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The *Principia* of the Sixth Legion at Legio/Caparcotani: Ground Penetrating Radar and Excavations in a Legionary Base

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The legionary base at Legio (Legion II Trajana and Legion VI Ferrata) is the first full-scale legionary base of the Principate excavated in the Eastern Empire. The 2015–2019 excavation seasons of the Jezreel Valley Regional Project focused on the headquarters compound, the *principia*. While many components of the compound are typical of those of permanent legionary bases throughout the Empire, several unique features of the *principia* at Legio offer new research avenues concerning the function of these buildings within the Roman army administrative system and community life. This paper summarizes the results of the 2015–2019 seasons of excavation and remote sensing within the *principia*.

Keywords: Roman archaeology; Roman army; legionary bases in the eastern provinces; Legio VI Ferrata; Legio II Trajana; Legio-Caparcotani; principia

Introduction

The legionary base at Legio, home of the Legion II Trajana and Legion VI Ferrata, is situated near the Jewish-Samaritan village Kefar 'Othnay, just south of Tel Megiddo in the Jezreel Valley (Fig. 1). This is the first full-scale legionary base of the Principate to be excavated in the eastern part of the Empire (Parker 2000). An archaeological survey conducted in the area in 1998–2000 suggested its location on a hill southeast of Kibbutz Megiddo (Tepper 2003). A large-scale geophysical survey and excavations, conducted on the hill in the years 2010–2020 on behalf of the Jezreel Valley Regional Project (JVRP), revealed the rectangular layout of the base, with its main headquarters building, the *principia*, at the intersection of its two main streets, as is well-known from similar legionary bases in the western part of the Empire (Figs. 2, 3). This article presents the results of the ground penetrating radar (GPR)

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Fig. 1. Map showing the Legio area.

survey and excavations within the *principia* and discusses the architectural significance and uniqueness of the compound.

Historical Background

Historical sources concerning Legio/Kefar 'Othnay reveal evidence of three settlements in the area in the Roman period: a Jewish-Samaritan village (Kefar 'Othnay), a Roman legionary base (Legio-Caparcotani) and a Roman–Byzantine city (Maximianopolis; Tsafrir, Di Segni and Green 1994:170, 182).[2] Kefar 'Othnay is mentioned in Talmudic sources of the late first–second century CE (Oppenheimer 1991:26–29). The Latin form of the name, *Caparcotani*, appears on Peutinger map as a village midway between Caesarea

[2] For a detailed review of these sources, see Tepper, David and Adams 2016; Tepper 2021 and references therein.

and Scythopolis (*Tabula Peutingeriana*. Seg. X). In the second century CE, the town is mentioned by Ptolemy in its Greek form, Kaparcotnei–Καπαρχοτνεί (ή Καπαρναούμ), as one of the cities of Galilee (*Claudius Ptolemaeus: Geographia*. V. 16.4). Both the Latin and Greek sources suggest that Kefar 'Othnay gave its name to the legionary base, Caparcotani (Isaac 1992:432–433). This is further supported by the second-century epitaphs of a Tribune of the Sixth Ferrata Gaius Novius Rusticus from Antioch of Pisidia, which also refer to the legionary base by the Hebrew toponym LEG VI FER CAPARCOT (*CIL* III:6814, 6816; Levick 1958:75–76).

Prior to archaeological work at the site, historical evidence, including inscriptions on milestones, suggested the location of the base on a hill south of Tel Megiddo and indicated the presence there of Legion II Trajana in the early second century CE, not earlier than 117 CE, when Judaea became a consular province (Rea 1980; Isaac and Roll 1979a; 1979b; 1982a; 1982b:10, 79–80, 86, Nos. 23–27). After a short period, Legion II Trajana was replaced by Legion VI Ferrata, which remained the main occupying force at the base (Cotton 2000; Tepper 2007; Tepper, David and Adams 2016; Tepper 2021). In Cassius Dio's description in *Historia Romana,* written in the early third century CE, he mentions that Legion VI Ferrata, as well as the Tenth Legion, encamped in Judaea, presumably at Legio-Caparcotani and Aelia Capitolina, respectively (Cassius Dio: *Roman History* LV, 23:2–4; Stern 1980:363–364, n. 3). In the late third century CE, Eusebius in the *Onomastikon*, uses the name *Legio* (λεγεών) for a place that can only be Caparcotani (see Tsafrir, Di Segni and Green 1994:170; Tepper, David and Adams 2016:95, n. 5). Later, in his Latin translation of Eusebius, Jerome (342–420 CE) describes Legio as an *oppidum*, a term referring to a major settlement in a particular district (Hieronymus: *De situ*: 1,59; 20,15). This suggests that the base had already developed into a civilian town by that time. Both sources neglect to mention a legionary presence, which might indicate that in their time the legionary headquarters was no longer there.

Based on a building inscription from the fort at Udruh in Jordan dated to 303 CE, which identifies the construction as the "CASTRA LEG VI FERR F C" (Kennedy and Falahat 2008), it seems that the Sixth Legion, or at least part of it, had been redeployed from Caparcotani. It is unclear, however, how strictly we should understand the term "castra" in this inscription to mean the *primary* base of the legion. From the late fourth-century CE edition of *Notitia Dignitatum* (72–73), it is clear that at that time the Sixth Legion was not in Palaestina. As for Caparcotani, the name of the place was changed to Maximianopolis, probably in honor of the Tetrarch Emperor Maximian Galerius (Avi-Yonah 1966:122–123; Barnes 2008:64).

History of Research

The earliest archaeological research at Legio was carried out by G. Schumacher in the early twentieth century, who surveyed the region while carrying out excavations at nearby Tel Megiddo (Schumacher 1908: Taf. 1). His survey is probably the most important one in the region, documenting many features that no longer exist today. Although he did not recognize the legionary base on the hill of el-Manach, based on his plan, Tepper (2002) first discerned

the outline of a large square-shaped topographic feature that is still visible today. In 1998–2000, Tepper conducted an extensive survey of the area on behalf of the Department of Classical Studies and the Megiddo Expedition of Tel Aviv University, revealing the location of the ancient village of Kefar ʻOthnay and the city of Maximianopolis. After considering the survey data, the known course of the Roman aqueducts and imperial roads, as well as the locations of cemeteries, it was possible to propose the location of the legionary base on el-Manach hill (Tepper 2002; 2003; 2007). Additional development surveys conducted in the region on behalf of the IAA in 2007–2011 revealed further archaeological findings concerning the layout of the base and its period of occupation (Tepper 2013).

The Jezreel Valley Regional Project (JVRP) carried out the first geophysical surveys of the site in 2010 with Ground Penetrating Radar (GPR) and Electromagnetic Induction (EMI) on the northern slope of the hill. The results strongly suggested the presence of architectural remains in the subsoil, including an artificial line running southwest–northeast, where previous surveys identified an artificial depression and an earthen embankment (Pincus et al. 2013). In subsequent excavations, this depression turned out to be the northern fosse and the embankment of the northern wall of the legionary base (Tepper, David and Adams 2016).

To date, the JVRP has conducted five seasons of excavation at Legio, from 2013 to 2022, in seven areas (Areas A–G; Fig. 2).[3] Excavations during the first season (2013) tested the site with a longitudinal section cutting through the remains of the northern fortification system and barracks (Area A), confirming the location of the legionary base (Tepper 2002; 2007).[4] During the 2015–2019 seasons, excavations focused on the center of the legionary base (Areas B, C), in the *principia* and *via principalis,* and remote sensing studies of the site were carried out with geophysical survey (Fig. 3; Ernenwein, Adams and Tepper 2020), LiDAR and aerial photogrammetry (Adams et al. 2019).[5]

These efforts have indicated that the base area was c. 325 × 485 m (c. 16 ha) within the fortifications, similar to full-scale legionary bases known from the western part of the Empire in the first through third centuries CE, housing some 5000 soldiers (Figs. 2–4; Webster 1998; Bishop 2012). The interior arrangement of the base follows the general pattern known throughout the Empire, consisting of a main street, the *via principalis*,

[3] The JVRP Legio excavations are conducted under the auspices of the JVRP, American Archaeology Abroad, the W. F. Albright Institute of Archaeological Research, and the University of Hawaii. Yotam Tepper, Jonathan David, and Matthew J. Adams directed the 2013–2015 excavations (License Nos. G-59/2013; G-61/2015), Yotam Tepper and Matthew J. Adams directed the 2017 season with Melissa Cradic as assistant director (License No. G-57/2017), and Yotam Tepper, Matthew J. Adams and Susan Cohen directed the 2019 and 2022 seasons (License Nos. G-62/2019, G-19/2022).

[4] For a detailed discussion of the site's historical, geographical and archaeological background, see Tepper, David and Adams 2016; Tepper 2021.

[5] Our remote-sensing program at Legio includes GPR and EMI carried out by Eileen Ernenwein of East Tennessee State University (see below), seasonal aerial cropmark studies headed by Matthew J. Adams, as well as LiDAR, multispectral and thermal imaging carried out by Ben Laugomer and Ido Schicht of Enso Geospatial (https://www.ensogeospatial.com).

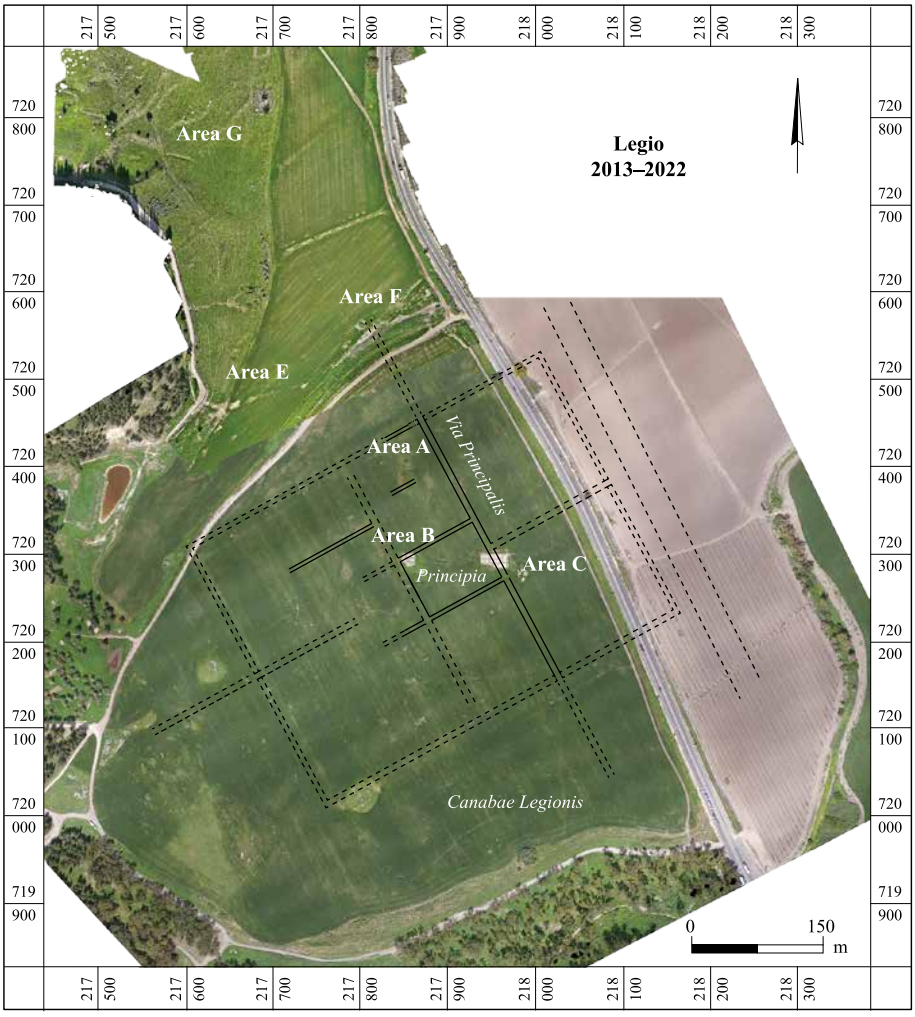

Fig. 2. Orthophoto of Legio, showing the northern fortifications and barracks (Area A), the main excavation areas within the *principia* (Areas B, C), the legionary cemetery (Area E), aqueduct (Area F), and legionary amphitheater (Area G).

running through the base approximately one-third of the way along the long side of the rectangle and intersecting the *via praetoria* at a right angle. At the intersection of the two main roads is the main headquarters building, the *principia*, with its monumental entrance facing the *via praetoria* and looking further down toward the main gate of the base, the *porta praetoria*. This confirms to the description in Pseudo-Hyginus's treatise, *De Munitionibus Castrorum* (Concerning the Fortifications of a Military Camp), which indicates that the best position is on a low hill with the main gate, the *porta praetoria*, on the downslope (see Campbell 2018: 73–74). The barracks and other unexplored structures make up the remainder of the interior.

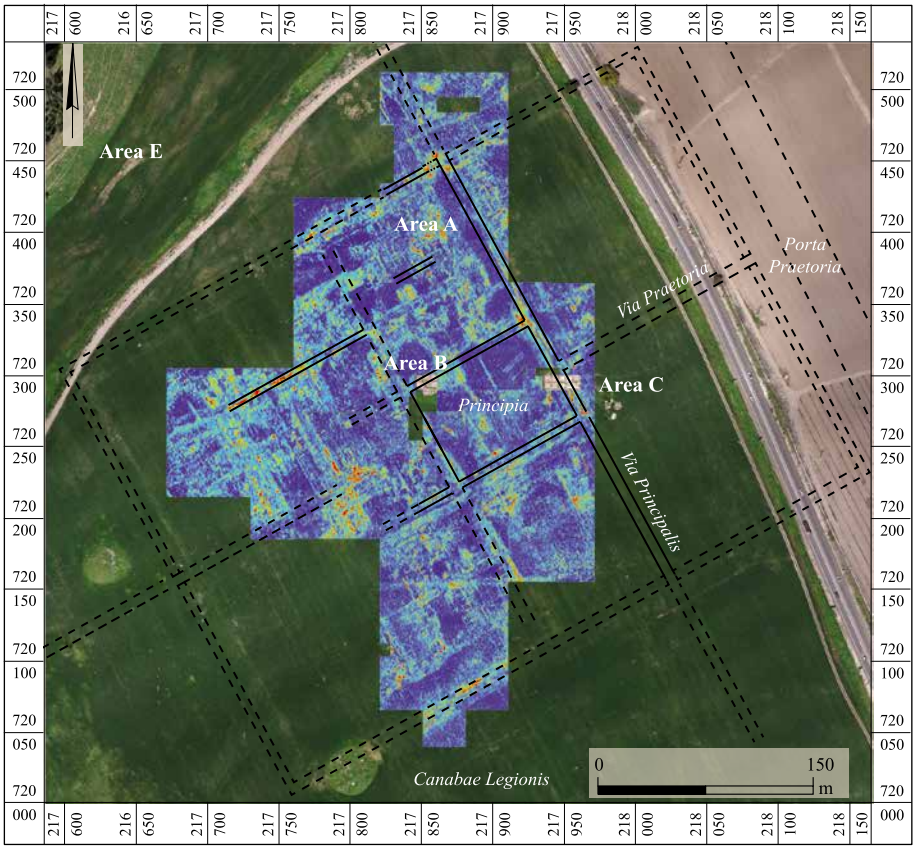

Fig. 3. Legio base reconstruction with GPR overlay.

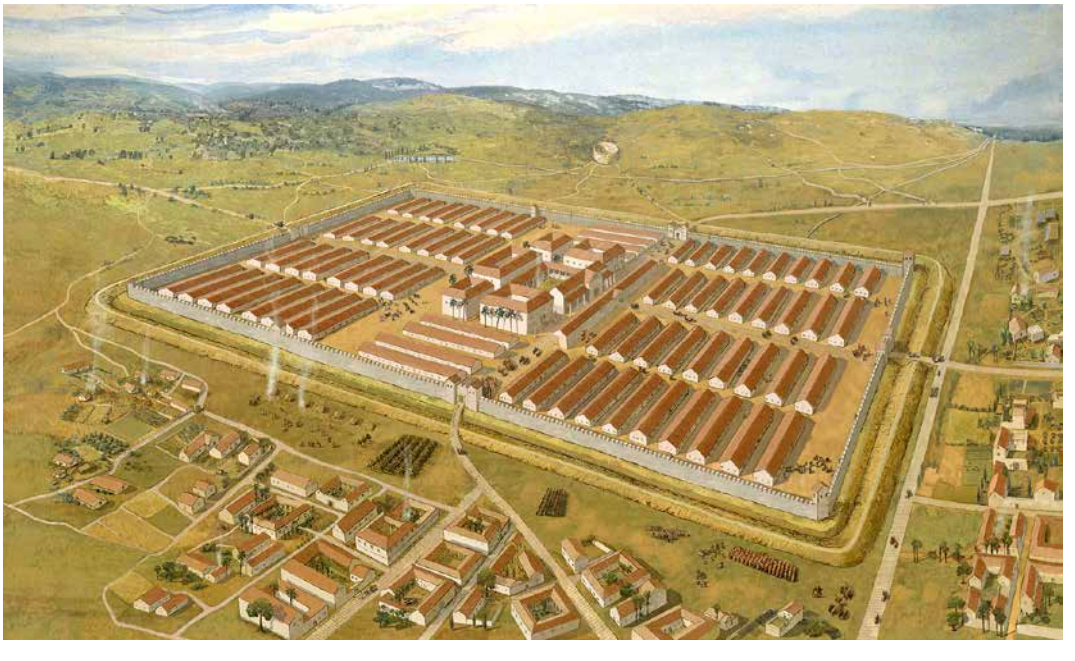

Fig. 4. Artist's rendering of the legionary base at Legio (illustration: T. Meltsen).

Excavations in Area A revealed fortifications, consisting of a 6.5 m wide stone wall, outside of which is a large man-made trench with a V-shaped channel at its center, typical of defensive *fossae* of the time. Ample evidence of a Roman military occupation was found in the form of roof tiles, some stamped with the name of the Legion VI Ferrata, pottery, oil lamps, armor scales and coins (Tepper, David and Adams 2016).

The *principia* compound measures 73.61 m in width along the *via principalis* and 90 m in length (Fig. 5), similar to the standard *principia* layouts at the legionary bases of

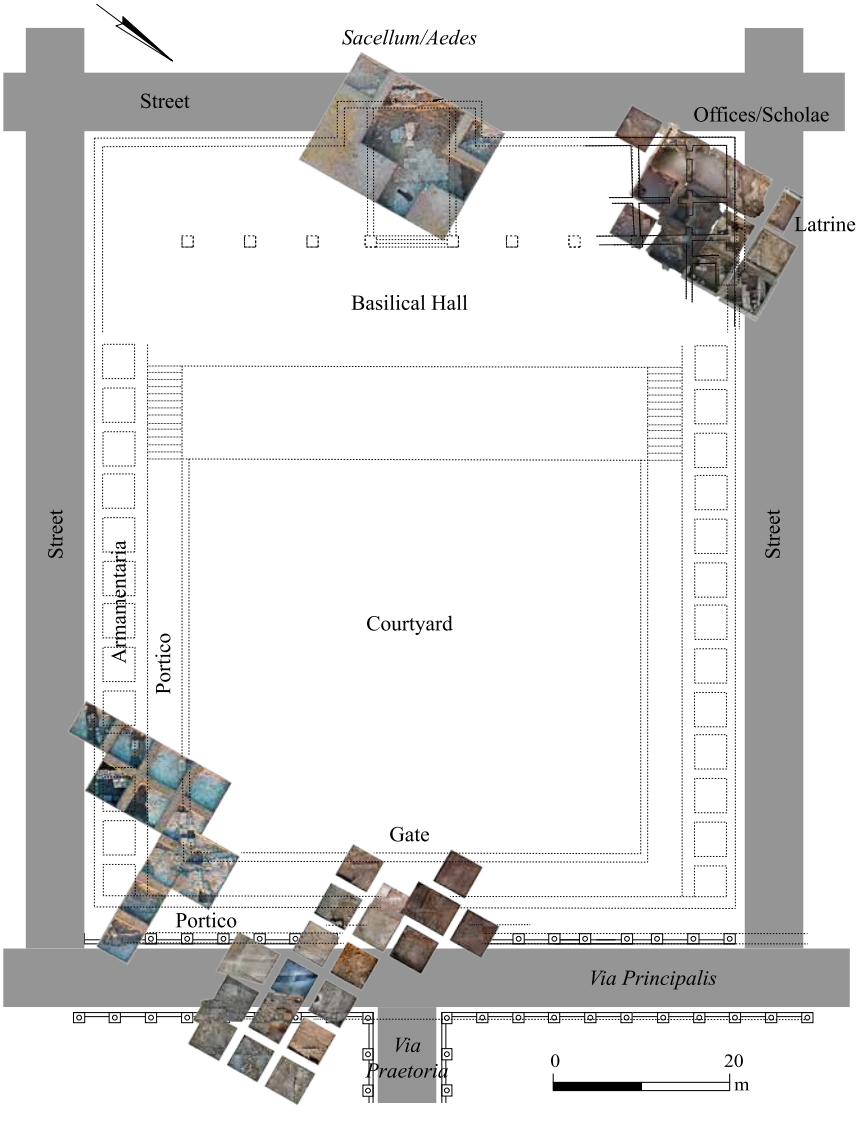

Fig. 5. Photogrammetric plan and reconstruction of the Legio *principia* based on geophysical survey and excavation.

Chester in England, Novae in Bulgaria and Lambaesis in Algeria. We may take the example from Lambaesis in Algeria as a close parallel in size and layout; it is reproduced here as a reference to the following discussion of the Legio *principia* (Fig. 6; Cagnat 1909).

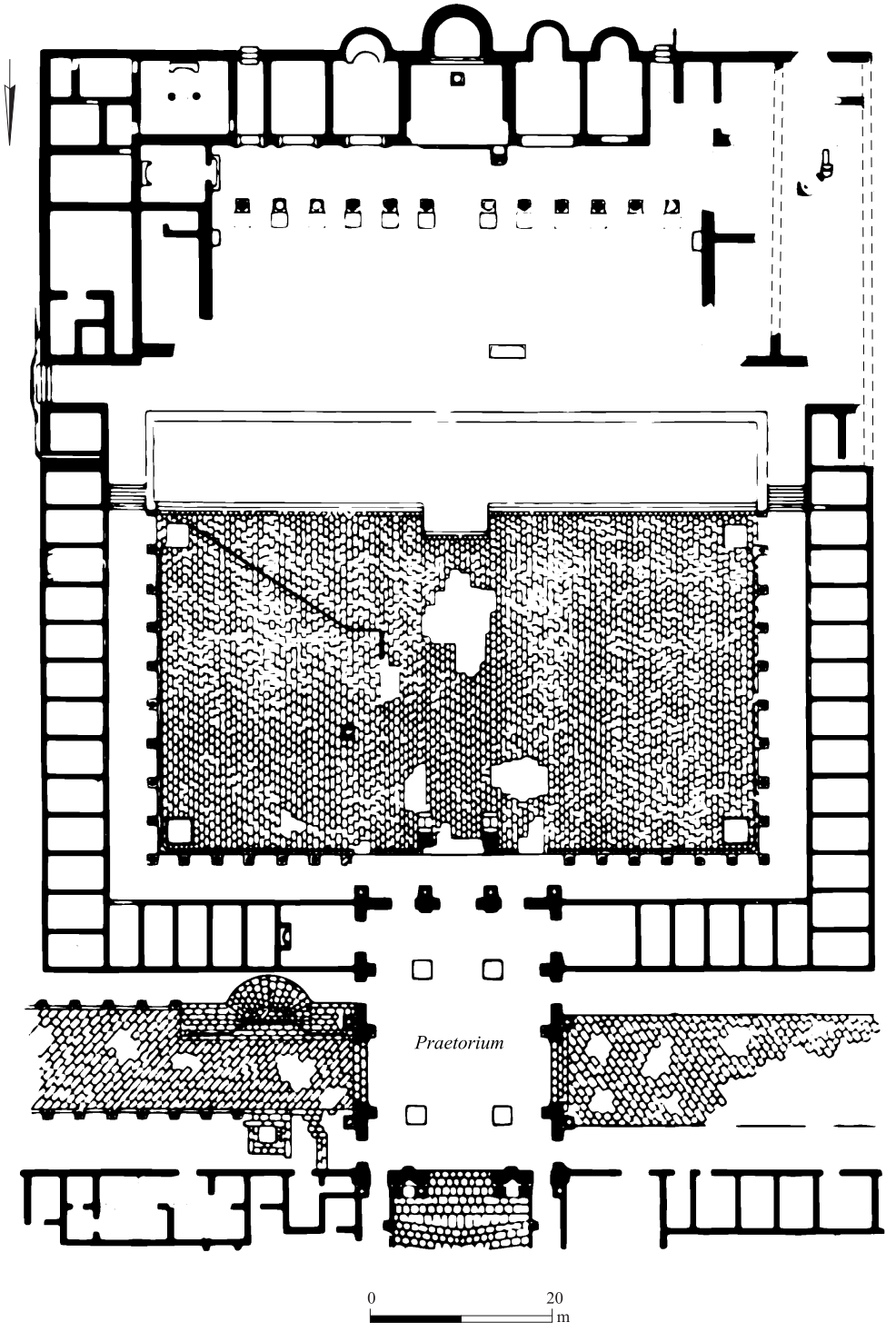

Fig. 6. The *principia* at Lambaesis (after Cagnat 1909: Fig. 2).

Ground Penetrating Radar Survey in the *Principia*

Three geophysical methods have been applied at Legio: magnetometry, EMI and GPR. Magnetometry was discontinued after 2015 due to interference from basaltic bedrock in most places. EMI was retained, but it did not extend over the *principia*. As the 2015–2019 excavation seasons have focused exclusively on the *principia*, only the results of the GPR survey are discussed here (Fig. 7).

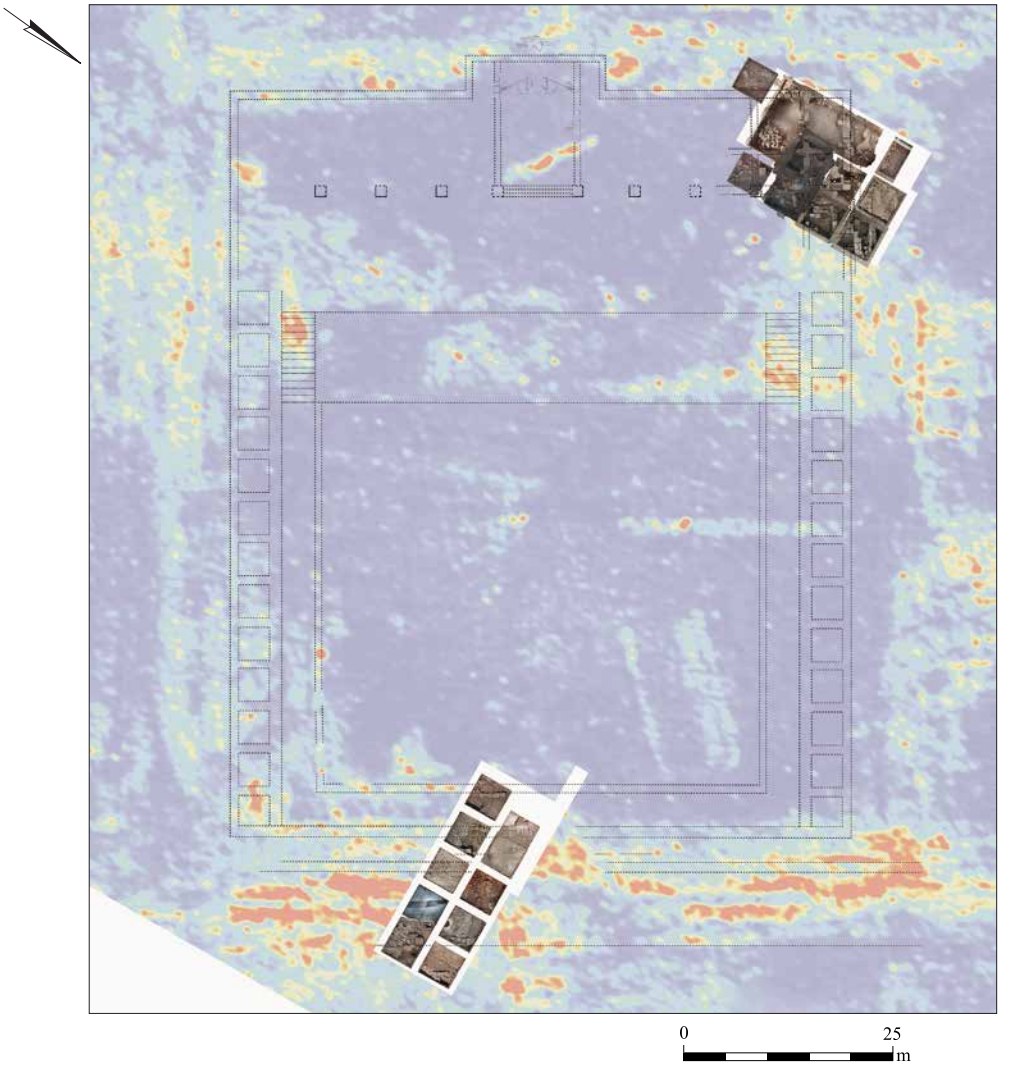

Fig. 7. Legio *principia* with photogrammetric plan of units excavated prior to GPR survey and with GPR slice 50-63 cmbs (see also Fig. 5).

In the GPR survey, the area was divided into 30 × 30 m survey blocks, with lines of data collected in parallel transects spaced 0.5 m apart. The survey was conducted with a GSSI SIR-4000 instrument, with a 400 MHz antenna, sending electromagnetic waves into the ground and measuring their reflections from subsurface objects and layers. All Legio data use a 50 ns time range, 80 scans per meter, 512 samples per scan, with a 32-bit binary resolution. Relative dielectric permittivity at the site is 7 during the typically dry summer months, corresponding to a velocity of 0.11 m/ns. Effective depth penetration is approximately 1 m; deeper portions of the site could not be detected due to attenuation. To date, we have surveyed 8.2 ha of the site, and many architectural components of the base are discernable in the GPR (Fig. 3).

Figure 7 shows the Legio *principia* with a photogrammetric plan of units excavated prior to the GPR survey and with a GPR slice 50–63 cm below surface oriented for comparison to Figures 5 and 6. The *principia* structure is visible near the center, bound by streets on all sides. Its facade, facing northeast, is visible as high amplitude linear reflections among a series of parallel linear features that delineate the *via principalis*, an exterior stylobate and portico, and an interior stylobate (Figs. 8, 9). Behind the facade is an open courtyard, visible

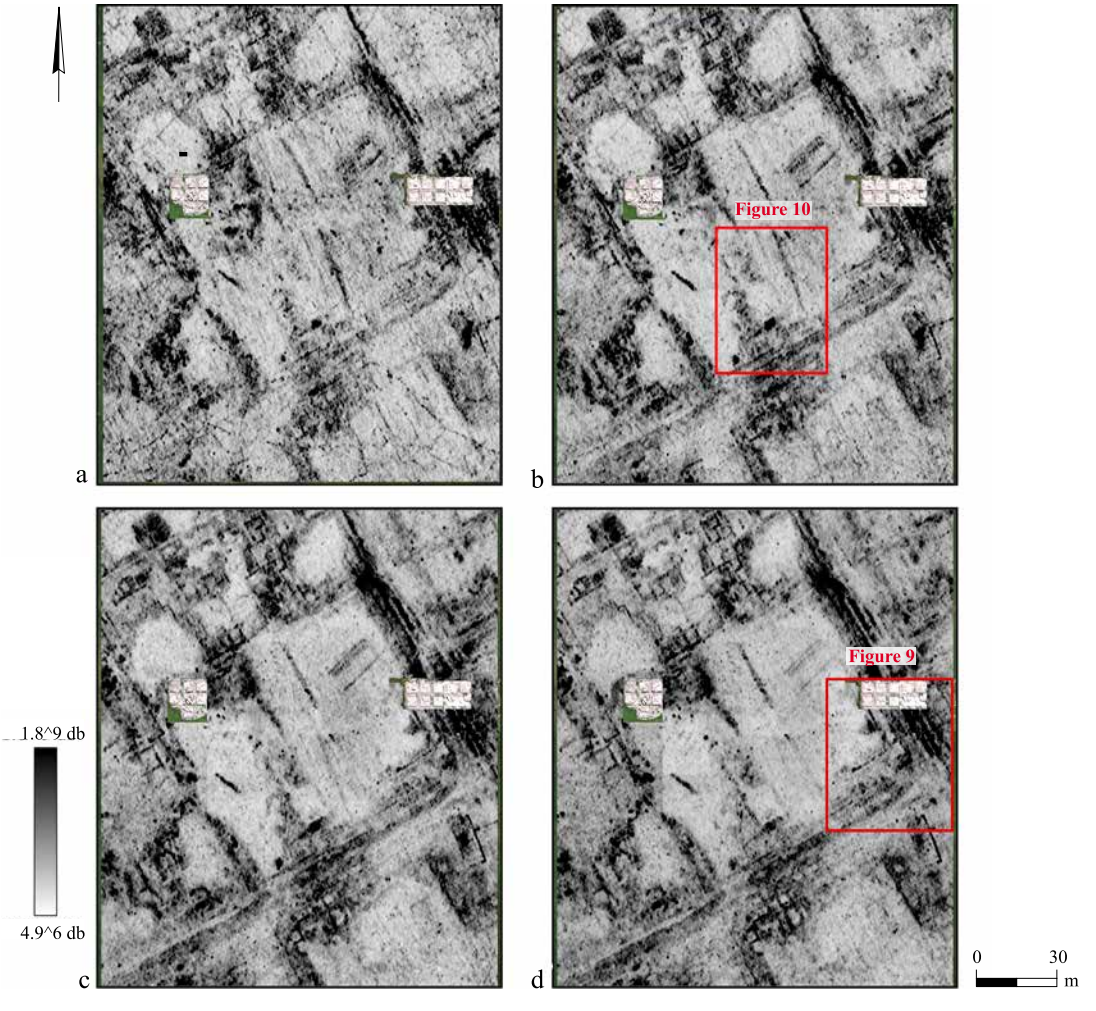

Fig. 8. GPR slices in the *principia* region: (a) 25–37 cmbs; (b) 38–50 cmbs; (c) 50–63 cmbs; (d) 63–75 cmbs.

in GPR as an absence of reflections, flanked by rooms on the north and south. Behind that is an elevated platform or stage, visible as moderate amplitude reflections near the center of the *principia*, and staircases at both ends, marked by high amplitude reflections that migrate toward the courtyard in successively deeper slices (Fig. 10). Another similar anomaly can be seen in the southwestern corner of the *principia* (Fig. 10), which is unexpected. The reflections dip westward, suggesting a staircase that descends toward the back of the

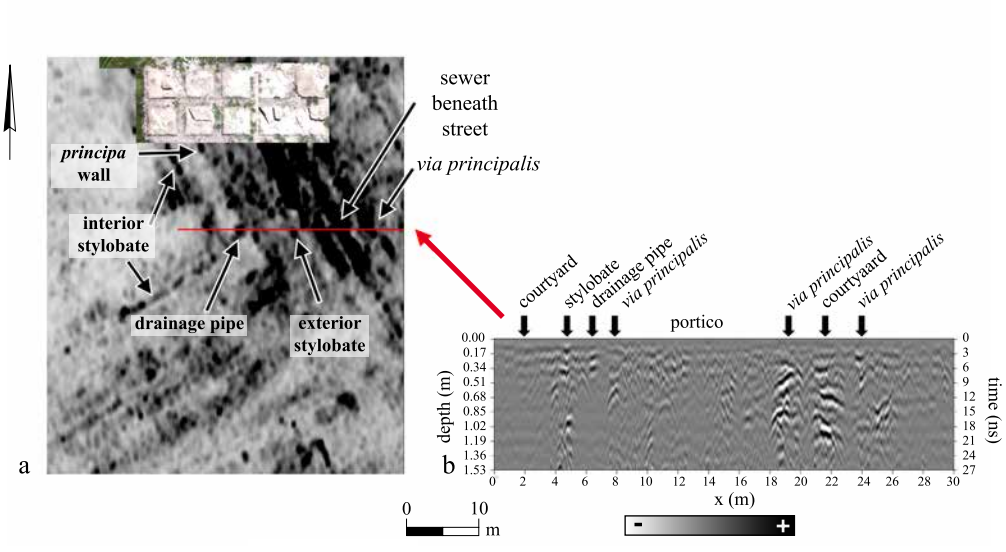

Fig. 9. Close-up and interpretation of GPR reflections at the front of the *principia*; (a) GPR slice 6 (63–75 cmbs) showing stylobates, the front wall, portico and *via principalis* with central sewer pipe; (b) GPR reflection profile showing each of these features.

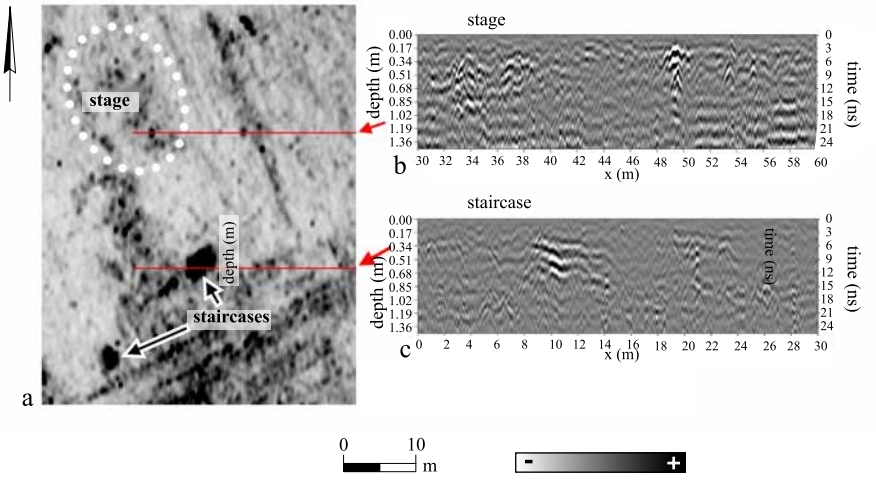

Fig. 10. Close-up and interpretation of GPR reflections near the center of the *principia*: (a) GPR slice 4 (38–50 cmbs) showing the stage and associated staircase, plus another possible staircase in the southwestern corner of the structure; (b) reflection profile showing reflections from the stage; (c) reflection profile showing the staircase that leads from the courtyard to the stage in the south.

transverse basilica, which generally lacks reflections as it lies beneath the GPR depth limit for the site.

Areas surrounding the *principia* have not been excavated, but the GPR provides some interesting insights into what we may find there (Fig. 3). The streets, including central drainage channels, align well with the expected base layout and agree with aerial photographs. Well-intact rooms are visible, especially in the north, possibly indicating where the base's dismantling was less thorough, or where structures were carved into bedrock and could not be easily removed. The GPR data also show three large (diam. 20–30 m) semicircular areas to the north and west of the *principia*, characterized by a lack of reflections. These could be areas of complete demolition and removal of debris. Most features show a dominant orientation of 62 and 152 degrees. The few features oriented at other angles are from later periods and are not related to the Roman occupation.

EXCAVATION AND RECONSTRUCTION OF THE *PRINCIPIA*

The compound can be divided into two main sections corresponding to our two main excavation areas (Fig. 5). Area C consists of a large open, colonnaded courtyard flanked by rooms on its lateral sides. Area B consists of a transverse basilica hall with a series of rooms used for a variety of administrative purposes, and a central room housing the standards of the legion (*sacellum*/*aedes*). At the intersection of the two spaces is a large platform from which officers could address the troops gathered in the large courtyard. The compound is discussed below from the entrance to the rear chambers.

Area C

Facade, Groma and Entrance.— The *principia* is bordered on the east by the 7 m wide *via principalis* (Fig. 11). While its stone pavement has been robbed, the white chalky bedding clearly demarcates the street, as does the imprint of the central drainage channel, the stones of which were also robbed. The eastern facade of the compound featured a colonnaded portico (Figs. 11, 12; cf. Fig. 6), at the center of which was a monumental entrance—probably a triple-arched gate, of which only the bases of the central arch and threshold are visible (Fig. 13). Whether or not this entrance was part of a larger structure covering the intersection of the *via principalis* and the *via praetoria*, a *groma* such as that at Lambaesis, has yet to be determined.

Inside the gate, the remains of a stylobate for the colonnade can be traced to the southeastern corner of the building (Figs. 11–14). There, broad exposure provides the intersection of the colonnade and the rows of rooms along the lateral sides of the *principia* courtyard, often interpreted as *armamentaria*, for the storage of weaponry (Johnson 1983:108–109). Unlike at Lambaesis, there do not seem to be rooms along the eastern side. Drainage troughs along the edge of the courtyard, at the foot of the colonnade, directed rainwater to the southeastern corner of the courtyard and into a drainage channel that emptied into the main sewer beneath the *via principalis*, which appears to flow southward toward Naḥal Qeni (Fig. 14).

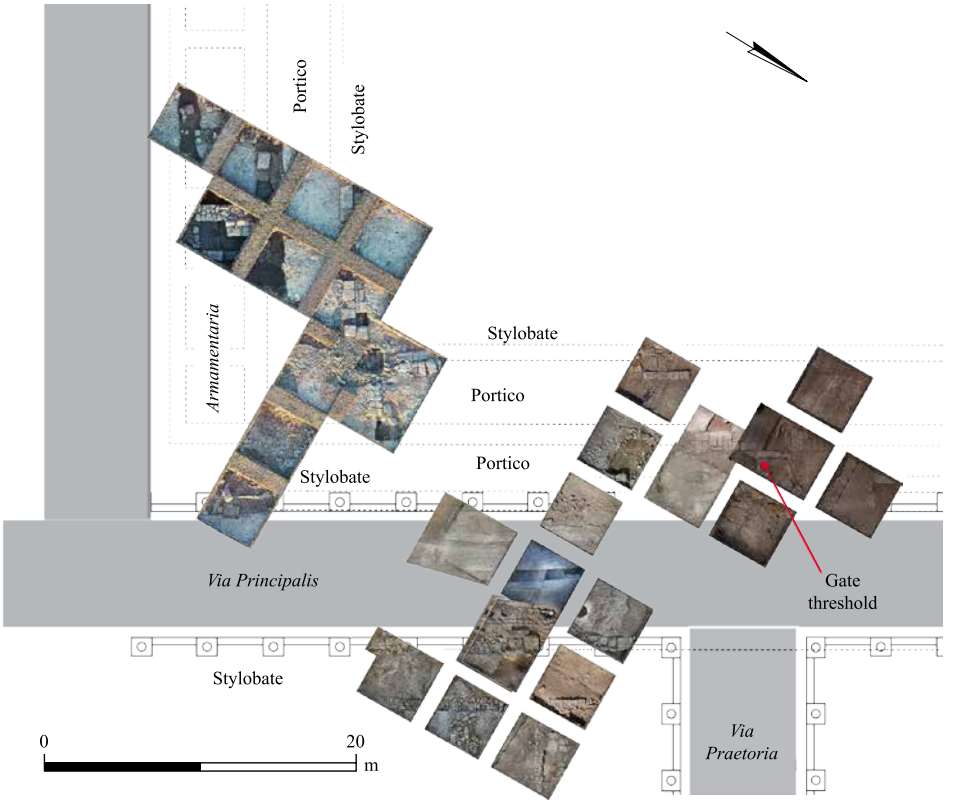

Fig. 11. Photogrammetric plan of Area C.

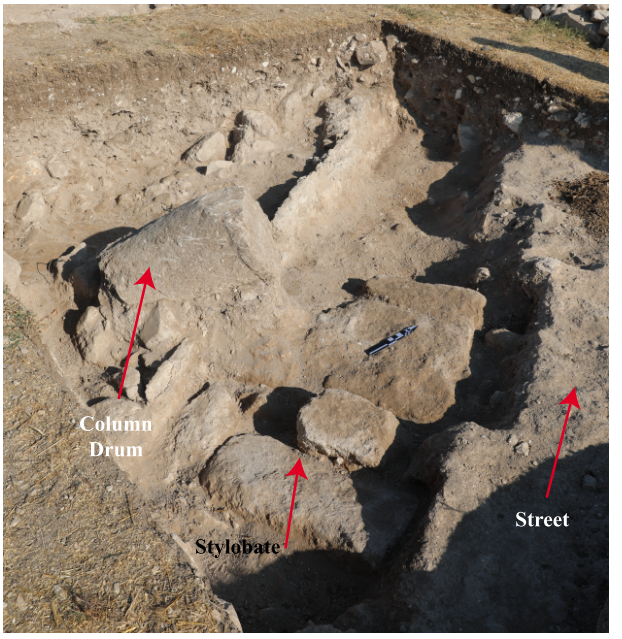

Fig. 12. Stylobate of the porticoed facade of the *principia* facing the *via principalis*; note the toppled column drum.

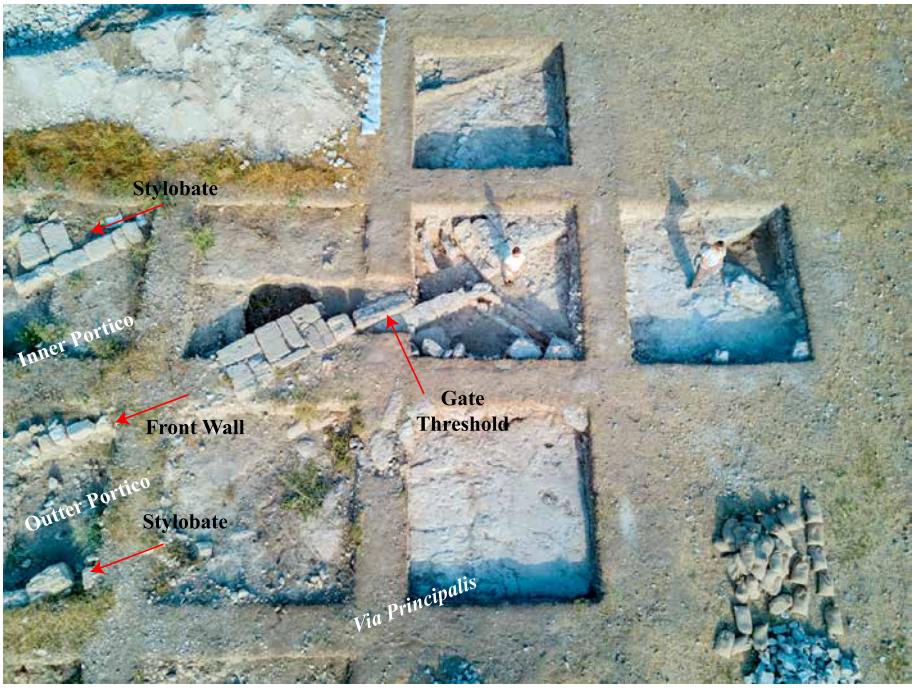

Fig. 13. Aerial image of the *principia* gate, looking west.

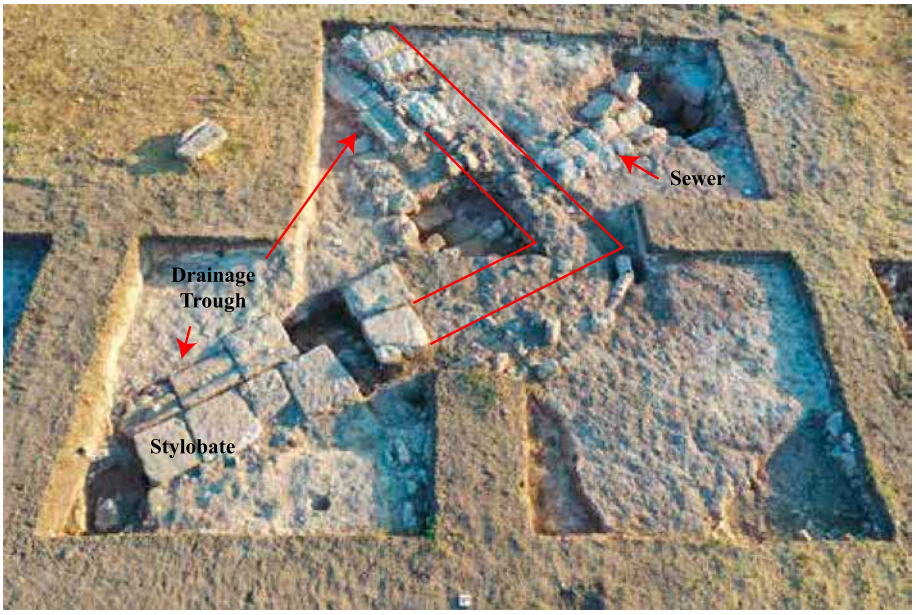

Fig. 14. Southeastern corner of the inner portico stylobate, looking north; note the drainage troughs situated against the stylobate directing rain runoff to the sewer beneath the inner portico toward the *via principalis*.

All these features are well-documented in the GPR survey (Fig. 9). The fact that these features were reinforced through excavation assisted us in the interpretation of GPR data in other areas of the legionary base.

Area B

Excavations in Area B exposed c. 500 sq m of the transverse basilica, which is bounded on the north and west by the remains of streets (Figs. 5, 7, 15). The preservation of the remains in Area B is considerably better than that in Area C due to their location on a natural hillslope that was cut to level the area for the construction of the *principia*. The rear of the edifice was carved into bedrock, as were many of its walls, while its fore sections were terraced on the slope. In some cases, the Area B walls were preserved as much as 2 m high, whereas in Area C, only foundations survived.

Officia/Scholae. In the northwestern corner of the *principia*, at least five rooms were partially exposed, including a 4 × 6 m room paved with a thick hard plaster layer at the extreme northwest of the building (Room A; Fig. 16). Against the center of the northern wall is the foundation of a plinth, preserved 1.2 m high; apparently, it was added at a later stage as it leans against the plastered wall. The foundation of a second plinth was found 2 m to the east, in the corner of the room; another may be in the opposite, unexcavated corner. To the west of the central plinth is a plastered niche, c. 0.86 m high.

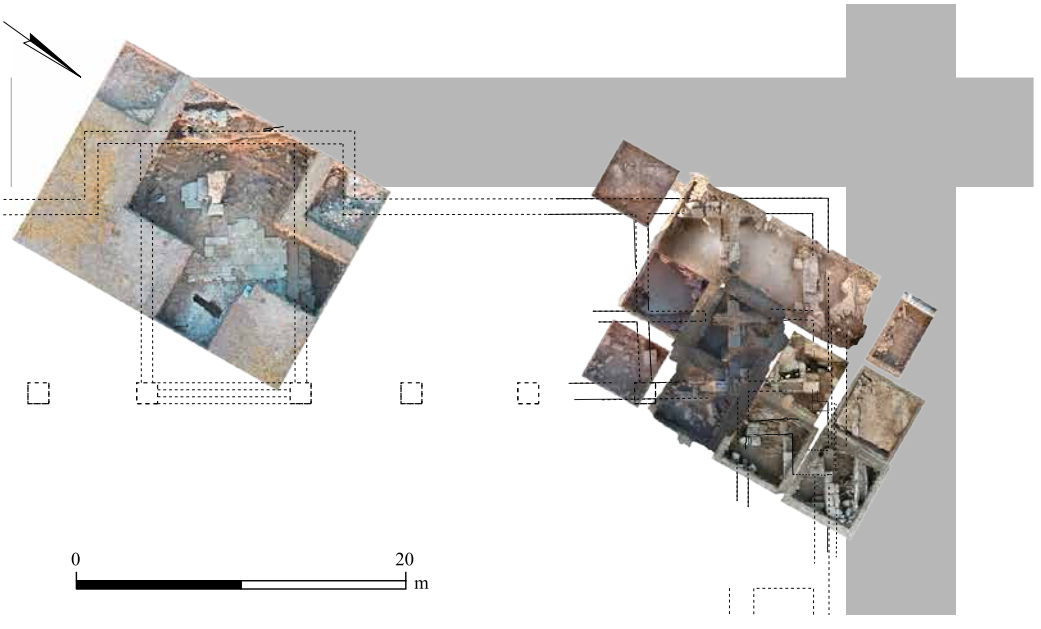

Fig. 15. Photogrammetric plan of Area B.

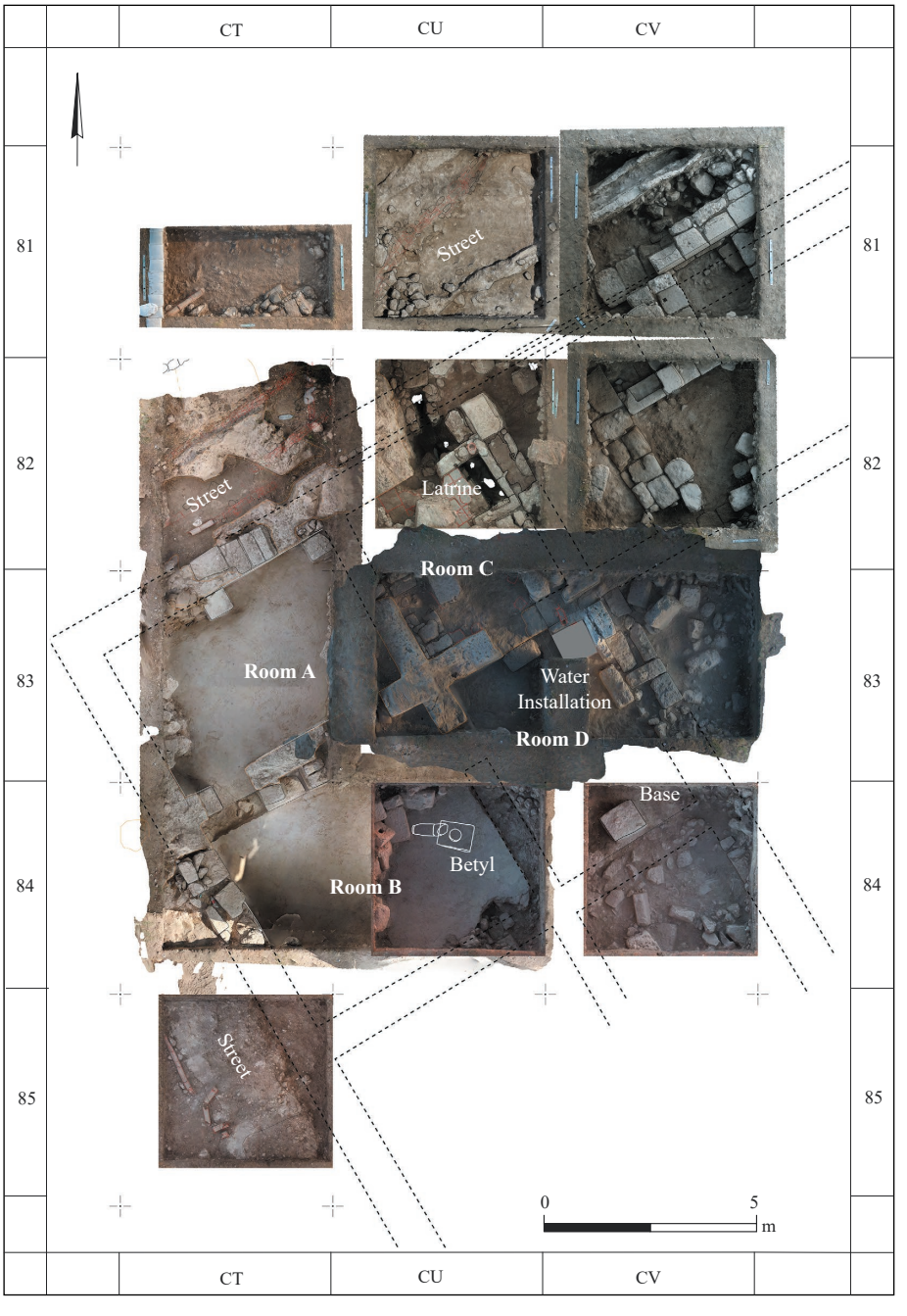

Fig. 16. Photogrammetric plan of the northeastern rooms of the *principia*.

Two doors in the southern wall led to a 6.0 × 5.5 m room, also paved with a thick hard plaster layer (Room B; Fig. 16). Two plinths flank an empty space between these doors. Fragments of limestone and bronze sculptures found in this room suggest that the plinths served as statue bases. As in all rooms in buildings so far excavated at Legio, a thick

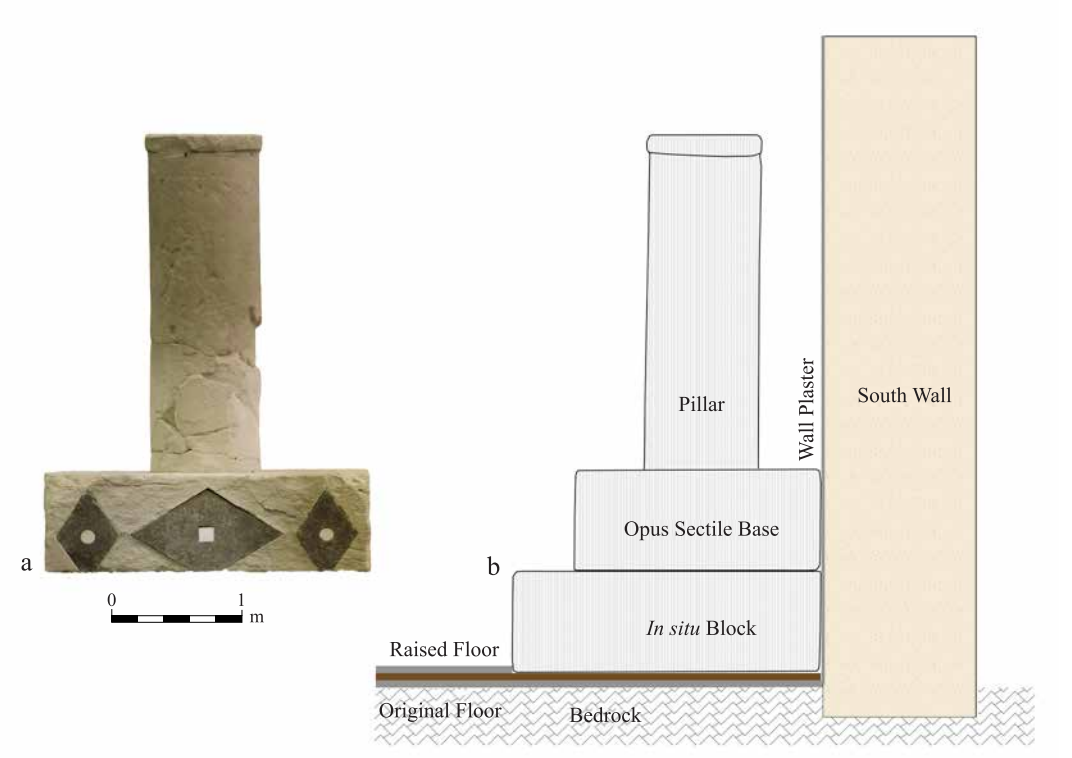

Fig. 17. Opus sectile base and column (a), and reconstruction of its emplacement against the south wall of Room D (b; see Figs. 16, 19).

layer of roof-tile fragments seals the latest activity, and probably represents an intentional systematic demolition of the legionary base. Room B had, in addition to the roof-tile layer, a pile of hewn stones, apparently relocated there when the legionary base was dismantled. On the eastern side of the pile, among the stones, a few centimeters above the floor, were the remains of a pillar and a decorated base (Figs. 16, 17, 18), which were seemingly moved from their original location in Room D along with the other building stones but were left behind due to their damaged condition.

Room D, which was connected to Room B by a single doorway, contained a limestone base centered against its southern wall, with remains of hard plaster on top of it. Its dimensions are similar to the pillar base found in adjacent Room B, and it is likely that the pillar and base originally stood on this stone, held together with the plaster found on each of them (Fig. 17). In the northern corner of Room D was a water installation (interior dimensions c. 80 × 80 cm) constructed of stone, reused roof tiles and hydraulic cement. A drain was located on the northern side of this basin; it was filled with water via a lead pipe. Based on similar standing stones associated with water installations, which were found in association with the Roman army, e.g., at Dura Europos, Palmyra and Humayma (Roman

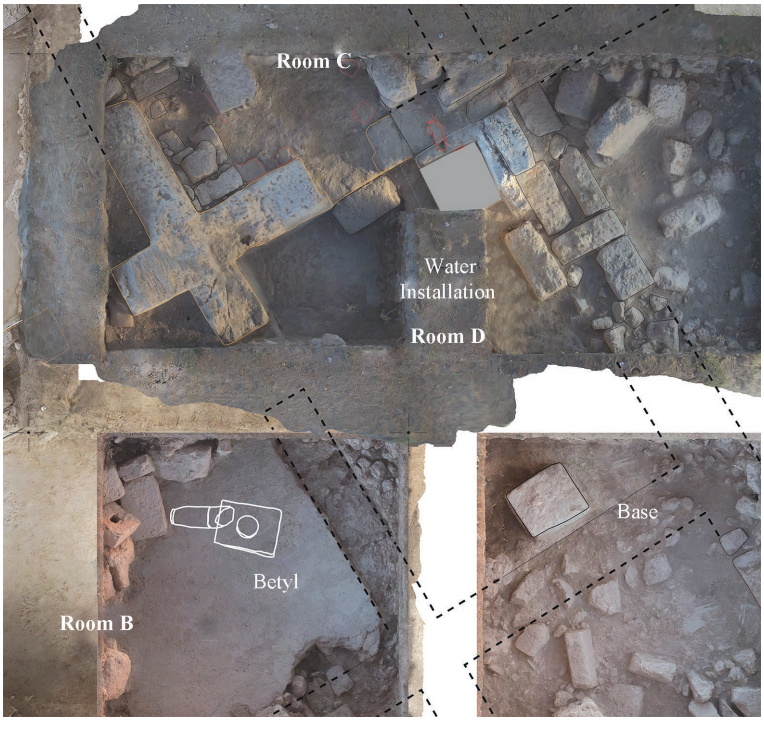

Fig. 18. Close-up and photogrammetric plan of Room D.

Hauarra), it seems that they may be compared to betyls and that some Nabataean cultic practices were acquired by the Roman military stationed in the region (Adams et al. 2019).

Adjacent to the water installation, a stepped doorway led north into Room C (Fig. 16), which was paved with ceramic tiles bearing the stamp of Legion VI Ferrata and which featured a latrine in its northern corner (Fig. 19). It seems that this is the first time a latrine was found within a *principia*. A sewage channel beneath the latrine carried waste northward, where it joined another channel carrying waste to the northeast.

The rooms, other than the latrine, likely had different functions over time as determined by the needs of the legion. In several other bases, evidence suggests that at least some of these rooms functioned regularly or occasionally as *scholae*, meeting rooms for clubs (Cagnat 1909; Haeckl 1987; Oleson, Reeves and Fisher 2002).

Sacellum. The 2019 season in Area B shifted southward from the corner of the compound to the main axis of the building (Fig. 20). The rear center is well-known in other bases as the location of the *sacellum*, the main shrine of the legionary base containing the legionary standards, as well as the *locus* of the imperial cult in the form of a statue of the emperor(s), and the cult of Jupiter Optimus Maximus, the center of the Roman Capitoline Triad. Frequently included within this room (*sacellum*) was a cellar (*aerarium*) for the storage of the legion's treasury.

Fig. 19. Orthophoto of the latrine after the 2015 season; the seat is missing and the view is straight down to the floor of the underlying sewer; note the pipe segment on the side of the latrine, apparently for rinsing.

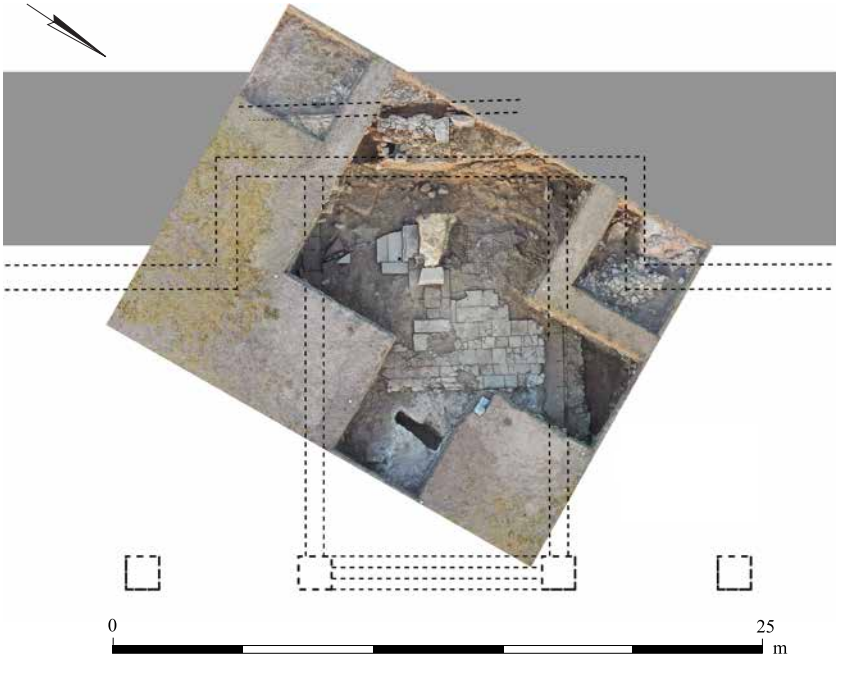

Fig. 20. Photogrammetric plan of the *sacellum*/*aedes*.

Fig. 21. The *sacellum*, looking southwest, derived from a 3D model.

While such a room is present in every example of legionary bases throughout the Empire, the morphology of the room can vary somewhat from place to place. In Lambaesis, for example, the room features a large apse that protrudes from the back of the compound as well as elaborate underground rooms (Fig. 6). In Novae, the entire room extends as a rectangle from the back of the compound and has side chambers well-secured from the rest of the structure (Sarnowski et al. 2014: Fig. 4).

The GPR survey at Legio suggested that an apse might have been featured here (Figs. 7, 8). Indeed, by the end of the season, most of the *sacellum* was exposed (Figs. 20, 21). Our current understanding is that the room measures nearly 15 × 15 m and features a large rectangular protrusion extending nearly 6 m from the back of the *principia* into the street behind it. Within the rectangular superstructure was an apse, completely robbed out, but clearly indicated by the curve of *in situ* paving stones. Within the room was a raised paved platform bounded by low walls, which are best understood as a stylobate for columns. Overall, the layout is reminiscent of that of a Roman temple.

On the main axis of the building, at the center of the apse, was left a rectangular segment of bedrock, which formed the core of an altar or platform, protruding from the apse (Figs. 21, 22). A base molding carved from basalt lined the apse and surrounded the bedrock outcropping (Fig. 22). A similar feature is known from the *sacellum* of the College of the Augustali in Herculaneum, where the platform was built of stone and brick atop a bedrock base, which the excavators believe was intended for the imperial statue.

Fig. 22. Bedrock core of the *sacellum* altar/statue base, looking northwest.

Metrology

Concerning the metrology of the structure, experimenting with different measurements of the Roman foot (*pes monetalis*; hereafter *pm*) overlaid by sub-centimeter accuracy level measurements from RTK and orthophotos of the excavation areas, we found that a *pm* of 30.7 cm befits the layout of the compound. This was determined first by applying a grid of 29.6 cm to the compound, as this was the length of the *pm* applied at the Roman auxiliary fort at Humayma (Roman Hauarra; Oleson 2017). The 29.6 cm grid, however, did not correspond well to the larger dimensions of the compound. Using this unit we noticed that the entire compound of the *principia* was roughly 2 *actus* wide and 2.5 *actus* long. An *actus* is a linear measurement of 120 *pm*, or the *actus quadratus* is an area measurement of 120 *pm* by 120 *pm*. Assuming that the larger camp was probably laid out according to this common area measurement, and therefore also the *principia*, we divided the full metric width of the *principia* by 240 *pm* and the full metric length of the *principia* by 300 *pm*. The results were identical, demonstrating that the *pm* used to lay out the building was 30.7 cm (Fig. 23). The reconstructed plan of the *principia* was overlaid with two grids: 60 *pm* (a half *actus*), subdivided into units of 15 *pm*. We found that these two multiples manifest themselves in several measurements of the base and were probably two of the main modules

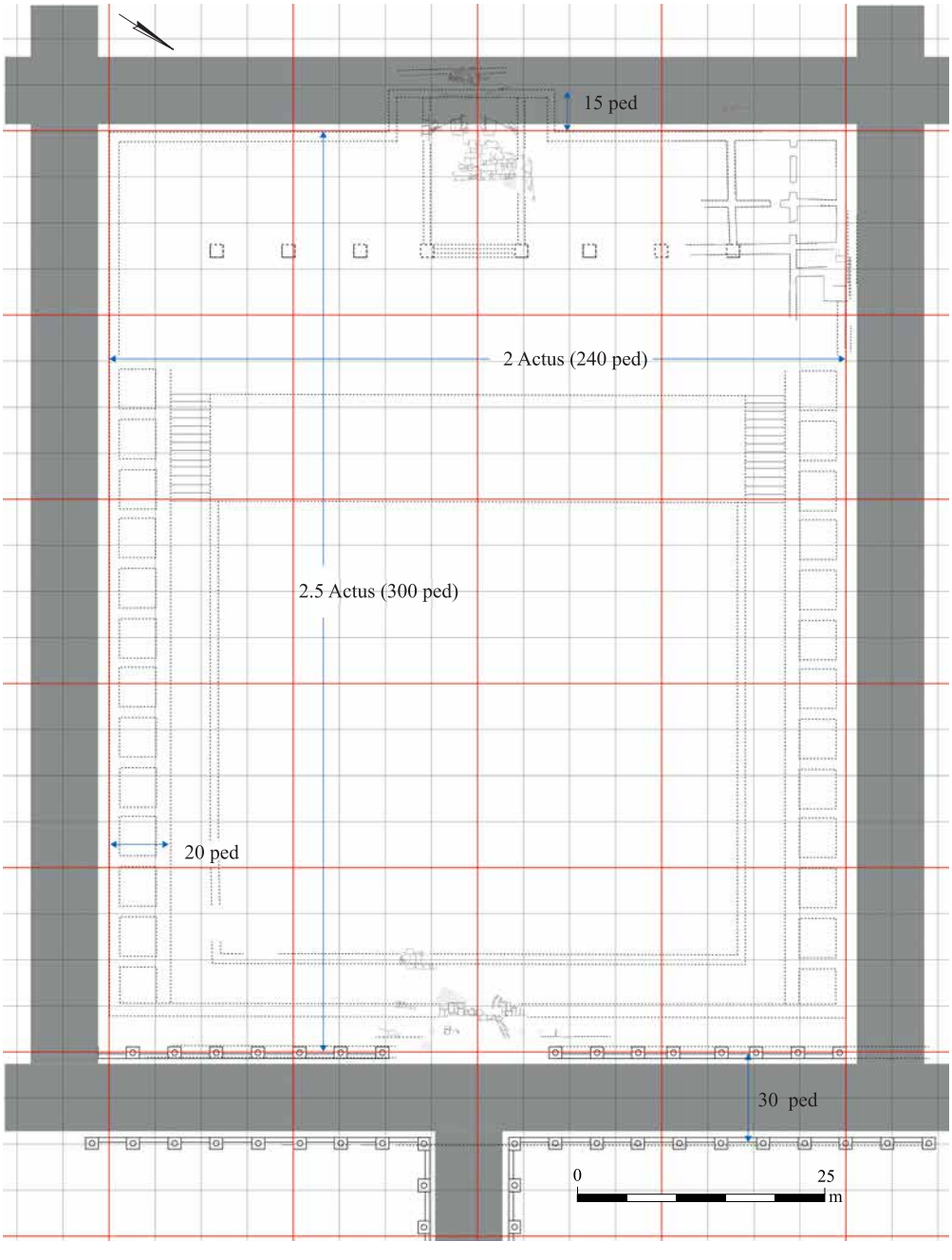

Fig. 23. Plan and reconstruction of the *principia* with a 15 ped grid (green) and a 60 ped grid (red).

used in the plan of the structure. The width of the compound is 240 *pm*, equal to two *actus*. The length of the compound from the exterior of the rear wall to the center of the stylobate of the portico facing the *via principalis* is exactly 300 *pm*, two and a half *actus*. It is worth noting that the *principia* at Humayma follows the same ratio, being 100 × 150 *pm*, exactly one-fourth of the size of the Legio *principia* (as expressed in *pm*, regardless of its exact metric equivalent; Oleson 2017).

The compound can be divided into two parts: the front—comprising the portico, gate, courtyard and *armamentaria*—measures 240 × 180 *pm* (2.0 × 1.5 *actus*); the rear consists of the raised platform (stage), basilica hall and rear rooms, measuring 240 × 120 *pm*. The *actus* lines match up well with these divisions. The module of 15 *pm* matches well the width of the *sacellum* at 30 *pm* and the width of the *via principialis*, also at 30 *pm* from each flanking stylobate, at the center. Finally, a 20 *pm* module appears to dictate the full width of the *armamentaria*.[6]

Stratigraphy within the *Principia*

Excavations thus far have only allowed for the identification of three phases in the *principia*: main construction; later remodeling; and destruction. In the main construction phase, the *principia* was built according to the plan described above. Several Roman provincial coins (27 BCE–270 CE) were found at the site, along with a few from the reigns of Trajan (99–100 CE; 113–114 CE) and Hadrian (117–138 CE); some bear countermarks (rectangular and square). The latter probably represent the establishment of the legionary base. There is a steady stream of coins from Trajan up through Severus Alexander/Maximinus Thrax (235 CE), including a few silver *denarii* or *tetrachm*s.

Later remodeling is evident only within one of the northern rooms of the basilica, where one particular wall was constructed at an angle inconsistent with the rest of the plan, and within the *sacellum*, where the original configuration of the apse and altar were modified.

In the final phase, the legionary base appears to have been deliberately demolished and mined for building materials. Evidence includes the extended layer of roof-tile debris, the piles of building stones and the betyl, and the piles of building stones and other debris within the *sacellum*. The finds from these contexts are consistently Constantinian in date, with numerous coins of Constantius I (306–337 CE) and II (337–361 CE). One exceptional coin of Theodosius II comes from a locus that clearly postdates the demolition. It may be the case that the demolition phase can be further divided into multiple events; this, however, lies beyond the scope of this paper.

[6] The metrological study of the *principia* and other structures within the legionary base is ongoing; see also the metrological study of a funerary epitaph from Legio (Tepper et al. 2021).

SUMMARY

The *principia* is the administrative and cultic center of a legionary base, housing offices, storage facilities and open spaces for meetings, public gatherings and addresses, as well as formal official cultic activities (Petrikovits 1975; Fellmann 1958; Blagg 2000; see also Webster 1998 and references therein). The layout and function of the compound mirrored that of the civic forum and basilica in the city and served the legion and its soldiers in much the same way as the latter served the city and its citizens.

Overall, the *principia* at Legio fits the general plan of full-scale Principate *principia* well-known across the Empire in the second and third centuries CE. Our limited excavation has borne out much of the plan and details of the structure. However, many questions remain and will hopefully be addressed with ongoing excavations, remote sensing and further study.

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