic data is available for the channels of the West Portico. However, the tentative dating of this edifice to the 2nd century AD

28 Deposit excavated as context 192 (dating based on the Paphos Agora Project documentation).

29 Deposit excavated as contexts 275, 278, 281 (dating based on the Paphos Agora Project documentation).

30 Deposit excavated as context 1840 (dating based on the Paphos Agora Project documentation).

31 Deposit excavated as context 1788 (dating based on the Paphos Agora Project documentation).

32 Deposit excavated as contexts 146, 153, and 158 in Room 6 and 166, 177, and 191 in Room 7 (dating based on the Paphos Agora Project documentation).

suggests that these channels were likely created during the same period as those of the East Portico. The similarity of Channels D and E to Channels F and L in terms of layout, size, and use of flat arches supports this hypothesis.

All channels of Stage IV follow the terrain's slope, efficiently draining rainwater to the east from the massive porticoes and forming a logical layout. Interestingly, these drainage systems are not interconnected. The remains of buildings dating to the Hellenistic, Julio-Claudian, and Flavian sub-phases in Trench I, the westernmost extension of Trench II, and Trench III rule out such a possibility. This provokes questions regarding the plaza's paving and the location of other contemporary channels.

The decommissioning of the Stage IV channels after the Agora's destruction by a mid-2nd century AD earthquake is not supported by the recorded stratigraphic data. The masonry roofing of the channels was a valuable resource for people extracting building material from the ruins. Therefore, all the channels of Stage IV were discovered backfilled with non-homogeneous layers[33] of rubble and mixed archaeological material related to processes after the abandonment of the site.

A similar situation was observed in Tunnels A and B on Fabrika Hill, where the topmost backfill layer of the associated cisterns contained Late Roman pottery. However, this situation might not necessarily reflect the original chronology (Młynarczyk 2022: 128). On the other hand, structures analogous to Tunnels A and B in Nea Paphos represent diverse chronologies. The earliest feature, located in the Saranta Kolones castle, was decommissioned in the Early Hellenistic period, as indicated by deposit chronology (Hayes 2003: 448). A section of a tunnel at Toumpallos was intersected by later hypogea backfilled with Late Hellenistic to Early Roman period materials (Giudice, Giudice, and Giudice 2010: 441), further illustrating the complexity of dating such features. Lastly, installations of the parallel aqueduct tunnel on Fabrika Hill are dated to the 2nd century AD (Balandier and Guintrand 2016: 137).

CONCLUSIONS

The technological analysis of water-related tunnels and channels from the Agora and the adjacent area of Nea Paphos enabled the author to distinguish five general construction types. These types are similar to those observed in other parts of the ancient city, elsewhere on the island, and at Graeco-Roman archaeological sites across the Eastern Mediterranean.

- **Type I**: tunnels carved in the coastal bedrock
- **Type II**: channels carved in the bedrock
- **Type III**: trench-based box channels
- **Type IV**: trench-based masonry-built channels
- **Type V**: channels built using U-shaped stone segments

33 In Channel F, for example, deposits constituting its backfill, excavated as contexts 141, 154, 165, 182, 194, 1901, 1902, 1915, 1924, and 1932, are dated between the 1st and the 7th century AD based on the Paphos Agora Project and MA-P Project documentation.

The water conduits described above were vital components of the Agora's water infrastructure, handling both small and large volumes of water. All were engineered for liquid conveyance, with channel beds intentionally sloped to optimize hydraulic flow. Generally, the outflow followed the site's natural topography and was directed eastward. However, the development of new channels was often driven by changes in the dense architectural layout of the monumental plaza rather than adapting to existing conditions.

There is no evidence to suggest that the conduits were linked to facilities such as latrines or baths for sewage transport, nor have any remains of fountains requiring drainage been found in the Agora so far. The channels generally demonstrate low watertight integrity, attributed to the minimal use of waterproofing mortar. This indicates their primary function as seasonal drains, most likely operative during winter rainfall (Hodge 1992: 333–334).

An exception to the general trend is found in the rock-cut Tunnels A, B, and C (Type I), which likely served as part of an aqueduct or possibly as drainage. However, due to the incomplete excavation data resulting from the salvage nature of the works, further research in the Fanari Hill area is necessary for a comprehensive assessment of the water supply and drainage systems on the hill and the Agora located below.

Chronological analysis revealed significant changes in the Agora's water drainage system, which differs significantly from similar systems in other parts of Nea Paphos. These changes can be divided into four stages of infrastructure development:

- **Stage I:** The earliest conduits, dated to the late 3rd or early 2nd century BC, were associated with the urban expansion of Hellenistic Nea Paphos under Ptolemaic governance and ceased operation before the late 2nd century BC or slightly thereafter.
- **Stage II:** A new system of conduits developed in the late 2nd century BC or 1st century BC, corresponding with other architectural developments in the city associated with Ptolemaic royal influence, such as the construction of the square-shaped Agora. These channels remained in operation until the late 1st century BC earthquake.
- **Stage III:** Based on the available research, the imperial investments in the early 1st century AD reconstruction of the city had a limited impact on the development of the water conduit infrastructure. Only a small channel, linked to the functioning of the East Portico, has been recognized. Furthermore, its operation is believed to have been terminated by the AD 76/77 earthquake.
- **Stage IV:** The principal phase of conduit infrastructure development occurred in the early 2nd century AD. Alongside the reconstruction of the Agora *tetrastoon*, extensive canals were installed in the West and East Portico, primarily for the purpose of draining water from the square. Their function probably ceased after the earthquake that destroyed the Agora around the mid-2nd century AD.

This diachronic analysis underscores the crucial role of the conduits under study in reconstructing the complex urban

processes that shaped Nea Paphos, particularly in its vibrant center, the Agora. Despite political, cultural, and social shifts, providing adequate water supply and drainage remained a significant challenge for the city. While these findings shed new light on the Agora's development, they also highlight the need for further investigation —both within Nea Paphos and across other Graeco-Roman cities of Cyprus— to fully understand the complexities of ancient urban water systems.

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