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# Alcazaba of Baza (Granada) Spain, Rediscovered

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**Abstract.** The Andalusian medieval citadels are walled enclosures that, strategically placed on hills, still continue showing their defensive function inside the city and the surrounding territory. There are still good examples in the south of Spain, especially concentrated in the last territories of Al-Andalus. To the north of the old Nasrid kingdom of Granada, the city of Baza, with a brilliant Iberian and Roman past, also preserves some remains of its medieval past in its urban fabric. However, the Alcazaba of Baza, which was its main medieval architectural landmark, has suffered during the last century a lamentable process of abandonment and destruction that has almost made it disappear. Today its limits are unrecognizable and there are hardly visible parts of its walls or its towers. Anyone that visits it for the first time only recognizes a central empty space in the urban fabric. It has been mistreated by sporadic inappropriate uses, most of the time in disuse and converted into residual space of the city, a focus of marginality where it is not convenient to go. Despite its poor state of preservation, the fact of being an old military structure makes it a Historical Place of Interest (Bien de Interés Cultural–BIC–), the highest level of protection granted by the Law of Spanish Historical Heritage (1985). Since then, with greater or lesser fortune, the urban planning of Baza has recognized its values, although it has allowed lamentable interventions inside. With some more success, the current General Plan for Urban Development (2009) established, as a public free space, a scope of the Special Plan for the Interior Reform of the Alcazaba (PERICH-02) through which the protection, conservation and revaluation of the delimited space, as well as establishing determinations of use, qualification of the land and intervention criteria in its historical and archaeological heritage. The Special Plan of the Alcazaba of Baza is the result of an international contest carried out in 2007 and develops the winning proposal that dealt briefly with the values of the Alcazaba. Consequently, the regional administration competent in the protection of the historical heritage demanded that, for a correct drafting, an exhaustive study of the emergent and hidden remains of the medieval military structure should be carried out previously. From here it comes the commission that a research group of the University of Granada developed at the end of 2016 and which is the subject of this article: Combining digital technology through drones and field work, it has achieved surprising results that has been shown in several maps: an updated topographic of great precision and, what is even more interesting, a typological map at different levels that allows to establish accurate hypotheses for the future archaeological intervention and that conditions all the initial approach of the Special Plan that resulted from the contest of 2007.

## 1. Introduction: The Alcazabas of Al-Ándalus. Historic Context

In the year 711, the Islamic occupation of the Iberian Peninsula (now Spain and Portugal) began. It was a new religion and culture that newly born in the previous century in Arabia, spread very quickly through almost the entire Mediterranean basin. In very few years, the peninsula came to be submitted



to Islam almost entirely. But also from that moment it begins a process of reconquer of the peninsular territory that departed from the Christian kingdoms of the north and that will not be completed until 1492 with the Taking of Granada by the Catholic Monarchs. Seven centuries of occupation and struggles throughout the Peninsula follow one after another. In the middle of this period, after the fall of the Umayyad caliphate of Cordoba, the fights multiplied when the Taifas face each other; they are small tribal kingdoms in which the waning Muslim territory of the peninsula was divided since the eleventh century. There are seven centuries in which the highest levels of cultural refinement are also reached, mixing the Islamic and the Christian on a classical basis that, in philosophy, medicine and knowledge in general, will be recovered by translating numerous texts from Greek to Arabic. Thus, there are periods of cultural flowering and conflict between territories rising a model of medieval Islamic citadel: Las Alcazabas. In words of J. N. Palazón [1], "sovereigns and governors resided in large fortresses and alcazabas, which hosted various military, domestic, ceremonial, funerary spaces, if not in real aulic medinas with its small souks, mosques, aljamas and public baths".



**Figure 1.** Topographic map of the Master Plan of Baza (1968), in the center the pronounced topography of the Alcazaba stands out in which its towers are no longer drawn, being an almost faithful reproduction of the state of the Alcazaba in a plan of 1926.

Source: Urban Planning Archive at the Town Council of Baza.

The Andalusian medieval citadels are walled enclosures that, strategically placed in high, still continue showing their function for the city and the surrounding territory they defended. There are still good examples in the southern half of Spain, especially concentrated in what were the last territories of Al-Andalus. The territory of Baza is one of them, which as part of the Nasrid Kingdom of Granada was reconquered in 1489.

## 2. The Alcazaba of Baza: Deterioration and oblivion

Baza is a small town in the north of the province of Granada, in the region of Andalusia, with just over 20,000 inhabitants. It still maintains the prevalence as the county seat with respect to the neighbouring municipalities. It also has the largest municipal area of the province of Granada (Spain) (546 km<sup>2</sup>).

The primitive urban settlement of Basti (now the archaeological place of Cepero Hill) was the capital of the Bastetania, and after the Roman occupation it became tributary city of Rome. However, in medieval ages the Ibero-Roman settlement was abandoned and a new city was created very close, Medina Bastha that around its Alcazaba and located in a small elevation dominated the lower city and its surrounding territory. That urban nucleus was the origin of the current city of Baza.

With an environment of brilliant Iberian and Roman past, the city of Baza still retains in its urban fabric some remains of its medieval past. However, the Alcazaba de Baza, its main medieval architectural milestone, has suffered in the last century an unfortunate process of abandonment and

destruction that has taken it to the edge of its disappearance. Today its limits are unrecognizable and only parts of its walls or towers are visible. Whoever visits it for the first time only manages to recognize a central place mistreated by sporadic inappropriate uses, most of the time in disuse and converted into residual space in the city, a focus of marginality that should not be visited.

The strong earthquake of 1531 was the first major destruction of the Alcazaba de Baza that, after demolition of the towers and part of the walls most affected by the earthquake, had to be rebuilt by the Municipal Council between 1534 and 1544. The bibliographical sources mention [2], among these reconstruction works, three Towers: The Tribute, the Bell and of the Maladino. None of them have been identified until now. The division of this space into two parts is also cited by means of a wall that is recognizable (Figures 6): An Old Fortress (to the north) and a New Fortress (to the south).

The result of other transformations carried out between the sixteenth and nineteenth centuries is the generalized state of ruin described by Madoz in 1849 in his Statistical and Historical Geographical Dictionary of Spain: More towers had disappeared and were replaced by a line of houses converting the interior space of the Alcazaba in a place of public use dedicated to eras and a ball game. At the end of the 19th century, Archaeologist D. Manuel Gómez Moreno visited Baza and could still draw a sketch with the elements that were still standing. The twentieth century ended up destroying the last remains that made it recognizable as Alcazaba: demolition of houses that included parts of the wall, reconstruction in its interior, part of the cloister of the convent of S. Francisco, new legal or illegal works, even elevating concrete structures on mud walls later identified as remains of walls. Finally the complete demolition of a large part of its eastern flank, next to the main church, having built high walls of reinforced concrete to contain the land and two rows of garages that definitely finished distorting its already blurred image of Alcazaba, destroying, most likely, numerous underlying archaeological remains. (Figures 2 to 4).



**Figures 2-4.** (2) West Border: Rear of houses and view of part of the Cloister of S. Francisco, (3) Cover of the row of garages and in the background the tower and roofs of the Main Church, (4) Unfinished work: Structure of reinforced concrete on remains of the wall of the Alcazaba. Source: Photos of F.J. Lafuente and own elaboration

### **3. Urban planning and protection of the historical heritage of Baza**

The first Master Plan of Baza was the General Plan of Urban Planning (PGOU) of the Municipal Territory of Baza of 1971 that began in 1968, and did not propose any protection on its historical heritage. In its fourteen years of validity there were irreparable losses for the architectural patrimony of Baza, such as the demolition in 1982 of the convent and church of S. Francisco, part of whose cloister was moved and roughly assembled in the Alcazaba de Baza (Figure 2) in an operation that today would be prohibited.

The PGOU-1971 was replaced in 1984, the Subsidiary Norms (NNSS-1984) of Baza that considered a sector called Special Zone Historic Center. Among its determinations, Art. 2.8 of its Regulations indicated the need to draft a Special Plan for that sector. Its scope is substantially similar to that approved in 2003, encompassing it entirely, and considering the contemporary road clear limits. The regulations of the NNSS-1984 for that Special Zone led to the replacement of buildings that seriously disrupted the urban image of the historic city in the Alcazaba and its surroundings. But not even the consequent Special Plan for the Historic Center (PERICH-1990) served to improve the situation, this was a planning where the internal reform prevailed against the protection, the Units of Action against the catalogue, even the simple zoning against the detailed ordination.

The approval of the Law 16/1985, of July 25, of Spanish Historical Heritage (LPHE-1985) had no effect on Baza. In spite of its evident historical and artistic values, it had not been declared a Historic-Artistic Site, and it does not even include the beginning of any file with such objective. The Alcazaba, however and despite its poor state of preservation, only for the fact of being an old structure of a military nature was considered to be of Cultural Interest (BIC), the highest level of protection granted by the LPHE-1985. Since then, better or worse, the urban planning of Baza has been recognizing its values, even though it has allowed lamentable interventions inside.

As a consequence of the article 2.8 of the NNSS-1984, five years after its approval, the Special Plan for the Interior Reform of the Historic Center of Baza (PERICH-1989) was finally approved by the Diputación de Granada. The regional government, the Junta de Andalucía, could not validate this plan because of a formal defect and never considered it as an adequate instrument to protect the scope defined by the NNSS.

In fact, the attacks on the historical heritage did not cease while the plan was in force. In order to prevent this process, in 1995 a citizen presented to the Ministry of Culture, the request for the Historic Settlement of Baza to be declared. The Delegation of Culture, considering insufficient the protection of the patrimony contained in the Master Plan of BAZA, initiated in 1998 the file for declaration of the Historic Centre (CH) of Baza. It should also be noted that Baza has been the first city in the province of Granada to have a PGOU with protection content. This plan was drafted between 2001- 2002 and was approved in 2010 considering the delimitation of the CH declared in 2003 and a large catalogue of elements of interest within the CH.

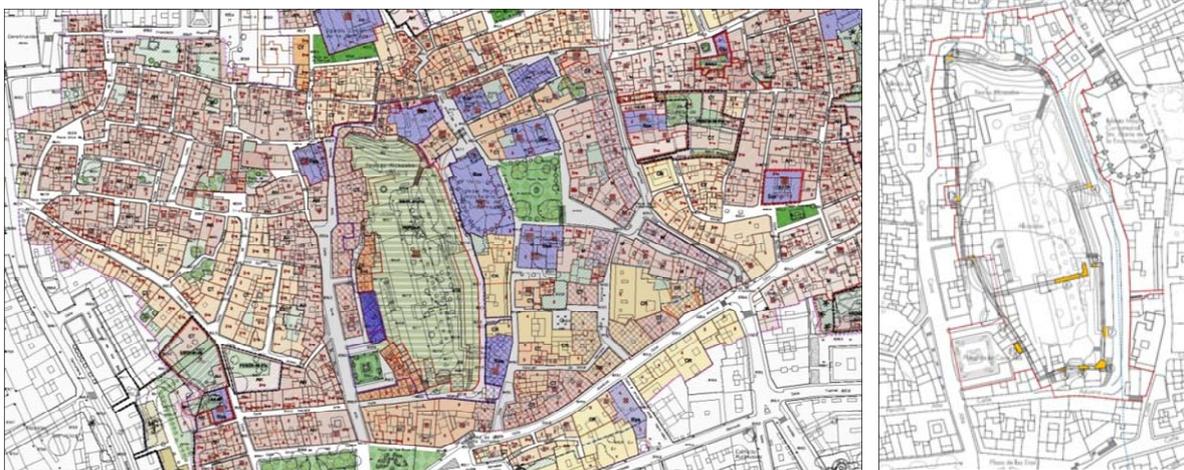
### **4. A new look at the Alcazaba de Baza: Methodology of a rediscovery**

With more success than the previous urban planning, the current General Plan for Urban Planning (2010) established as public space an area of the Special Plan for the Interior Reform of the Alcazaba (PERICH-02) that should guarantee the protection, conservation and revaluation of the delimited space. It also established determinations of use, soil qualification and intervention criteria in its historical and archaeological heritage (Figure 6).

The City Council of Baza and the Andalusian Public Land Company (EPSA) promoted in 2010 the Special Plan of the Alcazaba de Baza through a contest held in 2007. The Special Plan (Figure 7), drafted by the winning team, was initially approved, developing the winning proposal that dealt very briefly with the values of the Alcazaba. As a result of this, on the part of both Baza City Council and the Ministry of Culture of the Junta de Andalucía, it was considered that, for the proper development of such protection planning, it was necessary to have adequate topographic and typological information on the area.

The City Council had only a topographic survey of the area that was not up-to-date and did not have the minimum level of detail required for the correct drafting of the aforementioned Special Plan, given that it must contain determinations of an archaeological nature and in general protection of historical heritage. In addition, within the scope of the Special Plan of the Alcazaba (PERICH-02), whose surface according to the corresponding record of the PGOU exceeds 18,000 m<sup>2</sup>, there are numerous buildings and archaeological remains emerging and underlying that should be taken into account, and in some cases it is suspected the existence of hidden remains inside the buildings.

As a result of all the above, in 2016, the City Council of Baza and the PMA-ETSIE Research Group of the UGR signed a contract in which a series of work was commissioned to support the Special Plan of the Alcazaba de Baza. The first document commissioned was the updating of the topographic survey of the scope of the Special Plan of the Alcazaba de Baza, as well as a series of longitudinal and transversal sections for the complete definition of the orography of the land. It was also commissioned, for the first time, the realization of a typological survey of the buildings included in the Special Plan of the Alcazaba de Baza for its complete definition and analysis of its characteristics.



**Figure 5.** (On the left) PGOU-2010. Detail. Detailed ordination of the Historical Set. CH.OC.01. E.:1/1000 In the center of the image, the scope of the Special Plan of the Alcazaba (PERICH-02), a proposal for intervention on one of the worst battered BICs in Baza. Source: Official Site of Architects of Granada.

**Figure 6.** (On the right) Special Plan of the Alcazaba de Baza (2010). Detail of the information plan 06\_INF\_ARCHAEOLOGICAL HERITAGE. Source: Planning Archive of the Town Council of Baza.

The works were led by professors of the ETSIE members of the PMA research group with the special collaboration of Lorenzo Sánchez Quirante, archaeologist and Director of the Archaeological Museum of Baza. In the data collection and preparation of documents nine scholars worked, students of the Degree of Building of the UGR and the Master in Architectural Rehabilitation (MARA-UGR).

Updated topographic map: One of the needs expressed by the City Council of Baza was the development of an updated topographic map of the scope of the Special Plan of the Alcazaba of Baza in which it should be reflected the minimum level of detail needed to be represented at scale 1 / 500. That delimited topographic map should also include the updated cadastre, the current design of the open spaces, with a definition of all the patrimonial elements and the emergent archaeological remains that exist. From this topographic map, in addition, it was requested that at least three sections should be deduced: 1) A longitudinal section at 1/500 scale, from North to South, that represents a profile from Zapatería street to Aduana street, with its two fronts of façade included, and 2) Two cross

sections at 1/500 scale from East to West that represent a profile from Mesto Street to the west facade of the Main Church and another from Cava Alta Street to Alhóndiga Street, with its two facade fronts included. In addition to a basic survey of the buildings of new construction that the Special Plan proposes to demolish (the building of the garages that has 52 units and a concrete structure).

The survey was carried out by three groups of three trainees supervised by teachers of the WFP-ETSIE, having been carried out in the field with adequate means such as laser meters, tape measures and digital photography, information complemented with accurate and georeferenced topographic data obtained from digital aerial photography taken by a drone. From the field work at ground level and from the information obtained with the drone, we went through an intense process of data processing, obtaining an orthophoto and a 3D digital model on which we have worked.

Finally, it was decided to overcome the strict limit of the scope of the Special Plan of the Alcazaba de Baza to accommodate other spaces and buildings close to this area and thus obtain a more complete urban framework: Thus, the streets Cava Alta, Mesto, Boliche were included, Zapatería, Arco de la Magdalena, Alhóndiga and Calle Aduana complete. In addition, as a complement to the updated topographic general map of the Alcazaba and to have an adequate monumental reference, the roofs of very close and especially relevant buildings such as the Main Church or the Church of S. Juan or those containing the remains of the of the Magdalena Gate.

The result obtained has been divided into the following sections:

- Topographic map at scale 1,500 of the extended scope of the Special Plan of the Alcazaba de Baza, which includes the current design of the open spaces, with a definition of the patrimonial elements and emerging archaeological remains that exist, with definition of level lines every 25 cm and with references of specific points with their height both those of the public space and some of the terraces or of the patios of the buildings represented, those that have been considered that serve for a better reading of the plane. All the roof plants of the buildings in the extended area have been represented. The apples outside this one have been represented only with a neutral line to emphasize the object of the work. This plane is complemented with four schematic sections.
- Cadastral plan on orthophoto: 1: 500 scale map with the cadastral information downloaded in October 2016 from the website of the Cadastral Virtual Office and mounted on the updated base of the georeferenced orthophoto of the extended scope of the Special Plan of the Alcazaba de Baza. In addition, superimposed, the topography of the non-urbanized slopes of the Alcazaba is represented by level lines every 25 cm, with level elevation per meter. This plane is complemented with four sections shot with photographic information elaborated from the 3D digital model of the area obtained by drone (Figure 7).
- Analysis of roofs: All roofing plants of buildings in the extended area have been analyzed in a 1: 500 scale plan in A2 format in which the different types that exist have been represented in color: most of them with traditional inclined roofs of Arab tile, with a certain predominance of those with a single skirt, secondly by occupied surface, those of red ceramic tile that cover the most recent buildings, some of them also covered with dissonant concrete tiles, and finally the very dissonant covers made of galvanized steel sheet or fiber cement. There are also flat roofs, passable or not, in which the finishing materials are very diverse, from the ceramic to the asphalt materials or the large gravel surface of the municipal social affairs center.
- Sections: Five sections in A3 format have represented six sections at a scale of 1: 500, those that have been considered essential, including the three required in the contract. All the sheets contain a guiding plane and a graphic scale that indicates, as the most suitable reference for the size of the field, the 100 m for the four cross sections and 200 m for the two longitudinal sections. The sections are completed with topographic data (level expressed in msm, eg +850.00) and with a brief text referring to the urban space, the buildings or the archaeological remains to which it refers. The background of all these sections is a drawing that represents the profile of the archaeological remains, the urbanized space and the buildings that surround

the Alcazaba and its surroundings. Drawing this superimposed on the photographic information elaborated from the 3D digital model of the area obtained by drone.

- 3D digital model: For a better understanding of the topographically surveyed area, four aerial views of the 3D digital model that have been assembled in four A3 formats have been selected.



**Figure 7.** Special Plan of the Alcazaba de Baza (2010). Detail of the information plan 06\_INF\_ARCHAEOLOGICAL HERITAGE. Source: Planning Archive of the Town Council of Baza.

**Typological survey:** The second commission made by the City Council of Baza, consisted only in a survey at the ground floor level of all the properties that are included in the scope and of which there was no project or updated plants. The objective was to draw a typological plan of the houses and other buildings that make up the area at a minimum scale of 1/500. The drawing assembled with each and every one of the units that were raised at the ground floor level or from which information had already been obtained, should allow a reading of which it would be possible to deduce the archaeological remains belonging to the Alcazaba or at least the footprint that they left reflected in the construction constructed on the possible rest underlying, or even of their own tracks, if they disappeared. In the cases in which the buildings include emerging archaeological remains (such as sections of wall canvases, towers, shutters, or parts of them, etc.), whether or not they are seen from the outside, a survey of so many plants should be made or sections as they were necessary for its correct graphic definition and its relation with the building that includes them.

The same technical teaching team took care of this laborious fieldwork, materialized in numerous sketches and photographs, continued with a meticulous cabinet work in which all those drawings were processed.

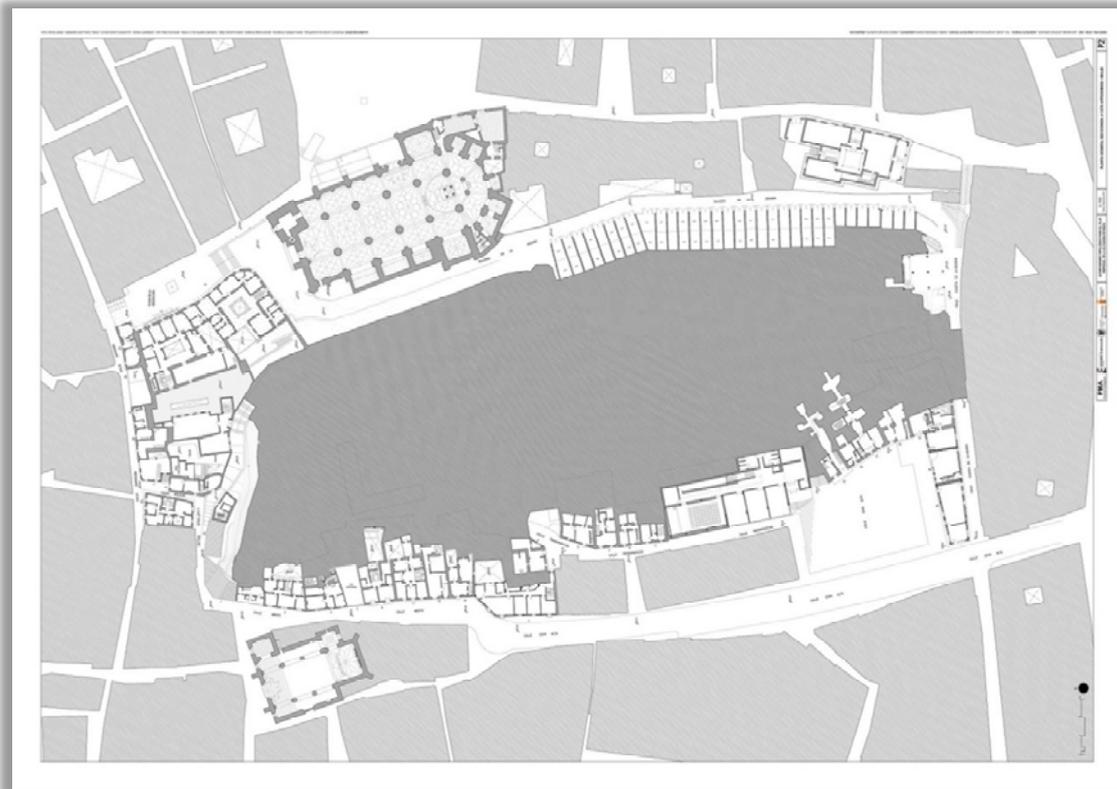
In addition, in this work it was decided to increase the level of detail required in the contract, so that it has not been limited to a survey on the ground floor level of each of the properties included in the scope (of which there was neither project nor updated plants), but a complete survey of all the levels has been done and section data of all of them have been taken.

It has also been considered appropriate to exceed the strict limit of the Special Plan of the Alcazaba of Baza to accommodate other buildings near this area and that may contain relevant information, as it has been shown in Cava Alta street or Zapatería street. As a complement to the typological plan and to have a compulsory monument reference, we have included the typological plants of very close and especially relevant buildings such as the Main Church or the Church of S. Juan, or the remains of the Puerta de la Magdalena.

The result of the work has been divided into three levels of detail according to its scale and content:

- Records by cadastral units: For the maximum level of detail necessary for the individualized analysis, it was estimated that the scale 1: 150 provided sufficient information (comparable to the 1:50 scale). Each file has a presentation page with the cadastral data, the postal address, front photograph and location plans (orthophoto and cadastral). Other pages with the plans of each and every one of the floors in which walls and partitions are represented, holes with their carpentry, and comments have been written regarding elements of archaeological interest. On the floors, the outer envelope of the roofs obtained with orthophoto is added as a reference, not always coinciding with the cadastral plot. Preferably, the plants surrounded by the terrain or the adjacent buildings represented in abstract form, without detail, have been drawn to focus attention on each unit analyzed. Next, one or several pages dedicated to the main sections of the buildings that have evidences or at least indications of archaeological remains having expressed only the levels of level that were considered directly related to archaeological levels. And finally some final pages with selected photographs, most of them referring to elements related to archaeological research, without intervention, object of the work. When the occasion has demanded, the cards contain information of two or more small or very interrelated cadastral parcels. Given its recent origin and to constitute a serial type, no file has been made of the cadastral parcels of the rows of garages of the crossing street to Aduana street, but its plants and section have been expressed in the following sections. Finally, a total of 35 cards have been obtained in A3 format.
- Plans per blocks: The scope has been divided into five sectors composed of one or several blocks. For each sector, the floors of all the dwellings have been drawn at a scale of 1: 250, by levels (from the ground floor to the roof level, in some cases up to five different levels have been drawn, one per floor). The drawing has been expressed as a reduction of the information represented at a scale of 1: 150 in the individual files. At this level of detail, both the sectioned terrain in each elevation and the constructed elements have been drawn with the same plot, without graphically distinguishing obvious archaeological elements or those showing signs of being like that. This level of detail and graphic abstraction allows, however, to elaborate more credible hypotheses about the underlying hidden archaeological remains and to refer them to the emergent ones. For a better reading of the topography and a better understanding of the archaeological site it has been reflected only the necessary levels for it, expressed in msm (eg +850.00) and has been indicated both the public space and those of the terraces or the patios of residential buildings. Finally, more than 20 partial plans have been drawn in A3 format.
- General plans: Based on the block plans at 1: 250 scale it has been considered more appropriate to mount a series of general plans at a scale higher than the 1: 500 required in the contract. In this way, five general plans (Figure 8) have been drawn up in which the entire scope of the Special Plan of the Alcazaba de Baza has been represented, together with a convenient broad environment. All the planes assembled in A0 format and scale 1: 250, one per level, starting with the ground floors of the north zone (Calle Zapatería, Boliche, etc., plan P1), until arriving at the one of the general plant of roofs (P5)). Given the topography of the land and the relative position between blocks, they have been assembled representing intervals

of level heights expressed in msm (for example, of elevation +868.00 to +872.00). In a coherent way, the typological plants of the Main Church, the Church of S. Juan or other non-monumental buildings of the surroundings (Calle Zapatería and Plaza del Arco de la Magdalena) have been cut at different levels. Despite the large size of the A0 format, the result obtained allows a good general reading of the area and its surroundings, which makes it possible to distinguish with sufficient detail the archaeological elements emerging, those hidden by the building and even the possible footprint of the underlying remains.



**Figure 8.** General typological plan at a scale of 1: 250. Sheet P2.

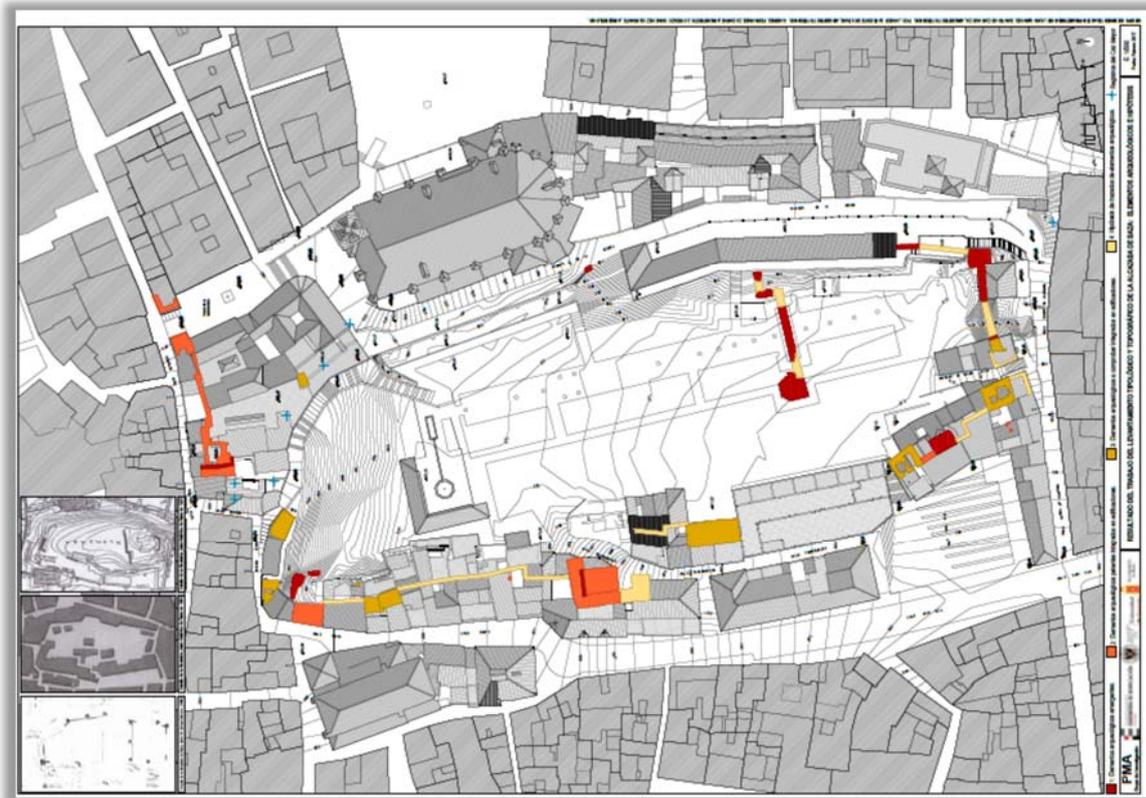
## 5. Conclusions

From these series of general plans partial hypotheses have been extracted from the traces of the remains of the Alcazaba represented in a general plan at a scale of 1: 500 (Figure 9) in which wall sections divided according to four categories have been represented:

- Archaeological elements emergent (in red),
- Patented archaeological elements integrated in buildings (in orange),
- Archaeological elements to be checked integrated in buildings (in other colour) and finally,
- Hypothesis of traces of underlying archaeological elements (in cream).

It has also been noted the Caz Mayor Records, the main ditch that fed the Alcazaba, a key element for urban settlement.

Finally, this plan is the most useful result for future archaeology work through surveys or through stratigraphy and the one that has laid the best foundations for an adequate proposal of urban intervention and heritage conservation, the first objective of the Special Plan of the Alcazaba de Baza.



**Figure 9.** Final Plan result of the typological and topographic survey of the Alcazaba de Baza. Archaeological elements and hypotheses. E 1: 500. February 2017.

### References

- [1] P. Jiménez Castillo & J. Navarro Palazón “Alcázares, alcazabas y almunias durante el periodo taifa (siglo XI). Alcázares, alcazabas and almunias during the Taifa period (11th century). Los espacios palatinos al servicio de unos poderes en formación” Colección Historia nº 51 Ed.: Instituto de Estudios Almerienses, p 205, 2016
- [2] A. Caballero Cobos, “La alcazaba de Baza a la luz de la Arqueología: El torreón de Trasgrisolia”, The fortress of Baza in the light of Archaeology: The tower of Trasgrisolia, Péndulo Papeles de Bastitania. ISSN 1138-686, Nº 15, pp 9-22 (2014)