

THE CHANGING ARCHITECTURAL STYLE REALIZED IN THE
PALESTINIAN DOMESTIC VERNACULAR ARCHITECTURE DURING THE
END OF 19TH / BEGINNING OF 20TH CENTURIES- CASE STUDY FROM
HEBRON

VOLUME I

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

ASHRAF ABU-HILAL

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY
IN
ARCHITECTURE

FEBRUARY, 2009

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FROM HEBRON**

submitted by **ASHRAF ABU-HILAL** in partial fulfillment of the requirements for
the degree of **Doctor of Philosophy in Architecture Department, Middle East
Technical University** by,

Prof. Dr. Canan Özgen
Dean, Graduate School of **Natural and Applied Sciences**

Assoc. Prof. Dr. Güven Arif Sargin
Head of Department, **Architecture**

Prof. Dr. Ayşıl Yavuz
Supervisor, **Architecture Dept., METU**

Examining Committee Members:

Prof. Dr. Ömür Bakırer
Architecture Dept., METU

Prof. Dr. Ayşıl Yavuz
Architecture Dept., METU

Prof. Dr. Zuhâl Özcan
Interior Architecture Dept., Başkent University

Assoc. Prof. Dr. Mustafa Akpolat
History of Art Dept., HU

Assist. Prof. Dr. Kenan Bilici
History of Art Dept., Ankara University

Date: 10 - 2 - 2009

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last name: Ashraf Abu-hilal

Signature:

ABSTRACT

THE CHANGING ARCHITECTURAL STYLE REALIZED IN THE PALESTINIAN DOMESTIC VERNACULAR ARCHITECTURE DURING THE END OF 19TH / BEGINNING OF 20TH CENTURIES- CASE STUDY FROM HEBRON

Abu Hilal Ashraf

PhD., Department of Architecture

Supervisor: Prof. Dr. Ayşıl Yavuz

February, 2009, 568 pages

This thesis studies human habitat in Palestine focusing on the late 19th and early 20th centuries. This period, had witnessed changes on social texture, which was reflected on human habitation at various levels of: site and plan organization, size of dwellings and architectural form. The study presents a clear understanding of traditional dwellings of Al-khalil (Hebron), by placing them within their architectural and social contexts. The appearance of central hall house was part of this change; it was part of a fashion spread at the newly established neighborhoods of many Palestinian towns. Those houses are in the form of individual structures located in a defined property or garden surrounding each. A large group of buildings of this type of houses in Al-khalil are studied. Measured site survey supports the main hypothesis doing at how this fashion is found in Palestine as in other surrounding towns. The outcomes form the case study catalog focusing on Al-khalil; are compared with earlier dwelling (hosh) and with similar houses from surrounding Palestinian towns in growing circles. The main hypotheses establish the nature of this change, thus the analysis of the former and the later. To do this the earlier (Hosh) dwelling is being studied at different levels and periods. The site survey helped in understanding the traditional architectural and social values, which are maintained by the central-hall house inhabitants.

Keywords: Al-khalil, Hosh, central hall house, extended family, nucleus family,

ÖZ

19. YÜZYIL SONU / 20. YÜZYIL BAŞINDA FİLİSTİN'İN YEREL GELENEKSEL MİMARİSİNDE GERÇEKLEŞTİRİLMİŞ DEĞİŞEN MİMARİ STİL-EL HALİL'DEN ÖRNEK OLAY İNCELEMESİ

Abu Hilal Ashraf

Doktora, Mimarlık Bölümü

Tez Yöneticisi: Prof. Dr. Ayşıl Yavuz

Şubat 2009, 568 sayfa

Bu tez, 19. yüzyılın sonuna ve 20. yüzyılın başına odaklanarak, Filistin'deki insan habitatını incelemektedir. Bu dönem, çeşitli saha ve plan organizasyonu, konutların büyüklüğü ve mimari biçim seviyelerinde yansıtılan sosyal doku üzerindeki değişikliklere tanık olmuştur. Bu çalışma, geleneksel El Halil (Hebron) konutlarını tarihsel, mimari ve sosyal bağlamlara yerleştirerek, bu konutlarla ilgili net bir anlayış sunar. Merkezi iki odalı evlerin [hall house] görünümü, bu değişikliğin bir parçasıydı: birçok Filistin şehri civarındaki yeni kurulmuş semtlere yayılmış bir biçimin bir parçasıydı. Bu evler, tanımlanmış bir mülk veya her birisini çevreleyen bahçede yer alan bireysel yapılar şeklindedir. El Halil'deki bu tip evlerden oluşan büyük bina grupları, ayrıntılarıyla incelenmektedir. Ölçülmüş yerinde incelemeler, çevredeki diğer şehirlerde olduğu gibi, Filistin'de bu biçimin nasıl bulunduğuyla ilgili ana hipotezi destekler. El Halil üzerine odaklanan örnek olay incelemesi katalogunun sonuçları, daha erken dönemlerdeki konutla (hosh) ve etrafı giderek büyüyen çevredeki Filistin şehirlerinde yer alan benzer evlerle karşılaştırılmaktadır. Ana hipotez, bu değişikliğin doğasını, ve böylece öncekinin ve sonrakinin analizini oluşturmaktadır. Bu amaçla, daha erken dönemdeki (Hosh) konut, farklı seviyelerde ve dönemlerde incelenmektedir. Örnek olay incelemesi, genel olarak geleneksel Filistin şehir konutlarıyla, ve spesifik olarak El Halil'dekilerle ilgili daha net bir anlayış sağlamaktadır.

Anahtar kelimeler: El Halil, Hosh, merkezi iki odalı ev, geniş aile, çekirdek aile

To my parents Hashem and Najwa
To my wife Rawan and sweet little daughter Nada
To the souls of our martyrs in Gaza and to the souls of all the Palestinian martyrs
who struggled and been killed monstrously for freedom of Palestine.

ACKNOWLEDGMENTS

I would like to express my sincere gratitude, appreciation and respect to my supervisor Prof. Dr. Ayşıl Yavuz for her wisdom and encouragement and valuable advices during our discussion of this thesis. Had it not been for her support and trust, this thesis would not have been completed to reach the required standards.

I am also grateful to thesis follow up committee Prof. Dr. Zühal Özcan and Prof. Dr. Ömür Bakirer for their critical vision and useful discussions. Also I thank Assoc. Prof. Dr. Mustafa S Akpolat and Asst. Prof. Dr. Z. Kenan Bilici for their valuable comments during the final jury discussions. In addition, I am thankful for the TÜBİTAK for their generous support of this thesis during the last year of research.

I would like to say that this degree belongs more to my parents Hashem and Najwa who encouraged me to reach my main goal of completing this degree. I want also to thank my brothers and sisters for their love, support and patience. I would never forget to thank my wife Rawan for her love and support, had it not been for her trust patience, encouragement and support, it would not be easy for me to reach my goal. To my sweet little daughter Nada who brought happiness into my life during my hard work.

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CHAPTER 1

INTRODUCTION

This Chapter begins with an explanation of the aim and objectives of the study in Section 1.1 and continues with a description of the sources of information and methodology, as well as an outline of the basic steps followed and the research methodology in Section 1.2. The chapter concludes with a preview of the content of the subsequent chapters, entitled ‘thesis organization’, in Section 1.3.

1.1 Aims and Objective

This thesis studies the changing architectural style of the traditional urban residential architecture in Palestine at the late-19th and early-20th century. The study is based on a measured site survey carried out in the sample settlement of Al-Khalil (Hebron). The changes in residential architecture are part from the social, political and economic shifts, which took place in Palestine during this particular period, which also covers the last decades of the Ottoman Empire. Palestine and the surrounding regions covering the Mount Lebanon, Syria, and Trans-Jordan came under the British and French mandates (Figure 1) which brought pronounced changes to Palestine and its surrounding regions, and is reflected on the lifestyle, fields of employment, and socio-economic conditions of its inhabitants¹. Changes in the social texture laid the foundations for the change in the traditional houses of Palestine. Major changes took place in the organization and size of lots of new dwellings, as well as in the architectural form and plan layout.

Prior to the 1880s, the extended-family house, known as the ‘hosh’, was the prominent type of dwelling in the urban and rural centers of Palestine (Figures: 23, 24, 25, and 26). An extended family of married couples who are relatives inhabited

the hosh. It is constructed completely from stone (mainly the central highland region); with thick (80-140cm) load-bearing walls, that support vaulted roofs. It is entered from the street by a crooked corridor, known as a 'Dahlyz', leads to the courtyard. The hosh is very compact in form; it is composed of two, three or four storeys and attached to the neighboring hoshes of relatives. Externally, the hosh features an organic form of cubic masses, which expand vertically in levels. The elevations have a steep skyline, and the shallow domed roofs are, in many cases, bordered by clay tube-studded parapets, while in other cases stone parapets border the roofs, which is an indication of future vertical expansion. On the elevations, there are limited window openings to the outside for reasons of security and privacy, growing in size at the upper levels.

Internally, the hosh is characterised by irregular plan layout. The living spaces asymmetrically clustered around a courtyard (opened from top), with service spaces shared by all the extended family members and provided at the lower levels. In some hoshes, vertical expansions are found at the upper levels as independent dwellings and featuring their own service spaces (kitchens and toilets). The size and form of the courtyard varies from one hosh to another, sometimes being irregularly square or rectangular in plan, and sometimes taking the form of a narrow corridor. The upper-level spaces are usually recessed back from the courtyard, which facilitates the lighting and ventilation of the lower spaces. Secondary courtyards, which are smaller in size, could be found as vertical expansions, with living spaces clustered around them to accommodate newly married couples.

After the 1880s, dwellings in Palestinian towns started to change. Instead of the traditional hosh, which, was inhabited by an extended family, the newly established neighborhoods began to feature freestanding central-hall houses. The new house type was constructed to accommodate a nucleus family composed of a married couple and their single children. It was first introduced to Palestine during the last decades of the Ottoman Empire (1880s) and continued all around the British mandate (1917-1947). The independent house was adapted to fulfill the requirements of nuclear family. The houses were located within a defined lot, each surrounded by a garden.

Externally, the central hall house features a freestanding cubic prismatic clear-cut form of four elevations and a straight roof. In one house, the window openings are of similar sizes and arch profiles, the location and size of which reflects the plan interior arrangement, the large spaces have the largest windows while the small ones have window openings of smaller sizes. Internally, the houses are so similar in terms of plan geometry, typology, cross-circulation and measurements. The central-hall is the heart of this house, it features cross or Jack vault superstructure and is surrounded on two or three sides by living spaces, with the fourth side (main elevation) abutting an outer wall. The living spaces are arranged symmetrically around the central hall. This symmetrical layout results in spaces of similar measurements and heights as well as symmetrical main elevations. The living spaces usually face the exterior.

The catalogue (Chapter four) includes three early examples of central hall houses, which seem to be a transition between the hosh and central hall house. Their plans include a courtyard, around which living spaces are arranged, (Figure D14.2: ground floor plan of Jabir al-Ja'abari house, Figure D18.2: first floor of Murtada ad-Duaik house, and Figure D19.2: Kasir ad-Duaik house). Another transition type between the hosh and central hall house type can be found in detached houses with central-hall houses, which have shops at the street level with accommodation on the upper floors. These are not covered within the measured survey for reasons explained in the following methodology.

As early 20th-century inhabitants found the hosh unsuitable for their need to a social change of becoming independent nucleus family farther than being part of a large extended family, many followed the new fashion of the time and constructed freestanding central-hall houses. The new house owners carried many architectural features and social-cultural considerations from the hosh to the central hall house. On the other hand, the central hall house cannot be understood without reference to the earlier hosh, and therefore the extended family hosh is studied in chapter three at different scales, with less concentration than that given to the later central hall houses in chapter four.

This thesis aims to reveal the hidden elements behind the formation of traditional Palestinian dwellings in terms of site, plan typology and form. It mainly concentrates on understanding the appearance and architectural evolution of the central-hall house, but the main challenge is to trace how the changing social texture has reflected on the architecture of this new house type.

The main question to be answered by this research is how residential traditional architecture has evolved in Al-Khalil, which may give an idea of the trends in other Palestinian towns. For this purpose, the traditional dwellings of Al-Khalil are studied with reference to the historical, architectural and social contexts of the town. An overview of the Al-Khalil's geographical settings and changes in the social texture in the study period are presented as factors, which directly influenced changes in the site layout, plan typology and form of the traditional dwellings.

The historical development of the central-hall house is clearly traced by illustrating and analyzing both the hosh and the central hall houses of Al-Khalil. In the course of the survey, 20 central hall houses are measured, studied, analyzed, and documented in a catalogue. The houses are selected for measurement according to considerations explained in the Methodology section.

The catalogue is used to establish comparisons in growing circles; the measured houses are first compared with each other, and with unmeasured central hall houses from Al-Khalil, and then with the family hosh (from Al-Khalil) and with central hall houses from three surrounding Palestinian towns, Jerusalem, Bethlehem and Ramallah.

Comparing the central hall houses with each other, the thesis aims to provide an understanding of the evolution of the central hall house, and the alterations that are adopted into the new house module plan typology and form because of the specific living circumstances of each householder. This ring of comparison sheds light on the daily living patterns at the measured central hall houses; it is focusing on understanding which traditional living habits moved with the inhabitants from their

original dwellings (hosh). This level of comparison interconnects the variations and similarities in the living requirements of the individual owners with those found in the plans and exteriors of their houses. In addition, it aims at classifying Al-Khalil houses into different types in terms of interior arrangement and exterior emphasis. The central hall house was a fashionable type that can be found in many towns and cities of the Ottoman Empire and Mediterranean Region. In Al-Khalil, this type of houses are not totally imported but are adopted by merging the plan with the architectural features of the earlier period hosh. The site survey of both the former (hosh) and the latter (central hall) established the nature of this change.

The comparison with the earlier hosh aims to identify those architectural characteristics and elements which are carried from the earlier (hosh) to the later (central-hall house) dwellings. It provides a clear understanding of the architectural features and elements leading to the shift from hosh to central hall and their improvements that have resulted from the pre-20th century-initiated change in the social texture and the emergence of the nucleus type of families. Some of the architectural features of the central-hall house have been defined as design tendencies that have come from earlier periods. It is also necessary to understand what changes the new housing style brought to the living habits of the tenants who used to live in hoshes before moving to central hall houses, which can only be achieved by comparing the central hall house with the hosh.

The comparison central hall houses with those from surrounding Palestinian towns aims mainly at defining which architectural characteristics are specific to Al-Khalil, and which are common among the local towns, and thus with other surrounding geographical regions.

Al-Khalil has been chosen as the case study because it is a unique city with a rich residential architectural heritage of both pre-20th century hoshes and early 20th-century central hall houses. The town has a significant religious importance for the three main religions Judaism, Christianity and Islam. The city of Prophet Abraham is called in Quran "Khalil Allah" meaning the Friend of God, from which the Islamic name of the town became Al-Khalil.

The traditional residential architecture of Al-Khalil deserves to be studied since the traditional part of the town has been progressively abandoned since the 1967 occupation; it was and is still in danger because of the following reasons ².

The Israeli occupying authority aimed at controlling the Sanctuary of Ibrahim and pulling down traditional Palestinian buildings to replace with new Israeli settlements, closing the main central markets and access routes of the old town. The main route of the traditional town, 'Shuhada Street', is completely closed to the public, the Sanctuary Ibrahim and the Suq are cordoned off by checkpoints, and the vegetable market is eventually bulldozed ³. These actions have not only caused a deterioration and imperiling of the architectural heritage of the traditional town, but have also had a negative influence on socioeconomic and spiritual living conditions. Since 1967, the Israeli occupation has succeeded in forcing the Palestinian occupants of the old town to move to the new neighborhoods. By 1990, the traditional part of the town had become an urban slum, with a site study carried out by the Hebron University Graduates in 1988 show that 85% of the old town buildings are no longer inhabited ⁴.

Since it was established, the Hebron rehabilitation committee (HRC) is working to halt the physical and social decay and reclaim the traditional part of the town. The HRC rehabilitation project is characterised by a culturally sensitive approach to the traditional town revitalization ⁵. The HRC plans for repopulating the area not only focused on restoring the traditional buildings, but also on improving the socioeconomic environment of the traditional neighbourhoods. The efforts of the HRC have resulted in a rich archive of architectural drawings and GIS maps, though not much interest has been given to research, documentation, evaluation, and interpretation of this archive to date. Architectural heritage preservation can not be completed unless there is a scientific interpretation, which studies and analyses those valuable buildings.

A further concern of the thesis is to build upon the efforts of the HRC, and learn from this rich architectural heritage. The HRC should be mentioned and thanked; they deserve many thanks for providing all the necessary support and for paving the way for the measured site survey to be carried out.

1.2 Source of Information and Methodology

First hand sources include the measured central hall houses and the on site observations on the pre-20th century hoshes. The photographs of houses from the three surrounding Palestinian cities, Jerusalem, Bethlehem and Ramallah, are also included within the first hand sources.

Second hand sources include:

- 1) The HRC archival material such as the architectural drawings of the hosh as well as GIS maps of the traditional fabric.
- 2) Architectural drawings and photographs of the central hall houses from the surrounding Palestinian towns: Jerusalem, Bethlehem and Ramallah are obtained from books and publications. The architectural drawings and photographs of 16 of Ramallah's central hall houses were obtained from Jubeh, N. and Khaldon, B⁶. Additionally, Khasawneh, D⁷ documented 17 Palestinian central hall houses, from which the architectural drawings and photographs of two Jerusalem and two Bethlehem central-hall houses were obtained. The architectural drawings of five central hall houses in Jerusalem were selected from Kroyanker, D⁸.
- 3) Second hand sources on the geography of the town are: Kallner, D. H and Rosenau, E⁹, Schick, C¹⁰, Casto, E. R¹¹, Strahorn, A, T¹², Rahman, M¹³, Dudeen, B¹⁴, Doumani, B¹⁵, Abu-Manneh, B¹⁶, Burheiry, M¹⁷, Schölch, A¹⁸. In Arabic language is Abu-baker, A¹⁹. (1994).
- 4) Second hand sources on the history of the town are: Pre Islamic period (Roman and Byzantine): Bishop, E F. F.²⁰, Jubeh, N (ed)²¹, Rahman, M²², Dalton, C²³. Early Islamic period:, Rahman, M, Lecker, M²⁴. Early Ottoman period 1514-1841: Rahman, M, Doumani, B²⁵, Evliya Çelebi²⁶. Late Ottoman period 1841-1917: Schick, C²⁷, Abu-Manneh, B²⁸. British mandate 1921-1948: Rahman, M. (1978), Jubeh, N (ed). Modern period 1948-2008: Vitullo, A²⁹, Sellick, P³⁰.

The site surveys and documentation activities took place between May 2005 and September 2007, and are carried out and developed in four stages:

Stage one (measured survey) covered 20 central hall houses, which are documented, measured and photographed from both interior and exterior. The photographs are taken from the general views of the exterior and interior of the house to more specific details of windows, doors, stone decorative, wall cupboards, wall niches and floor tiles. The architectural drawings and photographs of the measured houses are completed and prepared after accurate on-site measurements taken by the author and two assisting architects. For the documentation of the houses, direct measurements are taken by using a measuring tape (chain surveying). The plan is measured first, followed by the sections and elevations, and photographs are taken to provide extra information. The measured building's location on the town map is defined during the site survey, and its coordinates are presented with reference to the corner nearest to north. Sketches of each house are later produced using AutoCAD software. In the twenty houses all the spaces of each house are measured until the nearest centimeter, diagonal measurements are taken to define the angles of the rooms.

The measured houses and the hoshes that are not measured but visited are analyzed using an outline developed for studying the site survey material, using same viewpoints, level of interests and concentration. This methodology aims at analysing the houses according to their common and uncommon architectural features. Each house is studied from its general features to more specific details of its design and characteristics of spaces. The analysis made detailed investigations of the measured houses at various scales, including location, exterior form, elevation, plan typology, space quality, architectural features, details, use and articulation, decoration, construction techniques, building materials and technologies. A similar outline to that used for analysing the measured houses is implemented for making comparisons with the hoshes (from Al-Khalil) and central hall houses from the three surrounding Palestinian towns. In this way, a systematic interpretation of the surveyed material, evaluations, comparatives, research findings and conclusions is achieved.

The number and location of the houses, which are included in the measured survey, is influenced by the following criteria:

- 1) The measured examples are selected from both the traditional part of the town and the early-20th century outskirts. Since it is necessary to relate the measured houses to the urban and physical development of the town, eight houses are selected from around the traditional part of the town, while 12 are selected from the early-20th century Ayn Sarah region (figures 9 and 15).
- 2) The chosen houses reflect variations and similarities in terms of: the number of floors, occupancy status, plan layouts, exterior form and dates of construction.
- 3) The selection of measured houses was influenced by social and political determinants and on-site difficulties. As many parts of the town are under Israeli occupation and military control, access to some neighbourhoods was, and still is, prohibited, and for this reason the group of detached houses on Al-Shuhada Street (figures: 11, 47, 48 and 49) could not be included in the measured survey.
- 4) The location, number and type of study samples depended on the cooperation of the owners of the buildings; in some cases permission for entrance and measuring is not given.

Stage two includes site observations and notes gathered during several site visits to a cluster of 18 hosh in the Bani Dar neighborhood (figure 23). The site trips took place along with the HRC engineers, who provided valuable information regarding their experiences while rehabilitating the hosh spaces. Architectural drawings, site maps and photographs are obtained from the HRC technical office. The neighborhood, streets and hosh spaces are photographed during the site trips. The hosh drawings obtained from HRC technical office are reproduced using AutoCAD software.

Stage three includes site trips to the surrounding Palestinian cities, namely Bethlehem, Jerusalem and Ramallah, during which a group of central hall houses are photographed, mainly from the exterior. This stage did not include a measured survey, with observations on the central hall houses of the three towns focusing mainly on understanding the basic similarities and differences with those found in Al-Khalil. Extra information concerning the central hall houses of the three towns are obtained from books and publications.

Stage four covers the gathering of oral information concerning the location, occupation status, ownership, living pattern, current use and historical usage of the surveyed houses. Master builders who have constructed the vaulted structures are interviewed, providing useful information on traditional construction methods and techniques. As a reference to traditional construction methods and materials is necessary for understanding both hoshes and central hall houses, all information concerning the traditional construction methods can be found in Appendix B. This provides points of reference for the catalogue, the comparisons, evaluations and conclusions. The oral information collected also covers interviews with people working in the stonemasonry sector, have added to the thesis a clear understanding of stone qualities, types of stone dressing, local names and terminologies.

Transliteration and Date Conversion: for the translation of local Arabic terms, names and terminologies, and the conversion of dates, the Encyclopedia of Islam Transliteration and dating system is used. A glossary of Arabic terms is provided at Appendix A. Dates of construction found in the inscription panels of the surveyed houses are converted from the Islamic ‘Hijri’ calendar to the Gregorian calendar. For example, the inscription panel on the Iz id id-Din al-Hammuri house reads 1350 ‘hijri’, which translates to 1931 in the Gregorian calendar, and is written in the case study as 1350-1931.

1.3 Thesis Organization

The thesis is composed of two volumes. Volume I covers the main text of the thesis, containing the table of contents, abstract, six chapters, end notes, bibliography and Appendices A and B. Volume II contains the visual material relevant to the main text

of the thesis. Visual material in the catalogue (Chapter 4) is numbered using a decimal approach. For photographs, a two-number title is applied, in which the first number signifies the house number followed by the photo number; for example, Figure 1.3 means house number 1, photograph number 3. The same method is used for the numbering of the architectural drawings, but accompanied with the letter D,

thus D1.4 means house number 1, architectural drawing number 4. A straight sequence (Figure 1, 2, 3, etc.) numbering system is used for the visual materials of the other chapters (1, 2, 3, 5, and 6).

The thesis comprises six chapters; it begins with the introduction in Chapter 1. The Second Chapter focuses on Al-Khalil in general. Section 2.1 overviews the geographical settings of the town, while Section 2.2 provides a historical review of the town, with special emphasis given to the study period (late-19th and early-20th century). Chapter 3 focuses on the urban texture of Al-Khalil. In section 3.1, the urban and architectural setting of the traditional area of the town is discussed. The same section covers the pre-19th century residential buildings; a sample hosh is studied in terms of the lot, exterior form, façades and plans. The early-20th century urban and architectural expansion in the Ayn Sarah district is discussed in section 3.2, while Section 3.3 sheds light on the land use and ownership pattern of the town.

Chapter 4 comprises the catalogue of measured central hall houses (houses 1 to 20). The analyses of the surveyed houses are presented in a catalogue format and include both written (volume I) and visual (volume II) materials. This chapter is the backbone of the thesis on which the comparisons and evaluations of the Al-Khalil central hall houses are based. It paves the way for research findings and conclusions.

Chapter 5 covers evaluations and comparisons in increasing circles. The comparison and evaluation of the surveyed houses is presented in section 5.1. Section 5.2 compares the measured central hall houses with 18 unmeasured central hall houses of the town. Section 5.3 compares the measured houses with the pre-19th century hoshes of Al-Khalil. This chapter concludes with section 5.4, in which a fourth circle of comparison is established between the Al-Khalil houses and 31 houses from Bethlehem, Jerusalem and Ramallah. Chapter 6 contains the conclusions and recommendations. In addition, the thesis includes the list of references and glossary of Arabic terms. The traditional construction techniques and materials are also given as appendix because of their relation with the text material

CHAPTER 2

AL-KHALIL

This chapter discusses the geographical setting of Al-Khalil in section 2.1 which covers the geographical location of the town, natural resources, agriculture, industry, trade and the social texture highlighting major changes that have taken place in the family structure, from extended to nucleus. A historical background of the town is presented in section 2.2.

2.1 Geography

Palestine is a sub-region, which is located at the South-West section of Bilad ish-Sham³¹ this continued until 1917, when the British Mandate brought with it new borders that left Palestine with an area of 27,024 km (Figure 2). The newly established borders of Palestine locate it between the Mediterranean Sea to the West, which it borders with a narrow coastal plain, and from the East of the Jordan Valley. To the South is the desert of Sinai and to the North are the mountains of Lebanon. The land of Palestine is mainly composed of three geographic regions: the costal plain, the central mountain block and the Jordan Rift Valley³². In 1948 Palestine was subdivided yet again into what is now known as the State of Israel, the West Bank was annexed to Jordan, and the Gaza Strip was administrated by Egypt (Figures: 3 and 4). After 1967, Israel occupied both areas (the West Bank and the Gaza Strip), and this occupation is continuing today (Figure 5). After 1994 Oslo piece negotiations, the Palestinian Authority was established and was given partial administrative control on 20% of the West Bank and 90% of the Gaza Strip. (See history section of this chapter).

The West Bank covers most of Palestine's central section and the Jordan Rift Valley, and is generally mountainous. It lies to the East of the Jordan River; with a pronounced indentation just below the middle of the formal 1948 Palestine. It extends eastwards to incorporate Jerusalem. At its longest dimensions the West Bank measures around 128km North to South, and some 56km East-West. It is cut in half from North to South by a slightly curved line or arch of mountains ridges. In some cases their apex reach above 1,000m above sea level, with more typical heights ranging from 600–760m (Figures 5 and 6)³³. Because the Western slopes of the West Bank mountains ridges is the first surface which meets with the West-East direction winds, this brings the loaded clouds from the Mediterranean sea direction, resulting at an arable area with a significantly higher annual rainfall and occasional cool breeze. This helps to explain why the West Bank habitation has remained generally on the west side of the ridgeline. The West Bank cities, towns and villages are located at the bottom of valleys or on its sides, while a small number of settlements have emerged on the hilltops.

The West Bank includes 11 principle cities; which from north to south are Jenin, Tubas, Tulkarm, Nablus, Qalqilya, Salfit, Jericho, Ramallah, Jerusalem, Bethlehem, and al-Khalil (Figure 8). The estimated population of the three largest cities in 2007 is Jerusalem (250.000), al-Khalil (154.000) and Nablus (127.000)³⁴.

Al-Khalil is at the South of the West Bank, located 32 km to the South of Jerusalem at 31.31 North latitude and 34 East longitude. It is the only urban center to the South of the Palestinian central mountain range, and is effectively the capital and commercial center of the region. It gives its name to the mountainous region surrounding it, known as Jabal al-Khalil, which is the highest in Palestine having an altitude of between 925m at the older section of the town) and 1,000m at the modern parts built after 1900s on the upper slopes of the mountains (Figures: 9)³⁵. Al-Khalil Mountains (Figures 7 and 8) run for 50-55km from North to South, extending from Jerusalem at an altitude of 700m and rising to 1,020m at the Mount Butruk summit (3km north of the town). The ridge decreases in altitude to the South until it reaches

420m at its connection with the an-Naqab desert, 20km South of the town³⁶.

Al-Khalil and its surrounding villages are located to the West side of the ridgeline, on fertile ground which encouraged the development of rural life and agricultural communities, which settled in villages surrounding the town from the four directions³⁷ (Figure 10). Al Khalil is flanked to the North by the villages of Halhul and Bait-Kahil; to the South, Singer and Yattah; to the East, Sa'ir and Bany-Nu'aym; and to the West, Bait-Aul, Tarqumya, Taffuh and Dura. In addition to these villages, Al-Khalil is surrounded by several Khirab³⁸.

The traditional part of Al-Khalil is located in the Eastern lower part of the Al-Khalil valley. Since 638 (Umayyad period) residential neighborhoods of the town started developing around the Sanctuary of Ibrahim³⁹ which is at the bottom of the valley, and then the traditional town expanded on the slopes of Al-Khalil valley, which passes in Northwest-Southeast directions for 1km⁴⁰. The old town and its valley are located between the surrounding mountains – the Tel al-Rumeida, Kub al-Janib ranges to the Southeast; and the Baylun, and ar-Ras ranges to the North-West⁴¹ (Figure 12). The modern parts of the town developed after 1900 are on the higher slopes of the surrounding mountains.

Beside the importance of the Sanctuary of Ibrahim, the fertile land and the availability of both artificially natural springs as well as water deposited in cisterns have made the town a continually inhabited center. The location of the old town neighbourhoods up the sloping sides of the valley (Figure 12) gave it the clear defensive advantage of being on higher ground⁴². These natural, geographic and topographic settings combined to give the town control over Al-Khalil valley approach, which connects the West Bank heights with an-Naqab desert to the South.

Al-Khalil is influenced by two different climates. The first one is a rainy climate, which has warm winter and dry hot summer and influences the West side of the Al-Khalil mountain range, including the traditional town and new parts of the town. The winter starts in October and lasts until May. Sub-zero temperatures accompanied by

rain and snow have been recorded. During the cold winter days, the average temperature is between 7-10 degrees. The average rainfall varies between the highest recorded of 836mm in 1897 and the lowest of 463mm in 1901. The summer season, which is hot and dry begins in the middle of June and lasts until the end of September. The average annual temperature is 22 degrees⁴³. The second climatic condition is hotter with less precipitation 200mm of annual rainfall. It affects areas located on the Eastern slopes of Al-Khalil Mountains. The highest recorded temperature in the summer is 42 degrees, while the lowest temperature in the winter is 16 degrees.

Natural Resources

The supply of water was the main problem of the town in the pre-Ottoman period, as water supplied by the nearby springs could be hardly enough for the population of the town. During the Ottoman period, the need for larger amount of water necessitated the construction of two large reservoirs in the town; one is at Birkat al-Qazzazin (where today al-Qazzazin mosque stands), while the other is Birkat as-Sultan⁴⁴. In 1898, natural springs to the North and Northeast of the town were surveyed and 22 natural water springs were noted (Figure 13)⁴⁵. Today, Al-Khalil relies on a modern water network of underground water drawn from a central geo-technical station located 15km to the north of the town.

Like the rest of Palestine, Al-Khalil and its surroundings have poor mineral resources. The most common mineral resource of Al-Khalil is building stone, chiefly limestone, an important by-product of which is lime⁴⁶. The Al-Khalil Mountains are composed largely of hard impervious limestone, which lies in horizontal beds. In some areas, the slopes of the valleys are in the form of narrow rock terraces. The limestone of Al-Khalil is classified as metanephric stone, which becomes harder according to depth below the natural ground level. It includes Cenomanian, Eocene, Turonian, and Senonian strata. The Cenomanian and Turonian layers are very hard, resembling marble, while the Senonian and Eocene are soft and chalky in nature⁴⁷.

Agriculture

The sloping topography of Al-Khalil Mountains did not prevent the area from having agricultural potentials; some places are marked rather by having smooth surfaces that are not so steep as to prevent cultivation without terracing⁴⁸. Al-Khalil shares the same agro-ecological characteristics as the Palestinian Central highlands. It has been a predominantly agricultural area, and while agricultural land is its most important natural resource⁴⁹. Similar to other parts of the country, Al-Khalil region is not rich in forests. Locally there is a dearth of timber for any use. Olive trees provide timber used for cooking, heating and carpentry products of simple home furniture⁵⁰.

Al-Khalil is the highest town in the Palestinian central highlands. It is surrounded by fertile land and considerable amounts of rainfall, especially on the northern parts of the area (averaging 700-850mm/year). The climate and the mountainous nature of the area have assisted in the cultivation of certain fruit trees, particularly apples, apricots, plums, figs, olives and grapes. The inhabitants of the town are regarded as the best viticulturists in the Middle East, learning how to prolong the grape season to around six months of the year⁵¹.

The agricultural potentials of Palestine in general, and that of southern Palestine in particular are confirmed by the accounts of the Ottoman traveler Evliya Çelebi, who visited the town in the 17th century and described Al-Khalil as a sustainable town with rich agricultural surrounding land⁵². In a study of the agricultural exports of southern Palestine⁵³, Marwan Burheiry explores British source material, particularly the Foreign Office 'Annual Report on Trade and Commerce between 1885–1914', he concluded that the region had always been an important producer of key agricultural commodities, and that it was experiencing a significant expansion of agriculture and agro-industries⁵⁴.

The active export of agricultural products from southern Palestine brought the start of a new era, which not only appeared after the Ottoman-initiated reforms of the

1840s. Between the 16th–18th centuries, a substantial number of shipments of the regions agricultural commodities were exported to Europe from the ports of Sidon and Acre⁵⁵. Marwan Burheiry's brief survey of southern Palestine's agricultural production exports reflects that after the 1840s southern Palestine yielded a substantial surplus for agricultural exports. The export of these agricultural commodities reached its peak in the 30-year period of 1885–1915⁵⁶. Until the first half of the 20th century, the town occupied a remarkable agricultural productive position among other Palestinian towns⁵⁷.

Small Industries and Commerce

The simple needs of the inhabitants were supplied by local craftsmen who employed the same crude methods of manual production tools for centuries⁵⁸. Other than the agriculture and the related agro-industries such as: yogurt, cheese, olive oil and dried fruits, the town developed traditional crafts and industries, such as the weaving of clothes, tanning oil, soap, pottery, glass making, masonry and milling. These were mainly produced for the local market. Only the glass industry was significant, distinguishing Al Khalil from other the Palestinian towns, it was brought to town by Spanish Jewish emigrants who migrated from Spain to Al-Khalil in 1492⁵⁹. By the late-19th century, different types of glass were being produced in the town workshops, including sheet glass for windows and utensils of different types. This not only covered the local need, but was also exported to Jordan and Cairo, and even to Europe, as in 1873, glass produced in Al-Khalil was displayed at the 1873 International Exhibition held in Vienna⁶⁰.

Workshops for leather and cotton spinning were established and encouraged by the availability of raw materials. After the 1930s, the communications and trade with Europe was reflected on the small production workshops of the city, and machinery and electric power was introduced, first to small producers, such as ready-made clothing, shoe making, carpentry and gold and silversmiths, as well as for the manufacture of quilts and mattresses. Later, the building trade and stone cutting

trades were developed because of partnerships and connections with European craftsmen⁶¹.

The town is located on the trade routes between Egypt and Jordan (figure 14). It lies at the natural trade crossroads leading to the Al-Naqab desert and the coast to the South and Southwest, to the Southern end of the Dead Sea and to the main ancient Syrian-Arabian caravan route. In the later Middle Ages, continuing into modern times, travelers from Egypt often preferred the Al-Khalil route⁶². The town has also become the main market place of the surrounding areas. In the latter years of the 18th century and during the Napoleonic wars, when the coastal towns were almost completely destroyed, Al-Khalil flourished as one of the most important commercial centers in Palestine, with the caravans from Egypt preferring the more southerly route through Sinai and Beer as- Sab' to Al-Khalil⁶³.

Today Al-Khalil is known as the economic and industrial capital of the West Bank, mostly noted for stone, plastic, leather, chemicals, paints, food and furniture industries. According to recent statistics of the Ministry of Trade, Al-Khalil occupies a leading industrial and commercial position in the West Bank. Until 2006, the following companies are found to be registered at Al Khalil Chamber of Commerce: 1953 companies are classified as commercial, 478 are industrial, and 610 are in crafts, 334 in services and 164 in construction⁶⁴. Following the criteria of the Palestinian Ministry of National economy, these companies have been classified as 1,153 large, 1,213 medium and 1,173 small⁶⁵.

Demography and Social Structure

The demographic counts of the town between the years 1838–2007 are presented in table one. It can be seen that in some periods the population growth stays persistently under the expected figures for a town like Al-Khalil, with inhabitants known for their customarily high birth rate, large families being associated both then and now with social status and power. The reason for the surprisingly slow growth of the

population is that in certain periods Al-Khalil faced successive wars, waves of migrations and disease. According to the Palestinian National Information Centre, the findings for Al-Khalil show that it did not have a mixed population of Muslims and Christians, the 154,000 population all being Muslims, with 400 Jewish settlers living within the old fabric part of the town⁶⁶.

Up until the early-20th century, the town used to have a traditional social hierarchy that begins with the larger and down to the narrower social circles. Hamula (clan) is the largest social unit, this is composed of a group of subdivisions each is called Aylah, which in turn is composed of a group of extended families. The extended family was the smallest social units in the society. Usually in this family type, the married sons and their children lived together with the rest of the family. Usually, extended family went beyond this to a larger circle of relatives, with married cousins living with each other⁶⁷. When the extended family increases to a larger circle of relatives farther than married cousins who are living together it is called Aylah, the members of which were living in two or more hoshes which are adjacent to each other forming a quarter of a neighborhood known as harah.

Table 1: Demographic growth of Al-Khalil
Source: Palestinian National Information Centre, 2007 reports

Year	Population	Year	Population
1838	10,000	1945	24,560
1851	11,500	1952	35,983
1875	17,000	1961	37,868
1881	10,000	1967	38,091
1922	16,577	1997	119,093
1931	17,531	2007	Estimated 154,000

Such a social texture was reflected on the old town neighbourhoods, or ‘Mahallah’, of which there are 14 in Al-Khalil, (Figure 12), each of which is inhabited by a large

clan. Usually, the Mahallah was divided into smaller quarters, each known as a Harah, which is inhabited by one or more Aylah of the same Hamula. The harah is composed of a number of extended-family hoshes (Figure 23)⁶⁸.

The extended family reflects the strong social interactions found among the people who share familial ties. This was the legacy of an agricultural and commercial society in which people worked and lived together. The 20th century modernization has influenced social life in town, whilst leaving this conservative society largely unaffected⁶⁹. The improvement of the population's educational level, the increase in population, and the introduction of new job opportunities with variations of employment fields has paved the way for a social transformation that has mainly affected the family structure, moving from the extended to nucleus type. The change in family structure paved the way for the growth of individualized society, and newly established nucleus families have started to look for independent dwellings and professions.

During the study period, Al-Khalil has witnessed improvements in its education sector, not only in the number of students being educated both in primary and secondary schools, but also in the dramatically increased number of schools found in the various parts of the town. According to Justification Court records, in 1871 Al-Khalil had six Muslim schools with 225 students, and a Jewish school serving 40 students. By 1901 the number of Muslim schools had increased to 10, and of the single Jewish had been joined by another four. Provisions for female students began after 1906⁷⁰. After 1918, the social trend towards education continued to gather momentum, and more schools were opened for both male and female students.

2.2 History

Archaeological findings place the first human habitation in Al-Khalil to 3500 BC when it was first established on Tel Al-Rumeida site as a Canaanite town. The ruins of Tel Al-Rumeida are found at the North-West of the old town (Figure 12). By 1700 BC, the town had become an important religious and spiritual center, witnessing the immigration of the Prophet Ibrahim, to the town. The Islamic name of the town (Al-

Khalil) is with reference to Prophet Ibrahim who was called in Quran Khalil Allah meaning the Friend of God. After the death of his wife Sara, Ibrahim purchased a cave from one of the local Canaanite people in which he buried her, with the intention of being buried in the same cave. Later, Jacob, and his wife Leah; and Isaac, and his wife Rebecca were buried in the same place, which was named the Macpelah Cave. On top of this cave, the Sanctuary of Ibrahim is located ⁷¹.

During the Roman period, Tel Al-Rumeida was attacked several times by the Romans. The worst of them occurred during a local revolt against the Roman authorities (132-135) that ended with the Romans demolishing most of the buildings in the town. The Romans prohibited any reconstruction in the town to stop it becoming a center of revolt. This situation did not change much during the Byzantine period (313-636), the town was ignored and the only significant action was the conversion of the Sanctuary into a church, the surrounding agricultural lands were converted into a Byzantine farm ⁷². An Arabic tribe called 'Lakhim' inhabited the ruins of the town after it was demolished by the Romans in 135, restoring some of its houses and other buildings, and continuing to live in Tel Al-Rumeida until the Islamic Caliphate was introduced to the town in 636 ⁷³.

It was only after 638 during the Rule of the Muslim Caliphate 'Umar Bin al-Khattab that the center of the town shifted from the Southeast Tel Al-Rumeida to the area surrounding the Sanctuary of Ibrahim (Figure 12). Guesthouses were first built to accommodate the pilgrims, and later, residential neighborhoods were established ⁷⁴. Following to Caliphate 'Umar Bin al-Khattab period, the town gained a special religious status, because of its association with Prophet Ibrahim as well as the belief that the Prophet Mohamed passed through Al-Khalil on his night-journey to Heaven via Jerusalem. Islam describes Prophet Ibrahim as being Muslim (hanif), and that the religion promoted by the Prophet Mohamed was the same being advanced by the

Prophet Ibrahim. He is known in Islam as 'Ibrahim Khalil Allah' meaning the friend of Allah ⁷⁵. The tombs of the Prophets ⁷⁶ gave the town an atmosphere of miracles and mysticism, which brought a growth of the town around the Macpelah Cave, a

spiritual environment in which a believer's requests are said to be promptly fulfilled. Since then, Al-Khalil has become a major pilgrimage site. The Sanctuary of Ibrahim is regarded by many as Islam's fourth holiest site after Mecca, Medina and Jerusalem⁷⁷.

Early sources only mention the legend of the bestowal of the town by the Prophet Mohamed to Nuaym ben aws al-dari⁷⁸, his tribe (Bani Dar) later tried to claim the town by presenting a letter from Prophet Mohammed to Nuaym ben aws al-dari attesting the bestowal of the town and its surroundings to them⁷⁹. Most probably, Bani Dar Tribe was the first to inhabit the Sanctuary of Ibrahim surroundings and establish the first residential neighbourhood (Bani Dar) to the South-West of the Sanctuary. According to the bestowal document, Bani Dar tribe was responsible for serving the Sanctuary and its visitors⁸⁰. The Sanctuary and the Bani Dar neighbourhood became the core of the development of Al-Khalil.

Sources on the Umayyad (670-750)⁸¹ and Abbasids periods (750-932)⁸² mention Al-Khalil as a large village, however many of the town's residents left their homes for almost half of the year to work in their orchards and vineyards. Such agricultural dependency gave the town the atmosphere of a village⁸³. Al-Khalil used to be called "the city village" by many travelers and historians, an indication of the inhabitants' rural way of living and the special religious status of the town. Since the early Islamic periods of Umayyad and Abbasids, the Sanctuary has been complemented with guesthouses to accommodate visiting pilgrims, and the Prophet Ibrahim kitchen, known as 'Al-Simat', from which meals were distributed to the town residents and pilgrims⁸⁴. The town was invaded in 1099 by the Crusaders, who demolished most of the neighborhoods and converted the Sanctuary into a church⁸⁵.

In 1187, the Muslim leader Salahaddin Ayyoubi liberated the town from the Crusaders and introduced a complete plan for the rebuilding of Al-Khalil⁸⁶. During the Ayyoubi period (1187-1260), life was again brought to the town and its neighbourhoods. Salahaddin Ayyoubi ordered the restoration of the Sanctuary,

constructing a magnificent Fatimid-era timber minbar that still stands in the main prayer hall. During his time, most of the demolished neighbourhoods were also rebuilt. Salahaddin settled new people in the town consisting of Turkish, Kurdish and Moorish ethnicities that help to revive the cultural and social life⁸⁷. Increase of population through immigration necessitated the formation of new neighborhoods⁸⁸. The Bani neighbourhood, which existed earlier than this period, was rebuilt and enlarged. The Mahalat al-Akrad located to the Northeast of the Sanctuary accommodated the Kurdish and Turkish population. The remaining seven neighbourhoods developed gradually in a linear form along the lower slopes of the valley⁸⁹ (Figure 12).

In 1260, the town was captured and occupied by a Mongol detachment for a short while. Mamluk rule was established in Egypt and Syria around 1266 and lasted until the Ottoman conquest in 1517. During this period, the sanctuaries in Jerusalem and Al-Khalil were given particular attention by the central government as well as the local governors⁹⁰. The Mamluk rule over the town was signified with active socio-economic and cultural condition. During this period, schools, religious buildings and mosques were constructed in the town. The mosques, bazaars and all other Mamluk public buildings are listed on the first section of the following chapter. It is mentioned that during the Mamluke rule, the town saw the beginning of industrial and commercial activities and the establishment of specialized bazaars in the traditional neighborhoods, mainly concentrated around the Sanctuary of Ibrahim (Figure 18 and 20)⁹¹. The bazaars constructed during Mamluke listed under public buildings of chapter three. The already established Ayyoubi neighborhoods were enlarged and two new neighborhoods, Mahalat ash-Shaykh. Moreover, Mahalat Qiyun was added to the existing ones (Figure 12)⁹².

During the Mamluk rule, a special functionary, Nazir Al-Haramayn Al-Sharifayn was appointed with responsibilities to supervise the endowments of Jerusalem and Al-Khalil. In 1268, the Mamluk Sultan Baybars allocated large sums of endowments for the Sanctuary and the adjacent Simat, which included kitchens, mills and storage

places⁹³. The inhabitants of the town as well as the pilgrims were served one meal a day, called Al-Simat Al-Khalil, was intended to honor Ibrahim's generosity and hospitality. Substantial funds from the income of many villages were endowed for the Simat. During this period, a dish known as 'dashisha' and bread were distributed from the kitchen three times a day. Each day, 15,000 loaves of bread were baked⁹⁴. The spiritual environment of the town encouraged the growth of an active Sufi movement. During the Ayyoubid and Mamluke periods, Al-Khalil became a center for Islamic scholarship⁹⁵. The increasing number of pilgrims necessitated the building of a large water reservoir in 1286. In 1313, another water project was initiated in the town, in which an aqueduct was constructed to bring water to 'Ayn al-Tawashi' located at the northern entrance of the Sanctuary⁹⁶.

The Ottoman rule was introduced to Al-Khalil in 1517, when the town became an administrative center of a 'nahiya'⁹⁷ in the 'sandjak'⁹⁸ of Jerusalem. The Muslim inhabitants of the town became exempt from taxes; and extensive effort was given for the repair and maintenance of the sanctuaries in Al-Khalil and Jerusalem. Pilgrims from all over the Empire and from other countries visited the town, and the Ottoman State carried the full responsibility of protecting and providing food and accommodation for the pilgrims. Frequent orders were issued from Istanbul concerning administration, repair and upkeep of the Sanctuary and Simat. If funding became a problem, additional land was endowed as wakf. Similar to the Mamluks, the Ottomans continued supporting the earlier-established Sufi orders. During the Ottoman period, the town continued to suffer even more intensely from attacks from the Bedouins as it was in the Mamluk period. To safeguard the pilgrimage roads the Ottomans tried to keep the Bedouins in check by building fortresses along the roads, and by taking hostages from the tribes⁹⁹. The young men of Bedouin tribes were employed as security guards who were responsible of guarding the pilgrims during their trips.

Accounts of the Ottoman traveler Evliya Çelebi provide valuable information on the socio-economic, cultural, and architectural condition of the town during the 17th

Century. He notes that the town did not have a fortification wall, but instead its buildings and neighbourhoods were connected to each other, resembling a castle. The houses were composed of several floors and constructed completely from stone; they were well maintained. The Sanctuary of Ibrahim was the most important buildings of the town. Adjacent to the Sanctuary from the North side the Simat is found; from there food is distributed to the town residents and pilgrims. Every day 7,000 plates of food were distributed from the Simat kitchen. On every Friday night, milk deserts were served. Neither the poor nor the rich residents lit fires for cooking. Houses constructed during this period did not have kitchens either. The Sanctuary was accompanied with Khan (inn) composed of 200 rooms and a stable, which could accommodate up to 2,000 horses. Around the Sanctuary there were approximately 200 houses accommodating 1,000 people, another 600 houses were located to the South and West of the Sanctuary. The town had seven mosques, three public baths, 200 shops and three Khans. To the North of the town, seven hours by foot, there were the orchards and vineyards full of different types of fruits like grape, apple, apricot, plum, and olive. The inhabitants were well off working in trade and agriculture¹⁰⁰.

The Ottoman role in Palestine was interrupted by an occupation lead by Ibrahim Pasha the son of Mohamed Ali Pasha who was appointed as governor to Egypt by the Ottomans and who revolted and declared Egypt as independent from the central government in Istanbul¹⁰¹. During this period (1831-1849), the town deteriorated as it took an active part of the revolt against Ibrahim Pasha in 1834. Al-Khalil was besieged by Ibrahim Pasha Army and many buildings were destroyed by cannon fire. The town was occupied until 1840, when a rebel from Dura, a village located to the west of Al-Khalil, killed the governor appointed by Ibrahim Pasha, proclaiming allegiance to the Ottoman Sultan and making himself governor¹⁰². The Ottomans regained complete control of the town in 1846. Starting in the 1850s, the town began to recover the Occupation.

The period following Ibrahim Pasha Occupation (1839-1860) witnessed many socio-economic and cultural improvements. This is a period of change as the Ottoman

State improved security in the whole country, as well as in Al-Khalil. The Ottoman Sultan Abd-almajed the son of Sultan Mahmud the second, issued new reforms which organized the military service, the courts and justice, taxes and finance of the state expenditures. To fight corruption within the governmental institutions he issued laws, which organized the responsibilities of the government employees and raised their salaries. At the same period, foreign citizens were allowed to move freely all around the Empire and had the right of investing and run business in Palestine¹⁰³. All of this encouraged economy of the country as it became opened to the west and other parts of the world.

Beside the above discussed administrative reforms, the interest of the European powers in Palestine after the opening of Suez Canal in 1869 encouraged economic improvements¹⁰⁴, this in turn lead to the emergence of a new class of merchants and social elites. The Tanzimat reforms brought a new concept of direct central administrative system where the State took on the full governmental responsibilities and applied them through its functionaries, and not, as before, through the ruling rural families¹⁰⁵. While most researchers call Ibrahim Pasha period (1831-1841) and the Tanzimat reforms in Palestine as the turning point towards modernity, recently it has been found this suggestion remains weak, as it is believed that the basis for social-cultural and economic change was initiated during earlier periods, mainly in the 18th century¹⁰⁶.

Prior to Tanzimat, Al-Khalil was a 'nahiya' in the 'sandjak' of Kuds (Jerusalem), and was a relatively small district of the mountain highway that ran from Gaza to Nablus. The Sandjak was of limited political and economic importance and was rural in character Kuds and Al-Khalil were the only towns at that time¹⁰⁷, also used to be administratively connected with Vilayet (State) Syria the capital of which was Damascus. After the Tanzimat, the Sandjak of Kuds was chosen to become the capital of the southern sandjaks, which was extended to include the sandjaks of Nablus and Gaza as well. The Kuds sandjak became the centre of a large region that covered the area from the Esdraelon Plain in the north to Rafah and the Sinai

Peninsula in the south. In 1861, Sandjak of Kuds became directly connected with Istanbul; this has been the most important decision concerning Kuds, and Al-Khalil as a nahiya of it¹⁰⁸.

The town benefited from the 19th century Ottoman reforms, reflecting on its inhabitants' lifestyles and socio-economic conditions. Most improvements were realized in the urban and rural relationships because of commercial agricultural development and the emergence of a new ruling class based more on wealth than political office. As traditional modules of organization lasted much longer than it is usually admitted, such social changes surfaced long before they were initiated reforms of 1840s. This socio-economic and cultural change in Palestine was accompanied first with new patterns of capital investments in the countryside by merchants and peasant independences. All of this resulted in a concentration of wealth and its effects on family relations, and the spread of money economy and the erosion of clan solidarity ending up with the establishment of a new upper middle class of nucleus families¹⁰⁹.

It was until the end of the 18th century that construction activities continued within the existing neighbourhoods. At the beginning of the 18th century, two new neighbourhoods (al-Masharqah al-Fwqa and al-Masharqah at-Tahta) were added, followed by Bab az-Zawiya, developed during the early-19th century¹¹⁰ (Figure 12).

After the 1880s, building activities started to take place outside the traditional neighborhoods (Figures 19 and 20)¹¹¹. Freestanding individual residential buildings were constructed to answer the increasing population demand and housing requirements of the newly established nucleus families. The late-19th century saw the emergence of a new fashion of residential buildings (central hall houses), which first appeared on the surrounding empty lands. This trend of new housing module was first introduced by the Ottoman governors and employees¹¹²; this is an indication of the fact that similar changes took place in all the Arab lands that the Ottomans rules. In Al-Khalil, the new neighborhoods were on the higher slopes of the valley to the

old fabric neighbourhoods. Later, construction activities took place on the agricultural lands and vineyards located in the Ayn Sarah region to the North of the city (Figure 15: Al-Khalil map, Ayn Sara region and the traditional part of the town and Figure 19: map of classification of buildings with reference to date of construction).

The British ended the Ottoman rule in Palestine in 1917, and started the British mandate (Figure 2) in 1922¹¹³. Al-Khalil became the capital of a sub-district (Qada') of southern Palestine¹¹⁴. The town became an important political centre for revolts against the Mandate. Local leaders objected to the promises of the British Prime Minister to the Zionist movement for the formation of a Jewish national state in Palestine. The residents of Al-Khalil participated in the 1936 riots, which lasted six months¹¹⁵. Political instability and successive revolutions, which happened during the British Mandate, did not halt the socio-economic and urban improvements of the 19th century. During the British mandate, the economic conditions in Palestine were considerably good. Palestine received fifty thousand tourists every year. The British government had high expenditures on the salaries of its employees and soldiers. Large amounts of money were invested in agriculture, trade and industry by foreign and mainly British companies¹¹⁶. Such economic improvements did not mean that the Palestinian society was in leisure, as the Palestinian people were aware of the British government plans, which aimed at handing Palestine to the Zionist movement for the establishment a Jewish national state on the lands of the Palestinians.

The British Mandate was ended in 1947 when United Nations ended the war between the Arab Liberation Party and the Zionist Movement. The West Bank was passed to the Jordanian Kingdom administration and the Gaza Strip under the administration of Egypt (Figure 3, and 4)¹¹⁷. The 1947 War resulted in the migration of most of the former inhabitants of Palestine to the West Bank, Gaza Strip, and to neighboring Arabic countries. Al-Khalil, like other Palestinian towns, received a large population of immigrants; increasing the population of the town and raising the demand for housing¹¹⁸. With the efforts initiated in the 1950s by the Jordanian Ministry of

Tourism, this period saw some pilgrim tourism to the town. The Jordanians State, regrettably, tried to encourage pilgrim tourism when it pulled down some Mamluk buildings to make way for a plaza around the Sanctuary¹¹⁹. By the end of the Jordanian period (1967), three-quarters of the population of the town were living outside the traditional part of the town, which was economically sustainable, even if poor, with a population of 10,000¹²⁰. For the population of the town during this period see Table 1.

The Jordanian period is characterised by stable political conditions that had positive effects on the socio-cultural conditions of the town. The Jordanian government did not treat the West Bank as a geographic region, which is administrated by the Jordanian Kingdome only. The West Bank towns were perceived as an original part of the whole kingdom. Necessary governmental support in health, education, municipal services were given. Palestinians and Jordanians were equally treated as citizens who have equal rights and responsibilities in the Kingdome of Jordan. During this period the bases for civil associations were laid, the first Chamber of Commerce was established in 1954, followed by the chambers of Engineers and Health Services. Al-Khalil had its representatives in the Jordanian parliament and government. Organized administrative services were introduced, and the municipality gained support from the ministry of municipal affairs, which provided the necessary budget for municipal services of transport infrastructure, water networks, underground sewage networks and garbage collection. Electric power and water networks were introduced to the town in 1951¹²¹.

In June 1967, Al-Khalil was occupied by Israel; the occupation continues to this day. Since then the town has been under the most turbulent military rule and became the focus of right-wing Israeli extremists who first occupied a Hebron hotel in 1968. In 1970 by the Israeli government granted permission for the establishment of the first settlement in the West Bank, the 'Kiryat Arba'¹²². The demolition of traditional buildings became a regular feature of successive Israeli governments. Following the 1967 Israeli occupation, life in the town has been more turbulent; the occupation placed tighter restrictions on the inhabitants of the town and those of traditional part

in particular. This resulted at economic deterioration particularly within the traditional neighbourhoods driving out most families to newer neighbourhoods with better infrastructure, services, and investment possibilities.

By the 1980s, the historic part of the town became an urban slum, where in 1988 about 85% percent of the buildings were no longer inhabited decreasing the population of the traditional part of the town from 10 000 in 1967 to 3000 in ¹²³. Many architectural features of the traditional town, such as vaults, and traditional tiled floors, had been destroyed over the years in of 1967-1994. During these years the town in general, and specifically the traditional tissue, has been suffering from the Israeli occupation polices. Many of the traditional neighborhoods are placed under curfew for months, pedestrian and vehicular movement within the traditional town are restricted and controlled by military orders, and this forced many merchants, residents and workshops to move out of the traditional town. This situation has resulted at the deterioration of architectural, urban, social, cultural and economic conditions of the town. The Hebron Protocol¹²⁴, signed in 1995, with which the town was divided into two separately administrated zones, aggravated this process. This destroyed the town's natural validity and ability to function as a unified urban tissue containing traditional and modern parts, which are complementary to each other's. Figure 11 the map of the Hebron protocol of 1999, which subdivided the town into H1 and H2 zones (Figure 11). The Protocol gave the Palestinian Authority control of H1 (modern part of the town), while the traditional part of the town, called the H2 zone, was kept under direct Israeli military control for the alleged security of less than 500 right-wing Israeli extremists who occupied some of the traditional town hoshes ¹²⁵ (Figure 11). The subdivision of the town, increased tension within the town, and is creating harder living conditions for the residents of the traditional neighborhoods. A large number of Israeli soldiers guarded checkpoints; their inhumane treatment forced many inhabitants to leave their houses.

According to the Oslo Agreements, the responsibilities of the Palestinian National Authority's (PNA) were limited to administration of health, education, and municipal services. Such partial authorization restricted the Palestinian Authority from

providing necessary services to the traditional part of the town. Despite these limitations, the PNA worked to improve the social, cultural and economic conditions of the inhabitants. In 1994, the PNA endorsed the establishment of Hebron Rehabilitation Committee (HRC), as a non-governmental organization, which included local representatives and experts from relevant ministries of the PNA, and sixteen of the most important figures in the municipality, Hebron University, technical experts from the town.

The HRC employed technical team of thirty-two local engineers, architects, and social specialists, who was responsible of preparing comprehensive revitalization guidelines for conserving the traditional town neighbourhoods. The PNA provided the basic operating costs, donated by the Arab Fund for Economic and Social Development. In the long term, the HRC wanted to ensure the social and economic integration of the historic core with the rest of the city. HRC worked also to upgrade the socio-economic conditions by a job creation program, which was mainly in two directions; firstly by creating new job opportunities for residents of the traditional town as labors in the restoration projects and secondly by encouraging the establishment of small workshops in the restored buildings.

Architecturally the HRC began by drawing up comprehensive revitalization guidelines for conservation of the historic buildings of the traditional part of the town, especially those near the settlement enclaves, to prevent settler takeovers. Family hosh built centuries ago for extended families, are reorganized and broken into separate living areas for nuclear families, spaces had to be made for introducing kitchen and bathroom facilities in many of the houses. The HRC has contributed greatly to the traditional part of the town by conserving and restoring traditional buildings, bazaars and streets, and by rehabilitating restored neighborhoods. The 150 years old underground water and sewage system is completely renovated. By the year 2000, four hundred units of traditional town hoshes were restored and rehabilitated, this is about one-third of the traditional town buildings, and in addition to that, the shops, markets, streets, and archways were restored too. Families were encouraged to move back because of the improved environment and financial need

The Israeli occupation authorities placed many restrictions on restoration works of the HRC. Transporting building materials and employees who are working in the restoration projects were in many cases becoming considerably hard¹²⁷. See Figure 10 the map of Al-Khalil, surrounding villages, and Israeli colonies.

CHAPTER 3

URBAN TEXTURE

This chapter studies the urban texture of Al-Khalil in three parts, 3.1 interprets the urban and architectural characteristic of the older part of the town, with special emphasis on the hosh using the Al-Khateeb hosh as a sample case study. The second section (3.2), covering the 'Early-20th century Ayn Sarah Region', discussing the urban characteristic of the early-20th century development which sheds light on the historical development of this part of the town, along with urban density, architectural characteristics and the use of existing buildings. The third section (3.3), 'Land Use and Ownership Patterns' is an overview of the pre-20th century land classifications and ownership patterns, shedding light on the major changes in the land registration and ownership regulations during the period of the British mandate.

3.1 Older Part of Al-Khalil

The older part of the town is composed of 14 neighbourhoods, unlike many of midlevel towns Al-Khalil has never been surrounded by a fortification wall, instead it took the form of three isolated parts which continued to develop through eight centuries¹²⁸ (Figure 12). The traditional town developed around the Sanctuary of Ibrahim later expanding in a linear form along the slopes of the Al-Khalil valley, which runs in northeast direction. As most of the town was demolished during the Crusades in 1099, the town was rebuilt again by the Ayyubids (1187-1250), during which the foundations of nine neighbourhoods were laid those are¹²⁹: al-Qazzazin, as-Sawaknih, al-'Aqabah, Bani dar, al-Kaliah, al-Akrad, al-Muhtasib, al-Madarsih, al-Hoshiyyah. The neighbourhoods are marked in Figure 12 numbers one to nine.

The Bani-Dar neighbourhood existed before the Ayyubid period, but was rebuilt and enlarged during this period to accommodate the local Arab ethnic group. Two small quarters 'Hara' that accommodated Jewish and Christian communities (Al-Yahwd and Al-Nasara), used to be part of Bani-Dar. Al-Akrad neighbourhood accommodated inhabitants of Turkish and Kurdish ethnic origins; it is located to the Northeast of the Sanctuary of Ibrahim. The remaining seven neighbourhoods were named according to the crafts or trades practiced by the inhabitants. For example, al-Qazzazin is named so as it included many glass workshops, al-Madarsih as it included most of the religious schools also that its inhabitants were the most educated, al-Hoshiyyah is named so as most of the inhabitants used to work in vineyards. These also accommodated inhabitants of mixed ethnicities¹³⁰. The two neighbourhoods of Qiyun and ash-Shaykh were added during the Mamluke period, and are isolated from the old fabric neighbourhoods¹³¹ (figure 12).

The existing neighbourhoods continued to develop until the end of the 17th century. At the very beginning, the hosh developed horizontally at the ground level until empty spaces are filled with living spaces, which were attached to each other. Later when space open spaces are consumed at the ground level, the hosh was extending vertically to accommodate the newly wed sons of the extended family. Two new neighbourhoods, al-Masharqah at-Tahta and al-Masharqah al-Fwqa developed at the beginning of the 18th century¹³².

It was not until the early-19th century that the town took the form of three isolated parts. The largest part developed at the East, West, and South sides of the Sanctuary of Ibrahim on the sloping sides of Al-khalil valley. This part consisted of 11 neighbourhoods, including the nine Ayyubid neighbourhoods and the two 18th - century neighbourhoods (al-Masharqah at-Tahta and al-Masharqah al-Fwqa). The second part (Qiyun neighbourhood), is located to the South of the first one, and dates to the Mamluke period. The third part (ash-Shaykh neighbourhood) is located on the Northwest side of the first part; it was established during the Mamluke Period. The ash-Shaykh neighbourhood remained isolated from the first section until the

early-19th century, when the Bab az-Zawiya neighbourhood was established, connecting it with the rest of the traditional tissue. Figure is a development sketch map of the old neighbourhoods (figure 12).

The old town has a homogenous tissue featuring simple local architecture of irregularly attached vaulted and cubic stone masses (general views of old town in figures: 51, 52, and 53). This texture is made up of extended-family housing complexes, or 'hoshes', which are attached to each other and intercepted by covered passages, narrow alleys and small squares. The neighbourhoods feature a very compact organic architecture (map in figure 23, panorama in figure 53). Each neighbourhood is characterized with an accumulated architectural heritage, reflecting imprints left by successive generations. Initially the neighbourhood expanded horizontally, before the increasing population and a shortage of open land lead to vertical expansions (figure 23: is site location showing the compact organic tissue in Bani Dar neighbourhood).

“Until the beginning of the 19th century, the town consisted of three sections. The town did not have a wall surrounding all these three sections, but each section was protected by the continuous walls of the closely-knit houses at their periphery. The main entrances, which were few, had gates which were highly controlled; and underpasses leading to the entrances to the houses, which never opened to the outside directly.”¹³³

Defensive considerations moved from the larger old fabric to the neighbourhoods each had a large gate, which would be closed at night¹³⁴. It was difficult for strangers to move freely within the neighbourhood, as it was intercepted with narrow crooked organic passages, and only the local residents knew how the organic passages were interlinked (figure 23). The hosh plan features a very compact layout, with most of the spaces opening onto the courtyard, with minimum openings to the outside. Externally, the hosh walls reach up to four floors connect with neighbouring buildings. Minimum window openings are provided at street level. Defensive

considerations are clear in the panorama of the town figures: 51, 52, 53, and 54. The traditional neighbourhoods are very compact and the urban tissue is lacking open spaces; small squares, 'sahat' are found between the hoshes of the same neighbourhood (Map in figure: 23 and photographs in figures 54, 55). Private courtyards replaced the lack of open public squares, creating a balance of solid and void.

The traditional tissue is intercepted by organic passages; the bazaars are the widest, usually measuring four to five metres, photographs in figures 60 and 61. The streets locally called 'tariq', were used by both pedestrians and vehicles (wheeled animals), and varying in width from two to four meters, see photographs in figures 56, 57 and 58. Each neighbourhood used to be intercepted by narrow pedestrian pathways, known as 'zokaks', usually measuring one to two meters wide (figure 59), in some cases the zokaks is dead end. The floors of streets and bazaars were usually finished with flagstone tiles, at the middle of which there would be open water drainage, used to steer the rainwater towards public pools and private or public cisterns (figures 59 to 61). The street sides are defined with the walls of neighbouring buildings. From time to time, the street would be covered from top to bottom with a barrel or cross vault, on top of which a neighbouring hosh room 'kant rah' would be constructed. This would feature a window opening overlooking the street below (figure 58).

Religious and Public Buildings

The most important religious building is the Sanctuary of Ibrahim (Figure 71), which is constructed on top of the Machpelah Cave and is the oldest structure in the town, assumed to date back to the times of the Prophet Suleiman. The main building is not roofed, it has only a courtyard, the walls measure 16m in height and 2.68m thick. It is rectangular in plan, measuring 59.28m on a Northwest axis, and 33.97 Southeast¹³⁵. The large stones, measuring 1m in height, making up the lower parts of the wall are a significant feature of that period¹³⁶. Dalton's archaeological findings suggest that the lower parts of the external walls of the sanctuary date back to 25 BC, while the upper parts of the walls and the domes were added during the Umayyad

period. The two minarets are from the Mamluke period¹³⁷. The sanctuary was flanked by guesthouses, known as 'Ibrahimiyy Rribat', for accommodating pilgrims, and the Prophet Ibrahim kitchen 'Simat', from which food used to be served to the pilgrims and the local residents. Other than the Sanctuary of Ibrahim, the traditional part of the town contains eight mosques, five of which date back to the Mamluke period¹³⁸.

Dozens of zawiya¹³⁹ were constructed at different parts of the town. The HRC gathered information on 30 zawiya. Besides these zawiya, the traditional town has also contains 15 Maqms¹⁴¹. Al-Sarayih was the central administrative building of the nahiya. Until 1912 this was that was located next to the Sanctuary, and then it was moved to a new building next to the Al-Sultan pool. The Justification Court was another important governmental building, which also provided consultations on Islamic justification issues¹⁴².

Al-Karanten is a place of quarantine. The Scotland hospital started operating in 1893, managed and financed by the Scottish Proselytising Community. The town was home to three Muslim and one Jewish Cemeteries. Two large pools were used to provide the town with water; in addition, water fountains could be found in the old fabric neighbourhoods, mainly located in front of mosques, public buildings and in public squares. There were three public baths, the most famous being Hammam Al-Sayyid Al-Khalil, which dates back to 1266 and is located at Mahalit Bani Dar. This building was restored by the HRC and turned to a museum.

Most of the city bazaars and shops developed around the Sanctuary of Ibrahim within the Bani Dar, al-Kaliah and al-Hoshiyyah neighbourhoods (figure 12). This location was influenced by the pilgrims and crowds of visitors who would flock to this area during religious festivals. This does not mean that there used to be a clear functional separation between the residential and public buildings. The old town GIS maps (existing building use in figure 17) do not show an urban tissue in which residential, commercial, religious and governmental buildings were clearly separated from each other's.

The town has nine specialist and non-specialist bazaars, which display the names of the products sold within ¹⁴³. Each is composed of two parallel rows of shops with a road of four to five meters wide between them. The bazaars are usually roofed with a high ceiling containing a number of openings to let light inside. The floors are covered with flagstone tiles, and for every bazaar, there would be a gate and a guard. Other than the bazaars, the traditional town had four Khans ¹⁴⁴, each featuring a large gate that led to an open courtyard that was surrounded by shops and stables.

The Hoshes in Al-Khalil

Usually the lot size of the hosh depends on the size of extended family members and the number of spaces provided at the ground level. In Al-Khalil, some hoshes included more than 20 rooms at the ground level and some other hoshes had only little number of rooms as the ground level contains three to four living spaces. When the available area at the ground level is limited, vertical expansions happened to answer increasing population and the need to accommodate the newly married couples of extended family, therefore the hoshes of Al-khalil varied from two, three to four levels in height, this variation in the buildings height is clearly distinguished at the map of figure 16. The following description of the hosh is based on the site visits and inspections of the eighteen hosh in Bani Dar neighbourhoods in the following Al-khteab hosh, is selected as a reference example of the traditional hosh in Al-khalil.

The hosh is characterised by a central courtyard, ‘Saha Samawiyih’, which is generally accessed through a narrow stepped passage, a ‘dahlyz’. Living spaces, which are found on the same level as the courtyard, are directly connected to it. The spaces of the upper levels are indirectly connected to the courtyard via irregular stone steps. For privacy and security, windows or openings to outside are both few and small, with most of the hosh spaces rather having window openings that overlook the courtyard. The upstairs terraces or roofs were used for leisure and for sleeping on warm summer nights. The roofs are usually surrounded by high parapets, which run around the roof sides, providing the users with a higher degree of privacy. The roofs are used for drying vegetables.

The courtyard is a very important feature of the hosh. Usually, the courtyard area increases in size at the upper levels. This is achieved as the spaces of the upper levels are recessed back from the central courtyard, resulting in semi-open spaces, which are used as horizontal circulation elements. In addition, the lower spaces benefit from this arrangement through better light and ventilation (figures 23, 24, 25 and 26). The hosh is connected with the street level by an underpass or narrow passage, known locally as a 'dahlyz', which usually connects the courtyard to the outside.

Usually, spaces of the hosh located at street level accommodate shops, storerooms, workshops or stables. This is the first sign of integrity between residential and commercial activities. The sustainable agricultural living pattern of the inhabitants is reflected in the hosh architecture. The spaces of the lower levels are used for keeping animals and storing agricultural products and equipment, see plan in figure 24. The extended family hosh in Al-Khalil is a unique example of a traditional dwelling in a vernacular town, sharing more features with a Palestinian village hosh than it does. Al-Kahateeb hosh is studied in details to better understand the extended family hosh in the town.

The Al-Khateeb Hosh as Reference Case

The Al-Khateeb hosh is selected as a sample reference for a typical traditional hosh; this is in terms of number of floors or levels, size and number of spaces, features of courtyard and entrances. Also this hosh is one of the few ones which kept the original status as it realized little changes in the organization of spaces and use, architectural drawings are in figures 23, 24, 25, and 26, photographs are in figures 62 to 70.

Pattern of development: As is the case with many other hoshes of this neighbourhood, the Al-Khateeb hosh has continued to develop over the course of three centuries (17th, 18, and 19th). The elevation walls are composed of layers, each dating to a specific historical period, though featuring variable stone dressings and cuts. It is assumed that the lower level (street level) spaces date back to the 17th century. The upper levels (courtyard and first floor levels) are assumed to be from

the 18th and 19th centuries. The hosh has been subjected to organic development over three centuries, which is reflected on the elevation composition.

The shallow-domed steeped skyline is a reflection of the height variations in the upper floor spaces. Each space has been added at different time. This organic vertical growth is reflected on the elevation walls, featuring openings of variable sizes and profiles. It is a mosaic left by successive generations of master-builders who participated in the hosh construction.

Location and site: The Al-Khateeb hosh, is located in the Bani Dar neighbourhood on the Al-Dariyeh Street, site location of this hosh is in figure 23. The irregular lot roughly measures 31m X 11.39m, the site plan is in figure 23 and the plans are in figure 24. This hosh occupies the entire lot area, with the only open space provided by an inner courtyard. The site features a slop of 22% from North to South, and this ended with the courtyard being elevated about three meters from the Al-Dariyeh Street level. This hosh is of few examples, which is attached to a neighbouring hosh from only one side, in many cases and usually the hosh is attached to neighbouring hoshes from two or three sides see site plan of eighteen hosh in Bani Dar neighbourhood figure 23. Al-Khateeb hosh is attached to two neighbouring hoshes from the North. The Al-Dariyeh Street, which is about 4m wide, runs along the southern side of the hosh. There is an approximately 2.4m wide dead-end passage, a 'zokak', on the east side. There is another passage, which is about 4.5m wide, on the west side. Along these passages, there are the hoshes of the relatives.

Exterior: The Al-Khateeb hosh, has three external elevations, two are short (East and West) and one is long (South). There is no distinction in the elevations as to which is the main, secondary or rear (figure 26: elevations, and in figures 61 to 70 are photographs). While the style of the Al-Khateeb hosh, featuring three exposed elevations, is not very common, it is by no means the only style, as in other examples the hosh is attached to neighbouring hoshes on all sides, and thus has no exterior elevations. The lower part of the elevation has minimum window openings, with the number and size of windows increasing at the upper levels. Rectangular, semi-

circular profiled and twin windows are found in one elevation. The elevation walls of this layer feature roughly cut and roughly coursed stones. The window and doorframes on the upper levels are emphasised by their projection from the elevation wall surface and use of variations in texture (figures 61 to 70).

Interior: The Al-Khateeb hosh has essentially three levels. It features an organic horizontal and vertical expansion of living space around an irregular rectangular courtyard. It is connected to the street by an underpass ‘dahlyz’, located on the south side of the first floor (courtyard level). The dahlyz; is in the form of a stepped corridor, which has 12 stone steps and it measures 98cm wide. The sloping site enabled the construction of a partial floor at street level to the south. Besides the dahlyz, this floor accommodates three shops, two stables and a water cistern (figures 24, 25 and 26).

The first floor (courtyard level) is located three meters above street level; it is located above a partial ground floor. There are 13 living spaces asymmetrically clustered around the courtyard on the four sides. The courtyard is measuring approximately 15m east to west by 5m south to north. The courtyard is the core of the hosh it interconnects surrounding spaces, providing circulation, light and ventilation for the spaces surrounding as well as for the floors above. In addition, the courtyard guarantees connection with the upper levels by two open irregular stone stairs.

The upper level has two parts, which are on the north, and west parts of the hosh, each of which is connected to the courtyard with irregular stone steps, which have steps of unequal heights and not straight flights of stairs. Several stairs leading to different groups of rooms, is a means for providing a certain amount of privacy for each group of the extended family. The spaces of these levels are recessed back, increasing the area of the courtyard at this level and resulting at corridor space, which is encircling the courtyard to enable circulation on each level (figure 23, 24, and 25). On the first floor, there are eight spaces in two parts. All of the North part spaces overlook the courtyard below, although the windows of the East part rooms open to the courtyard and to the surrounding streets. The West part has four cross-

vault rooms, connected with the courtyard by a flight of 18 steps. The North side part consists of three rooms that are recessed back from the lower spaces. This has resulted in the provision of a semi-open corridor. The corridor measures 1.5–2m wide and is connected to the courtyard by three flights of stone stairs.

Plan typology and use of spaces: Besides the important role it has in providing cross-circulation, the courtyard is a very important space for outdoor living activities and social gatherings. At the courtyard level there are two guest rooms, one male guest room located at West side of the dahlyz and another female guest room is located at the East side of it, the guest rooms are larger in size than the other spaces as well as featuring better finish and decorative cross vaults (see plan at figure 24). Different from the special treatment given to the guest rooms, usually the hosh spaces consist of one all-purpose rectangular room in which the various activities of living, dining, sleeping, work and storage took place. Spaces other than guest rooms usually feature window openings to the courtyard, the upper floor windows are larger than those of lower floor are, windows of guest rooms and upper floors are coupled and inscribed into a single window niche. For privacy of the courtyard, the guest room's windows overlook the street and not the courtyard.

Each one or two spaces other than the guest rooms are used to accommodate a married couple of an extended family, fulfilling their daily living needs of sleeping, dining and sitting. The couples who last occupied this hosh in the 1920s were cousins and brothers from Al-khateeb family. For example, the north part of the upper level accommodated two married couples who are brothers; the east part of the same floor was occupied by two married brothers who are cousins to the inhabitants of the north part of the same level. This organization is true for the courtyard level when the older generation (the parents of the upstairs couples) lived at four rooms of the courtyard level. Built in furniture wall cupboards and wall niches are provided to enable the room of serving multiuse, modern furnishing of dining tables, chairs and beds were not introduced at that time, instead most of living activities took place on the floor of the room. All clusters of the hosh shared the wet spaces and the kitchen, which are provided at the East side of the courtyard.

The level lower than the courtyard (street level) provided service spaces, which are shared by all the members of this extended family. This level included from east to west, a stable, two shops, and four storage rooms, which were used for storing agricultural tools, and products, food. One of those rooms included a cistern.

In the plans there is a hierarchy of spaces as the more common spaces such as guest rooms placed close to the entrance of the courtyard, wet spaces and kitchen are placed at the East rear of the courtyard and living spaces of the married couples are at the upper levels in two separated parts. The clustering of spaces in parts at the upper levels leaves the door open for the privacy of each two couples who are brothers and not cousins, this mean that the zoning of spaces mach with the privacy requirement of the newly married couples.

The rooms are mostly square or cruciform in plan, often divided into two zones by means of a split in level, a lower solid platform near the entrance which is called the 'Qa-Albayt', which consists of a small square near the door. This part of the room served as an entrance lobby in which people left their shoes before entering. The upper level, known as a 'mastaba', is raised by around 15cm, and is the actual room space. Niches of varying sizes are found in the walls of the room, which vary in number and size from one room to another. When the niche is relatively large in size (in average measuring 180cm long, 50cm deep, 160cm height and is raised about 40cm from the ground) it used to be called a 'rakseh' and was used for the storage of bedding, mattresses and blankets, which were rolled out at night for sleeping. Smaller niches, locally referred to as 'hazayens', are reserved for the storage of valuable household items and clothing. In many cases, the hazayen are subdivided with shelves and closed with wood wings. Fireplaces are not fined in Al-khalil, as in many other parts of Palestine people rather preferred to put more clothes on than heating the living spaces, in very cold days portable metal timber portable timber and coal heating devices were used for heating, oil lamps were used for lighting.

Construction and finishing: This hosh is completely constructed of stone. The vertical structural elements are thick load-bearing stone masonry walls, which

support the barrel and cross vaults, in most of spaces cross vaults are used, barrel vaults are used in one shop of the street floor level and at three spaces of the courtyard level. Limestone is the main construction materials, and the interior walls and vaults are smoothly plastered. Flagstone tiles are used to finish the floors. Rainwater is collected from the roofs and gathered in the cistern. In this hosh, one cistern is found curved in the ground, located under one space of the service floor (street level). There are no fireplaces for heating in any space, as portable heating devices which is locally called Kanon, this being made of metal and has usually rectangular shape (measuring in average 80cmX40cm and 15cm deep), burning timber and coal, were used for heating and cooking. Oil lamps are used for illumination. Simple pillows and carpets are used for furnishing the spaces. The floors of all spaces are finished with flagstone tiles. The walls and cross vaults are constructed of stone and are smoothly plastered. More important spaces such as guest rooms feature star vaults rather than the cross vault; the star-vaults are structural element used as a decorative feature of the room, the centre of which is elaborated into a small cupola.

3.2 Ayn Sarah Region in the Early 20th Century

After the 1850s, construction activities started to spread outside the traditional neighbourhoods. The newly established upper middle class nucleus families started to move out of the traditional neighbourhoods and construct individual houses. An indication of the arising new upper middle class of nucleus families is valid in the following interviews simplifying examples of pioneering nucleus families, the information are from the measured houses original owners or their inheritors:

1. 'Iz id-Din al-Hammory this is currently owned by the inheritors of 'Iz id-Din al-Hammory, as the ground floor owned by the elder son Khalid who lives in Jordan. The first floor is occupied by his son (Yosof) who has his mother living with him in addition to his wife and three daughters. Yosof indicated that his father and his uncle constructed this house in 1931 after they moved from the hosh, which they used to share with relatives in the old town; later Yosof's

brother bought the house from the inheritors of his uncle. Originally, the ground floor was used as an isolate dwelling for his uncle and seven cousins; his father and nine children occupied the first floor. Yosof indicated that his father and his uncle were good merchants who used to work together in importing cloth.

2. The original owner who is 91 years old and his wife, as they do not have any married sons living with them, occupies Atif al- Hammury, house. The owner indicated that he moved to the house when he was 24 years old. When he is asked about his financial ability to construct such house at that time, he indicated proudly that he was one of the pioneers who followed this new fashion and constructed an independent dwelling. Because he was working as a judge, besides that he belongs to a prestigious family, which owned many vineyards, the owner was financially capable to follow the fashion. Atif al-Hammury said that before moving to the house he lived for 7 years together with his relatives at the old town, in this house 8 of his children used to live with him and his wife in this house, currently all of the children got married and living separately.
3. Abdul ‘Afu al-Muhtasib house, is inhabited by the widow of the owner and her unmarried daughter. She indicated that together with her husband they moved to this house when she was 35, before that they were living together with the relatives in extended family hosh. In this house she lived with her eight children and husband and his mother. Today seven of here children are married and living separately. When she was asked about how was the financial ability of her husband she indicated that he was a very well known merchant who liked always to follow the new fashion and to do the best thing he can ever do.
4. Murtada ad-Duaik house in currently used as the head office of the HRC information coming from HRC says that this house the upper floors of this house were constructed by the 1870s, the house is owned by ad-Duaik family one of the very well known clans of the town, the owners were one of the very

well known leather merchants of the town. Two married brothers with their unmarried sons used to live in this house.

5. The house currently owned by Mohammad Al-Salaymih. When interviewed, he indicated that he bought this house from the inheritors of Saed Al Hammory. The original owner belongs to Al Hammory family one of the prestigious families in Al-khalil. He was a well known merchant of the town. In 1934, the owner moved to the house together with his wife and six daughters, prior to that he was living at the old town together with the rest of his extended family members.
6. The son of the original owner (Ali) who has his mother living with him in addition to his wife and two sons and two daughters occupies Shakir ad-Duaik house. The widow of the owner indicated that she moved to this house in 1933, before that she lived with her husband for five years at an extended family hosh. Her husband used to work in the government at the British mandate period; he also had extra income from vineyards.

The earliest expansion (examples of central hall houses) of the town took place on the nearby empty lots adjacent to the traditional neighbourhoods, particularly in the al-Kaliah neighbourhood. This was followed by a gradual expansion along the slopes of the surrounding mountains of Tel Al-Rumeida, Kub al-Janib, Baylun and ar-Ras, maps are in Figures 12, 15, 19 and 20.

It was only after the 1900s that urban expansion in Ayn Sara started Freestanding residential buildings began to appear on the east and west sides of the Jerusalem road, which cuts Ayn Sara from south to north and connects to the towns to the northern Palestinian towns of Bethlehem, Jerusalem and Java (Figure 11, 14, and 15). Prior to the 1900s, Ayn Sara was used in the summer as a summer resort, besides that, most of the inhabitants of the town used to have vineyards in the area. The town residents lived same as their ancestors, spending most of the summer days in their vineyards as they picked the fruits, and planted vegetables. Each vineyard

had a water cistern and a “mantar”, a one-room cylindrical structure used as a summerhouse and a place from which the vineyards were guarded. As the town started to expand outside the traditional neighbourhoods, Ayn Sarah changed from a seasonal residential area to one of the important residential neighbourhoods.

The pre-19th century traditional social hierarchy has changed after the early-20th century, when the nucleus family became the basic social unit. In few of the cases of such nucleus family a married son could live together with his parents. This new social structure is far different from the previously explained extended family, which inhabited the hosh, as a larger circle of relatives were included.

Wealthier families and merchants were encouraged to construct freestanding residential buildings with a new look. The early-20th century urban improvements called for the establishment of a modern street network, which was laid between the old fabric and the newly developing outskirts. The newly established streets were wider and more regular, accommodating both vehicular and pedestrian traffic, maps are in figures 15, and 18. As the middle class was in formation, wealthy families were the first to move out from the old fabric. They rented their hoshes to poorer families and constructed freestanding individual houses (central hall houses). The newly constructed buildings are located on agricultural lands, which either belonged to the owners by inheritance or by the buying of a vineyard lot.

After 1967 occupation many of the bazaars of traditional town were demolished or closed for weeks and put under curfew. This forced the majority of merchants and artisans to move from the old town to Ayn Sarah which started to have commercial, educational, religious and administrative buildings. Since then, Ayn Sara has become one of the most attractive sections of the town, and today it contains many commercial, educational and administrative buildings.

Until the end of the 19th century, the organic extended-family hosh remained as the main residential type of dwelling. After the 1880s, a new type of house was introduced to both the traditional town surroundings and the Ayn Sarah region. These buildings followed the new fashion, being clear-cut masses with symmetrical

elevations. The central hall houses were first built in the traditional town surroundings, and were then introduced to Ayn Sarah (figures 15, 18, 19, 20, 21, and 22). Shuhada Street, which is the main axis of the traditional town, saw development of a different pattern, in which the central hall houses took the form of rows of buildings, with shops at the street level and a central hall residential floor above. The chief characteristic of both the row and individual central hall houses is a central hall that cut through the plan from front to back, with living spaces symmetrically flanking the long sides of the central hall.

The Riwaq Centre for Architectural Conservation carried out a survey of all traditional buildings in the Palestinian urban centres. This survey, took more than 10 years and was completed and published in a book (Riwaq Record for Historic Buildings in Palestine). The result was a record of the 88 individual historic buildings in Al-Khalil. As 89% of the recorded buildings are residential, the town can be said to have 80 individual houses, while the survey also found that the town contained 247 hoshes¹⁴⁵.

3.3 Land Use and Ownership Patterns

According to the 1858 Ottoman Lands law, land of Palestine is classified as¹⁴⁶:

Al-arsat: Lands, which are located within the traditional neighbourhoods, recognised on which construction, can be made or as it is a complementary part of the dwelling such as a cistern, courtyard or garden.

Al-aradiyy al-amyriyih: Land, which was originally owned by the government and is cultivated by individuals under a rental contract, which is renewed automatically for the users and passed on as inheritance.

Al-aradiyy al-ushriyih: Land that has stayed on the hands of its original owners, those who converted to Islam after the Islamic Fatih.

Al-aradiyy al-kharaj: Land that continues to be owned by its original non-Muslim owners who paid the al-kharaj tax.

Al-aradiyy al-wakf: is of two types. One is the complete wakf land, which covers

land registered as wakf propriety. The second are called amyriyaih with their incomes to be spent for public use by the order of the Ottoman Sultans.

Al-aradiyy al-muktamila: Lands left for public use, such as streets and public squares.

Al-aradiyy al-mauat: (Dead land) are useable lands.

Land registration: The latest revision of the Land Registration Law was issued in 1877, allowing amyriyaih lands users and al-arsat owners to obtain a land registration certificate. As prior to this law all the lands of Palestine were considered as a governmental property and that the people living or using it are users and not actual owners, the new law land privatisation possible, this allowed the users of the lands to have a full legal registration of the lands they are renting. According to this new reform, the owner had the right to obtain a formal certificate, which proved his or her ownership¹⁴⁷. This certificate was not accompanied with any measurements or maps, with the lot boundaries defined only by a description of its physical geographical settings, such as valley, loose stone walls, cliffs, water channel, roads and caves. Not only were the lot's physical boundaries described on the certificate, but also the names of the neighbouring landowners.

After 1917, the British mandate did not introduce any cadastral land registration to the town, and a modern cadastral land registration system is yet to be introduced to Al-Khalil¹⁴⁸. Today, the division and definition of lot boundaries is still carried out in accordance with the latest Ottoman 1877 regulations, with the owner of the land requesting a licensed cadastral surveyor to take the measurements of the lot and define its location on the city map by coordinates. This cadastral map usually shows the lot boundaries, which are defined by geographical settings, and not by the land registration department.

CHAPTER 4

CASE STUDY CATALOGUE

This chapter covers the findings of the site survey, which includes 20 measured central-hall houses located at both the traditional part of Al-Khalil and the early 20th century Ayn Sarah neighborhood (figure 15). The houses are collected in a case study catalogue containing twenty measured houses all organized in sequent from one to twenty. Every house is measured, surveyed and studied in the same manner and criteria. The houses are studied and analyzed with respect to the following: site location and lot, exterior form and elevations, plan typologies, individual interior spaces, structural systems, construction materials, building technologies and decoration. Each house is presented in an independent section concerning several issues related to the house description and analysis; those are organized and ordered according to a the larger to the narrower. Each case includes flowing headings:

- 1) The information under “The Lot” covers the address, topographic characteristics, location of the house on the lot, closed-open space relationship, vehicular and pedestrian passages, relationship of open and built up areas, vehicular and pedestrian circulation, neighboring lots and buildings, measurements, shape, and boundaries.
- 2) The general architectural features are discussed under the ‘General Description’ which cover the building height, number of floors, floor plans, structural system, construction material, and the number of entrances.
- 3) The building exterior is described and studied under ‘The Exterior’ which cover the exterior elevation walls framing, stone cut, and types of dressing are presented. This heading also present the description of each elevation covering

elevation measurements, surface finishes, and openings profiles.

- 4) Interiors such as the basement, ground and first floors are presented under 'The Interior' title. Each floor is described and studied; the floor plan characteristics are described and presented; the floor function, shape, number and type of spaces are first discussed, and this discussion is followed by a description of the plan typology, the relationship of the spaces, and their use and articulation. Special emphasis is given to the central-hall connection with outside and the number of entrances. Also 'The Interior' subtitle covers detailed descriptions of individual spaces. Each space is described concerning plan; shape, and dimensions, location on the floor is discussed in relation to surrounding spaces. Floors and walls surface finishing, the windows, doors and niches are studied.
- 5) The Structural system, construction material, and building technology, section is, discussed with regard to the construction materials used as well as the structural system. Amenities such as electric power, sewage and drainage systems are discussed.
- 6) The Decorations subtitle covers the exterior and interior decorations.

1. Muhammad iz-Zghayyar House

Address: Ayn Sarah neighborhood, Jerusalem Road, Number 8

Coordinates: E 159 364. 3075 - N 104 523. 2724

Date of construction: Ground floor 1927-1346, according to the inscription panel

Occupancy status: House not inhabited

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 1.1 to figure 1.6

Drawings: figure D 1.1, figure D 1.2, figure D 1.3 and figure D 1.4

The Lot (figure: D 1.1)

The steep topography of the valley is reflected in the lot, creating a slope of 15% between the upper east and lower west. The lot has an irregular rectangular shape measuring approximately 26m north side and 20m east side. The lot boundaries are defined by Jerusalem Street from the west, a two storey building on the boundary of the east side, a two storey building at the north side, and a pedestrian pathway in the form of steps measuring 4.25m wide running along the south side of the lot. This pathway separates the house and the lot from a neighboring two-storey building, with shops on the ground level and residential apartments at the first floor.

Within the lot boundary, there is an open space in front of the building from the west measuring 14.9 x 6m. This space features no landscaping elements such as greeneries or pedestrian paths, except for stone stairs leading to the first floor located at the south side of the main elevation. At the east section of the lot there is an open space of 19.40 x 4.70m, which was used as a back yard for daily activities such as baking and drying clothes. A traditional oven is found at the south part of this space, while a cistern is found at its north side. At the northern part of the lot there is a corridor-like space measuring approximately two meters in width, separating the house from the neighboring building. The house is located exactly on the southern boundary. It is six meters away from the west, five meters from the east and two meters from north.

General Description

The building is essentially one floor high; the slope of the site on the west side enabled the construction of another half floor. The building is a freestanding cubic mass with a flat roof; it measures approximately eight meters high on the west side and five meters on the east side. The ground half floor provides service spaces and measures approximately 16.5m x 5.80m. The first floor measures 16.5 x 15.80m and features a central-hall with the living spaces arranged at its north and south sides. Continuous load bearing construction is used for the walls; the spaces feature cross-vault superstructures. Red colored lime stone is the main construction material. The building includes two entrances for the ground floor at the western elevation. The first floor includes one main entrance from the west elevation, two from the south and two from the east.

The Exterior

At the lower sections of the north, south and western elevation walls, there is a difference in the stones' coursing and cutting: the upper parts of the walls have regularly cut stone courses measuring 25-30 cm high. Roughly, cut and coursed stone is used for the east elevation. The south-west and north-west corners of the building are defined by the projection of quoins two to three centimeters from the wall surface. This projection of quoins creates a band of 60cm wide, which runs across the height of the ground floor. It starts at the top of the basement floor and ends at the upper edge of the elevation. Two horizontal bands of stone courses projecting two to three centimeters from the wall surface define the floor height. The front corners, horizontal bands and window frames are emphasized by their projection from the wall surface and by the use of variation in texture: more smoothly dressed Hadjar Matabbih stone is used for the frames, while the wall surface uses Hadjar Mlatash stone.

The main elevation (West): (figure: D 1.3) measures 16.20m long and 8.11m high in two floors. On the ground floor from the north there is a semicircular profiled door

measuring 100w x 238h cm and opening to space 0.1. Adjacent to this, there is a semicircular profiled window measuring 40w x 116hcm. At approximately the center of the wall there is a rectangular door opening with a lintel above and opening to space number 0.2. At the south side of the elevation there is a semicircular profiled window measuring 100 x 116cm, which opens to space 0.3. The first floor is reached by two flights of stairs located at the south corner; a flight of five steps is perpendicular to the elevation wall, it connects to a landing measuring 120 x 120cm from which another flight of eight steps leads to an elongated landing measuring 4.25m in length. This is cantilevered 120cm from the wall and increases in width by 80cm owing to a recess.

The recess is located at the center of the elevation, where a large semicircular arch is located between the wall surface and rear of the recess. The jambs are extended in the form of a vertical band until they match with the projected horizontal band of stones at the upper part of the elevation surface. At the rear of the recess there is a door opening measuring 100 x 236cm, this has an ornamented shouldered lintel. Above this lintel, there is a two-centered pointed revealing arch opening, featuring a very profiled and decorated keystone and containing an ornamented iron metal grill. At either sides of the entrance door there is rectangular window opening measuring 114 x 56cm and is covered with a lintel. Above the lintel is, a semicircular revealing arched, the interior of which is treated as a three lobed profile. At both corners of the recess rear there are two table-like decorated columns, each is measuring 90cm high. The whole recess is covered with a canopy and a railing connecting all the sides of the canopy to the elongated landing and stair railings.

At the both sides of the elevation, there are twin flat arched profiled window openings, sharing approximately same profile, the same measurements. They are framed and ornamented; within a rectangular frame, its jambs are slightly projecting bands in the form of quoins. The top of the frame is a continuous flat arch divided into two parts, each featuring protruding keystones. Above the arch, there are two blind triangular profiled bands. The inside of the frame is divided into three (two windows at either side) and a vertical band in between. Both windows are framed by deflate Voussoir above.

The south elevation (figure: D 1.4). The elevation faces the steeped pathway, and the height varies between the west, measuring 8.11m high and the east, measuring 5.67m high. On the partial ground floor there is a semicircular profiled window opening measuring 81w x 114hcm. The first floor is reached by a flight of eight steps, 120cm wide and connected to an elongated landing measuring 198cm long. The landing projects 120cm from the wall and increases in width about 120cm by means of a recess, which is located approximately at the center of the first floor, and features a semicircular profiled arch located between the wall surface and rear of the recess. The jambs of the recess at the wall surface extend in the form of vertical band until they join the upper horizontal band of stone. Inside the recess, there are two doors: one is at the north wall and opens to space 1.5, and the other is at the west wall opening to space number 1.4. Both doors share the same measurements and profile, having a rectangular opening measuring 100 x 212cm and covered by a shouldered lintel, at top of which a two-centered pointed revealing arch opening is placed, containing an ornamented iron grill.

To the west side of the wall recess there is a window opening measuring 74h x 44w cm and covered with a lintel. Its interior features a segmental profiled arch. Around the center of the east and west parts of the elevation there are twin windows sharing the same profile and measurements; these feature a two-centered pointed profiled frame in which there are two centered pointed profiled window openings each is measuring 78w x 168hcm. Between the twin openings and the larger arch frame there is a small opening, the interior of which incorporates a three lobed treatment.

North elevation (figure: D 1.3) measures 8.11m high at the west side and 5.67m high at the east side. The partial ground floor of the elevation is constructed from roughly cut and coursed stone while the first floor walls are constructed of regularly cut stone courses measuring 25-30cm high. On the partial ground floor there is only a rectangular window opening measuring 75w X 104h cm and covered by a lintel. At the north part of the first floor, there are two-centered pointed profiled windows, sharing the same measurements as those found at the south elevation. At the upper part of the elevation, a horizontal band of stone defines the first floor height.

East elevation (figure: D 1.4) measures 5.60m high and standing one floor high. On the south side of the first floor elevation wall there is a two-centered pointed profiled door opening measuring 91w x 250h cm and opening to space 1.6. At approximately the center of the elevation wall there is a segmental profiled door opening measuring 91 x 204cm and opening to space 1.1, above which there is a semicircular opening measuring 222cm in diameter and containing radial iron grilles. At the north side of the elevation, there is a twin two-centered pointed profiled window opening, each measure 94w x 203h cm.

The Interior

The basement floor (figure: 1.2) is rectangular, and occupies less than half of the total size of the ground. It is located underneath the western side of the house, and its remainder determines the leveling of the ground floor. Access to this plan is allowed by a direct connection to open space in front of the house. It features three spaces: one is located at its north-west corner, which has a separate entrance and is therefore directly connected to the outside. The other two spaces are entered from space 0.2 and are connected to one another by a door opening in between.

Space 0.1 is rectangular measuring 4.5 x 4.2m. It has cross-vault superstructure measuring 2.79m in height. Apparently, it once served as a stable for keeping animals and storing their food. The floor of the space is covered with earth. The inner walls and cross vault are constructed of stone rubble. The western wall incorporates a semicircular profiled door niche measuring 100w X 238h-60d cm. In addition, to the south of the same wall, there is a semicircular profiled window niche measuring 116 X 40-62cm. At the north wall there is a rectangular profiled widow niche.

Space 0.2 is rectangular measuring 4 x 4.15m. It has cross-vault superstructure measuring 2.85m in height. The floor of the space is finished using flagstone tiles. The walls and the cross vault are constructed of stone and are smoothly plastered. At the west wall there is a rectangular door opening to the outside. Within the south wall there is a semicircular profiled door niche measuring 100w X 205h-64d cm and opening to space 0.3.

Space 0.3 is rectangular measuring 4.2 x 4.5m. It has cross-vault superstructure measuring 2.76m in height. The space floor is finished using flagstone tiles. The walls and the cross vault are constructed of stone and plastered without paint. At the north wall, there is a semicircular profiled door niche opening to space 0.2 and at the west side of the door, there is a rectangular profiled wall cupboard measuring 160h X 89w-67d cm. At the south wall there is a semicircular profiled window niche measuring 81w X 114h-64d cm. The west wall features a semicircular profiled window niche measuring 100w X 116h-63d cm.

Ground floor plan (figure: D 1.2) is a simple rectangular. It comprises eight spaces including a toilet, corridor and uses a central-hall. It features a central plan where the floor spaces are simply arranged to the north and south sides of the central-hall, the east and west walls of which feature doors and windows opening to outside. There are three spaces at the north side of the central-hall. At the south side there is a passage connected to the southern entrance with a wet service space at its west wall and two spaces at either side. Basically, the central-hall is the main horizontal circulation space providing connection to the outside as well as connections and cross circulation between the other spaces.

Space 1.1 (central-hall, figures: 1.6 and 1.7) is longitudinal rectangular measuring 13.4m long, 3.96m wide and 4.18m high. It is located at the center of the plan and the other spaces are arranged at its south and north sides. The west and east walls face outside without any internal spaces attached to them. It is used as a family setting and gatherings space, in addition to its role as the main horizontal circulation space connecting the floor spaces to each other. The floor is finished using cut stone tiles. The walls and the triple cross vaults are constructed of stone and smoothly plastered.

The north wall features three doors opening to spaces 1.6, 1.7, and 1.8. Each is segmental profiled and measures approximately 82w X 202h cm with no wings found. Their arches and jambs are constructed of stone, although the stone was painted later. Within the same wall, there are three wall cupboards, each is segmental profiled measuring 89w X 168h-63d cm.

At about the middle of the south wall there is a large semicircular profiled arch opening measuring 3.52m wide, integrating the central-hall with a corridor-like space 1.3. At the east and west sides of the large arch there are two doors opening to spaces 1.2 and 1.5 and sharing the same profile and measurements with the north wall doors. Only one wall cupboard is found at this wall: it shares the same profile and measurements with the three cupboards found at the opposite wall. At the east wall of the space there is one door opening to the backyard with a half circular window opening above. At the opposite west wall there is a door niche flanked by a window niche at each side; the measurements and profiles are discussed in the case of the west elevation.

Space 1.2 (figure: 1.4) is rectangular measuring 4.50 x 4.20m. It has cross-vault superstructure measuring 4.16m in height. The floor of the room is made of cut stone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. Within the north wall there is a semicircular profiled door niche measuring 101w x 215h-60d cm. At either side of this there are two semicircular profiled wall cupboards measuring 87w X 180h-63d cm. At the east wall there is a semicircular profiled niche measuring 171w X 212h-54d cm and elevated 47cm from the ground. Around the center of the south wall there is a semicircular profiled window niche measuring approximately 240w X 209h-66d cm and elevated approximately 55cm from the ground inside of which there is a twin window opening.

Space 1.3 (figure: 1.3) is rectangular measuring 4.13 x 1.39m. It has cross-vault superstructure measuring 3.90m in height. It is likely that the space was used as a toilet since it has a soiled waist disposal hall. The floor is made of cut stone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the north side of east wall there is a flat arch profiled door niche measuring 100w x 204h-32d cm and opening to space 1.4. At the south part of the same wall there is a door opening to the south elevation wall recess. Within the south wall of the room there is a small rectangular window niche measuring 44w x 74h-56d cm and elevated approximately 160cm from the ground.

Space 1.4 is a corridor; it has an 'L' shape plan. It measures 2.35 X 2.04m, 3.52 X 1.19m, and has cross-vault superstructure measuring 3.96m in height. The floor is finished using cut stone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The south wall includes a door (described earlier in the case of the south elevation). The space integrates with the central-hall from north side via a large arch. Within the west wall, there is a door opening to space 1.3.

Space 1.5 is rectangular measuring 4.45 X 4.18m. It has cross-vault superstructure measuring 4.14m in height. Apparently, the space functioned as a kitchen; evidence for this includes the smoky walls of the room, and its connection with the oven at the back yard. The floor is made of cut stone tiles. The walls and cross vault are constructed of stone and smoothly plastered with smoky gray paint. The north wall features a semicircular profiled door niche measuring 102w x 212h-68d cm; west of this, within the same wall, there is a segmental profiled wall cupboard measuring 90w X 176h-64d cm. At the north corner of the west wall there is a semicircular profiled niche measuring 133w X 202h-53d cm, this is elevated approximately 40cm from the ground. Almost at the center of the same wall there is a semicircular profiled window niche measuring 238w X 216h-65d cm, the inside of which contains a twin window elevated around 50cm from the ground. The east wall of the room features a semicircular profiled door niche opening to the backyard and measuring 110w x 247h-65d cm.

Space 1.6 is rectangular measuring 4.42 x 4.16m. It has cross-vault superstructure measuring 4.11m in height. The floor is made from cut stone tiles. The walls and cross vaults are constructed of stone and smoothly plastered with yellow paint. The south wall features a semicircular profiled door niche measuring 103w x 216h-64d cm. Within the same wall, there is a flat arch profiled wall cupboard measuring 82w X 177h-63d cm. At the south side of the west wall there is a semicircular profiled niche measuring 145w X 207d-55h cm. Almost at the center of the east wall, there is a semicircular profiled window niche measuring 238w X 216h-65d cm the inside of which contains a twin window, elevated approximately 50cm from the ground.

Space 1.7 is rectangular measuring 4.45 x 4.20m. It has cross-vault superstructure measuring 4.20m in height. The floor is made of cut stone tiles. The walls and cross vaults are constructed of stone and smoothly plastered with yellow paint. At the south wall, there is a semicircular profiled door niche measuring 101w X 211h-58d cm. West of the door, on the same wall, there is a wall cupboard measuring 89w X 167h-58d cm. At the north side of the east wall, there is a semicircular profiled niche measuring 171w X 198h-57d cm, this is elevated approximately 30cm from the ground. At the north wall there is a semicircular profiled window niche measuring 240w X 212h-63d cm and elevated approximately 50cm from the ground. The niche features a twin window opening.

Space 1.8 (figure: 1.5) is rectangular measuring 4.55 x 4.20. It has cross-vault superstructure measuring 4.18m in height. It is likely that this space served as a guest room: first, it is located close to the entrance, in such a way that guests would not disturb the privacy of the family. Secondly, its finish is of a higher quality than that of the other rooms. The floors of the room are made of cut stone tiles. The walls and cross vaults are constructed of stone and smoothly plastered with white paint. Within the south wall there is a semicircular profiled door niche measuring 101w X 215h-57d cm. West of the door at the same wall there is a segmental profiled wall cupboard measuring 87w X 180h-57d cm. At the east wall of the room there is a semicircular profiled niche measuring 173w x 227h-57d cm that is elevated approximately 35cm from the ground. At the center of north wall, there is a semicircular profiled window niche measuring 240w X 202h-64d cm. It is elevated approximately 55cm from the ground and containing a twin window opening.

Decorations and Ornamentations

The interior decorations are limited to the timber doors, which feature decorative wings. The walls are simply plastered without decoration or ornamented surfaces, and the floors have simple flagstone tiles. Externally the window openings are protected with ornamented metal grills; the exterior doors also feature elaborate ironwork. Externally, elaborately sculptured and carefully profiled window and door

openings are apparent and concentrated on the ground floor part of the main elevation, featuring a large arch above the entrance wall recess with a protruding keystone and profiled arch. The twin windows display ornamented and profiled frames. Horizontal and vertical framing was another mean of exterior decoration.

Structural System, Construction Material and Building Technology:

Continuous load bearing foundations are used. Load bearing walls support the cross-vault superstructure. Limestone and lime are the main construction materials and lime plaster and stone tiles are used for the interior finishing. Palestinian stone masonry and its traditional processes, methods and techniques are presented in detail on Appendix B.

Roof water is drained using metal pipes leading rainwater to the cistern located in the back yard of the house; water drainage is provided in the Northeastern corner of the building. A space much like a cistern is used to drain waste underneath the toilet. Water for drinking, bathing and cooking was obtained from the water cistern at the eastern side of the house. Electric power was made available to the house in the 1950s, and the wiring is fixed externally. Prior to the availability of electricity, oil lamps were used for lighting, and portable timber and coal heating devices were used for heating and cooking.

2. 'Iz id-Din al-Hammory House

Address: Ayn Sarah neighborhood, University Road, Number 39

Coordinates: E 159 192. 6770 - N 104 489. 7625

Date of construction: Yosof the son of 'Iz id-Din al-Hammory indicate that his father and uncle constructed this house in 1931 after they moved from the hosh, which they used to share with relatives in the old town; later Yosof 's brother bought the house from the inheritors of his uncle. Originally, the ground floor was used as an isolate dwelling for his uncle and seven cousins; his father and nine children occupied the first floor

Occupancy statue: the house is currently owned by the inheritors of 'Iz id-Din al-Hammory, as the ground floor owned by the elder son Khalid who lives in Jordan the first floor is occupied by his son (Yosof) who has his mother living with him in addition to his wife and three daughters.

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 2.1 to figure 2.10

Drawings: figure D 2.1, figure D 2.2, figure D 2.3, and figure D 2.4

The Lot (figure: D 2.1)

The lot features an irregular rectangular geometry of approximately 37 x 41m. Rubble stone walls from all sides define the boundaries, and it is surrounded by neighboring vineyards on all four directions. At the west side of the lot there is a rubble stone retaining wall measuring 3-4m high and it separates the lot from the upper neighboring lot. At the east side of the lot there is a rubble stone retaining wall measuring 30-40cm in height from the lot side and 2-3m high from the lower neighboring lot. Rubble stone walls measuring 1.5m high define the north and south boundaries of the lot; the neighboring lots from those sides are at the same level of the lot. The site is East-West steeped on two levels and divided almost centrally by an approximately 2.7m high loose stone retaining wall. This divides the lot into a lower platform in the eastern section of the site; this is connected at the south corner with the university road at -0.45m level. At the western section of the site, an upper platform is elevated approximately 2.4m.

At the southeast corner of the lot there is a paved pathway connecting the house to University Road and providing access for both pedestrian and vehicular traffic. It also leads to the garage located on the southern boundary of the lot and surrounds the building from its south, north and east sides. This is providing easy pedestrian circulation around the building. It features a flight of stairs on the north side of the building; this is connecting the upper and the lower platforms. Another pedestrian pathway measuring 1.8-2.2m wide runs across the Northeast corner of the building. This extends between the flight of 13 steps at the north side of the building and the stairs, which connect the west side of the first floor to the upper platform. The lot is planted with different types of trees. A cistern is found next to the stairs located at the upper platform. The building is located almost at the center of the lot: it is approximately 13m far from the east, 6m from the west, and 12m from the north and 8m from the south.

General Description

The building is essentially a two-storey freestanding cubic mass with a flat roof above. The level difference of the site is measuring 2.4m, dividing the lot into an eastern lower and western upper platform. This results at a variation in the height of the elevations measuring 10m high on the west side and 12.5m high on east side.

The ground and first floors are two separate central plan houses sharing the same plan type and measuring approximately 16.35 x 16.23m with the addition of a room at the south-west section of the plan measuring 6.11 x 4.13m. The plans feature two central-halls with the living spaces arranged at their north and south sides. The ground floor is entered by a veranda at the center of the east elevation, and from the west elevation, it has an entrance from the western platform of the lot. The first floor is entered from its south side by a flight of stairs leading to interior staircases at the center of the south elevation; it can also be entered from the west by stairs connecting it to the western upper platform of the lot. Continuous load bearing construction is used for the walls, and the superstructure of the spaces uses cross vaults except for a veranda in the east elevation, which features Jack-vault superstructure.

The Exterior

All the elevations are constructed of regular cut stone courses measuring 25-30 cm high. The southeast and northeast corners of the building are defined by the projection of quoins two to three centimeters from the elevation wall. At the south and east elevation walls, two horizontal bands of stone courses, which are projected two to three centimeters from the wall surface, define floor height. The upper band on the east elevation is constructed in a quoin form, while the rest of the bands are simple linear projected courses. The front corners, horizontal bands and window frames are emphasized by their projection from the wall surface and the use of variation in texture. Smoother dressed stone is used for the projected elements, while the East elevation wall surface is made from Mlattash Emfajar stone. Tubzih Shaf dressed stone is employed for the west, south and north elevations.

Main elevation (east): (figure: D 2.3) measures 12.45m high in two floors and it is 16.45m long. At approximately the center of the elevation, both the ground and first floors feature a veranda, which is projected two meters from the elevation wall. The projected surface features three-arch opening on the ground floor, which are duplicated on the first floor. The central opening features an onion-profiled arch measuring 100cm wide with an ornamented elliptical keystone. This arch is located above two columns each is measuring 264cm high and featuring ornamented cap and base. Both columns are placed above a 75cm-high stone railing composed of two bands of stone each is measuring 20cm thick; twelve 55cm high sculptured stone columns are fitted in the space between. At both sides of the middle arch there are two onion profiled arches, each is measuring 83cm wide, and is supported by the same column, which supports the middle, and by a rectangular stone pillar at the rear. At the ground floor part of the elevation, the projected verandah is flanked with a twin window featuring semicircular profiled openings, each is measuring 88w X 240h cm, and the arch features a profiled frame. The twin window openings are protected with metal railings. Same arraignment is duplicated at the north and south parts of the elevation.

The west elevation: (figure: D 2.4) is composed of two floors beneath a flat roof. It measures 16.71m long and the elevation wall is steeped in two surfaces. A front surface at the south part of the elevation is measuring 6.11m long and 10m high. A back surface is measuring 6m long and 10m high. At approximately the center of the ground floor (front surface) there is a semicircular profiled window opening measuring 88 x 239cm. At the south part of the ground floor, back surface there is a semicircular profiled door opening to space 0.2 and measuring 96 x 290cm. At either side of the door there are two semicircular profiled windows sharing identical profiles, each is measuring 70 x 191cm. To the North side of the back surface there is a semicircular profiled window opening measuring 88 x 239cm.

The first floor is reached by two flights of stairs: a flight of 11 steps is measuring 96cm wide and situated perpendicular to the back surface of the elevation. The stairs are connected to a landing measuring 112 x 96cm from which another flight of eight steps lead to an L-shape (in plan) landing; this is 130cm cantilevered from the elevation wall. A metal railing measuring 96cm high defines the free external side of the landing and the stair flights.

At the center of the elevation there is a door with two windows at either side, all of which open to space 1.6 and shares same profile and measurements with those found at the ground floor. To the North, side of the back surface there is a semicircular profiled window opening measuring 116 x 253cm. At the south and north sides of the first floor part of the front surface, there are two semicircular profiled window openings sharing the same profile. Each is measuring 71 x 191cm and opening to a space of 1.7.

The north elevation (figure: D 2.4) measures 10m high at the west side, 12.45m high at the east side and 22m long. The projected veranda lies as a back surface, it is 5.8m away from the elevation wall, at the ground of which there is an onion-profiled arch measuring 83cm wide, and a rectangular stone pillar on both sides supports this. The same arch treatment is duplicated at the first floor. At the west side of the elevation, there is a back surface measuring 4m long and 10m high in two floors.

This is located 10.29m apart from the elevation wall. Incorporated within the ground floor of this surface there is a segmental profiled door measuring 100 x 233cm opening to space 0.3. The first floor is reached by two flights of steps – described earlier in the case of the east elevation. The corner of the upper landing features a door opening to space 1.7 and sharing the same profile and measurements with the ground floor door.

At the ground floor part of the front surface, a flight of 13 steps connects the upper west to the lower east platforms of the lot. Within the east lower part of the elevation, there is a twin window opening to space 0.8. This is sharing the same profile and measurements with the twin-widows of the east elevation. West of the twin-window there is a semicircular profiled window opening measuring 88 x 239m. Another window opening with same profile and measurements is found at the upper west part of the elevation.

From the east at the first floor of the front surface there is a segmental profiled door opening measuring 90 x 269cm. This is opening to a balcony, which is cantilevered about 100cm from the elevation wall, the exterior sides of which feature 90cm high metal railings. Two semicircular profiled windows, each is measuring 70 x 203cm, are placed at both sides of the door. West of the balcony there is a window sharing the same profile and measurements as the one below on the ground floor. On the west side of the front surface there is a twin window sharing the same profile and measurements with the ground floor twin-window.

The south elevation (figure: D 2.4) is composed of two surfaces, as in the case of the north elevation. The projected veranda is positioned as a back surface, with almost the same features except for two wings of a metal door, reached by a flight of four steps. The front face features the same steeped ground line as the north elevation. About the middle of the elevation there is a loose stone retaining wall measuring 3.5m high and separating the upper west and lower east platforms. The ground floor part of the elevation is steeped in two levels. At the lower level there is a semicircular profiled window measuring 88 x 239cm and opening to space 0.6.

To its north, there are two semicircular profiled windows sharing the same profile, each is measuring 65 x 128cm. At the upper part of the ground floor elevation, there are two semicircular profiled windows each is measuring 88 x 183cm; both are opening to space 0.4. West of these, there is a segmental profiled window measuring 89 x 175cm and opening to space number 0.3.

The first floor of the elevation is reached by a flight of 20 steps cantilevered about 95cm from the elevation wall and are connected to a landing measuring 192cm long. At approximately the center of the landing there is a semicircular profiled door measuring 344 x 116cm and opening to space number 1.9. To the east side of the door there is a semicircular profiled window measuring 194 x 79cm and opening to space 1.9. Above the door, there is a concrete cubic mass projecting 110cm from the elevation, and at the east of this, there is a semicircular profiled window measuring 70 x 165cm and opening to the upper part of the staircases. Incorporated within the east side of the elevation there is a cantilevered balcony connected to space number 1.2 by a door with two windows at either side. The balcony and the openings feature the same architectural characteristics as those found at the north elevation. East of the door there is a twin-window featuring semicircular profiled openings, each measures 88 x 208cm and opens to space number 1.8, at the east side of which there is a rectangular window measuring 73 x 92cm and opening to space number 1.7. At the West, side of the wall there is a window opening to space number 1.7

The Interior

The ground floor (figure: D 2.2) features a rectangular plan measuring 16.32 x 16.45m with an attached room at the south east side of the plan measuring 6.10 x 4.05m. The steeped nature of the lot is reflected into the plan, dividing it to two levels. A lower level at the east part of the plan is reached from the outside by a flight of four steps, and contains six spaces, specifically numbers (0.5, 0.6, 0.7, 0.8, 0.9, and 0.1). The west part of the plan contains four spaces (0.2, 0.3, 0.4, and 0.10) and is elevated approximately 140cm from the lower east part. The superstructure of both the lower and upper parts of the plan meet at the same height, causing variation

in the height between the upper level spaces measuring 3.20m high and the lower level spaces measuring 4.48m high.

The floor features a central plan, in which all the floor spaces are arranged at the north and south sides of the lower and upper central-hall. The east lower central-hall is entered from the outside by a veranda space at the east elevation, and incorporates two spaces at north and another two spaces at the south side. The west upper central-hall is connected to the lower one by a flight of seven steps, and opens to the outside from the west by means of a door with two windows at either side. This has one space at the north side and another at its south side, which is connected from the east with space number 0.3. This has an exit to outside from the north. Both the upper and lower central-halls act as central areas in this house, providing connection to the outside and horizontal cross circulation.

Space 0.1 (central-hall 1) is a longitudinal rectangular space measuring 6.17m long, 4.00m wide and 4.48m high. It is located at the center of the plan with other spaces arranged at the south, north and west walls. The east wall faces outside through a three arched veranda space, and the west wall is connected to an upper central-hall. It is used as a family living space besides its function as the main horizontal circulation element connecting the floor spaces with each others.

The floor features colored cement tiles. The walls and the double cross-vault are constructed of stone and are smoothly plastered. The north wall features two doors sharing the same profile and measurements and opening to spaces 0.9 and 0.8. Each incorporates a segmental profiled opening measuring approximately 90 x 205cm. The arch and jambs of this are constructed of stone, although this was painted later. At the opposite wall (south) there are two doors (sharing the same profile and measurements with the north wall doors) which open to spaces 0.5 and 0.6. The doors of north and south walls face each others, which is useful in providing cross air circulation within the house. At approximately the center of the east wall there is a semicircular profiled door niche measuring 121 x 357-79cm. This opens to the 0.7 veranda. At both sides of this niche there are two semicircular profiled window niches, each measures 88 x 227-79cm.

Around the center of the west wall there is a semicircular profiled arch measuring 106 x 350-127cm; this contains a flight of seven steps, which connects the central-hall to space 0.2, and at both sides there are flat arch profiled wall cupboards, each is elevated approximately 50cm.

Space 0.2 (central-hall 2) is rectangular space measuring approximately 4 x 3.85m and 3.20m high. It is located at the upper level of the plan. At the north and south sides there are two spaces and from the east it is connected to space 0.1. It opens to the outside from the west by a door, which has a semicircular profiled window niches at either side. The floor features colored cement tile. The walls and the cross-vault superstructure are constructed of stone and smoothly plastered. The north wall features a segmental profiled door opening to spaces number 0.10 and measuring 102 x 198cm. The arch and jambs of the door are constructed of stone, the stone having been painted at a later date. At the opposite, south wall there is a door sharing the same profile and measurements with the north wall door, which opens to space number 0.4. At approximately the center of the west wall there is a semicircular profiled door niche measuring 126 x 307-84cm, at both sides of which there are two semicircular profiled window niches each is measuring 94 x 205-84cm. At approximately the center of the east wall there is a semicircular profiled arch measuring 106 x 208-127cm and opening to space number 0.1.

Space 0.3 is rectangular measuring 4.13 x 4.10m. It has cross-vault superstructure measuring 3.20m in height. The floor features colored cement tiles. The walls and cross-vaults are constructed of stone and are smoothly plastered. The southeast corner of the space was later subdivided into a small toilet, and the rest of the room is used for bathing. Within the north wall there is a semicircle profiled door niche measuring 141 x 252-63cm, and opening to outside. At the south wall of the room there is a semicircular profiled window niche measuring 93 x 200-45cm. Center of the west wall there is a semicircular profiled window niche measuring 107 x 252-45cm. Incorporated within the north side of the east wall there is a semicircular profiled door niche measuring 93 x 209-44cm and opening to space number 0.4.

Space 0.4 is rectangular measuring 4.06 x 3.78m. It has cross-vault superstructure measuring 3.27m in height. The floor of the room is made of traditional carpet tiles. The walls and cross-vaults are constructed of stone and are smoothly plastered. The space is used as a kitchen. Within the north wall there is a semicircular profiled door niche measuring 133 x 215-66cm and opening to the upper central-hall. At the south wall of the room, there are two semicircular profiled window niches each is measuring 114 x 200-70cm, and at the north side of the west wall there is a segmental profiled door measuring 72 x 205cm and opening to space number 0.3.

Space 0.5 is rectangular measuring 4.13 x 4.10m. It has cross-vault superstructure measuring 2.59m in height. The space is used as a storage room; it is subdivided at the southeast section by a brick partition wall measuring 2.5m high. The floor is made of cut stone tiles. The walls and cross vaults are constructed of stone and are smoothly plastered. At the east side of the north wall there is a semicircle profiled door niche measuring 113 x 212-53cm, and opening to the lower central-hall. At the west side of the same wall there is a rectangular profiled wall cupboard measuring 88 x 180-69cm. The east wall features a segmental profiled niche measuring 387 x 200-61cm. Within the south wall there are two semicircular profiled window openings each is measuring 65 x 128.

Space 0.6 is rectangular measuring 4.33 x 4.40m. It has cross-vault superstructure measuring 4.20m in height. The floor features colored cement tiles. The walls and cross-vaults are constructed of stone and are smoothly plastered. The space serves as a guest room. Within the west side of the north wall there is a semicircular profiled door niche measuring 111 x 202-89cm and opening to space number 0.1. At the east side of the same wall there is a semicircular profile double-winged door niche measuring 112 x 327-72cm and opening to the veranda. Almost central to the east wall there is a semicircular profiled window niche measuring 259 x 257-81cm and opening to outside through a twin-window (see east elevation). On the east side of the south wall there is a semicircular profiled window niche measuring 142 x 252-74cm, and at the west side of the same wall there is a flat arch profiled wall cupboard measuring 113 x 190-84cm and elevated about approximately 55cm from the ground.

At the west wall there is a flat arch profiled wall cupboard measuring 185 x 177-66cm and is elevated roughly 22cm from the ground.

Space 0.7 (figure: 2.3, verandah) is rectangular measuring 4.00 x 3.80. It has Jack-vault superstructure measuring 4.25m in height. The floor features colored cement tiles. The inner walls are constructed of regular stone courses. The depth of the space is due to an approximately 2m projection from the east elevation wall and becomes 1.9m wider because of a wall recess. The projected walls of the space were discussed earlier in the case of the east, north and south elevations. Within the east wall there is a rectangular door opening to space number 0.1 and is measuring 96 x 212cm. A shouldered lintel, above which there is a semicircular revealing arch, covers it; inside this, there is an ornamented iron grill. At both sides of the door there is semicircular window opening measuring 71 x 188cm. The south wall of the recess features a flat arch profiled double winged metal door measuring 90 x 205cm and opening to space number 0.6.

Space 0.8 (figure: 2.7) is rectangular space measuring 4.35 x 4.00m It has cross-vault superstructure measuring 4.23m in height. The floor features colored cement tiles. The walls and cross vaults are constructed of stone and are smoothly plastered. At the west side of the north wall there is a semicircular profiled door niche measuring 117 x 202-62cm, and opening to space number 0.1. Central of the east wall there is a window niche sharing the same profile and measurement with that found at space 0.6. Around the center of the north wall there is a window niche, which shares the same profile and measurements with that of east wall. Incorporated within the west wall there is a flat arch profiled wall cupboard measuring 175 x 187-50cm, this is elevated approximately 44cm from the ground.

Space 0.9 is rectangular measuring 4.07 x 3.28m. It has cross-vault superstructure measuring 4.20m in height. The floor features colored cement tiles. The walls and cross vaults are constructed of stone and are smoothly plastered. At the east side of the north wall there is a semicircular profiled window niche measuring 96 x 250-73cm, and to the west of this there is a flat arch profiled wall cupboard measuring

92 x 162-70cm. Central of the south wall there is a semicircular profiled door niche measuring 111 x 230-64cm and opening to space 1.1. At the south part of the east wall there is a flat arch profiled wall cupboard measuring 89 x 162-62cm, this is elevated from the ground by roughly 65cm.

Space 0.10 is rectangular measuring 4.20 x 4.18m. It has cross-vault superstructure measuring 3.20m in height. The floor features colored cement tiles. The walls and cross vaults are constructed of stone and are smoothly plastered. At the west side of the north wall there is a semicircular profiled window niche measuring 128 x 250-100cm, to the east of which there is a flat arch profiled wall cupboard measuring 95 x 172-80cm. Nearly at the center of the south wall there is a semicircular profiled door niche measuring 123 x 230-61cm and opening to space 0.2. Within the south part of the west wall there is a flat arch profiled wall cupboard measuring 101 x 167-75cm, this is elevated from the ground by approximately 45cm. North of this, within the same wall, there is a semicircular profiled window niche measuring 127 x 250-80cm.

The first floor (drawing: D 2.2) shares the same measurements as the ground floor plan, except that it does not feature an inverted level as the ground floor does. In addition, its spaces have same height: measuring approximately 4.57m. In common with the ground floor, the first floor features two central halls. One is the main hall, located at the middle of the east section and the other at the middle of the west section. Unlike the ground floor, the east central-hall in this floor is reached from outside by closed staircase provided in space 1.5, those are connected to the outside by a flight of stairs at the southern elevation.

Similar to the ground floor, this floor features living spaces arranged at the north and south sides of the east central-hall (space 1.1) and west central-hall (space 1.2). The east central-hall is connected to the outside through a veranda space 1.7 at the east elevation; it has two spaces at the north and south sides. The west secondary central-hall is entered from outside by a door with two windows at either side: from the east side it is connected to the main central-hall. The secondary central-hall incorporates one space at the north side and another at the south side, which is connected from the

east with another space 1.3, this has an exit to outside from the north. Both central-halls act as central circulation spaces, providing connection to the outside and allowing relationship and cross circulation among the other spaces.

Space 1.1 (central-hall 1) features more or less the same measurements and architectural characteristics as space 0.1 on the ground floor, except for its connection to the outside via stairs (space 1.5). The north wall incorporates two doors sharing the same profile and measurements with those found at the same wall of the ground floor, and opening to spaces 1.9, 1.8. The opposite southern wall includes two doors (sharing same profile and measurements with the north wall doors) which open to spaces 1.5 and 1.6. At the west side of the wall there is a door opening to a flight of stairs leading to the roof of the building. Within the East wall, there is a door niche with two window niches at either side sharing the same profile and measurements as those found at the ground floor, and they open to space 1.7. Within the south side of the west wall there is a flat arch profiled double winged door niche measuring 106 x 206-86cm and opening to the west central-hall (space 1.2), at the north side of which there is a flat arch profiled wall cupboard measuring 142 x 177-67cm, and elevated approximately 42cm from the ground.

Space 1.2 (central-hall 2, figure: 2.8) is rectangular measuring approximately 4.74 x 4.26m. It has cross-vault superstructure measuring 4.45m in height it shares with space 0.2 the same role and articulation. The floor features colored cements tiles. The walls and the cross vaults are constructed of stone and are smoothly plastered. The north wall incorporates a segmental profiled door opening to spaces 1.10 and measuring 109 x 205cm. Its arch and jambs are constructed of stone, although the stone was painted later. At the opposite southern wall there is a door sharing the same profile and measurements with the north wall door, which opens to space 1.4. The north and south wall doors face each other. At approximately the center of the west wall there is a semicircular profiled door niche flanked with two semicircular profiled window niches, all of which share the same profile and measurements as those found in the equivalent wall in the ground floor. At the south side of the east wall there is a flat arch profiled door measuring 90 x 208 and opening to space 1.1.

Space 1.3 is rectangular measuring 4.38 x 4.06m. It has cross-vault superstructure measuring 4.63m in height. The floor features colored cement tiles. The walls and cross vaults are constructed of stone and are smoothly plastered. The south part the space is subdivided into two small spaces serving as toilet and bath; the rest of the room is used for laundry. Within the north wall there is a semicircular profiled door niche measuring 124 x 250-60cm, and opening to outside. At the west wall there are two semicircular profiled window niches each is measuring 90 x 212-61cm. At the north side of the east wall there is a semicircular profiled door niche measuring 93 x 209-44cm and opening to space 1.4.

Space 1.4 is rectangular measuring 4.06 x 3.80m. It has cross-vault superstructure measuring 4.63m in height. The floor features colored cement tiles. The walls and cross vaults are constructed of stone and are smoothly plastered. The space is used as a kitchen. Incorporated within the north wall there is a semicircular profiled door niche measuring 109 x 215-80cm and opening to space 1.2. At the south wall of the room there is a semicircular profiled window niche measuring 240 x 255-76cm. At the north side of the west wall there, is a segmental profiled door measuring 72 x 205cm and opening to space 0.3.

Space 1.5 (figures: 2.4 and 2.5) is rectangular measuring 3.08 x 4.30m. It is closed from top by a concrete slab, which measures 9.44m in height. The floor of the space is made of cut stone tiles. The walls are constructed of stone and are smoothly plastered. It is a staircase space, containing a flight of three steps connected to a 1.12 x 1.1m landing. From there, another flight of 10 steps is connected to a segmental arch profiled door opening to space numbers 1.1. From space 1.1, a door opens to another flight of 14 steps; this connects to a landing from which another flight of 12 steps leads to the roof of the building. The south wall incorporates a semicircular profiled door niche measuring 135 x 363-82cm; east of the same wall there is a semicircular profiled window niche measuring 118 x 215-72cm.

Space 1.6 (figure: 2.6) is rectangular measuring 4.38 x 4.24m. It has cross-vault superstructure measuring 4.53m in height. The floor features colored cement tiles.

The walls and cross vaults are constructed of stone and are smoothly plastered. The space serves as a bedroom. At the west side of the north wall there is a semicircular profiled door niche measuring 109 x 202-73cm, and opening to space 1.1. On the east side of the same wall there is a semicircular profile double winged door niche measuring 113 x 327-77cm which opens to the veranda. At almost the center of the east wall there is a semicircular profiled window niche measuring 259 x 257-81cm. Within the South wall, there is a semicircular profiled niche measuring 324 x 352-78cm, the inside of which features a flat arch door with two windows at either side, all opening to a balcony. At the west wall there is a semicircular profiled wall cupboard measuring 113 x 190-84cm and elevated 55cm from the ground. Within the west wall of the room there is a flat arch profiled wall cupboard.

Space 1.7 (figure: 2.10) is a verandah which has the same architectural features as space number 0.7 below, except for the metal door of the south side projection which is replaced by a stone handrail, and its connection to spaces number 1.1 and 1.6. The exterior and interior walls feature openings with more or less the same measurements and profiles as space number 0.7 below.

Space 1.8 is rectangular measuring 4.22 x 4.00m. It has cross-vault superstructure measuring 4.58m in height. The floor features colored cement tiles. The walls and cross vaults are constructed of stone and are smoothly plastered. At the west side of the south wall there is a semicircular profiled door niche measuring 117 x 202-80cm, and opening to space number 1.1. Central to the east wall there is a semicircular profiled window niche sharing the same architectural characteristics as the one found at space 1.6. At the North wall, there is a semicircular profiled door and two window niches opening to a balcony, all of which are similar to those found at the south wall of space number 1.6. At the west wall there is a flat arch profiled wall cupboard measuring 175 x 188-72cm, it is approximately 57cm elevated from the ground.

Space 1.10 is a rectangular space measuring 4.20 x 4.18m. It has cross-vault superstructure measuring 4.57m in height. The floor features colored cement tiles. The walls and cross vaults are constructed of stone and are smoothly plastered.

Within the north wall there is a semicircular profiled window niche with two window openings inside the niche measures 241 x 250-89cm. At the west side of the south wall there is a semicircular profiled door niche measuring 115 x 230-60cm and opening to space 1.2. East of this, within the same wall, there is a flat arch profiled wall niche measuring 156 x 162-56cm; this is elevated approximately 53cm.

Decorations and Ornamentations

The interior decorations are limited to the timber doors, which feature decorative wings. The walls are plastered simply, lacking any decoration or ornamented surfaces. The floors, however, feature ornamented colored cement tiles. Externally the window openings are protected with ornamented metal grills; the exterior doors also feature elaborate ironwork. Externally elaborate sculptured and carefully profiled window and door openings are realized and concentrated at the main elevation, featuring ornamented and sculptured three arched projection. The twin windows feature ornamented and profiled frames; horizontal and vertical framing contribute to the exterior decoration.

Structural System, Construction Material and Building Technology

Continuous load bearing foundations are used. Load bearing walls support the cross valuated superstructures. Stone and lime are the main construction materials. Lime plaster and colored cement tiles are used for the interior finishing. Palestinian stone masonry and traditional construction process, methods and techniques are presented in detail in Appendix B.

The roof water is drained using metal pipes, which lead rainwater to the cistern at the back yard of the house; water drainage is provided in the south-west corner of the building. Electric power was made available to the house in the 1950s, and the wiring is fixed externally. Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking.

3. Atif al-Hammury House

Address: Ayn Sarah neighborhood, University Road

Coordinates: E 159 157. 4624 - N 104 445. 3168

Date of construction: 1939-1358 according to the inscription panel

Occupancy statue: The original owner, who is 91 years old and his wife, as they do not have any married sons living with them, occupies this house. The owner indicated that he moved to the house when he was 24 years old. He indicated proudly that he was one of the pioneers who followed this new fashion and constructed an independent dwelling. He was financially capable to do so as he was one of the few educated figures of the town as so he was working as a judge. besides that he belongs to a prestigious family which owned many vineyards. Atif al- Hammury said that before moving to the house he lived for 7 years together with his relatives in the old town, in this house 8 of his children used to live with him and his wife in this house, currently all of the children are married and living separately.

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 3.1 to figure 3.8

Drawings: figure D 3.1, figure D 3.2, figure D3.3, and figure D3.4

The Lot (figure: D 3.1)

The layout of the lot is characterized by irregular rectangular geometry of approximately 30 x 29m, and is surrounded by neighboring vineyards from four directions. Rubble stone walls from all sides define its boundaries. At the west side of the lot boundary there is a rubble stone retaining wall measuring 2-2.5m in height. This is separating the lot from the upper neighboring lot. The east side of the lot is defined by a rubble stone retaining wall measuring 2m high. This wall separates the lot from the University Road, which is lower than the lot by approximately 1.70m. Rubble stone walls measuring 1-1.5 m high define North and south boundaries of the lot. From these sides, neighboring lots are at almost the same level of the lot. The lot is connected to the road from the north east by a flight of 11 steps which connect to a paved pathway; which is surrounding the house from the east and north sides.

At the east side of the house, the pathway connects to a terrace-like space in front of the main entrance by a flight of three steps. At its north side, the building connects to another flight of three steps adjacent to the north side entrance. Various types of trees are planted in the lot, and a cistern is found at the west side of the building. The building is located at approximately the center of the lot. It is 6.6m far from the east, 6-7m from the west, 3-4m from the north and 7-8m from the south.

General Description

The building features a single floor measuring 5.9m high; it is a freestanding cubic mass with a straight roof on top. The plan follows a central-hall scheme, measuring 16.25 X 16.50m with a subtraction measuring 5.30 X 4.80m at the south-west corner of the building and an additional staircase space measuring 3.45 X 8.30m at its north-west side. The floor plan includes a central-hall with the living spaces arranged at the north, south and west sides. Continuous load-bearing construction is used for the walls; the superstructures incorporate cross vaults except for space numbers 0.3, 0.5, and 0.6, which use Jack-vaulted superstructures. Red-colored limestone is the main construction material. The ground floor is elevated about 62cm from the lot, and is entered from the east elevation by a veranda, in front of which there is a terrace measuring 180cm wide. Another entrance is located at the north side from the staircases and leads to the roof of the building. A third entrance is provided at the west side connecting the kitchen to the nearby cistern.

The Exterior

All the elevations are constructed of regular cut stone courses measuring 25-30cm in height. At the ground level of south and east elevations, there is a band of roughly cut and roughly coursed stone. This measures 70cm in height and projects about 50cm from the elevation wall. This band may be a part of the foundation wall. The house owner has indicated that the master builder included this feature because he thought that the soil at this part of the building was not strong enough to support it. A profiled horizontal band of stone running defines the height of the floor across the upper sections of the four elevations.

This is projected two to three centimeters from the wall surface. The horizontal bands and window frames are emphasized by their projection from the wall surface and the use of variation in texture. More smoothly dressed Hadjar Matabbih stone is used to make the projected horizontal band and opening frames. The east, north and south elevation walls are built of Hadjar Msamsam dressed stone up to the projected band level, above which there are three courses of Tubzih Shaf dressed stone. The western elevation wall and openings are constructed of Tubzih Shaf dressed stone.

Main elevation (East) (figures: D3.3, 3.1, 3.4 and 3.5) measures 16.40m long and 5.90m high. It is composed of one floor. The ground floor is elevated approximately 60cm from the ground and reached by two flights of three steps. The steps are connected to a 5m long terrace, which projects from the elevation wall, by approximately 180cm and become wider owing to a wall recess.

The recess is located at the center of the elevation. It features a large segmental profiled arch measuring 3.6m wide and 3.4m high, along with a protruding decorated keystone. The jambs of the recess are in the form of stone bailers, which have an ornamented cap. The arch is recessed approximately 30cm from the elevation wall and reaches a depth of 252cm. At the rear of the recess, there is also a door opening measuring 144w x 254hcm, this has an ornamented shouldered lintel, above which there is a semicircular profiled revealing arch opening. An ornamented iron metal grill is inside. At the north and south sides of the door there is a semicircular profiled widow opening, each is measuring 75w x 208hcm. The south and north walls of the recess features segmental profiled, double winged metal door opening which measures 105w x 225h cm. Incorporated within the south and north sides of the elevation there are four semicircular profiled window openings placed symmetrically along the central large arch. All of these share same profiles each measuring 100w x 217hcm. A horizontal profiled frame connects each two windows to each other. The staircase wall is located at the rear of the north side of the elevation. On the south side of this wall, there is a rectangular, profiled door opening, measuring 110w X 240h cm, this has an ornamented shouldered lintel. Above this, there is a semicircular profiled revealing arch opening, the inside of which features an ornamented iron metal grill.

The west elevation: (figure: D 3.4) measures 5.90m in height and 19.53m in length. The elevation wall is steeped in two surfaces. A front surface at the north part measuring 14.34m long, and a back surface at the south side measuring 5.19m long. At the north side of the front surface there is a rectangular window measuring 77w X 161hcm and elevated approximately 288cm from the ground. To the south, there is a rectangular profiled door measuring 79w X 221h cm, this is opening to the kitchen and reached from the ground level by a flight of four steps connected to a landing measuring 135cm in length. Next to the door from the south there is a rectangular profiled window measuring 78w X 110h cm. Approximately central of the front surface there is a rectangular window opening to the toilet, this measures 107w X 100h cm. At the south side of the front surface there are twin semicircular profiled windows, each measures 107w X 100h cm. A similar window is placed at approximately central of the back surface.

The north elevation: (figure: D 3.4) measures 5.90m high and 16.27m long. The elevation wall is steeped in two surfaces. A front surface at the west part of the elevation measures 8.31m long and projects about 3.1m from the back surface. A back surface is at the east side measures 8.03m long. At the back surface of the elevation there are two semicircular profiled windows measuring 100w X 217h cm and opening to space 0.3.

South elevation: (figure: D 3.3, figure: 3.3) measures 5.90m high and 15.92m long. The elevation wall is steeped in two surfaces. A front surface at its east part, it is measuring 11.16m long and projecting approximately 5.26m from the back surface. The back surface is at the west side of the elevation, it measures 4.75m long. At the west and east sides of the front surface there are two semicircular profiled windows, each is measuring 96w X 226h cm; the one on the east side opens to space 0.9.

The Interior

Ground floor (figure: D 3.2): the plan features nine spaces including toilet, kitchen, and staircase. Space 0.1, the central-hall, is the central space of the plan and

guarantees relationship and cross circulation among the surrounding spaces. In addition, it functions as an entrance hall where it connects to outside from the east via a wall recess in the form of a semi-open veranda. Two spaces are connected to the central-hall from the south, and one space from the west. At the North side of the central-hall, there is one large space and a corridor located at the north-west corner providing an exit to the outside and entry to the kitchen and toilet.

Space 0.1 (central-hall, figure:3.7) is a longitudinal rectangular space measuring 6.89m long, 4.40m wide and 4.18m high. Spaces 0.2, 0.3, 0.7, 0.8, and 0.9 are arranged at the west, south and north walls of the central-hall, and directly connected to it. The east wall faces outside without any internal spaces attached. The central-hall is used as a family living space alongside its function as the main horizontal circulation element connecting the floor spaces to each other.

The floor of the space is made of traditional carpet tiles. The walls and the double cross-vaults are constructed of stone and smoothly plastered. At the north wall there is a segmental, profiled double-winged door measuring 103w X 202h cm and opening to space 0.2. At the west side of the same wall there is a semicircular profiled arch measuring 140cm wide and opening to space 0.3. At the east and west sides of the south wall there are two segmental, profiled doors sharing the same profile, each measures 103w X 212h cm. The west side window opens to space 0.8 and east side one opens to space 0.9. At south side of the west wall there is a segmental profiled door measuring 90w X 205h cm opening to space 0.7. Central of the east wall there is a semicircular profiled door niche measuring 161w X 366h -56d cm and opening to the veranda. Located at either side of this, there is a semicircular profiled window niche measuring 76w X 210h-54d cm.

Space 0.2 (central-hall, figure: 3.8) is rectangular longitudinal space measuring 6.50 X 4.52m with a 4.20m high double cross-vault superstructure. The floor of is made of colored cement tiles. The walls and cross vaults are constructed of stone and smoothly plastered. Two semicircular profiled window niches each measure 116w X 230h-64d cm is incorporated within the north wall.

The west side niche measures 103w X 202h-56d cm and opens to space 0.1, and the east side niche measures 126w X 202h-55d cm and opens to the outside. The east wall of the room features two window niches sharing the same profile and measurements as those found within the north wall. On the north and south sides of the north wall there are two wall cupboards elevated 10-15cm from the ground: the one on the north side is semicircular profiled, measuring 180w X 280h-45d cm, while the south side one is rectangular profiled, measuring 151w X 250h-80d cm.

Space 0.3 is rectangular space measuring 5.64 X 1.40m. It has Jack-vault superstructure measuring 2.90m in height. It is a corridor connecting the toilet and kitchen to the central-hall. The floor is made of terrazzo tiles. The walls and the Jack-vault are smoothly plastered. Within the north wall there is a semicircular profiled double winged door measuring 144w X 310h cm and opening to space 0.4 (staircases). To the north and south sides of the west wall there are two segmental profiled doors sharing the same profiles: each measures 103w X 230h cm. The south side door opens to space 0.6 and the north side one opens the kitchen.

Space 0.4 is a staircase measuring 2.26 x 6.61m. It incorporates two flights of 13 steps leading to the roof. The space is open from above, its floor is made of cut stone tiles and the walls are constructed of stone. The east wall incorporates a door opening to the outside. The south wall features a door opening to space 0.3. At the west wall, 20cm above the landing, there is a rectangular window.

Space 0.5 is rectangular measuring 2.86 X 4.31m. It has Jack-vault superstructure measuring 2.90m in height. The space is a kitchen. The floor is made of terrazzo tiles. The walls and Jack-vaults are constructed of stone and are smoothly plastered. On the west side of the north wall there is a rectangular profiled wall cupboard measuring 149w X 260h-42d cm and elevated approximately 16cm from the ground. The south side of the east wall incorporates a segmental profiled door niche measuring 129w X 238h-54d cm. At the north side of the west wall there is a segmental profiled door niche measuring 90w X 248h-85d cm, the threshold of which is elevated 22cm from the floor. Next to the door from the south is a window niche measuring 90w X 110h-65d cm.

Space 0.6 is rectangular used as a toilet and measures 1.53 x 4.00m. It has Jack-vault superstructure measuring 2.90m in height. The floor and walls are made of ceramic tiles, and the Jack-vault is plastered. The east wall features a segmental profiled door niche measuring 129w X 238h-54d cm. Within the upper part of the west wall there is a rectangular window niche measuring 103w X 110h-64d cm.

Space 0.7 is rectangular measuring 4.40 x 4.09m. It has cross-vault superstructure measuring 4.20m in height. The floor is made of traditional carpet tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the south side of the east wall there is a semicircular profiled door niche measuring 100w X 230h-65d cm and opening to space 0.1. At the north wall there is a semicircular profiled wall cupboard measuring 180w X 190h-50d cm and elevated 50cm from the ground. Within the south wall of the room there is a semicircular profiled window niche measuring 237w X 25h-51d cm, this contains a twin window opening. The west wall of the room features a window niche sharing the same architectural features as that found within the south wall.

Space 0.8 is rectangular measuring 4.56 x 4.46m. It has cross-vault superstructure measuring 4.18m in height. The floor is made of colored cement tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the north wall there is a semicircular profiled door niche measuring 127w X 242h-57d cm; to the east of this there is a segmental profiled wall cupboard measuring 180w Xx 200h-51d cm. Central of the south and west walls there are semicircular profiled window niches each measures 230w X 250h-53d cm, and features twin-window openings.

Space 0.9 is rectangular measuring 4.56 x 4.52m. It has cross-vault superstructure measuring 4.20m in height. The floor is made of colored cement tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The south wall features a semicircular profiled window niche measuring 240w x 230h-51d cm. At the east and west sides of the north wall there are two segmental profiled doors niches sharing the same profile and measurements as space 0.2 South wall door.

Decorations and Ornamentations

The interior decorations are limited to the timber doors and wall cupboards, which feature decorative wings. The walls are simply plastered without decoration or ornamented surfaces, however, the floor features ornamented colored cement tiles. Externally the window openings are protected with ornamented metal grills; the exterior doors also feature elaborate ironwork. Elaborately sculptured and carefully profiled window and door openings are exhibited at the main elevation, using a large arch above the entrance wall recess, which features a protruding keystone and profiled arch. The twin windows display ornamented and profiled frames (View 3.4 and 3, 5). A projected profiled vertical band of stone was another means of exterior decoration.

Structural System, Construction Material and Building Technology:

Continuous load bearing foundations are used. Load bearing walls support the cross and Jack-vault superstructures. Stone and lime are the main construction materials. Lime plaster and colored cement tiles are used for the interior finishing. Palestinian stone masonry, traditional construction process, methods and techniques are presented in detail in Appendix B. The roof water is drained using metal pipes channeling rainwater to the cistern at the back yard of the house; water drainage was provided in the south-west corner of the building. Water for drinking, bathing and cooking was obtained from the water cistern at the west side of the house. Electric power was made available to the house in the 1950s, and the wiring is fixed externally. Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking.

4. Musa Shahin House

Address: Ayn Sarah neighborhood, King Faysal road, number 17,

Coordinates: E 159 516. 7308 - N 104 040. 0362

Date of construction: the northern part of ground floor was constructed at the beginning of the 1920s, and the southern part of ground floor and the first floor was added by the 1937-1356 according to the inscription panel.

Occupancy status: The ground floor of the house is rented to a computer and language courses center, and the first floor is occupied by one of the Musa Shahin as he used to live in the house together with his wife and seven children 4 of them are married and living separately.

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 4.1 to figure 4.8

Drawings: figure D 4.1, figure D 4.2, figure D 4.3, and figure D 4.4

The Lot (figure: D 4.1)

The lot has irregular rectangular geometry of approximately 24.73 X 24m. The lot boundaries are defined by neighboring buildings and loose stone walls. At the West side of the lot, there is a loose stone wall measuring 1-1.5m in height. The east side of the lot is defined by a 1.5m high loose stone wall, at the south side of which there is a two-storey neighboring building. At the south side of the lot there is a 1.8m high loose stone wall separating the building from a two-storey neighboring building, which is about 2.5m apart from the lot boundaries. At the north side of the lot, there are two neighboring buildings, in between which there is a 6m wide and 11m long steeped passage, this is connecting to King Faysal road, which is 2.2m higher than the lot.

Within the north side of the lot there is an open space of 17 X 5.3m, connected to King Faysal road by a paved passage featuring a flight of 11 steps. It also has stone stairs leading to the first floor. At the east side of the lot, there is a corridor-like space which measures approximately 3.3m wide. This separates the house from the

neighboring building, at the south side of which there is a cistern. The western section of the lot features a corridor-like space measuring five meters wide. The southern part of the lot features a 2-3.5m wide-open space separating the house from neighboring two-storey building. The house is located at approximately the center of the lot. The building is roughly five meters away from the north boundaries, 3.5m from the east, 4.5m from the west, and 2-3.5m from the south.

General Description

The building is essentially a two-storey 8.25m high freestanding cubic mass with a straight roof. The ground and first floors are two separate, central plan houses sharing the same plan type; each measures approximately 16.18 x 11.48m. In addition, the building features a rectangular space measuring approximately 8.67 x 4.31m located around the center of the south side of the plan. Both floors have a central-hall with the living spaces arranged at its east, west and south sides.

Continuous load bearing construction is employed for the walls of both floors. The ground floor spaces have both cross and Jack vaults. All of the first floor spaces have Jack-valuated superstructures. Red limestone and lime are the primary construction materials. The building has three entrances for the ground floor: a main entrance from the north and another two entrances from the south and east. The first floor has one entrance located at the center of the north elevation.

The Exterior

At the ground floor, roughly cut and roughly coursed stone is used for the construction of the north elevation wall and the north part of the east and west elevations. The rest of the elevations have regularly cut stone courses measuring 25-30 cm in height. The south-west and north-west corners of the building are defined by the projection of quoins two to three centimeters from the wall surface. This projection constitutes a band of 50cm width running across the first floor height; it starts at the top of the ground floor and ends at the upper edge of the elevation. Two vertical bands of stone measuring 50cm in width are projected approximately three

centimeters from the north elevation wall, and these run across the first floor height dividing the main elevation into three parts. At the north, two horizontal bands of stone courses projecting two to three centimeters from the wall surface define east and west elevations, the ground and first floor heights. The front corners, vertical and horizontal bands, and window frames are emphasized by their projection from the wall surface and their variation in texture. More smoothly dressed Matabbih stone is used for the projected elements; regular cut stone parts of the elevation wall are made from Msamsam dressed stone, while the roughly cut and coursed sections feature Tubzih Shaf dressed stone.

The main elevation (North): (figure: D 4.3, 4.1 and 4.2) measures 16.20m long and 8.25m high in two floors. At approximately the center of the ground floor part of the elevation there is a rectangular door opening, measuring 116 X 183cm, covered with a lintel, above which there is a two-centered pointed revealing arch opening. At each side of the door there is a two-centered pointed profiled window measuring 70 X 166cm and opening to space 0.1.

The ground line is steeped in two levels with 2.2m retaining wall separating them. The lower level provides entry to the ground floor. A flight of nine steps cantilevers approximately 1.45m from the elevation wall and is connected to a two meter long landing in front of the first floor entrance. At approximately the center of the landing there is a rectangular door measuring 110 X 212cm, this is covered with a lintel, above which is a two-centered pointed revealing arch opening, the inside of which is feature an ornamented metal grill. Above the revealing arch there is a circular opening measuring 108cm in diameter, the inside of which is filled with ornamented metal grills. At each side of the first floor door there is a rectangular window frame, the interior of which features a segmental profiled arch and measures 70 X 175cm. At both the east and west parts of the first floor elevation there are four window openings placed symmetrically and located next to each other. Each features a rectangular profile, the intrados of which had a segmental profiled treatment; the opening of each measures 75 X 200cm.

The west elevation (figure: D 4.3 and 4.3) measures 15.79m long and has two floors with a straight roof above. The elevation wall is steeped in two surfaces. A front surface at the north part of the elevation measures 11.48m long and 8.25m high. The south part of the elevation features a back surface measuring 4.36m long, 8.66m high. It is 3.37m apart from the front surface. At the north part of the ground floor front surfaces there are three windows all opening to space 0.1 and are placed beside each other with the jambs attached. The central opening features a segmental profiled window opening, this is measuring 100 x 128cm; the other two windows are segmental profiled and measure 75 X 133cm. At the south part of the ground floor front surface there is a twin window featuring two semicircular profiled openings each measures 70 X 180cm.

The north side of front surface (first floor level) features two windows sharing the same profile and measurements as those found at the north elevation. At approximately the center of the front surface there is a rectangular profiled door measuring 108 x 245cm and covered with a lintel, above which there is a rectangular widow frame measuring 108 x 85cm, the interior arch part of which is segmental profiled. The door opens to a cantilevered balcony measuring 130 X 130cm. At the south side of the first floor front surface there is a twin window featuring two segmental profiled openings each is measuring 75 X 193cm, and includes double-winged metal shutters. At the ground floor of the back surface, there is a semicircular profiled window measuring 70X132cm. The first floor of the same surface features a segmental profiled window opening measuring 75 x 117cm with double winged metal shutters.

The east elevation (figure: D 4.4) features two floors with a straight roof above. In common with the west elevation, this elevation is steeped in its front and back surfaces with approximately the same measurements. At the north part of the ground floor part of the front surface there is a twin window, featuring two semicircular profiled openings each measuring 70 x 180cm. At the south side of these profiled opening, there is a segmental profiled door measuring 100 x 257cm. Both the twin window and the door open to space 0.8. At the south section of the front surface

(ground floor) there is another twin window; this is sharing the same profile and measurements to that found earlier at the north elevation. On the first floor level of the front surface there are four windows placed beside one another; all sharing the same profile and measurements as those found at the north elevation. The back surface of this elevation features two window openings sharing the same profile and measurements to those found at the back surface of the west elevation.

The south elevation (figure: D 4.4) measures 16.20m long and 8.25m high, and is steeped in three surfaces. At approximately the center of the elevation, there is a front surface measuring 8.76 x 8.69m and projecting around 4.3m from the two back surfaces located at both the western and eastern parts of the elevation. On the ground floor, at approximately the center of the front surface, there is a segmental profiled door measuring 100 x 2.53m and opening to space 0.5. To the east of this door there is a semicircular profiled window measuring 70 x 1.32m and opening to space 0.6.

The first floor of the same center features a door located above the ground floor door sharing with it the same profile and measurements. It opens to space 1.5. In front of the door there is a balcony cantilevered from the wall and measuring approximately 144 x 148cm, the free sides of which are surrounded by 90cm high railings. At the east and west sides of the balcony there are two segmental profiled window openings each is measuring 75x 108cm. The one at the east side opens to space 1.6, while the other opens to space 1.4. At the ground floor of the east back surface there is a twin window; featuring two openings: both are semicircular profiled measuring 70 x 180cm. At the first floor of the same surface, there is another twin window, which has two segmental profiled openings each is measuring 75 x 173m. At both the ground and first floors of the west back surface there are two sets of twin windows sharing the same profile and measurements as those found at the east back surface.

The Interior

The ground floor (figure: D 4.2) is a simple rectangular measuring 16.18 x 11.42m. At approximately the center of south side of the plan, there is a rectangular space measuring 4.30 x 8.67m.

The plan features eight spaces including toilet, kitchen and central-hall (space 0.1). It uses a symmetrical central plan layout wherein four spaces are placed at the east and west sides of the central-hall with their doors facing each other. At the north side of the central-hall, the natural ground is 80cm higher than floor level and a half circular flight of four steps connects the central-hall with the natural ground level outside. At the south side of the central-hall, there are three spaces: two of them 0.4 and 0.6 are connected to the central-hall by a space in between (0.5); this opens to the outside from the south and to the central-hall from the north. The central-hall is the central space in this house: with the help of a transition space (0.5), it provides connection to the outside and guarantees cross circulation between the other spaces.

Space 0.1 (central-hall figure: 4.5) is longitudinal rectangular space measuring 9.83m in length, 3.97m in width and 3.76m in height. It is located at the centre of the floor plan with the other spaces arranged at the south, east and west walls; five of them are directly connected to it, while the other two are reached by a transitional space in between. The central-hall faces outside from the north through a door with a window at each side. It is used as a family living space besides its function as the main horizontal circulation element connecting the floor spaces to each other. The floor is covered with terrazzo tiles. The walls and the double cross-vaults are constructed of stone and smoothly plastered. The east wall incorporates two doors sharing the same profile and measurements and opening to spaces 0.7 and 0.8. Each features a segmental profiled opening measuring approximately 100 x 215cm with timber double wings. The arch and jambs of this are constructed of stone, which was painted later. On the opposite wall to the west there are two doors facing those of the east wall and sharing with them the same profile and measurements. These doors open to spaces 0.2 and 0.3.

At approximately the center of the north wall there is a semicircular profiled door niche measuring 132 x 290-59cm; this connects the central-hall to the outside by means of four steps. At the east and west sides of this door niche there are two semicircular profiled window niches. Both are elevated about 110cm from the ground and measure approximately 96 x 190-59cm, the openings of which are closed

from the outside by fixed metal sheets. The west side of the south wall features a rectangular profiled door measuring 96 x 212cm and covered with a lintel, above which there is a flat arch profiled window opening measuring 196 x 123cm. Both the window and the door open to space 0.5.

Space 0.2 is rectangular measuring 4.49 x 4.37. It has cross-vault superstructure, which measures 3.66m in height. The floor has recently been renovated and covered with ceramic tiles. The walls and cross vaults are constructed of stone and are smoothly plastered. At the south side of the east wall there is a segmental profiled door niche measuring 114 x 238-58cm, to the north side of which there is a semicircular profiled wall cupboard measuring 193 x 226-65cm, this is elevated around 32cm from the ground. At approximately the center of the west wall there is a semicircular profiled window niche measuring 116 x 232-58cm. On either side, there are semicircular profiled window niches measuring 91 x 238-58cm. Central of the north wall there is a semicircular profiled niche measuring 200x224-51cm.

Space 0.3 (figure: 4.8) is rectangular measuring 4.44 x 4.51m. It has Jack-vault superstructure, which measures 3.64m in height. The floor has recently been renovated and is covered with ceramic tiles. The walls and Jack-vault slab are constructed of stone and smoothly plastered. At the north side of the east wall there is a segmental profiled door niche measuring 117 x 232-55cm, to the south side of which there is a semicircular profiled wall niche measuring 216 x 247-63cm. This is elevated around 26cm from the ground. At the south side of the west wall there is a segmental profiled window niche measuring 195 x 262-58cm and is elevated approximately 68cm from the ground. Inside this, there are two semicircular profiled twin windows. At the west side of the south wall there is a window niche with approximately the same measurements, profile and architectural characteristics as that of west wall. At the east side of the north wall there is a rectangular profiled wall cupboard measuring 125 x 187-54cm; this is elevated around 17cm from the ground.

Space 0.4 is used as a toilet; it is rectangular measuring 3.52 x 1.43m. It has Jack-vault superstructure, which measures 3.60m in height. The floor has recently been

renovated and is made of ceramic tiles. The walls and Jack vaults are constructed of stone and are smoothly plastered. At the south side of the east wall there is a segmental profiled door niche measuring 94 x 212-35cm, and opening to space 0.5. Facing the door on the opposite wall (west) there is a semicircular profiled window niche measuring 86 x 150-49cm, and elevated about 133cm from the ground.

Space 0.5 is used as a lobby. It is a rectangular space measuring 2.80 x 3.51m with a 3.60m high Jack vault superstructure. The floor has recently been renovated and is made of terrazzo tiles; the walls and Jack vault slab are constructed of stone and are smoothly plastered. At the south side of the east and west walls, there are two segmental profiled doors facing each other. The one on the east opens to space 0.6, while the west one opens to space 0.4. At approximately the centre of the north wall there is a rectangular, profiled double-winged door niche measuring 112 x 212-58cm, and opening to space 0.1 (central-hall), above which is a flat arch profiled window opening. At the opposite wall (south) there is a semicircular profiled double winged door niche measuring 112 x 275-58cm and it is opening to outside.

Space 0.6 is used as a kitchen. It is a rectangular space measuring 3.47 x 2.26m. It has Jack-vault superstructure, which measures 3.60m in height. The floor has recently been renovated and is made of ceramic tiles. The walls and Jack vault slab are constructed of stone and are smoothly plastered. At the south side of the west wall there is a segmental profiled door niche measuring 112 x 217-35cm, and opening to space 0.5. At the opposite wall (west) there is a semicircular profiled window niche measuring 85 x 142-43cm, and elevated about 121cm from the ground. At the south wall there is a window niche sharing the same profile and measurements to that found at the east wall.

Space 0.7: is rectangular measuring 4.48 x 4.53m. It has Jack-vault superstructure, which measures 3.64m in height. The floor has recently been renovated and is made of ceramic tiles. The walls and Jack vault slab are constructed of stone and smoothly plastered. At the north side of the west wall there is a segmental profiled door niche measuring 117 x 232-55cm and opening to space 0.1. To the south side of this niche,

there is a semicircular profiled wall niche measuring 202x232-26cm, and elevated about 30cm from the ground. At approximately the center of the west wall there is a segmental profiled window niche measuring 202 x 259-51cm and elevated about 65cm from the ground, at the inside of which there are two semicircular profiled windows sharing same measurements, profile and architectural characteristics as those found at the east side of the south wall.

Space 0.8 (figure: 4.7) is rectangular measuring 4.46 x 4.44m. It has cross-vault superstructure which measures 3.68m in height. The floor has recently been renovated and is made of ceramic tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the south side of the west wall there is a segmental profiled door niche measuring 114 x 238-58cm and opening to space 0.1. To the north side of this door niche, there is a semicircular profiled wall cupboard measuring 179 x 226-65cm, and elevated about 27cm from the ground. At the south side of the west wall there is a semicircular profiled double winged metal door niche measuring 123 x 238-57cm, to the north of which there is a semicircular profiled window niche measuring 196 x 222-58cm and elevated about 58cm from the ground. Inside are two semicircular profiled window openings. At approximately the center of the north wall there is a semicircular profiled niche measuring 217 x 224-56cm. At the west side of the south wall there is a rectangular profiled wall cupboard measuring 140x212-53cm.

The first floor (drawing: D 4.2) shares same measurements and arrangements as the ground floor, where all the ground floor walls extrude vertically. The plan features approximately the same geometry and measurements. In addition, the architectural characteristics of spaces and articulation within this floor are same as those in the ground floor plan. One difference in this floor plan is that it has only one entrance from the central-hall. The main entrance is elevated about 3.5m from the lot level. The south entrance located at the ground floor opens to a balcony. All of the spaces of this floor feature a Jack vault superstructure.

Space 1.1 (central-hall) shares the same geometry, dimensions, location and articulation to space 0.1 and measures 4.46m in height. The floor of the space is covered with traditional carpet tiles. The walls and the Jack vault superstructure are constructed of stone and are smoothly plastered. The east wall features two doors sharing roughly the same profile, location and measurements also those found at the east wall of space 0.1; these doors open to spaces 1.7 and 1.8. At the opposite wall (west) there are two doors facing the doors of the east wall are sharing the same profile and measurements, and opening to spaces 1.2 and 1.3. At approximately the center of the north wall there is a semicircular profiled door niche measuring 132 x 125-59cm and opening to outside, above which there is a circular window niche with a diameter of 120cm. At the east and west sides of this door niche there are two semicircular profiled window niches, which are measuring approximately 79 x 200-59cm. At the center of the south wall there is a rectangular profiled door measuring 101 x 230 and opening to space 0.5.

Space 1.2 is rectangular measuring 4.46 x 4.33m. It has Jack-vault superstructure, which measures 4.44m in height. The floor features colored cement tiles. The walls and Jack vault slab are constructed of stone and smoothly plastered. At the south side of east wall there is a segmental profiled door niche measuring 106 x 227-58cm, and to the north side of this there is a semicircular profiled wall cupboard measuring 152 x 234-65cm. Within the west wall there are two semicircular profiled window niches, each is measuring 91 x 212-57cm and is elevated about 71cm from the ground. These share the same characteristics as those on the north wall. At the west side of the south wall, there is a rectangular wall cupboard measuring 136 x 214-44cm.

Space 1.3 is rectangular measuring 4.90 x 4.58m. It has Jack-vault superstructure, which measures 4.48m in height. The floor is covered with colored cement tiles. The walls and Jack vault slab are constructed of stone and smoothly plastered. At the north side of east wall there is a segmental profiled door niche measuring 114 x 229-55cm, to the south side of which is a semicircular profiled wall cupboard measuring 137 x 212-64cm. At the north side of the west wall there is a segmental profiled door and window niche measuring 119 x 365-59cm, the inside of which features a

rectangular profiled door covered with a lintel, and a window above. At the south side of the door there is a semicircular profiled window niche measuring 193 x 214-58cm, inside there are two semicircular profiled windows. The south wall of the room incorporates a window niche sharing the same profile and architectural characteristics as that found within the west wall. At the east side of the north wall there is a rectangular profiled wall cupboard measuring 158 x 196-38cm.

Space 1.4 is used as a toilet and is a rectangular measuring 3.5 x 1.33m. It has Jack-vault superstructure, which measures 4.42m in height. The floor and walls are renovated with ceramic tile. The Jack vault slab is constructed of stone and smoothly plastered.

Space 1.5 is used as a lobby. It shares the same architectural elements and characteristics as space 0.5. It opens to a balcony and measures 4.23m in height.

Space 1.6: Apart from its height, measuring 4.24m, this space more or less shares similar architectural characteristics and elements with space 0.6.

Space 1.7 is rectangular measuring 4.36 x 4.59m. It has Jack-vault superstructure which measures 4.34m in height. The floor is covered with colored cement tiles; the walls and the Jack vault slab are constructed of stone and are smoothly plastered. At the north side of the west wall there is a segmental profiled door niche measuring 114 x 219-58cm and opening to space 1.1, to the south side of which there is a flat arch profiled wall cupboard measuring 143 x 280-65cm. Central of the west wall there are two segmental profiled window niches each measuring 93 x 224-59cm. At the south wall of the room, there is a segmental profiled window niche measuring 196 x 248-49cm and opening to outside by means of two segmental profiled windows.

Space 1.8 is rectangular measuring 4.36 x 4.33m. It has Jack-vault superstructure, which measures 4.48m in height. The floor is covered with colored cement tiles. The walls and Jack vault slab are constructed of stone and smoothly plastered. At the

south side of the west wall there is a segmental profiled door niche measuring 120 x 238-53cm and opening to space 1.1, to the north side of which there is a rectangular wall cupboard measuring 144 x 212-67cm. Center of the west wall there are two segmental profiled window niches sharing the same profile and measurements as those found within the west wall of space 1.7. At the north wall of the room there are two windows sharing the same profile and measurements as those found within the north wall of space 1.2. Around the center of the south wall, there is a semicircular profiled niche measuring 220 x 243-53cm.

Decorations and Ornamentations

The interior decorations are limited to the timber doors and wall cupboards, which feature decorative wings. The walls are simply plastered without decoration of any sort or ornamented surfaces. The floors have simple flagstone tiles, but the first floor spaces feature elaborate colored cement. Externally the window openings are protected with ornamented metal grills; the exterior doors also feature elaborate ironwork. Framing was another means of decoration exhibited at window and doorframes with horizontal and vertical bands.

Structural System, Construction Materials and Building Technology:

Continuous load bearing foundations are used. Load bearing walls support the cross-vaulted and Jack-vaulted superstructures. Stone and lime are the main construction materials. Lime plaster and flagstone slabs are used for the ground floor interior finishing; colored cement tiles are used for the first floor spaces. See appendix (B), the Palestinian stone masonry traditional construction process, methods and techniques. The roof water is drained using metal pipes channeling rainwater to the cistern at the back yard of the house; water drainage is provided in the south-west corner of the building. Water for drinking, bathing and cooking was obtained from the water cistern at the west side of the house. Electric power was made available to the house in the 1950s, and the wiring is fixed externally. Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking.

5. Hisham iz-Zghayyar House

Address: Ayn Sarah neighborhood, King Faysal Road, Number 41

Coordinates: E 159 359. 0004 - N 104 340. 7745

Date of construction: Ground floor 1939-1358 according to the inscription panel,

Occupancy status: Ground floor constructed at the end 1939s, currently rented to a women's community center. The basement floor is used as a textile store, and the owner's family inhabits the first floor; since it is added in 1983, it is excluded from the text and the drawings

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 5.1 to figure 5.11

Drawings: figure D 5.1, figure D 5.2, figure D 5.3, and figure D 5.4

The Lot (figure: D 5.1)

The lot features irregular rectangular geometry measuring approximately 30.16 x 25.85m. The boundaries are defined by the King Faysal road from the west, where a row of shops measuring 24.1m long is located on the boundaries along the roadside. To the south side of the shops there is a flight of 16 steps measuring two meters wide. This connects the lot level (0.00) with the road level (-2.70m). A concrete wall, separating the lot from the neighboring buildings located 2-3m apart from the wall, defines the east side of the lot boundary. At the south side of the lot there is a concrete wall measuring two meters high. At approximately 2-2.7,m apart from the wall there is a neighboring building of three floors. The north boundaries feature a two-meter high concrete wall, and approximately three meters away there is a three storey neighboring building. On the East side of the same wall, there is a sliding metal door connecting the lot to the neighboring building.

Within the lot boundary from the west there is an open space of approximately (in meters) 25ns x 5.5ew. This space separates the building from the front row of shops. The floor of the space is paved with tiles providing entry to the building by a 4m wide flight of five steps. At the east, north, and south parts of the lot is a corridor-like

space measuring 3-4.5m wide, the inside of it features a paved passage which runs around the building, providing easy circulation, entry to the basement and to the newly constructed first floor. The remaining space between the passage and the boundary is planted with flowers and mint. A cistern is located at the Southeast corner of the building. The building is approximately 11-12m meters far from west, 4-4.5m from the east, 4.5-5.8m from the south and 3.6-4.7m from the north.

General Description

The building is essentially two floors; possibly the slope of the site or the need to reach a good rock layer for foundations, enabled the construction of a basement at the south and north-west sides of the building. The basement and the ground floor were constructed in the 1939, and these will be the focus of the study. The first floor was added in the 1980s; therefore, it is excluded from the text and the drawings since it belongs to a different period than the one this study is concerned with. The building is a freestanding cubic mass with a straight roof above; it is mainly 5.66m high, although it reaches a height of 6.46m on the north and south elevations providing entry to the basement floor. More than half of the basement floor height is invisible. At the basement floor there are three spaces used for storage. The ground floor is the main living floor; it measures approximately 14.92 x 16.11m and features a central-hall with living spaces arranged at its north, south and east sides.

Continuous load bearing construction is used for the walls. The superstructures of the basement and ground floor spaces feature Jack vaults. Red colored limestone is the main construction material. The building incorporates two entrances for the basement: one on the north and the other on the south elevation. The ground floor is primarily entered from a wall recess in the west elevation, from which there are three doors opening to the interior. It also features one exit to the east part of the lot.

The Exterior

All elevation walls are constructed of regular cut stone courses measuring 25-30 cm high. The floor height is defined by two horizontal bands of stone courses projected

two to three centimeters from the wall surface, which runs all around the building from four sides. The horizontal bands and window frames are emphasized by means of their projection from the wall surface and use of variation in texture. More smoothly dressed Matabbih stone is used for the frames, while the wall surfaces feature Tubzih Shaf dressing.

The main elevation (west): (figures: D 5.3 and 5.1) measures 16.11m long, 5.71m high in one and a half floors. Only 1.2m of the basement height is visible; the rest of the elevation height covers the ground floor. At the south and north parts of the elevation there are two projected masses placed symmetrically, each is measuring 4.16m long, 5.71m high and projects 1.4m from the wall surface with a chamfer at the south and north corners. Both of the projected masses feature openings sharing identical profiles and measurements. At the partial basement level, approximately 25cm above the line there are two rectangular windows measuring 50 x 50cm. At the ground floor of each mass there is a semicircular profiled window measuring 145 x 273cm, and at both sides of this there are two semicircular profiled windows placed at the chamfered surfaces, each is measuring 66 x 223cm.

Approximately central to the elevation, between the north and south projected masses, there is a wall recess measuring 3.78m long and 2.85m deep. This is elevated approximately 120cm from the ground and reached by a 4m wide flight of five steps. The elevation of the recess features three two-centered pointed profiled arches, the central one is measuring 138cm wide and supported by two rectangular based and ornamented caped columns each measuring 262cm high. The other two arches are 110cm wide and supported from the arch side by the same columns and by ornamented caped rectangular bairers at the other sides. The rear of the recess features three-centered profiled large arch; this is subdivided into four openings by means of jambs and lintels. At the center there is a rectangular door opening measuring 142 x 235cm and covered with a lintel, above which there is a window opening measuring 142 x 93cm. Located at either side of the door are window openings measuring 67 x 201cm. At the south and north walls of the recess there are two flat arch profiled doors facing each other's and sharing the same profile.

The South elevation (figures: D 5.4 and 5.3) is basically 5.71m high, but increases to a height of 60cm owing to three steps providing entry to the basement floor which is 1m below the natural ground level. On the partial basement floor there is a rectangular door opening covered with a lintel and measuring 105 x 175cm; it opens to space 0.2. At both sides of the door there are two rectangular windows, each measures 92 x 70cm.

The ground floor elevation features a front surface dominating the elevation and two back- surfaces at the east and west parts of the elevation. At the east and west sections of the front surface, there are two semicircular profiled windows measuring 95 x 245cm: the east one opens to space 1.2, while the other opens to space 1.3. The east side back surface does not incorporate any opening, although the west side chamfered surface features a window opening.

The north elevation (figure: D 5.3), because the house follows a more or less symmetrical plan, this elevation shares measurements and architectural characteristics with the south elevation. Therefore, only the differences evident in the south elevation will be discussed. It is notable that the partial basement floor has one window less than south elevation since the basement includes only one room facing this direction. Also on the East side of back surface a staircase was added later in the 1980s providing entry to the first floor (this mass is not shown on the drawings since the new addition was excluded from the study).

The east elevation (figure: D 5.4) measures 5.71m high. At approximately the center of the elevation, there is a front surface projected roughly 3.51m from two back surfaces, which are located at the east, and west parts of the elevation. At the ground floor part of the front surface, the floor is elevated approximately 120cm. It is reached by a flight of five steps from the south and an opposite flight of three steps from the north: both are connected to an elongated landing measuring 2.58m long and 160cm wide. Approximately central to the front surface there is a rectangular door measuring 106 x 442cm covered with a lintel, and above the lintel there is a semicircular revealing arch opening.

The door includes a stone threshold, and as a result, the house interior is 20cm higher than the landing. At the north side of the door there is a rectangular window measuring 54 x 116cm and opening to space 1.6 (toilet). At the south side of the door there is a semicircular profiled window measuring 90 x 195cm and opening to space 1.4. The south side of the back surface features a semicircular window opening measuring 95 x 221cm and opening to space 1.3. The north side of the back surface of the elevation is hidden behind the newly added staircases, which are excluded from this study.

The Interior

The basement floor (figure: D 5.2) comprises three spaces; two are located under the south part of the ground floor and are connected to one another by an opening. The third space is located under the north-west part of the ground floor and is isolated from the south side spaces. The basement floor spaces are 100cm below the (0.00) level and all of them were used for storage.

Space 0.1 is rectangular measuring 4.95m long and 4.51m wide. It gains an additional 187cm in length because of the previously described projected mass on the main elevation. The space features a Jack-vaulted superstructure, which measures 2.65m in height. It served as a storage area. The floor is made of cut stone tiles, while the inner walls and Jack-vaults are constructed of stone and smoothly plastered. The west wall features two rectangular windows; each measures 50 x 50cm and is elevated approximately 215cm from the ground. At the east side of the north wall there is a rectangular door niche measuring 105 x 175-75cm. The space is connected to the outside by a flight of five steps. West of the door there is a rectangular window niche measuring 132 x 100cm.

Space 0.2 shares the same architectural characteristics and measurements as space 0.1, except for its connection to space 0.3 by means of an opening measuring 178 x 212-93cm located around the center of the east wall.

Space 0.3 is rectangular measuring 3.99 x 3.55m. The space features a Jack-vaulted superstructure, which measures 2.65m in height. The floor has cut stone tiles. The walls and the Jack-vaulted superstructure are constructed of stone and smoothly plastered. At the south wall there is a rectangular window niche measuring 132 x 100cm. Within the west wall, there is a rectangular door niche, which is measuring 139 x 212-93cm and opening to space -0.2.

The ground floor (figure: D 5.2) is essentially rectangular. It measures 11.18 x 16.11m, although it increases in size with the projection of two masses each measuring 4.17 x 1.4m at the west side of the plan, and the addition of another rectangle measuring approximately 9.4 x 3.5m. The plan comprises eight spaces including a corridor, toilet and kitchen. Space 1.1 (central-hall) is the central space of the plan, guaranteeing continuity and cross circulation among the surrounding spaces. It functions as an entrance hall, which is connected to the outside from the west by means of a wall recess in the form of veranda. This is 20cm lower than the house interior. At the south and north sides of the central-hall, there are four spaces arranged symmetrically around the central-hall. At the east side of the central-hall, the wet spaces (kitchen and toilet) are connected to the central-hall by a corridor, which opens to the outside from the east, and to the central-hall from the west. In simple terms, the central-hall is the central space in this house; with the help of a transition space 1.5, it provides connection to the outside and allows continuity and circulation between the other spaces.

Space 1.1 (central-hall, figures: 5.4 and 5.5) is a longitudinal rectangular space measuring 9.79m long, 3.89m wide and 3.80m high. It is located at the center of the plan with the other spaces arranged at its south, north, and east walls. Five of the surrounding spaces are directly connected to the central-hall, and two wet spaces (kitchen and toilet) are connected to it by means of a corridor. The west wall of the space faces outside through a three arch wall recess. The space is used as a family gathering space besides its function as the main horizontal circulation element connecting the floor spaces to each other. The floor is made of colored cement tiles. The walls and the Jack-vaulted superstructure are constructed of stone and are smoothly plastered.

At the west wall of the central-hall there is a large flat arch niche measuring 337 x 331-47cm, and it is subdivided into three window openings and a double winged metal door, all of which open to outside. The north wall features two doors sharing the same profile and measurements and those are opening to spaces 1.8 and 1.2; each features a segmental profiled arch and measures approximately 108 x 212cm. At the opposite wall (south), there are two doors facing the north wall doors and sharing their profiles and measurements; these open to spaces 1.3 and 1.4. Central of the south wall there is a segmental door niche, measuring 112 x 232-81cm and opening to space 1.5.

Space 1.2 (figures: 5.6 and 5.7) is rectangular measuring 5.12m long 4.46m wide, and gains an additional 186cm in length by means of the partial projection of the west wall. The space has a Jack-vaulted superstructure, which is measuring 3.78m in height. It was used as a guest room since it provides direct entry from outside alongside the entry from the central-hall side. The floor is made from colored cement tiles. The walls and Jack-vaults are constructed of stone and smoothly plastered. At the projected mass of the west wall, there is a three-sided large window niche measuring 274 x 280-43cm, the inside of which features three window openings. Within the front surface there is one semicircle profiled window opening measuring 145 x 273. The chamfered surfaces of the projection feature two semicircular profiled window openings measuring 66 x 223cm. At the north wall, there are two segmental profiled door niches. The west side niche measures 116 x 253-55cm and opens to the outside; the other measures 114 x 236-53cm and opens to the central-hall. Within the south wall there is a semicircular profiled window niche measuring 136 x 264-59cm. Within the east wall there is a segmental profiled wall cupboard measuring 157 x 219-58cm, this is elevated approximately 17cm from the ground.

Space 1.3 (figure: 5.11) is rectangular measuring 4.51 x 3.92m. The space features a Jack-vaulted superstructure, which measures 3.82m in height. The floor is made of traditional carpet tiles. The walls and Jack-vaults are constructed of stone and are smoothly plastered. At the north wall of the room there is a segmental profiled door niche measuring 112 x 251-59cm and opening to the central-hall. East of the door

there is wall cupboard measuring 139 x 229-55cm and elevated approximately 22cm from the ground. At the south wall of the room there is a semicircular profiled window niche measuring 133 x 255-57cm. Another window niche with the same profile and measurements is found at the east wall of the room.

Space 1.4 (figure: 5.10) is rectangular measuring 2.74 x 2.77m. It is used as a kitchen. The space features Jack-vaulted superstructure, which measures 3.82m in height. The floor is made of traditional carpet tiles. The walls and Jack-vaults are constructed of stone and smoothly plastered. At the north wall of the room there is a segmental profiled door niche measuring 106 x 223-27cm and opening to the corridor space 1.5. Within the east wall there is a semicircular profiled window niche measuring 124 x 245-46cm. At the south wall there is a semicircular profiled wall cupboard measuring 129 x 211-51cm.

Space 1.5 is rectangular measuring 1.30 x 2.69m. It is a corridor space connecting the toilet and kitchen to the house and providing an exit to the back yard. The space has a Jack-vault superstructure measuring 3.82m high. The floor is made from colored cement tiles. The walls and Jack-vaults are constructed of stone and are smoothly plastered. At the north and south walls of the room, there are two doors facing each other and opening to a kitchen from the south and the toilet from the north. Within the east wall of the room there is a semicircular profiled door niche measuring 119 x 357-81cm and opening to the outside

Space 1.6 is rectangular measuring 2.79 x 2.65m. It is subdivided into shower and toilet. The space features a Jack-vault superstructure measuring 3.82m high. The floor is covered with ceramic tiles. The walls and Jack-vaults are constructed of stone and are smoothly plastered. Within the south wall there is a segmental profiled door niche measuring 104 x 213-37cm and opening to the corridor. At the east wall there is a rectangular window niche measuring 89 x 119-62cm.

Space 1.7 is rectangular measuring 4.46 x 4.03m. The space includes a Jack-vaulted superstructure measuring 3.78m high. The floor is finished using cement tiles. The

inner walls and Jack-vaults are constructed of stone and are smoothly plastered. Within the south wall there is a segmental profiled door niche measuring 110 x 245-59cm and opening to the central-hall. At the east side of the door there is a semicircular profiled wall cupboard measuring 151 x 212-55cm, this is elevated approximately 35cm from the ground. At the north wall there is a semicircular profiled window niche measuring 141 x 261-51cm.

Space 1.8: (figures: 5.8 and 5.9). Because of the plan symmetry, this space shares the same geometry, measurements and characteristics as the opposite space 0.2.

Decorations and Ornamentations

The interior decorations are limited the timber doors and the wall cupboards which feature decorative wings. The walls are simply plastered without any decoration or ornamented surfaces, although the floors had ornamented colored cement tiles. Externally the window openings are protected with ornamented metal grills; the exterior doors also featured elaborate ironwork. Framing was another means of decoration featured at window and door frames and horizontal and vertical bands, stone decorations and sculpturing are concentrated within the three arched entrance, featuring ornamented columns, and arches.

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Continuous load bearing foundations are used, along with heavy load bearing walls used to support the Jack-vaulted superstructures. Limestone and lime are the main construction materials. Lime plaster and colored cement tiles are used for the interior finishing of the floor. The roof water is drained using metal pipes leading rainwater to the cistern at the back yard of the house; water drainage is provided in the southwest corner of the building. Electric power was made available to the house in the 1950s, and the wiring is fixed externally. Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking.

6. Ratib an-Nazir House

Address: Ayn Sarah neighborhood, Jerusalem road,

Coordinates: E 159 495. 3224 - N 105 215. 3410

Date of construction: 1929-1348 according to the inscription panel

Occupancy status: It is rented to the International Red Cross

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 6.1 to figure 6.9

Drawings: figure D 6.1, figure D 6.2, figure D 6.3, and figure D 6.4

The Lot (figure: D 6.1)

The lot has an irregular, rectangular geometry, measuring approximately 42 X35m. Rubble stone and concrete walls from all sides define the boundaries. At the west side of the lot there is a rubble stone wall measuring approximately 1.2m high and running along Jerusalem road. A concrete wall measuring 2.2m high, at 3.5m away from which there is a neighboring building of three floors, defines the east side of the lot. A concrete wall measuring 1.7m in height defines the north boundaries of the lot. At approximately the centre of this wall there is an opening measuring 4.2m wide providing vehicular entry to the north part of the lot. A neighboring building of one floor is located about 3m away from this opening. At the west side of the north boundary, there is a 5m wide dead end street providing the lot with access to vehicular traffic and separating it from a neighboring building which is located approximately 8m away. A concrete wall measuring 1.3m in height defines the south side of the lot. At a distance of 3.6m there is a single floor high neighboring building.

At the east part of the lot there is a corridor-like open space measuring approximately 3m in width and featuring a pedestrian passage, which is connected to the rear entry of the house. At the west section of the lot there is an open space measuring 22 X 36m, the centre of which is planted with various trees and other greenery. It contains paved pedestrian pathways connecting the main entrance to the Jerusalem road, and at the north side of the house there is a paved terrace-like space measuring 7 X 5m with a cistern below.

At the North part of the lot, there is an open space measuring 11m in width, this is planted with trees and it has a car entry from the dead-end street. This part of the lot is used as a parking area for Red Cross vehicles. The southern part of the lot features an open space, which measures 6.8m wide. It contains 1.2m wide pedestrian passage running along the south side of the house; the remainder of the space is planted with trees. The building is located at the east part of the lot, approximately 3.5m off from the east, 7m from the south, and 10m from the north and 22m from the west.

General Description

The building has one floor measuring 4.7m in height, with a freestanding simple clear-cut form and a straight roof. The plan has a central-hall scheme, and measures 16.84 X 17.30m with the subtraction measuring 4.8 X 4.60m at the Southeast corner of the building. The plan has a symmetrical arraignment of living spaces, which surrounded the central-hall from north, south, and east sides. Continuous load bearing construction is used for the walls. The superstructure feature cross vaults, with only one space having a barrel-vault. Red-colored limestone is the main construction material. The ground floor is elevated approximately 90cm from the lot, and is entered from the west side by a paved passage measuring 192cm in width; this is connecting the house to Jerusalem Road. A terrace space is found at the north side of this and is reached by two steps. Another entrance is provided at the east side of the building, it is connected to the lot by a one-meter wide passage, which runs around the east, and north sides of the building.

The Exterior

Only the main elevation (west) is constructed of regularly cut stone courses measuring 25-30 cm high. The east, north and south elevations of the building are constructed of roughly cut and coursed stone. At the West elevation, there is a horizontal band of stone defines the floor height across the upper part of the elevation. The north and south corners of the same elevation are defined by the projection of quoins in the form of a vertical band, which is running over the

elevation height and is measuring 55cm in width. The horizontal and vertical bands, window and door frames are emphasized by their projection from the wall surface and variation in texture. Smoothly dressed stone is used for the projected elements. The west elevation wall is built of Msamsam dressed stone, while Tubzih Shaf dressed stone is used for the walls of south, north and east elevations. Both metal shutters and iron grills protect window openings.

The main elevation (East) (figures: D 6.3 and 6.1) measures 17.30m long and 4.70m high in one floor. The ground floor is elevated about 90cm from the ground and is reached by a flight of five steps; one of them is the threshold of the main door, which measures 18cm in height. Around the centre of the elevation there is a rectangular door measuring 114 X 193cm and opening to space 0.1. The door is covered with a lintel. Above the lintel there is a rectangular window opening measuring 114 X 74cm; two courses of stones are placed one inside the other, framing both the door and the window openings. The main door is flanked by a window at each side, each measures 80 X 144cm and has a rectangular frame, and the arch part is segmental profiled. At the north and south sections of the elevation there are two window openings placed next to each other. Each of these measures 100 X 179cm, with the opening featuring a rectangular frame. The interior of this frame is segmental profiled. The north windows open to space 0.8, and the south windows open to space 0.2.

The south elevation (figures: D 6.3 and 6.2) measures 4.7m in height and 16.62m in length. The elevation wall is steeped in two surfaces. A front surface at the west part of the elevation measures 12.13m long and projects about 4.84m from the back surface. The back surface is at the east side measuring 4.40m long. At the west and east parts of the front surface there are two windows sharing the same profile, measurements and architectural features with the north elevation windows. The west window opens to space 0.2 and the east opens to space 0.3. The west part of the back surface features a rectangular window measuring 80m X 133cm. This window opens to space 0.4.

The north elevation (figures: D 6.4 and 6.3) measures 4.7m in height and 16.84m long. The elevation has three windows, all sharing the same profile and measurements. Each opening measures 98 X 179cm and is framed by a simple rectangular stone frame; its arch is segmental. The three windows from west to east open to spaces 0.9, 0.7, and 0.6.

The east elevation (figures: D 6.4 and 6.4) measures 4.30m in height and 17.35m in length. The elevation wall is steeped in two surfaces. A front surface at the north part of the elevation measures 12.52m long and projects approximately 4.4m from the back surface. The back surface is at the east side, it measures 4.82m long. At approximately the centre of the front surface there is a semicircular profiled door measuring 89 X 244cm. At the south side of this door there is a window opening which shares same profile as the north elevation windows but measures 78 X 159cm. Both the door and window open to space 0.5. At the north section of the back surface there is a window, which shares same profile and measurements as the north wall windows and opens to space 0.3.

The Interior

The building features a ground floor plan (figure: 6.2) which has eight spaces including a toilet. Space 0.1 (central-hall) is the central space of the plan. It ensures continuity and cross circulation among the surrounding spaces, and in addition, it acts as an entrance hall where it is directly connected to the outside by a door; this is flanked by two windows. Two spaces are connected to the central-hall from south, and two opposite spaces connect to it from north. The wet spaces (kitchen and toilet) are connected to the central-hall and from there to the rest of the house via space 0.5, which formerly opened to the central-hall from the west and to the outside from the east, with the wet spaces located at the north and south sides. Seven years ago, space 0.5 was subdivided to provide another toilet.

Space 0.1 (figure 6.8 Central-hall) is a longitudinal rectangular space measuring 9.68m long, 4.52m wide and 3.78m high. The west wall faces outside with the other

living spaces attached to it from the north, south and east sides. It is used as a family living space as well as the main horizontal circulation element connecting the floor spaces to each other. The floor is made of colored cement tiles. The walls and the double cross-vaults are constructed of stone and are smoothly plastered.

The north wall features two-segmental profiled double winged doors each is measuring 110 X 202cm. The west side door opens to space 0.8 and the east side door opens to space 0.7. The southern opposite wall features two doors sharing the same profile and measurements as the north wall doors, the west side door opening to space 0.2, and the east side one opening to space 0.3. At the north side of the east wall there is a door niche measuring 131 X 200-63cm, and opening to space 1.5; the jambs and lintels of the doors are constructed of stone. Around the centre of the west wall there is a segmental profiled door niche approximately measuring 137 X 300-77cm; the inside of the niche has a door opening to outside with a window above. The door niche is flanked with segmental profiled window niches, each measures 117 X 165-77cm.

Space 0.2 (figure: 6.9) is a rectangular space measuring 4.5 X 4.65m. It has cross-vault superstructure, which measures 3.78m in height. The floor is made of colored cement tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the east side of the north wall there is a semicircular profiled door niche measuring 131 X 235-62cm and opening to space 0.1. At the west side of this door niche there is a semicircular profiled wall cupboard measuring 181 X 255-63cm. At approximately the centre of the west wall there is a semicircular profiled window niche measuring 288 X 295-77cm, the inside of which has two segmental profiled window openings. At the west side of the south wall there is a rectangular wall cupboard measuring 142 X 242-69cm, and at the east side of this there is a segmental profiled window niche measuring 129 X 207-67cm. At the east wall of the room there is a semicircular profiled niche measuring 152 X 187-65cm.

Space 0.3 is rectangular measuring 4.62 X 4.67m. It has cross-vault superstructure, which measures 3.83m in height. The floor is made of colored cement tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the east

side of north wall there is a semicircular profiled door niche measuring 135 X 232-62cm and opening to space 0.1; to the west side, there is a semicircular profiled wall cupboard measuring 153 X 255-66cm. At approximately the centre of the south wall there is a segmental profiled window niche measuring 129 X 204-68cm. At the south side of the west wall there is a rectangular wall cupboard measuring 116 X 192-60cm. Central of the east wall there is a segmental profiled window niche measuring 142 X 204-85cm.

Space 0.4 is rectangular measuring 4.62 X 4.67m. It has cross-vault superstructure, which measures 3.63m in height. The floor is made of ceramic tiles. The walls and vaults are constructed of stone and smoothly plastered. The room was and is still used as toilet. At the east side of the north wall there is a semicircular profiled door niche measuring 123 X 209-31cm and opening to space 0.5. Within the south wall there is a rectangular window niche measuring 108 X 140-68cm.

Space 0.5 is rectangular measuring 4.23 x 3.6m. It has cross-vault superstructure, which measures 3.82m in height. The floor is made of terrazzo tiles. The walls and cross vaults are constructed of stone and smoothly plastered. This space served as a secondary central-hall or as distribution area connecting the main central-hall (space 0.1) to the wet spaces and to the outside from the east. Later, it was subdivided into three smaller spaces: space 0.5-1 is used as a toilet: space 0.5-2 is used as a lobby: and space 0.5-3 is used as a corridor opening to the kitchen from the north and to the outside from the east. The space is connected to the outside by a flight of four steps located inside the door niche. At the south side of the west wall there is a segmental profiled door measuring 111 X 195cm and opening to space 0.1.

Space 0.6 is rectangular measuring 3.55 X 3.86m. It has cross-vault superstructure, which measures 3.72m in height. The floor of the room consists of cut stone tiles. The walls and cross vaults are constructed of stone and are smoothly plastered. The space was and still is used as a kitchen. At the east side of the south wall is a semicircular profiled door niche measuring 128 X 248-38cm and opening to space 0.5.

Space 0.7 is rectangular measuring 4.55 X 4.50m. It has cross-vault superstructure, which measures 3.82m in height. The floor is made of colored cement tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the west side of the south wall there is a semicircular profiled door niche measuring 131 X 228-61cm and opening to space 0.1, the east side of which features a semicircular profiled wall cupboard measuring 159 X 255-72cm.

Space 0.8 is rectangular measuring 4.49 X 4.48m. It has cross-vault superstructure, which measures 3.86m in height. The floor is made of colored cement tiles. The walls and cross vaults are constructed of stone and are smoothly plastered. At the west side of the south wall there is a semicircular profiled door niche measuring 131 X 235-62cm and opening to space 0.1. Its east side features a semicircular profiled wall cupboard measuring 151 X 247-50cm.

Decorations and Ornamentations

The interior decorations are limited to the timber doors and wall cupboards, which feature decorative wings. The walls are simply plastered without any decorations or ornamented surfaces, however, the floors had ornamented colored cement tiles. Externally the window openings are protected with ornamented metal grills; the exterior doors also featured elaborate ironwork. Framing was another type of decoration realized at window and door frames and Horizontal and vertical bands.

Structural System, Construction Materials and Building Technology:

Continuous load bearing foundations are used, along with heavy load bearing walls, which are used to support the cross-vaulted superstructures. Limestone and lime are the main construction materials (See Appendix: B). Lime plaster and colored cement tiles are used for the floor interior finishing. The roof water is drained using metal pipes leading rainwater to the cistern at the north-west corner of the building. Energy supply: electric power was brought to the house in 1950s, and the wiring is fixed externally. Prior to that, that oil lamps were used for lighting.

7. Shakir ad-Duaik House

Address: Ayn Sarah neighborhood, Jerusalem road, Dead End Street.

Coordinates: E 159.444, 3741 - N 105.970, 5473

Date of construction: constructed in 1933-1352 according to inscription panel

Occupancy statue: the son of the original owner (Ali) who has his mother living with him in addition to his wife and two sons and two daughters occupies Shakir ad-Duaik house. The widow of the owner indicated that she moved to this house in 1933, before that she lived with here husband for five years at an extended family hosh, here husband used to work in the government at the British mandate period, he also had vineyards that he had inherited. She indicated she had five children whom grown up in this house before four of them getting married and moving to live separately.

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 7.1 to figure 7.7

Drawings: figure D 7.1, figure D 7.2, figure D 7.3, and figure D 7.4

The Lot (figure: D 7.1)

The lot features irregular rectangular geometry. The four sides of the lot measure approximately in meters: 41.55 SN Eastern side, 37.91EW Northern side, 37.94SN Western side and 30.73EW Southern side. The site has slop from Northeast to south-west of about 20%; this enables the construction of a partial basement floor consisting of one room at the south-west section of the house. The sloping nature of the site resulted at the floor level being elevated from the natural ground level about 1.80m at the main entrance (west) side. A flight of seven steps connects the ground floor to the natural ground level. A concrete wall measuring 1.5m high at the north side defines the boundaries of the lot. The eastern and southern boundaries are defined by lose stalls varying in height between 0.6 and 1.8 meters. A dead-end street at the north-west corner of the lot connects to 'El Esra' street, which is connected to Jerusalem road from west. At the south side of the lot there is a loose stonewall measuring 0.8m in height. This defines the lot boundary and separates it from the neighboring empty land.

The west side of the lot is not defined by any element; though four floors neighboring, building is located at five meters distance from the building, and about three meters far from the lot boundary. The east boundary of the lot is defined by 1.4m high lose stone retaining wall, at about 20m distance from which a neighboring building is located.

At the north section of the lot there is an open space measuring 15.35EW X 14.33SN meter; a cistern is found in this space. At the eastern section of the lot, there is an open space of 20.77EW X 39.60SN meter, which has some vine and olive trees. At the western section there is an open space measuring 2EW X 16SN meter. In this space at about the middle of the west elevation, in front of the building main entrance there is a terrace space measuring approximately.43EW X 4.38SN meter. This space is connected to the natural ground by a flight of six steps, which is connected to a passage leading to the north entrance of the lot. The house is located at west side of the lot. It is roughly 2.20 meters away from the west boundaries, 20.77m from the east, 9.22m from the north, and 12.62m from the south.

General Description

The building is essentially one storey. The sloping nature of the site resulted in the ground floor elevated approximately 1.8m from the natural ground. This enabled the construction of a storage room at the Southwest part of the house. The building is a freestanding cubic mass with a straight roof. The sloping nature of the lot ended with variations at the elevation heights. The highest part of the building measures 6.72m high at the south-west corner, with the lowest height measuring 4.84m at the Northeast corner of the building.

Originally and before the addition of a new concrete mass in 2001, the house featured a central plan measuring approximately 16.69 SN X 7.23 EW meter. The house plan has a (T) shape. About the middle of the East elevation features a projected mass measuring 5.80 SN X 5.80 EW meters, which is half of the central-hall space. The later addition of 2001 will be considered nether here not in or in the conclusions of the catalogue.

The plan has a central-hall (space 0.1), with the other spaces of the house arranged at both south and north sides. The wet spaces (kitchen and toilet) were not originally integrated within the main living floor. The information obtained from the owner indicates that cooking activities used to take place at the basement room, which is connected with the ground floor by a flight of eight steps. Later on, a partition wall subdivided the central-hall providing a kitchen space at east section of the central-hall. A guest room (space 0.3) with a direct entrance from outside is connected to the central-hall, and another living space 0.2 is connected to the correspondent south side. The central-hall is directly connected to an outside through a verandah from west, and a door niche from east.

Continuous load bearing construction is employed for the walls of the ground and partial basement floor. All the basement and ground floor spaces feature cross-vaulted superstructures. Red-colored limestone and lime are the main construction material, while stone of same type are used for the vertical, horizontal bands and the window and door frames.

The plan has four entrances: from the West a veranda located at about the middle of the west part of the plan, having two doors with one opening to space 0.1. The other opens to space 0.3. At the East side of the plan, there is another entrance, which connects the central-hall to outside. A door located at the south side of the central-hall provides a fourth entrance. This used to be opened to an outdoor terrace space, but which was replaced by a concrete mass in 2001.

The Exterior

All parts of the west, north, and south elevations are constructed from regular cut stone courses measuring (25-30) cm in height. The south-west and north-west corners of the building are defined by the projection of quoins, two to three centimeters from the wall surface. At the north, south and west elevations, the ground floor height is defined by a horizontal band of stone courses projected two to three centimeters from the wall surface and running the length of the upper part of the elevation.

The front corners, horizontal bands, and window frames are all emphasized by their projection from the wall surface and variation in texture and color. More smoothly dressed stone is used for the projected elements. The regular cut stone parts of the west elevation wall are made from Msamsam dressed stone; Tubzih Shaf dressed stone is used for the north, south and east elevation walls.

The main elevation (west) (figure: D 7.3 and Figures: 7.1, 7.2, and 7.3) measures 16.70m long, 6.72m high from south and 5.89m high from north. About the center of the elevation, the ground floor level is elevated approximately 149cm from the natural ground. A flight of metal six steps is cantilevered about 140cm from the elevation wall. This is connected to an elongated metal canopy measuring 4.38m long and cantilevered from the elevation wall with same width of the metal stairs, the free edges of the cantilevered canopy and metal railings measuring 1.03m protect stairs.

To about the middle of the elevation, there is a three-arched arraignment, the central arch opening and has a two center-pointed arch, measuring 150cm wide. The arch is supported by two columns, each measure 289cm high and has an ornamented cap and rectangular base. The other two openings are located at both sides of the middle arch; those share same profile and measurements, each is shouldered lintel profiled, measuring 99cm wide. These are supported by the same column of the middle arch from one side and by the entrance veranda wall recess on other side. At the external corner of the recess, the quoins project from the elevation wall. An ornamented cap is placed at the part where north and south openings joins with the recess corner.

Behind the three arch arraignment, there is a rectangular veranda (wall recess) space measuring 2.29m deep and 4.25m wide. At about the middle of the inner elevation wall of the verandah facing west there is a rectangular door opening which measures 105w x 259h cm and is covered with a shouldered lintel, above which is a two-center pointed revealing arch opening. Inside is an ornamented iron metal grill. The middle door is flanked by two-center pointed profiled widow openings sharing the same profile; each measures 68w x 199h cm and opens to central-hall. The north wall

of the recesses features a flat arched door measuring 88w x 209h cm and opening to space 1.6. At the north and south sides of the elevation, there are twin window openings. The twin window has two shouldered lintel profiled openings, which join by a half circular form, which is completed by another correspondent half circle, ending up with a blind circular frame. Each of the openings measures 90wX205h cm. The twin window at the north side opens to space 1.3.

The north elevation (figure: D 7.4 and Figure: 7.4) measures 13.01m long, and 4.85m high from east and 8.89m high from west. The elevation has two surfaces, a front surface and a back surface. The front one measures 7.23m long on one floor, and at about the middle of this surface there is a twin window opening to space 1.3. It shares same profile and measurements with the twin windows found at the north and south parts of the west elevation. The back surface of this elevation is soiled; it is 5.53m to the back of the front surface and measures 5.77m long,

The south elevation (figure: D 7.3 and Figure: 7.5) measures 13.04m long, 4.84m high from east and 6.90m from west. Originally and before the addition of a concrete mass at the Southeast part of the house, this elevation had two surfaces. The front surface measures 7.02m long on two floors, and at the west side of the basement level there is a rectangular door measuring 95wX160h cm. At the west side of the door, there is a rectangular window measuring 93wX96h. Both the doors and windows are opening to space 0.1. About the middle of the ground floor level, there is a twin window opening to space 1.2. It shares same profile and measurements with the twin windows found at the north and south parts of the west elevation. The back surface of this elevation used to be 5.83m to the back of the front one, this measure 5.98m long. At the west side of the back surface there used to be a flat arched door opening to an open terrace which was replaced by a concrete mass in 2001.

The east elevation (figure: D 7.4) measures 16.72m long and 4.84m high. Originally and before the addition of a concrete mass at the Southeast part of the house, this elevation had three surfaces. The front surface is about the middle of the elevation, it measures 5.78m long. At about the center of this surface there is a rectangular door

measuring 110wX224h cm and at the top of the door, there is a half-circular window opening, measuring 85cm in radius. Both the door and the window open to space 0.1. The south side back surface of this elevation used to be 5.98m to the back of the front surface; it is a solid surface measuring 5.41m long. The north side back surface of this elevation is 5.79m to the back of the front surface; it measures 5.53m long.

The Interior

The basement floor (figure: D 7.2) constitute a rectangular room, occupying less than the half of the first floor size; it is located under the south side of the house and the rest of it makes the leveling of the ground floor. The basement room of this floor opens to outside from south, though it is connected internally to space 1.1 on the ground floor by a flight of eight stone steps.

Space 0.1: is rectangular measuring 4.72ew X 4.62ns meter. It has a cross-vault superstructure, which measures 2.37m in height. The floor has a smooth concrete layer. The walls and the cross vaults are constructed of stone and are smoothly plastered. It was used as kitchen. At the west wall of the room there is a rectangular window niche measuring 119w x 96h -94d cm. At the West side of the south wall, there is a door niche measuring 116w X 209h-78d. Inside the door niche there is a flight of five steps connecting the room floor with the natural ground above, and next to the door from east there is a rectangular window niche measuring 114w X 112h-72d. On the east wall of the room is a wall niche measuring 241w X 168h-58dcm. At the east side of the north wall is a segmental profiled door niche measuring 91w X 211h-91d. Inside the door niche there is a flight of eight steps connecting the room floor with space number 1.1 (central-hall) at the ground floor.

The ground floor (figure: D 7.2) originally, and before the addition of a concert mass at the Southeast part of the plan, this plan had three spaces including a central-hall. A partition wall was added, subdividing the central-hall to provide kitchen at the east part of the central-hall. Essentially the floor has a central hall, which extends along the east-west depth. It is the central space of the floor plan providing relations

to and cross circulation within the floor spaces 1.2 and 1.3. In addition, it acts as an entrance hall, where it connects to the outside from the west by a veranda, and by a door opening to the back yard at the east wall. At the north-west part of the plan, space 1.3 is connected to the house interior by door openings to the central-hall, and to outside by a door opening through the semi-open (veranda).

Space 1.1 (central-hall, figure: 7.6) is longitudinal rectangular space measuring 8.55m long, 3.86m wide, and 4.17m high, featuring a double cross-vault superstructure. Space 1.3 and 1.2 are connected to it from south and north walls. The west wall faces outside to a veranda, although a door located at approximately the middle of east wall provides another connection to the outside. The central-hall is used as a family setting and as an entrance lobby to the house, where it provides horizontal circulation, connecting the floor spaces to each other. The space floor features colored concrete tiles. The walls and cross-vaulted superstructure are constructed of stone and are smoothly plastered. At the west side of the north wall there is a segmental profiled double winged door measuring 118w X 212h cm and opening to space 1.3, and at the east side of the door there is a wall cupboard measuring 157w X 168h-55d cm. Another wall cupboard measuring 88w X 145h-59d cm is found at the east side of the same wall. At the western and eastern sides of the south wall there are two doors sharing same profile and measurement to the north wall door: the west side opens to space 1.2, the east side door opens to outside. Between both doors there is a rectangular door opening to the basement level below. At the west wall of the room there is a semicircular profiled door niche measuring approximately 114w X 3.34h - 57dcm and opening to the outside through the veranda. At each side of this veranda, there is flat arched window niche measuring 82w X 207h-58dcm. At the east wall, there is a large niche, the lower part of which is rectangular, measuring 122w X 216h - 72dcm. It has a door opening to outside, and the upper part of the same niche is half circular.

Space 1.2 is rectangular measuring 4.83ew X 4.74ns meter. It has a cross-vault superstructure, which measures 4.17m in height. The space floor features colored concrete tiles. The walls and the cross-vaulted superstructure are constructed of stone

and are smoothly plastered. At the south wall of the room, there are two semicircular window niches each measuring 108w X 244h - 68d. At the east side of the north wall there is a segmental profiled door niche measuring 135X 235h-66d cm.

Space 1.3 (figure: 7.7) is rectangular measuring 4.83ew X 4.74ns meter. It has a cross-vault superstructure, which measures 4.14m in height. The space is same as spaces 1.2 sharing with it similar measurements, architectural features and elements. The only significant difference that it serves as a guest room and features a direct exit to the outside.

Decorations and Ornamentations

The interior decorations are limited the timber doors and wall cupboards featuring decorative wings. The walls are simply plastered without decorations or ornamented surfaces. The floors have ornamented colored cement tiles. Externally the window openings are protected with ornamented metal grills; the exterior doors also featuring elaborate ironwork. Externally elaborate sculptured and carefully profiled window and door openings are realized and concentrated at the main elevation, featuring an ornamented and sculptured three-arched arraignment. The twin windows reflect ornamented and profiled frames. Horizontal and vertical framing contributed to the exterior decoration.

Structural System, Construction Materials and Building Technology

Continuous load bearing foundations are used, along with heavy load bearing walls, which support the cross-vaulted superstructures. Limestone and lime are the main construction materials. Lime plaster and colored cement tiles are used for the floor interior finishing. See Appendix (B): The techniques of traditional Palestinian stone masonry and construction. The roof water is drained using metal pipes channeling rainwater to the cistern located at the Northeast corner of the building. Energy supply: electric power was brought to the house in 1950s, the wiring is fixed externally. Prior to that period, oil lamps were used for lighting.

8. Abdul 'Afu al-Muhtasib House

Address: Ayn Sarah neighborhood, Jerusalem road, Dead End Street.

Coordinates: E 159.417, 2929 - N 106.060, 7790

Date of construction: 1951-1370: according to inscription panel

Occupancy statue: Abdul 'Afu al-Muhtasib 1951, is inhabited by the widow of the owner and her unmarried daughter, she indicated that together with her husband they moved to this house when she was 35, before that they were living together with the relatives in extended family hosh, in this house she lived with here eight children and husband and his mother, today seven of here children are married and living separately. When she was asked about how was the financial ability of here husband she indicated that he was a very well known merchant.

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 8.1 to figure 8.12

Drawings: figure D 8.1, figure D 8.2, figure D 8.3, and figure

The Lot (figure: D 8.1)

The lot features irregular rectangular geometry. Its four sides measure approximately in meters: 70 SN eastern side, 34.98EW northern side, 68.47SN western side and 44.81EW southern side. The site has a fine slop from north to south of about 13%, which allowed for the construction of a partial basement floor consisting of two rooms at the south section of the house. The sloping nature of the site resulted in the living floor level being approximately 2.24m elevated from the ground level; a flight of ten steps connects the ground floor to the natural ground level from west.

A concrete wall measuring 1.7m high at the north side of the lot defines the boundaries of the lot; the west side features a concrete wall measuring 1.4m high. The remaining east, south and partial west boundaries are defined by loose stonewalls varying in height between 0.4 and 1.1 meters high. The lot is bordered by El Esra Street from east and north sides. A metal sliding gate located at the south side of the lot allows vehicular and pedestrian connection with El Esra Street, which is

connected to Jerusalem Road from the west. At the south side of the lot, there is 0.7m high loose stone wall, which defines the lot boundary and separates it from the empty neighboring lot. The west side of the lot is partially defined by loose stone walls measuring 0.7m high and by a concrete wall measuring 1.4m high. At the west side of the lot there are two neighboring buildings: the north side building is two floors, and 4.44m far from the lot, and the south side is one story building, which is 21.4m far from the lot.

At the north section of the lot there is a space measuring 47.16EW X 29.11SN meters at the eastern side of which there is a two-floor building, the building belongs to the son of the owner, and was constructed in 1987. The building is located at about 7.58m far from this building. A pedestrian passage connects both the later constructed building and the old building with each other and with the lot main gate, which opens to the Street. At the eastern section of the lot there is an open space of 13-14EW X 16SN meter, which has some vine trees. This section of the lot features a pedestrian passage measuring approximately 2.04 meters in wide, and it connects the back yard entrance of the building to the lower south section of the lot by a flight of ten steps and to the water cistern located at the Northeast corner of the building. At this section to the west there is an open space measuring 19EW X 16SN meters. In this space at about the middle of the western elevation, there is a terrace space measuring approximately 31EW X 5.13SN meters. This is connected to the natural ground by a flight of 11 steps leading to a pedestrian passage, which allows access to the north gate of the lot. At the south section there is an open space measuring 47EW X 21SN meter, it is an empty land. The house is located at approximately the middle of the lot. It is roughly 19.15 meters away from the western boundaries, 13.13m from the east, 29m from the north, and 21.90m from the south.

General Description

The building is essentially one storey. The sloping nature of the site resulted in the ground floor being elevated approximately 2.24m from the natural ground from both south and west elevations. The southern section of the lot is lower than the ground

floor level by about 2.42m, this enabled the construction of two storage rooms below the southern section of the house. The building is a freestanding cubic mass with a straight roof. The sloping lot resulted in variations in elevation heights. The highest part of the building measures 7.06m from the south-west corner, the lowest measuring 5.44m high at Northeast corner.

The house features a central plan measuring approximately 16.33 SN X 11.26 EW meters. In addition, the Northeast section of the plan features a projection of rectangular mass measuring approximately 6.23 SN X 3.83 EW meters. The plan features a central-hall (space 1.1), with the other spaces of the house arranged at both the south and north sides. The central-hall features wet spaces (kitchen and toilet) located at the Northeast corner, and a staircase (space 0.5) connects to it from the north side, providing an exit to the outside from the north and an axis to the building roof. A guest room space 0.6 with a direct entrance from the outside is connected to the north side of the central-hall. Two living spaces 0.2 and 0.3 are connected to the opposite south side. The central-hall is directly connected to the outside owning an entrance hall in the form of a veranda from west, and a door niche from the east.

Continuous load bearing construction is employed for the walls of the ground and partial basement floor. The two spaces found at the basement floor have Jack-valuated superstructures, and all the ground floor spaces feature cross-vaulted superstructures, a fact which deserves comment especially cross-vaulted structures being used as late as 1951 for the main living spaces with the lower basement spaces owning Jack-valuates. Red limestone is the main construction material, and white stone of same type is used for the vertical, horizontal bands and the window and doorframes.

The plan has four entrances: from the West, the veranda features two doors, one opening to space 1.1 and the other opening to space 0.6. At the east side of the plan, there is another entrance, which connects the central-hall to outside. A fourth entrance is allowed by the staircases (space 1.5) which have a door opening to the outside from the north and two flights of stairs leading to the roof.

The Exterior

All parts of the four elevations are constructed from regular cut stone courses measuring (25-30) cm in height. The south-west and north-west corners of the building are defined by the projection of quoins two to three centimeters from the wall surface. At the north, south and west elevations, the ground floor height is defined by a horizontal band of stone projecting two to three centimeters from the wall surface and running all over the upper part of the elevation. The front corners, horizontal band, window and door frames are emphasized by their projection from the wall surface and variation in stone texture and color. Smoother dressed Matabbih stone is used for the projected elements. The regular cut stone parts of the west elevation wall are made from Msamsam dressed stone; Tubzih Shaf dressed stone is used for the north, south and east elevation walls.

Main western elevation (figures: D 8.3 and 8.1) measures 16.17m long, 6.69m high from south and 5.57m from north. At about the center of the elevation the ground floor level is elevated approximately 242cm from the natural ground; it is reached by a flight of 12 stone steps measuring 160cm wide, and positioned parallel to the elevation wall. The stairs are connected to an open terrace measuring 5.13m long and projecting about 4.32m from the elevation wall. A stone balustrade measuring 104cm high protects the three edges of the terrace.

At about the middle of the elevation there are three onion profiled arched openings. The central arch measures 144cm wide with a protruding keystone. Two columns each measuring 250cm high and featuring an ornamented cap and rectangular base support the arch. The other two arches are located on either side of the middle arch; each measures 102cm wide and is supported by the middle arch column from one side and by the wall recess exterior corner on other side. The recess corner quoins are projected from the elevation wall. An ornamented cap is placed at the part where the onion profiled arches joins with the recess corner. Behind the three arch arraignments, there is a rectangular veranda space measuring 2.18m deep and 4.17m wide. At about the middle of the inner elevation wall facing west there is a

rectangular door opening measuring 102w x 205h cm. This is covered with shouldered lintel, above which is an onion profiled revealing arch opening. Inside this is an ornamented iron metal grill. The door is flanked by two semicircular profiled widow openings sharing the same profile. Each measures 82w x 187h cm and opens to space 1.1. The north wall of the recess features a semicircular profiled door measuring 101w x 237h cm and opening to space 1.6.

The south and north sections of the elevation feature two twin window openings sharing the same profile and measurements. The north side window opens to space 0.6 and the south side opens to space 0.2. Each of the twin windows features two onion profiled openings, each is measuring 85w x 194h cm and featuring projection of the arch and the sill stones.

The north elevation (figure: D 8.4 and 8.4) measures 15.13m long, 5.44m high from the east and 7.06m from the west. At the western side of the elevation, the terrace space is seen as a back surface. At the east side of the elevation, the cistern rubble stone elevation wall is at the rear. It measures 4.33m long and 2.32m high. At about the middle of the elevation there is an onion profiled recess measuring 3.57hX143w cm, the arch section of which has projected white smooth dressed stone. At the rear of the recess there is a rectangular door opening which measures 112w x 216h cm and is covered by a shouldered lintel, above which is an onion revealing arch opening, the door opens to space 1.5. The northern wall of space 1.5 is projected about 1.88cm from the rest of the elevation. At about the middle of this face is a rectangular window opening measuring 72w x 149h and open to space 1.5.

The east and west parts of the elevation feature twin window openings, each of which has two onion-profiled openings. The west side twin window shares the same profile and measurements as those found at the west elevation. The east twin window is same as west side one but is less high: 144cm.

The southern elevation (figures: D 8.4 and 8.2) consists of two surfaces, a front surface and a back surface. The elevation front surface is in two floors. It measures

11.26m long, and as a result of the slope, the height of the elevation varies between 7.06m high at the west side and 6.72m at the east. The west side of the front surface basement level has a rectangular door measuring 92wX200h cm and opening to space 1.1. At the east side of the door there is a rectangular window measuring 83wX122h cm and opening to space 1.1, and at the east side of the same level there is a rectangular door measuring 92wX208h cm and opening to space 1.2. The ground level front surface features two onion profiled twin window openings sharing the same profile and measurements as the west elevation twin windows, the frames of the windows shares the elevation wall same stone dressing and color. The west side twin window opens to space 1.2 and the east side one opens to space 1.3.

The east back surface of this elevation has two floors with two surfaces. The front surface is the basement floor storage room south elevation, it measures 3.79m long and 2.28 high. It has a rectangular door measuring 86wX179h cm, and at the west side of the door, there is a rectangular window measuring 88wX75h cm. Both the door and the window open to space 1.3. At the East side of this surface, there is a flight of nine steps measuring 189cm. It is connected to the roof of the storage room, which is used as a terrace and entrance space for the ground floor level. The back surface measures 5.14m long and 5.00 high, at the west side of which there is a rectangular door measuring 86wX184h cm. At the west side of the elevation, there is a back surface elevation of the basement storage room. This surface measures 4.31m long and 3.5 high and it has a rectangular door measuring 81wX236h cm. At the West side of the door, there is a rectangular window measuring 118wX100h cm, and both the door and the window open to space 0.3. The storage roof is used as a terrace space, providing entry to the ground floor.

East elevation (figures: D 8.3 and 8.5) The sloping nature of the lot from north to south caused a variation in the elevation height, which measures 5.44m high from north and 7.06m high from south, although the elevation has a strait roof in top. The elevation is in two surfaces, a front surface has only a ground floor section, the lower north part of which is not visible since it is hidden behind the elevation of a water cistern measuring 2.33m high. At the south part of this surface there is a rectangular

window measuring 60wX119h cm, next to it from north there is another window measuring 62wX77h cm. Both windows open to space 0.4. The back surface of this elevation is in two floors measuring 10.16m long, although no openings are found at the basement level. At the lower part of this surface, there is a flight of nine steps connecting the lower basement level to the upper ground floor level. The lower north part of this surface remains hidden behind the east elevation of a storage room, the terrace of which creates the entrance of the ground floor above. At the south side of this surface there are two windows both are opening to space 0.3 each of which share same profile and measurements as those found at the southern elevation. At the northern part of this surface there is a rectangular door measuring 93w x 184h cm, this is covered with a shouldered lintel, above which there is an onion profiled revealing arch opening. Inside there is ornamented iron metal grill. The door is flanked by onion profiled window openings; each is measuring 76w x 163h cm. The entire door and the two windows open to space 1.1.

The Interior

The basement floor (figure: D 8.2) is rectangular and occupies less than half the size of the first floor size. It is located beneath the southern side of the house and the rest of it creates the leveling of the first floor. Each of the four spaces has a direct entry from the outside. A door in between connects two of them.

Space 0.1 is rectangular measuring 4.19ew X 4.00ns meters. It has jack-vault superstructure measuring 2.44 m in height. The floor has a smooth concrete layer. The walls and the Jack-vault superstructure are constructed of stone and are smoothly plastered. It was used as storage space. At the western wall of the room there are rectangular window niches measuring 124w x 100h -65d cm. At the south wall there is door niche measuring 130 X 200h-70d, and next to the door is a window niche measuring 83w X 122h-70d. At the east wall is a door niche measuring 114w X 200h-87d cm and opening to space 0.2, at the north side of which there is a wall niche measuring 129w X 165h-58d cm.

Space 0.2 is rectangular measuring 3.99ew X 4.17ns meter. It has jack-vault superstructure measuring 2.42 m in height. The floor of the space has a smooth concrete layer. The walls and the Jack-vault superstructure are constructed of stone and are smoothly plastered. It was used as storage space. At the west wall of the room there is a door niche measuring 114w X 200h-87d cm and opening to space 0.1. At the south wall there is a door niche measuring 107 X 207h-75d.

Space 0.3 is rectangular measuring 3.510ew X 4.78ns meters. It has jack-vault superstructure measuring 2.00 m in height. The floor has a smooth concrete layer. The walls and the Jack-vault superstructure are constructed of stone and are smoothly plastered. It was used as storage space. At the south wall of the room there is a door niche measuring 94w X 200h cm, and next to the door there is a window measuring 76w X 100h cm.

Space 0.4 is rectangular measuring 3.90ew X 4.16ns meters. It has jack-vault superstructure measuring 2.44 m in height. The floor has a smooth concrete layer. The walls and the Jack-vaults are constructed of stone and are smoothly plastered. It was used as storage space. At the west wall of the room there is a rectangular window measuring 126w x 100h cm. At the south wall there is a door niche measuring 94w X 232h cm, and next to the door there is a window measuring 126w X 100h cm.

The ground floor (figure: D 8.2) contains six spaces including central-hall, toilet and kitchen. Essentially the plan is of a central hall type. Space 1.1, which extends along the whole east-west depth of the plan; it is the central space of the plan providing connection and cross circulation between the north wing spaces (spaces 1.6, 1.5 and 1.4) and south wing spaces (spaces 1.2, 1.3). In addition, it acts as an entrance hall, connecting to the outside from the west by a veranda and by a door opening to the backyard along the east wall of the central-hall. A staircase, space 1.5 is connected to the north wall of the central-hall. It provides connection to outside from north and to the building roof by two flights of stone steps. In the Southwest, there is a guest room (space 1.2); this connects to the house interior by a door

opening to the central-hall, and to the outside by a door opening to a semi-open space (veranda). Space 1.4 is located at the Northeast corner of the central-hall; it is subdivided into smaller spaces accommodating kitchen and toilet.

Space 1.1 (central-hall, figures: 8.6 and 8.7) is a longitudinal rectangular space measuring in meters 6.91ew long, 4.16sn wide and 3.74m high. Spaces 1.2, 1.3, 1.4, 1.5 and 1.6 are connected to it from south and north walls. The west wall faces outside via a veranda, though a door located at about the middle of the east wall provides another connection to the outside. The central-hall is used as a family setting and as an entrance lobby to the house. It provides horizontal circulation, connecting the floor spaces to each other.

The floor features terrazzo tiles. The thick load bearing walls and the cross-vaulted superstructure are constructed of stone and are smoothly plastered. On the west side of the north wall there is a segmental profiled double-winged door measuring 102w X 207h cm and opening to space 1.6. In the middle of the same wall there is a door sharing the same architectural features as the west side door and opening to space 1.5. On the East side of the same wall, there is a segmental profiled door opening to space 1.4. The south wall of the space features two door openings, which share the same architectural features with the north wall doors. The east side door opens to spaces 1.3, and the west side door opens to space 1.2. O

n the west wall there is a semicircular profiled door niche measuring approximately 119w X 295h - 58dcm and opening to outside through the semi-open veranda. On each side of this, there is segmental profiled window niche measuring 100w X 167h-58dcm. The east wall, facing the west wall openings there is a semicircular profiled door niche measuring 115w X 284h - 58dcm and opening to an open terrace outside. On each side there is a segmental profiled window niche measuring 102w X 163h-58dcm.

Space 1.2(figure: 8.9) is rectangular measuring 4.30ew X 4.25ns. It has cross-vault superstructure measuring 3.74 m in height. The floor is made of terrazzo tiles. The

walls and the cross-vaulted superstructure are constructed of stone and are smoothly plastered. At about the center of each of the south and west walls there are

semicircular profiled window niches, each is measuring approximately 237w X 183h - 71d cm. At the east side of the north wall there are segmental profiled door niches measuring 107 X 202h-46d cm and opening to space 1.1. At the west side of the door there is a wall cupboard measuring 186w X 212h-52d, this is elevated about 14 cm from the ground. At the south side of the east wall there is a wall cupboard measuring 171w X 187h-58d, and is elevated about 10.

Space 1.3 (figure: 8.10) is rectangular measuring 4.24ew X 4.19ns meters. It has cross-vault superstructure measuring 3.72 m in height. The floor is made of terrazzo tiles. The walls and the cross-vaulted superstructure are constructed of stone and are smoothly plastered. At about the center of the south and east walls are semicircular profiled window niches, each measures approximately 231w X 185h - 70d cm. At the east side of the north wall there are segmental profiled door niches measuring 115 X 208h-46d cm, and opening to space 1.1. At the west side of the door there is a wall cupboard measuring 153w X 189h-56d, this is elevated about 11 cm from the ground. At the north side of the west wall there is a wall cupboard measuring 125w X 177h-61d and is elevated about 5 cm from the ground.

Space 1.4 is rectangular measuring 4.44sn X 4.74ew meters. It has cross-vault superstructure measuring 3.76 m in height. The floor is made of terrazzo tiles. The walls and the cross-vaulted superstructure are constructed of stone and are smoothly plastered. The space is subdivided into four smaller spaces: two toilets, a kitchen and a lobby space, all of them connecting to space 1.1. At the North wall of the room, there are two semicircular profiled window niches, each measure 128w x 156h -70d cm. At the East wall, there are two rectangular window niches each measure 55w X 119-77h-81d cm. At the west side of the south wall there is a door niche measuring 85w X 231h-44d and opening to space 1.1. At the east side of the same wall there is a door measuring 94w X 222h-34d and opening to the outside.

Space 1.5 is rectangular measuring 2.20ew X 4.44ns meter. It has Jack-vault superstructure measuring 5.96 m in height. The floor is made of terrazzo tiles. The walls and the Jack-vault are constructed of stone and are smoothly plastered. The space is used for both vertical and horizontal circulation: horizontally it provides access to the outside from north, and vertically it provides access to the roof of the building with two flights of stone steps. At the north wall there is a semicircular door niche, measuring approximately 132w x 368h -41d cm. Above it is a rectangular window niche measuring 80w x 152h-41d cm.

Space 1.6 (figure: 8.8) is rectangular measuring 4.29ew X 4.43ns. It has cross-vault superstructure measuring 3.76 m in height. The floor is made of terrazzo tiles. The walls and the cross-vaulted superstructure are constructed of stone and are smoothly plastered. A direct entrance provided for the guest room. At about the center of each north and west walls are semicircular profiled window niches, each measure 227w X 186h - 74d cm. At the east side of the north wall there is segmental profiled door niche measuring approximately 116 X 232h-40d cm and opening to space 1.1. At the west side of the door there is a semicircular profiled door niche measuring 116w X 218h-45d and opening to outside. At the south side of the east wall there is a wall cupboard measuring 157w X 177h-62d, this is elevated about 9cm from the ground and at the north side of the same wall there is a wall cupboard measuring 171w X 166h-59d, this is elevated about 22 cm from the ground.

Decorations and Ornamentations

The interior decorations are limited the timber doors and wall cupboards which feature decorative wings. The walls are simply plastered without any decorations or ornamented surfaces. The floors feature terrazzo tiles. Externally, ornamented metal grills protect the window openings; the exterior doors also feature elaborate ironwork. Externally, elaborately sculptured and carefully profiled window and door openings are found and concentrated at the main elevation. They feature ornamented and sculptured three-arched arraignment, the twin windows have ornamented and

profiled frames, horizontal and vertical framing adding to the exterior decoration.

Structural System, Construction Materials and Building Technology:

Continuous load bearing foundations are used, along with heavy load bearing walls, which support the cross-vaulted superstructures. Limestone and lime are the main construction materials. Lime plaster and terrazzo tiles are used for the interior floor finishing. Roof water is drained by metal pipes channeling rainwater to the cistern located at the Northeast corner of the building. Energy supply: electric power was brought to the house at the end of 1950s and the wiring is fixed externally. Prior to that period, oil lamps were used for lighting.

9. Yasir id-Duaik House

Address: Ayn Sarah neighborhood, Jerusalem road, Dead End Street.

Coordinates: E 159.417, 2929 - N 106.060, 7790

Date of construction: constructed in 1951-1370 inscription panel

Occupancy status: two rooms on the basement floor are used as a furniture store. The ground floor is divided the north section is used as a computer training center and the remaining south section is used for textile storage.

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 9.1 to figure 9.10

Drawings: figure D 9.1, figure D 9.2, figure D 9.3, and figure D 9.4

The Lot (figure: D 9.1)

The lot is geometrically irregular. Its four sides measure approximately in meters as follows: 33.98 Eastern adage, 44.63 Northern edge, 38.69 Western side and 53.50 Southern side. The site has a fine slop from north to south of about 5%, which enabled the construction of two rooms. Their roofs are used as a terrace and entrance space for the ground floor from south. The sloping nature of the site required that the floor be elevated from the natural ground level about 2.07m at the main entrance (west) side of the plan. A flight of ten steps is provided to connect the ground floor to the natural ground level.

Loose walls measuring approximately 0.6 to 1.3 meters high define the boundaries of the lot on all sides. The east side of the lot is defined by a 1.2 m high loose stone wall, and at 12m offset from the wall is a two-storey neighboring building. At the south side of the lot there is a 0.5m high loose stone wall defining its boundary and separating it from a three storey neighboring building, which is approximately 4.7m from the lot. At the southwest corner is a dead end passage measuring 2.7m wide connecting with Jerusalem Road. The north side of the lot is defined by a 1.6m high retaining loose stone wall, and a dead end street measuring 7.34m wide runs along the length of the north side. The south side of the lot is partially defined by a loose stone wall measuring 1.4 to 1.7m high.

There are three neighboring buildings of two floors, located approximately 1.4m, 3.5m and 1.77m respectively from the lot. At the eastern side of the lot, there is an open space of 26.38EW X 32.41SN meters with lemon and vines. This section features a pedestrian and vehicular passage measuring approximately 4.75 meters in wide. It connects the main entrance to the dead end passage, which leads to Jerusalem Road from west. At the East side passage, is a flight of ten steps, which opens into a terrace in front of the ground floor main entrance.

The south section features an open space measuring 4.13m wide, separating the house from a neighboring two-floor building. There are two flights of steps, which lead to the roof of the basement floor storage rooms, from which south entry to the ground floor is provided. The south part of the lot features a 3.92m wide-open space, at the southern part of which is a cistern. From this section, there was at one time direct entrance to the central-hall. At the north side of the lot there is an open space of 19.85EW X 20.05SN meter, which has lemon and vine trees.

The house is located near the southeast side of the lot. It is roughly 25.38 meters away from the west boundaries, 3.92m from the east, 20m from the north, and 4.13m from the south.

General Description

The building is essentially one storey, the natural slope resulting in the ground floor being elevated approximately 2.5m from the ground. The fact that the south section of the lot is lower than the ground floor level by about 2.5m allowed for the construction of two storage rooms whose roofs are used as terraces providing a south entrance to the house. The building is a 6.69-5.57m high freestanding cubic mass with a straight roof. The house features a central plan measuring approximately 15.10 SN X 11.38 EW meters. In addition, the Southeast section of the plan features a rectangular space approximately 6.95 SN X 4.95 EW meters. The floors plan has two central-halls (space 1.1 and 1.3). The main central-hall (space 1.1) was once connected with the secondary central-hall (space 1.3) by a door located around the

center of its south wall. At the west side of the same wall a door connects the main central-hall to a room at the southwest corner of the plan. At the north side of the main central-hall, two living spaces are attached. The main central-hall is directly connected to the outside through a semi-open veranda from the west and door niche from east.

The secondary central-hall is directly connected to outside from the south, with one space connecting to it from the west and two other spaces from east, one of which accommodates wet spaces (kitchen and bathrooms). The floor plan has three entrances: At about the middle of the western part of the plan, a veranda-like space features two doors, one opening to space 1.1 and the other opening to space 1.2. At the East side of the plan, there is another entrance, which connects the central-hall to outside. A third entrance from south is provided where the secondary central-hall opens to the outside through a terrace space.

Continuous load bearing construction is employed for the ground floor walls. The ground floor spaces feature Jack-valuate superstructures. Red limestone is the main construction material, with white stone of same type used for the vertical and horizontal bands and the window and doorframes.

The Exterior

At the lower part of the western elevation, below the ground floor level, roughly cut and coursed stone is used. The rest of the building elevation walls have regular cut stone courses measuring 25-30 cm in height.

The south-west and north-west corners of the building are defined by the projection of quoins two to three centimeters from the wall surface. This projection of quoins constitutes a vertical frame running across the ground floor height. At the north, a south and west elevation, the ground floor height is defined by two horizontal bands of stone projecting two to three centimeters from the wall surface. The front corners, vertical and horizontal bands, and window frames are all emphasized by their

projection from the wall surface and variation in texture and color. Smoother dressed Matabbih stone is used for the projecting features. The regular cut stone parts of the west elevation wall are made from Msamsam dressed stone, Tubzih Shaf dressed stone is used for the north, south and east elevation walls.

The main (West) elevation (figures: D 9.3, 9.1, 9.2, and 9.3) measures 15.16m long, 6.69m high from the south and 5.57m from the north. At about the center of the elevation the ground floor level is elevated approximately 215cm from the ground; it is reached by a flight of 11 stone steps measuring 152cm wide, and is perpendicular to the elevation wall. The stairs are connected to an open terrace measuring 4.58m long and projecting about 3.75m from the elevation wall. An ornamental metal railing measuring 1.2m high protects the three edges of the terrace.

About the middle of the elevation there are three onion profiled arched openings. The central opening, with a protruding keystone, measures 162cm wide. The arch is supported by two columns each measuring 241cm high with an ornamented cap and rectangular base. The other two arches located at either sides of the middle arch measure 113cm wide and are supported by the same column of the middle arch from one side and by the entrance veranda wall-recess exterior corner from the other. The external corner quoins of the recess project from the elevation wall and an ornamented cap is used at the part where the onion profiled arches join with the corner of the recess. Behind the three arch arraignments, there is a rectangular veranda space measuring 1.82m deep and 4.31m wide. The inner elevation wall of the veranda features a rectangular door opening measuring 110w x 252h cm and is covered with a shouldered lintel, above which there is a two center-pointed profiled revealing arch. The door is flanked by two semicircular profiled widow openings bearing the same profile, each measuring 57w x 196h cm and opening to space 1.1. The south wall of the recess features a semicircular profiled door measuring 98w x 247h cm and opening to space 1.2. It is closed by plastered concrete bricks. The north wall of the recess features a window opening sharing same profile with the west elevation windows.

The south and north sides of the elevation feature four window openings with the same profile and measurements. The two windows at the north side open to space 1.6 while the south side windows open to space 1.2. Each of the windows has a rectangular frame, with a profiled horizontal band of stone and a protruding key stone above, the inside of which has a flat arch. Each of the four window openings measures approximately 84w x 204h cm.

The South elevation (figures: D 9.4 and 9.5) measures 6.69m in height. The part of the elevation, which is below the ground floor level, remains invisible, hidden behind the lately added concrete masses. The roofs are being used as a terrace space, which provides entry to the ground floor from south.

The ground floor section of the elevation measures 16.30m long and 4.16m high. At about the middle of the elevation there is a rectangular door opening, measuring 120w x 206h cm covered with a shouldered lintel. Above this opening are two center-pointed profiled revealing arch openings. The door is flanked by two window openings, which share the same architectural characteristics and profiles as the western elevation windows, though they are smaller in size: each measure 72w x 203h cm. The east and west parts of the elevation feature two window openings of the same profile and measurements as those found at the western elevation.

The North elevation (figures: D 9.4 and 9.4) has two surfaces, a front surface and back surface which remains invisible behind the lately added concrete mass. The front surface measures 11.m long, as a result of the slight slope of the land, this part of the height of the elevation varies between 5.27m high at the west side and 4.41m at the east. The east and west parts of this surface feature two twin windows each sharing the same profile and measurements with those found at the west elevation. The east side windows open to space 1.6, the west side ones open to space 1.7.

The East elevation (figures: D 9.3 and 9.6) measures 4.41m high and 14.99m long. It is originally in two surfaces: a front surface was added to accommodate wet spaces (kitchen, toilet). A back surface remains invisible, since it is hidden behind

the 1987 added concrete extension, and this part of the elevation has a rectangular door measuring 115w x 213h cm and opening to the central-hall (space 1.1). The non-visible part of the front surface features a window opening, which shares same profile and measurements with the west elevation windows, but it opens to space 1.4. At the north part of this surface there is a small rectangular window measuring 50w x 73h cm and opening to space 1.5.

The Interior

The ground floor plan (figure: D 9.2) features seven spaces including the central-hall, toilet, and kitchen. Originally and before the plan it was divided into two separate dwellings, this floor used to serve as one dwelling. In this place the original plan will be analyzed; this is before the subdivision of the floor and the addition of a concrete mass located at Northeast section. Essentially the house reflects the central hall type: a main central-hall (1.1) extends along the entire east-west depth of the plan; the secondary central-hall (1.3) is connected to the main south wall of the central-hall. The main central-hall is the central space of the floor plan provides connection and cross circulation between the north wing (1.6 and 1.7) and south wing (1.2 and 1.3) spaces. In addition, it acts as an entrance hall connecting to the outside from the west by a semi-open veranda, and by a door opening to the back yard from east. The secondary central-hall (space 1.3) is connected to the main central-hall (space 1.1) from the north, providing connection to outside from south and cross circulation between the south wing spaces (1.2 and 1.4) and the rest of the house.

At south-west side, space 1.2 connects to the house interior by door openings into both the main and secondary central-halls and to outside by a door opening to the veranda. The separate entrance to outside is a common feature of guest rooms in Palestinian houses since it guarantees a minimum of interaction of guests with the rest of the houses spaces.

Space 1.1 (central-hall figures: 9.7 and 9.8) is a longitudinal rectangular space measuring in meters 7.34ew long, 4.18sn wide and 3.507 high. Spaces 1.2, 1.3, 1.6 and 1.7 are connected to it from south and north walls. The west wall faces outside with a semi-open veranda, though another connection to outside is achieved through a door located at about the middle of east wall. The central-hall is used as a family setting and as an entrance lobby for the house, providing horizontal circulation and connecting the floor spaces to each other. The floor is made of colored cement tiles locally called *balat sejada*, meaning carpet tiles. The thick masonry load-bearing walls and the jack-vault superstructure are constructed of stone and are smoothly plastered. At the west side of the north wall there is a segmental profiled double-winged door measuring 92w X 197h cm and opening to space 1.7. At the East side of the same wall, there is a door with the same architectural features as the west side and opens to space 1.6. The south wall of the space has two door openings, which have the same architectural features with the north wall doors. The east side door opens to a secondary central-hall (spaces 1.3), and the west side door opens to space 0.2. At the west wall of the room there is a rectangular door niche measuring approximately 128w X 350h - 58dcm and opening to outside by means of a three-arched veranda. At each side of this veranda is a segmental profiled window niche measuring 73w X 230h-58dcm. At approximately the centre of the east wall there is a rectangular niche measuring approximately 105 x 192-68cm. At the south corner of this wall there is a rectangular door niche opening to the outside and measuring approximately 115w X 350h-69d cm. Inside is a rectangular door, at the top of which is a semicircular profiled window opening.

Space 1.2 is a rectangular space measuring 4.60ew X 3.82ns meters with a 3.53 m high Jack-vault superstructure. The floor is made of colored cement tiles; the walls and the jack-vault superstructure are constructed of stone and are smoothly plastered. It was used as a guest room, given its direct entry from outside so as not to affect the privacy of the family. At the south and west walls are two segmental profiled window niches, each measuring approximately 105w x 212h -57d cm. The north wall of the room has two segmental profiled door niches, approximately 107 X 232h. The west side door used to open to the outside; this was converted into a wall cupboard

after the subdivision of the house. The east side door opened to space 1.1. At the south side of the east wall is a semicircular profiled wall cupboard measuring 246w X 224h-52d, which is, elevated about 4 cm from the ground.

Space 1.3, a secondary central-hall, is a rectangular space measuring 4.38ew X 4.04sn meters with a 3.53m high jack-vault superstructure. The floor is made of colored cement tiles; the walls and the Jack-vault superstructure are constructed of stone and are smoothly plastered. At the south wall there is a rectangular door niche measuring approximately 142w X 305h - 58d cm and opening to outside. At each side of this niche, there is a rectangular window niche measuring 93w X 227h-65dcm. At the south side of the east wall is a segmental profiled door measuring 92w X 213h cm and opening to space 1.4. The north side of the same wall has a rectangular door measuring 74w X 192h and opening to space 1.5. At the north side of the west wall is a segmental profiled door measuring 92w X 207h cm and opening to space 1.2. The door niche, which used to connect this wing to the main central-hall (space 1.1) is now converted to wall cupboard.

Space 1.4 (figure: 9.10) is a rectangular space measuring 2.98sn X 4.02ews meter with a 3.49m high jack-vault superstructure. The floor space is made of colored cement tiles; the walls and the jack-vault superstructure are constructed of stone and are smoothly plastered. At the south wall there are two segmental profiled window niches, each measuring approximately 105w x 209h -56d cm. At the north wall of the room there is a segmental profiled door niche measuring approximately 110 X 232h-48d cm and opening into space 1.3. At the North side of the east wall, there is a wall niche measuring 141w X 211h-28d.

Space 1.5 is a rectangular space measuring 4.09ew X 2.05ns meters with a 3.10m high jack-vault superstructure. The floor consists of concrete face; it is elevated about 40cm from the rest of the floor and connects to space 1.3 by three steps. The walls and the Jack-vault superstructure are constructed of stone and are smoothly plastered. The space is subdivided into three spaces, a kitchen and two toilets. The kitchen space connects to the secondary central-hall space 1.3.

Space 1.6 is a rectangular space measuring 4.12ew X 3.95ns meter with 3.53 m high jack-vault superstructure. Terrazzo tiles replaced the colored cement tiles; the walls and the Jack-vault superstructure are constructed of stone and smoothly plastered. At The north wall of the room there are two rectangular window niches, each measuring approximately 107w x 203h -55d cm.

Space 1.7 (figure: 9.9) is a rectangular space measuring 4.62ew X 3.95ns meter with a 3.52 m high jack-vault superstructure. The colored cement tiles are replaced by terrazzo tiles. The walls and the Jack-vault superstructure are constructed of stone and smoothly plastered. At the south and west walls there are two segmental profiled window niches, each measuring 105w x 212h -57d cm.

Decorations and Ornamentations

The interior decorations are limited the timber doors, wall cupboards which feature decorative wings. The walls are simply plastered without having any decorations or ornamented surfaces, the floors feature colored cement tiles. Externally the window openings are protected with ornamented metal grills; the exterior doors also featured elaborate ironwork. Externally elaborate sculptured and carefully profiled window and door openings are realized and concentrated at the main elevation, featuring ornamented and sculptured three arched arraignment, the twin windows realize ornamented and profiled frames and protruding keystones, horizontal and vertical framing added more to the exterior decoration.

Structural System, Construction Materials and Building Technology:

Continuous load bearing foundations are used, along with heavy load bearing walls used to support the cross-vaulted superstructures. Limestone and lime are the main construction materials. Lime plaster and terrazzo tiles are used for the floor interior finishing. The roof water is drained using metal pipes leading rainwater to the cistern located at the building's Northeast corner. Energy supply: electric power was brought to the house at the end of 1950s, the wiring is fixed externally. Prior to that that oil lamps were used for lighting.

10. Awni id-Duaik House

Address: Ayn Sarah neighborhood, Jerusalem road,

Coordinates: E 159407. 6800 - N 106107. 9340

Date of construction: Ground floor 1930-1349 according to inscription panel, the first floor is excluded from the study since it is out of the study period, where it is added 1969, also that it has a concrete structure.

Occupancy statue: The house is not inhabited.

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 10.1 to figure 10.8

Drawings: figure D 10.1, figure D 10.2, figure D 10.3, and figure D 10.4

The Lot (figure: D 10.1)

The lot has irregular rectangular geometry measuring approximately 33.80EW X 26.92NSm. The boundaries are defined from all sides by loose stone walls measuring 0.6-1m high. The east side of the lot is defined by 1m high loose stone wall, at 3.5m offset from the which there is a two-storey neighboring building. At the south side there is 0.7m high loose stone wall separating the lot from the dead end street, which is measuring 7.30m wide. At the north side there is a loose stone wall measuring 0.5m high, to the north of which a neighboring building of two storeys is located. The west boundary is defined by loose stone wall measuring 0.6m high, at 2m distance from which a two-storey neighboring building is located. The site has a fine slop of 17% from the upper east to the lower west; this resulted at 1.9m level deference between the east and west sides of the building.

At the eastern side of the lot, there is an open space measuring approximately 12.5EW X 25.14SN meter. This has Limon and vine trees, a cistern is found at the north east side of the building. The west section of the lot is a corridor-like space, measuring approximately 4.5 meters wide, in the middle of which a flight of ten steps connects with an open terrace in front of the ground floor. The south part of the lot features a 5.5m wide open space. This is separating the house from a dead end street.

The north part of the lot features a 3.4 meter wide-open space. The house is located at approximately the west side of the lot; it is roughly 5 meters away from the west boundaries, 12m from the south, and 11m from the north.

General Description

The building has essentially a two-storey. It measures 10.08m high as a freestanding cubic mass with a straight roof. The first floor has a concrete structure and was added in 1969, it is excluded from the drawings and the text of the catalog. In addition, the concrete addition located the east side of the ground floor is excluded from the analysis. Only the 1930 original stone masonry structure will be discussed.

The original structure constitutes a ground floor measuring 5.58m high. This is a freestanding cubic mass. It features a central-hall plan measuring approximately 16.41 SN X 12.16 EW meter. In addition to this, the plan features later added rectangular space measuring approximately 6.37 SN X 3.72 EW meter and is located at the Southeast side. The plan features a central-hall (space 0.1) with the living spaces arranged at its north and south sides. Wet spaces are located at the Southeast corner. Continuous load bearing construction is employed for the ground floor walls. The ground floor spaces feature Jack-valuated superstructure. Red limestone is the main construction material, with white stone of same type used for the vertical, horizontal bands and the window and doorframes. The ground floor has three entrances: the veranda located about the middle of the west part of the plan, have two doors, one is opening to space 0.1 the other is opening to space 0.2. At the East side of the plan, there is another entrance, which connects the central-hall to outside.

The Exterior

The lower part of the west elevation features roughly cut and coursed stone. Rest of the elevations walls features regular cut stone courses, measuring 25-30 cm in height. The south-west and north-west corners of the building are defined by the projection of quoins two to three centimeters from the wall surface. This projection constitutes a

vertical frame running across the ground floor height; the later added first floor imitated same manner. At the north, south and west elevations the ground floor height is defined by two horizontal bands of stone courses those are projected two to three centimeters from the wall surface. The front corners, vertical and horizontal bands, and window frames are all emphasized by their projection from the wall surface and variation in texture and color. Smoother dressed Matabbih stone is used for the projected elements. The regular cut stone parts of the west elevation wall are made from Msamsam dressed stone, Tubzih Shaf dressed stone is used for the north, south and east elevation walls.

The main West elevation (figures: D 10.3 and 10.1), measures 16.20m long and 6.14m high (ground floor section). The ground floor is elevated approximately 189cm from the ground; it is reached by a flight of nine stone steps measuring 181cm wide, and are placed parallel to the elevation wall. The stairs are connected to an open terrace; this is measuring 4.44m long and projecting about 3.20 from the elevation wall. An ornamented metal railing measuring 1.2m high protects the three edges of the terrace. About the middle of the elevation, there is a wall recess featuring three-arched arraignment, the central arch opening is onion profiled; it is measuring 122cm wide with a protruding keystone. Two columns each support the arch measuring 266cm high with an ornamented cap and rectangular base. At both sides of the middle arch there is an onion profiled arch measuring 108cm wide. This is supported by the same column of the middle arch from one side and by the recess corner from the other side.

The external corner of the recess has quoins, which are projected. An ornamented cap is placed at the part where the onion-profiled arch joins with the corner. Behind the three-arch arraignment, there is a rectangular veranda space measuring 2.15m deep and 4.01 wide. About the middle of the veranda, there is a rectangular door opening measuring 102w x 217h cm. This is covered with a shouldered lintel, above which there is a two-center pointed profiled revealing arch opening. Inside this, there is an ornamented iron metal grill. Semicircular profiled widow opening flanks the middle door, those are sharing the same profile and is measuring 75w x 165h cm.

The recess depth (south wall) features a semicircular profiled single winged door measuring 99w x 198cm and opening to space 0.2. The south and north sides of the elevation features twin window openings sharing the same profile and measurements. The north side one opens to space 0.6 while the south side one opens to space 0.2. Each of the twin windows has a rectangular frame, with a profiled horizontal band of stone above, the inside of which has two semicircular profiled window openings each is measuring 84w x 194h cm.

South elevation (figures: D 10.3 and 10.2), because of the slopping site, this elevation measures 6.14m in height from the west and 4.71m from the east. The elevation is measuring 15.95m long. It has two surfaces; a front surface at the west side. This is measuring 12.16m long. Because of a later addition, a back surface is found at the east side. This is measuring 3.75m long. The front surface features two twin windows; those are sharing the same profile and measurements with the twin windows of the west elevation. The west side back surface has a small rectangular window opening measuring 62wX70h cm, this is opening to space 0.4. This window is hidden behind a flight of stone steps which leads to the first floor.

North elevation (figures: D 10.4 and 10.3) the height varies between 6.14m high at the west side and 4.61m at the east. The elevation measures 12.16m long in two surfaces: a front and back surface are sharing same measurements and architectural characteristics with the south elevation. The front surface has two twin windows, which are same as the twin windows of the south elevation. The east side twin window opens to space 0.5, the west side one opens to space 0.6.

East elevation (figures: D 10.4 and 10.4), measures 4.46m high and 16.41m long. It has two surfaces; a front surface is a later addition for accommodating wet spaces. This has two rectangular window openings. The original back surface remains invisible, since it is hidden behind the 1976 added concrete mass. This part of the elevation has a rectangular door opening to the central-hall (space 0.1).

The Interior

The ground floor plan (figure: D 10.2) features six spaces including central-hall, toilet and kitchen. Space 0.1 (central-hall), is the central space of the plan providing relationship and cross circulation among the rest of the spaces. In addition, it acts as an entrance hall connecting to outside from the west by a semi-open space in the form of a veranda, and by a door opening to the back yard. Two spaces are connected to the central-hall from the south-west and north-west sides, their doors are facing each other. The south-west side space has a door opening to outside through the semi-open space (veranda). Another two spaces are connected to the central-hall from the Southeast and Northeast sides. Space 0.4 is added later to accommodate the wet spaces (Toilet, Kitchen), it is connected to the rest of the house by an opening located at the Southeast corner of the central-hall.

Space 0.1 (central-hall, figure: 10.6), is a longitudinal rectangular space. It is measuring 7.72m long, 4.08m wide and 3.87m high. Space numbers 0.2, 0.3, 0.4, 0.5, and 0.6 are arranged at the east, south and north walls of the central-hall, and are directly connected to it. The west wall faces outside through a veranda. The central-hall is used for family setting and as an entrance lobby. It also provides horizontal circulation, connecting the floor spaces to each other's. The floor is made using colored cement tiles. The load bearing walls and the Jack-vault superstructure are constructed of stone and smoothly plastered. At the west side of the north wall there is a segmental profiled double winged door measuring 100w X 209h cm and opening to space 0.6. At the east side of the same wall there is a door sharing the same architectural features as the west side one and is opening to space 0.5, at the east side of which there is a semicircular profiled niche measuring 137w x 198h -51d cm..

The south wall features two door openings facing the north wall doors and sharing with them the same architectural features. Those are opening to space numbers 0.2, 0.3 from west to east. At the west wall of the room there is a semicircular profiled door niche, this is measuring 119w X 244h - 55dcm and opening to outside through veranda. At each side of this, there is semicircular profiled window niche measuring

92w X 192h-70dcm. At approximately the centre of the east wall there is a door measuring 105 x 192-68cm. At the south corner of this wall, there is a rectangular door opening to space 0.4 and measuring 81 X 181cm. A wall cupboard measuring 97w X 179h-62d cm is found at the north side of the east wall.

Space 0.2 (figures: 10.7 and 10.8) is a rectangular space measuring 4.70ew X 4.37ns meter and it has 3.87 m high jack-vault superstructure. The floor is made using colored cement tiles. The walls and the Jack-vault superstructure are constructed of stone and smoothly plastered. It was used as a guest room owing to direct entry from outside. The south and west walls feature semicircular profiled window niches, each is measuring 228w x 229h -55d cm; the inside of each niche features two semicircular window openings. The north wall of the room has two segmental profiled door niches, each measuring 116 to 114w X 217h -58cm. The west side door opens to outside, and the east side door opens to space 0.1. At the north side of the east wall there is a segmental profiled wall cupboard measuring 104w X 214h-52d, this is elevated about 14cm from the ground.

Space 0.3 is a rectangular space measuring 4.70ew X 4.41sn meter, it has 3.91m high Jack-vault superstructure. The space features colored cement tiles, the walls and the Jack-vaults are constructed of stone and smoothly plastered. Around the center of the south wall there is a semicircular window niche, measuring approximately 228w X 229h -71d cm, the inside of which features two semicircular window openings. The north wall of the room has a segmental profiled door niche measuring 115w x 212-45d cm and opening space 0.1. At the west side of the door there is a rectangular wall cupboard, this is measuring 68w X 164h-55. At the east wall there is a semicircular profiled niche measuring 152w X 246h-51.

Space 0.4 is a rectangular space measuring 5.29sn X 2.83ew meter with 3.55m high Jack-vault superstructure. The floor features colored cement tiles. The walls and the Jack-vaults are constructed of stone and smoothly plastered. The space is subdivided into four spaces a kitchen, two toilets, and a corridor, which is connecting with space the central-hall. At the south wall of the room, there is a rectangular profiled

window niche measuring 62w X 71h -60d cm. The east wall of the room has two rectangular profiled window niches, the south side one is measuring 64w X 80h-88d cm, the north side window niche measures 55w X 65h-86d. At the south side of the west wall there is a rectangular door niche measuring 83w X 184h- 92dcm and opening to space 0.1.

Space 0.5 is a rectangular space measuring 3.27ew X 4.44ns meter with a 3.86m high Jack-vault superstructure. The floor is made using colored cement tiles. The walls and the Jack-vaults are constructed of stone and smoothly plastered. At the West side of the South wall, there is a semicircular profiled door niche. This is measuring approximately 114w x 212h-46dcm, and opening to space 0.1. Around the center of the south wall there is a segmental profiled window niche measuring 165w X 143h -69d cm, the inside of which features two segmental profiled window openings. At the south side of the east wall there is a semicircular profiled niche measuring 175w X 247h -140d cm, this niche is not elevated from the ground.

Space 0.6 is a rectangular space measuring 4.75ew X 4.32ns meter with a 3.90 m high Jack-vault superstructure. The floor is made using colored cement tiles. The walls and the Jack-vaults are constructed of stone and smoothly plastered. The north and west walls feature semicircular profiled window niches, each is measuring 223w x 226h -73d cm. The each window niche has two semicircular window openings. The east side of the south wall has a segmental profiled door niche, measuring 116w X 238h -44cm. At the west side of door there is a semicircular wall niche measuring 189w X 302h-49d. At the north side of the east wall there is a segmental profiled wall cupboard measuring 143w X 243h-52d, this is elevated about 22cm from the ground. The south side of the same wall has a rectangular wall cupboard measuring 165w X 249h-53d, this is elevated about 16cm from the ground.

Decorations and Ornamentations

The interior decorations are limited to the timber doors, wall cupboards wings. The walls are simply plastered; the floors featured ornamented colored cement tiles. Externally the window openings are protected with ornamented metal grills; the exterior doors also featured elaborate ironwork. On the elevations, elaborate sculptured and carefully profiled window and door openings are realized and concentrated at the main elevation, featuring ornamented and sculptured three-arched arraignment; horizontal and vertical framing added more to the exterior decoration.

Structural System, Construction Materials and Building Technology:

Continuous load bearing foundations are used, along with heavy load bearing walls, which are supporting Jack-vaulted superstructures. Limestone and lime are the main construction materials. Lime plaster and colored cement tiles are used for the floor interior finishing. See Appendix (B), traditional stone masonry construction process, methods and techniques.

The roof water is drained using metal pipes channeling rainwater to the cistern located at the Northeast corner of the building. Energy supply: electric power was brought to the house at the end of 1950s, the wiring is fixed externally. Prior to that that oil lamps were used for lighting.

11. 'Ali 'Arafah House

Address: Ayn Sarah neighborhood, Jerusalem road, number 169

Coordinates: E 159 367. 8400 - N 106 146. 2400

Date of construction: 1930-1349 according to inscription panel

Occupancy status: The house has been empty since 1967.

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 11.1 to figure 11.11

Drawings: figure D 11.1, figure D 11.2, figure D 11.3, and figure D 11.4

The Lot (figure: D 11.1)

The lot features irregular rectangular geometry, it measures approximately 31 X 32m. The boundaries are defined by rubble stone, concrete walls and neighboring lots. The west boundary is defined by Jerusalem road. The north boundary has a rubble stone wall measuring 1.5m high. At the west side of this, there is a neighboring building of two floors high. The east side of the lot is defined by a concrete retaining wall measuring six meters high; this separates the lot from the upper neighboring lot which features a one floor high building located approximately ten meters away. Any walls or fences do not define the south boundary of the lot, it has a neighboring building.

Because the building is empty since 1967, landscaping and pedestrian pathways are neglected and few trees are found. At the West part of the lot, there is an open space measuring approximately 15 X 30m; this space does not feature landscaping. It has pedestrian passage, which connects the main entrance to the Jerusalem Road. At the south part of the lot there is an open space measuring approximately 7.5m in width, this features no landscaping elements. The east part of the lot features an open space measuring 5.37 X 8m; this serve as a back yard for the house. At the north-west part of it, there is a cistern. A corridor-like open space is found at the north section of the lot; it is measuring approximately 15.5 X 7.5m and featuring no landscaping elements. This space provides the north rooms of the building with light and ventilation.

The building is located at the east section of the lot, it is approximately 4.8m far from the east side, 7.5m meters from the north, eight meters from the south, and 14m meters from the west.

General Description

The building has one floor. It is a freestanding cubic mass measuring approximately 6.3 to 5.6m high with a straight roof above. The plan features a central-hall scheme, it measures 16.59 X 11.04m, and also it has a later addition located at the Northeast corner, this measures 7.70 X 4.78m. The added space is used respectively as a toilet and kitchen; it measures 1.32m less height than the rest of the house.

The plan features a central-hall at the north, south and west sides of which living spaces arraigned. Continuous load bearing construction is used for the walls. Jack-vaults superstructure is employed for all the floor spaces. White limestone is the main construction material. The east-west slope of the site resulted at the living floor to be elevated around 164cm from the lower west natural ground level. The house is reached from west by a flight of steps located at approximately the middle of the west elevation. The ground floor level is same as the east section of the lot natural, from there a secondary entrance is provided; this is connecting the house to the water cistern at the back yard.

The Exterior

The west, south and north elevations are constructed of regular cut stone courses measuring 25-30 cm high. A band of concrete layer approximately measuring one meter in height comprises the west and east elevations leveling. The east elevation is constructed of roughly cut and coursed stone. The floor height is defined by two profiled horizontal bands of stone; those are running across the west, north and south elevations. The horizontal bands are projected two to three centimeters from the wall surface. The south-west and north-west corners are defined by the projection of quoins two to three centimeters from the wall surface. This projection makes a band

of 55cm in width; this is running across the ground floor height. The window frames horizontal and vertical bands are emphasized by means of their projection from the wall surface and variation in texture. Smoothly dressed Matabbih stone is used for the projected elements. The west, north and south elevation walls are built of Tubzih Shaf dressed stone. The east elevation is constructed of roughly cut and coursed Tubzih Shaf dressed stone.

The main West elevation (figures: D 11.3, 11.1 and 11.2) measures 16.64m long, 5.61 high from north and 6.37 from south. It comprises one floor. At the West side, the ground floor is elevated approximately 164cm from the ground, it reached by a flight of eight stone steps. The steps are measuring 162cm wide, and placed perpendicular to the elevation wall. The steps are connected to a veranda; this is projected about 2.4m from the elevation wall. It gains additional 2.52m in depth by means of a wall recess. The projected surface is measuring 6m long and 5.94m high, it is featuring three arch openings. The central opening has an onion profiled arch measuring 165cm wide with a protruding keystone. The arch is supported by two columns each is measuring 256cm high and featuring an ornamented cap and rectangular base. At both sides of the middle arch there are two onion profiled arches each is measuring 122cm wide and supported by the same column of the middle arch from one side and by a rectangular cross-section stone pillar at the other side.

The recessing rear features a rectangular door opening measuring 122 X 200cm. This is covered with ornamented shouldered lintel, above which there is a two-center pointed profiled revealing arch opening. Inside this, there is ornamented iron metal grill. The door is flanked by two semicircular profiled windows, both are sharing same profile and each is measuring 102 X 175cm and opening to space 0.1. The south wall of the recess features a segmental profiled double winged door, this is measuring 101 X 196cm and opening to space 0.2. The south and north sides of the elevation feature twin window openings sharing the same profile and measurements. Each of which has a rectangular frame, with a profiled horizontal band of stone above, the inside of which has two semicircular profiled window openings each is measuring 102 X 232cm. The north side twin window opens to space 0.7 and the south side one opens to space 0.2.

The South elevation (figure: D 11.4) measures 18.22m long, 6.32m in high from west and 5.2m from east. The elevation has three surfaces: a front surface is measuring 10.96m long. At the west side of the elevation there is a back surface, this is measuring 2.4m long. The east side has another back surface, this is a result of a later addition, and it measures 4.78m long and 3.88 m high. The front surface features two twin windows sharing the same profile and measurements as the west elevation twin windows. The west side back surface has an onion-profiled arch opening to the veranda, this measures 178cm wide. The arch bears same architectural characteristics as the west elevation arches. The East side back surface has two segmental profiled windows openings each is measuring 103 X 132cm and opening to space 0.4.

North elevation (figures: D 11.3 and 11.4) measures 13.42m long; 6.37m high from west side and 6m from east. The elevation is in two surfaces, a front and a back surface. Both of which has same measurements and architectural characteristics as the south elevation surfaces. The front surface has two twin windows sharing the same profile and measurements as the south elevation twin windows. On this elevation the east side twin window opens to space 0.6 the west side one opens to space 0.7.

East elevation (figure: D 11.4 and 11.3) measures 16.56m long and 4.5m high. Owing to the steeped topography and its attachment with the upper east neighboring lot, the later addition remains invisible. The north side visible part of the elevation features a rectangular door measuring 100 X 226cm, this is covered with a lintel above which there is a half circular window opening which is measuring 134cm in radius. Both the door and the window open to space 0.1 (central-hall).

The Interior

The ground floor plan (figure: D 11.2) constitutes seven spaces including central-hall, toilet and kitchen. Space 0.1 (central-hall), is the central space of the plan providing relationship and cross circulation among the rest of spaces. In addition, it

acts as an entrance hall where it connects to the outside from the west by a semi-open space in the form of a veranda, and by a door opening located at the east wall. Two spaces are connected to the central-hall from south-west and north-west sides with their doors facing each other. The south-west side space has a door opening to outside through veranda. Another two spaces are connected to the central-hall from the Southeast and Northeast sides. Wet spaces (Toilet, Kitchen), added later, and are connected to Northeast corner of the central-hall.

Space 0.1 (Central-hall, figure: 11.5), is a longitudinal rectangular space measuring 6.96m long, 4.22m wide and 3.94m high. Space numbers 0.2, 0.3, 0.4, 0.6, and 0.7 are clustered around the central-hall from the east, south and north sides. All of the lining spaces are directly connected to the central-hall. The west wall faces outside via a semi-open veranda. This space is for family setting and as an entrance lobby providing horizontal circulation, connecting the surrounding living spaces to each other. The floor features colored cement tiles. The walls and Jack-vaulted superstructure are constructed of stone and smoothly plastered.

At the west side of the north wall there is a segmental profiled double winged door measuring 101 X 212cm and opening to space 0.7, at the east side of which there is a semicircular profiled niche measuring 119 X 198-41cm. At the east side of the same wall there is a door sharing the same architectural features as the west side one and opening to space 0.6. The south wall of the space has two doors, which are facing the north wall doors and sharing the same architectural features. At the west wall there is a semicircular profiled door niche measuring approximately 120 X 256-68cm and opening to outside through the veranda. At each side of this, there is semicircular profiled window niche measuring 96 X 208-65cm.

At approximately central of the east wall, there is a rectangular door niche measuring 110 X 200-40cm, above which there is a half-circular window niche measuring 1.40m radius and 32cm deep. Both the door and window opens to outside. At the north side of the east wall there is a rectangular door opening to space 0.4 and measuring 95 X 200cm. A wall cupboard is found at the south side of the east wall, this is measuring 102 X 189-55cm.

Space 0.2 is a rectangular space measuring 4.06 X 4.48m with a 3.9m high Jack-vault superstructure. The floor features colored cement tiles. The walls and the Jack-vaults are constructed of stone and smoothly plastered. It was used as a guest room owing to a direct entry from outside. Central of the south and west wall, there are semicircular window niches, each measuring approximately 255 X 274-55cm. The inside of each window niche features two semicircular window openings. The north wall has two segmental profiled door niches, each is measuring 117 X 221-40cm. The west side door opens to outside, and the east side door opens to space 0.1. Central to the east wall there is a segmental profiled niche measuring 168 X 346-53, this is elevated about 45cm from the ground.

Space 0.3 is a rectangular space measuring 4.55 X 4.48m with a 3.94m high Jack-vault superstructure. The floor features colored cement tiles. The walls and the Jack-vaults are constructed of stone and smoothly plastered. Central to the south wall there is a semicircular window niche, this is measuring 252 X 274-53cm, the inside of which features two semicircular window openings. The north wall of the room has a segmental profiled door niche measuring 102 X 218-48cm and opening space number 0.1. At the West side of the door, there is a segmental profiled wall cupboard measuring 121 X 2.38-55. This is elevated about 14cm from the ground.

Space 0.4 is a rectangular space measuring 3.34 X 3.96m with 2.55m high Jack-vault superstructure. The floor features colored cement tiles. The walls and the Jack-vaults are constructed of stone and smoothly plastered. The space is used as a kitchen besides providing entrance to the bathing space number 0.5. At the south wall there are two semicircular profiled window niches, each is measuring 103 X 145-27cm. The north wall features a segmental profiled door measuring 96 X 218 and opening to space 0.5. At the south side of the west wall there is a rectangular door measuring approximately 95 x 200cm and opening to space 0.1.

Space 0.5 is a rectangular space measuring 2.35 X 4.00m with a 2.55m high Jack-vault superstructure. The floor features colored cement tiles. The walls and the Jack-vaults are constructed of stone and smoothly plastered. It is used for bathing and

laundry. At the west side of the south wall there is a rectangular door niche, approximately measuring 96 X 208-42cm, above which there is a rectangular window measuring 120 X 40cm. Both the door and window open to space 0.4.

Space 0.6 (figure: 11.6), is a rectangular space measuring 4.36 X 4.30m with a 3.92m high Jack-vault superstructure. The floor features colored cement tiles. The walls and the Jack-vaults are constructed of stone and smoothly plastered. The north wall features a semicircular window niche, measuring approximately 254 X 274-55cm, the inside of which has two semicircular window openings. The south wall of the room has a segmental profiled door niche measuring 104 X 222-44cm and opening to space 0.1. At the west side of the door there is a segmental profiled niche measuring approximately 124 X 2.38-32, this is elevated about 14cm from the ground. At the south side of the east wall there is a wall cupboard measuring 156 X 224-55, and is elevated about 22cm from the ground.

Space 0.7 is a rectangular space measuring 4.00 X 4.36m with a 3.92m high Jack-vault superstructure. The floor features colored cement tiles. The walls and the Jack-vaults are constructed of stone and smoothly plastered. It was used for family daily living, as it provides a view of the Jerusalem road. Central of north and west walls there are semicircular window niches, each is measuring approximately 255 X 274-55cm. Each window niche has two semicircular window openings. The north wall of the room incorporates segmental profiled door niches measuring 112 X 218-39cm, opening to space 0.1. The east wall features a segmental profiled niche measuring 179 X 242-48, and elevated about 42cm from the ground.

Decorations and Ornamentations

The interior decorations are limited to the timber doors, which featured decorative wings, though walls are simply plastered without having any decorations, or ornamented surfaces, the floors featured ornamented colored cement tiles. Externally the window openings are protected with ornamented metal grills; the exterior doors also featured elaborate ironwork. In the elevations, elaborate sculptured and carefully

profiled window and door openings are realized and concentrated at the main elevation, featuring three-arched projected veranda, the arches are profiled and sculptured owning protruding keystone. The twin windows have ornamented and profiled frames; vertical framing was another mean of exterior decoration.

Structural System, Construction Material and Building Technology

Continuous load bearing foundations are employed. Load bearing walls used to support the Jack-valuated superstructure. Limestone and lime are the main construction materials. Lime plaster and colored cement tiles are used for the interior finishing. For the traditional construction process, methods and techniques see Appendix (B).

The roof water is drained using metal pipes channeling rainwater to the cistern at the back yard of the house; water drainage was provided at the Northeast corner of the building. Energy supply: electric power was brought to the house at the end of 1950s, the wiring is fixed externally. Prior to that that oil lamps were used for lighting.

12. Muhammad as-Salaymah House

Address: Ayn Sarah neighborhood, Jerusalem road, Dead End Street.

Coordinates: E 159.393, 4059 - N 106.169, 8713

Date of construction: constructed in 1934-1353 according to an inscription panel

Occupancy status: The house currently owned by Mohammad Al-Salaymih. He bought this house in 1996 from the inheritors of Saed Al Hammory. The original owner belongs to Al Hammory family one of the prestigious families in Al-khalil. The owner was well known merchants. In 1934, the owner moved to the house together with his wife and six daughters. Prior to that he was living at the old town together with the rest of his extended family. The last owner Mohammad Al-Salaymih restored the house in 2000.

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 12.1 to figure 12.11

Drawings: figure D 12.1, figure D 12.2, figure D 12.3 and figure D 12.4

The Lot (figure: D12.1)

The lot has an irregular triangular geometry, its three sides approximately measures in meters: 39.67 SN western edge, 55.12EW northern edge and 53.84NE-SW southern edge. The site has a fine slop from east to west of about 12%. The sloping nature of the site ended with at the ground floor level elevated approximately 2.24m from the west natural ground. The original stairs and canopy were replaced in 2000 by a spiral flight of 12 stone steps connected to a half circular terrace space in front of the main entrance.

Concrete walls from all sides define the boundaries. Those are measuring 1.5m high at the north edge, 2.2m high at the west, and 1.8m high at the south. A dead-end street is measuring 6.5m wide, runs all over the north side of the lot. At the west side of which there is a metal sliding gate, this enables vehicular and pedestrian axis. At the south side there is a three-floor high neighboring building, it is approximately 11.8m away from the lot. A single story neighboring building is located at the west boundaries.

At the east section of the lot is a triangular open space measuring 23E-NW X 22.54 E-SW X 21.88 SN. This is planted with vine, and olive trees. A terrace space is found at the north-west section of this space, below which there is a water cistern. At the West side of this space, there is a pedestrian passage measuring 1.8m wide. At the West section of the lot, there is an open space measuring 11EW X 39SN meter, this has some trees, flowers and greeneries. At the Northwest section of this space, there is a metal gate opening to an open car parking space, from which a pedestrian passage measuring 1.62m wide is connected to a spiral flight of 11 steps. This is connected to a half-circular cantilevered terrace.

The north part of the lot features a corridor like space measuring 6.82-2.23m wide. This section has a pedestrian passage measuring 1.6-2m meters in wide; it contains 11 steps to enable connection between the upper east and the lower west sections of the lot. At the south part of the lot there is a corridor like space measuring 8.16-3.55m wide, this section features a pedestrian passage measuring 2.12m meters wide. It contains 12 steps, which are connecting the upper east and the lower west sections of the lot. At the West section, there is an open space measuring 19EW X 16SN meter, in this space about the middle of the building. In front of the main entrance there is a terrace space approximately measuring 4.31EW X 5.13SN meter, this is connected to the natural ground by a flight of 11 steps which is connected to a pedestrian passage leading to the North gate. At the South section there is an open space measuring 47EW X 21SN meter, it is an empty land. The house is roughly 11.35 meters away from the west boundaries, 6.8-2.3m from the north and 8.15-3.55m from the south.

General Description

The building is essentially one storey. The sloping nature of the site ended up with the ground floor being elevated approximately 2.34m from the ground. The building has freestanding cubic mass with a straight roof. It features a central plan approximately measuring 18.95 SN X 14.04 EW meter. In the year 2000 a concrete mass was added to the east-south side of the building, this is excluded from the

analysis since the study concerned the original structure only. The plan has a central-hall (space 0.1), with the other spaces arranged at both south and north sides. The wet spaces (kitchen and toilet) were not initially integrated within the house interior. The current owner indicated that there used to be an isolated kitchen room and a toilet space at the back yard of the house and that he pulled them down when he restored the house in 2000. The living spaces are symmetrically clustered at the south and north sides of the central-hall. A guest room space 0.5 with a direct entrance from outside is connected to the north side of the central-hall. The other three spaces 0.2, 0.3 and 0.4 are connected to the south and north sides of the central-hall. The central-hall is directly connected to outside through a veranda from west, and a door niche from east.

Continuous load bearing construction is employed for the walls. All the floor spaces feature Jack-vaults. Red limestone is the main construction material, with white stone of same type used for the vertical, horizontal bands and the window and doorframes. The plan has three entrances: from West the veranda features two doors one opening to space 0.1 the other opening to space 0.5. At the East side of the plan, there is another entrance, which connects the central-hall to outside.

The Exterior

All parts of the elevations are constructed from regular cut stone courses measuring 25-30 cm in height. The south-west and north-west corners are defined by the projection of quoins two to three centimeters from the elevation wall. At the north, south and west elevations the floor height is defined by a horizontal band of stone. This is projected two to three centimeters from the wall surface. The front corners, horizontal bands, and west elevation window frames are emphasized by their projection from the wall surface and variation in texture and color. Smoothly dressed Matabbih stone is used for the projected elements. The walls of the west elevation feature regular cut stone owning Msamsam dressed stone, Tubzih Shaf stone is employed at the north, south and east elevation walls.

Main West elevation (figures: D12.3, 12.1 and 12.2) measures 18.95m long and 8.26m high. The ground floor is elevated 234cm from the natural ground, the original flight of stairs and canopy were replaced by a spiral flight of 11 steps, and those are connected to a cantilevered half circular terrace measuring 3.19m in radius.

About the middle of the elevation there is a three-arched arraignment. The central arch opening features two-center pointed profiled arch, this measures 140cm wide. Two columns each support the arch measuring 246cm high owning ornamented cap and rectangular base. The other two openings located at both sides of the middle arch shares same profile and measurements, each is two-centered profiled measuring 121cm wide and supported by the same column of the middle arch from one side and by the entrance exterior corner of the recess on other side. The quoins of the recess are projected from the elevation wall. An ornamented cap is placed at the part where north and south openings joins with the recess corner.

Behind the three-arch arraignment, there is a rectangular veranda (wall recess) space measuring 2.48m deep and 4.64m wide. The inner elevation of the veranda features a rectangular door opening, this is measuring 118w x 261h cm and covered with a shouldered lintel, above which there is a two-center pointed revealing arch opening. Inside this, there is an ornamented iron metal grill. The door is flanked by semicircular profiled windows; each is measuring 87w x 226h cm and opening to space 0.1. The recess depth (north wall) features a segmental profiled door measuring 115w x 209h cm and opening to space 0.6.

The south and north parts of the elevation have twin window openings; each is featuring two shouldered lintel window openings, each of which is measuring 95wX203h cm. The north side twin window opens to space 0.3 while the south side one opens to space 0.2.

The North elevation (figure: D12.4) measures 14.05m long, 6.62m high from east and 8.28m high from west. Due to the sloping site, the lower part of the elevation has a steeped passage connecting the upper east section to the lower west part of the lot.

At the west side of the elevation, there is a cantilevered terrace. The east and west parts of the elevation feature twin window openings, each of which has two semicircular profiled window openings measuring 96wX235h cm, the west part twin window opens to space 0.5 and the east part one opens to space 0.4.

The South elevation (figures: D12.3 and 12.3) is measuring 14.00m long, 6.62m high from east and 8.28m high from west. Because of the sloping site, the lower part of the elevation features a steeped passage. This is connecting the upper east section of the lot to the lower west. The east and west parts of the elevation features twin window openings, those are sharing same profile and measurements with the north elevation twin windows, the west part twin window opens to space 0.2 and the east part one opens to space 0.3.

East Elevation, (figure: D12.4) originally it used to have one surface measuring 18.85m long and 5.94m high. About the center of this elevation, there is a rectangular door measuring 121wX239h cm. In top of the door, there is a half-circular window opening, which is measuring 82cm in radius. Both the door and the window are opening to the central-hall.

The Interior

The ground floor plan (figure: D12.1) features five spaces including central-hall. Wet spaces (toilet and kitchen) were not initially integrated within the house interior. Essentially the plan has a central type in which the central-hall (Space 0.1) extends along the whole east-west depth of the plan. Living spaces are symmetrically clustered at the south and north sides of the central-hall. Central-hall is the central space providing relationship and cross circulation between north section (spaces 0.5 and 0.4) and south section (spaces 0.2 and 0.3) spaces. In addition, it acts as an entrance hall where it connects to the outside from the west through a veranda and from the east side by door, which is opening to the back yard. Space 0.2 is located at the north-west section of the plan it is connected to the house interior by door openings to the central-hall, and to outside by a door opening to the veranda.

Space 0.1 (central-hall, figures: 12.4 and 12.5) is a longitudinal rectangular space measuring 8.92ew meter long, 4.59sn meter wide and 4.22m high. Spaces 0.2, 0.3, 0.4 and 0.5 are connected to it from south and north walls. The west wall faces outside through a veranda. Another connection to outside provided by a door located about the middle of east wall. It is used as a family living room and as an entrance lobby of the house where it provides horizontal circulation, connecting the floor spaces to each other's.

Colored cement tiles finished the floor; it was lately renovated with ceramic tiles. The load bearing walls and the Jack-vaults are constructed of stone and smoothly plastered. At the west side of the north wall there is a segmental profiled double winged door measuring 116w X 227h cm and opening to space 0.5. At the east side of the same wall there is a door sharing the same profile and measurements with the west side door, this opens to space 0.4. The south wall of the space has two door openings. Those are sharing the same architectural features as the north wall doors. The east side door opens to spaces 0.3. The west side door opens to space 0.2. Between the two doors there is a wall cupboard measuring 104w X 222h-48d cm.

At the west wall there is a semicircular profiled door niche measuring 138w X 361h – 64d cm and opening to outside through a veranda. At each side of this there is a segmental profiled window niche measuring 106w X 256h-67dcm. At the east wall of the room, there is a rectangular door niche measuring 122w X 232h - 79dcm and opening to an open terrace outside, in top of the door there is a semicircular window niche measuring 87cm in radius.

Space 0.2 (figure: 12.8) is a rectangular space measuring 5.06 ew X 5.48ns meter with a 4.48 m high Jack-vault superstructure. The floor was finished with colored cement tiles; it is lately renovated with ceramic tiles. The walls and the Jack-vaulted superstructure are constructed of stone and smoothly plastered. Central to the south and west walls there is a semicircular profiled window niche, measuring approximately 263w X 281h - 85d cm. At the east side of the north wall there is segmental profiled door measuring 131 X 237h-51d cm, and opening to space 0.1.

At the west side of the door there is a wall cupboard measuring 245w X 202h-61d, this is elevated about 24 cm from the ground. At the north side of the east wall there is a wall cupboard measuring 134w X 197h-61d, this is elevated about 12 cm from the ground.

Space 0.3 (figure: 12.9) is a rectangular space measuring 4.98sn X 5.23ew meter with a 4.51 m high Jack-vaults. The floor was finished by colored cement tiles; it is lately renovated with ceramic tiles. The walls and the Jack-vaulted superstructure are constructed of stone and smoothly plastered. Central to the south wall there is a semicircular profiled window niche measuring 259w X 275h - 82d cm. At the west side of the north wall there is segmental profiled door niche measuring approximately 133 X 222h-52d cm, and opening to space 0.1, at the east side of the door there is a wall cupboard measuring 220w X 278h-52d, this is elevated about 16 cm from the ground. At the south side of the east wall there is a wall cupboard measuring 165w X 167h-60d, this is elevated about 5 cm from the ground.

Space 0.4 is a rectangular space measuring 5.16sn X 5.55ew meter with a 4.53 m high Jack-vaults. The floor was finished by colored cement tiles; it is lately renovated with ceramic tiles. The walls and the Jack-vaults are constructed of stone and smoothly plastered. Central to the north wall there is a semicircular profiled window niches, approximately measuring 263w X 278h - 85d cm. At the south wall both sides there is segmental profiled door niches approximately measures 131 X 227h-51d cm, and opening to space 0.1. At the west side of the door there is a wall cupboard measuring 228w X 256h-74d, this elevated about 34 cm from the ground. About the middle of the east wall there is a wall cupboard measuring 262w X 172h-58d, which is elevated about 15 cm from the ground.

Space 0.5 (figures: 12.6 and 12.7) is a rectangular space measuring 4.98sn X 4.95ew meter with a 4.54 m high Jack-vaults. The floor is finished by colored cement tiles; it is lately renovated with ceramic tiles. The walls and the Jack-vaults are constructed of stone and smoothly plastered. Central of each north and west walls there are a semicircular profiled window niche, each is measuring 263w X 277h - 85d cm.

At the west side of the south wall there is a segmental profiled door niche, this is measuring 134 X 227h-64d cm, and opening to out side. At the east side of the same wall there is a segmental profiled door niche measuring 133 X 225h-51d cm, and opening to space 0.1. Between both doors there is a cupboard measuring 171w X 218h-46d, this is elevated about 19 cm from the ground. At the south side of the east wall there is a wall cupboard measuring 236w X 207h-61d, and is elevated about 15 cm from the ground. At the north side of the same wall there is a wall niche measuring 106w X 189h-57d, and elevated about 11 cm from the ground.

Decorations and Ornamentations

The interior decorations are limited to the timber doors, which featured decorative wings. The walls were simply plastered without having any decorations or ornamented surfaces. The floors had simple colored cement tiles. Externally the window openings are protected with ornamented metal grills; the exterior doors also featured elaborate ironwork. The main elevation features elaborate sculptured and carefully profiled window and door openings. Mostly ornamented stone frames are concentrated within the three-arched arraignment owning a protruding keystone, the twin windows realized ornamented and profiled frames, horizontal and vertical framing was another mean of exterior decoration.

Structural System, Construction Material and Building Technology

Continuous load bearing foundations are used. Load bearing walls used to support the Jack-valuated superstructures. Limestone and lime are the main construction materials. Lime plaster and colored cement tiles were used for the interior finishing. The roof water is drained using metal pipes channeling rainwater to the cistern at the back yard. Energy supply: electric power was brought to the house in the 1950s, and the wiring is fixed externally. Electric power was made available to the house in the 1950s, and the wiring is fixed externally. Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking.

13. Yusif al-Ja'bari House

Address: Old town, Al-kalaih neighborhood, Al-Shih Street

Coordinates: E 160 227. 9264 - N 103 997. 5957

Date of construction: 1905-1342 according to the inscription panel

Occupancy status: The ground and first floors are not occupied

Date of documentation: 5th of May, 28th of September 2006

Photographs: figure 13.1 to figure 13.8

Drawings: figure D 13.1, figure D 13.2, figure D 13.3, and figure D 13.4

The lot (figure: 13.1)

The lot has irregular rectangular geometry measuring in meters: north side 26m, 27.60 south, 33.78 east side and 33.56 west side. Al-Sheh Street defines the boundaries from the south; at the east side of this direction a loose-stone wall measuring 1.4m high defines the lot boundary. At the opposite side of Al-Sheh Street, there is a neighboring building of two floors. At the south side of the west side of the lot, there is a concrete wall measuring 1.6m high. This is separating the lot from a neighboring lot used as a public park. The building is located at the lot boundary of this direction. A retaining loose stone wall measuring 2m high defines the north side of the lot. This separates the lot from the upper neighboring lot featuring a two floors high building. A neighboring building composed of two floors is located at the north part of the east side of the lot. Loose stone wall measuring 1.8m high defines the south part the same side.

The sloping topography ended at the lot to be steeped in three platforms. An upper north platform, which is, elevated about 8.8m from Al-Sheh Street level. A middle platform is elevated about 3.8m from the same street. A third platform at the south part of the lot, this is elevated about 60cm from Al-Sheh Street. The lot is surrounded on all sides by vines and trees of various types. At the south part there is an open space measuring approximately in meters 27.63EW X 13.68/ At the west part of this space there is a single floor high building, this is constructed in 1997. At the west

side of which there is an open space planted with olive trees, it measures approximately in meters 3.87EW X 12.33 SN. At the east side of this newly added building there is an open space planted with vine and olive trees; this measures approximately in meters 12.08EW X 13.68 SN. At the West side of this space, there is a pedestrian passage, which has a flight of 14 steps; those are connecting ground floor of the building to Al-Sheh Street. The north section of the lot features an open space measuring approximately in meters 22.30EW X 8.18 SN. At the Southeast part of this space, there is a cross-vaulted room. A rectangular mass of the first floor occupies the west part of this space. This space is located at the same level of the first floor.

At the west part of the lot, there is an open space measuring approximately in meters 8.81EW X 8.51 SN. The south-west part of this space features a barrel-vaulted room, which was used as a traditional oven. The north-west part of this space features a water cistern, which is located at the same level of the ground floor. The house is located at the west side of the lot; it is around 13.68m away from the south, 8.18m from the north, and 8.82m from the east.

General Description

The building consists of two floors: ground and first floor. The site slope ended with the ground floor to be below the natural ground from north side. Therefore, the ground floor is totally hidden from north side and faces outside from east, west and south directions. The building is a freestanding cubic mass with a straight roof above. It measures approximately 10.51m high from south and 6.21m high from the north direction.

The ground and first floors provide living spaces, for two separate central-hall dwellings. Each of the ground and first floors features a longitudinal double cross-vault central-hall. The living spaces are clustered at the east and west sides of the central-hall. The ground floor has two entrances from the east and south sides. The first floor is reached by a staircase space, which is opening to the central-hall. It also

has two entrances from north, one opening to the central-hall and another opening to the guest room (space 1.2). Continuous load bearing construction is employed for the walls along with barrel and cross vaults superstructures, red-colored limestone is the main construction material.

The Exterior

The ground floor sections of south, east and west elevation walls are constructed of roughly cut and coursed stone. The first floor elevation walls are constructed of regular cut stone courses measuring 25-35 cm in height. The south-west and Southeast corners of the building are defined by the projection of quoins two to three centimeters from the wall surface. This projection constitutes a band of 55cm in width, which is running across the first floor height. The south elevation features a horizontal band of stone, this is projected two to three centimeters from the wall surface, and it defines the floor height. The corners of the building, horizontal bands, window and doors frames are emphasized by their projection from the wall surface and variation in textures. Smoothly dressed Matabbih stone is used for the projected elements. The south elevation wall is constructed of Mlatash Emfajar dressed stone. The north, east and west elevation walls are constructed of Tubzih Shaf dressed stone.

The South main elevation (figures: D 13.3, 13.1, and 13.2) is simple rectangular consisting of two floors. It is measuring 17.12m long, 10.52m high from the west and 12.90m from the east side. The upper west and lower east parts of the elevation are connected by a flight of 14 steps, which is perpendicular to the elevation wall. Central to the ground floor section of this elevation, there is a rectangular door opening measuring 97w X 199h cm. In top of which there is a two-centered pointed revealing arch opening. Both the door and the window open to space 0.1. At the east side of the door there is a flight of five steps, which connects to an elongated landing measuring 146cm in length. This project approximately 119cm from the elevation wall, it is located in front of a segmental profiled door measuring 94w X 251h cm, and opening to an inner staircases leading to the first floor of the building.

The east and west parts of the ground floor elevation feature segmental profiled window openings, each is measuring 187w X 207h cm, the west side window opens to space 0.5 and the east side one opens to space 0.2.

Central of the first floor part of the elevation there is balcony. This is cantilevered about 152cm from the elevation wall; it is protected from all sides by a metal handrail measuring 87cm in height. At roughly the center of the balcony there is a segmental profiled door measuring 107w X 250h cm and opening to space 1.1. At either sides of the door, there is a segmental profiled window opening; both windows measure 94w X 196h cm. The south and north parts of the first floor part of the elevation include a balcony which is cantilevered about 147cm from the elevation wall and protected from all sides by a metal handrail measuring 85cm in height. At roughly the center of each balcony, there is a segmental profiled door measuring 107w X 247h cm. At either sides of the door, there is a segmental profiled window opening; both windows measure 91w X 200h cm. The west side balcony opens to space 1.10 and the east side balcony opens to space 1.2.

The West elevation (figure: D 13.3 and 13.3) features simple rectangular layout in two floors and two surfaces. The front surface is measuring 12.32m long, 14.29m high from the south and 10.50m from the north side. The back surface is at the north side of the elevation, this is measuring 5.11m long and 7.52m high. The upper back surface of the elevation belongs to the first floor. The front surface covers both ground and first floor. The lower part of front surface features a rocky stratum. At the front surface (ground floor part of the elevation) there is a semicircular profiled window measuring 199w X 225h cm, and opening to space 0.4. At the south side of the same level there is a rectangular twin window, the inside of which have two semicircular profiled window openings each is measuring 99w X 175h cm, and opening to space 0.5.

At the first floor's front surface there is a rectangular twin window, the inside of which have two segmental profiled window openings each is measuring 88w X 200h cm. In top of the twin window, there is a semicircular profiled blind arch. The twin

window opens to space 1.9. At the front surface of the first floor elevation there is a rectangular twin window, the inside of which have two segmental profiled window openings, each is measuring 79w X 200h cm and opening to space 1.10. At the south part of the back surface there is segmental profiled window opening, this is measuring 88w X 145h cm and opening to space 1.8.

The East elevation (figure: D 13.4) features a simple rectangular layout in two floors and two surfaces. The front surface is measuring 9.89m long, 12.35m high from the south side and 9.30m from the north side. The back surface is measuring 7.55m long and 5.55m high. The back surface of the elevation belongs to the first floor and lower front surface covers both ground and first floor. A cross-vaulted room is placed in front of the back surface.

Both east and west parts of the ground floor part of the front surface features a flat arched profiled window opening, each is measuring 134w X 191h cm, both window are opening to space 0.2. At the south and north sides of first floor part of this surface are featuring two segmental profiled window openings, each is measuring 130w X 241h cm, both of which are opening to space 1.2.

The North elevation (figure: D 13.4) features simple rectangular layout in one floor and two surfaces. The front surface projects about 5.27m from the middle of the back surface. It is measuring 7.87m long, 5.46m high. The back surface is measuring 17.13m long and 6.21m high. At the west side of the front surface there are two segmental profiled window openings each is measuring 88w X 145h cm, and opening to space 1.6. At the east side of the back surface there is a rectangular twin window, the inside of which have two segmental profiled window openings each is measuring 65w X 193h cm. At the west side of the twin window there is a segmental profiled door opening measuring 79w X 249h cm. Both the door and the twin window are opening to space 1.2. At the west side of the back surface, there is a semicircular profiled window measuring 178w X 201h cm, and opening to space 1.9.

The Interior

The ground floor plan (figure: D 13.2) features five spaces including the central-hall. It has a rectangular layout measuring 17.12EW X 12.31 SN m. Essentially the plan features a centralized layout, in which central-hall (space 0.1) extends along the whole south-north depth of the plan. The living spaces are clustered at the east and west sides of the central-hall. This is the central space of the floor providing relationship and cross circulation between the surrounding living spaces. In addition, it acts as an entrance hall where it directly connects to the outside from south. Wet spaces (kitchen and toilet) are not initially incorporated within the house interior. Space 0.3 was later attached to east part of the plan; it serves as a kitchen. This space is connected to the house by a flight of nine steps, which connects with spaces number 0.2. .

Space 0.1 (central-hall) is a longitudinal rectangular space measuring 8.85 SN X 4.32 EW m with a double cross-vault superstructure measuring 3.73m high. It is located at the center of the plan. It faces outside from the south. One space 0.2 is connected to it from the east. At the west side of the space there are two spaces 0.4 and 0.5. It is used as a family living space besides its function as an entrance lobby and main horizontal circulation element connecting the different floor spaces. The space floor is made of flagstone tiles; the walls and the cross vaults are constructed of stone and smoothly plastered.

Central to the south wall there is a semicircular profiled door niche measuring 129w X 266-240cm, inside which there is a rectangular door opening to outside. The east wall features a segmental profiled door measuring 103w X 212h cm and opening to space 0.2. Incorporated into west wall there are two segmental profiled doors, each is measuring 105w X 209h cm, the south side door opens to space 0.5 and the north side once opens to space 0.4. At the north side of the west wall, there is a rectangular profiled wall cupboard measuring 73w X 168-62cm

Space 0.2 is a rectangular longitudinal space measuring 4.68 X 7.75 NS m with a double cross-vault measuring 3.72m high. The floor is made of flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The south side of the west wall features a semicircular profiled door niche; this is measuring 118w X 231h – 58d cm and opening to space 0.1. To the north of the door there is a semicircular profiled wall cupboard measuring 217w X 222h-53d cm. Central of the south wall there is a semicircular profiled window niche measuring 186w X 255h – 97d cm. At the north side of the east wall there is a semicircular profiled window niche measuring 153w X 231h – 73d cm. At the south side of the same wall there is a segmental profiled door measuring 103w X 219h cm and opening to space 0.3.

Space 0.3 is a rectangular space measuring 5.05 EW X 3.00 SN m. It has a barrel-vault superstructure, which is measuring 4.43m high. The floor is made of flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The room is below the ground floor level of about 2.1m, it is connected to space 0.2 by a flight of nine steps. The west wall features a semicircular profiled door niche measuring 131w X 305h - 84d cm and opening to space 0.2. At the south wall there is a semicircular profiled door niche measuring 119w X 228h - 83dcm.

Space 0.4 is a rectangular space measuring 4.41 EW X 4.63 NS m with a cross-vault superstructure measuring 3.75m high. The floor is made of flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the east wall there is a semicircular profiled door niche measuring 118w X 235h – 59d cm and opening to space 0.1. At the north wall there is a semicircular profiled wall niche measuring 196w X 254h-60d cm. The south wall features a semicircular profiled wall cupboard measuring 201w X 246h-71d cm. The west wall features a semicircular profiled window niche measuring 221w X 234h – 92d cm.

Space (0.5) is a rectangular space measuring 4.64 EW X 4.60 NS m. It has a cross-vault superstructure measuring 3.77m high. The floor is made of flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the east wall there is a semicircular profiled door niche measuring 118w X 237h – 79d cm.

At the south side of the same wall there is a semicircular profiled wall niche measuring 133w X 189h-53d, at the north side of the same wall there is a rectangular wall cupboard measuring 49w X 89h-51d. Central of the west wall there is a semicircular profiled window niche measuring 224w X 249h – 74d cm. Central to the south wall there is a semicircular profiled window niche measuring 186w X 219h – 106d cm.

The first floor plan (figure: D13.2) features seven spaces including the central-hall. It has a rectangular layout measuring 17.12 EW X 12.31 SN m. Essentially the floor has a centralized layout in which space 1.1 extends along the whole south-north depth of the plan. It is the central space of the plan is providing relationship and cross circulation between the east wing space 1.2 and north wing spaces 0.6 and 0.7. Wet spaces are not initially incorporated within the plan interior. Two spaces were added later to the north side of the central-hall. Space 1.4 was added to serve as a kitchen and space 1.5 was added and subdivided into three smaller spaces accommodating two Toilets, and a bathroom. The central-hall acts as an entrance hall where it directly connects to the lower part of the lot from the south, by two flights of stone steps. In addition, it has an exit to the north section of the lot by a door opening located at the east wall. A cross-vaulted room is attached to the Northeast corner of the plan; this space is used as a storage room featuring independent entrance.

Space 1.1 (central-hall, figure: 13.5) is a longitudinal rectangular space measuring 9.94 SN X 4.35 EW m. This has a double cross-vault superstructure measuring 5.12m high. It is located at the center of the plan. It faces outside from the south where it is directly connected to outside by two flights of internal stone steps, and from east by a door opening to the north upper part of the lot. One space 0.2 is connected to it from the east. At the west side of the central-hall, there are two spaces (0.6 and 0.7). The kitchen and toilet are connected to the central-hall from north. The central-hall is used as a family living space besides its function as an entrance lobby and main horizontal circulation element connecting the different floor spaces. The space floor is made of colored cement tiles. The walls and the cross-vault superstructure are constructed of stone and smoothly plastered.

At approximately the center of the south wall there is a large semicircular profiled niche measuring 436w X 429h-129d cm, this is elevated about 36cm from the room floor, inside of it there is a door opening to an outside balcony. The door is flanked by a window opening from each side and has a large revealing arch opening in top. At the south-west corner of the space, there is a flight of 10 steps. This is connected to a landing from which another flight of eight steps connecte to outside from South.

At the south side of the east wall there is a segmental profiled door niche measuring 103w X 222h cm and opening to space 0.2. At the north side of the same wall there is a segmental profiled door niche measuring 108w X 225h cm and opening to out side. At the west wall, there are two door openings, which have identical profile and measurements with the east wall doors. The north side door opens to space 1.6 and the south side door opens to space 1.7. At the north side of the west wall there is a rectangular wall cupboard measuring 73w X 186h – 62d cm. At the east side of the north wall there is a segmental profiled door niche measuring 99w X 203h cm and opening to space 1.4.

Space 1.2 (figure: 13.6) is a rectangular longitudinal space measuring 4.66 EW X 7.77 NS m. This space has a double cross-vaulted superstructure measuring 5.16m high. The floor is made of colored cement tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the south side of the west wall there is a semicircular profiled door niche measuring 118w X 239h – 58d cm and opening to space 1.1. At the north side of the door there is a semicircular profiled wall cupboard measuring 217w X 242h-52d cm. Central of the north wall there is a semicircular profiled window niche measuring 179w X 247h – 78d cm, at the west side of this there is a semicircular profiled door niche measuring 102w X 281h – 75d cm opening to outside, at the east side of the window niche there is a segmental profiled wall cupboard 75w X 183h – 66d. At the north side of the east wall there is a semicircular profiled window niche measuring 153w X 197h – 75d cm. At approximately the center of the south wall there is a large semicircular profiled niche measuring 370w X 376h-80d cm, this is elevated about 30cm from the floor, inside of it there is a door opening to an outside balcony. A window opening from each side flanks the door.

Space 1.3 is independent from the rest of the floor spaces; it is a rectangular space measuring 3.57 EW X 3.45 NS m. This has a cross-vault superstructure measuring 3.86m high. The floor is made of flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. Within the west wall there is a semicircular profiled door niche measuring 128w X 225h-54d cm and opening to outside. At the South wall, a semicircular window measures 226wX229h-64d.

Space 1.4 is a rectangular space measuring 4.03 NS X 2.06 EW meter with 3.67m high cross-vault superstructure. The floor is made using colored cement tiles. The walls and the cross vaults are constructed of stone and smoothly plastered. The space was added to serve as a kitchen. At the south wall there is a segmental profiled door niche measuring 112w X 211h -73d cm, and opening to space 1.1. The north wall features a segmental window measure 75w X 111h-78d cm.

Space 1.5 is a rectangular space measuring 4.52 SN X 3.89 EW meter with 3.32m high cross-vault superstructure. The floor is made using colored cement tiles. The walls and the cross vaults are constructed of stone and smoothly plastered. The space is subdivided into five spaces a kitchen, bathroom, two toilets and a corridor is provided to allow connection with space 1.1. At the south wall there is a segmental profiled door niche measuring 129w X 223h -74d cm, and opening to space 1.1. The north wall features two segmental profiled window openings each is measuring 88w X 145h cm. The west wall features a segmental profiled window opening measuring 88w X 145h cm.

Space 1.6 (figures: 13.7 and 13.8) is a rectangular space measuring 4.41 EW X 4.63 NS m. This has a cross-vault superstructure measuring 5.02m high. The floor is made by colored cement tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the east wall there is a semicircular profiled door niche measuring 118w X 241h – 58d cm and opening to space 1.1. At the east side of the north wall there is a semicircular profiled wall niche measuring 117w X 189h-66d cm. At the west side of the same wall there is a semicircular profiled window niche measuring 197w X 244h – 75d cm. At the south wall there is a semicircular cupboard measuring 197w X 267h-71d cm.

Space 1.7 is a rectangular space measuring 4.64 EW X 4.62 NS m. It has a cross-vault superstructure measuring 5.12m high. The floor is made of colored cement tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the east wall there is a semicircular profiled door niche measuring 118w X 237h – 58d cm and opening to space 1.1. At the north side of the door there is a rectangular wall cupboard measuring 49w X 159h-58d cm. At the south side of the same wall, there is a semicircular profiled wall niche measuring 133w X 242h – 53d cm. At approximately the center of the west wall there is a rectangular window niche measuring 262w X 245h – 74d cm. Central of the south wall there is a large semicircular profiled niche measuring 365w X 486h-101d cm, this is elevated about 33cm from the floor, inside of it there is a door opening to the balcony. A window opening from each side flanks the door.

Decorations and Ornamentations

The interior decorations are limited to the timber doors, which feature decorative wings. The walls are simply plastered without having any decorations or ornamented surfaces. The ground floor floors feature flagstone tiles, with the first floor floors featuring colored cement tiles. Externally, window openings are protected with ornamented metal grills; the exterior doors featured elaborate ironwork. Window and door projected stone frames is another mean of exterior decoration. This method is also utilized at the projected and horizontal bands.

Structural System, Construction Material and Building Technology

Continuous load bearing foundations are used. Load bearing walls support the cross valuated superstructures. Limestone and lime are the main construction materials. Lime plaster, flagstone and colored cement tiles are used for the interior finishing. The roof water is drained using metal pipes channeling rainwater to the cistern at the back yard of the house. Electric power was made available to the house in the 1950s, and the wiring is fixed externally. Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking.

14. Jabir al-Ja'abari House

Address: Old town, Al-Kaliah neighborhood, Al-Shih Street

Coordinates: E 160, 151. 2619 - N 103,997. 7444

Date of construction: 1906 – 1325, according to the inscription panel

Occupancy status: the house is empty

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 14.1 to figure 14.7

Drawings: figure D 14.1, figure D 14.2, and figure D 14.3

The Lot (figure: D14.1)

The lot features irregular rectangular geometry measuring approximately in meters 33.81 north side, 22.75 south side, 20.17 west side and 21.66 east side. The lot boundaries are defined by two floors high neighboring building from north, a single floor high neighboring building from west, a single floor high neighboring building from south.

A pedestrian passage measuring 2.2m wide runs all over the eastern side of the lot, the site features strait topography. At the east side of the lot there is an open space measuring in meters 11.45 north side, 21.66 east side and 4.43 south side. This space does not have any greeneries, it only has a pedestrian passage connecting the main entrance to the pedestrian passage found at the east side of the lot. The west section of the lot features a corridor-like space measuring 3.5 meters in wide. This space provides light and ventilation to the west side of the building. The south side of this section features a cistern. At the south section of the lot, there is a corridor-like space. This is measuring approximately 1.65 meters in wide; it connects the west and east sections of the lot. The house is located at the north edge of the lot. It is roughly 3.5 meters away from the west boundaries, 1.65m from south, and 11.45-4.5m from the east.

General Description

The building has one floor measuring 5.88m in height. It has a freestanding simple clear-cut form and a straight roof. The plan has a central arraignment of living spaces, which are symmetrically clustered at the north and south sides of the central-hall. The plan measures in meters 19.33NS x 15.35 EW. The main entrance opens to a small courtyard space, this serves as an entrance lobby opening to the central-hall from west, and to two other living spaces at both south and north sides. The provision of courtyard attached with the central-hall at the same floor is a unique example of an individual residential building owning. The central-hall in this house it is locally called Aywan, because it is closed from three sides and opens from the fourth west side to a courtyard. Continuous load bearing construction is used for the walls. The cross vaults are employed for the other living spaces. Red-colored or limestone is the main construction material. The building has two entrances: a main entrance is provided about the middle of the east elevation, another entrance is found at the west part of the building.

The Exterior

The building features three elevations east, west and south. The forth north side of the building is attached to the neighboring building. Only the main elevation (east) is constructed of regular cut stone courses measuring 25-30 cm high. The east and south elevations are constructed of roughly cut and coursed stone, though the south elevation dose not have any openings. At the east and west elevations, window and doorframes are emphasized by their projection from the wall surface and variation in texture. Smoothly dressed Matabbih stone is used for the projected elements. The east elevation wall is built of Msamsam dressed stone. Tubzih Shaf dressed stone is used for south and west elevation walls.

The main east elevation (figures: D14.3 and 14.1) measures 19.34m long and 5.88m high in one floor. Around the centre of the elevation the entrance is projected about 33cm from the elevation wall, it measures 3.99m wide and 5.02m high, the sides of

the projected mass are defined by a stone frame. About the middle of the entrance mass there is a semicircular profiled wall recess measuring 223hX4.03w-38d cm. At the rear of this recess there is a rectangular shouldered lintel door measuring 121w X 253hcm and opening to space 0.2. Above the door, there is a two-centered pointed window opening. At the north side of the entrance mass there is a segmental profiled window opening to the courtyard and measuring 87wX214h cm, this is elevated about 270cm from the ground.

The north and south parts of the elevation feature two twin-window openings. Each of which has a large two-centered pointed profiled frame inside which there are two two-centered pointed profiled window openings, each measures approximately 80wX167h cm. In between the twin openings and the larger frame there is a small circular ventilation opening. The north section twin window opens to space 0.3, while the south section one opens to space 0.6. The upper sides of the elevation courses are steeped in three.

The west elevation (figures: D14.3 and 14.2) measures 19.52m long, 5.02m high from south, and 4.87m from north. About the middle of the elevation there is a rectangular door measuring 104wX222h cm, above the door there is a semicircular profiled window measuring 62wX87h cm. At the North side of the door, there is a rectangular window measuring 68wX138h cm. The door and two windows open to space 0.1. The north and south sections of the elevation are featuring two twin-windows; both are sharing same profile and measurements with the east elevation windows. The north part twin window opens to space 0.4; the south side one opens to space 0.5.

The Interior

The ground floor plan (figure: D14.2) features six spaces, space 0.1 (central-hall) is the central space of the plan. It guarantees relationship and cross circulation among the surrounding spaces. At the east section of this space there is a courtyard, this acts as an entrance hall, it is connected directly to outside by a door. Two of the living

spaces are connected to the north and south sides of the courtyard. The courtyard is opening to the central-hall from west side by a large arch. This gave the central-hall more privacy being only connected from south and north to space 0.4 and 0.5, and having a direct exit to outside from west. Wet spaces (kitchen and toilet) are not initially established within the plan.

Space 0.1 (central-hall) (figure: 14.3) is a longitudinal rectangular space measuring 9.05m long, 4.41m wide and 4.81m high double cross-vaulted superstructure. The east wall opens to space 0.2 (courtyard) through a large two-centered pointed arch measuring 4.32hX4.41w m. Two of the floor spaces 0.4 and 0.5 are attached to the central-hall from the north and south. It is used as a family living space as well as being the main horizontal circulation element connecting the floor spaces to each other. The floor is elevated about 22cm from the entrance space (courtyard) it is finished with flagstone slaps.

The walls and the double cross-vault superstructure are constructed of stone and smoothly plastered. The north wall features a semicircular profiled door measuring 108W X 272hcm and opening to space 0.4. The south wall features a door nearly sharing the same profile and measurements as the north wall door, it opens to space 0.5. The west wall features a door niche measuring 147 x 315h-109dcm, in top of which there is a semicircular window opening measuring 70wX80h-87dcm.

Space 0.2 (courtyard, figure: 14.4) is a rectangular space measuring 4.41 x 3.61m it is opened from top. This space is used as an entrance lobby and as a semi-open sitting space. The west wall opens to space 0.1 (central-hall) through a large two-centered pointed arch measuring 4.32hX4.41w m. Two of the floor spaces (0.3 and 0.6) are attached to it from the north and south sides. The floor features flagstone slaps. The walls are constructed of stone and smoothly plastered. The north wall features a semicircular profiled door measuring 94W X 236hcm and opening to space 0.3. The south wall features a door nearly sharing the same profile and measurements as the north wall door, it opens to space 0.6. About the middle of the east wall there is a door niche measuring 194w x 369h-96dcm and opening to

outside. At the North side of the door, there is a segmental profiled window niche measuring 111wX234h-10dcm.

Space 0.3 (figure: 14.7) is a rectangular space measuring 4.93SN X 5.38EW. This has a cross-vault superstructure measuring 4.62m high. The space floor features flagstone slaps. This is elevated from the entrance level about 14cm. The walls and cross vaults are constructed of stone and smoothly plastered. At the south wall, there is a semicircular profiled door niche, which is measuring 138 X 301-109cm and opening to space 0.2. At the west side of this there is a semicircular profiled window niche measuring 91w X 132h-107d cm, and opening to space 0.2, at the east side of the door there is a segmental profiled wall niche measuring 81w X 87h-73d cm, this is as a fire place. At approximately the centre of the east wall there is a segmental profiled window niche measuring 202w X 196h-113dcm. At the north wall there is a segmental profiled wall cupboard measuring 269w X 245h-64d cm.

Space 0.4 (figure: 14.5) is a rectangular space measuring 5.99EW X 4.77NS cm. It has a cross-vault superstructure measuring 3.90m high. The floor features flagstone slaps, it is elevated about 58cm from space 0.1. The walls and cross vaults are constructed of stone and smoothly plastered. The south wall features a semicircular profiled door niche measuring 137w X 278h-108d cm and opening to space 0.1, inside which there is a flight of five steps. At the west side of this there is a rectangular wall cupboard measuring 101w X 145h-87d cm. Approximately central of the west wall there is a segmental profiled window niche measuring 213w X 189h-142dcm. At the north wall there is a segmental profiled wall cupboard measuring 281w X 234h-96d cm. The south side of the east wall features a wall cupboard measuring 132w X 111h-73d cm, at the north side of which there is another wall cupboard measuring 141w X 134h-61d cm.

Space 0.5 (figure: 14.6) is a rectangular space measuring 4.78SN X 6.00EW with a 3.91m high cross-vault superstructure. The floor features flagstone slaps, it is elevated 43cm from space 0.1. The walls and cross vaults are constructed of stone and smoothly plastered. The north wall features a semicircular profiled door niche

measuring 138 X 275-112cm. At the east side of this there is a rectangular wall cupboard measuring 70w X 168h-73d cm. At the east side of the door there is a segmental profiled wall niche measuring 106w X 67h-77d cm, this is used as a fireplace.

Space 0.6 is a rectangular space measuring 4.85SN X 4.89EW with a 4.42m high cross-vault superstructure. The floor features flagstone slaps, it is about 14cm below the entrance level. The walls and cross vaults are constructed of stone and smoothly plastered. The north wall features a semicircular profiled door niche measuring 133 X 287-113cm and opening to space 0.2. At the west side of this there is a segmental profiled fireplace measuring 103w X 68h-105d cm. Central to the east wall there is a segmental profiled window niche measuring 213w X 199h - 123dcm. The south wall features a segmental profiled wall cupboard measuring 211w X 252h-77d cm. The lower part of the west wall features a rectangular wall niche it measures 73w X 72h-59d cm.

Decorations and Ornamentations

The interior decorations are limited to the timber doors, which feature decorative wings. The walls are simply plastered without having any decorations or ornamented surfaces. The floors have simple flagstone tiles. Externally window and doors framing was another mean of exterior decoration.

Structural System, Construction Material and Building Technology

Continuous load bearing foundations are used. Heavy load bearing walls support the cross valuated superstructures. Limestone and lime are the main construction materials. Lime plaster and flagstone slaps are used for the interior finishing. The roof water is drained using metal pipes channeling rainwater to the cistern at the back yard of the house. Electric power was made available to the house in the 1950s, and the wiring is fixed externally. Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking.

15. 'Abdul 'af al-Ja'bari House

Address: Old town, Al-Kaliah neighborhood, Al-Shih Street

Coordinates: E 160, 151. 2619 - N 103,997. 7444

Date of construction: 1933 – 1352, according to the inscription panel

Occupancy status: the house is empty

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 15.1 to figure 15.11

Drawings: figure D 15.1, figure D 15.2, figure D 15.3, and figure D 15.4

The Lot (figure: D 15.1)

The lot features irregular rectangular geometry approximately measuring in meters 28.94 north side, 22.25 south side, 35.10 west side and 24.49 east side. A retaining loose stone wall measuring 1.2m high separating the lot from Al Sheh Street, which measures 5.57m wide, defines the lot boundaries. At the opposite side of the Street, there is a building with two floors high. The east side of the lot features a two floors high neighboring building and loose-stone wall measuring 70cm high. The south side of the lot is defined by loose-stone wall measuring 1.2 m high. The west side of the lot is defined by loose-stone wall measuring 60cm high. The lot features very fine sloping topography, though it is one meter lower than Al Sheh Street.

The north part of the lot features a corridor like open space measuring 4.23m. About the middle of this space, a pedestrian connection with the main entrance is provided. At the East side of the lot, there is a corridor like open space measuring in meters 4.33m wide. This contains a ramp connecting the lot with Al Sheh Street, this space dose not have any greeneries. The west section features a corridor-like space, approximately measuring 6.17 meters in wide. This space provides light and ventilation to the west side of the building, also it provides axis to the west side of the building. This space is planted with olive and fig trees. At the south section of the lot, there is an open space, approximately measuring 25 EW X 12 SN meters. At the south-west corner of this space there is a water cistern, this space is implanted with trees of different types.

The house is located at the north section of the lot; it is roughly 4, 23 meters away from the north boundaries, 4.5m from east, 6.17m from west and 17-13m from south.

General Description

The building features one floor measuring 4.30m in height. It has a freestanding simple clear-cut form and a straight roof. The plan has a central-hall scheme. It measures in meters 6.09NS x 15.95 EW, at the south-west corner of which a rectangular space projects, this measures 3.94 NS x 7.76 EW. The plan has a central-hall space with two living spaces attached to its west and east side. A third space accommodating wet spaces (kitchen and toilet) connects to the south-west corner of the central-hall. The main entrance opens directly to outside from north. A secondary entrance is provided at the south side of the central-hall. Continuous load bearing construction is used for the walls. The superstructure of the spaces features Jack-vaults. Red-colored limestone is the main construction material. The building has three entrances: a main entrance is provided about the middle of the north elevation, another entrance is found at the south elevation and a third entrance is located at the west elevation.

The Exterior

The north, east and west elevations are constructed of regular cut stone courses measuring 25-30 cm high. The south elevation is constructed of roughly cut and coursed stone. The north-west and Northeast corners of the building are defined by the projection of quoins two to three centimeters from the wall surface. The north, east and west elevations walls feature a horizontal band of stone course projected two to three centimeters from the wall surface and running all over the upper part of the elevation. The projected elements are emphasized by their projection from the wall surface and variation in texture. Smoothly dressed Matabbih stone is used for the projected elements. The elevation walls uses Tubzih Shaf dressed stone.

The main North elevation (figures: D 15.3 and 15.1, 15.2) measures 15.96m long and 4.30m high. About the center of the elevation there is a rectangular door opening measuring 108w x 225h cm, this is covered with shouldered lintel, above which there is a semicircular profiled revealing arch opening. Inside this, there is an ornamented iron metal grill. The main door is flanked from each side by a semicircular profiled window opening. Each window is measuring 64w x 171h cm and opening to space 0.1. In top of the three-arched arrangement, there is a concrete canopy, which is projected 1.27m from the elevation wall. The east and west parts of the elevation features twin window, which has two semicircular profiled openings; each measuring 83wX179h cm. The east side twin window open to space 0.4.

The East elevation (figures: D 15.3 and 15.5) has two surfaces. A front surface which is measuring 6.12m long, 4.37m high from north and 4.56m from north. The back surface measures 3.93m long and 4.6m high, it is located 8.27m far from the front surface. Central of the front surface there is a twin window, which has two semicircular profiled window openings; each is measuring 83wX179h cm. This opens to space 0.4. The north side of the back surface features a rectangular ventilation opening measuring 55w X57h cm, and opening to space 0.3.

The South elevation (figures: D 15.4 and 15.4) is in two surfaces. A front surface is measuring 7.70m long and 4.60m high. The back surface measures 8.31m long and 4.6m high. It is located 3.94m far from the front surface. The west side of the front surface features a rectangular window measuring 110wX109h cm and opening to space 0.4. The west side of the back surface features a rectangular door measuring 110wX200h and opening to space 0.1. The door is approximately 45cm elevated from the natural ground; it is connected to the ground by a flight of three steps.

The West elevation (figures: D 15.4 and 15.3) measures 10.36m long and 4.60m high. The north side of the elevation features a twin window, which has two semicircular profiled window openings; each is measuring 83wX179h cm, and opening to space 0.2. The south side of this elevation features a rectangular door, which is measuring 103w x 222h cm, it is covered with a shouldered lintel, above

which there is a semicircular profiled revealing arch opening. Inside this, there is an ornamented iron metal grill. This door is elevated about 45cm from the ground; it is connected to the ground by a flight of three steps, and opens to space 0.3.

The Interior

The ground floor plan (figure: D 15.2) has four spaces. Space 0.1 is the central-hall, it served as a family living space besides its importance as a horizontal circulation space. The central-hall allows relationship and cross circulation among the surrounding living spaces. It acts as an entrance hall, it is connected directly to outside by a door from north and another from south. Two living spaces are connected to the east and west sides of the central-hall. Wet spaces (kitchen and toilet) are connected to the central-hall from south-west corner.

Space 0.1 (central-hall) is a rectangular space measuring 4.35 SN X 4.07EW meters. This space is covered with Jack-vaulted superstructure measuring 3.36m high. Two of the floor spaces 0.2 and 0.4 are attached to it from the east and west sides. It is used as a family living space as well as being the main horizontal circulation element connecting the floor spaces to each other's. The floor features colored cement tiles. The walls and the Jack-vaults are constructed of stone and smoothly plastered.

The south side of the west wall features a segmental profiled double winged door measuring 89w X 211h cm and opening to space 0.2. The south side of the east wall features a door sharing the same architectural features with the west side one; this is opening to space 0.4. At the north side of the door there is a semicircular profiled niche measuring 98w x 164h -60d cm. At the north wall of the room there is a large semicircular profiled niche measuring 364w X 324h - 83dcm, inside this there is a door opening flanked by a semicircular window from each side. The south wall features a rectangular door niche approximately measuring 119 x 192-71cm and opening to outside, at the west side of this door there is a rectangular door measuring 79 x 192 cm and opening to space 0.3.

Space 0.2 (figure: 15.6) is a rectangular space. It measures 4.20EW X 4.44SN meter and has jack-vault superstructure, which is 3.63m high. The floor is finished using colored cement tiles. The walls and the jack-vault superstructure are constructed of stone and smoothly plastered. Central to the north and west walls there are semicircular window niches, each measures approximately 222w X 255h -84d cm; the inside of each window niche features two semicircular window openings. The east wall features a segmental profiled door niche measuring 105w X 233h -62cm and opening to space 0.1, the north side of the door features a rectangular wall cupboard measuring 122w X 198h -42cm. The south wall has a semicircular profiled wall niche measuring 207w X 241h -59d cm.

Space 0.3 is a rectangular space measuring 308 SN X 6.13EW meter. It has Jack-vault superstructure, which is measuring 3.61m high. The floor is finished with colored cement tiles. The walls and the Jack-vaults are constructed of stone and smoothly plastered. The space is subdivided into a kitchen and toilet. At the south wall there is a rectangular profiled window niche measuring 130w X 123h -65d cm. At the east wall there is a rectangular profiled window niche measuring 52w X 61h-67d cm. The west side of the north wall features a rectangular door niche measuring 97w X 198h- 62dcm and opening to the central-hall. At west wall there is a semicircular door niche measuring 123w X 325h- 68d cm and opening to outside.

Space 0.4 (figure: 15.7) is a rectangular space measuring 4.34EW X 4.334SN meter. The space has Jack-vault superstructure, which measures 3.60 m high. The floor is finished with colored cement tiles. The walls and the Jack-vaults are constructed of stone and smoothly plastered. Central of the north and east walls there are semicircular window niches, each is measuring 224w X 259h -71d cm; the inside of each window niche features two semicircular window openings. The west wall has a segmental profiled door niche measuring 105w X 238h -62cm and opening to space 0.1. The north side of the door has a rectangular wall cupboard measuring 92w X 188h -63cm. The south wall features a semicircular profiled wall niche measuring 159w X 241h -51d cm.

Decorations and Ornamentations

The interior decorations are limited to the timber doors, which feature decorative wings, though walls are simply plastered without having any decorations or ornamented surfaces. The floors feature colored cement tiles. Externally the window openings are protected with ornamented metal grills; the exterior doors also featured elaborate ironwork. Horizontal and vertical framing was another mean of exterior stone decoration.

Structural System, Construction Material and Building Technology

Continuous load bearing foundations are used. Load bearing walls used to support the Jack-valuated superstructures. Limestone and lime are the main construction materials. Lime plaster and colored cement tiles are used for the interior finishing. Electric power was made available to the house in the 1950s, and the wiring is fixed externally. Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking.

16. Mosa an-Natshih House

Address: Old town, Al-Kaliah neighborhood, Al-Haram Street

Coordinates: E 160 055. 4697 - N 104 098. 5481

Date of construction: 1926-1363, according to the inscription panels

Occupancy status: The ground and first floor are not occupied

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 16.1 to figure 16.5

Drawings: figure D 16.1, figure D 16.2, figure D 16.3, and figure D 16.4

The Lot (figure: D 16.1)

The lot features irregular rectangular geometry measuring approximately in meters: 18.36 Northeast side 18.36, 20.19 south-west side, 36.02 east-south side and 33.01 west-north side. Al-harem Street defines the boundaries from the Northeast side. At this side of the lot there is a retaining loose-stone wall measuring 1.8m high. This separates the street level from the lot level. At the opposite side of Al-haram Street, there is a neighboring building of two floors. At the Southwest side of the lot there is a dead end street measuring seven meters wide. The building is located at the west sides boundary, at the opposite side there is a neighboring building of two floors high. The Southeast side of the lot it defined by a neighboring lot which have a school building of three floors. This is approximately 12.69m far from the lot. A loose stone wall measuring 50cm high defines the Northeast side of the lot. This separates the lot from the neighboring lot owning a two floors high building.

The lot features is sloping from north to south, the slop measures 20%. This resulted at the south part of lot becoming approximately 4.5 meters lower than north side. The sloping topography enabled the construction of a partial basement. At the Northeast part of the lot, there is an open space measuring approximately in meters 18.36 E-W X 9.60 SN-E & 6.12 SN-W. Central of this space there is a concrete mass, which was added in 1985. This space features pedestrian ramp running along with the north side of the building.

At the East part of the lot, there is a corridor like space measuring 3.5m wide. This space provides the east part of the building with light and ventilation, besides this it provides entrance to the partial basement floor. At the south part of the lot there is an open space measuring approximately in meters 20.19EW X 12.69 SN. This space features olive trees and vine. Central of the south side of the building there is a later added concrete mass. A pedestrian space runs along the south side of the building providing entrance to the partial basement floor. A flight of ten steps reaches the first floor. At the Southeast side of the building, there is a water cistern.

General Description

The building is composed of two floors: basement and ground floor. The sloping topography ended with a partial basement floor located at the south part of the building with the reminder making the first floor leveling. This basement is located approximately 4.5m below Al-sharam Street. It is totally hidden from north side, partially exposed from west and totally exposed from east and south directions.

The building is a freestanding cubic mass; it has a straight roof above. Because of the sloping topography, the south-east and south-west corners measure 7.02m high, while the Northeast and Northwest corners measure 3.47m high. The building accommodates two separate central-hall dwellings. One at the basement floor and another at the ground floor. The partial basement floor features a central hall dwelling, which is flanked with two living spaces from east and west sides. Two storage spaces are located at the north part of this floor. The first floors features two central-hall spaces: the main central-hall (space 1.2) faces outside from south, it is flanked with two living spaces from east and west sides, from north side it opens to a secondary central-hall (space 1.1). The secondary central-hall is a longitudinal double cross-vault space, it opens to outside from west, two spaces are attached to it from north and one space from east.

The walls features continuous load bearing construction, barrel and cross vaults superstructures are utilized. Red-colored limestone is the main construction material.

The Basement floor has two entrances from south and one entrance from east. The ground floor has one entrance from south connected to the ground by a flight of ten steps, another entrance from west and a third entrance from north side.

The Exterior

The elevation walls features regular cut stone courses measuring (25-35 cm) in height. The lower part of the south and west elevation walls features roughly cut and coursed stones. The corners of the building, floor height door and window frames are not emphasized neither by the projection from the wall surface nor by the variation in textures. Tubzih Shaf dressed stone is used for the elevation walls and openings frames. The later added concrete masses at the south and north sides of the building will not be emphasized in the analysis.

The main South elevation (figures: D 16.3 and 16.2) is rectangular and composed of two floors. It measures 16.50m long and 7.02m high. Central to the Basement part of the elevation there is a rectangular door measuring 89w X 196h cm and opening to space 0.1. The east side of the door features a rectangular window measuring 68w X 78h cm. At the east part of the basement floor elevation there is a semicircular profiled door measuring 86w X 194h cm and opening to space 0.5. At the west side of which there is a rectangular window measuring 74w X 84h cm. At the west part of the basement elevation, there are two rectangular windows each measure 72X 83 cm.

West part of the ground floor elevation features a flight of ten steps. This connects to an elongated landing at the ground floor level. The landing is measuring 3.25m long and is cantilevered about 1.25m from the elevation wall. It is in the form of a balcony protected from all sides with metal railings measuring 1.1m high. Roughly at the center of the balcony, there is a rectangular door measuring 105w X 190h cm. At either sides of the door there is a rectangular window; both windows measure 73w X 136h cm. The door and the two windows open to space 1.2, in top of all there is a half circular opening measuring 75cm in radius. Both the east and west parts of the elevation include twin windows; each has two semicircular window openings and

measures 80w X 176h cm. The west side twin window opens to space 1.7 and the east side one opens to space 1.3.

The West elevation (figures: D 16.3, 16.1, and 16.4) is simply in one floor. The partial basement floor is partly exposed. It measures 14.96m long, because of the sloping topography, the elevation features variation in heights between the south side measuring 7.02m and north side measuring 4.520m. Central of the elevation features a rectangular door measuring 99w X 1990h cm. At the south side of the door there is a rectangular window measuring 80w X 134h cm. The door and the window open to space 1.1, in top of both there is a half circular opening measuring 86 cm in radius. Both the north and south parts of the first floor elevation include a twin window, which has two semicircular window openings each measures 83w X 172h cm. The north side twin window opens to space 1.6 and the south side one opens to space 1.7.

The East elevation (figure: D 16.4) is simple rectangular. It has in two floors and two surfaces. The front surface is in two floors measuring 11.64m long, 7.02m high from the south and 6.52m from the north side. The north side of the back surface is in one floor; it measures 3.07m long and 5.06m high. The upper back surface belongs to the ground floor. The front surface covers both ground and first floors. At the north and south parts of the ground floor, the front surface include a twin window, which has two semicircular window openings each measures 83w X 172h cm. The north side twin window opens to space 1.4 and the south side one opens to space 1.3. The back surface includes a rectangular door measuring 94w X 206h cm; the door is elevated about 68cm from the ground. In top of the door to the north there is a rectangular window measuring 69w X 110h.

The North elevation (figures: D 16.4 and 16.3) is rectangular in one floor and two surfaces. The front surface is measuring 11.37m long and 5.08m high from the east and 3.47m from west. The back surface is in two floors; it measures 4.85m long and 5.08m high from west and 5.78m high from east. The west part of the front surface features a semicircular window measuring 80w X 176h cm and opening to space 1.6. At the east side of the same surface there is rectangular window measuring 80w X

110h, at the west side of which there is a rectangular window measuring 98w X 110h, to the west side is a rectangular window measuring 56w X 84h. In top of it there is a rectangular window measuring 62w X 112h. The four windows open to space 1.5. The back surface includes a rectangular window measuring 71w X 87h cm; it opens to space 0.4. The first floor level of this surface includes a semicircular profiled window measuring 80w X 176h cm and opening to space 1.4.

The Interior

The basement floor (figure: D 16.2) features five spaces including the central-hall. The plan is rectangular. It measures 16.64EW X 11.64 SN m, and covers the partial floor with the rest of it making the ground floor leveling. The plan contains two separate sections: The south section has a central-hall space facing south, attached to it there is one living space from west side and another from east. The central-hall (space 0.1) acts as an entrance hall where it directly connects to the outside from south. Wet spaces (kitchen and toilet) are not initially incorporated within the plan interior. The north wing of this floor contains two storage spaces 0.3 and 0.4, those are connected to outside from east.

Space 0.1 (central-hall) is a rectangular measuring 3.98 SN X 3.92 EW meters. The space has cross-vault superstructure, which is measuring 2.60m high. It is located central of south section of the plan. It faces outside from south. One space 0.2 is connected to it from the west another space 0.5 is connected to it from east. It is used as a family living space. In addition, it is the entrance lobby and main horizontal circulation element connecting the different floor spaces. The floor is finished using flagstone tiles. The walls and the cross vaults are constructed of stone and smoothly plastered. Central of the south wall there is a rectangular door niche measuring 82w X 188-80cm, at the east side of which there is a rectangular window niche measuring 74w X 123-80cm. Within the east wall there is a segmental profiled door measuring 86w X 197h cm, it opens to space 0.5. Incorporated into the west wall there is a segmental door, measuring 91w X 202h cm.

Space 0.2 is a rectangular space measuring 4.17 SN X 4.26 EW m with a cross-vault superstructure measuring 2.60m high. The floor features flagstone tiles. The walls and the cross vaults are constructed of stone and smoothly plastered. Central to the south wall there is a rectangular door niche measuring 109w X 193-80cm, at the east side of which there is a rectangular window niche measuring 65w X 121-80cm. Within the east wall there are two rectangular window niches each measures 75w X 126-80cm. Incorporated into the west wall there is a segmental profiled door niche, this measures 109w X 211h-98d cm, and opens to space 0.1.

Space 0.3 is a rectangular longitudinal storage space. It is measures 2.50 SN X 9.06 EW meters and it has two cross-vault superstructures, those measures 2.54m high. The floor features flagstone tiles. The walls and the cross vaults are constructed of stone and smoothly plastered. The east wall features a rectangular door niche measuring 64w X 198-88cm, it opens to space 0.4. Incorporated into the west wall there used to be a rectangular door niche, which was closed later, this measures 108w X 198h-86d cm.

Space 0.4 is a rectangular storage space measuring 4.37 SN X 4.20 EW meters. This has a cross-vault superstructure measuring 2.64m high. The floor is finished with flagstone tiles. The walls and the cross-vault superstructure are constructed of stone and smoothly plastered. Center of the east wall there is a rectangular door niche measuring 1082w X 198-88cm, at the south side of which there is a rectangular window niche measuring 83w X 123-81cm. Within east wall there is a segmental profiled door measuring 67w X 197h cm, it opens to space 0.3. Incorporated into the north wall there is a rectangular window niche measuring 88w X 144h-82d cm.

Space 0.5 is a rectangular; it measures 4.17 SN X 4.19 EW meters. It has cross-vault superstructure measuring 2.60m high. The floor is finished with flagstone tiles. The walls and the cross vaults are constructed of stone and smoothly plastered. Central to the south wall there are two rectangular window niches each measuring approximately 117w X 121-72cm. Within the west wall there is a semicircular profiled window niche measuring 116w X 111-88cm.

Ground floor plan (figure: D 16.2) has seven spaces including two central-halls. It has a rectangular layout measuring in meters 16.44 EW south side X 14.90 SN west side. Essentially the floor has a central layout with two central-halls. A longitudinal central-hall (space 1.2) extends along the east-west depth of the plan; it is facing outside from west. Central of the south side of the central-hall secondary central-hall (space 1.1), is found. Both central-halls provide relationship and cross circulation between the surrounding spaces. Wet spaces are not initially incorporated within the plan interior. Space 1.5 has a direct entrance from outside; this is subdivided into a kitchen, and a small toilet.

Space 1.1 (central-hall) is a longitudinal rectangular space measuring in meters 9.27 WE long X 2.89 wide from east side, 2.21 wide from the middle and 2.74m wide from west. It has a barrel-vault superstructure measuring 3.22m high. It is located at the center of the plan. This opens to outside from the west though a flight of steps is connecting this floor with the natural ground. Another central-hall (space 1.2) is connected to it from the south. At the north side of the space there are two spaces (1.5 and 1.6). It is used as a family living space besides its function as an entrance lobby and main horizontal circulation element, which is connecting the different floor spaces. The floor is finished using colored cement tiles. The walls and the barrel-vaults are constructed of stone and smoothly plastered. At the south wall there is a large semicircular profiled niche measuring 274w X 295h-65d cm, inside of it there is a rectangular door and a rectangular window in top of both there is a half circular window. At the south side of the east wall there is a segmental profiled door measuring 99w X 212h cm and opening to space 1.4. At the west side of the north wall there is a segmental profiled door measuring 86w X 215h cm and opening to space 1.6. At the east side of the same wall there is a segmental profiled door measuring 91w X 212h cm and opening to space 1.5. The south wall features a door opening, which has identical profile and measurements with the north wall doors, it opens to space 1.2.

Space 1.2 second (central-hall) is a rectangular space measuring 4.58 SN X 3.95 EW meters. It has cross-vault superstructure measuring 3.29m high. It is located

central of the south section of the plan. It faces outside from the south; one space 1.7 is connected to it from the west another space 1.3 is connected to it from east. It is used as a family living space besides its function as an entrance lobby and main horizontal circulation element; it is connecting the different floor spaces to each other's. It is connected to another central-hall (space 1.1) from north. The floor is finished with colored cement tiles; the walls and the cross-vault superstructure are constructed of stone and smoothly plastered.

Center of the south wall there is a rectangular door niche measuring 110w X 200-63cm, at both sides of which there is a rectangular window niche at the east side of which there is a rectangular window niche measuring 78w X 133-73cm. In top of the door and the three openings there is a half-circular window niche measuring 90cm in radius. Within the east wall of the space there is a segmental profiled door niche measuring 127w X 234h-57d cm, it opens to space 1.3. Incorporated into the west wall there is a segmental profiled door niche, measuring 115w X 238h-72d cm, it is opening to space 1.3. Within north wall there is a segmental profiled door niche measuring 127w X 234h-57d cm, and opening to space 1.1, at the east side of which there is a rectangular wall cupboard measuring 68w X 112h-72d cm.

Space 1.3 (figure: 16.5) is a rectangular space measuring 4.36 SN X 4.32 EW meters. It has a cross-vault superstructure measuring 3.25m high. The floor features colored cement tiles. The walls and the cross-vault superstructure are constructed of stone and smoothly plastered. Central to the south and east walls there is a semicircular window niche measuring 224w X 245-77cm. Within the west wall there is a segmental profiled door measuring 106w X 234h cm, this opens to space 1.2, at the north side of which there is a semicircular wall cupboard measuring 163w X 234h-65d cm. Incorporated into the north wall there is a semicircular wall cupboard measuring 183w X 254h-65d cm.

Space 1.4 is a rectangular space measuring 4.30 SN X 4.29 EW meter. It has a cross-vaulted superstructure measuring 3.28m high. The floor is finished using colored cement tile. The walls and the cross vaults are constructed of stone and plastered.

Central of the east wall there is a semicircular window niche measuring 219w X 248-71cm. Within the west wall there is a segmental profiled door niche measuring 107w X 229h-64d cm, it opens to space 1.1, at the north side of which there is a semicircular wall cupboard measuring 182w X 244h-51d cm. Incorporated into the north wall there is a semicircular profiled wall cupboard measuring 130w X 214h-78d cm. At the East side of the same wall, there is a semicircular window niche measuring 110w X 228-78cm.

Space 1.5 is a rectangular space measuring 4.18 SN X 4.20 EW meter. It features cross-vault superstructure measuring 3.25m high. The floor is finished using colored cement tile. The walls and the cross-vault superstructure are constructed of stone and smoothly plastered. The space is subdivided into a kitchen, toilets and a corridor; which allows connection with outside and with space 1.1. The north wall features three rectangular window niches each measures approximately 67-102w X 75-100h - 40d cm. The west side of the south wall there features a segmental profiled wall cupboard measuring 119w X 145h-56 cm, at the east side of the same wall there is a semicircular wall niche measuring 73w X 118-30cm, on the east side of the same wall there is a segmental profiled door niche measuring 91w X 222h-92d cm, it opens to space 1.1. At the east wall there is a segmental profiled door niche measuring 105w X 222h-130d cm, at the north side of which there is a window niche measuring 66w X 46h-42d cm.

Space 1.6 is a rectangular space measuring 4.35 SN X 4.24 EW meters. It has a cross-vault superstructure measuring 3.24m high. The floor features colored cement tiles. The walls and the cross-vault superstructure are constructed of stone and smoothly plastered. Central of the west wall there is a semicircular profiled window niche measuring 231w X 242-66cm. Within the west wall there is a segmental profiled wall niche measuring 185w X 233h-57d cm. At the south wall there is a semicircular profiled door niche measuring 111w X 223h-54d cm. This opens to space 1.1. The west side of the north wall features a semicircular wall cupboard measuring 136w X 211h-55d cm, to the east side of the same wall there is a semicircular window niche measuring 120w X 198h-66d cm.

Space 1.7 is a rectangular space measuring 4.63 SN X 4.32 EW meters. This has a cross-vault superstructure measuring 3.33m high. The floor features colored cement tile. The walls and the cross-vault superstructure are constructed of stone and smoothly plastered. Central of west and south walls there is a semicircular window niche approximately measuring 210w X 254-76cm. Within the east wall there is a segmental profiled door niche measuring 102w X 229h-98d cm. This opens to space 1.1, at the south side of which there is a semicircular wall cupboard measuring 124w X 167h-59d cm. Incorporated into north wall there is a semicircular wall cupboard measuring 183w X 233h-72d cm, at the west side of which there is a rectangular wall cupboard measuring 50w X 113h-41d cm.

Decorations and Ornamentations

The interior decorations are limited to the timber doors, which feature decorative wings. The walls are simply plastered without having any decorations or ornamented surfaces. The floors feature ornamented colored cement tiles. Externally the window openings are protected with ornamented metal grills. The exterior doors also featured elaborate ironwork.

Structural System, Construction Material and Building Technology:

Continuous load bearing foundations are used. Load bearing walls are employed to support the Jack-valuated superstructures. Limestone and lime are the main construction materials. Lime plaster, flagstone and colored cement tiles are used for the interior finishing. Electric power was made available to the house in the 1950s, and the wiring is fixed externally. Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking.

17. Abdul -Aziz an-Natshih House

Address: Old town, Al-Kaliah neighborhood, Al-Haram Street

Coordinates: E 160 432. 2829 - N 103 773. 6592

Date of construction: 1896-1325 according to the inscription panel

Occupancy status: The widow of the original owner, a married son with his wife, occupies house and two Children are living with her. The inhabitants indicated that the original owner inhabited this house together with his nine unmarried children.

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 17.1 to figure 17.6

Drawings: figure D 17.1, figure D 17.2, figure D 17.3, and figure D 17.4

The Lot (figure: 17.1)

The lot features sloping topography measuring 30% between the upper north and lower south sides. It features irregular rectangular geometry measuring approximately 19.09 x 14.17m. Al-haram Street defines the boundaries from east, which measures 7.2m in width. Fens of 1m high defines the west side of the lot and separate it from a two storey neighboring building. This is located roughly 120cm away from the lot. A dead end street measuring 5.4m in width defines the north side of the lot. This separates the lot from a neighboring two-storey building. A dead street measuring 7m in width defines the south side of the lot. This is separating the lot from a neighboring two-storey building, which is located at the opposite side of the street. Because the building is located at the boundaries of the lot from the north, south, and west sides, the only open space found within the lot is a corridor-like space measuring 117cm wide. This features no landscaping elements apart from providing ventilation and light to the west side window openings.

General Description

The building is essentially one floor; the sloping site enabled the construction of a partial basement floor located at the south side of the lot. It has a freestanding clear

cut cubic mass with a straight roof above. On the south side, it measures approximately 8m high. The Northeast corner is measuring 5m high and the north-west corner is measuring 2.82m high. The partial basement floor consists of two separate service spaces. The ground floor measures approximately 17.67 X 14.83m and features a central-hall. Living spaces are symmetrically clustered at the east and west sides of the central-hall. Continuous load bearing construction is used for the walls. Cross-vault superstructures are employed for both the basement and ground floor spaces. Red-colored limestone is the main construction material. The basement floor features two entrances from south. The ground floor features a main entrance from the south elevation, and a secondary entrance from the north elevation.

The Exterior

Only the south main elevation walls are constructed of regular cut stone courses measuring 25-30 cm in height. Roughly cut and coursed stone is used for the projecting flight of stairs on this elevation. The north, east, and west elevation walls are constructed of roughly cut and coursed stone. A horizontal band of stone defines the first floor height; this projects two to three centimeters from the wall surface. The horizontal band, window and doorframes are emphasized by their projection from the wall surface and use of variation in texture. Smoothly dressed Tubzih Shaf stone is used for the projected elements, while the wall surface is made from Mlatash Emfajar dressed stone.

The West main elevation (figures: D 17.3 and 17.1) measures 17.75m in length and 8m in height, it is on two floors. The partial basement floor features a semicircular profiled door measuring 84 X 183cm and opening to space 0.2. At the West side of the door, there is a rectangular window measuring 45 X 45cm. The basement level features a semicircular profiled door measuring 84 X 180cm and opening to space 0.1. At the East side of the door, there is a semicircular profiled window measuring 81 X 112cm. The first floor is reached by a flight of ten stone steps which project from the elevation wall by approximately 110cm. This is connected to an elongated landing measuring 183cm long. The landing gains 55cm in width owing to a wall recess.

This is placed central of the elevation wall. It is featuring large two centered pointed arch is located between the wall surface and rear of the recess, the jambs of which are extended in the form of a vertical band, forming a blind rectangular frame of stone. Above this recess, there is a rectangular window opening measuring 55 X 55cm and opening to space 1.1. The rear of the recess features a door opening measuring 100 X 247cm. The door is covered with an ornamented shouldered lintel; above which there is a two-centered pointed relieving arch opening. Inside the arch, an ornamented metal grill is placed. The door opens to space 1.1. At both sides of the entrance recess there are two centered pointed profiled widow openings sharing the same profile and measurements; each measures 53 X 115cm, opens to space 1.1.

The east and west sides of the elevation feature twin window openings sharing identical profiles and measurements. Each twin window is featuring a two-centered pointed profiled blind frame inside of which there are two-centered pointed profiled widows each measures approximately 63 X 143cm. Between the twin windows and the larger frame there is a small circular ventilation opening. The east side twin window opens to space 1.2 and the west side twin window opens to space 1.5.

The East elevation (figures: D 17.3 and 17.1) faces the inclined Al-haram Street. The elevation height varies; the south section is measuring eight meters in height and the north section is measuring five meters in height. The partial basement floor of the elevation does not feature any openings. The upper ground floor has two window openings sharing the same profile and measurements as those found at the south elevation. The south part twin window opens to space 1.2, and the north part twin window opens to space 1.3.

The North elevation (figure: D 17.4) faces the inclined dead end street which is measuring 15% slope. The elevation height varies, where the east side is measuring five meters in height and the west side is measuring 2.8m in height. The partial basement floor remains invisible. The upper part includes a rectangular door measuring 83 x 200cm, and opening to space 1.1. Next to the door from east there is a rectangular window measuring 70 x 86cm and opening to space 1.1.

The South elevation (figure: D 17.4) height varies; the south section measures 6.22 in height and the north section measures 5.17m in height. The partial basement floor of the elevation remains invisible. The north side of the elevation features a flight of eight steps connecting the north side dead end street to the roof of the building. The ground floor section of the elevation features two twin-window openings; those are sharing the same profile and measurements as the south elevation twin-windows. The south side twin-window opens to space 1.5, the north side opens to space 1.4.

The Interior

The basement floor plan (figure: D 17.2) is located at the south section of the lot. The remainder constitutes the leveling of the ground floor. Access to this floor is allowed by direct connection to the dead end street in front of the house. It has two spaces, each is directly connected to the outside.

Space 0.1 is a rectangular space measuring 4.86 X 5.78m. It has cross-vault superstructure measuring 2.81m in height. It is apparent that the area previously served as a stable for keeping animals and storing their food. The floor is covered with earth. The inner walls and cross vault are not plastered and are constructed of rubble stone. The south wall incorporates a semicircular profiled door niche measuring 117 X 207-100cm; at the east side of this there is a semicircular profiled window niche measuring 82 X 132-100cm.

Space 0.2 is a rectangular space measuring 5.19 X 5.74m. It has cross-vault superstructure measuring 2.78m in height. It is used for storage; the tenants indicate that it previously served as a kitchen. The floor features flagstone tiles. The inner walls and cross vault are plastered and constructed of rubble stone. The south wall incorporates a semicircular profiled door niche measuring 123 X 232-100cm; to the west of the door, there is a rectangular window niche measuring 44 X 65-100cm.

The ground floor plan (figure: D 17.2) features a simple rectangular plan. The plan has five spaces including the central-hall. Kitchen and toilet facilities are not initially

incorporated within the plan. Later, a toilet space was installed at the south-west corner of the central-hall. Space 1.3 was converted into a kitchen. The floor uses a centralized plan wherein all the spaces symmetrically arranged at the east and west sides of the central-hall. The north and south walls of the central-hall are not attached to any internal spaces; both are opening to outside. The south wall incorporates the main entrance where the door is flanked by two windows. In simple terms, the central-hall is the central space in this house. It provides connection to the outside and provides relationship and cross circulation between the other spaces.

Space 1.1 (central-hall, figures: 17.2 and 17.3) is a longitudinal rectangular space measuring 11.48m long, 3.17m wide and 4.76m high. It is located central of the plan. Living spaces are symmetrically arranged at both the east and west walls of this space; all of them are directly connected to it. The north and south walls face outside. It is used as a family living space besides its function as the main horizontal circulation element connecting the floor spaces to each other's.

The floor features flagstone tiles. The walls and the double cross-vaults are constructed of stone and smoothly plastered. The west wall features two segmental profiled doors, each is measuring approximately 90 x 250cm. The south door opens to space 1.2 and the north one opens to space 1.3. The opposite wall west features two doors sharing the same profile and measurements as the east wall doors. The north side door opens to space 1.4 and the south side door opens to space 1.5. Central of the south wall, there is a large semicircular profiled door niche measuring 120 X 355-64cm, inside which there is a rectangular door, which has a relieving arch opening above. Above the door niche there is a segmental profiled window niche measuring 70 x 65-70cm. At both sides of the door niche there are two semicircular-profiled window niches each measuring 83 x 160-88cm. The east side of the north wall features a rectangular opening measuring one meter in width. This is connecting to outside by a flight of ten stone steps. The steps connect to a landing measuring 197 x 75cm, to the north of which there is a door opening to the outside and is measuring 75 x 200cm. At the West side of the door, there is a rectangular window measuring 70 x 86cm.

Space 1.2 (figure: 17.4) is a rectangular space measuring 4.80 x 5.68m. It has cross-vault superstructure measuring 4.68m in height. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The space is used as a guest room. The north side of the west wall features a semicircular profiled door niche measuring 104 X 277-90cm and opening to the central-hall. To the south side of the door there is a semicircular profiled wall cupboard measuring 222 x 212-60cm. Within the north wall there is a semicircular profiled niche measuring 235 X 255-50cm, this is elevated 47cm from the ground. Central of the south wall there is a window niche measuring 190 x 255-101cm, inside of which there are two centered pointed window openings and a small ventilation circular opening. At the west side of the window niche there is a rectangular niche measuring 72 x 60-90cm. Central of the east wall, there is a window niche sharing the same profile and measurements as the south wall niche.

Space 1.3 (figure: 17.5) is a rectangular space measuring 4.88 X 4.84m. It has cross-vault superstructure measuring 4.65m in height. The floor features flagstone tiles. The walls and cross-vaults are constructed of stone and smoothly plastered. The space is used as a Kitchen. The south side of the west wall features a semicircular profiled door niche measuring 102 x 256-110cm and opening to space 1.1. At the east wall there is a window niche measuring 207 x 275-116cm. Inside this there are two-centered pointed window openings and a circular ventilation opening above.

Space 1.4 is a rectangular space measuring 5.17 X 5.15m. It has cross-vault superstructure measuring 4.62m in height. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The space is used as a bedroom. The north side of the west wall features a semicircular profiled door niche measuring 100 X 267-89cm and opening to space 1.1. To the south side of the door there is a semicircular profiled wall cupboard measuring 135 x 171-62cm. At the north wall there is a semicircular profiled niche measuring 253 X 267-77cm, this is elevated 47cm from the ground. Central of the west wall features a window niche measuring 189 X 265-89cm.

Space 1.5 (figure: 17.6) is a rectangular space measuring 4.58 x 5.09m. It has cross-vault superstructure measuring 4.72m in height. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The space is used as a bedroom. To the north side of the west wall there is a semicircular profiled door niche measuring 108 X 276-90cm and opening to space 1.1. At the south side of the door there is a semicircular profiled wall cupboard measuring 151 X 194-66cm. The north wall features a semicircular profiled niche measuring 337 X 280-55cm; this is elevated 27cm from the ground. Central of the south wall features a window niche measuring 187 x 259-120cm, inside. Central of the west wall features a window niche sharing the same profile and measurements as the south wall one.

Decorations and Ornamentations

The interior decorations are limited to the timber doors, which feature decorative wings. The walls are simply plastered without having any decorations or ornamented surfaces. Externally the window openings are protected with ornamented metal grills. The exterior doors also featured elaborate ironwork. Projected window frames and horizontal bands was another mean of exterior decoration.

Structural System, Construction Material and Building Technology

Continuous load bearing foundations are used. Load bearing walls support the Jack-vault superstructures. Limestone and lime are the main construction materials. Lime plaster and flagstone tiles are used for the interior finishing. Electric power was made available to the house in the 1950s, and the wiring is fixed externally. Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking.

18. Murtada ad-Duaik House

Address: Old town, Al-Kaliah neighborhood, Al-Haram Street

Coordinates: E 160 452. 0009 - N 103 731. 6604

Date of construction: 1898-1327, according to the inscription panel

Occupancy statue: the basement floor is used as a storage place for leather, the ground floor is used by Mohsen ad-Duaik with his wife a six unmarried children, the first floor is occupied by Marwan ad-Duaik and his wife and four unmarried children. Mohsen ad-Duaik and Marwan ad-Duaik are grandsons of the original owner Murtada ad-Duaik. In addition, it was used as an elementary school.

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 18.1 to figure 18.8

Drawings: figure D 18.1, figure D 18.2, figure D 18.3, and figure D 18.4

The lot (figure: D18.1)

The lot features irregular rectangular geometry. It is measuring approximately 37 X 26m. The lot features a sloping topography measuring 20% between the upper north and the lower south. The boundaries are defined by Al-haram Street from west and rubble stone walls measuring 1-2m in height from east, north and south directions. A neighboring two-storey building is located about five meters away from the north side of the lot. A two story neighboring building is located about seven meters away from the south side of the lot. At the opposite side of Al-haram Street, there are two neighboring buildings. The north side one is Abd-Aziez Al-Natshih house, which is included in the measured survey.

The lot is surrounded on all sides by vines and trees of various types. At the West section of the lot, there is an open space measuring approximately 9 X 25m. This features two flights of stone steps, which are connecting the ground floor of the building with Al-haram Street. A pedestrian passage measuring 135cm wide runs across the west side of the building. This connects the upper north section to the lower south at street level. This passage also provides entrance to the basement floor.

The north section of the lot features an open space measuring approximately 6 X 13m. In this space, different types of trees are planted. It also features a passage measuring 2.5m in width, this runs across the north side of the building. This passage provides entry to the ground and first floors. Because of the site sloping nature, retaining loose stone walls run from the upper north to the lower south section. The east section of the lot features a large open space, which is planted with vines. This area features two flights of stone steps, which are running across the east side of the building. At the south part of the lot there is an open space measuring 28 X 6m, the lowest level is measuring 4.25cm below the north section and it provides direct entrance to the basement floor. The house is located at approximately central if the lot; it is around 7m away from the north, 9m away from the south, 9-2.5m away from the west, and 13m away from the east.

General Description

The building is composed of three floors. A basement, ground, and first floor. The sloping site ended with the basement floor being located below the natural ground level from the north and east sides. It is partially exposed from west, and totally exposed from south. The building is a freestanding cubic mass with a straight roof above. It measures approximately 13.62m high from the south and 9.62m from the north direction.

The basement floor comprises service spaces and water cistern. The ground and first floors provide two separate living floors. The house is a unique example of a central plan type residential building, and looks extremely similar to the Kasserri Al-dwyk house (number 19). The ground floor features a longitudinal central hall; the living spaces arranged at the north and south sides of which. The first floor incorporates a courtyard with other spaces surrounding it from east, west, south and north sides. At the east and west sides of the courtyard, there are two Aywan spaces facing each other's. Each of them provides entrance to other two spaces. The design of this house is quite different from the others. It has both the central-hall plan type and a courtyard plan Schema. It may be considered as a significant sign of a shift in

architectural trends from the open courtyard plan type to the central hall plan type, especially in view of its construction dating to 1890s when the central-hall plan type was quite contemporary.

Continuous load bearing construction is used for the walls. The spaces utilize both barrel and cross vault superstructures. Red-colored limestone is the main construction material. The building has four entrances to the basement floor. The ground floor has three entrances from the east, west and north elevations. The first floor is reached by inner staircases located; this is located central of the north section of the building.

The Exterior

The basement section of the elevation walls features roughly cut and coursed stone, as are the north and east elevations of the building. At its south and west elevations, the ground and first floors sections are constructed of regular cut stone courses measuring 25-35 cm in height. The south-west and north-west corners of the building are defined by the projection of quoins two to three centimeters from the wall surface. This projection constitutes a band of 50cm in width, which is running across the ground and first floor heights. The south and west elevation walls feature three horizontal bands of stone courses, which are projected two to three centimeters from the wall surface. The corners of the building, horizontal bands, window and doors frames are emphasized by their projection from the wall surface variation in textures. Smoothly dressed Matabbih stone is used for the projected elements. The elevation walls are constructed of Mlattash Emfajar dressed stone.

The West main elevation (figures: D18.3 and 18.1) is simply rectangular and composed of three floors. It is measures 13.45m long, 13.73m high from south and 11.42m from north sides. The upper north and lower south parts of the elevation are connected by a steep passage featuring 12 stone steps. At the basement level there, is a two-centered pointed profiled door measuring 236 X 106cm and opening to space 0.1. At approximately central of the basement elevation there is a rectangular

window measuring 135 X 112cm and opening to space 0.2. The north side of the basement section features a door sharing the same profile and measurements as the south side door; it is opening to space 0.3. The ground floor section of this elevation is reached by two flights of stone steps. Those are located at the south part of the elevation. A flight of 11 steps is perpendicular to the elevation wall; it is connected to a landing measuring 132 X 113cm. From this landing, another flight of six steps leads to an elongated landing measuring 158cm in length. This is approximately cantilevered 132cm from the wall and is made 35cm wider by means of an entrance wall recess.

The entrance recess features a large two-centered pointed profiled arch located between the wall surface and the rear of the recess. At the rear there is a rectangular door opening measuring 97 X 205cm. This is covered with ornamented shouldered lintel, above which there is a two-centered pointed revealing arch opening. The recess is flanked by two rectangular framed windows. The interior of each features segmental profiled treatment. Both windows open to the central-hall. The north and south parts of the ground floor section on this elevation feature twin windows. Each is incorporating a rectangular frame, which is containing two segmental profiled window openings. Each opening measures 116 X 58cm. The north side twin window opens to space 1.2, and the south side window opens to space 1.7.

Central to the first floor part of the elevation, there is a balcony, this is approximately 128cm cantilevered from the elevation wall, and it is protected from all sides by a metal handrail measuring 95cm in height. At roughly the center of the balcony there is a segmental profiled door measuring 85 X 245cm, and opening to space 2.6. At either sides of the door there is a segmental profiled window; the arch part is ornamented and features a decorated keystone. Both windows measure 57 X 145cm and open to space 2.6. The south and north parts of the elevation include a twin window, within which are two segmental profiled window openings are found, each is measuring 58 X 157cm. The segmental profile of each opening is decorated and has a protruding keystone. The south side twin window opens to space 2.7, while the north side one opens to space 2.5.

The North elevation (figure: D18.3) is rectangular and has three floors. It is measuring 14.02m long, 11.42m high from the west and 9.62m high from the east side. The lower west part of the elevation is connected to the upper east part by a flight of eight steps, which is perpendicular to the elevation wall. The partial basement floor of the elevation incorporates a rectangular window measuring 60 X 55cm, and opening to space 0.3. To the east of this, there is a circular opening measuring 59cm in diameter; this opening is used to withdraw and transport water to the cistern space 0.4.

Central of the ground floor part of the elevation there is a rectangular door measuring 97 X 184cm and opening to space 1.4. This is a staircase space, which is providing entrance to the ground and first floors. At the east side of this door there is a segmental profiled window measuring 67 X 89cm and opening to space 1.4. The east and west parts of the ground floor section in this elevation feature twin window openings. Those are sharing the same profile and measurements as the twin windows found at the ground floor section of the west elevation. The east side twin-window opens to space 1.3, and the west side one opens to space 1.2. The first floor part of this elevation incorporates two twin-window openings sharing the same profile and measurements as those found at first floor of the west elevation. The east side window opens to space 2.5, and the west side one opens to space 1.3.

The East elevation (figures: D18.4 and 18.3) is rectangular and has three floors. It is measuring 13.45m long, 13.73m high from south and 9.62m from north side. The upper north and lower south parts of the elevation are connected by a flight of eight steps. This is connected to a landing measuring 85cm long from which another flight of 11 steps is connected to a paved passage. This passage runs across the north section of the ground floor part in this elevation. The south partial basement floor incorporates a rectangular window measuring and opening to space 0.1. The ground floor is entered from the natural ground level. Central of the elevation wall in the ground floor section, there is a rectangular door measuring 84 X 194cm and opening to space 1.1. At either side of the door there are segmental profiled windows each is measuring 42 X 114cm and opening to space 1.1. The door and the windows are

covered with an elongated lintel above which there is a two-centered pointed revealing arch opening. This is measuring 261cm wide and opening to space 1.1. The north and south sides of the ground floor elevation, feature twin window openings sharing the same profile and measurements as the west elevation twin windows. The north side twin window opens to space 1.3 and the south one opens to space 1.5. The first floor section of this elevation features three twin-windows; all are sharing the same profile and measurements as the twin windows found at the first floor section of the west elevation. In this elevation, the central twin window opens to space 2.2, the south side one opens to space 2.9 and the north side one opens to space 2.3.

The South elevation (figures: D18.4 and 18.2) is rectangular and is measuring 14.45m long and 13.73m high in three floors. This basement part of this elevation is completely exposed to outside. It has three two-centered pointed door openings each is measuring 111 X 236cm and opening to space 0.1. The ground floor part of the elevation incorporates three twin window openings; all are sharing the same profile and measurement as the twin windows found west elevation of the same level. In this elevations the central twin window opens to space 1.6, the east side one opens to space 1.5, and the west side one opens to space 1.7. The first floor part of the elevation incorporates three twin-window openings, all sharing the same profile and measurements as those found at the first floor of the east elevation. Here, the central twin-window opens to space 2.8, the east side one opens to space 2.7, and the west side one opens to space 2.9.

The Interior

The basement plan (figure: D18.2) is rectangular and measures approximately 14.16 X 14.45m. The ground and first floors are constructed above this floor and feature approximately the same size. It is entered from the south side by three doors and from the west side by two doors. This floor comprises four spaces. One is a water cistern (space 0.4) located at the Northeast part of the plan. Two stable spaces numbers 0.2 and 0.3 are found at the north-west section of the plan. The south section features a large storage space (0.1), which is subdivided into five rectangular

spaces by means of two-centered pointed arches. Each of the five spaces has a cross-vault superstructure. This space was as a leather workshop belonging to the owner of the building.

Space 0.1 measures 12.11 X 7.66m, and is subdivided into six cross-vault superstructures by means of a load bearing pillar measuring 148 X 129cm, and a load bearing wall measuring 80cm thick. Each subdivided space measures 3.67m high. The six spaces are open to each other by means of two-centered pointed profiled arches. The space is currently used as a ceramic pottery store. In the past, it was used as leather workshop. The floor features flagstone tiles. The walls and the cross vaults are constructed of stone and smoothly plastered. Within the west wall there is a semicircular profiled door niche measuring 135 X 250-72cm and opening to outside. At the east wall there is a rectangular window niche measuring approximately 127 X 160-75cm. At the south wall there are three door niches, all sharing the same profile and measurements and opening to outside. At the north wall there is a rectangular door niche measuring 67 X 197-70cm and opening to space 0.2. Within the same wall to the east there is a circular opening measuring 70cm in diameter; this was used for obtaining water from space 0.2.

Space 0.2 is a rectangular space measuring 4.12 X 3.19m with a 2.72m high cross-vault superstructure. It was used as a stable. The floor is finished using flagstone tiles. The walls and the cross vault are constructed of stone and smoothly plastered. Incorporated within the west wall there is a semicircular profiled door niche measuring 135 X 555-75cm. At the north wall there is a segmental profiled window niche measuring 75 X 80-70cm. At the south wall there is a rectangular door niche measuring 66 X 197-70cm and opening to space 0.1.

Space 0.3 is a rectangular space measuring 8.26 X 4.02m. It has a barrel-vault superstructure measuring 5.67m in height. It is used as a container for storing rainwater. The floor is finished with stone and waterproof plaster. The walls and barrel-vault are plastered in the same way and constructed of rubble stone. It features two circular openings. One at the north wall used for gathering rainwater.

The ground floor plan (figure: D18.2) follows a rectangular plan with the same measurements as the basement floor. The plan comprises seven spaces including a longitudinal central-hall. It features a central plan in which living spaces are arranged at the north and south sides of space number 0.1 (central-hall). Three spaces are located at the south side of the central-hall. At the north side of the central-hall, there are two spaces with a staircase space in-between. The staircase provides exit to outside from north. The central-hall is directly connected to the outside from east and west directions.

Space 1.1 (central-hall, figure 18.8) is a longitudinal rectangular measuring 12.10 X 3.16m. This has a triple cross-vault superstructure, which measures approximately 3.68m in height. The space is located at the center of the plan. It faces outside from west and east through doors, which are flanked from both sides by a window opening. Three spaces 1.5, 1.6 and 1.7 are connected to the central-hall from south. At the north side of the space there are two spaces 1.2 and 1.3 with a recess in between them opening to space 1.4, which is connecting to outside from north.

The central-hall is used as a family living space besides functioning as an entrance lobby and main horizontal circulation element, which is connecting the different floor spaces. The floor is finished using flagstone tiles. The walls and the cross-vaults superstructure are constructed of stone and smoothly plastered. Central of the west wall features a semicircular profiled door niche measuring 115 X 295-28cm, inside which there is a rectangular door opening with a raveling arch above. Either side of the door has semicircular profiled window niche measuring 55 X 154-61cm.

The east wall features a large semicircular profiled niche measuring 55 X 279-62cm, and containing a door opening with a large two-centered pointed profiled window located above and two segmental profiled windows at either side. Incorporated into the south wall there are three segmental profiled doors. Each measures 95 X 212cm. From east to west the doors are opening to spaces 1.5, 1.6, and 1.7 respectively. Around the center of the north wall there is wall recess measuring 1.78cm deep and 3.34cm wide. At the rear of recess, there is a door opening to space 1.4 and sharing

the same profile and measurements as the south wall doors. Both sides of the recess feature doors sharing the same profile and measurements as the south wall doors. The east side door opens to space 1.3, and the west side door opens to space 1.2.

Space 1.2 is a rectangular measuring 3.78 X 3.50m. This space has cross-vault superstructure, which measures approximately 3.62m in height. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The west side of the south wall features a semicircular profiled door niche measuring 119 X 233-59cm and opening to space 1.1. The east side of this door features a semicircular profiled wall cupboard measuring 114 X 212-52cm. Central of the north wall there is a semicircular profiled window niche measuring 182 X 264-66cm. In the same area of the west wall there is a window sharing identical profile and measurements as the north wall equivalent. At the south side of the east wall there is a wall cupboard measuring 151 X 244-31cm.

Space 1.3 is a rectangular measuring 3.57 X 4.02m. It has a cross-vault superstructure, which measures approximately 3.68m in height. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. West of the south wall, there is a semicircular profiled door niche measuring 119 X 238-65cm and opening to space 1.1. At the east side of the door there is a semicircular profiled wall cupboard measuring 159 X 236-36cm. Central to the north wall there is semicircular profiled window niche measuring 186 X 267-62cm; the east and west of which feature rectangular niches each measuring 42 X 42-80cm. Central of the east wall there is a window niche sharing the same profile and measurements as the north wall equivalent. At the south side of this niche there is another niche sharing the same characteristics with those found at the north wall. At the south side of the west wall there is a cupboard measuring 157 X 232-27cm.

Space 1.4 is a rectangular measuring 2.19 X 3.67m. It has a cross-vault superstructure, which measures approximately 3.64m in height. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. It is a staircase featuring four flights of stairs connecting the first floor to outside.

The north wall incorporates a rectangular door niche measuring 116 X 204-66cm. To the east of the same wall there is a segmental profiled window niche measuring 90 X 118-54cm. The south wall features a semicircular profiled door niche measuring 98 X 254-41cm and opening to space 1.1.

Space 1.5 is a rectangular space measuring 3.69 X 3.83m. It has a cross-vault superstructure, which measures approximately 3.72m. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the west side of the north wall there is a semicircular profiled door niche measuring 115 X 242-44cm and opening to space 1.1. The east side of the door features a semicircular profiled wall cupboard measuring 146 X 228-39cm. Central of the north wall there is a semicircular profiled window niche measuring 180 X 255-68cm. North of this, there are two rectangular niches each measures 48 X 46-87cm. Central of the south wall there is a window sharing the same profile and measurements as the east wall windows, at the west side of it there is a niche sharing identical characteristics with the one found at the east wall. The south side of the west wall features a segmental wall cupboard measuring 162 X 212-41cm.

Space 1.6 is rectangular measuring 3.50 X 3.85m. It has a cross-vault superstructure, which measures approximately 3.72m in height. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The east side of the north wall features a semicircular profiled door niche measuring 113 X 232-44cm and opening to space 1.1. The west side of the door features a semicircular profiled wall cupboard measuring 134 X 229-43cm. Central of the south wall there is a semicircular profiled window niche measuring 178 X 255-67cm, and at the north and south sides of this there are two rectangular niches measuring 53 X 43-92cm. The north side of the east wall features a segmental profiled wall cupboard measuring 141 X 233-37cm. The south side of the west wall features a rectangular wall cupboard measuring 120 X 212-41cm.

Space 1.7 is a rectangular space measuring 3.76 X 3.85m. It has a cross-vault superstructure, which measures approximately 3.74m in height. The floor features

flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The north wall features a semicircular profiled door niche measuring 115 X 238-42cm and opening to space 1.1. The east side of the door features a semicircular profiled wall cupboard measuring 137 X 235-31cm. Central of the west wall there is semicircular profiled window niche measuring 180 X 264-59cm; to the north of this there is a rectangular niche measuring 50 X 49-85cm. The south wall incorporates a window sharing the same profile and measurements as the west wall equivalent, and at the east side of this there is a niche sharing the same characteristics as the one within the east wall. At the north side of the east wall there is a segmental profiled wall cupboard measuring 171 X 224-36cm.

The first floor plan (figure: D18.2) is rectangular sharing the ground floor identical measurements. The plan comprises nine spaces including a courtyard, which is open from top. Two semi-open spaces called ‘Aywan’ are located at the east and west sides of the courtyard. The floor has a central-plan where all the spaces are simply arranged at the north, east, west and south sides of the courtyard. The courtyard replaces the central-hall in this plan. The floor is connected to the ground floor and then to the outside by a closed staircase space 1.4 which incorporates a loop of four flights of stone steps. The staircase space is located at the north side of the courtyard. At the opposite wall south there is a space directly connected to the courtyard. Two spaces 2.7 and 2.5 are located at the south and north sides of space 2.6 (west Aywan), the east wall of this feature a large arch connecting to the courtyard (space 2.1). On the opposite east side of the courtyard same arrangement is found in which spaces 2.9 and 2.3 are located at the south and north sides of space 2.2 6 (east Aywan). The west wall of this area incorporates an arch opening to the courtyard.

Space 2.1 (courtyard, figures: 18.6, 18.7) is rectangular measuring 6.2 X 3.8m and opened from above. This is located at the center of the plan. All other spaces arranged at the south, north, east and west sides of it. At the east side there are three spaces, two of which 2.3 and 2.9 are connected to courtyard through east Aywan (space 2.2). At the west side there are three spaces, two of which 2.5 and 2.5 are connected to courtyard through west Aywan (space 2.6). At north side there is a

flight of 18 steps connects to the roof of the building. Below this flight there is a door opening to a staircase. The floor features flagstone tiles. The walls are constructed of regular cut stone courses measuring 25-30cm high. Approximately central to the east wall there is a two centered pointed profiled arch measuring 394cm wide and 370cm high, this is opening to space 2.2. Approximately central to the west wall there is a two-centered pointed profiled arch measuring 392cm wide and 377cm high, this is opening to space 2.6. The south wall features a segmental profiled door opening to space 2.8. At the north wall there is a rectangular door opening to space 2.4.

Space 2.2 (east Aywan), is rectangular measuring 4.09m wide, 3.91m deep. It has a cross-vault superstructure measuring 3.70m in height. It is used as an outdoor living space. The floor features flagstone tiles. The walls and cross-vaulted superstructure are constructed of stone and smoothly plastered. The north wall is constructed of 25-30cm regular cut stone courses. The east wall incorporates a segmental profiled window niche; 222 X 212-51cm. The east side of the space opens to the courtyard space 2.1 through a two-centered pointed arch. The north wall has segmental profiled door opening to space 2.3, the opposite wall features a door opening to space 2.9.

Space 2.3 is rectangular measuring 3.90 X 4.28m. It has a cross-vault superstructure measuring 3.76m in height. The floor features flagstone tile. The walls and cross vaults are constructed of stone and smoothly plastered. Within the south wall there is a semicircular profiled door niche measuring 107 X 245-37cm and opening to space 2.2. The east side of the south wall features a semicircular profiled wall cupboard measuring 133 X 156-37cm; this is elevated 54cm from the ground. Central of the north wall there is a semicircular profiled window niche measuring 240 X 267-49cm and elevated about 55cm from the ground. In the equivalent area of the east wall there is a semicircular profiled window niche sharing identical measurements with the north wall one. At the south corner of the same wall there is a rectangular wall niche measuring 42 X 90-40cm.

Space 2.4 is a staircase space; it is described in the case of the ground floor.

Space 2.5 (figure 18.5) is rectangular measuring 3.87 X 4.21m. It has a cross-vault superstructure measuring 3.66m in height. The floor features flagstone tile. The walls and cross-vault superstructure are constructed of stone and smoothly plastered. Within the south wall there is a semicircular profiled door niche measuring 107 X 245-37cm and opening to space 2.6. The east side of the south wall features a semicircular profiled wall cupboard measuring 133 X 156-37cm; this is elevated 54cm from the ground. Central of the north wall there is a semicircular profiled window niche measuring 240 X 267-49cm; this is elevated about 55cm from the ground. In the equivalent area of the west wall there is a semicircular profiled window niche sharing identical measurements with the north wall window niche.

Space 2.6 (west Aywan figure 18.5), is rectangular measuring 4.18m wide, 2.91m deep, with a 3.60m high cross-vault superstructure. It is used as an outdoor living space and entrance lobby. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The north wall is constructed of 25-30cm regular cut stone courses. The west wall incorporates three window niches; the central one is segmental profiled measuring 106 X 212-51cm. The south and north windows are semicircular profiled and both are measuring 56 X 187-51cm. The east side of the space opens to the courtyard an arch.

Space 2.7 is rectangular measuring 3.95 X 4.29m. It has a cross-vault superstructure measuring 3.76m in height. The floor features flagstone tile. The walls and cross-vaulted superstructure are constructed of stone and smoothly plastered. Within the north wall there is a semicircular profiled door niche measuring 117 X 241-44cm and opening to space 2.6. The west side of the north wall features a semicircular profiled wall cupboard measuring 138 X 156-37cm; this is elevated 54cm from the ground. Central of the south wall there is a semicircular profiled window niche measuring 248 X 261-51cm. At the south corner of the south wall there is a rectangular wall niche measuring 42 X 90-40cm. The equivalent area of the west wall features a semicircular profiled window niche.

Space 2.8 is rectangular measuring 3.87 X 4.19m. It has a cross-vault superstructure measuring 3.86m in height. The floor features flagstone tiles. The walls and cross vault are constructed of stone and smoothly plastered. Within the north wall there is a semicircular profiled door niche measuring 111 X 235-49cm and opening to space 2.1. The west side of the north features a semicircular profiled wall cupboard measuring 148 X 152-33cm; this is elevated 54cm from the ground.

Space 2.9 is rectangular measuring 3.95 X 4.21m. It has a cross-vault superstructure measuring 3.67m in height. The floor features flagstone tile. The walls and cross vault are constructed of stone and smoothly plastered. Within the north wall there is a semicircular profiled door niche measuring 113 X 241-32cm and opening to space 2.2. The east side of the north wall features a semicircular profiled wall cupboard measuring 143 X 166-32cm; this is elevated 54cm from the ground. Central of the south wall there is a semicircular window niche measuring 244 X 257-429cm.

Decorations and Ornamentations

The interior decorations are limited to the timber doors, which feature decorative wings. The walls are simply plastered without having any decorations or ornamented surfaces. The floors feature flagstone tiles. Externally the window openings are protected with ornamented metal grills. The exterior doors also featured elaborate ironwork. Externally stone is used as decorative element as Horizontal, vertical framing and openings frames projection adds more to the exterior decoration.

Structural System, Construction Material and Building Technology

Continuous load bearing foundations are used. Load bearing walls support the valuated superstructures. Limestone and lime are the main construction materials. Lime plaster and flagstone tiles are used for the interior finishing. Water cistern is provided at the basement floor. Electric power was made available to the house in the 1950s, and the wiring is fixed externally. Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking.

19. Kasir ad-Duaik House

Address: Old town Al Kaliah neighborhood, Al-Haram street.

Coordinates: E 160 414. 9626 - N 103,673. 6423

Date of construction: A residential house, it is believed that the basement floor was built at the end of the 1820s, the ground floor was constructed during the 1870s, and the first floor was added between 1890. (Rehabilitation Committee information)

Occupancy statue: Recently, in 2002 the Hebron Rehabilitation Committee restored it and it is now used as headquarters for the HRC.

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 19.1 to figure 19.10

Drawings: figure D 19.1, figure D 19.2, figure D 19.3, and figure D 19.4

The lot (figure: D 19.1)

The lot is irregularly rectangular. It approximately measures 16 x 15m. The boundaries are defined from north by Al-Haram Street, from west Suwk Al-laban Street, from south there is a two-storey building located at the boundary and from the east side there is an empty land used as a car parking. The lot features a sloping topography measuring 12%, from east to west. Within the lot boundary at the east side, there is a paved corridor measuring 2.5m in width; this provides entry to the ground floor. From the South, there is a passage in the form of steps measuring 1m wide and separating the building from two-floor high neighboring building. It also provides ventilation to the south side rooms of the building. The house is located precisely at the Suwk Al-laban Street from the west end of Al-haram Street from the north. The building is approximately 50cm away from the south and 2.5m off from east.

General

The building essentially has three floors. The sloping site enabled the construction of a basement floor which is below the natural ground level from east side, and

approximately one meter above the ground from north and three meters from the west side. It has a freestanding cubic mass with a straight roof on top; it measures approximately ten meters high from east side and 12.4m from the west side.

The basement floor contains service spaces and water cistern. The ground and first floors are the main living floors. The house is a unique example of individual residential buildings. The ground floor features two central-halls around which the living spaces arranged. The first floor features a courtyard with the rooms surrounding it from east, west, south and north sides. The surrounding rooms are accessed through three wall recesses each is called Aywan. This it is closed from above and opens to the courtyard by an arch opening. South Aywan is located at the south side of the courtyard. At the west side of the courtyard West Aywan is found and the north side the north Aywan is placed.

The case of this house is quite different from the others, but it is similar to Murtada ad-Duaik house. It features of both central-hall and courtyard plan schemas. It is a unique example signifying of the move from the organic hosh to the central hall house. This move front and back from courtyard to the central-hall could explain the hesitation of users in adapting to the central-hall idea, especially considering that the main living floors constructed date (1870s) when the central-hall was quite contemporary. The ground floor features three entrances from the east side and one from west. The first floor is only reached from the ground floor by an inner staircase. The basement floor is entered by two doors at west elevation. Continuous load bearing construction is used for the walls. The spaces use barrel and cross-vaulted superstructures. Red-colored limestone is the main construction material.

The Exterior

The elevation walls of the basement floor feature roughly cut and coursed stone. The ground and first floor elevations are constructed of regular cut stone courses measuring 25-30 cm high. The four corners of the ground floor elevations are defined by the projection of quoins two to three centimeters from the wall surface.

This projection creates a band of 50cm wide, which runs across the ground floor height. Two horizontal bands of stone courses, which are projected two to three centimeters from the wall surface, define the floor height. The building corners, horizontal bands, window and door frames of the basement and ground floors are emphasized by their projection from the wall surface and use of variations in texture. Smoothly dressed Matabbih stone is used for the projected elements. The wall surfaces uses Mlattash Emfajar dressed stone. The first floor openings are emphasized neither by means of projection nor by means of variation in texture.

The West main elevation (figures: D 19.3 and 19.2) measures 16.73m long and 12.40m high in three floors. At the north side of the elevation there is a rectangular window covered with lintel in, this is measuring 60wX124h cm and opening to space 0.4. Next to the window from south there is a semicircular profiled door measuring 110wX209h cm and opening to space 0.3. At the south side of the elevation there are door and window opening to space 0.5, those are sharing the same profile and measurements as to the north side openings Central of the elevation there is a rectangular door measuring 106wX200h cm, this is covered with a shouldered lintel and opens to space 0.4.

The ground floor part of this elevation is divided into three parts by two vertical bands of stone each is measuring 50cm wide and projecting two to three centimeters from the elevation surface. The middle part features two columns emphasizing the main entrance. Each column is measuring 3.36m high and projecting about 35 cm. Both columns have decorated bases and caps and are divided from the middle by a profiled cylindrical stone. On top of the columns, there is two-centered pointed arch, which is projecting 30 cm from the wall. Inside the projected columns and arch and above the basement level door lintel there is a rectangular window measuring 248h X 104wcm. This is covered with a shouldered lintel in the form of a straight voussoir, which is projected about 20cm from the wall and is featuring protruding key stone. On top of this, there is another rectangular window opening measuring 190wX170h cm. This is covered with a lintel, the jambs of which feature half-cylindrical decorated columns. This opening is divided by a column, which has decorated base

and cap. At the top of this twin window opening there is a circular profiled rose window opening, the interior of which has a three-lobed treatment. The south and north sides of all this feature two-window openings, which are featuring two-centered pointed profiled openings each is measuring 60 x 182cm.

This south and north parts of the ground floor section in this elevation feature two twin-windows. Those are sharing the same profile and measurements; each has two segmental profiled window openings, each is measuring 70w X 192h cm. On top of them, there is a profiled projected horizontal band of stone, which is supported by three decorated projected stones. At the top of the profiled band there are two rectangular blinded frames placed one inside the other; the inner frame is filled with five decorated columns. The first floor part of the elevation is less decorated than the ground floor. The north side features two segmental profiled windows each measuring 63w X 138hcm. In between the two windows there is a 47cm wide band of stone. The same window openings are found at the south side of the elevation. Around the middle of this part of the elevation, there are three windows; all are segmental, profiled and openings to space 2.2. The central one measures 78w X 164h cm, each of the other two windows is measuring 63w X 138h cm.

The East elevation (figures: D 19.3 and 19.1) measures 12.67m long and ten meters high in two floors. It is steeped in three surfaces. A front surface is at the south side and a back surface at the north side. These are connected by a third surface which measuring 110cm wide; it is inclined approximately 49 degrees from the front surface. At the ground floor section of the front surface, there is a twin-window, which has two openings; each is segmental profiled measuring 80w X 189hcm; at the top of both there is a semicircular profiled blind frame, inside of which there is a circular ventilation opening measuring 20cm in diameter. The first floor section of front surface features two windows sharing the same profile and measurements. Those are placed beside each other with a 35cm distance in between; each is segmental profiled measuring 61w X 135hcm. The same two-window is repeated at the first floor part of the back surface. Central of the inclined surface features a segmental profiled door, this reached by a flight of five steps. The door is measuring

90w X 252h cm and opening to space 1.8. The first floor in this surface features a rectangular window opening measuring 58w x 60h cm and opening to space 2.10.

The ground floor part of the back surface features a segmental profiled door measuring 100w X 224h cm and opening to space 1.3. The main door features a rectangular opening measuring 125w X 253h cm; this is covered with a lintel, on top of which there is a double two-centered pointed revealing arch, on top of which there is a circular rose window opening, the interior of this has a three looped treatment. On the first floor, there is a rectangular ventilation opening.

The North elevation (figures: D 19.3 and 19.1) is in two floors, it is measuring 13.31m in long 10.87m high from west and 10m from east side. The ground floor section of this elevation is divided into three parts by vertical bands of stone, which are running along the ground floor height. Each of the three sections has a twin-window which shares the east elevation twin-window same profile and measurements. The twin-windows are opening to spaces 1.3, 1.4 and 1.5 from east. At the east side of the first floor part of this elevation there are two segmental profiled windows each is measuring 63w X 139h cm, and opening to space 2.3. The same windows are repeated at the west part of this elevation; those are opening to space 2.5. Central of this part of the elevation there are three segmental profiled windows, all opening to space 2.4. Three of these are placed beside each other with a 33cm band of stone in between. The north and south openings are measuring 57w X 131h cm, the middle one is larger, measuring 78wX164h cm.

The Interior

The basement floor plan (figure: D 19.2) is rectangular. It measures approximately 13 x 12m. The ground and first floors are constructed above with approximately same size and geometry. It can be entered by two doors from the west. The plan features five spaces. Two spaces are located at the east part of the plan and are serving as water containers. One space is at the north-west part of the plan; it is used for as storage. Another space is located at the south-west part of the plan; it is used

for stabling animals. Space 0.4 is an entrance space connecting to the ground floor by a flight of 11 steps.

Space 0.1 is rectangular measuring 6.67 x 6.34m. It has barrel-vault superstructure, which measures 6.04m in height. It is used as a container for gathering rainwater. The floor is made of stone and finished with waterproof plaster. The walls and barrel-vault are plastered and constructed of rubble stone. It has a circular opening at the north wall, which measures 60cm in diameter and is elevated about 6.5m from the floor. This opening is used to withdraw water from space 0.2. At the barrel-vault there is a circular opening from which water for household use could be obtained, it is measuring 80cm in diameter, and opening to space 1.7 above.

Space 0.2 is rectangular measuring 4.56 x 3.26m. It has barrel-vault superstructure, which measures 6.04m in height. It served as a container for gathering rainwater and channeling it into a space 0.1 through an opening at the east wall. It was used as a filter for rainwater. The floor is made of stone and finished with waterproof plaster. The walls and barrel-vault uses the same plaster type as space 0.1 floor and are constructed of rubble stone. It has two circular openings at the east and west walls, each is measuring approximately 55cm in diameter and is located few centimeters below the ceiling.

Space 0.3 is rectangular measuring 7.75 x 3.93m. It has cross-vault superstructure, which measures 3.44m in height. It is used as a storage area. The floor features flagstone tiles. The walls and the barrel-vaults are constructed of stone and plastered, without paint. The west wall features a semicircular profiled door niche measuring 120w x 233h-215d cm opening to outside. The west side of the door has a rectangular window niche measuring 80w X 235h-75d cm. The east wall features a circular opening measuring 55cm in diameter and opening to space 0.2. An arch measuring 3.26m in width and 3m in height subdivides the space; this arch divides the space into two barrel-vaults.

Space 0.4 is a corridor space measuring 1.15m wide. The west wall features a door niche measuring 116cm wide and opening to outside. The space features a flight of 11 steps connecting to the ground floor. The floor and the stairs feature flagstone tiles. The walls are constructed of stone and smoothly plastered.

Space 0.5 is rectangular measuring 5.34 x 3.95m. It has cross-vault superstructure, which measures 3.42m in height. It is used as a stable. The floor has no tiles. The walls and the cross vault are constructed of stone. At the west wall there is a semicircular profiled door niche measuring 120w X 233h-215d cm and opening to outside. At the west side of the door there is a rectangular window niche measuring 80w X 135h-75d cm. At the east wall there is a rectangular niche measuring 83w X 108h-50d cm. The south wall features a semicircular niche measuring 319w X 198h-90d cm.

The ground floor plan (figure: D 19.2) has a rectangular plan. It has approximately same measurements as the basement floor. The plan features eight spaces including two central halls. It has a central plan where the living spaces are simply arranged at the north and south sides of the central-halls. Two spaces are located at the south and north sides of the west central-hall; each of them has an exit to outside from the east. East central hall is connected to the west one by a door opening in between. It features two living spaces from north and south sides. East Central hall (space 1.1) is connected to the outside via a corridor measuring 156cm wide, the east wall of which features a door opening to outside. West central hall is connected to the outside from west by a flight of 11, at the same side it features three flights of stone steps connecting to the first floor above.

Space 1.1 (east central-hall) is rectangular measuring 3.77 x 3.71m and featuring a cross-vaulted superstructure measuring 3.89m high. It is located central to the east part of the plan. Another central-hall (Space 1.2) is connected to it from the west, spaces 1.3 and 1.4 are connected to the north wall of this space, and space 1.8 is connected to it from the south. This central-hall faces outside from the east through two corridors. It is used as a living space besides being the main horizontal

circulation element connecting the floor spaces to each other. The floor features flagstone tiles. The walls and the cross-vault superstructure are constructed of stone and smoothly plastered. The north side of the east wall features a corridor space which has a door niche opening to outside from east and measuring 155w X 412h-46d cm. The south side of the east wall features a corridor space with a flight of five steps, it is connecting to space 1.8 from south and to outside from the east. The north wall features two segmental profiled doors, the east side one is measuring 106w X 216h cm and opening to space 1.3, the west one is measuring 93w X 208h cm and opening to space 1.4. Central of the west wall there is a segmental profiled door measuring 100w X 218h cm and opening to space 1.2.

Space 1.2 (west Central-hall, figure: 19.3) is rectangular measuring 5.93 x 4.36m. It has cross-vault superstructure, which measures 3.85m in height. It is located central of the west section of the plan. East central-hall (Space 1.1) is connected to it from the east. Space 1.5 is located at its north wall; spaces 1.7 and 1.6 are connected to this central-hall from south. The space is connected to the outside from the west by a flight of 11 steps, which are connecting to level -2.47m. The south side of the west wall features a flight of six steps; this is connected to a landing measuring 2.4 X 1.04m from which another flight of five steps connects to landing measuring 93 X 105cm, from there a flight of eight steps opens to the space 2.1 (courtyard). It is used as a family living area besides being the main horizontal and vertical circulation element. It is connecting the floor spaces to each other and to the first floor above.

The floor features flagstone tiles. The walls and the cross vault are constructed of stone and smoothly plastered. Central of the east wall there is a door niche opening to space 1.1 and measuring 116w X 232h-52d cm. At the south wall there are two segmental door openings, the east one is measuring 79w x 209h cm and opening to space 1.7 and the west one is measuring 85w X 212h cm and opening to space 1.6. The north wall features a segmental profiled door measuring 101w X 212h cm and opening to space 1.5.

Space 1.3 is rectangular space measuring 3.79 X 3.66m. It has cross-vault superstructure, which measures 3.80m in height. The floor features flagstone tiles. The walls and cross vault are constructed of stone and smoothly plastered. The east wall features a semicircular profiled door niche measuring 115w X 255h-40d cm and opening to outside. At the north side of the door there is a semicircular profiled wall cupboard measuring 86w X 115h-43d cm. The south wall features semicircular profiled door niche measuring 133w X 235h-58d cm and opening to space 1.1. Central of the north wall there is a semicircular profiled window niche measuring 230w X 309h-63d cm; this is elevated approximately 55cm from the ground.

Space 1.4 is rectangular measuring 3.77 X 3.26m. . It has cross-vault superstructure, which measures 3.82m in height. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the west wall there is a semicircular profiled niche measuring 107w X 187h-35d cm, the north corner of the same wall features a rectangular wall cupboard measuring 35w X 115h-32d cm. At the south wall there is a semicircular profiled door niche measuring 123w X 232h-56d cm and opening to space 1.1. Central of the north wall there is a semicircular profiled window niche measuring 239w X 297h-61d cm; this is elevated about 52cm from the ground.

Space 1.5 is rectangular measuring 4.16 X 3.56m. . It has cross-vault superstructure, which measures 3.80m in height. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the east wall there is a semicircular profiled niche measuring 121 X 154-32cm, at the south corner of the same wall there is a rectangular wall cupboard measuring 37w X 115h-35d cm. The east side of the south wall features a semicircular profiled door niche measuring 101w X 252h-51d cm and opening to space 1.2. At the west side of this, there is semicircular profiled niche measuring 161w X 196h-42d cm. Central of the north wall there is semicircular profiled window niche measuring 245w X 311h-68d cm. The west wall features a semicircular profiled window niche measuring 204w X 295h-63d cm.

Space 1.6 (figure: 19.4) is rectangular measuring 3.93 X 3.98m. It has cross-vault superstructure, which measures 3.85m in height. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the east wall there is a semicircular profiled door niche measuring 100w X 232h-72d cm, and opening to space 1.7. At the north corner of the same wall there is a rectangular wall cupboard measuring 32w X 112h-34d cm, and at the south side there is a segmental profiled niche measuring 134w X 133h-37d cm. The east side of the north wall features a semicircular profiled door niche measuring 99w X 233h-54d cm; this is and opening to space 1.2, at the west side of which there is a semicircular profiled niche measuring 159w X 187h-34d cm. Center of the south wall there is semicircular profiled window niche measuring 200w X 265h-60d cm. At the middle of the west wall there is semicircular profiled window niche measuring 204w X 285h-70dcm.

Space 1.7 (figure: 19.5) is rectangular measuring 3.87 X 3.55m. . It has cross-vault superstructure, which measures 3.85m in height. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The west wall features a semicircular profiled door niche measuring 100w X 232h-72d cm, and opening to space 1.6. At the west side of the north wall there is a semicircular profiled door niche measuring 103w X 239h-37d cm and opening to space 1.2; at the east side of this there is semicircular profiled niche measuring 168w X 166h-37d cm. Central of the south wall there is semicircular profiled window niche measuring 188w X 255h-54d cm. At the Southeast corner, there is a circular opening measuring 80cm in diameter. It opens to a water container below.

Space 1.8 is rectangular measuring 3.80 X 3.65m. It has cross-vault superstructure, which measures 3.85m in height. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The room is elevated from the rest of the floor spaces by about 106cm, it connects to outside by a door facing east and connecting to the interior by a flight of five steps. The east side of the north wall features a door niche opening to space 1.1 and measuring 123w X 223h-32d cm. At the south wall there is a semicircular profiled window niche measuring 173w X 242h-66d cm. Central of the east wall there is a semicircular window niche measuring 226w X 262h-66d cm.

The first floor plan (figure: 19.2) is rectangular with the same measurements as the ground floor below. The plan has ten spaces including a courtyard and three semi open spaces each called 'Aywan' those are located at the north, south and west sides of the courtyard. This floor is connected to the ground floor from south-west corner by three flights of stone steps. The floor has a Central plan wherein all the floor spaces are simply arranged at the north, east, west and south sides of the courtyard. Two spaces are located at the north side this courtyard and are connected to it the north Aywan. Three spaces are located at the south side of the courtyard; two of them are connected to it by the north 'Aywan'. The third 'west Aywan' features two flights of stairs connecting the ground floor. The east side of the courtyard features two flights of stone steps connecting to the roof. A toilet space is located at the east side of the courtyard and reached by the landing in-between the two flights of steps.

Space 2.1 (courtyard, figures: 19.6, 19.9, 19.10) is a rectangular measuring 6.2 X 3.8m. It is opened from above and is located at the center of the plan. All the living spaces are arranged at the south, north, east and west sides of this space. At the north side there are three spaces, and two of them 2.3 and 2.5 are connected to it through space 2.4 north 'Aywan'. At the south side, there are four spaces; three of them 2.6, 2.7 and 2.9 are connected to the courtyard through the south Aywan (space 1.8). It faces outside from the west through space 2.2. The east side of the courtyard features flight of six steps which is connected to a landing from which space 2.10 is reached, and another flight of 11 steps connects to the roof of the building. Below the stair cases space 2.10 there is found. The floor features flagstone tiles. The walls are constructed of regular cut stone courses measuring 25-30cm in height. In the middle of the north wall there is a two-centered pointed profiled arch measuring 233cm wide, 370cm high and opening to space 2.4 (north Aywan). The west side features a two-centered pointed profiled arch measuring 418cm wide, 360cm high and opening to space 2.2 (west Aywan). The south side features a two-centered pointed profiled arch measuring 250cm wide, 366cm high and opening to space 2.8 (south Aywan). The west side of the south wall features a segmental profiled door measuring 85 x 222cm and opening to space 2.6. The south side of the east wall features a segmental profiled door measuring 108w X 186hcm and opening to a storage space located under the stairs.

Space 2.2 (west Aywan, figure: 19.7) is rectangular measuring 4.18m wide, 2.91m deep and featuring 3.60m high barrel-vault superstructure. It is used as an outdoor living space besides functioning as a horizontal circulation element. The floor features flagstone tiles, the barrel-vault superstructure, south and west walls are constructed of stone and smoothly plastered. The north wall is constructed of 25-30cm regular cut stone courses. The west wall features three window niches. The middle one is a segmental profiled measuring 106w X 212h-51h cm; the south and north side windows are semicircular profiled, each is measuring 56w X 187h-51d cm. The east side opens to the courtyard space 2.1 through a large two-centered pointed profiled arch.

Space 2.3 is rectangular measuring 3.90 X 4.28m. It has cross-vault superstructure, which measures 3.75m in height. The floor features flagstone tiles. The walls and cross vault are constructed of stone and smoothly plastered. At the south wall there is a semicircular profiled door niche measuring 107w X 245h-37d cm and opening to space 2.4. The east side of the south wall features a semicircular profiled wall cupboard measuring 133w X 156h-37d cm; this is elevated 54cm from the ground. Central of north wall there is a semicircular profiled window niche measuring 240w X 267h-49d cm. Central of the east wall there is a semicircular profiled window niche sharing the same measurements as the north wall's one. The south corner of the same wall features a rectangular wall niche measuring 42w X 90h-40d cm.

Space 2.4 (north Aywan, figure: 19.7) is rectangular measuring 2.33m wide, 5.15m deep, and featuring a cross-vault superstructure. It is used as an outdoor living space and as an entrance lobby to spaces 2.3 and 2.5. The floor features flagstone tiles. The cross-vault superstructure, north, east and west walls are constructed of stone and smoothly plastered. The west wall has three window niches; the middle one is segmental profiled measuring 93w X 215h-48d cm, the south and the north windows feature semicircular profiled niches each measuring 64w X 190h-48d cm. The south side opens to the courtyard space 2.1 through a large two-centered pointed profiled arch. The north side of the west wall features a segmental profiled door measuring 96w X 198h cm and opening to space 2.5. The jambs and arch of this are constructed of stone.

Space 2.5 (figure: 19.8) is rectangular measuring 4.50 X 4.30m. It has cross-vault superstructure, which measures 3.72m in height. The floor features flagstone tiles. The walls and cross vault are constructed of stone and smoothly plastered. At the north wall there is a semicircular profiled door niche measuring 104w X 237h-47d cm and opening to space 2.4. The east side of the south wall features a semicircular profiled wall cupboard measuring 110w X 144h-32d cm. At the west side of this there is a semicircular profiled niche measuring 198w x 235h-30d cm. In the middle of the north wall there is semicircular profiled window niche measuring 206w X 247h-45d cm, this is elevated about 56cm from the ground. In the middle of the west wall there is a semicircular profiled window niche sharing same measurements as the north wall window. At the south corner of the same wall, there is a rectangular niche measuring 50w X 95h-42d cm.

Space 2.6 is rectangular measuring 4.05 X 4.29m. It has cross-vault superstructure, which measures 3.76m in height. The floor features flagstone tiles. The walls and cross vault are constructed of stone and smoothly plastered. At the north wall there is a semicircular profiled door niche measuring 97w X 246h-41d cm and opening to space 2.1. Central of the east wall there is a semicircular profiled niche measuring 176w X 189h-40d cm, this is elevated about 52cm from the ground; the south side of the same wall features a rectangular niche measuring 44w X 94h-30d cm. At the west wall there is semicircular profiled window niche measuring 204w x 251h-53d cm, at the north side of the same wall there is a rectangular niche measuring 56w X 87h-42d cm. The east side of the south wall features a semicircular profiled window niche measuring 81w X 187h-56d cm.

Space 2.7 is rectangular measuring 2.65 X 32.46m. It has cross-vault superstructure, which measures 3.65m in height. This is used as a kitchen. The floor features flagstone tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The north wall features a semicircular profiled door niche measuring 92w X 238h-22d cm, and opening to space 2.8. Central of the east wall there is a semicircular profiled niche measuring 172w X 255h-30d cm. At the south wall there are two semicircular profiled window niches measuring 64w X 162h-43d cm.

Space 2.8 (south Aywan, figure: 19.6) is rectangular measuring 2.50m wide, 1.70m deep, it features a barrel-vault superstructure measuring 3.66m high. It is used as an entrance lobby to spaces 2.7 and 2.9. The floor features flagstone tiles. The barrel-vault superstructure is constructed of stone and smoothly plastered. The north, east and west walls are constructed of regular cut stone courses measuring 25-30cm in height. The north side opens onto the courtyard (space 2.1) by a large two-centered pointed profiled arch. At the east wall there is a segmental profiled door measuring 106w X 205h cm and opening to space 2.9. The south wall features a segmental profiled door opening to space 2.7, this is same as the east wall door.

Space 2.9 (figure: 19.8) is rectangular measuring 3.68 X 4.70m. It has cross-vault superstructure, which measures 3.89m in height. The floor features flagstone tiles. The walls and cross vault are constructed of stone and smoothly plastered. The north side of the west wall features a semicircular profiled door niche measuring 123w X 37h-41d cm and opening to space 2.7. At the east side of the south wall, there is a semicircular profiled wall cupboard measuring 129w X 35hcm. At the west side of this there is a semicircular profiled window niche measuring 74w X 167h-55d cm. Central of the east wall there is a semicircular profiled window niche measuring 179w X 256h-44d cm. Central of the north wall there is a semicircular niche measuring 177w X 208h-30d cm.

Space 2.10 is rectangular measuring 2.59 X 2.21m. It has cross-vault superstructure, which measures 2.55m in height. The space is used as a toilet. The floor features flagstone tiles. The walls and cross vault are constructed of stone and smoothly plastered, ceramic tiles are used up to 2.6m height. The room is elevated from the rest of the floor spaces by approximately 100cm; it is reached from outside by a door facing west. It is connected to the courtyard (space 2.1) by a flight of six steps. At the north side of the west wall, there is a door niche opening to landing of the stairs. The door is measuring 99w X 232h-48d cm. The east wall features a rectangular window niche measuring 74w X 132h-92d cm.

Decorations and Ornamentations

The interior decorations are limited to the timber doors, which feature decorative wings. The cross vaults are plastered featured rose ornamentations and carvings. The walls are simply plastered without having any decorations or ornamented surfaces. The floors feature simple flagstone tiles. Externally the window openings are protected with ornamented metal grills; the exterior doors also featured elaborate ironwork. Elaborate and carefully profiled stone carvings are found within the window and doorframes. This is concentrated at the main elevation, featuring projecting and profiled columns. The twin windows features ornamented and profiled frames. Vertical and horizontal framing added more to the exterior decoration.

Structural System, Construction Material and Building Technology

Continuous load bearing foundations are used. Load bearing walls used to support the valuated superstructures. Limestone and lime are the main construction materials. Lime plaster and flagstone tiles are used for the interior finishing.

The roof water is channeled using metal pipes leading rainwater to the cistern at the basement floor; water drainage was provided in the south-eastern corner of the building. Electric power was made available to the house in the 1950s, and the wiring is fixed externally. Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking.

20. Hamzah Shahin House

Address: Old fabric, Layton neighborhood, Tal Al-rumaydah Street

Coordinates: E 159, 716 0283 - N 104,098. 3718

Date of construction: ground floor 1926 – 1345, according to inscription panel.

Occupancy statue: the ground floor is occupied Kasim Shahin and his wife, five unmarried children; the currant tenant is the grandson of the original Hamzah Shahin

Date of documentation: fifth of May until 28th of September 2006

Photographs: figure 20.1 to figure 20.4

Drawings: figure D 20.1, figure D 20.2, figure D 20.3 and figure D 20.4

The Lot (figure: D 20.1)

The lot features irregular rectangular geometry measuring approximately in meters 58.27 north side, 51.72 south side, 41.25 west side and 27.64 east side. A loose stone wall measuring approximately 1.4m high, defines the north side of the lot.

Approximately 3.7m far from the wall there are four neighboring buildings of two-floors high. At north-west corner of the lot there is a dead end street measuring 3.70m wide, this connects with the Al Romaydah Street. The south side of the lot features a loose stone walls measuring in 1m height. Approximately 9m apart this wall there is a two-floors high neighboring buildings. The east and west sides of the lot feature loose stone walls measuring 1 to 1.5 m high. Essentially the lot features a strait topography; only the Southeast section has a platform, which is approximately 2.2m elevated from the lot.

At the east side of the lot there is an open space measuring in meters 19.35 north side, 22.85 east side. This space is elevated about 2.2m from the lot. It has trees of deferent types, besides that it provides entry to the first floor of the building by a flight of 14 steps. The north section features an opens space measuring in meters 58.27-north side, 16.45 east sides. At the north side of this space, there is a pedestrian passage connecting the main entrance to Al Romaydah Street. Opposite to the lot entrance there is a car parking, in the south side of this space, there is a terrace space, which have a water cistern below.

The west section of the lot features an open space, measuring approximately 17.61 meters in wide. This space provides the west side openings with light and ventilation. In addition, it provides the ground floor by a secondary entrance. The west section of the lot is planted with olive trees and vine. At the south section of the lot, there is a corridor-like space. This is measuring approximately 4.70-9.20 meters in wide. This space is planted with trees and vine; also, it connects to the south side of the ground floor by a door opening to the Central-hall. The house is located at the south section of the lot. It is roughly 17, 60 meters away from the west boundaries, 4.70-9.20m from south, 19.35 from east and 16.45m from north.

General

The building features two floors. It measures 9.83m in height. It has a freestanding simple clear-cut form and a straight roof. The ground floor plan has five spaces including a central-hall. It measures in meters 10.69NS x 17.09 EW. The plan features a central-hall with the living spaces symmetrically arranged at the east and west sides of it. The main entrance opens to a wall recess in the form of a veranda. The central-hall serves as an entrance lobby besides functioning as a living space and horizontal circulation elements. The first floor is excluded from the analysis since it dates to (1963) a considerably late period from the thesis concern; also, the plan arraignment is far from the central hall schema. This floor features a very advanced model of the central-hall concept, though the construction materials used are the same as those used for the analyzed central-hall houses. The first floor has ten spaces including a living room, which is a central space of the house, but dose not share similar characteristics with the central-hall. This floor shares identical measurements as the ground floor.

Continuous load bearing construction is used for the walls. The spaces feature cross-vault superstructures. Red-colored or limestone is the main construction material. The ground floor has three entrances. A main entrance is provided about the middle of the north elevation, another entrance is found at the west part of the building and a third entrance opens to the central-hall from south.

The Exterior

The north, east and west elevation walls features regular cut stone courses measuring 25-30 cm high. Roughly cut and coursed stone is used for the south elevation. Two horizontal bands of stone courses projected two to three centimeters from the wall surface define the floor height. The horizontal bands and window frames are emphasized by their projection from the wall surface and use of variation in texture: smoothly dressed Matabbih stone is used for the frames, the wall surface features Mlattash Emfajar dressed stone.

The north main elevation (figures: D 20.3 and 20.1), the ground floor part of this elevation measures 17.09m long and 5.41m high. Central to the elevation wall there is a wall recess. This is measuring 4.08m wide, 4.64m high and 1.88m deep. The rear of the recess features a rectangular door opening measuring 116w x 271h cm; it has an ornamented shouldered lintel. Above the lintel, there is a two-centered pointed revealing arch opening, containing an ornamented iron metal grill. The either side of the door has rectangular window opening which is measuring 62w x 142h cm and is covered with a lintel, the interior of which is segmental profiled. The east and west side of the elevation features twin windows both are sharing same profile and measurements. The twin window contains two segmental profiled window openings each is measuring 84w x 202 h cm. The east side twin window opens to space 0.5, the west side twin window opens to space 0.2.

The east elevation (figure: D 2.3), measures 10.69m long and 5.41m high. The south and north sides of the elevation feature twin windows; both are sharing the same profile and measurements. The window has two segmental profiled window openings each is measuring 86w x 207 h cm. The north side twin window opens to space 0.5; the south side one opens to space 0.4.

The west elevation (figure: D 20.4) measures 10.69m long and 5.41m high. The south and north sides of this elevation features twin-windows, both are same as the twin windows of the east elevation. The south side twin window opens to space 0.3.

Center of the elevation there is a semicircular profiled door measuring 87w x 203 h, cm and opening to space 0.3, the door is connected to the natural ground by a flight of three steps.

The south elevation (figures: D 20.4 and 20.2) measures 16.99m long and 5.41m high. The south and north sides of the elevation feature segmental profiled window openings each is measuring 81w x 206 h cm. The east side window opens to space 0.4; the west side window opens to space 0.3. Center of the elevation there is a rectangular door measuring 111w x 251 h, it is covered with a lintel in top of which there is a semicircular arch.

The Interior

The ground floor plan (figure: D 20.2) features five spaces. Central-hall (space 0.1) is the central space of the plan. It guarantees relationship and cross circulation among the surrounding spaces. At the east side of the central-hall there is a veranda in the form of a wall recess, this act as an entrance-hall opening to outside from north. The central-hall is connected directly to outside from north and south directions. Living spaces are symmetrically arraigned at the east and west sides of the central-hall. Space 0.3 used to serve as a kitchen, indoor toilet space is not provided.

Space 0.1 (central-hall, figure 20.3) is longitudinal rectangular space measuring 7.23m long, 4.10m wide. It has double cross-vault superstructure, which is measuring 4.14m in height, the central-hall opens to outside through a veranda. From north, and south it opens to outside by a door niches. The other four spaces are connected to it from east and west sides. It is used as a family living space as well as being the main horizontal circulation element connecting the floor spaces to each other. The floor is elevated about 18cm from the veranda; it is finished by colored cement tiles. The walls and the double cross-vaults are constructed of stone and smoothly plastered. The north wall features a large semicircular niche measuring 368W X 277h-75d cm inside of which there is a semicircular profiled door opening to outside. The door is flanked by two semicircular window openings. The south

opposite wall features a semicircular door niche measuring 131W X 205h-92d cm, at each side of which there is a rectangular wall cupboard measuring 58W X 135h-33dcm. The south and north a side of the west wall feature segmental profiled doors, each is measuring 87w X 213h cm. The north side door opens to space 0.2, the south side one opens to space 0.3. The opposite east wall feature two doors facing the west wall doors, and are sharing them identical profile and measurements. The south side one opens to space 0.4 and the north side one opens to space 0.5.

Space 0.2 (figure 20.3) is rectangular measuring 4.20SN X 4.68EW. It has cross vault, which is measuring 4.12m in height. The floor features colored cement tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the south side of the east wall there is a semicircular profiled door niche measuring 107 X 212-56d cm and opening to space 0.1. At the north side of this there is a semicircular profiled wall cupboard measuring 105w X 119h-46d cm. The south wall features a wall niche measuring 199w X 243h-43d cm. Central of the north and south walls there are semicircular profiled window niches, each is measuring 229w X 248h-79d cm.

Space 0.3 is rectangular measuring 4.08SN X 4.45EW. It has cross-vault superstructure, which is measuring 4.16m in height. The floor features colored cement tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The south side of the east wall features a semicircular profiled door niche measuring 107 X 222-59d cm. At the north side of this there is a rectangular wall cupboard measuring 82w X 139h-38d cm. At the north side of the west wall there is a semicircular profiled door niche measuring 91w X 245h-79d cm. The south side of the same wall features a semicircular profiled window niche measuring 181w X 255h-78d cm. Central of the south wall there is a semicircular profiled window niche measuring 104w X 235h-60d cm. At both sides of which there are rectangular wall cupboards, each is approximately measuring 42w X 136h-33d cm.

Space 0.4 is rectangular measuring 4.23SN X 4.70EW. It has cross-vault superstructure, which is measuring 4.19m in height. The floor features colored

cement tiles. The walls and cross vaults are constructed of stone and smoothly plastered. At the south side of the west wall there is a semicircular profiled door niche measuring 102 X 232-56d cm and opening to space 0.1. At the north side of this there is a rectangular wall cupboard measuring 154w X 239h-41d cm. Central of the east wall there is a semicircular profiled window niche measuring 218w X 252h-84d cm. Central of the south wall is a semicircular profiled window niche measuring 103w X 225h-56d cm. At both sides of which there are rectangular wall cupboards.

Space 0.5 (figure 20.4) is rectangular measuring 4.21SN X 4.64EW. It has cross-vault superstructure, which is measuring 4.11m in height. The floor features colored cement tiles. The walls and cross vaults are constructed of stone and smoothly plastered. The south side of the east wall features a semicircular profiled door niche measuring 105 X 222-62d cm. The north side of this features a semicircular profiled wall cupboard measuring 105w X 119h-62d cm.

Decorations and Ornamentations

The interior decorations are limited to the timber doors, which featured decorative wings. The walls are simply plastered. The floors featured colored cement tiles. Externally the window openings are protected with ornamented metal grills. The exterior doors also featured elaborate ironwork. Externally Horizontal, vertical framing and openings frames projected from the elevation wall.

Structural System, Construction Material and Building Technology

Continuous load bearing foundations are used. Load bearing walls used to support the cross-valuate superstructures. Limestone and lime are the main construction materials. Lime plaster and colored cement tiles are used for the interior finishing. Water cistern is provided in front of the main entrance. Electric power was made available to the house in the 1950s, and the wiring is fixed externally. Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking.

CHAPTER 5

COMPARISON AND EVALUATION

This chapter compares the Al Khalil houses in concentric circles. Section 5.1 compares the surveyed houses among themselves. Section 5.2 compares them with similar house in Al Khalil. This section only covers the exterior of the buildings. Section 5.3 compares them with the hosh in Al Khalil. Section 5.4 compares them with 31 houses, and located in the surrounding Palestinian towns, namely Jerusalem, Bethlehem and Ramallah. In this section, the comparison does not depend on personal observation but on publications. In the catalogue, the houses referred to the later owners.

5.1 Comparison of the Surveyed Houses

This section of the Comparison is accompanied with two tables, which summarises information provided at the catalogue, the tables provides feedback to the comparisons of the Surveyed Houses. Table two provides a summary of the following aspects: Nature of the family using the house nucleus family or extended or if used by other, the name of the house is of the last (current) owner, area of the lot, built up area within the lot, percentage of built up area in relation to the area of the lot, the site sloping percentage, the types of floors and the area and number of spaces found in each, orientation of the main elevations, the number of central halls found in each, date of construction. Also the plans of the surveyed houses are classified into four plan typologies those are marked in table two and are clarified in five sketches (Figures: 28, 29, 30, 31 and 32). Table three summarises the following information's which are relevant to each floor of the measured house: Structural system of foundations walls and superstructures, types of roofs, interior walls finish, floor finish, material of doors, material of windows, wet spaces, stone carvings, framings and decoration.

Table 2: Summarizes the measured Central-hall houses: lot area, buildup area percentage, lots slope, floors type and area, floors total area, number of spaces, plan typologies, and dates of construction

No	Occupation status And nature of the family or users	Name Currant owner- original or latter	Lot m2	Built up area	Built up Percent	Slop	B.F m2 & number of spaces	G.F m2 & number of spaces	F.F m2 & number of spaces	floors total m2 area	Main elevation oriented	Number of central-halls	Central-hall Location: Figure 31	Type of entrance in plan: Figure 32	Type of entrance in elevation and Figures: 38 to 41	Date
1	Not occupied	Mohammad Al-Zghayyar, Original	488	255	52%	15% E-W	97m2 spaces: 3	255 m2 spaces: 8	----	352 m2	West	1 in G.F	Typology 2	Typology 4	Typology 2,	1927-1346
2	Owner Nucleus family	Izaldiyūn Al-Hammory, Original	1426	298	21%	15% W-E	----	298 spaces: 9	298 spaces: 9	596	East	2 in G.F 2 in F.F	Typology 2	Typology 2	Typology 3	1931-1350
3	Owner Nucleus family	Atif Al- Hammory, Original	837	268	32%	8% W-E	----	268 spaces: 9	----	268	East	1 in G.F	Typology 1	Typology 1	Typology 2	1931-1350
4	Computer center	Mosā Shāhiyn Original	536	222	41%	8% N-S	----	222 spaces: 8	222 spaces: 8	444	North	1 in G.F 1 in F.F	Typology 1	Typology 3	Typology 1	1937-1356
5	Social center	Hishām Al-Zghayyar, Original	708	216	30%	8% E-W	90 spaces: 3	216 spaces: 8	----	306	West	1 in G.F	Typology 1	Typology 1	Typology 4	1939-1358
6	Red Cross	Rātib Al-Nāzir, Original	1538	266	17%	2% E-W	----	266 spaces: 8	----	266	West	1 in G.F	Typology 1	Typology 3	Typology 1	1929-1348
7	Owner Nucleus family	Shākir Al-Dwyk, Original	1323	152	11%	20% E-W	46 spaces: 1	152 spaces: 3	----	198	West	1 in G.F	Typology 2	Typology 1	Typology 2	1933-1352
8	Owner Nucleus family	Abdalafo Al-Mohtasib, Original	2937	208	7%	13% E-W	124 spaces: 4	208 spaces: 6	----	332	West	1 in G.F	Typology 2	Typology 1	Typology 2	1951-1370
9	Not occupied	Yāsir Al-Dwyk, Original	1757	205	12%	5% E-W	77 spaces: 3	205 spaces: 7	----	282	West	1 in G.F	Typology 3	Typology 1	Typology 2	1951-1370
10	Computer center	Awṇī Al-Dwyk, Original	878	225	26%	17% E-W	----	225 spaces: 6	----	225	West	2 in G.F	Typology 3	Typology 1	Typology 2	1930-1349
11	Not occupied	Original ownerAlī Arafih	1263	203	16%	6% E-W	----	203 spaces: 7	----	203	West	1 in G.F	Typology 3	Typology 2	Typology 3	1930-1349
12	Not original Nucleus family	Mohammad Al-Salāyīmih, later	1254	266	21%	13% E-W	----	266 spaces: 5	----	266	West	1 in G.F	Typology 2	Typology 1	Typology 2	1934-1353
13	Not occupied	Yuwsif Al-Djabarī, Original	858	238	28%	30% N-S	----	225 spaces: 5	238 spaces: 7	463	South	1 in G.F 1 in F.F	Typology 1	Typology 3	Typology 1	1905-1342
14	Not occupied	Djābir Al-Djabarī, Original	531	294	55%	2% N-S	----	294 spaces: 6	----	294	East	Central-hall & courtyard in G.F	Typology 2	Typology 3	Typology 1	1906-1325
15	Not occupied	Abdalafo Al-Djabarī, Original	729	136	19%	2% N-S	----	136 spaces: 4	----	136	North	1 in G.F	Typology 3	Typology 3	Typology 1	1933-1352
16	Not occupied	Mosā Al-Natshih, Original	692	226	33%	20% N-S	175 spaces: 5	226 spaces: 7	----	401	South	1 in B.F 2 in G.F	Typology 1	Typology 3	Typology 1	1926-1363
17	Not original Nucleus family	Abdalazyz Al-Natshih, Original	310	252	81%	30% N-S	151 spaces: 2	252 spaces: 5	----	403	South	1 in G.F	Typology 2	Typology 4	Typology 2	1896-1325
18	Not original Nucleus families	Murtadā Al-Dwyk, Original	990	195	20%	20% N-S	195 spaces: 3	195 spaces: 7	180 spaces: 9	570	West	1 in G.F 1 courtyard in F.F	Typology 2	Typology 4	Typology 2	1898-1327
19	HRC office	Kasir Al-Dwyk, Original	278	201	72%	27% N-S	185 spaces: 5	185 spaces: 8	168 spaces: 10	530	West	1 in G.F 1 courtyard in F.F	Typology 2	Typology 3	Typology 1	1870
20	Not original Nucleus family	Hamzah Shāhiyn, Original	1913	183	10%	13 %S-N	----	183 spaces: 5	183 spaces: 10	366	North	1 in G.F	Typology 2	Typology 1	Typology 2	1926-1345

Table 3: construction materials, structural systems, interior and exterior finishing

	Last Owner	Floor	Foundations & Walls	Roofs	Super structure	Date	Interior wall finish	Floor finish	Interior - doors	Exterior- doors	Window Grills	Shutters	Kitchens	Toilets	Vertical framing	Horizontal framing	Window & door frames	Exterior walls finish
1	Mohammad Al-Zhayyar	Basement	Stone Load bearing	Strait & parapets	Cross-vaults	1927	Lime plaster	Earth	Nil	Iron,	Found	Not found	Not found	Not found	No vertical framings	Plain surface horizontal band	Projected plain surface frames	Front and side elevations feature regularly cut Mlatah dressed stone
		Ground	//	//	Cross-vaults	//	//	Flagstone	Turner	//	//	//	Original	Original	Vertical bands corners 2 corners	Plain surface horizontal band	Projected plain surface frames	Front and side elevations feature regularly cut Mlatah dressed stone Rear elevation features roughly cut and coursed stone
2	Izakiyn Al-Hammory	Ground	//	//	Cross and Jack-vaults	1931	//	Colored tile	//	//	//	//	Added internally	Added internally	Only quoins project 2 corners	Plain surface horizontal band in quoins form	Projected plain surface & moulded carvings	Front, side and rear elevations feature regularly cut Tubzh dressed stone
		First	//	//	Cross and Jack-vaults	//	//	Colored tile	//	//	//	//	Added internally	Added internally	Only quoins project 2 corners	Plain surface horizontal band in quoins form	Projected plain surface & moulded carvings frames	Front, side and rear elevations feature regularly cut Tubzh dressed stone
3	Atf Al-Hammory	Ground	//	//	Cross and Jack-vaults	1931	//	Colored tile	//	//	//	Found	Added externally	Added externally	No vertical framings	moulded profile carvings	Projected moulded carvings frames	Front and side elevations feature regularly cut Msamsam dressed stone Rear elevation features Tubzh dressed stone
4	Mosā Shāhiyn	Ground	//	//	Cross-vaults	1937	//	Flagstone	//	//	//	Found	Original	Original	No vertical framings	Plain surface horizontal band	Projected plain surface frames	Front elevation features regularly cut Msamsam dressed side and rear elevations feature roughly cut and coursed stone
		First	//	//	Jack-vaults	//	//	Colored tile	//	//	//	Found	Original	Original	Vertical bands corners	moulded profile carvings	Projected plain surface frames	Four elevation features regularly cut Msamsam dressed stone
5	Hishām Al-Zhayyar	Basement	//	//	Jack-vaults	1939	//	Flagstone	//	//	//	Not found	Not found	Not found	No vertical framings	Plain surface horizontal band	Projected plain surface frames	All elevations feature regularly cut Tubzh dressed stone
		Ground	//	//	Jack-vaults	//	//	Colored tile	//	//	//	Not found	Original	Original	No vertical framings	Plain surface horizontal band	Projected plain surface & moulded carvings frames	All elevations feature regularly cut Tubzh dressed stone
6	Rāb Al-Nāzir	Ground	//	//	Cross-vaults	1929	//	Colored tile	//	//	//	Found	Original	Original	Vertical bands corners	Plain surface horizontal band	Projected plain surface frames	Front elev. has regularly cut Msamsam dressed side and rear elev. has roughly cut and coursed stone
7	Shākīr Al-Dwyk	Basement	//	//	Cross-vaults	1933	//	Lime mix	//	//	//	Not found	Not found	Not found	No vertical framings	No horizontal band	No projected frames	All elevations has regularly cut Tubzh dressed stone
		Ground	//	//	Cross-vaults	//	//	Colored tile	//	//	//	Not found	Added internally	Added internally	Only quoins project	Plain surface horizontal band	Projected plain surface & moulded carvings frames	Front elevation features regularly cut Msamsam dressed stone Side and rear elevations feature Tubzh stone
8	Abdalafō Al-Mohtasb	Basement	//	//	Jack-vaults	1951	//	Lime mix	//	//	//	Found	Not found	Not found	No vertical framings	No horizontal band	No projected frames	All elevations feature regularly cut Tubzh dressed stone
		Ground	//	//	Cross-vaults	//	//	Colored tile	//	//	//	Found	Added internally	Added internally	Only quoins project	moulded profile carvings	Projected plain surface & moulded carvings frames	Front elevation features regularly cut Msamsam dressed stone Side and rear elevations feature Tubzh stone
9	Yāsīr Al-Dwyk	Basement	//	//	Jack-vaults	1951	//	Lime mix	//	//	//	Not found	Not found	Not found	No vertical framings	No horizontal band	No projected frames	All elevations feature regularly cut Tubzh dressed stone
		Ground	//	//	Jack-vaults	//	//	Colored tile	//	//	//	Not found	Original	Original	Only quoins are projected	Plain surface horizontal band	Projected plain surface & moulded carvings frames	Front elevation features regularly cut Msamsam dressed stone Side, and rear elevations feature Tubzh dressed stone
10	Awnī Al-Dwyk	Ground	//	//	Jack-vaults	1930	//	Colored tile	//	//	//	Found	Added externally	Added externally	Only quoins project	Plain surface horizontal band	Projected plain surface & moulded carvings frames	Front elev. has regularly cut Msamsam dressed stone Side, and rear elev. have Tubzh stone
11	Alī Arafih	Ground	//	//	Jack-vaults	1930	//	Colored tile	//	//	//	Not found	Added externally	Added externally	Vertical bands corners	Plain surface horizontal band	Projected plain surface & moulded carvings frames	Front and side elevations regularly cut Tubzh dressed stone Rear elev. has roughly cut and coursed stone
12	Mohammad Al-Sāliymih	Ground	//	//	Jack-vaults	1943	//	Colored tile	//	//	//	Not found	Not found	Not found	Only quoins project	Plain surface horizontal band	Projected plain surface & moulded carvings frames	Front elevation features regularly cut Msamsam dressed stone Side, and rear elevations feature Tubzh dressed stone
		First	//	//	Cross-vaults	//	//	Colored tile	//	//	//	Not found	Added externally	Added externally	Vertical bands corners	moulded profile carvings	Projected plain surface frames	Front elevation features regularly cut Msamsam dressed stone Side, and rear elevations feature Tubzh dressed stone
14	Djābir Al-Djabari	Ground	//	//	Cross-vaults	1906	//	Flagstone	Nil	Nil	//	Not found	Not found	Not found	No vertical framings	No bands	Projected plain surface frames	All elevations feature regularly cut Msamsam dressed stone
		Ground	//	//	Jack-vaults	1933	//	Colored tile	Turner	Iron,	//	Not found	Added externally	Added externally	Only quoins project	Plain surface horizontal band	No frames projection	Front and side elevations feature regularly cut Tubzh dressed stone
16	Mosā Al-Natshih	Basement	//	//	Cross and barrel-vaults	1926	//	Flagstone	//	//	//	Found	Found	Found	No vertical framings	No bands	No frames projection	All elevations feature regularly cut Tubzh dressed stone
		Ground	//	//	Cross and barrel-vaults	//	//	Colored tile	//	//	//	Found	Found	Found	No vertical framings	No bands	No frames projection	All elevations feature regularly cut Tubzh dressed stone
17	Abdalazyz Al-Natshih	Basement	//	//	Cross-vaults	1896	//	Earth	//	//	//	Not found	Not found	Not found	No vertical framings	No bands	Projected plain surface frames	Front elevation features regularly cut Mlatah dressed stone
		Ground	//	//	Cross-vaults	//	//	Flagstone	//	//	//	Not found	Added internally	Added internally	Vertical bands corners	No bands	Projected plain surface frames	Front elevation features regularly cut Mlatah dressed stone
18	Murtād Al-Dwyk	Basement	//	//	Cross and barrel-vaults	1889	//	Flagstone	//	//	//	Not found	Not found	Not found	No vertical framings	Plain surface horizontal band	Projected plain surface frames	All elevations feature regularly cut and coursed stone
		Ground	//	//	Cross-vaults	//	//	Flagstone	//	//	//	Not found	Not found	Not found	Vertical bands corners	Plain surface horizontal band	Projected plain surface frames	Front and side elevations feature regularly cut Mlatah dressed stone. Rear and side elevations feature roughly cut and coursed stone
		First	//	//	Cross-vaults	//	//	Flagstone	//	//	//	Not found	Not found	Not found	Vertical bands corners	Plain surface horizontal band	Projected plain surface frames	Front and side elevations feature regularly cut Mlatah dressed stone. Rear and side elevations feature roughly cut and coursed stone
19	Kasr	Basement	//	//	Cross and barrel-vaults	1840s	//	Flagstone	//	//	//	Not found	Not found	Not found	No vertical framings	Plain surface horizontal band	Projected plain surface frames	All elevations feature regularly cut and coursed stone
		Ground	//	//	Cross-vaults	1870s	//	Flagstone	//	//	//	Not found	Not found	Not found	Vertical bands corners	Plain surface horizontal band	Projected plain surface frames	All elevations feature regularly cut Mlatah dressed stone
20	Hamzah Shāhiyn	First	//	//	Cross and barrel-vaults	1880s	//	Flagstone	//	//	//	Not found	Added internally	Added internally	No vertical framings	moulded profile carvings	moulded carvings	All elevations feature regularly cut Mlatah dressed stone
		Ground	//	//	Cross-vaults	1926	//	Colored tile	//	//	//	Not found	Not found	Not found	No vertical framings	Plain surface horizontal band	Projected plain surface frames	Front and side elevations feature regularly Mlatah dressed stone.

Parts of the town where central hall houses are found

Until the first half of the 19th century, building activities were concentrated in the traditional neighbourhoods. After the 1880s, more affluent residents of the town started to move out of the traditional neighbourhoods constructing freestanding central hall houses and either renting or selling their traditional hoshes to the lower income groups of the town. At the very beginning, individual freestanding detached houses were constructed in nearby empty lots, adjacent to the old neighbourhoods, in the Northern section of al-Kaliah neighbourhoods. This was followed by gradual expansion along the slopes of the four surrounding mountains, in particular, in the Southeast on the slopes of Tel Al-Rumeida and Kub al-Janib Mountains, and in the Northwest, on the Baylun and ar-Ras (Figure 20: shows the age of buildings surrounding the old town and Figure 23: shows the measured houses located around the old neighbourhoods). After the 1900s, Ayn Sarah became the elite residential neighbourhood of the town; it has an advantageous location afforded by Jerusalem Road passing through it. Freestanding residential buildings started to appear to the East and West sides of Jerusalem Road (Figure 19: the houses located at Ayn Sarah).

Of twenty houses, eight are located around the traditional neighbourhoods on the nearby mountains slopes, particularly in Qiytun and al-Kaliah neighbourhoods. The area surrounding the traditional section of the town, particularly al-Kaliah neighbourhood, has the earliest examples of central hall houses. Of the surveyed houses, eight are located in this part of the town, seven in the north along ash-Shih and al haram Street, and one in the Qiytun neighbourhood on al-romaydah Street. Figures 15 is a development map which provides visual reference for the location of the measured houses at the town scale, the houses are numbered from one to twenty the date of construction of each is provided at the figure note as: Kasir ad-Duaik house is constructed in 1870s; Abdul -Aziz an-Natshih house in 1896, and Murtada ad-Duaik house in 1898.

The Ayn Sarah neighbourhood has the most recent examples of central hall houses: for reasons explained in chapter three which sheds light on the development of the

urban texture. Ayn Sarah has twelve of the measured houses, located on both sides of Jerusalem Road: three houses are located on the West side, while nine houses are located on the East side (Figures 15, 21, and 22). Muhammad as-Salaymah house was constructed in 1943, Yasir id-Duaik house in 1951, and Abdul ‘Afu al-Muhtasib in 1951. The construction of the surveyed houses is concentrated within a 15-year period, with 11 houses constructed between 1925 and 1939.

Ayn Sarah features different urban characteristics from the old town and its surroundings. The old part of the town is characterised by simple local architecture. It has a very compact fabric of extended-family stone houses, ‘hoshes’, which consist of tightly clustered irregular cubic volumes. The whole network is intercepted by organic underpasses, narrow streets, and covered bazaars. The architectural texture of the traditional part of the town reflects the traditional way of living, which continued until the end of the 19th century. Ayn Sarah has an urban texture, which is not compact but characterised by wider streets that are 8, 12, 16 and 22 meters wide and that can accommodate vehicular and pedestrian traffic, the widest being the Jerusalem Road, which is 28m wide. The houses are freestanding structures surrounded by gardens and vineyards, and the neighbouring buildings are less dense. Unlike the old town, which features very little greeneries, Ayn Sarah has a pleasant landscape with too many trees, vineyards and natural water springs. The streets in Ayn Sarah are equipped with modern infrastructure of a proper sewage and drainage system.

The houses found around al-Kaliah, the old part of the town, are constructed on top of an old building, as in the case of Kasir ad-Duaik house, or replaced a demolished building, as in the case of Jabir al-Ja’abari house. The remaining six houses are constructed on empty lots of what originally were small orchards (Yusif al-Ja’bari, ‘Abdul ‘af al-Ja’bari, Murtada ad-Duaik and Hamzah Shahin houses) or on an empty lot adjacent to the traditional neighbourhoods as in case of Yusif al-Ja’bari and Abdul -Aziz an-Natshih houses.

Houses in Ayn Sarah are located on large agricultural plots that were later converted to residential areas by subdividing the large vineyards into smaller units. Unlike the lots found at Ayn Sarah, not much distance separates the lots located within the old town and the neighbouring buildings. Of eight houses surveyed at Al-Kaliah neighbourhood, six feature one or two neighbouring buildings located along the lot boundaries: Musa Shahin, Hisham iz-Zghayyar, Yusif al-Ja'bari, Jabir al-Ja'abari, 'Abdul 'af al-Ja'bari and Kasir ad-Duaik houses. Most of the houses in both areas are free standing except the Jabir al-Ja'abari house, which is attached neighbouring building on one side.

Terrain: Because the town has a hilly topography, the houses of Al-Kaliah, the old town, and Ayn Sarah are constructed on slope, which varies from one lot to another (Table 2). Ratib an-Nazir and Jabir al-Ja'abari houses have the least slope, approximately 2%. The greatest slopes, 30%, were found in the lots of the Yusif al-Ja'bari and Abdul -Aziz an-Natshih houses. The slope percentage at the lots of the remaining 16 houses is as follow: 15% found at the lots of Muhammad iz-Zghayyar and 'Iz id-Din al-Hammory, 8% slope found at the lots of Atif al- Hammury, Musa Shahin, Hisham iz-Zghayyar, 13% slope found at the lots of Abdul 'Afu al-Muhtasib and Muhammad as-Salaymah, Hamzah Shahin, 5% slope found at the lot of Kasir ad-Duaik, 17% slope found at the lot of Awni id-Duaik, 6% slope at the lot of 'Ali 'Arafah, 20% slope is found at the lots of Shakir ad-Duaik, Musa an-Natshih, Murtada ad-Duaik, 27% slope is found at Kasir ad-Duaik.

Orientation: In all the surveyed houses, there is no specific climactic reason for the orientation of the house in the site (Table 2). Orientation is rather dictated by the topography of the site and the relationship of the lot together with the surrounding streets and passages. All the surveyed houses face the lower end of the lot. The houses are oriented to the valley below as this is where easy access to the site is provided. The result is that the main entrance of the building faces the valley below. The slope of the site resulted at the construction of a partial floor located at the lower section of the lot, under the main elevation part of the building. This in turn causes variations in height between elevations of the same building; usually main elevations are higher than side and rear.

The houses are oriented to the following directions with reference to main elevation (Table 2): 11 houses are oriented to the West (Muhammad iz-Zghayyar, Hisham iz-Zghayyar, Ratib an-Nazir, Shakir ad-Duaik, Abdul ‘Afu al-Muhtasib, Yasir id-Duaik, ‘Ali ‘Arafah, Muhammad as-Salaymah, Murtada ad-Duaik and Kasir ad-Duaik), three houses are oriented to the East (‘Iz id-Din al-Hammory, Atif al-Hammury and Jabir al-Ja’abari), four houses face North (Musa Shahin, Abdul ‘Afu al-Muhtasib, Musa an-Natshih and Hamzah Shahin), and two houses face South (Yusif al-Ja’abari and Abdul -Aziz an-Natshih).

Delineation of the lots: All the lots have varied irregular shapes because the boundaries of the lots are defined by agreements between the owners and their neighbours. This situation emerged (particularly in Ayn Sarah) when the lot was a part of a large vineyard or orchard that was then subdivided between the inheritors into smaller lots. It is necessary to note that until now cadastral land registration is not yet introduced to the town.

In both surveyed areas (Ayn Sarah and Al-Kaliah), the site has physical features such as: cliffs, retaining walls, large pieces of rock, caves, and trees that are used as boundary between the lots. In time, dry stone or concrete walls defined the boundaries. For example, the boundaries of six houses are all dry stonewalls (‘Iz id-Din al-Hammory, Atif al-Hammury, Yasir id-Duaik, ‘Abdul ‘af al-Ja’abari, Murtada ad-Duaik, and Hamzah Shahin). The boundaries of two houses are defined in all directions by concrete walls (Hisham iz-Zghayyar and Muhammad as-Salaymah). Two or more of the following means define the boundaries of the remaining twelve houses: stone walls, concrete walls, neighbouring buildings, neighbouring streets, stepped or flat walkways.

Because of this pattern of delineation of the lots, there are noticeable variations of lots areas. The Table 2 lists the area of the surveyed lots and the build-up area percentage in each lot. It is found that the houses in Ayn Sarah have larger lots than those found in the traditional town of Al-Kaliah. Abdul ‘Afu al-Muhtasib house has the largest, measuring 2,937m², and Kasir ad-Duaik house has the smallest

area measuring 278m², the most common area ranges between 500 to 900m². Variations in size reflect to the build-up area percentage within the lots. Houses located around Al-Kaliah (Jabir al-Ja'abari, Abdul -Aziz an-Natshih and Kasir ad-Duaik) have the highest build-up area percentage, while those located at Ayn Sarah feature the lowest build-up area percentage (houses of: Shakir ad-Duaik, Abdul 'Afu al-Muhtasib and Yasir id-Duaik).

Historical usage, present use of buildings and family type: All of the surveyed houses were initially constructed to accommodate nucleus families. Later, the occupancy status changes to uninhabited, inhabited by the nucleus families of the original owners or tenants, or inhabited by institutions or non-governmental organisations (Table 2). The occupancy status of the surveyed houses can be classified into the following three groups: Houses, which are still being used as residential, are eight houses: five of them accommodate nucleus families of original owners or their inheritors ('Iz id-Din al-Hammory, Atif al- Hammury, Shakir ad-Duaik, Abdul 'Afu al-Muhtasib, and Abdul -Aziz an-Natshih house). Two houses, Murtada ad-Duaik and Hamzah Shahin, are rented to nucleus families. One house is inhabited by the Muhammad as-Salaymah nucleus family composed of a married couple and their five children; they bought the house from the original owner (Saied al- Hammury).

The following types of families use the measured houses, which are still serving residential uses,: 'Iz id-Din al-Hammory is occupied by the son of the original owner (Yosof) who has his mother living with him in addition to his wife and three daughters. The original owner, who is 91 years old and his wife, as they do not have any married sons living with them, occupies Atif Al- Hammory house. The son of the original owner (Ali) who has his mother living with him in addition to his wife and two sons and two daughters occupies Shakir ad-Duaik. Abdul 'Afu al-Muhtasib house is occupied by the widow and daughter of the original owner. The widow of the original owner, a married son with his wife, occupies Abdul Aziz an-Natshih house and two Childs are living with here. A married couple with their six single children occupies Murtada ad-Duaik; they rented the house from the inheritors of

Murtada ad-Duaik. Hamzah Shahin is rented to a couple with their five children. In the eight houses, which are still being used by nucleus families, not much has changed in the way the house spaces are used. The current inhabitants of three houses (‘Iz id-Din al-Hammory, Atif al- Hammury, and Abdul ‘Afu al-Muhtasib) are original inhabitants who moved into the houses right after construction was completed. They have indicated that their use of the house spaces did not change much since they first inhabited their newly constructed houses 60-70 years ago. The three elderly owners, indicated when interviewed that they were proud of themselves as they talked about memories of their youth as pioneers of the town who called for this change by following the fashion. They adapted easily to their new houses, which indicate that they were financially capable of making a change in their lifestyle, and that they wanted this change and worked to achieve it. The new owners’ adoption of this lifestyle did not sever their ties with memory and traditions. On the contrary, they maintained many traditional architectural elements in both the interior and exterior of the houses, besides maintaining traditional living habits.

The major lifestyle change for the new tenants was that they became independent nucleus families soon after they moved to their new houses when prior that they lived in the extended-family hosh with parents and relatives. In the new individual houses, the fashion in the house is changed but not the living habits. Spaces of specific uses emerged, and modern furnishings such as dining tables, armchairs and bedroom sets are being introduced within the house spaces. Although the owners moved to the new houses which have spaces of specific uses and are furnished with modern furniture, their living habits did not change as many of the traditional daily living activities are still going on. Activities such as cooking, washing dishes, drying laundry took place at open spaces, eating and sitting on the floor, and sleeping on the roofs or terraces at the hot summer days did not change from the hosh to central hall eras. As only eight buildings are still being used for residential uses, the remaining twelve houses were either uninhabited or used for other non-residential uses.

Uninhabited are found in the case of seven houses (Muhammad iz-Zghayyar, Awni id-Duaik, ‘Ali ‘Arafah, Yusif al-Ja’bari, Jabir al-Ja’bari, ‘Abdul ‘af al-Ja’bari, and Musa Al-Natshih). Muhammad iz-Zghayyar house was demolished on July 2007, after the survey was completed, and a shopping centre is built in its place. Those houses became uninhabited mainly for two reasons. Either the owners migrated to Jordan and Jerusalem after 1967, or, with the death of the original owners, their inheritors have not yet divided or legalised the ownership of the building. Or that the owners constructed modern dwellings as they thought the central hall houses do not satisfy modern living needs as they are not originally equipped with wet spaces , electricity and piping insulations.

Houses which are not used for residential proposes are five: Musa Shahin house is used as a computer training centre, Hisham iz-Zghayyar house is used as women hand craft training centre, Ratib an-Nazir house rented to the International Red Cross, Yasir id-Duaik house is used as a youth training centre, and the Kasir ad-Duaik house is the headquarters of the HRC. The houses in this group have been converted to uses other than residential because after the original owners died the inheritors preferred to rent the buildings and divide the rent. In addition, the houses have an advantageous commercial location, which made them attractive for conversion from residential to public use.

Relationship of open space and built up area: The surveyed lots feature a substantial percentage of open spaces. Four houses (Shakir ad-Duaik, Abdul ‘Afu al-Muhtasib, Yasir id-Duaik and Hamzah Shahin) feature the largest open spaces when compared with the houses of Jabir al-Ja’bari, Abdul -Aziz an-Natshih and Kasir ad-Duaik which are featuring very little open spaces. In many cases, the open spaces are laid out in a corridor-like formation, providing the interior with light and ventilation, as in cases of ten houses (Muhammad iz-Zghayyar, Musa Shahin, Hisham iz-Zghayyar, Yasir id-Duaik, ‘Ali ‘Arafah, Muhammad as-Salaymah, Yusif al-Ja’bari, ‘Abdul ‘af al-Ja’bari, Abdul -Aziz an-Natshih and Kasir ad-Duaik). Little open spaces are found in the smaller lots.

Treatment of the open spaces: Open spaces around the buildings connect the lot with the surrounding urban texture, especially those located in front of the main elevations. Such spaces accommodate pedestrian and vehicular pathways beside other landscaping elements, trees and other varieties of greenery. The gardens of the houses usually include various types of trees and greenery. With respect to the availability of trees and greenery, the gardens of the surveyed houses are classified into the following three groups: The gardens of six houses do not have any trees or plants (Musa Shahin, Shakir ad-Duaik, ‘Ali ‘Arafah, Jabir al-Ja’abari, Abdul -Aziz an-Natshih and Kasir ad-Duaik). The gardens of Muhammad iz-Zghayyar, Hisham iz-Zghayyar, and Yusif al-Ja’abari Houses have very few types of greenery like vine and some Lemon trees. In the rest of the gardens, a fair number of flowers, creepers, herbs, vegetables, fig, grape, olive and lemon are found.

Houses

Volume: Of twenty houses, nineteen are freestanding cubic masses with flat roofs featuring simple rectangular prisms. The Jabir al-ja'abari house is attached to the neighbouring building on one side. With respect to the height of the building, the houses vary from single-storey to three-storey high buildings. A single storey house is the most common as nine houses are of this type. Four different arrangements are noted in relation to the height of the building: Buildings which have a single-storey height are nine (Atif al- Hammury, Ratib an-Nazir, Yasir id-Duaik, Awni id-Duaik, ‘Ali ‘Arafah, Muhammad as-Salaymah, Jabir al-Ja’abari, ‘Abdul ‘af al-Ja’abari and Hamzah Shahin). One and half height buildings are composed of a partial floor constructed at the lower section of the lot, this floor is used as a basement, it is completely exposed from the main elevation side and totally hidden from the rear elevation side, on top of it the main living floor is found, the following five houses are of this type: Muhammad iz-Zghayyar, Hisham iz-Zghayyar, Shakir ad-Duaik, Abdul ‘Afu al-Muhtasib, Musa an-Natshih and Abdul -Aziz an-Natshih. Three houses have two floors height (‘Iz id-Din al-Hammory, Musa Shahin, and Yusif al-Ja’abari). Two houses have three floors owning to two-living floors and a basement which is a partial under ground floor that covers all the area of the ground floor (Murtada ad-Duaik and Kasir ad-Duaik).

Plan and its Features

Mainly the surveyed houses feature a centralised plan where all living spaces are arranged around a central hall, this guarantees cross circulation among the surrounding living spaces besides the role it plays as a main living space of the house in which most of the family daily living activities take place (Figure 27: sketch of a typical central hall plan). Usually four spaces which are sharing similar measurements are attached to the lengthwise sides of this central hall, the two spaces which are located at the front elevation, one of them usually have direct entrance from outside and serves as male guest rooms, the opposite one serves as a female guest room or a family living room. The remaining two spaces, which are attached to the lengthwise sides of the central hall, are used as bedrooms. Wet spaces (kitchen and toilet) are usually attached to the central hall from the rear. This is an abstract description, which provides a general idea of the plan typology and elements, highlighting the uniform approach to the plan interior arrangement in which the living spaces are symmetrically clustered at the lengthwise sides of the central hall. Certainly there are identical plan typologies, which resulted from different requirements of the owners, site considerations, and or central hall house evolution to better suit modern living such examples, are discussed in details at the interior part of this section.

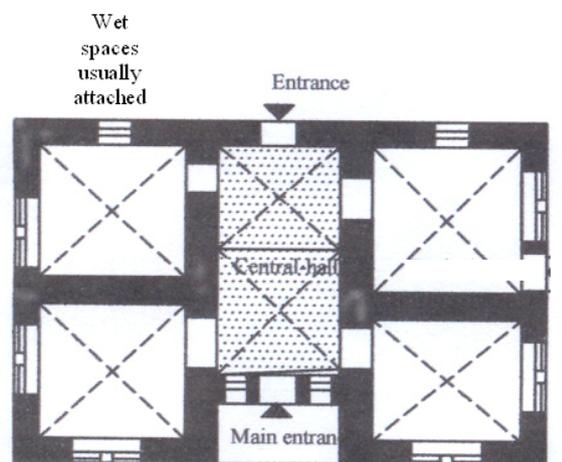


Figure 27: typical sketch plan of a main living floor as four spaces are attached to the lengthwise sides of the central hall with the wet spaces attached to the rear

The main living floor of each house is different from the others, reflecting the family size and financial means of the original owners. The largest floor area, the first floor of 'Iz id-Din al-Hammory house, is 298m², while the smallest, the ground floor of 'Abdul 'af al-Ja'bari house is 136m². This variation reflects on the number of floor spaces, including the central hall, kitchen and toilet, in each house – ranging from three spaces on the ground floor of Shakir Shakir ad-Duaik, to ten spaces on the ground floor of Kasir ad-Duaik house (Floor plans summary are in Figures: 28, 29, and 30).

Central hall location and size: The houses can be classified into three types based on the location and size of the central hall: The first group, the central halls cover the entire expanse of the plan extending from the front to the back. In this type the living spaces lined on the two lateral sides of the central hall and the other two short sides are facing the exterior (Figure 31: central hall typology 2), the following ten houses are of this type (Muhammad iz-Zghayyar, 'Iz id-Din al-Hammory, Shakir ad-Duaik, Abdul 'Afu al-Muhtasib, Muhammad as-Salaymah, Jabir al-Ja'bari, Abdul -Aziz an-Natshih, Murtada ad-Duaik, Kasir ad-Duaik and Hamzah Shahin). In the second group, the plan features a central hall which is surrounded by living spaces on three sides with the fourth, shortest side is facing outwards (Figure 31: central hall typology 1). The plans of six houses are of this group (Atif al- Hammury, Musa Shahin, Hisham iz-Zghayyar, Ratib an-Nazir, Yusif al-Ja'bari, Musa an-Natshih). In the third type, the living spaces are lined on the two lateral sides of the central hall; the main elevations short side is facing the exterior, and the rear elevation side connects to outside from one corner and to wet spaces from the other. (Figure 31: central hall typology 3). Four houses are of this group (Yasir id-Duaik, Awni id-Duaik, 'Ali 'Arafah, and 'Abdul 'af al-Ja'bari)

Owing to the number of central halls which are found at one floor plan, two groups are recognized: In the first group, two central halls are found as the main living floor comprises a main and a secondary central hall, four houses are belonging to this group ('Iz id-Din al-Hammory, Yasir id-Duaik, Musa an-Natshih and Kasir ad-Duaik). The remaining 16 houses, however, feature only one central hall. (Plan summary: Figures 28, 29, and 30).

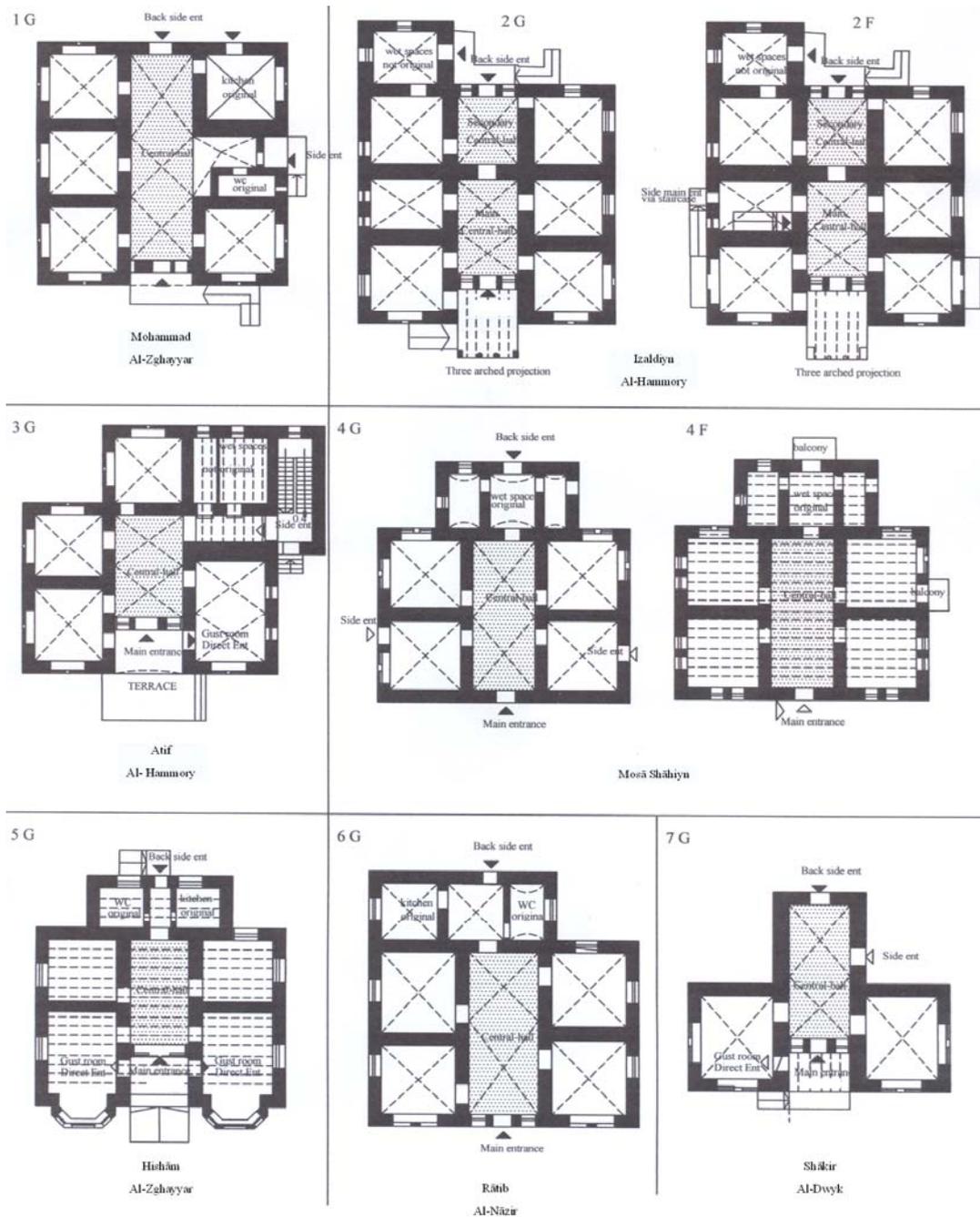


Figure 28: Main living floor plans, houses of: 1- Muhammad iz Zghayyar, 2-‘Iz id-Din al-Hammory, 3- Atif al- Hammory, 4- Musa Shahin, 5- Hisham iz-Zghayyar, Ratib an-Nazir, 7- Shakir ad-Duaik



Figure 29: Main living floor plans, houses of: 8- Abdul ‘Afu al-Muhtasib, 9- Yasir id-Duaik, 10- Awni id-Duaik, 11- ‘Ali ‘Arafah, and 12- Muhammad as-Salaymah, 13- Yusif al-Ja’bari, 14- Jabir al-Ja’bari, 15- ‘Abdul ‘af al-Ja’bari



Figure 30: Main living floor plans, houses of: 16- Mosa an-Natshih, 17- Abdul - Aziz an-Natshih, 18- Murtada ad-Duaik, 19- Kasir ad-Duaik, and 20- Hamzah Shahin

Entrance: The entrance to the central hall has two varieties. In the first type, the central hall has a direct connection to the exterior without any transition space provided, (Figure 32: entrance typology plan 3), this type comprises nine houses (Musa Shahin, Ratib an-Nazir, Yusif al-Ja'bari, Jabir al-Ja'bari, 'Abdul 'af al-Ja'bari, Musa an-Natshih, Abdul -Aziz an-Natshih, Murtada ad-Duaik, and Kasir ad-Duaik). The remaining eleven houses are of the second type and are connected to the outside via an entrance hall in the form of a veranda. The entrance veranda is of two forms: In the first type, the veranda has resulted from a wall recess only (Figure 32: central hall plan typologies 1 and 4), the entrances of the following nine houses are of this typology: Muhammad iz-Zghayyar, Atif al- Hammury, Hisham iz-Zghayyar, Shakir ad-Duaik, Abdul 'Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik, Muhammad as-Salaymah, and Hamzah Shahin.

In the second type, the veranda projects to the outside and gains more depth by means of a wall recess (Figure 32: central hall plan typology 2) two houses have verandas of this type ('Iz id-Din al-Hammory and 'Ali 'Arafah).

Usually the entrance veranda has two doors: The main entrance door is located at the rear of the recess, this opens directly to the central hall. The other door is found at the depth side of the recess, this opens to a guest room (Figure 32: central hall typologies 1 and 2). An entrance hall with only one door that opens to the central hall (Figure 32: central hall plan typology 4) is noted in only at Muhammad iz-Zghayyar house.

An exit to the outside from the rear elevation has been identified in 18 houses, although a secondary entrance from one of the side elevations is present in 12 houses of: Muhammad iz-Zghayyar, 'Iz id-Din al-Hammory, Atif al- Hammury, Musa Shahin, Shakir ad-Duaik, Abdul 'Afu al-Muhtasib, Yasir id-Duaik, Yusif al-Ja'bari, 'Abdul 'af al-Ja'bari, Musa an-Natshih, Murtada ad-Duaik, and Hamzah Shahin. Varieties of plan typologies, central halls, and types of entrances are in the sketch plans of the twenty measured houses summarised in Figures 28, 29, and 30.

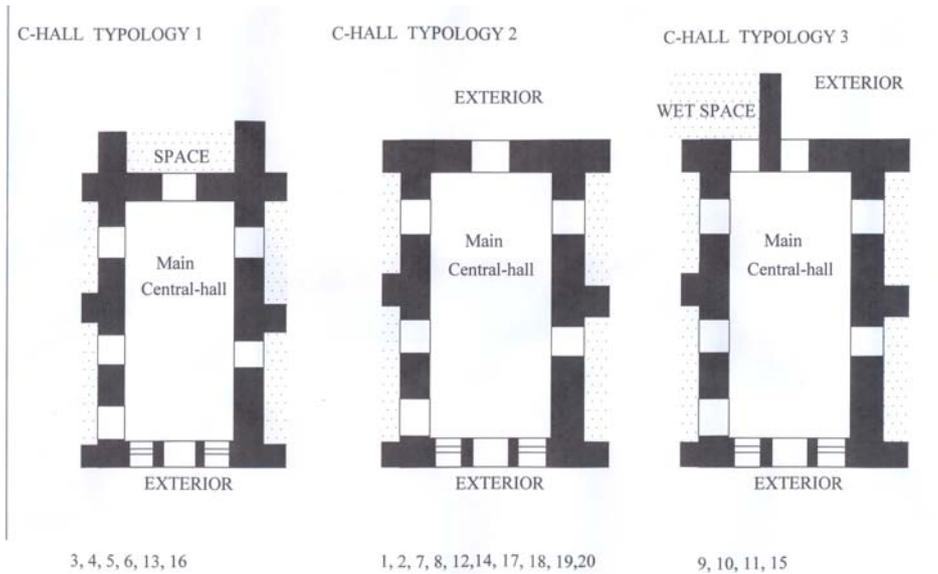


Figure 31: Central-hall typologies 1, 2, and 3

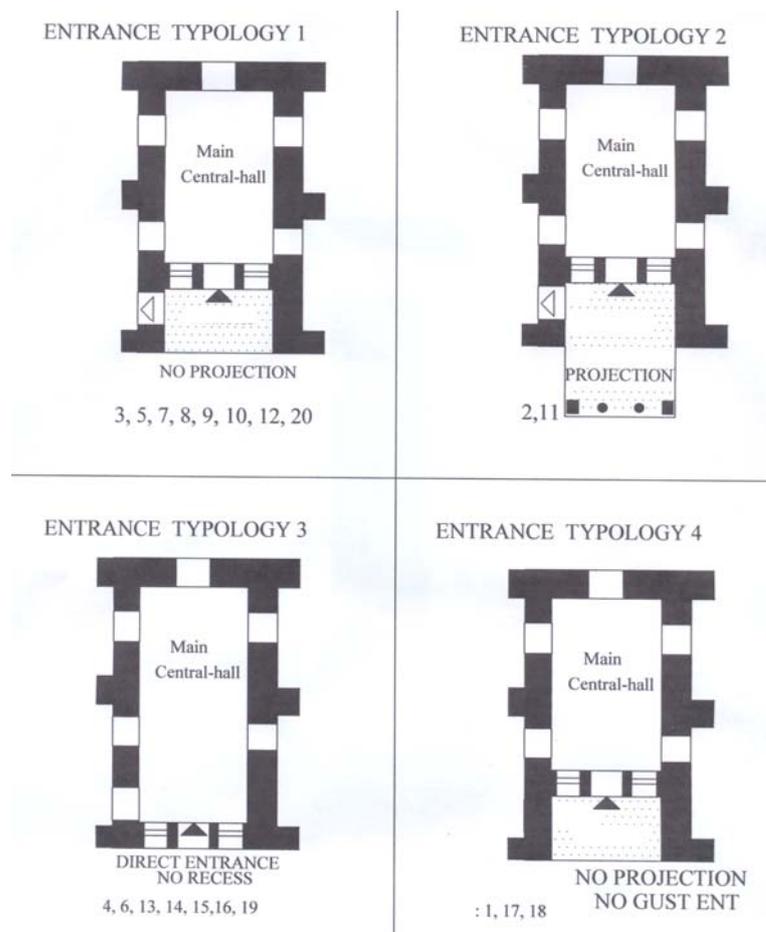


Figure 32: entrance typology plan one to four

Exterior

In general, there is a hierarchy in the elevations of the houses as the front elevations feature more elaborate ornamentations and better finish. Side elevations manifest a reduced emphasis of ornamentations and finish than that given to the main elevation, while rear elevations have the least framing and ornamentations.

Stone Workmanship, Framing, and Ornamentations: The façades of surveyed houses are finished with Al-Khalil limestone, which is either roughly cut and coursed stone or regularly cut and coursed. The façades finishes of the houses are classified into the following three groups:

In the first group, the rear façades feature roughly cut and coursed stone, the remaining façades of the building are featuring regularly cut and coursed stone. Eleven houses are of this group (Muhammad iz-Zghayyar, Ratib an-Nazir, Shakir ad-Duaik, Awni id-Duaik, ‘Ali ‘Arafah, Yusif al-Ja’bari, Jabir al-Ja’bari, ‘Abdul ‘af al-Ja’bari, Abdul -Aziz an-Natshih, Murtada ad-Duaik, Hamzah Shahin). In the second group, the lower part of the elevation features roughly cut and coursed stone with the upper parts featuring regular cut and coursed stone. Seven houses are of this group (Muhammad iz-Zghayyar, Atif al- Hammury, Musa Shahin, Awni id-Duaik, Yusif al-Ja’bari, Murtada ad-Duaik and Kasir ad-Duaik). In the third group, the four elevation walls feature regularly cut and coursed stone; the coursing measures between 25 and 35cm in height. Six houses are of this group (‘Iz id-Din al-Hammory, Hisham iz-Zghayyar, Abdul ‘Afu al-Muhtasib, Yasir id-Duaik, Muhammad as-Salaymah and Musa an-Natshih).

The projection of quoins (virtual corner) is a method of façade decoration in which the corners of the building are given more emphasis. (Figure 33: summarises types of projected quoins, which are found at the measured houses). Usually quoins projection constitutes a band measuring 50-60cm in width and running along the height of the building. Corners framing is widely used to the exterior of the houses. In fourteen 14 houses, quoins projection method is used on two, three or four corners.

Projected quoin at the corners of the main elevation of the building is an architectural feature noted at nine houses (Muhammad iz-Zghayyar, ‘Iz id-Din al-Hammory, Ratib an-Nazir, Shakir ad-Duaik, Awni id-Duaik, ‘Ali ‘Arafah, Muhammad as-Salaymah, Yusif al-Ja’bari and ‘Abdul ‘af al-Ja’bari). Projected quoin on three corners of the building is a feature noted at three houses (Musa Shahin, Yasir id-Duaik and Murtada ad-Duaik). The four corners of the building feature projected quoins; this is noted at two houses (Abdul ‘Afu al-Muhtasib and Kasir ad-Duaik). Projection of quoins is not found at six houses of: Atif al- Hammury, Hisham iz-Zghayyar, ‘Abdul ‘af al-Ja’bari, Musa an-Natshih, Abdul -Aziz an-Natshih and Hamzah Shahin.

In the surveyed houses, there are two types of projected quoins: In the first type, all the corners of the building are projected. This constitutes a vertical band of 50-60cm in width, running along the elevation height. This feature is found at the exteriors of nine houses (Muhammad iz-Zghayyar, Musa Shahin, Ratib an-Nazir, Shakir ad-Duaik, and Yasir id-Duaik, ‘Ali ‘Arafah, Yusif al-Ja’bari, Murtada ad-Duaik, and Kasir ad-Duaik). In the second type, only the cornerstones project from the wall. This feature is on the corners of five houses (‘Iz id-Din al-Hammory, Abdul ‘Afu al-Muhtasib, Awni id-Duaik, Muhammad as-Salaymah and ‘Abdul ‘af al-Ja’bari).

Horizontal framing is a decorative feature used to define the floor height of the façade. This is achieved by projecting a stone course 2-3cm from the wall. Figure 33: summarises types of horizontal framing. Seventeen houses have horizontal bands emphasising the floors height on four, three or one façade. Projected horizontal bands on the main and side façades are found at the exteriors of ten houses (Muhammad iz-Zghayyar, Musa Shahin, Shakir ad-Duaik, Yasir id-Duaik, Awni id-Duaik, ‘Ali ‘Arafah, Muhammad as-Salaymah, ‘Abdul ‘af al-Ja’bari, Kasir ad-Duaik and Hamzah Shahin). Projected horizontal bands on the four façades are noted at three houses (Atif al- Hammury, Hisham iz-Zghayyar and Abdul ‘Afu al-Muhtasib). Two houses (‘Iz id-Din al-Hammory and Murtada ad-Duaik) have them on the main and one of the side façades. The stones of the horizontal bands are plain or have profiled carvings. Plain and smoothly dressed stones of horizontal bands are noted at the elevations of twelve houses. Molded profiled stones of horizontal bands are found at the elevations of four houses.



Figure 33: Horizontal and vertical framings of 16 houses

The window and door frame projection follow the same approach seen at the delineation of the elevations, using the same tools, in the same manner. They usually projected approximately 2-3cm from the walls. At the surveyed houses, this method is used extensively as it is found within the exteriors of eighteen houses with the entire opening frame projected from the elevation wall. In few cases, the arch and lintels are projected, with the jambs having same quality and texture as the elevation wall. Such partial emphasis is found on the facades of three houses (Abdul 'Afu al-Muhtasib, Muhammad as-Salaymah and on the first floor windows of Kasir ad-Duaik house). This method is not utilised in two houses of: 'Abdul 'af al-Ja'bari and Musa an-Natshih. Varieties of window and doorframes of the measured houses are summarised in Figures 34, 35, 36, and 37.

Different types of window and door profiles are found at the exteriors of the surveyed houses. The most commonly found are true arch profiles which have semicircular shape as in the case of eight houses ('Iz id-Din al-Hammory, Atif al-Hammury, Hisham iz-Zghayyar, Awni id-Duaik, 'Ali 'Arafah, 'Abdul 'af al-Ja'bari, Musa an-Natshih, and Hamzah Shahin). Segmental profiled true arch, which is carved to the lintel, is found at six houses (Musa Shahin, Ratib an-Nazir, Yasir id-Duaik, Yusif al-Ja'bari, Murtada ad-Duaik, and Kasir ad-Duaik). Two centered pointed arch profiled windows are noted at the elevations of: Jabir al-Ja'bari and Abdul -Aziz an-Natshih houses. Shouldered lintel profiled windows are found at the main elevations of Shakir ad-Duaik and Muhammad as-Salaymah houses. Horseshoe profiled windows are found at the rear elevation of Abdul 'Afu al-Muhtasib house.

For the window and door frames, the elevation surfaces including jambs, lintels, and arches feature either plain or of molded profile. In this respect the following two types of stone voussoir, jambs, and sills are noted (Figures 34 to 37 are photographs of different types of window and doors frames and stone carvings): In the first type, only the arch stones are of molded profile, the stones of jambs and lintels are plain, this is found at the openings of 10 houses (Muhammad iz-Zghayyar, 'Iz id-Din al-Hammory, Atif al-Hammury, Hisham iz-Zghayyar, Shakir ad-Duaik, Abdul 'Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik, 'Ali 'Arafah, and Muhammad as-Salaymah).

In the second type, the jamb, sills, lintel and arch are projected from the elevation wall and feature a smoothly dressed plain surface. The stones of some window and doorframes of nine houses are of this type (Muhammad iz-Zghayyar, Musa Shahin, Ratib an-Nazir, Yusif al-Ja'bari, Jabir al-Ja'abari, Abdul -Aziz an-Natshih, Murtada ad-Duaik, Kasir ad-Duaik, and Hamzah Shahin). Examples on this type of window and door framings are in Figures 34, 35, 36, and 37.

In many cases, the main elevation has an entrance veranda the elevation wall of this features a three-arched arrangement, the arch voussoirs of which feature molded and ornamented carvings. Usually, the central arch is wider and features an ornamented protruding keystone. The arch rests on top of two columns. The caps of the columns are ornamented and feature lotus or acanthus leaf motifs. The shafts are plain and cylindrical, while the bases of the columns feature usually moulded rectangular stones. The side arches share the same profile and mouldings with the central arch but the former are narrower. From the rear, each arch rests on an ornamented capital, which has egg and donut mouldings. This is a significant feature of eight houses ('Iz id-Din al-Hammory, Hisham iz-Zghayyar, Shakir ad-Duaik, Abdul 'Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik, 'Ali 'Arafah, and Muhammad as-Salaymah).

Ornamented protruding keystones are widely found on the arches of the surveyed houses. This feature is found on the following six houses: Muhammad iz-Zghayyar (Figure 34, detail 1), 'Iz id-Din al-Hammory (Figure 34, detail 4), Atif al-Hammory (Figure 34, detail 7), Yasir id-Duaik (Figure 35, detail 10), 'Ali 'Arafah (Figure 36, detail 1), and Muhammad as-Salaymah (Figure 36, detail 1). Extensive use of such details is not very noticeable in the early examples. However, in later examples, houses constructed after the 1920s, feature many stone carvings at columns, protruding keystones, horizontal framings, quoins, lintels, jambs and arch parts of the openings. A different colour stone is another decorative element, which adds more contrast to the façades and gives the openings stronger emphasis. This method of colour variation is noted only at the elevations of five houses (Shakir ad-Duaik, Abdul 'Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik, and Muhammad as-Salaymah).

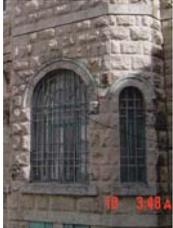
Mohammad Al-Zghayyar (1927-1346),	Iz Al-Diyn Al-Hammory house (1931-1350)	Atif Al- Hammory house (1931-1350)	Mosā Shāhiyn house (1937-1356)	Hishām Al-Zghayyar house (1939-1358)
 <p>Detail 1: main entrance on the west elevation</p>  <p>Detail 2: twin window from south elevation</p>  <p>Detail 3: twin window from main (west) elevation</p>	 <p>Detail 4: three arched verandah main (east) elevation</p>  <p>Detail 5: columns and arches details from east elevation</p>  <p>Detail 6: entrance arch details from south elevation</p>	 <p>Detail 7: large three centered arch from main (east) elevation</p>  <p>Detail 8: twin window from west elevation</p>  <p>Detail 9: twin window from south elevation</p>	 <p>Detail 10: three arched arraignment from main elevation</p>  <p>Detail 11: vertical and horizontal farming</p>	 <p>Detail 12: three arched arraignment from main (west) elevation</p>  <p>Detail 13: central-hall entrance</p>  <p>Detail 4: window opening main (west) elevation.</p>

Figure 34: window openings and frames types of five houses

<p>Figure 65: Rātīb Al-Nāzīr house (1929-1348)</p>	<p>Figure 66: Shākīr Al-Dwyk house</p>	<p>Figure 67: Abd Al-Afō Al-Mohtasīb (1951-1370)</p>	<p>Figure 68: Yāsīr Al-Dwyk house (1951-1370)</p>	<p>Figure 69: Awnī Al-Dwyk house (1930-1349)</p>
 <p>Detail 1: main entrance on the west elevation</p>  <p>Detail 2: window frame from north elevation</p>	 <p>Detail 3: three-arched verandah main (west) elevation</p>  <p>Detail 4: shouldered lentil arch detail from three-arched arraignment (west) elevation Including column details</p>  <p>Detail 5: central arch of three-arched arraignment</p>	 <p>Detail 7: three-arched verandah main (west) elevation</p>  <p>Detail 8: two-centered pointed twin window, north elevation</p>  <p>Detail 9: two-centered pointed secondary entrance door on the north elevation</p>	 <p>Detail 10: three-arched verandah main (west) elevation</p>  <p>Detail 11: three-arched verandah main (west) elevation, column capital detail</p>  <p>Detail 12: three-arched verandah main (west) elevation, central-hall entrance</p>	 <p>Detail 14: three-arched verandah main (west) elevation, profiled arch frame details and ornamented column capital</p>  <p>Detail 15: semicircular profiled twin window on main (west) elevation</p>

Figure 35: window openings and frames types of five houses

<p>Figure 70: Ali 'Arafih house (1930-1349)</p>	<p>Figure 71: Muhammad Al-Salāymih house (1934-1353)</p>	<p>Figure 72: Yuwsif Al-Djabarī (1905-1342)</p>	<p>Figure 73: Djābir Al-Djabarī house</p>	<p>Figure 74: Abd Al-Afo Al-Djabarī house</p>
 <p>Detail 1: three-arched verandah main (west) elevation</p>  <p>Detail 2: from the west elevation, central-hall three-arched entrance</p>  <p>Detail 3: three-arched verandah main (west) elevation, capital detail</p>  <p>Detail 4: semicircular profiled twin window on north elevation</p>	 <p>Detail 5: three-arched verandah main (west) elevation</p>  <p>Detail 6: three-arched verandah main (west) elevation, arch frame details</p>  <p>Detail 7: three-arched verandah main (west) elevation, column capital detail</p>  <p>Detail 8: shouldered lintel twin window on main (west) elevation</p>	 <p>Detail 9: central of the main (south) elevation, three ached arraignment</p>  <p>Detail 10: main (south) elevation, three ached arraignment</p>  <p>Detail 11: main (south) elevation, segmental profiled window</p>	 <p>Detail 12: central of the main (east) elevation, semicircular profiled double arched main entrance</p>  <p>Detail 13: two-centered pointed profiled twin window on the east elevation</p>  <p>Detail 14: rear elevation, rectangular and semicircular profiled openings.</p>	 <p>Detail 15: from the north elevation, central-hall three-arched entrance</p>  <p>Detail 16: from the west elevation, a shouldered lintel rectangular door</p>

Figure 36: window openings and frames types of five houses

<p>Figure 75: Mosā Al-Natshih house (1926-1363)</p>	<p>Figure 76: Abd Al-Azyz Al-Natshih house, (1896-1325)</p>	<p>Figure 77: Murtadā Al-Dwyk house (1898-1327)</p>	<p>Figure 78: Kasir Al-Dwyk house, (1870s)</p>	<p>Figure 79: Hamzah Shāhyn house. (GF: 1926-1345)</p>
 <p>Detail 1: from the west elevation, central-hall entrance</p>	 <p>Detail 1: main (south) elevation</p>	 <p>Detail 1: from the main (west) elevation, central-hall three-arched entrance</p>	 <p>Detail 1: from the main (west) elevation, central-hall three-arched entrance, flanked with ornamented columns capitals</p>	 <p>Detail 1: window frames at the south and east elevation</p>
 <p>Detail 2: semicircular profiled twin window on south elevation</p>	 <p>Detail 2: from the south elevation, central-hall three-arched entrance</p>	 <p>Detail 2: segmental profiled twin window on the south elevation</p>	 <p>Detail 2: twin window on the west elevation.</p>	 <p>Detail 1: semicircular profiled window at the south elevation.</p>
 <p>Detail 3: semicircular profiled window on north elevation</p>	 <p>Detail 3: two-centered pointed twin window on the south elevation</p>	 <p>Detail 3: semicircular profiled relieving arch</p>	 <p>Detail 3: centered pointed profiled arch, first floor, aywan</p>	 <p>Detail 1: semicircular profiled window at the south elevation.</p>

Figure 37: window openings and frames types of five houses

Main Elevation:

In general, the main elevations of the surveyed houses have symmetrical order where the window openings are placed vertically at both sides of the main entrance, which is usually placed at the centre of the elevation. The main entrance of all the measured houses opens to the central hall. The main elevations are classified into the following four groups with respect to the façade treatment in relation to the main entrance of the central hall:

In the first group, the main elevations feature a single surface incorporating an entrance veranda in the form of a wall recess; this is located about the middle of the façade (Figure 39: entrance typology 2). The rear of the veranda features a door opening covered with a lintel, on top of which a revealing arched opening is found. A window opening at each side flanks the door. Ten houses are of this group (Muhammad iz-Zghayyar, Atif al- Hammury, Shakir ad-Duaik, Abdul ‘Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik, Muhammad as-Salaymah, Abdul -Aziz an-Natshih, Murtada ad-Duaik and Hamzah Shahin). The entrance hall façade of this group elevations is treated in the following ways: 1) A large arch is located between the elevation wall surface and the rear, five houses are of this category (Muhammad iz-Zghayyar, Atif al- Hammury, Abdul -Aziz an-Natshih, Murtada ad-Duaik, and Hamzah Shahin). 2) The entrance hall features three arched openings located on the façade surface and five houses are of this typology (Shakir ad-Duaik, Abdul ‘Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik and Muhammad as-Salaymah).

In the second group, the elevation features one surface; the main entrance is located at the centre of this surface and opens directly into the central hall (Figure 38). Seven houses are of this group (Musa Shahin, Ratib an-Nazir, Yusif al-Ja’bari, Jabir al-Ja’bari, ‘Abdul ‘af al-Ja’bari, Musa an-Natshih and Kasir ad-Duaik). In the case of ‘Abdul ‘af al-Ja’bari and Musa an-Natshih houses, the main entrance door is flanked by a window opening at each side. On the façades of Musa Shahin, Yusif al-Ja’bari, and Kasir ad-Duaik houses there is a window opening which is placed above the main entrance door lintel.

In the third group, the main elevation features a projected three-arched veranda, which increases in depth owing to a recess (Figure 40: entrance typology 3). The projected mass is approximately located at the centre of the elevation and features onion profiled three-arched openings. Two houses are of this type ('Iz id-Din al-Hammory and 'Ali 'Arafah).

A fourth entrance typology is found at the main elevation of Hisham iz-Zghayyar house. This displays slightly different characteristics from the other 19 houses. The Southern and Northern parts of the elevation feature two projecting masses placed symmetrically, each with a chamber at either corner. Both of the projected masses feature semicircular window openings with identical measurements. At the central of the main plane of the elevation there is a wall recess featuring three two-centred pointed profiled arched openings (Figure 41: entrance typology 4).

Usually the main elevations feature stone steps, which connects the main living floor with the natural ground. Sixteen houses are of this type and are classified into the following three groups: In the first group, the elevation features one flight of stone steps. This is placed either parallel or perpendicular to the elevation wall. The stairs are connected to an open terrace projecting out from the elevation wall, and in many cases, a storage space is provided below the terrace. Eight houses are of this type (Atif al-Hammury, Ratib an-Nazir, Shakir ad-Duaik, Abdul 'Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik, 'Ali 'Arafah and Muhammad as-Salaymah). In the second group, the elevation features one or two flights of steps, which are connected, to an elongated landing. This is cantilevered from the elevation wall, the exterior sides of which are protected by a metal railing measuring 1 to 1.2m in height. The main elevations of six houses have this feature (Muhammad iz-Zghayyar, first floor of Musa Shahin house, first floor of Yusif al-Ja'bari, Musa an-Natshih, Abdul -Aziz an-Natshih, and Murtada ad-Duaik). In the third group, the elevation features a flight of stone steps placed perpendicular to the elevation wall and connects to the entrance hall (veranda). Two houses are of this type (Hisham iz-Zghayyar and Hamzah Shahin). Stone steps, are not found at four house of: Musa Shahin, Yusif al-Ja'bari, Jabir al-Ja'bari and 'Abdul 'af al-Ja'bari.

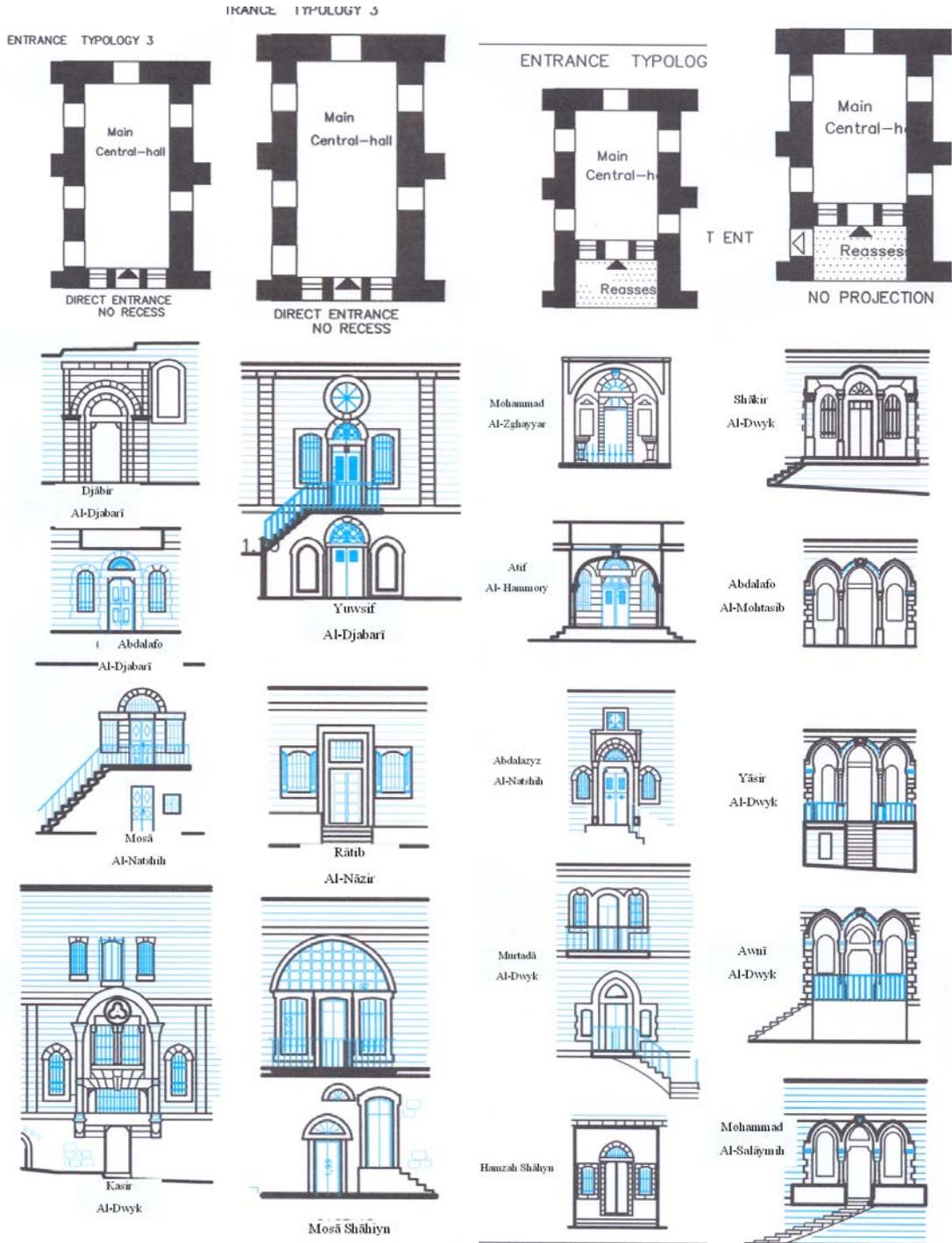
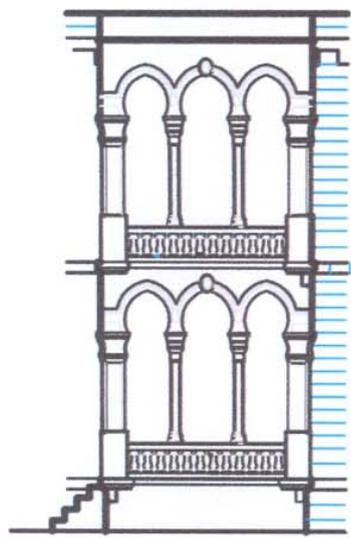
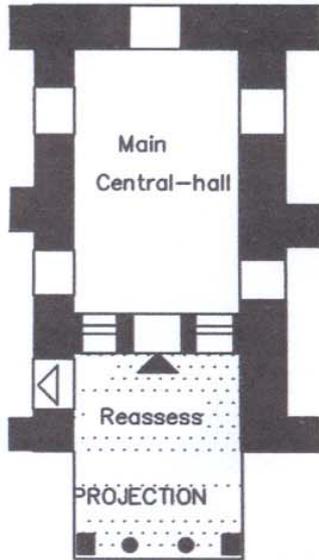
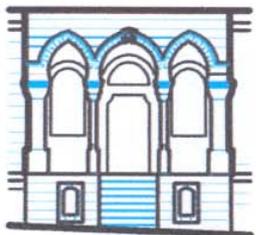


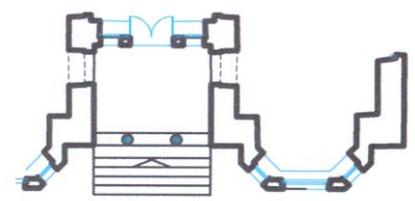
Figure 38: entrance elevation Typology 1 **Figure 39:** entrance elevation typology 2



Izaldiyn CASE 2
Al-Hammory



Ali Arafih CASE 12



Hisham
Al-Zhayyar

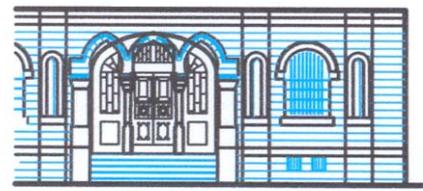


Figure 40: entrance elevation typology 3

Figure 41: entrance elevation typology 4

Windows: are either double (twins) or single. The double window has two window openings, which share same profile, and measurements both are framed from the interior with a large window niche, while a single window has one opening only. Both double and single windows are found in various sizes, geometries and profiles. This variation is related to the size and function of the space behind it, the size of the building, the overall decorative repertoire of the building and to the individual tastes of the owners. In addition, many similarities are found in the opening of the main elevations. The similarities among the opening's details of a group of houses, reflects the neoclassical or eclectic style of this period.

The measured buildings are rich in such architectural details of molded arch stones and ornamented window frames. For example, the ornamented protruding keystones, the caps of the columns, which feature lotus or acanthus leaf motifs, are influenced by architectural details of Roman and Byzantine periods (Figures 42, 43, 44, 45) present varieties of twin windows found on both sides of the main elevation with variations noted in their measurements, arch types, ornamentation and architectural characteristics.

Double (twin) windows: In eighteen houses, the main surface of the elevations features two twin window openings. Those are placed symmetrically at both sides of the main entrance. Only the main elevation of two houses (Hisham iz-Zghayyar and Yusif al-Ja'bari) did not feature twin windows; instead, those two houses have two large semicircular profiled windows placed symmetrically at both sides of the elevation. The twin windows vary in profiles from semicircular, two-centred pointed, or segmental, and featured either elaborated or simpler framing.

Twin windows of the main elevations are classified under the following groups:

In the first group, each opening of the twin window features a true semicircular profiled arch and seven houses are of this group ('Iz id-Din al-Hammory, Atif al-Hammury, Abdul 'Afu al-Muhtasib, Awni id-Duaik, 'Ali 'Arafah, 'Abdul 'af al-Ja'bari and Musa an-Natshih).

In the second group, each opening of a twin window features segmental profiled true arch, which is carved to the lintel. Examples of this are found at the main elevations of six houses (Musa Shahin, Ratib an-Nazir, Yasir id-Duaik, Murtada ad-Duaik, Kasir ad-Duaik, and Hamzah Shahin).

In the third group, the arch part of each opening is in the form of a shouldered lintel, this type is found at the main elevations of two houses (Shakir ad-Duaik and Muhammad as-Salaymah).

In the fourth group, the twin windows feature a large two-centred pointed blind revealing arch frame inside which there are two two-centred pointed profiled true arch window openings, this is a feature of the main elevations of two houses (Jabir al-Ja'abari and Abdul -Aziz an-Natshih).

Only the twin windows found at the main elevation of Muhammad iz-Zghayyar house are identical from all the other measured houses. The twin window of this house has a rectangular frame which is ornamented. The jambs are slightly projecting bands in the form of quoins. The top of the frame is a continuous flat arch divided into two parts, each featuring a protruding keystone. Above the arch, there are two blind triangular profiled bands. The inside of the frame is divided into three: two windows at both side and a vertical band in between. Both windows are framed by a deflated voussoir above them.

Singular windows: Is not so commonly found at the main elevations of the measured houses as this type of windows is only found at the main elevations of three houses. Semicircular profiled singular window openings are found at the main elevations of Hisham iz-Zghayyar house. Segmental profiled singular window openings are found at the main elevation of Yusif al-Ja'abari house. A circular window is found on top of the three-arched arrangement of the main elevation of Musa Shahin house. Iron metal grills protect the window openings. In cases when metal shutters are found they did not replace the metal railing.

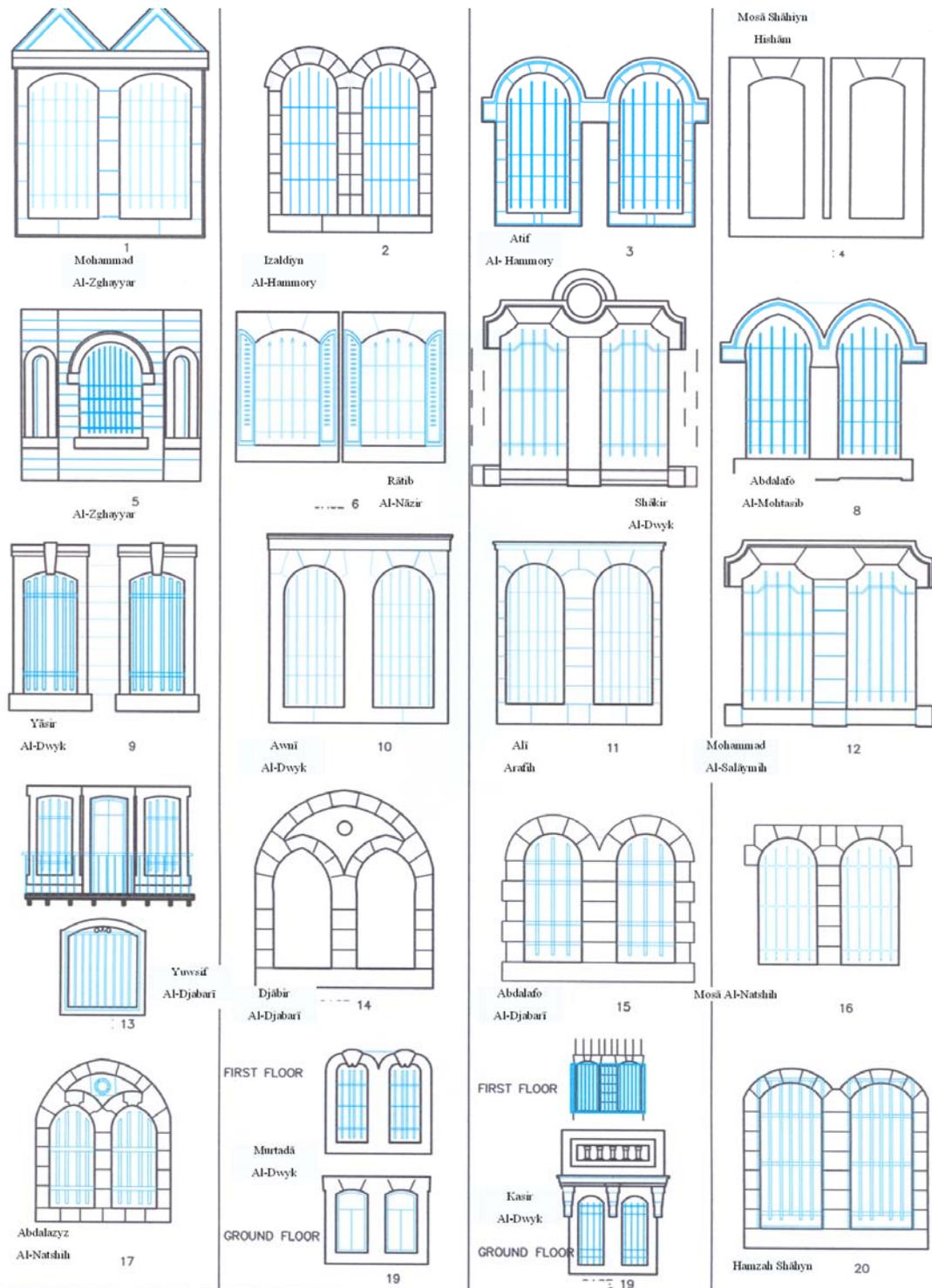


Figure 42: double window prototypes in the main elevations of the surveyed houses

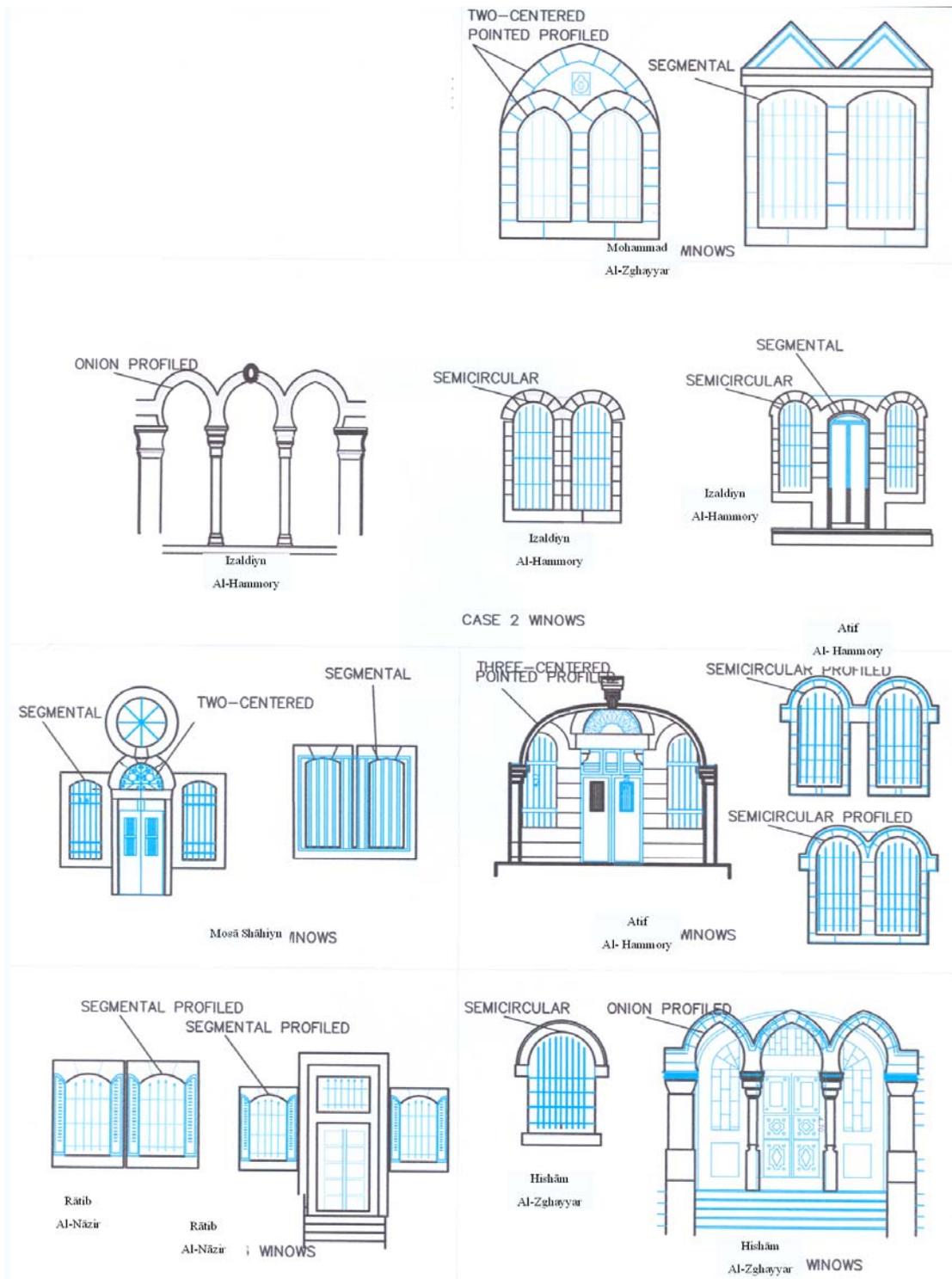


Figure 43: Window and doors prototypes in the houses of: Muhammad iz Zghayyar, ‘Iz id-Din al-Hammory, Atif al- Hammory, Musa Shahn, and Hisham iz-Zghayyar

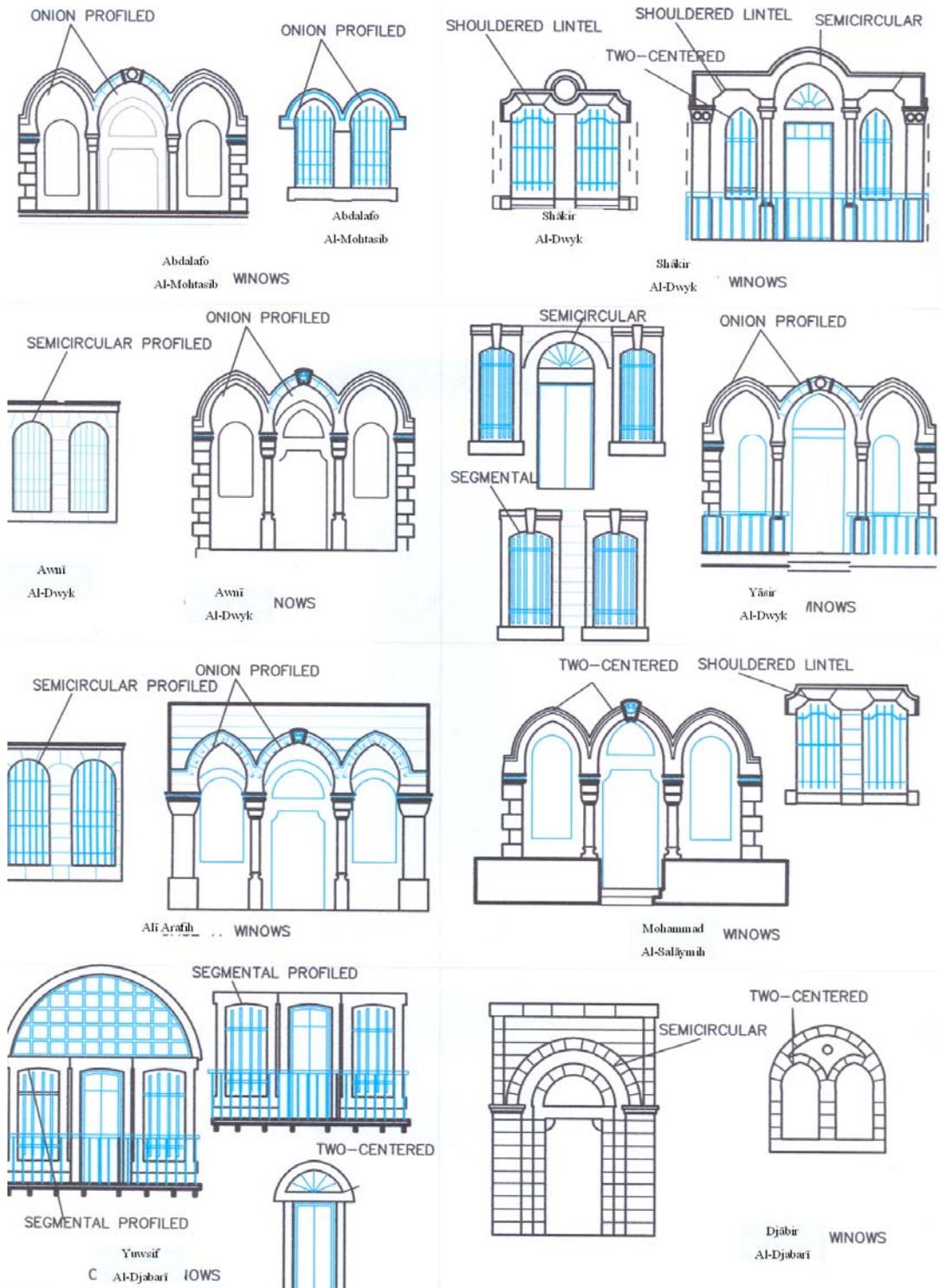


Figure 44: Window and doors prototypes in the houses of: Ratib an-Nazir, Shakir ad-Duaik, Abdul ‘Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik, ‘Ali ‘Arafah, Muhammad as-Salaymah, Yusif al-Ja’bari, Jabir al-Ja’abari

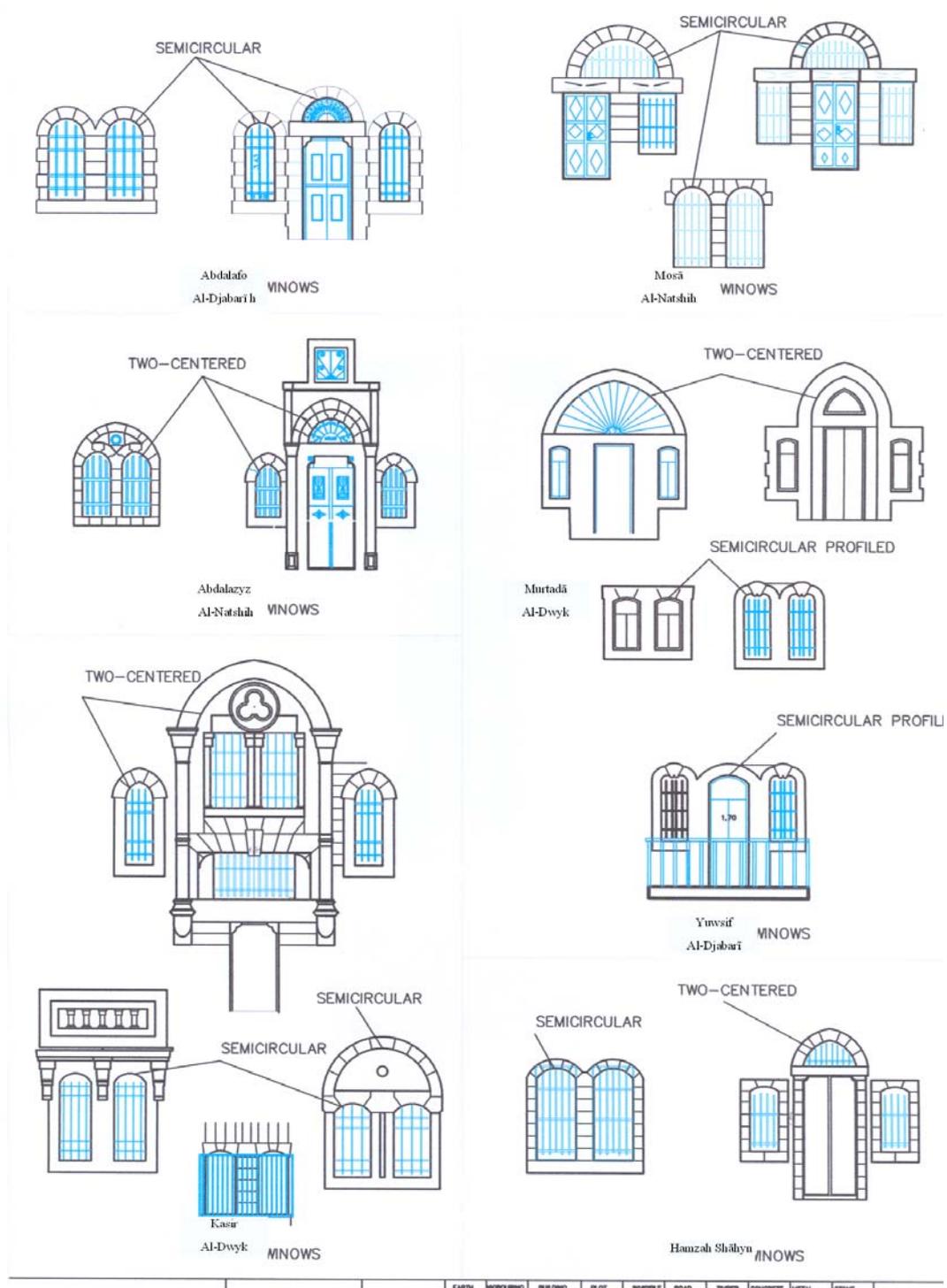


Figure 45: Window and doors prototypes in the houses of: ‘Abdul ‘af al-Ja’bari, Mosa an-Natshih, Abdul -Aziz an-Natshih, Murtada ad-Duaik, Kasir ad-Duaik, and Hamzah Shahin

Side Elevations

As the side elevations are drawn from the internal arrangements of the plan, with rooms placed symmetrically at the long sides of the central hall, in most of the cases, this results at right and left side elevations sharing many similarities in measurements, and architectural features such as framings and openings treatment. The windows of the side elevations are usually organized in a horizontal order, which reflects the floors division and its reflection on the side elevations. The size and location of those windows is also influenced by the size and function of the spaces located behind them. In most of the measured houses, the side elevations of each house are featuring twin windows, which have same architectural features, details and measurements with those found at the main elevation of the same house. From one house to other, variations are noted in the profile and architectural details. The following three types of twin windows have been noted among the side elevations of the houses under study types of windows are summarised in Figures 34, 35, 36, 37, 42, 43, 44, and 45.

The most commonly found twin windows are featuring two semicircular profiled window openings, the side elevations of eleven houses features twin window openings of this type ('Iz id-Din al-Hammory, Atif al- Hammury, Hisham iz-Zghayyar, Shakir ad-Duaik, Abdul 'Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik, 'Ali 'Arafah, Muhammad as-Salaymah, Musa an-Natshih and Hamzah Shahin). Twin windows, which have two-centred pointed profiled arches, inside which are two two-centred pointed, profiled window openings. Between the small windows and the larger arch frame there is a small ventilation opening, the interior of which incorporates a three lobed-profiled treatment, the side elevations of four houses are featuring twin windows of this type (Muhammad iz-Zghayyar, Yusif al-Ja'bari, Abdul -Aziz an-Natshih, and Kasir ad-Duaik). Twin window, which have two openings each of them feature segmental profiled true arch, which is carved to the lintel, the side elevations of four houses, feature such type of twin window (Musa Shahin, Ratib an-Nazir, Yusif al-Ja'bari and Murtada ad-Duaik).

The surveyed houses have been classified earlier into four groups based on the number of floors provided in each (Table 2). The sub-divining of each building into floors reflects to the height of the side elevations of the houses, which have been classified into four groups based on the number of floors.

The most common group features side elevations of a single floor (ground) in height, of this group eight houses are noted (Atif al- Hammury, Ratib an-Nazir, Yasir id-Duaik, Awni id-Duaik, ‘Ali ‘Arafah, Muhammad as-Salaymah, Jabir al-Ja’abari, ‘Abdul ‘af al-Ja’bari and Hamzah Shahin). Side elevations featuring a partial basement and ground floor in height is noted at six houses (Muhammad iz-Zghayyar, Hisham iz-Zghayyar, Shakir ad-Duaik, Abdul ‘Afu al-Muhtasib, Musa an-Natshih and Abdul -Aziz an-Natshih). Two-storey high side elevations resulted from having a ground and a first floor, this type is noted at three houses (‘Iz id-Din al-Hammory, Musa Shahin house and Yusif al-Ja’bari). Three floors side elevations owing to a partial basement, ground and first floors is found at two houses (Murtada ad-Duaik and Kasir ad-Duaik).

Usually the side elevations feature variation of heights between the elevation sides, joining with the main elevation, which usually measures more than the corresponding side joining the rear elevation. This is a reflection of the earlier mentioned sloping topography of the site (the “Lot” section), as the partial basement is located at the lower section of the lot and has a partial elevation. This feature is noted at the side elevations of 13 houses (Muhammad iz-Zghayyar, ‘Iz id-Din al-Hammory, Shakir ad-Duaik, Abdul ‘Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik, ‘Ali ‘Arafah, Muhammad as-Salaymah, Yusif al-Ja’bari, Musa an-Natshih, Abdul -Aziz an-Natshih, Murtada ad-Duaik, and Kasir ad-Duaik).

The Rear Elevations

The rear elevations of the studied houses are classified into the following three groups according to the number of surfaces. The most commonly found is rear elevations which feature two- surfaces as a result of the addition of wet spaces,

twelve houses are of this category (Atif al- Hammury, Musa Shahin, Hisham iz-Zghayyar, Ratib an-Nazir, Abdul ‘Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik, ‘Ali ‘Arafah, Yusif al-Ja’bari, ‘Abdul ‘af al-Ja’bari and Musa an-Natshih). Single surface rear elevation is noted at five houses (Muhammad iz-Zghayyar, Jabir al-Ja’bari, Abdul -Aziz an-Natshih, Murtada ad-Duaik and Hamzah Shahin). Three-surfaces rear elevations are noted at the houses of: Musa Shahin, Shakir ad-Duaik and Kasir ad-Duaik. In Shakir ad-Duaik, house the central hall projects from the centre of the elevation resulting in three surfaces. In Musa Shahin house the wet spaces project from the centre of the elevation, while in Kasir ad-Duaik house the elevation is steeped in three surfaces: a front and back surface, both of which are connected by a third surface which is inclined approximately 49 degrees from the front surface.

Exit to outside from the rear elevations is commonly found among the measured houses, Figure 46 summarises door openings found at the rear elevations of the studied houses. The doors feature a variety of profiles, measurements and architectural characteristics, though they can be classified under the following prototypes: The most common type of exit features a rectangular door opening covered with a lintel, above which is a large half circular revealing arch opening. Six houses have rear elevation exits of this type (Muhammad iz-Zghayyar, Shakir ad-Duaik, ‘Ali ‘Arafah, Muhammad as-Salaymah, Musa an-Natshih and Murtada ad-Duaik). In some cases the rear elevations feature a door which is covered with a lintel, above which a revealing arch opening is placed, this is a feature found at five houses (‘Iz id-Din al-Hammory, Hisham iz-Zghayyar, Abdul ‘Afu al-Muhtasib, Murtada ad-Duaik, Hamzah Shahin). In ‘Iz id-Din al-Hammory and Abdul ‘Afu al-Muhtasib houses the door is flanked by two semicircular windows. Exits which are featuring rectangular or semicircular profiled doors are noted at the rear elevations of six houses (Atif al- Hammury, Musa Shahin, Ratib an-Nazir, Awni id-Duaik, ‘Abdul ‘af al-Ja’bari, and Abdul -Aziz an-Natshih). However, Musa an-Natshih house did not have any connection to outside. Kasir ad-Duaik house is quite different. It features rear elevation, which plays a main elevation role; it own three door openings, two of which open to the central hall, and the third opens to a guest room.

The rear elevation of Jabir al-Ja'abari house is identical; it has a rectangular door featuring a semicircular window above and another rectangular window at the side.

Apart from the window and door openings of the central hall, usually the rear elevations feature some ventilation windows, which are opening to wet spaces and are poor in treatment and size. This description is true for the following 14 houses: Muhammad iz-Zghayyar, Musa Shahin, Hisham iz-Zghayyar, Ratib an-Nazir, Shakir ad-Duaik, Yasir id-Duaik, Awni id-Duaik, 'Ali 'Arafah, Muhammad as-Salaymah, Yusif al-Ja'bari, 'Abdul 'af al-Ja'bari, Musa an-Natshih, Abdul -Aziz an-Natshih, Hamzah Shahin. However, the rear elevations of some houses are featuring same level of interest as the side elevations. In those examples, regular cut stone courses are used for the elevation walls, and the frames of the openings are carefully treated. Six houses fall under this category ('Iz id-Din al-Hammory, Atif al- Hammury, Abdul 'Afu al-Muhtasib, Jabir al-Ja'abari, Murtada ad-Duaik, and Kasir ad-Duaik)

Similar to main and side elevations, the openings of rear elevations are horizontally organised reflecting the subdivision of the building into floors. The houses under study have been classified earlier into four groups based on the number of floors (Table 2). The same classification is obtained in the rear elevations height: Rear elevation with only a single floor (only a ground floor) height is found at ten houses (Atif al- Hammury, Ratib an-Nazir, Shakir ad-Duaik, Yasir id-Duaik, Awni id-Duaik, 'Ali 'Arafah, Muhammad as-Salaymah, Jabir al-Ja'abari, 'Abdul 'af al-Ja'bari, and Hamzah Shahin).

Some houses which have partial basement and a ground floor, feature single floor rear elevations, this is because the sloping topography results in only the ground floor elevation being visible from the rear, and five houses are of this group (Muhammad iz-Zghayyar, Hisham iz-Zghayyar, Abdul 'Afu al-Muhtasib, Yusif al-Ja'bari, Musa an-Natshih, and Abdul -Aziz an-Natshih). Rear elevations which are two-storey high (a ground and first floor) is not very common; this is only noted at the rear elevations of three houses ('Iz id-Din al-Hammory, Musa Shahin and Kasir ad-Duaik). Only one house (Murtada ad-Duaik) features a three-storey rear elevation (basement, ground and first).

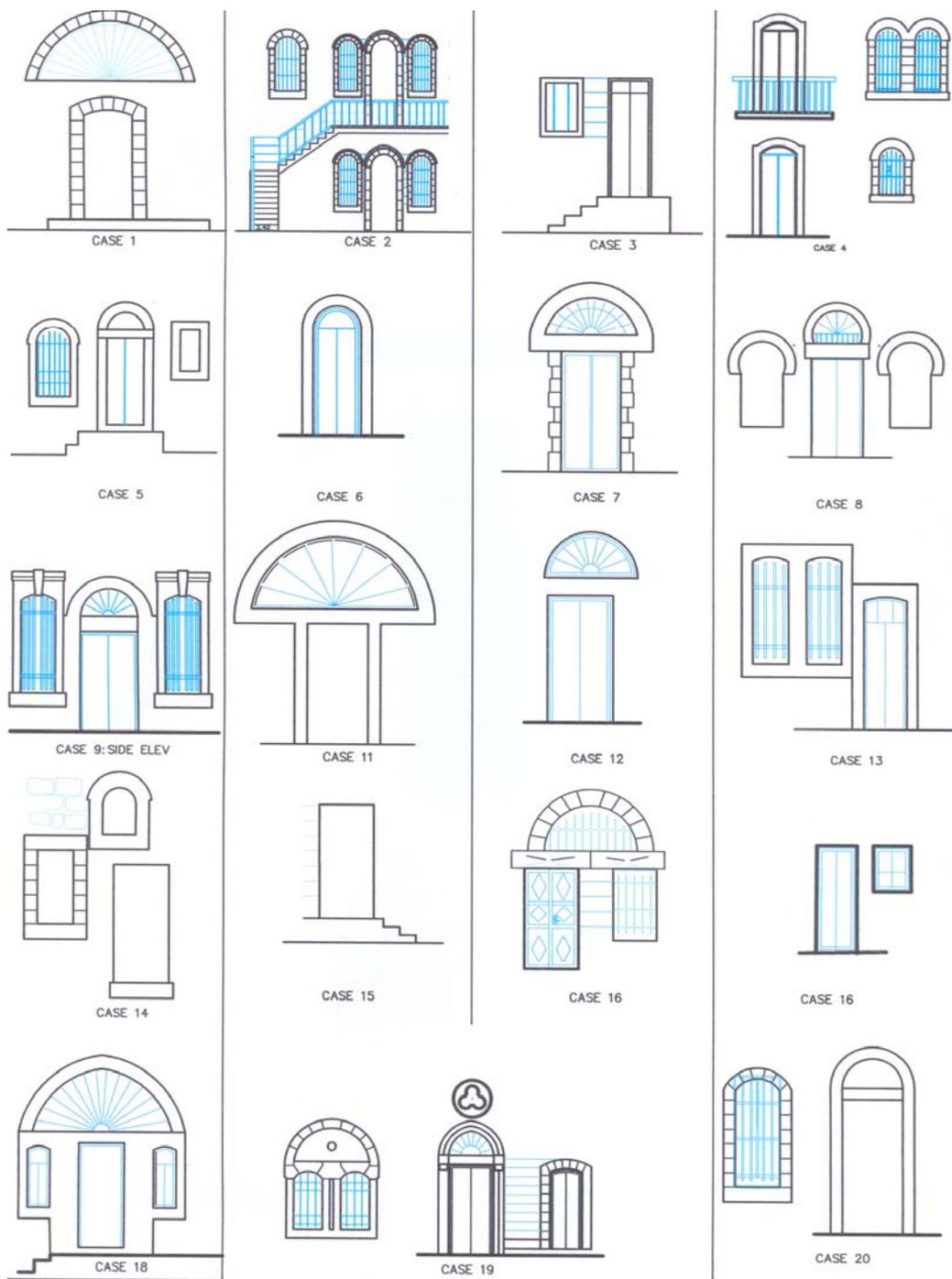


Figure 46: window and door openings, prototypes from at the rear elevations

Interior

Plan typology: The present use of the houses did not change much from the original use. The central hall accommodates, as it did then, the daily living activities such as dining and gathering besides its functional role in providing cross circulation from the surrounding spaces. To the right or left side of the central hall is the guest room, which usually has a direct entrance from outside by a veranda door in the form of a wall recess. The guest room is also connected to the interior of the house by a door that gives on the central hall. In some houses, another guest room, which is specialised for the female guests, is found at the opposite side of the main guest room. Other rooms connected to the lengthwise sides of the central hall were and are still used as bedrooms. Wet spaces (kitchen, toilet and bath) are located on the shorter rear-facing side of the central hall and are usually connected to the central hall by a small lobby. The wet spaces were either initially incorporated inside the house or were added later. Both original and added wet spaces are classified in the following “Plans” section.

Because connection to Roofs of the buildings is only noted at five houses (Muhammad iz-Zghayyar, Abdul ‘Afu al-Muhtasib, Atif al- Hammury, Murtada ad-Duaik, and Kasir ad-Duaik), the traditional habit of using the roofs for sleeping in the warm summer nights and for drying clothes and vegetables is not very common at the central hall housing.

Workshop and stables are not widely found within the spaces of the measured houses. In few examples, the sloping topography necessitated the construction of a partial basement floor at the lower section of the lot, this provided space for stables and workshops, a condition only found at six of the studied houses (Muhammad iz-Zghayyar, Hisham iz-Zghayyar, Abdul ‘Afu al-Muhtasib, Abdul -Aziz an-Natshih, Murtada ad-Duaik, and Kasir ad-Duaik).

Furniture: the earlier traditional living pattern where the level of living was the floor of the space continued together with the adoption of modern furnishing. At the

new houses, the tenants followed the fashion of the era and started to use modern furniture, besides maintaining many traditional habits of using the floor of the space for the daily living of eating, sleeping and setting on the floor. In many cases, outdoor open spaces, mainly back yard of the house, continued to accommodate activities such as cooking, drying laundry, and washing the dishes and clothes.

One interesting thing is that the interior spaces of the studied houses (central hall, bedrooms, and guest rooms) are not designed for modern furniture, as a large room is filled with a bedroom set consisting of a large bed, a three or four wing wardrobe, and a toilet table. The large arched window niches of the walls are usually completely covered with curtains that hide their beauty. This contradiction between the modern furnishing and the interior spaces proves that the tenants were unaware of what kind of interior spaces characteristics are needed to fit with contemporary living, evidence for that are interviews with three original owners who proudly indicated that they were pioneers of their time who constructed fully furnished individual houses. Instead, they were influenced by the characteristics of their recent dwellings 'hosh' and their traditional living habits.

Electric power was brought to the town in the 1950s. Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking. After 1960s, electrical appliances become gradually incorporated in the interior living spaces. The eight houses, which are still used for residential purposes, have televisions, refrigerators, cookers, ovens and washing machines.

Plans

Partial basement floor is not an underground floor, instead it is underground. The sloping topography enabled the construction of this partial basement floor, which is smaller than the ground floor above. It is exposed to outside from the lower part of the lot (main elevation) and is totally hidden from the upper part side (rear elevation). The basement floors usually accommodated service spaces such as storage rooms,

workshops and stables. The stables are usually having isolated entrance from outside, and are not connected to the rest of the floor spaces, and therefore two or more entrances for the partial basement are provided. The remaining storage spaces and workshops usually connect to each other by arched or doors openings in between. Seven of the studied houses have Partial basement floor (Muhammad iz-Zghayyar measuring 97m², Hisham iz-Zghayyar measuring 90m², Shakir ad-Duaik measuring 46m², Abdul ‘Afu al-Muhtasib measuring 124m², Yasir id-Duaik measuring 77m², Musa an-Natshih measuring 175m² and Abdul -Aziz an-Natshih measuring 151m²).

A complete basement floor, which is underground floor and has identical measurements to the upper ground floor, is found only in two houses (Murtada ad-Duaik measuring 195m² and Kasir ad-Duaik measuring 185m²). This floor of both houses contains cisterns for gathering rainwater.

Ground Floors

The number of spaces provided on the ground floors of the surveyed houses varied from three (Shakir ad-Duaik house) to nine (Kasir ad-Duaik house) (Figures floors plan summary sketches 28, 29, and 30). This variation reflects the size and number of nucleus family members, which used to have an average of eight members.

Entrances: usually the main entrance of the central hall is at a wall recess. The main entrance door has a revealing arch opening, which is flanked on both sides by a window opening, all of which provide the central hall with light and ventilation. Thirteen houses have this entrance typology (Muhammad iz-Zghayyar, ‘Iz id-Din al-Hammory, Atif al- Hammury, Hisham iz-Zghayyar, Shakir ad-Duaik, Abdul ‘Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik, ‘Ali ‘Arafah, Muhammad as-Salaymah, Abdul -Aziz an-Natshih, Murtada ad-Duaik, Hamzah Shahin).

Usually entrance hall (wall recess) has a secondary entrance door that opens to the guest room, giving guests access to their room without affecting family privacy. The following nine houses have secondary entrance to the guest room: ‘Iz id-Din al-

Hammory, Atif al- Hammury, Hisham iz-Zghayyar, Shakir ad-Duaik, Abdul ‘Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik, ‘Ali ‘Arafah, Muhammad as-Salaymah. In cases when the guest room did not own a direct entrance, the door is close to the main entrance to guarantee minimum interaction with household (Figure 32: typology 4).

Secondary entrances from the side elevation that opens to the central hall is a feature of the ground floors of seven houses (Muhammad iz-Zghayyar, Atif al- Hammury, Abdul ‘Afu al-Muhtasib, ‘Abdul ‘af al-Ja’bari, Musa an-Natshih, Murtada ad-Duaik, and Hamzah Shahin). Exit to outside from the rear is a common feature of the ground floor plans of nineteen houses, this exit usually connects to the backyard of the house which in many cases accommodate outdoor living activities of cooking, draying laundry, and washing dishes and clothes.

Central hall location and typologies: In the majority of the houses under study, the connection among the floor spaces is only through the central hall. The central hall usually has a longitudinal rectangular geometry, it is located at the middle of the plan, and the walls are smoothly plastered featuring door openings, which share similar profiles and measurements and opens to the surrounding living spaces. It is the core of the house where it acts as the main living space of the family, the main horizontal circulation element connecting the rest of the floor spaces to each other's beside it being the main entrance lobby of the house. Only two of the houses (‘Iz id-Din al-Hammory and Kasir ad-Duaik) have ground floors with two rooms connected to each other by a door. However, a small transition space (lobby) which connects the kitchen and toilet to the central hall is found at the ground floor plans of ten houses (Muhammad iz-Zghayyar, Atif al- Hammury, Musa Shahin, Hisham iz-Zghayyar, Ratib an-Nazir, Abdul ‘Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik, ‘Ali ‘Arafah and ‘Abdul ‘af al-Ja’bari).

In general, the ground floor features a central plan with a central hall space around which living spaces are arranged. With respect to the relation of the central hall with the rest of floor spaces, the following three groups of ground floor plan typologies

are distinguished. In the first group, the living spaces are attached to the long sides of the central hall, with the short sides facing outside (Figure 31: typology 2), eleven houses are of this typology (Muhammad iz-Zghayyar, ‘Iz id-Din al-Hammory, Shakir ad-Duaik, Abdul ‘Afu al-Muhtasib, Muhammad as-Salaymah, Yusif al-Ja’bari, Jabir al-Ja’abari, ‘Abdul -Aziz an-Natshih, Murtada ad-Duaik, Kasir ad-Duaik, Hamzah Shahin). In the second group, the living spaces are attached to the central hall from three sides, two of which are the long sides (Figure 31: typology 1), five houses are classified under this group (Atif al-Hammury, Musa Shahin, Hisham iz-Zghayyar, Ratib an-Nazir, and Musa an-Natshih). In the third group, the living spaces are attached to the long sides of the central hall, the main elevation side faces outside, the corresponding short side of the central hall partially faces the outside from one corner, and connect to wet spaces from the other (Figure 31: typology 3). Four houses are classified under this group (Yasir id-Duaik, Awni id-Duaik, ‘Ali ‘Arafah and ‘Abdul ‘af al-Ja’bari).

The centrality of the plan helps in warming up the surrounding living spaces. Only heating the central hall is sufficient that heat transfers to the surrounding attached spaces, eliminating the need to heat all the living spaces during winter. In the summer, natural cross ventilation helps in cooling the interior living spaces. The doors of living spaces along the length of the central hall face each other and connect with the outside windows. This arrangement promotes natural air circulation inside the house.

Number of central halls: Usually one main central hall is found, this is a common feature of sixteen houses. When secondary central halls exist, it is to support the main one, to provide extra connection to outside, and as a horizontal circulation space. One main and another secondary central hall is an architectural feature found at the ground floors of four houses (‘Iz id-Din al-Hammory, Yasir id-Duaik, Musa an-Natshih and Kasir ad-Duaik). Only the ground floor of Jabir al-Ja’abari house features a small courtyard, which opens to outside from main elevation and to the central hall via a large arch (Figure 29: G14).

Living spaces: a guest room is usually attached to one of the long sides of the central hall from the front section of the house. Direct entrance from outside to this space is usually provided when the house is entered via an entrance verandah. In some cases the space which is opposite to the main guest room is used as a guest room for female guests of the family as it has a direct exit to outside too, this feature is found at the ground floors of five houses (Atif al- Hammury, Hisham iz-Zghayyar, Yasir id-Duaik, Jabir al-Ja'abari, Kasir ad-Duaik). The remaining rooms, which are attached to the long sides of the central hall, are usually used and furnished as bedrooms.

Wet spaces: The availability and evolution of wet spaces (kitchen and toilet) within the ground floor plans (Figures 28, 29, and 30) are classified under the following four groups: In the first group, wet spaces are not integrated into the ground floor plan, instead they are provided as isolate spaces at the backyard of the house. This is evident in seven houses of: Muhammad iz-Zghayyar, Yusif al-Ja'bari, Jabir al-Ja'abari, Abdul -Aziz an-Natshih, Murtada ad-Duaik, Kasir ad-Duaik and Hamzah Shahin. In the second group, wet spaces are internally originally planned, and this is evident in five houses (Muhammad iz-Zghayyar, Hisham iz-Zghayyar, Ratib an-Nazir, Yasir id-Duaik and 'Abdul 'af al-Ja'bari). Later addition wet spaces are evident in four houses (Atif al- Hammury, Musa Shahin, Awni id-Duaik and 'Ali 'Arafah), where they are included as a result of a later addition to the back side of the house. Some wet spaces are added internally because of dividing of one original space into smaller spaces that accommodate a kitchen and toilet: 'Iz id-Din al-Hammory, Shakir ad-Duaik, Abdul 'Afu al-Muhtasib and Musa an-Natshih houses.

Plans similarities and differences: uniform approach to the plan interior arrangement in which the living spaces are symmetrically clustered at the lengthwise sides of the central hall. This arrangement resulted from the following facts: the longitudinal location of the central hall at the middle of the plan, its functional role as a horizontal circulation space, an entrance lobby and main living space of the house. The following ground floor plans are different from each other because of owners' variations in needs, site considerations, and or central hall house evolution to better suit modern living:

In the case of Muhammad iz-Zghayyar house, the plan features asymmetrical arrangement with three spaces at the north side of the central hall. At the south side of the central hall are two spaces between which is a corridor that opens to outside. Such asymmetrical layout is influenced by the site's steep passage from South, and the desire of the inhabitants to have secondary entrance in that side (Figure 28-1G). In the case of 'Iz id-Din al-Hammory house, the steep lot is reflected in the ground floor plan, which is divided into two levels, with a main central hall on the lower level of the lot and a secondary central hall on the upper level. The lower Eastern part of the plan is symmetrical where the central hall incorporates two spaces on the North and South sides. The upper part features an asymmetrical arrangement, with one space on the North and two spaces on the South. The plan is identical, and the sloping site is the factor influencing the plan arrangement (Figure 28-2G).

The ground floor plan of Atif al- Hammury house is identical because of the owner's desire to have a guest room of a larger size than the others. Wet spaces are in a separate zone, and a secondary entrance from the North side is provided. Therefore, the plan features asymmetrical arrangement with two spaces connected to the central hall from the South, and one large guest room from the opposite North. A corridor connects to the Northwest corner of the central hall and provides an exit from North and entry to the kitchen and toilet from West (Figure 28-3G).

Abdul 'Afu al-Muhtasib house is quite different from the others because of the owner's desire to have access to the roof. The plan features a central hall that extends along the East-West depth of the plan and features an asymmetrical arrangement. Two spaces are attached to the South side of the central hall and two other spaces are connected to it from North with a staircase space in-between. The staircase opens to outside from the North and connects to the roof (Figure 29-8G).

The ground floor plan of Yasir id-Duaik house is identical as it has two central halls. The main central hall extends along the East-West depth of the plan, from the South side of which is a secondary central hall. This provides connection to the outside from the South. This arrangement emerged from the owners' desire of having a plan

divided, into separate dwellings. This is achieved where the North section of the plan is rented to a computer centre and the South section is a separate dwelling, which is no longer, inhabited (Figure 29 -9G).

The ground floor plan of Yusif al-Ja'bari house shares similar arrangement with Atif Al- Hammory house; two spaces are connected to the West length of central hall while a large guest rooms is attached to the opposite East side (Figure 29-13G).

The owner's desire to have a semi-open courtyard is reflected on the ground floor plan of Jabir al-Ja'bari house; this house is different from the others as it features both a courtyard and a central hall space (Figure 29-14G).

The ground floor of Musa an-Natshih house is identical. It fulfils the owner's need to have a floor plan, which can be divided, into two separate dwellings. This resulted in a plan with two central halls; the front of the plan incorporates the main central hall, which has two spaces placed symmetrically to the East and West of it. The symmetry is broken in the back (North section of the plan), which features a secondary central hall that extends along the East-West depth of the plan and faces the outside from the West (Figure 29-16G).

Similarly, the ground floor plan of Murtada ad-Duaik house has living spaces that are connected to the North and South sides of the central hall. Asymmetrical arrangement is a result of staircase space provision to the middle of the north side of the central hall. The staircase provision fulfils the need of the owner to have a side exit and an entrance to the first floor above (Figure 30-18G). The floor plan of Kasir ad-Duaik house is influenced by the geometry of the lot (Figure 30-19G).

First Floors

A first floor is found only at five houses ('Iz id-Din al-Hammory, Musa Shahin, Yusif al-Ja'bari, Murtada ad-Duaik, and Kasir ad-Duaik). The first floor plans of those houses are rectangular and share same measurements as the ground floor. The number of spaces provided on each floor varies from seven, as in Yusif al-Ja'bari

house to ten spaces, as in Kasir ad-Duaik house. By owning a centralised plan, the plan arrangements and typology of the first floors are so similar to the ground floors below. First floors plans summary are in Figures 28, 29, and 30.

Entrances: there are two means of floors connection to outside and independency. In the first group, the floor is totally independent from the ground floor, it is accessed either by a closed staircase as in three houses ('Iz id-Din al-Hammory, Yusif al-Ja'bari, and Murtada ad-Duaik) or by open flights of stone steps which are connected to an elongated landing as in Musa Shahin house. In the second group, the first floor is complementary to the ground floor below as in the case of Kasir ad-Duaik house where internal flights of stone steps connects the ground and first floors.

Plan typologies: In the five houses that have a first floor, connection between the floor spaces is either guaranteed through the central hall, courtyard and aywan. Cross circulation among the surrounding spaces is by the central hall, this is a feature of first floor plans of three houses ('Iz id-Din al-Hammory, Musa Shahin and Yusif al-Ja'bari). A courtyard replaces the central hall this is a typology of two houses (Murtada ad-Duaik, and Kasir ad-Duaik), aywan and courtyard are providing cross circulation among the surrounding living spaces. The first floors of the studied houses feature a central plan with the living spaces arranged around a central hall or courtyard; therefore, the following two groups of plan typologies are distinguished:

Usually the first floor plans are sharing identical arrangements and architectural features with the ground floor below. This is true for three houses ('Iz id-Din al-Hammory, Musa Shahin, Yusif al-Ja'bari, and Murtada ad-Duaik) where central hall is the hart of the floor around which the rest of living spaces are arranged. In those houses, minor differences exist between the ground and first floors typologies. For instance, one of the first floor spaces in 'Iz id-Din al-Hammory house (Figure 28-1F) accommodates a staircase that provides an entrance to the first floor. It also features two cantilevered balconies. The first floor of Yusif al-Ja'bari house (Figure 29-13F) features wet spaces attached to the north side of the plan. The first floor plan of two houses (Murtada ad-Duaik, and Kasir ad-Duaik), feature a courtyard around which

the rest of living spaces are arranged. The plan features a semi-open space locally called aywan. The plan has a central typology wherein all the floor spaces are simply arranged around the courtyard. In Kasir ad-Duaik house there are three aywans connected with the South, North, and West sides of the courtyard. Murtada ad-Duaik house has two aywans, which connect with the courtyard from the East and West sides. The aywan has a very important role; it is used for outside living activity besides functioning as a transitional horizontal circulation element, connecting surrounding rooms with the courtyard (Figures: 30-18F and F19).

Wet spaces provision of kitchen and toilet within the first floor of five houses are under the following three groups. Originally, planned wet spaces are in the case of Musa Shahin and Kasir ad-Duaik houses (Figures: D 4.2 and D 19.2). Externally added wet spaces are in Yusif al-Ja'bari house; the wet spaces provision is a result of a later addition to the backside of the plan (Figure: D 13.2). Internally added are in the houses of 'Iz id-Din al-Hammory and Murtada ad-Duaik; the wet spaces are provided because of one original space subdivided into smaller spaces, to accommodate the kitchen and toilet (Figures: D 2.2 and D 18.2).

Space Characteristics

Generally, the rooms of the surveyed houses feature a rectangular plan. In most of the houses, the rooms, which are attached to the long sides of the central hall, feature approximately the same measurements. This has resulted from the symmetry of the main elevation; this is reflected in the plan with right and left wings of similar measurements. In addition, rectangular rooms are found although the symmetry of the façade does not change. In most of the houses, the rooms, which are attached to the lengthwise sides of the central hall, are constructed to play the role of all-purpose spaces. As discussed earlier in the section 'History of Use and Current Use,' even though the room space is prepared to accommodate different living activities such as sleeping, sitting and dining, this multiuse tradition has decreased when the original owners moved in, each space was and is still being used for a specific function of sleeping, living or dining. In the hosh, niches provided storage for mattresses and

blankets; those were rolled out and used for sleeping during the night, then rolled up in the niches during the daytime when the room is used for daily living.

The new tenants carried to the new space habits from the earlier hosh, although they never used them in the same way. Initially the inhabitants carried on the characteristic of the multipurpose living on the ground level from the hosh to the newer houses as they did not change their original living habits. Therefore, functional diversity was not taken into consideration during the neither planning nor construction phases. Immediately upon moving to their new houses, the inhabitants realised that their use of the spaces should change from an all-purpose space to spaces of specified functions. Consequently, the new tenants had to match the new houses and not the reverse. Yet, in many cases, the traditional habit of using the floor of the room for eating and setting continued together with availability of modern furniture.

Usually, rooms of same floor have similar measurements and architectural features of superstructures, niches, built-in-cupboards, walls and floors finish, window and door niches. The spaces were not distinguished from each other nor prepared to suit modern furniture, and functional variety. Critical analysis of individual spaces presented at the catalogue (chapter four), suggests that similarity found among the living spaces of same floor reveal a lack of functional diversity and provision of specified spaces serving a specific activity such as dining, sleeping or setting. Other than wet spaces, the guest room is the only space, which served specific function. In some cases, the guest room is distinguished from other spaces by owning a direct entrance from outside. Yet the interior features of guest room are not much different from the other spaces.

Niches and built-in-cupboards of various profiles and sizes are found within the interior spaces of all the measured houses. Large semicircular or segmental profiled wall niches (Raksih) which are measuring in average 180cm long, 55cm deep, and 160cm high and are raised about 40cm from the floor. The Raksih is usually not closed by timber wings, and is found at all the spaces excluding the central hall,

kitchens and toilets. The wall niches are used for storing mattresses, beddings and blankets. Built-in-cupboards (khazaien), are smaller sized niches which measures in average 100cm long, 50cm deep, and 140cm high and are raised about 20cm from the floor. Built-in-cupboards are closed by timber wings and found in all the floor spaces including central hall and kitchen. They are used mainly for storing clothes in the bedrooms, valuable households at the guest room and central hall.

The most common found superstructures are cross and Jack vaults. Barrel vaults are not so commonly found as it was only noted at one or two spaces of three houses (Musa an-Natshih, Murtada ad-Duaik, and Kasir ad-Duaik). In few houses, Jack vaults are used besides cross vaults as in the case of houses of: 'Iz id-Din al-Hammory, Shakir ad-Duaik, and Abdul 'Afu al-Muhtasib where the three-arched veranda is covered by Jack vaults while the rest of the spaces feature cross-vaulated superstructures. The average height for cross vault superstructures is 4.1m high for the spaces of the normal living floor and 2.6m high for the spaces of partial basements. The average height for Jack vault superstructures is 3.8m high at the spaces of normal living floors and 2.5m high for the spaces of partial basements.

Types of superstructures used among the surveyed houses are found at table two. The measured houses are classified into the following groups with respect to the types of superstructures used in each: In the first group, cross vault superstructures are used in all the spaces of six houses (Muhammad iz-Zghayyar, Ratib an-Nazir, Shakir ad-Duaik, Yasir id-Duaik, Jabir al-Ja'abari, and Hamzah Shahin). In the second group, Jack vault superstructures are used in all the spaces of six houses (Hisham iz-Zghayyar, Yasir id-Duaik, Awni id-Duaik, 'Ali 'Arafah, Muhammad as-Salaymah, 'Abdul 'af al-Ja'abari). In the third group, some spaces features cross vaults and some other spaces feature Jack vaults, this is found at four houses ('Iz id-Din al-Hammory, Atif al-Hammury, Musa Shahin, and Abdul 'Afu al-Muhtasib). In the fourth group, some spaces features cross vaults and some other spaces feature barrel vaults; this is found at three houses (Musa an-Natshih, Murtada ad-Duaik, and Kasir ad-Duaik).

The twin-window openings are framed by a large window niche. This architectural treatment merits discussion for the ergonomic and environmental advantages it provides, as the niche acts as a sun-filtering element. The direct summer sunrays are avoided; instead, interior spaces enjoy indirect sunlight.

Building Technology

Water drainage: The roofs are plastered with a waterproof layer (The material component of which and the implementation technique are discussed in details at Appendix B: Construction materials and techniques), the surface of this layer is inclined toward a water drain that is usually made of metal or stone. In all the surveyed houses, there is a cistern for gathering rainwater.

Water source: In the houses of Murtada ad-Duaik and Kasir ad-Duaik the cistern is one of the basement floor spaces, while in the remaining 18 houses, cisterns are carved in the garden. It was until 1955 that a public water network was introduced to Al-Khalil; prior to that, water was obtained from cisterns, natural springs or public pools. Water and sewage piping installations are externally fixed within the wet spaces of the measured houses. In the majority of the studied houses, piping installations need to be maintained.

Energy supply: Electric power was brought to the town in the 1950s, with the wiring fixed externally in all of the studied houses. Before that, oil lamps were used for lighting. Since central heating were and are not provided, in the past, timber and coal-fuelled metal portable heating devices were used mainly at the central hall which is comprehensively used, while currently, portable electric, gas or oil heating devices are used. Fireplaces are not generally present in the studied houses where they are only found at the guest living rooms of Jabir al-Ja'abari house (Catalogue Figure 14.7: space 0.3). Besides the simple heating devices people used to put more clothes on instead of heating the spaces.

Structural System and Construction Material

Table three has the breakdown of structural systems construction and materials of the studied houses. Appendix B provides detailed information on the materials and construction techniques, which are used at all, stages of construction including the foundations, the walls, the vaults, and the finishing works. In all the houses, continuous load bearing foundations are used, along with heavy load bearing walls to support the barrel, jack or cross vaults. Even though the jack-vaults were introduced to the town after the early 1930s, cross vaults continued to be in use until 1950, the first floor of Abdul ‘Afu al-Muhtasib house dates to 1951 and features cross-vault superstructures. In some houses, both systems are used on the same floor, as in the houses of ‘Iz id-Din al-Hammory and Atif al- Hammury.

Limestone, stucco and mortar are the main construction materials used for the foundations, walls and slabs. Lime is the main material of the mortar. The interior walls and superstructures are smoothly plastered. Flagstone slabs or coloured cement tiles are used for the interior floors finishing.

5.2 Comparison with the Other Central hall Houses in Al-Khalil

This comparison is based on the comparison of the measured houses and a sample of 18 unmeasured central hall houses from the same town (Figures 72 to 89). As it was highlighted at the end of chapter three, it is found that the town contained 80 central hall houses. Same as the measured houses the unmeasured houses include houses located at Ayn Sarah and the old town surroundings. Those houses are not included within the measured survey for reasons explained in the methodology.

Seven unmeasured houses are very similar to the surveyed ones particularly with respect to the following: The houses are located on lots of irregular geometry, which are surrounded by open spaces that feature greeneries of different types and accommodate pedestrian and vehicular traffic. From the exterior they have free-standing clear-cut forms with flat roofs above, the buildings heights varies from single-story to two-storey buildings and are built of limestone featuring variable

dressing textures, colour, cut, and coursing. The earlier classification of the measured houses dealing with the horizontal, vertical, window and doors framings and stone carvings holds true for the unmeasured houses. Internally, the living floor plans are featuring a centralised plan typology in which living spaces are surrounding the central hall from two or three sides.

Same earlier classification of main entrance typologies is true for the unmeasured houses (main entrance typology 1-4) where the house is entered directly from outside or through a veranda.

The following seven free standing unmeasured houses match with the above categories (Figure 72: Yosef Abu-Snaynih house in Jerusalem Road, Figure 73: central-hall house in shohada street, Figure 74: kaysi house in Jerusalem street, Figure 76: central-hall house in Al-Haram street, Figure 81: central-hall house in Al-Kaliah neighborhood, Al-Haram street, Figure 83: Ali Imam house in Shohada street, Figure 85: central-hall house, Jerusalem road).

The detached unmeasured houses are quite different, they are not featuring freestanding positions and do not have any surrounding open spaces. They are located at the street boundary from the front side and are attached to neighbouring buildings from the other sides. From the exterior, the raw unmeasured houses are different from those of the measured houses as the main elevations of those examples features asymmetrical arrangements. This is because the site forms and nature was reflected on the building, which already covered all the lot area; this has influenced the design of the main elevation and on the plan owning asymmetrical arrangement. In addition, those houses are different as they are featuring two floors; the ground floor accommodates shops and the upper floor is used as residential floor which is reached by a staircase space which opens to the central hall.

The following eleven houses are examples of detached central hall houses (Figure 75: Imman house in al-Kaliah neighborhood, Figure 77: Djabari house in al-Kaliah neighborhood, Figure 78: central hall house in Shuhada street, Figure 79: central hall

house is Shohada Street, Figure 80: house in King Faysal Street, Figure 82: house in King Faysal Street, Figure 84: house in King Faysal Street, Figure 86: house in King Faysal Street, Figure 87: house in King Faysal Street, Figure 88: house in Shohada street, Figure 89: house in Shohada street).

Same as the measured houses the unmeasured houses differentiated from each other with respect to window and door openings measurements, profile and ornamentation. This reflects variations in the individual owners' tastes and master builders of those houses. Not only the windows and door openings profiles are different from each other, but also different types of stone frames and ornamentations are found.

In addition, there are some unmeasured houses, which feature similar profiles and details of window and door openings with some measured houses. The twin windows found at the main elevation of Kaysi house (Figure 74) are so similar to those found at the main elevation of Muhammad iz-Zghayyar house. One of the most frequently repeated features is the three arched arrangement found in some unmeasured houses as in figures: 72 and 79 which are so similar to the same arrangement found at the measured houses of 'Iz id-Din al-Hammory, Hisham iz-Zghayyar, Shakir ad-Duaik, Abdul 'Afu al-Muhtasib, Yasir id-Duaik, Awni id-Duaik, 'Ali 'Arafah, and Muhammad as-Salaymah.

5.3 From Hosh to Central hall house

The following comparison between the hosh and central hall houses are based on the previous comparison between the measured central hall houses and the hosh analyses presented at Chapter 3, where Al-Khateeb hosh is chosen as a sample representing the extended-family hosh in Al-Khalil.

Location, Date of Construction and Occupancy

The historical evolution of the traditional town, in particular, Ayyoubid and Mamluke Periods onward, is discussed in the history section of Chapter 2, this was

followed by detailed interpretation of the urban characteristics of the traditional neighbourhoods, in Chapter 3, and comparisons between the old and new urban textures of the town is in section 3.1. Information on the hosh exterior, plan typology, use and features of living spaces, organization and use of spaces are all studied at the hosh analysis section of chapter 3.

The hosh is found only in the historic core Al- Khalil (traditional neighbourhoods). It is attached to surrounding buildings, while early central hall houses feature freestanding positions and are located in both the surrounding mountains of the old town and Ayn Sarah, which developed in the early-20th century. The development of the hosh is influenced by the traditional living pattern of the town and the pre 20th century social texture of extended families (The pre 20th century traditional social texture is discussed at the geography section of chapter 2). Whereas the pre-20th century social, economic and military considerations contributed to the use of the hosh to accommodate extended families, while the nucleus families of early-20th century, decreasing clan ties and increasing internal security, led to the rise of the central hall houses, which are free standing rather than attached to neighbouring dwellings. Moreover, relatives no longer necessarily own neighbouring buildings.

Usually all the spaces of the central hall house are constructed at the same time either while the spaces of the hosh are added at different periods. The hosh developed and sustained over the life of two or more generations an extended-family. The residents of the hosh inherited their dwellings from their ancestors, each generation adding extra spaces to answer the increasing needs of space of the extended-family members. The construction of the hosh also expanded over the life of the neighbourhood, although exact construction date cannot be estimated, in some neighbourhoods such as Bani Dar, some of the lower level spaces are estimated as dating back to the 13th or 14th centuries, and spaces of upper levels are estimated to date from the 16th to 19th centuries¹⁴⁹.

The survey shows that central hall houses were constructed to accommodate a nucleus family, while the hosh accommodated an extended family of married sons,

brothers or cousins. The central hall was constructed to suit the early 20th century nucleus family living circumstances. As such, the differences between the hosh and central hall house outweigh the similarities, as both types belong to far different type of families and living patterns.

The Lot

The hosh has a far different evolution from that of central hall house, a fact reflected in the physical characteristics of both types of lots. In the hosh, the irregularity and limited area of the lot reflects the dominating traditional social texture and ownership pattern of the pre-20th century where the lot boundaries are defined by the hosh of neighbouring relatives, narrow pathways and underpasses. The lots of central hall houses are less irregular, larger in size and surrounded by wider streets and neighbouring lots of similar characteristics. Both hosh and central hall house was a subject to topographical slope. In both cases the slope was treated similarly; a partial basement floor occupied the lower section of the lot with the remainder determining the level of the main living floor.

Unlike the central hall house, the hosh is very compact, attached to neighbouring hoshes. Usually the hosh is not surrounded by any private gardens or open spaces. The central hall house is usually freestanding, and is surrounded by a substantial percentage of open spaces, greenery, and pedestrian passages. The lot boundaries of the central hall house are defined by loose-stone walls, concrete walls, and neighbouring streets. The hosh covers all the area of the lot until it became consumed in the entire texture of the traditional town. Indeed, the main difference distinguishing the lots of both types is that the hosh has introvert planning with no façades. The hosh could not be expanded horizontally because it was limited by neighbouring hoshes of relatives, all the spaces are generating from the courtyard, which was replaced by the central hall in the later houses.

Exterior

Unlike the hosh, the central hall house has a freestanding clear-cut form with four elevations, which have hierarchy in treatment, namely, main (front), secondary (side) and rear elevations. Side elevations manifest a reduced emphasis than that given to the main elevation, while rear elevations have the least framing and ornamentations. The exterior of hosh is far different: it is attached to the surrounding tissue, and has irregular form, which expanded vertically in levels and not floors. In addition, the hosh elevations are not distinguished from each other, as main, secondary or rear (Figures 51 to 65: elevations can not be distinguished as main or secondary). The most commonly found are hoshes, which have only one elevation, facing the street. In few cases when the hosh is attached to neighbouring buildings from all sides it does not even have any elevation facing outside.

Exterior elevations of the hosh are composed of levels and not floors, each of which is usually dating to different period, variation on the stone cut and dressing is an imprint left by successive generations of master builders who participated in the construction of one elevation. Each generation added to the elevation the techniques and styles of their period (Figures 51 to 65: show variation on the stone cut and finish noted at the exterior elevations of Al Khateeb hosh). Variations in stone cut, coursing, colours and dressing of the central hall house elevation walls are not a result from fashions belonging to different periods. Roughly cut and coursed stone was either used at the lower part of the elevation to make the levelling for the upper regular cut and coursed stones, or it was used at the rear elevations, which remain far from public. In some other cases it was used as a decorative mean enriching the elevation surface with contrasting, stone cuts, coursings, textures, and colours. The following photographs are examples of the stone usage as a decorative mean in the elevations of central hall houses (Figures 2.1, 3.3, 4.4, 5.1, 6.4, 8.1, 13.3, 14.1, 15.5, 17.1, 18.3, 19.1).

The hosh elevations are a reflection of simple local architecture with evidence of poor ornamentation and framings (Figures 51 to 65). The elevations are quite

different from that of the central hall house, which feature high interest in the finishing of window and doorframes, and the revival of neoclassical details for the exterior. The central hall houses openings are ornamented and emphasised by their projection from the elevation wall and use of variations in stone texture and colours (Figures: 2.1, 2.2, 3.1, 3.5, 7.2, 9.3, 12.2, and 19.2). The simplicity of the hosh exteriors, which have similar windows at the upper floors and very few stone carvings and ornamentations, contrasts with the elaborate and impressive exteriors of the central hall houses. The first has the beauty of an entire texture reflecting the community's tastes and way of life, while the latter reflects the individual tastes and socioeconomic status of the owners. Horizontal and vertical framings are used extensively in the elevations of the central hall house, a method not widely used on the exteriors of the hosh. Horizontal bands on the central hall house elevations reflect a definite clear separation in floors as an influence of the neoclassic architecture. This is not true for the hosh, which develops organically in levels but not floors (Figures 51 to 65).

The organic development of the hosh is evident in the elevations with their steep skyline. The lower parts of the elevations have minimum openings, with the number and size of windows increasing at the upper levels. The same is not true for the central hall house, which is constructed in one or two phases. It features rather, a flat roof and window openings with similar measurements and profiles. Unlike the hosh, in the central hall house the location of the windows is defined by the interior plan arrangements, while from the hosh elevations interior space arrangement can not be read as many spaces have window openings to the courtyard.

Plan

Based on a comparison of the surveyed houses, the plans of the central houses share a similar approach to the living floor plan arrangement, plan geometry, typology, cross-circulation and measurements. Accordingly, the houses were classified earlier in groups with respect to plan typologies, entrance types, wet spaces and construction methods. This does not hold true for the hosh, which developed irregularly in vertical

direction; the living spaces surrounded a central courtyard, with the service spaces provided at the lower levels to accommodate agricultural tools and products. Based on this irregularly development uniformity among a group of hosh plans is not easily found; each hosh has its own geometries, measurements, layout, number of levels and spaces, which are far different from the other hoshes. The socio-economic status, size of extended family, available lot size and location are factors which influenced the shape and geometry of each hosh plan and resulted in there being little in common between the hoshes of the traditional part of the town.

Both the hosh and the central hall house feature a centralised plan in which all living spaces are arranged around a central space (courtyard in the hosh and a central hall in the individual houses). However, this central space played a different role in each case. The living spaces of the hosh are asymmetrically clustered around a courtyard in both horizontal and vertical directions. In the hosh, there are no specific rules that determine the arrangement of living spaces around the courtyard; in some cases, living spaces surround the courtyard from all sides but in other cases, the courtyard only has living spaces on one, two or three sides.

The size and geometry of the courtyard also varies from one hosh to another. In some examples it is irregularly squar, rectangular or in the form of a narrow corridor. In the central hall house, on the other hand, the central hall has a longitudinal rectangular form, the plan is symmetrical; the living spaces are located on the same level with the central hall, and the central hall has living spaces on two or three sides with the fourth (main elevation) facing the exterior.

The hosh features a courtyard which guarantees horizontal and vertical cross circulation among surrounding spaces at different levels, while the central hall only provides cross circulation among surrounding spaces at the same level, particularly in the central hall house each floor serves as an independent dwelling for a nucleus family and features a central hall that provides the surrounding living spaces of that floor with cross circulation. The hosh plan features living spaces which are either directly connected with each other or via courtyard, whereas in the central hall house,

cross circulation among living spaces is only guaranteed through the central hall. Because the central hall house is free standing, all living spaces face the outside by window openings in all directions. As the hosh is attached to neighbouring structures in different directions, this limits the possibility of window openings to the outside. Instead, living spaces gain light and ventilation by window openings to the courtyard and this fits with security and privacy considerations of the inhabitants.

The hosh and central hall house have very different means of connection to the outside. Whereas the hosh has a crooked narrow corridor connecting the courtyard with the street level, the central hall house features a main entrance usually located in the centre of the main elevation and opening directly onto the central hall. In most of the central hall houses, there is an exit to the back of the house, and secondary entrances at the side elevations (Figure 32 entrance typologies 1-5). Because living spaces of the central hall house usually have symmetrical arrangement, they have similar measurements and heights, while the organic nature of the hosh results in living spaces featuring different measurements and heights.

The hosh makes extensive provision of service spaces for stabling animals and storing agricultural products. However, such spaces are not widely present in the central hall houses; storage spaces are available when the sloping site necessitated the construction of partial basement floor. The exclusion of such service spaces is likely a result of a shift in the inhabitant's fields of employment, as they shifted from agriculture to commerce and governmental carriers.

Spaces Varieties and Characteristics

Central hall and courtyard: both the hosh and the central hall house feature a central space around which all living spaces are arranged. In both cases, this central space features very different characteristics, and play different functional roles. The hosh features a courtyard around which living spaces are clustered, vertical expansions happened to accommodate newly married couples of the extended family. The courtyard has an important functional role; it accommodates outdoor social

gatherings of the extended family. It is also used for various household activities such as cooking, and drying vegetables.

The courtyard guarantees cross circulation between surrounding spaces. Spaces of upper floors are connected to the courtyard by irregular flights of stone steps, also as they have access to light and ventilation from the courtyard-facing windows openings. In contrast, the central hall house features a central hall locally called 'liwan', which acts as an entrance lobby besides its role as indoor gathering space. It provides cross circulation between the surrounding living spaces at the same level. This functional variation between the courtyard and central hall is evident in their very different architectural characteristics, geometries, measurements, and finishing. The courtyard had an irregular plan without specific size or geometry, and its size and shape varied from one hosh to another (Figures 18 and 24).

The courtyard is opened from top. Usually, it has smaller area at the ground floor level, and opens up at the upper levels; the upper floor spaces recessed from the courtyard level spaces, enabling lower levels spaces of obtain better light and ventilation. It features limestone walls, which share similar characteristics with the exterior elevation walls but with more window openings. The floor is usually finished with flagstones. It has an underpass entrance in the form of a crooked corridor that opens indirectly to the outside.

The central hall is far different from the courtyard where it has a longitudinal rectangular plan, covered on top by cross or jack vault superstructure, which is measuring in average 4m height. Unlike the courtyard, which develops vertically by getting larger at the upper levels of the hosh, the central hall covers one floor height and serves the surrounding spaces of that floor. The central hall walls are smoothly plastered featuring door openings, which share similar profiles and measurements. It opens directly to the outside by the main entrance door, which is flanked from both sides with window openings, secondary entrances are provided from rear and side elevations.

Multipurpose Rooms: For both the hosh and central hall house, living spaces consist of one all-purpose rectangular room accommodating different household activities such as living, dining, sleeping, work and storage. In fact, the hosh rooms had to be multifunctional since it served as a dwelling for a married couple of an extended family. In contrast, the central hall houses are constructed to accommodate a nucleus family so an all-purpose room is not needed. Besides the adoption of modern furnishing and the functional diversity of the spaces, the inhabitants of central hall houses maintained many of their traditional habits of eating, sleeping, and sitting on the floor and activities of cooking, washing and at the backyards. Rooms of both hosh and central hall houses feature niches of varied sizes. In both types relatively large niches (average length is 180cm, depth 60cm, and height 16cm) locally called rakseh are used for storing the bedding, mattresses and blanket, which are rolled out at night times for sleeping. Smaller size niches locally called khazayen, are reserved for keeping valuable households and dresses. In both dwelling types khazayen are subdivided by shelves and closed by timber shutters.

The significant difference between the spaces of the hosh and the central hall houses is that, in the hosh, the room space has two levels: a lower solid area near the entrance, called Kai-Albayt, a place for removing shoes, and an upper level, the normal floor of the room 'Mastabah'. Rooms of central hall house do not feature such differences in levels as the living spaces are only entered from the central hall, which is an interior space, and the traditional of removing shoes as a mark of respect is no longer practiced. The rooms of both hosh and central hall houses share many similarities in superstructure and interior finish. The hosh cross-vault structural system was adapted in many central hall houses, after the 1920s, Jack-vaults were introduced to the central hall houses of the town. As the central hall house features strait roof, the superstructures of the spaces have similar height. This is not true for the hosh, which has irregularly vertical development of spaces because of which living spaces features different heights and the exteriors have steeped skyline.

Usually the rooms of the hosh feature flag stone tiles, and the same type of floor finish is used in the early central hall houses. After 1930 coloured cement tiles were introduced in many central hall houses. In both dwelling types, the interior walls and superstructure are constructed of limestone and smoothly plastered. A significant difference is that the cross vaults of some hosh spaces features star vaults used as a decorative element, an architectural treatment that is not found in any of the studied central hall houses. Both types feature window niches with 50-120cm depth, although the central hall house windows facing the outside, while most of the hosh windows open on the courtyard.

Wet Spaces: Kitchen, Cistern, Water cycle, and Bath: In the hosh, wet spaces are usually located on the courtyard level and shared by all the extended family members (married couples); in some hosh examples toilets are provided at the vertical expansions of newly married couples. Not much importance is given to the kitchen. Many houses constructed during the Mamluke and Ottoman periods do not have kitchens, as the Prophet Ibrahim Kitchen distributed daily meals for local residents and pilgrims. Yet when a kitchen space is found, it is located next to the water cistern, on the courtyard level, and usually used by all the extended family members. The water cycle is usually located to the rear, far from the cistern, to avoid pollution. At the very beginning, the central hall house plan did not feature integrated interior wet spaces, as cooking washing dishes and laundry continued to be an outdoor activity, and toilet was an isolated structure at the backyard of the house. Later on indoor kitchens and toilets were gradually in cooperated.

Construction Methods and Materials

The traditional vaulted stone masonry construction methods and materials remained unchanged between the eras of hosh and central hall. Master builders, who constructed the hosh spaces, passed on their methods to their successors who later constructed the central hall houses. Thereafter the central hall was introduced to and implemented by adapting locally known space characteristics, materials and

construction techniques. The central hall houses spaces have more accurate vertical and horizontal alignments than those of hosh. This is because of improvements in measuring equipment, the easier site considerations of the central hall house; it is constructed totally from scratch, and the greater financial security of owners.

Both hosh and central hall house feature continuous load bearing foundations, along with heavy load bearing walls to support the barrel or cross-vaults. Some late central hall house examples feature jack-vaulted superstructures. Limestone is the main construction materials used for the foundations, walls and superstructures. The interior spaces of both types are smoothly plastered, and flagstone slabs are used for finishing spaces. Only after 1930s coloured cement tiles are introduced. For better clarification of the traditional construction techniques and materials see Appendix B.

Building Technologies

The inhabitants of both hosh and central hall houses capitalised on any available opportunity for gathering and storing rainwater. Cisterns used as water reservoirs are found at the courtyards of hosh and at the basements or gardens of the central hall houses. It was not until 1955 that the town had a public water network; before that, water was obtained from cisterns, natural springs or public pools. Electric power was brought to the town in the 1950s, with the wiring fixed externally in all of the measured houses and inspected hoshes.

Prior to the availability of electricity, oil lamps were used for lighting, and timber and coal were used for heating and cooking. Portable coal heating devices were used for heating the spaces of both hosh and central hall houses, although Palestinians people preferred to put more clothes on rather than heating up the spaces. Besides all this, the interior spaces of both hosh and central hall houses are relatively cooler in summer and warmer in winter, the thick walls and vaults provides good insulation and retain heat during winter, and which protect the interior spaces from the summer heat. The thickness of the stone walls also played an important role in preserving the heat variations between day and night temperatures.

5. 4 Comparison with Houses in Palestine and the Near East

This comparison is based on the comparison of the measured houses and a sample of 31 central hall houses from Ramallah, Jerusalem, and Bethlehem. The names of the owner and addresses of the houses are provided at the figures notes of those houses. Thirteen houses are located in Ramallah (Figures 90: to 102), eleven houses in Jerusalem (Figures 103 to 113), and seven houses in Bethlehem (Figures 114 to 120).

As the information on the houses from the three Palestinian towns are gathered from books and publications, and therefore those houses are studied in less depth than the measured houses of Al-Khalil. The study of the central hall houses from the three towns are mainly focused at understanding what features they share with those of Al-Khalil particularly exterior emphasis of elevation design windows and doors details and stone ornamentations and the interior emphasis of plan typology and use of spaces.

Date of Construction, Location, and Occupancy Status

The central hall house appeared in the four towns during the same period. In case of Al-Khalil, three out of 20 houses (Kasir ad-Duaik constructed in 1870s, Murtada ad-Duaik in 1896, and Jabir al-Ja'abari in 1906) have earlier dates of construction than the earliest central hall house found in Jerusalem, which dates from 1898 (Figure 109: central hall house - Jerusalem). This does not highlight the fact that the central hall house had appeared in Al-Khalil before it was introduced to Jerusalem, Ramallah and Bethlehem; however, the other three towns are not the focus of the site survey. It is possible that there are central hall houses, which were constructed at earlier periods than those found in Al-Khalil. In general, however, it can be affirmed that the central hall house was introduced to Palestinian habitation centres by the beginning of 1880s.

Like the central hall houses of Al-Khalil, those of the three Palestinian towns are located around the old town and the newly developing outskirts. The central hall

house was initially constructed to accommodate nucleus, not extended families, and the houses in the three town share the same occupancy as those in Al-Khalil, namely, they are either occupied by the nucleus families of original owners, rented to nucleus families, inhabited by institutions, or uninhabited.

The Lot

With respect to the building location within the Lot, central hall houses of Al-Khalil share similar settings with those found in the surrounding Palestinian towns. Usually the central hall house is found in a freestanding clear-cut form, located on lots of irregular geometry, with variable measurements. In the four towns, the lot boundaries are defined in all directions by loose stone walls, concrete walls, neighbouring buildings, neighbouring streets or pedestrian pathways. In the case of Jerusalem and Ramallah, cadastral land registration was introduced by the beginning of 1960s. The land registration department defines thereafter lot boundaries. Since cadastral land registration was not introduced to Al-Khalil and Bethlehem, lot boundaries are still defined by internal agreements between neighbours. In both towns, the physical features of the land such as cliffs, loose stone walls, large pieces of rock, caves, trees etc, signifying the boundaries of subdivided lots.

Like Al-Khalil, lots in the three towns are surrounded by open spaces that accommodate greeneries trees of different type's pedestrian and vehicular traffic. Such open spaces are used for connecting the lot with the surrounding urban texture, as well as providing a space for outdoor living activities. In the four towns, the lots typically feature greeneries of various types of trees.

The Houses

Like central hall houses of Al-Khalil those of Jerusalem, Ramallah and Bethlehem, are freestanding cubic masses featuring simple rectangular prisms, wherein the four façades are clearly visible from the outside. When the houses of Al-Khalil feature flat roofs and none of them had pitched roofs, some houses found in Jerusalem,

Ramallah and Bethlehem have timber pitched roofs covered with machine tiles. Eighteen of Al-Khalil houses have similar height characteristics to those found in the three towns: the buildings heights varied from single-story to two-storey buildings. Three out of four groups of floor types found in Al-Khalil are common to the houses of Jerusalem, Ramallah and Bethlehem, and the fourth type (Murtada ad-Duaik and Kasir ad-Duaik) is identical to Al-Khalil: the buildings have three floors – a complete basement, a ground and first floor which have a courtyard.

House variety is often based on the number of central halls. In the four towns, the majority of inspected houses have one main central hall around which the rest of living spaces are arranged. In few cases one main and another secondary central halls are found. In all cases, the central hall acts as an entrance lobby which guarantees cross circulation among the rest of living spaces, besides its role as a family living space. Unlike Al-Khalil, the other three towns have some houses in which more elaborate and complex central hall house plans are found. Those houses are in the form of palaces with a greater number of rooms, such examples signifying wealth and social power. These elaborate plans and elevations examples are not familiar to Al-Khalil. This could be mainly for two reasons: either it was not a priority for the wealthy families in Al-Khalil to show their wealth and social power in this way, or, the town did not have too many wealthy families with such advanced financial abilities. Five of the three towns' houses are of this group (in the form of palaces) and are clear on Figures: 97, 99, 110, 114, and 115.

Some houses found in the three towns are similar to the previously classified plan types and central hall typologies of the Al-Khalil houses, eleven houses are of this type. (Figures: 90 Al Dabas house -Ramallah , 92 Ibrahim Al batih house -Ramallah, 94 Mitri Al Dibgi house -Ramallah, 98 Karem Halaf house -Ramallah, 105 house - Jerusalem, 106 house - Jerusalem, 107 house - Jerusalem, 108 house - Jerusalem, 109 house - Jerusalem, 116 house – Bethlehem, El mahed street, and 118 house – Bethlehem, El mahed street). However, more advanced and complex plans are found in some of the houses in the three towns, such houses do not fall under the same plan typology of Al-Khalil houses, examples of such houses are found at 17 houses,

(Figures: 91 Ibrahim Salem Issa house -Ramallah, 93 Halil Al batih house - Ramallah, 95 Mosa Jagab house -Ramallah, 96 Jabber Salem house -Ramallah, 97 Rashed Fota house -Ramallah, 99 Rashed Jobran house -Ramallah, 100 Salem Farah house -Ramallah, 101 Yosef Al Batih -Ramallah, 102 Ali Al Batih house -Ramallah, 103 Olaybo house - Jerusalem, 104 Saied Hosayni house - Jerusalem, 105 house - Jerusalem, 111 Kaled Kamal houses-Jerusalem, 112 Yosef Kastero houses-Jerusalem, 115 Shahwan house - Bethlehem, 116 house – Bethlehem, El mahed street, and 120 house – Bethlehem, Jerusalem rood.

The three towns are rich with examples of varied plan typologies; the central hall has far more varied characteristics of location, geometry and size. Central halls featuring L, U, and T shaped plans are also common. In contrast, plans in Al-Khalil are far more simply and symmetrically arranged.

Some central hall houses of the three towns fall under the same entrance typologies of Al-Khalil in that, two means of connection to the exterior have been noted. Fifteen out of thirty-one houses fall under the entrance typologies of Al-Khalil in Figure 32; they feature a direct connection to the outside without an entrance hall recess or projection, examples of such houses are in Figures: 90, 91, 98, 99, 100, and 118. Some houses of the three towns are connected to the exterior via an entrance hall in the form of a veranda, and so are classified under entrance typology 1 shown at Figure, nine houses are of this group and are shown in Figures 97, 104, 106, 107, 108, 109, and 119. Another group of houses feature entrance verandas, which are far different from those found in Al-Khalil where the entrance space is asymmetrical, due to the asymmetrical design of the elevation examples of such houses are clear in seven houses shown in Figures: 93, 96, 101, 103, 110, 111, and 120.

The Exterior

Like the surveyed houses in Al-Khalil, the elevation walls of those found in the three towns are built of limestone, which has variable dressing textures, colour, cut, and coursing. Some houses have elevation walls that are either partly or fully constructed

out of roughly cut and course stone. In most of the houses, all the elevation walls are constructed of regular cut stone courses measuring 25-35cm in height. The classification of the framing and ornamentation of Al-Khalil houses holds true for the houses of the three towns. In the sample of the three towns there is extensive use of

projection of quoins, horizontal and opening framing. For example, projection of quoins is evident in the elevation corners of 24 houses, which are presented at Figures: 90, 91, 92, 93, 94, 97, 99, 101, 103, 104, 106, 107, 109, 110, 112, 113, 114, 115, 116, 117, 118, 119, and 120. There are projected horizontal bands on the elevations of 27 houses which are shown at Figures: 90, 91, 92, 93, 94, 96, 97, 98, 99, 101, 102, 103, 104, 106, 107, 109, 110, 112, 113, 114, 115, 116, 117, 118, 119, and 120), and window and door frames projection as noted at the openings of 30 houses. When the corners, horizontal bands, window, and doorframes are emphasised by their projection from the wall surface, variation in stone texture is used to add more emphasis to the projected elements.

Like the Al-Khalil house, the horizontal stones are either simple plain or in molded profile. The quoins are of two types: either the corner stones only projects to form the vertical band emphasising the building corner, or that vertical bands constitute an approximately 50-60 cm width band, which runs across the building height. However, there are some examples in which the frames of the openings have elaborate carvings of Christian religious signs and crosses, such religious features have never noted at Al-Khalil. Generally, the window and doorframes the elevations of the three towns are usually similar to those of Al-Khalil: they have either plain smoothly dressed stones or molded stones.

With respect the elevations height, same height classification of Al-Khalil houses holds true for those of the three towns with the following four types: Houses, which have main elevations of two-storey high, are noted at fifteen houses in Figures: 96, 97, 98, 99, 100, 104, 105, 106, 108, 109, 113, 114, 115, 117, and 118. A single floor main elevation is found at eleven houses in Figures: 90, 92, 95, 102, 103, 107, 110, 111, 112, 119, and 120. Two-storey main elevation is noted at 2 houses which are in

Figures 91 and 93. Three-storey main elevation is a feature three houses, which are in Figures 94, 101, and 116. Twenty-four houses match with the earlier classification of main entrance typology of Al-Khalil; the elevation features symmetrical arrangement in which the central hall entrance is flanked by window openings of similar profile and measurements. In addition, the entrances of those houses follow the main entrance typology 1-4.

The main entrance does not have any wall recess or projection in front of the central hall; those fall under entrance elevation typology 1 of Al-Khalil (Figure 38). Fifteen houses are of this group (Figures 90, 91, 92, 94, 95, 98, 99, 100, 102, 104, 105, 112, 113, 116, and 118). The main elevation feature an entrance veranda which projects from the elevation wall and gains more depth by means of a wall recess, thus falling under entrance typology 3 (Figure 40), the main elevations of five houses are of his group (Figures 109, 114, 115, 117, and 119). The main elevation features an entrance hall veranda resulting only from a wall recess and featuring a large arch located between the elevation wall and the rear of the recess. This fall under entrance typology 2 (Figure 39), three houses are of this typology (Figures: 106, 107, and 108). The main elevation features an entrance hall veranda, resulting only from a wall recess and featuring a three-arch arrangement at the main elevation surface. This falls under entrance typology 2 (Figure 39), one house is of this group (Figure 97)

Some of the three town's houses have different entrance typology from those of Al-Khalil. Their elevations have asymmetrical design, which is reflective of the plan's asymmetrical internal arrangement and the central hall's special characteristics of size, location and geometry. Seven houses are of this group (Figures: 93, 96, 101, 103, 110, 111, and 120). Stone steps found in front of the main elevations which are same as those found at the houses of Al-Khalil are noted at thirteen houses (Figures 91, 92, 93, 94, 95, 96, 99, 101, 102, 103, 108, 109, and 119).

Like the houses of Al-Khalil, houses of the three towns are different from each other with respect to window and door openings measurements, profile and ornamentation. The stone dresser of each house left his imprint in window and door frames – a fact

which not only resulted in the window and door openings profiles being different from each other, but it also affected the ornamentation of the frames, which varies from an elevation with elaborated ornamentation as in the case of 22 houses (Figures 90, 92, 93, 94, 97, 99, 100, 103, 104, 106, 107, 108, 109, 110, 112, 114, 115, 116, 117, and 118) to those which have simple window and door frames, as in the case of nine houses (Figures 91, 95, 96, 98, 101, 102, 105, 111, and 119).

The main elevations of the four towns share many similarities; windows of similar profiles and architectural characteristics are repeated in the elevations of houses from the four towns. This is a natural outgrowth of people and master builders learning from each other, as all are imitating from each other's. This phenomenon has gone beyond the boundaries of the same town. An example of this is the similarity found between the entrance elevation of Ishtayeh house (Figure 110) and that of Hisham iz-Zghayyar house from Al-Khalil. In both examples, the central hall entrance has a three-centred profiled large arch opening subdivided into four smaller openings by means of jambs and lintels. One of the most frequently repeated features is the main entrance of the central hall which has a rectangular door opening covered with ornamented shouldered lintel, above which is a semicircular or two-centred pointed profiled revealing arch opening, all of which is flanked by semicircular or two-centred pointed profiled windows. Such feature has gone beyond the boundaries of the Palestine to neighbouring countries of Jordan, Lebanon¹⁵⁰, Syria, and towns of Southeast Turkey such as: Antakya, Kilis, and Gaziantep¹⁵¹.

Unlike Al-Khalil, the three towns have a mixed population of Christians and Muslims. This has influenced the ornamentations of the main elevations. Houses in the three towns have many religious signs such as sculptured and ornamented crosses placed mainly on top of the main entrance. In some cases, those signs are carved within the window and doorframes. Examples of such features are clear at four houses in Figures 91, 92, 99, and 118.

5.5 Summary of Comparisons

The measured houses

Individual central hall houses started to appear after 1880s, each accommodating a nucleus family. Those houses were located within a defined lot, each surrounded by garden. Of twenty houses, eight are located around the old neighbourhoods. Ayn Sarah has twelve of the measured houses. Houses located around the old part of the town are surrounded with very compact fabric, which consist of tightly clustered irregular cubic volumes.

Houses of Ayn Sarah has an urban texture, which is not compact but characterised by garden neighbourhood image. The central hall houses of both areas are freestanding structures surrounded by gardens. Though the neighbouring buildings in Ayn Sara are less dense.

Externally the central hall houses have freestanding simple rectangular prisms with flat roofs. The height of the houses varies from single-storey to three-storey. In general, there is a hierarchy in the elevations of the houses as the front elevations feature more elaborate ornamentations and better finish. Side elevations manifest a reduced emphasis of ornamentations and finish than that given to the main and rear elevations. The facades of houses are finished with limestone, which is either roughly cut and coursed or regularly cut and coursed. The projection of quoins (virtual corner) is a method of façade decoration usually used at the exteriors of the houses, two types of which are found in the comparison. Horizontal framing is another decorative feature, which is widely used to define the floor height of the façades. This is achieved by projecting a stone course 2-3cm from the wall. The floor usually had an average height of four meters. The window and door frames are usually projected approximately 2-3cm from the walls. The window and door frames including jambs, lintels, and arches feature either plain or of molded profile.

In general, the main elevations of the surveyed houses have symmetrical order where the window openings are placed vertically at both sides of the main entrance. In one

elevation, the windows are usually of similar sizes and arch profiles, the location and size of which reflects the plan interior arrangement. In the elevations which have several floors, the windows are horizontally organised an indication of floors divisioning. With respect to the façade treatment in relation to the main entrance of the central hall, four groups are noted at the comparison and are summarised in figures 38, 39, 40, and 41. Usually the main elevations feature stone steps, which connects the main living floor with the natural ground three groups of are noted.

The double window is so common to the elevations of the houses. This has two window openings, which are sharing same profile, and measurements. The following groups of double windows are noted. Each opening features a true semicircular profiled arch. The opening features segmental profiled true arch, which is carved to the lintel. The arch part of each opening is in the form of a shouldered lintel. The twin windows feature a large two-centred pointed blind revealing arch frame inside which there are two two-centred pointed profiled true arch window openings.

Internally in central hall houses, the present use of the houses did not change much from the original use. The earlier traditional living pattern where the level of living was the floor of the space continued together with the adoption of modern furnishing. At the new houses, the tenants followed the fashion of the era and started to use modern furniture, besides maintaining many traditional habits of using the floor of the space for the daily living. In many cases, outdoor open spaces, mainly back yards, continued to accommodate activities such as cooking, drying laundry, and washing the dishes and clothes.

The houses are so similar in terms of plan geometry, typology, and cross-circulation. The central-hall is the heart of this house, it is surrounded on two or three sides by living spaces, with the fourth side (main elevation) abutting an outer wall. The plan is centralised where all living spaces are arranged around a central hall, this guarantee cross circulation among the surrounding living spaces besides the role it plays as a main living space of the house in which most of the family daily living activities took place. Usually four spaces which are sharing similar measurements are

attached to the lengthwise sides of this central hall, the two spaces which are located at the front elevation, one of them usually have direct entrance from outside and serves as male guest rooms, the opposite one serves as a female guest room or a family living room. The remaining two spaces, which are attached to the lengthwise sides of the central hall, are used as bedrooms. Wet spaces (kitchen and toilet) are either originally or later added usually to the rear of central hall. Based on the location and size of the central hall three types are noted at and summarised in figures 31. The main entrance to the central hall has two varieties and four typologies discussed in the comparison and highlighted in Figure 32.

Usually, rooms other than wet spaces and central hall have similar measurements and architectural features of superstructures, niches, wall cupboards, window and door niches. Critical analysis of individual spaces, suggests that similarity found among the living spaces of same floor reveal a lack of functional diversity and provision of specified spaces serving a specific function. The guest room is the only space, which served specific function. In some cases, the guest room is distinguished from other spaces by owning a direct entrance from outside. Yet the interior features of guest room are not much different from the other spaces.

The measured houses and hosh

The old neighbourhoods had an architectural beauty in their entire texture, consisting of tightly clustered hoshes in the form of irregular cubic volumes. The hosh covers all the area of the lot until it became consumed in the entire texture of the traditional town; it is limited by the hosh of neighbouring relatives, narrow pathways and underpasses. Ayn Sarah reflects the garden neighbourhood image characterised by buildings of individual beauty. The lots of central hall houses are less irregular, larger in size and are usually surrounded by a substantial percentage of open spaces, greenery, and pedestrian passages. The earlier hosh experienced organic development, which could sustain expanding over a period of five centuries. Extra spaces were customarily added following an increase in the number of extended family members, and the resulting need for additional accommodation. The central

hall houses either were built in one stage, or were later expanded with the addition of a partial or complete floor to accommodate a nucleus family.

Externally the hosh, features irregular organic development, which is evident in the elevations with their steep skyline, the hosh, is composed of levels and not floors. In the elevations window opening are irregularly organised, the lower parts of the elevations have minimum openings, with the number and size of windows increasing at the upper levels. The hosh windows are very simple featuring few stone carvings and ornamentations. The central hall house has a freestanding clear-cut form with four elevations featuring a straight roof. In the elevations the window openings are organized horizontally reflecting the floors division. The windows of all floors are sharing similar measurements and level of elaboration, they are ornamented and emphasised by their projection from the elevation surface.

Internally the hosh has irregular vertical development of living spaces around a courtyard. It is entered by a crooked narrow corridor leading to a courtyard. The plans of the central hall houses are sharing a similar approach to plan layout as living spaces are regularly placed at the lengthwise sides of the central hall. The house has main entrance usually located in the middle of the main elevation and opening to central hall, secondary entrances connecting the central hall with the backyard of the house are very common. The size and geometry of the courtyard varies from one hosh to another, it usually is irregular in plan and opened from top. The courtyard area is smaller at the ground floor level and it gets larger at the upper levels. It guarantees horizontal and vertical cross circulation among surrounding spaces at different levels. The central hall has a longitudinal rectangular plan and is measuring in average 4m height. The central hall acts as an entrance lobby, indoor gathering space and horizontal circulation space.

Living spaces of both types consist of one all-purpose rectangular room. Variation in height is noted among different living spaces of the hosh, while the living spaces of central hall have similar heights. In the hosh, wet spaces are usually located on the courtyard level and shared by all the extended family members. Initially the central

hall house did not feature integrated interior wet spaces, later on indoor kitchens and toilets were incorporated. Each room of the hosh had to fulfil their daily living needs of sleeping, living, dining or storage, and each space was prepared for such multi-functional roles. The traditional furnishing of the rooms achieved using carpets, simple mattresses and blankets. The niches and build-in-cupboards provided storage for mattresses and blankets during the day, so that the room remained clear for its other functions. The courtyard played a very important role as a social gathering space for all members of extended family, and was shared to serve daily household activities of drying laundry, cooking. During the daytime of hot summer the courtyard is used for relaxing as shade of surrounding spaces provided cooler environment, at night times roofs are used for leisure and sleeping. This living pattern changed in the later central hall house, while the individual spaces maintained same multiuse features of the individual living spaces of the earlier hosh.

Measured houses and houses of surrounding towns

From the comparison with surrounding Palestinian towns namely Jerusalem, Bethlehem and Ramallah, it is found that the central hall was introduced to the Palestinian urban centres during same period 1880s on. With respect to the building location within the Lot, central hall houses of Al-Khalil share similar settings with those found in the surrounding Palestinian towns. In addition, that the central hall houses of the four towns are so similar to each other's, all are featuring simple clear-cut forms of cubic prisms. The three surrounding towns have identical examples of central hall houses with more advanced plan typologies and spaces prepared to accommodate the specific functions of living, dining, and sleeping. Some of the three town's houses have different entrance typology from those of Al-Khalil. Their elevations have asymmetrical design, which is reflective of the plan's asymmetrical internal arrangement and the central hall's special characteristics of size, location and geometry. Similar to the case of Al-Khalil, the stone dressers of house from surrounding towns left their imprints in window and door frames, and imitated from the elevations of houses from the same town or from surrounding towns.

CHAPTER 6

CONCLUSION

Since 1880s evolution and change in the site layout, plan typology and architectural form of the Palestinian traditional dwellings has been witnessed. The result of this change was a significant shift in residential trends from the pre-19th century organic compact texture, consisting of attached irregular extended family hoshes, to the early-20th century individual central hall garden houses. The new type of housing overlapped with a social shift in the family structure moving from extended to nucleus. In Palestine and particularly in Al-Khalil, this new type of housing would not be adopted easily if the Palestinians were not ready for changing their traditional social hierarchy of extended families and their larger clan relationships. The central hall house adoption was complementary to this social shift, and therefore it was easily accepted in the Palestinian urban centres. Furthermore the central hall house was part of a fashion, which appeared in Palestine as well as in surrounding Arabic native and non-Arabic native habitation centres of the Ottoman Empire.

Because the central hall house was developed to answer the daily living needs of a nucleus and not extended families, it is different from the hosh in terms of urban form, site layout, architectural form, and plan typology. Certainly the central hall house plan affords modern living trends by promoting modern furnishing and spaces of specific uses. Thus, many traditional living habits of the former hosh are maintained within the newly introduced central hall houses. For example, the floor of some spaces continued accommodating many indoor living activities of dining, sitting and sleeping. Outdoor living activities of cooking, washing dishes and laundry took place at the backyards of the new houses.

The central-hall house was first adapted by better to do residents. Those had formerly lived in extended family hoshes, before

social texture and becoming independent nucleus families. The period immediately leading up to the 1920s, saw growth of nucleus families to a dominating position. Fifteen out of the twenty measured houses are constructed after 1920s. Since then, the central hall house became the standard type of housing, desired and adapted by families who could afford it and were financially capable of following the new fashion. Lower income residents of the town continued living in the hoshes but as nucleus families. The hosh built centuries ago to suit the living requirements of an extended family, is broken into separate living areas for lower income nucleus families who are not necessarily relatives to each other¹⁵³.

Comparison among measured central hall houses provided an understanding of the central hall house evolution, and the alterations that were adopted into the new house plan typology and form because of the specific living circumstances of each householder. This sheds light on the daily living patterns focusing on understanding which traditional living habits which have moved from the earlier hosh. In addition, the houses are classified into groups in terms of interior arrangement and exterior emphasis. Variations and similarities among the measured houses are also defined. The central hall house was first introduced to the town as part of a fashion, and was developed later by local inhabitants and master-builders. At the beginning, a centralised symmetrical plan approach was introduced, and then the tastes of local individual owners led to the emergence of the classified groups in terms of variations and similarities, and finally the emergence of some examples possessing special plan typologies. Identical plans resulted from variations in the needs of the owners, family size, financial ability and special site considerations, and/or the evolution of the central hall house to fit better the living pattern of the new fashion.

Similarities among the exteriors of some houses have resulted from the imitations from each other's and from buildings of earlier periods. Extensive use of stone carvings and ornamentations is an inspiration from monuments of earlier civilisations. This proves that even if the new owners were impressed with the new fashions, still they were very curious to maintain their memory and tradition.

In Al-Khalil, this type of houses were not totally imported but were adopted

by merging the plan with the architectural features of the earlier periods hosh. The site survey of both the former (hosh) and the latter (central hall) established the nature of this architectural and urban change. In Palestine and particularly in Al-Khalil, the central hall house was the fashionable residential module of the late 19th century which intersected with a change in the family structure, moving from extended to nucleus.

Comparison with hosh was useful because the later (central hall) could be understood without studying the former (hosh). From the analysis and comparisons of both types of dwellings, it is found that both hosh and central hall house are featuring very different development pattern, family structure, site layout, exterior form, plan layout and nature of use. This is mainly resulting from the structure and nature of family using each. Groups of married couples with family links inhabited the hoshes, and each small family (married couple and their children) would reside in one, two or three rooms of the hosh complex. The same is not true for the central hall house which is constructed to accommodate a nucleus family. From hosh to central hall, the traditional daily living pattern was influenced by the changes in nature of family accommodating the central hall house and not by the nature of individual users who maintained many traditional habits.

Because hosh and central hall house belongs to very different living circumstances of time and nature of users, the hypothesis suggesting the central hall being a natural architectural extension of the earlier hosh is weak. The hosh is the memory of the town but not the dwelling type from which central hall emerged. The hosh reflects a social system, which continued to develop for more than seven centuries. This social texture is significant with the extended family and the larger clan relationships. The hosh tells the story of a sustainable society in which the people had the legacy of strong social interactions with relatives whom one shared dwellings, daily life, and income. In contrast with the hosh, the central hall house reflects the individual pursuits of a pioneering upper middle class, which was being established in the early-20th century.

The individuality and independency of the central hall house owners is actually

the main factor directing the architectural evolution of this type of housing. This, however, contradicts the hypothesis suggesting that the central hall house was a natural development of the earlier hosh (courtyard house), as the courtyard is roofed to better fit with climatic conditions, fulfilling the inhabitant's demand of more climatic comfort by providing a central enclosed and heated space. This hypothesis has proved to be unacceptable at least for the Palestinian case, because it does not take into consideration the socio-cultural changes which happened in Palestine during the study period. The case study and comparisons proves that the differences found between both types of dwellings (hoshes and central hall houses) are not limited simply to the enclosure of this central space. Certainly, the main reason for the difference in the urban and architectural characteristics of the hosh and central hall house is that they both served very different social circumstances of family structure and its use of house spaces.

This architectural evolution, which happened in Al-khalil, was so similar to that which accrued in surrounding Arabic native and non-Arabic native Ottoman habitation centres. This trend of new housing is a pure Ottoman influence. It was first adopted by the Ottoman governors and employees who brought it to Palestine from large cities, which received the late 19th century changes earlier than smaller towns such as Al-khalil. The hypothesis suggesting that the central hall house was a natural development of the earlier courtyard houses could be valid for the case of some surrounding Ottoman habitation centres such as: Damascus and Aleppo but not to the Palestinian towns which later received this change in residential trends.

Courtyard houses of surrounding larger cities are far different from the Palestinian hosh, and are so similar to two of the measured individual houses in Al-khalil (Murtada ad-Duaik and Kasir ad-Duaik). Those are in the form of free standing cubic prisms and featuring courtyard around which living spaces are arranged. The shift from hosh to central hall house was neither sharp nor it happened on a sudden. The two houses of Murtada ad-Duaik and Kasir ad-Duaik are recognised as a passage in between the hosh and central hall house. However, cannot be considered as evidence, which explains the central hall house as natural architectural improvement of the earlier hosh. This is because; in

transition type of housing are noted and lasted for very short period.

However, this transition type of housing lasted longer and is recognised with larger amounts in surrounding ottoman cities such as: Damascus and Aleppo. On one hand, the hypothesis referring the central hall house appearance as natural architectural evolution of earlier courtyard houses can be valid from a universal perspective related to what was happening in the surrounding Ottoman habitation centres. On the other hand, for the Palestinian case, the late 19th century change in the Palestinian traditional social structure remains more reasonable in explaining this shift in architectural trends.

With the emergence of the central hall house, the traditional use of the house spaces started to change. In the new house, none of the living spaces are shared with the others. Some traditional living patterns such as using the floor of the room for multiuse continued in parallel with the use of modern furniture. The central hall house owners carried the architectural concept of individual living spaces from the earlier hoshes to the spaces of their new houses, which are used in both ways. Comparison between the hosh and the central hall house proves that only the architectural features of the individual spaces of the central hall houses were influenced by the earlier hoshes. Even if many inhabitants of central hall maintain traditional habits, the living patterns, which are relevant to nature of family and its use of space in the later house are very diffract from those of the hosh.

Each room of the hosh served multiuse (sleeping, dining and living) of a married couple of the extended family with the service activities shared with the rest of extended family members. The multi-purpose single space of the hosh fits with the daily living needs of a married couple in an extended family. The same is not true for the individual spaces of central hall houses, as the house itself was constructed to accommodate a nucleus family. Because the inhabitants of some central hall houses preferred to maintain using the floor of the room for daily living besides using modern furnishing. Instead of repeating the multiuse features to all the rooms of central hall house, it would be more useful if they adapted the multiuse features to only one of the central hall house spaces. The result of this repeated adoption of

multiuse features was that individual spaces of the central hall houses hardly fit with modern furniture. The contradiction between modern furnishing and the interior spaces proves that the tenants had no preconception of what kind of interior space characteristics are needed to fit with their daily living, particularly that many of their traditional living habits remained unchanged.

The Multi-purpose single space of the hosh is logical and fits with the living needs of an extended family. The same is not true for the individual spaces of central hall houses, as the house itself was constructed to accommodate a nucleus family. The owners were not aware how the adaptation of new fashions would formulate their use of the new houses. Immediately after moving to their new dwellings difficulties in adapting with the spaces of the house appeared as they wanted to have both at once, the traditional living pattern and the new fashion of modern furnishing.

It can be stated that, in the central hall houses, an all-purpose room provision did not emerge from the inhabitants' need for such multi-functionality; however, they constructed those houses and moulded themselves into this new fashion, rather than to fitting the central hall house with their actual needs. Master builders and inhabitants adapted the new house type with the available knowledge of living space characteristics, architectural features and commonly known local traditional construction methods and materials. Therefore, the all-purpose room design moved to the central hall house with little change being realised in their interior space characteristics.

From the comparisons with surrounding Palestinian three towns, it is found that the inhabitants of those towns adapted more quickly with to the new fashions. Some house owners from surrounding towns had a higher level of awareness of functional diversity, as they realised the need to attain more advanced and creative architectural planning typologies. This is because, many people from Jerusalem, Bethlehem and Ramallah migrated to North America and Europe, and was influenced by what they have seen there. Jubeh, N. and Khaldon, B¹⁵³ highlighted that, the migration of large numbers of families from Ramallah to the United States in the early 20th century

(1900-1939) played an important role in the emergence of advanced central hall houses examples in Ramallah. However, such migration was not so usual for the people of Al-Khalil.

Recommendations for future Research

More research on traditional Palestinian architecture in specific areas and their surrounding geographical regions needs to be carried out. As much houses and habitation centres are investigated, more valuable and wide-reaching research findings can be found. This thesis provides a reference for researchers who are interested at establishing comparisons among the traditional residential architecture of the Middle East and other parts of the world.

Regarding Al-Khalil, more research needs to be carried out on the urban form of the traditional part of the town. The traditional neighbourhoods should be documented properly, with special consideration given to the three-dimensional settings of the buildings and the urban fabric. The traditional part of the town has a very rich architectural and urban emphasis, from which the new generations of architects and master builders can learn a great deal.

Regarding the central hall house investigations, similar researches are recommended in the surrounding Palestinian towns and Ottoman habitation centres. Conferences and workshops should be organised to allow the points of view and interpretations of scholars from other geographical regions to be shared and compared with others. The accumulation of collective investigations will pave the way for connecting the Palestinian human habitat alongside the worldwide. Also will help in placing the new generations of architects within a whole process of human habitat evolution. The perspectives, policies and concepts of the current and future housing delivery systems should be enriched with the past and present experiences of human habitation.

NOTES

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51. Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B. and Pellat, CH, E. J. BRILL, Leiden, (IV), 955
52. Evliya, Çelebi talks about the agricultural products of the town, which include apples, olives and grapes. He was impressed with the rich surrounding vineyards and quality grapes from the town, stating that every year approximately 100,000 fully-laden camels of apples, olive oil and grapes

are exported to Egypt, Iraq, Mecca and Medina. Evliya, Çelebi indicates that the inhabitants of the town were living in very good economic conditions. Evliya Çelebi. *Evliya Çelebi Seyahatnamesi*, (ed) Sabri Koz, M, Kahraman, A., (tr) Dagli., Y. and Dankoff, R, republished (2003), Yapi Kredi Yayinlari-2567, Istanbul, (9), 257

53. Southern Palestine is defined as the Ottoman province of Jerusalem, which covers three districts, Al-Khalil, Jaffa and Gaza, and the two sub-districts of Bethlehem and Ramallah. R. Burheiry, M. (1981) "The Agricultural Exports of Southern Palestine", *Journal of Palestine Studies*, (10: 4), 61
54. R. Burheiry, M. (1981) "The Agricultural Exports of Southern Palestine", *Journal of Palestine Studies*, (10: 4), 64
55. For quantities of the exports see: R. Burheiry, M. (1981) "The Agricultural Exports of Southern Palestine", *Journal of Palestine Studies*, (10: 4), 65
56. Agricultural exports from southern Palestine (1885-1915) were wheat, maize, olive oil, sesame seed, soap, wool, orange, colocynth, hides, wine, grape and watermelon. These were sent from the port of Jaffa to Great Britain, Turkey, France, Italy, Egypt, Russia, America, Germany and Austria. For specific information on quantities see: R. Burheiry, M. (1981) "The Agricultural Exports of Southern Palestine", *Journal of Palestine Studies*, (10: 4), 69-71
57. Al-Khalil relied most on the cultivation of fruits. Grapes and vineyards occupied the area first, followed by other trees such as figs and olives. The vineyards are located to the north and north-west parts of the town. Animal husbandry continued in Al-Khalil until the 1920s. The breeding of goats, cows, donkeys, camels, poultry and bees was an essential part the inhabitant's living pattern. For the quantities of the town's production on these items, see Abu-baker pages 253-257.
أبو بكر, أمين. (1994) قضاء الخليل 1864-1918, منشورات لجنة بلاد الشام, عمان.
Abu-baker, A. (1994) (*Qada' Al-khalil, Hebron District 1864-1918*), Bilad Al- Sham Committee Publications, Amman, 196-205
58. Casto, E. R. (1937) "Economic Geography of Palestine", *Economic Geography*, (13: 3), 253-257
59. الرباعية, احمد. (1983) الصناعة في فلسطين في العصور الحديثة, المؤتمر الدولي الثاني لتاريخ بلاد الشام, ثلاث مجلدات, مطابع الجمعية الملكية, عمان, الأردن, 175
Al-Rabayia, A. (1983) "Industries in Palestine at Modern Ages" *The Third International Conference on the History of Bilad Al Sham*, The Royal scientific Institute publications, Amman, Jordan, 175
60. أبو بكر, أمين. (1994) قضاء الخليل 1864-1918, منشورات لجنة بلاد الشام, عمان.
Abu-baker, A. (1994) (*Qada' Al-khalil, Hebron District 1864-1918*), Bilad Al- Sham Committee Publications, Amman, 196-205

61. Schölch, A. (1981) "Economic Development of Palestine, 1856-1882" *Journal of Palestine Studies*, (10: 3), 53
62. Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B. and Pellat, Ch, E. J. BRILL, Leiden, (IV), 955
63. Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B., and Pellat, Ch, E. J. BRILL, Leiden, (IV), 961
64. Al-Khalil Chamber of commerce, 2006 annual report, 43
65. Hand book of Industrial and Commercial Companies classification, (2006) Ministry of National Economy, Palestinian National Authority, 22-25
66. Palestinian National Information Center, (2007), demographic report, 126
67. Atran, S. (1986) "Hamula Organization and Mash'a Tenure in Palestine", *Man New Series*, (21: 2) 278-281
68. Justification court records provide evidence for the origins of the main clans in the town and their subdivisions in relation to their distribution within the traditional neighborhoods and the statue of their accommodation as extended families in the hoshes. For farther details check the following files of Al-Khalil's Justification court records: file 20 (108-109), file 6 (307), file 8(64), file 10 (27-28), file 17 (92) file 22 (205), file 12 (38), file 19 (107).
69. Kark, R. (1995) "The Introduction of Modern Technology into the Holy Land 1800-1914 CE", *The Archaeology of Society in the Holy Land*, 528-534
70. أبو بكر, أمين. (1994) قضاء الخليل 1864-1918, منشورات لجنة بلاد الشام, عمان.
Abu-baker, A. (1994) (*Qada' Al-khalil, Hebron District 1864-1918*), Bilad Al- Sham Committee Publications, Amman, 339
71. Bishop, E F. F. (1948) "Hebron City of Abraham The Friend of God", *Journal of Bible and Religion*, (16: 2) 96
72. العارف, عارف. (1986) المفصل في تاريخ القدس, منشورات مكتبة الاندلس, القدس.
El Aref, A. (1986) *History of Jerusalem (Detailed Account of the Holy City)*, Al-Andalus Library publications, Jerusalem, 71-72
73. As Al-Khalil was destroyed by the Romans in 135 who prohibited the reconstruction of the town, historical information on the town is scarce in the period (135-636). Information concerning 'Lakhim' rule in this period is from the book of Jubeh, N, who based his perceptions on the archaeological excavations carried out on Tal Alrumaydah in 1960.

- الجبعة, نظمي. (2008) الخليل القديمه سحر مدينة و عماره تاريخيه, منشورات لجنة اعمار الخليل, فلسطين
Jubeh, N (ed). (2008) (*Al-khalil Al-kadema Sehro Madena Wa 'Amara Tarkhyah Old- Hebron, a City Misty and Historical Architecture*), Hebron Rehabilitation Committee, Hebron, 13
74. Vitullo, A. (2003) "People Tide to Place: Strengthening Cultural Identity in Hebron's Old town" *Journal of Palestine Studies*, (33: 1) 69
75. Bishop, E F. F. (1948) "Hebron City of Abraham The Friend of God", *Journal of Bible and Religion*, (16: 2), 97
76. The prophets Ibrahim, Jacob, and Isaac are buried in Macpelah Cave which is enshrined in the Ibrahimi Sanctuary.
Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B. and Pellat, Ch, E. J. BRILL, Leiden, (IV), 957
77. Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B. and Pellat, Ch, E. J. BRILL, Leiden, (IV), 957
78. "Nuaym Ben Aws Al-Dari is a Christian from Palestine who used to live in Al-Khalil before moving to Mecca and becoming a Companion of the Prophet Mohammed. He is said to have received from the Prophet a grant of land, a wakf. His origin is disputed to his last name Al-Dari is said related to Bani Dar a subdivision of the Arabic trip called Lakhm which inhabited Tal Alrumaydah after the roman conquest of the town in 132-135".
Lecker, M. (1978) "Tamim Al-Dari", *The Encyclopaedia of Islam New Edition*, (ed) Bearman, P.J., Bianquis, Th., Bosworth, C. E., Van Donzel, E., and Heinrichs, W.R, BRILL, Leiden, (X)176.
79. Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B. and Pellat, Ch, E. J. BRILL, Leiden, (IV) 956
80. الجبعة, نظمي. (2008) الخليل القديمه سحر مدينة و عماره تاريخيه, منشورات لجنة اعمار الخليل, فلسطين
16 الخليل, فلسطين
Jubeh, N (ed). (2008) (*Al-khalil Al-kadema Sehro Madena Wa 'Amara Tarkhyah Old- Hebron, a City Misty and Historical Architecture*), Hebron Rehabilitation Committee, Hebron, 16
81. The Umayyad rule was established in Palestine in the year 670 until 750 when the Abbasids rule was established.
العارف, عارف. (1986) المفصل في تاريخ القدس, منشورات مكتبة الاندلس, القدس.
El Aref, A. (1986) *History of Jerusalem (Detailed Account of the Holy City)*, Al-Andalus Library publications, Jerusalem, 105-107
82. The Abbasids rule extended from 750 until it was ended in 1257, yet the Abbasids influence in Palestine was ended by the Fatimids rule which was introduced in 969 and lasted until 1099 when the Crusaders occupied Jerusalem and the rest of Palestine.

- العارف, عارف. (1986) *المفصل في تاريخ القدس*, منشورات مكتبة الاندلس, القدس.
El Aref, A. (1986) *History of Jerusalem (Detailed Account of the Holy City)*, Al-Andalus Library publications, Jerusalem, 130-131
83. Vitullo, A. (2003) "People Tide to Place: Strengthening Cultural Identity in Hebron's Old town" *Journal of Palestine Studies*, (33: 1), 69
84. The date of the establishment of Al-simat is not known exactly, but information coming from the bestowal letter indicates that it was established right after the early Islamic Fatih (period of Caliphate 'Umar Bin al-Khattab 638), although it is mentioned in the 9th century by Mukaddasi in his book 'Ahsan Al-takasim fe Ma'refit Al-Akalim'.
الجعبه, نظمي. (2008) *الخليل القديمه سحر مدينة و عماره تاريخيه*, منشورات لجنة اعمار الخليل, الخليل, فلسطين, 16
Jubeh, N (ed). (2008) (*Al-khalil Al-kadema Sehro Madena Wa 'Amara Tarkhyah Old- Hebron, a City Misty and Historical Architecture*), Hebron Rehabilitation Committee, Hebron, 16
85. Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B. and Pellat, Ch, E. J. BRILL, Leiden, (IV), 958
86. Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B. and Pellat, Ch, E. J. BRILL, Leiden, (IV), 958
87. الجعبه, نظمي. (2008) *الخليل القديمه سحر مدينة و عماره تاريخيه*, منشورات لجنة اعمار الخليل, الخليل, فلسطين, 17
Jubeh, N (ed). (2008) (*Al-khalil Al-kadema Sehro Madena Wa 'Amara Tarkhyah Old- Hebron, a City Misty and Historical Architecture*), Hebron Rehabilitation Committee, Hebron, 17
88. Old town neighbourhoods are listed and classified according to their establishment date in chapter 3 in the 'Old fabric' sections, and the historical and urban development of each is discussed.
89. Based on the Islamic justification court records, travellers' accounts and town clans documents, it is estimated that the foundations of 9 out of 14 traditional neighbourhoods date back to the Ayyoubi period. It is necessary to note that construction within those neighbourhoods continued until the end of the 19th century. Buildings which date from the following periods exist within those neighbourhoods.
Hebron Rehabilitation Committee., RAWIQ., Swedish International Development Cooperation Agency (SIDA). (2001) *Survey of the Traditional Town Neighbourhoods and Buildings*, HRC, Hebron, Palestine.
90. Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B. and Pellat, Ch, E. J. BRILL, Leiden, (IV), 960

91. Hebron Rehabilitation Committee., RAWIQ., Swedish International Development Cooperation Agency (SIDA). (2001) *Survey of the Traditional Town Neighbourhoods and Buildings*, HRC, Hebron, Palestine
92. Hebron Rehabilitation Committee., RAWIQ., Swedish International Development Cooperation Agency (SIDA). (2001) *Survey of the Traditional Town Neighbourhoods and Buildings*, HRC, Hebron, Palestine
93. Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B. and Pellat, Ch, E. J. BRILL, Leiden, (IV), 960
94. Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B. and Pellat, Ch (ed), E. J. BRILL, Leiden, (IV), 957
95. Vitullo, A. (2003) "People Tide to Place: Strengthening Cultural Identity in Hebron's Old town" *Journal of Palestine Studies*, (33: 1), 70
96. Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B. and Pellat, Ch (ed), E. J. BRILL, Leiden, (IV) 960.
97. Nahiya: In the Ottoman administrative divisions is a part of a province a (sub-district) which includes a central town surrounded by a group of villages and hamlets. It was ruled by an Ottoman governor who had the following responsibilities on the central town and the villages which are connected to it: 1) carry the full administrative and financial responsibilities including all types of taxes, the collection of the governmental lands rents. 2) Prepare three copies (files) of the financial reports of the sub-district's income and expenditures, one is kept at his office, one sent to the governor of the main District (Sandjak) and the third is sent to Istanbul. 3) Guarantee the justice among the inhabitants and the respect of justification laws. 4) Inner security within the central town and the surrounding villages also the security on the external roads which links his region with surrounding regions is part of his responsibilities.
- العارف, عارف. (1986) *المفصل في تاريخ القدس*, منشورات مكتبة الاندلس, القدس.
- El Aref, A. (1986) *History of Jerusalem (Detailed Account of the Holy City)*, Al-Andalus Library publications, Jerusalem, 209-212
98. Sandjak: In the Ottoman administrative divisions is a province (district) which includes Sub-Districts each called " Nahiya". The administrative regulations which are explained above are part of the governor the of Sandjak responsibilities, besides him responsible of giving orders to the governors of the sub-district "Nahiya".
- العارف, عارف. (1986) *المفصل في تاريخ القدس*, منشورات مكتبة الاندلس, القدس.
- El Aref, A. (1986) *History of Jerusalem (Detailed Account of the Holy City)*, Al-Andalus Library publications, Jerusalem, 209-212

99. Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B. and Pellat, Ch, E. J. BRILL, Leiden, (IV) 960
100. Evliya Çelebi. *Evliya Çelebi Seyahatnamesi*, (ed) Sabri Koz, (tr) M, Kahraman, A., Dagli., Y. and Dankoff, R, republished (2003), Yapi Kredi Yayinlari-2567, Istanbul, (9), 257
101. العارف, عارف. (1986) *المفصل في تاريخ القدس*, منشورات مكتبة الاندلس, القدس.
El Aref, A. (1986) *History of Jerusalem (Detailed Account of the Holy City)*, Al-Andalus Library publications, Jerusalem, 277-278
102. العارف, عارف. (1986) *المفصل في تاريخ القدس*, منشورات مكتبة الاندلس, القدس.
El Aref, A. (1986) *History of Jerusalem (Detailed Account of the Holy City)*, Al-Andalus Library publications, Jerusalem, 282-286
103. العارف, عارف. (1986) *المفصل في تاريخ القدس*, منشورات مكتبة الاندلس, القدس.
El Aref, A. (1986) *History of Jerusalem (Detailed Account of the Holy City)*, Al-Andalus Library publications, Jerusalem, 292-293
104. Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B. and Pellat, Ch, E. J. BRILL, Leiden, (IV), 960
105. Abu-Manneh, B. (1990) "Jerusalem in the Tanzimat Period: The New Ottoman Administration and the Notables", *Welt Des Islams, New Series*, (1: 44) 16
106. "Egyptian period is so short to establish concrete bases from which modern society can be established; it was punctuated by violent uprising and followed by decades of bloody internecine conflicts" Doumani, B. (1992) "Rediscovering Ottoman in Palestine: Writing Palestinians into History", *Journal of Palestinian Studies*, (23)
107. Abu-Manneh, B. (1990) "Jerusalem in the Tanzimat Period: The New Ottoman Administration and the Notables", *Welt Des Islams New Series*, (1: 4), 1
108. Abu-Manneh, B. (1990) "Jerusalem in the Tanzimat Period: The New Ottoman Administration and the Notables", *Welt Islams Series*, (1: 44), 8
109. Doumani, B. (1992) "Rediscovering Ottoman in Palestine: Writing Palestinians into History", *Journal of Palestinian Studies*, (22: 2), 22-23
110. Hebron Rehabilitation Committee., RAWIQ., Swedish International Development Cooperation Agency (SIDA). (2001) *Survey of the Traditional Town Neighbourhoods and Buildings*, HRC, Hebron, Palestine

111. Hebron Rehabilitation Committee., RAWIQ., Swedish International Development Cooperation Agency (SIDA). (2001) *Survey of the Traditional Town Neighbourhoods and Buildings*, HRC, Hebron, Palestine
112. العارف, عارف. (1986) *المفصل في تاريخ القدس*, منشورات مكتبة الاندلس, القدس.
El Aref, A. (1986) *History of Jerusalem (Detailed Account of the Holy City)*, Al-Andalus Library publications, Jerusalem, 311
113. Since 1917 until 1921 Palestine was under the British military administration. In 1921 the British government transformed the administration of Palestine from the ministry of foreign affairs to the ministry of colonization and declared the British mandate in Palestine which lasted until 1847. The new borders of Palestine during the British mandate are explained in the geography section of this chapter see Figure 2.
العارف, عارف. (1986) *المفصل في تاريخ القدس*, منشورات مكتبة الاندلس, القدس, 290-292
El Aref, A. (1986) *History of Jerusalem (Detailed Account of the Holy City)*, Al-Andalus Library publications, Jerusalem, 290-292
114. In 1921 the British government divided Palestine into six provinces (districts): Haifa, Samira, Al-Ludd, Gaza, Galil (North of Palestine). Jerusalem district which included the following four sub-districts: Kuds (Jerusalem), Al-Khalil, Ramallah, Bethlehem and Jericho. Palestine was rolled by the British high representative who appoints the governors of the Districts. Al-Khalil had 35 villages.
كون, انتوني. (1995) *التنظيم الهيكلي الاسرائيلي للمدن في الضفة الغربية, القانون و البلدوزر في خدمة الاستيطان اليهودي. مؤسسة الدراسات الفلسطينية, بيروت, 45*
Kone, A.(1995) *The Israeli Master Plan of Cities in the West Bank, the Law and the Bulldozers Serving the Israeli Settlements in the West Bank*, Palestinian Research Establishment, Beirut, 45
115. العارف, عارف. (1986) *المفصل في تاريخ القدس*, منشورات مكتبة الاندلس, القدس, 290-292
El Aref, A. (1986) *History of Jerusalem (Detailed Account of the Holy City)*, Al-Andalus Library publications, Jerusalem, 388-389
116. العارف, عارف. (1986) *المفصل في تاريخ القدس*, منشورات مكتبة الاندلس, القدس, 290-292
El Aref, A. (1986) *History of Jerusalem (Detailed Account of the Holy City)*, Al-Andalus Library publications, Jerusalem, 484-285
117. Rahman, M. (1978) "Al-Khalil", *The Encyclopaedia of Islam New Edition*, (ed) Van Donzel, E., Lewis, B., and Pellat, Ch, E. J. BRILL, Leiden, (IV), 961
118. In 1918 the total population of Palestine was 722,000 only 9% of which was Jewish. In 1934 the total population increased to 1,234,000 24.3 percent were Jewish 61% Palestinian Muslims, 8% Palestinian Christians, 5.5 % nomads, 1 % Palestinian Druze.

119. Vitullo, A. (2003) "People Tide to Place: Strengthening Cultural Identity in Hebron's Old town" *Journal of Palestine Studies*, (33: 1), 71
120. الجعبيه, نظمي. (2008) الخليل القديمه سحر مدينة و عماره تاريخيه, منشورات لجنة اعمار الخليل, 16 الخليل, فلسطين.
Jubeh, N (ed). (2008) (*Al-khalil Al-kadema Sehro Madena Wa 'Amara Tarkhyah Old- Hebron, a City Misty and Historical Architecture*), Hebron Rehabilitation Committee, Hebron, 9
121. الجعبيه, نظمي. (2008) الخليل القديمه سحر مدينة و عماره تاريخيه, منشورات لجنة اعمار الخليل, 16 الخليل, فلسطين.
Jubeh, N (ed). (2008) (*Al-khalil Al-kadema Sehro Madena Wa 'Amara Tarkhyah Old- Hebron, a City Misty and Historical Architecture*), Hebron Rehabilitation Committee, Hebron, 19
122. Kiryat Arba is located only a kilometer from the Sanctuary, and it is expanding since 1970 with the permission of successive Israeli governments, although the international law and the United Nation resolutions are considering settlement construction on occupied 1967 land as illegal.
123. Hebron Rehabilitation Committee (HRC). (2000), *Final Report to Swedish International Development Agency (SIDA)*, 17
124. Vitullo, A. (1997) "The Hebron Protocol" *Journal of Palestine Studies*, (26: 3), 131-138
125. H1 zone has a population of 110,000 on 18km². This compromises the modern part of the town established after the 1900s. The H2 zone has a population of around 40,000 in 18km²; it is compromised of the traditional part of the town within which there are the 14 traditional neighbourhoods, 4 Israeli settlements, the Ibrahimi Sanctuary, the surrounding central Market and the old town access routes. In this part of the town there are magnificent traditional buildings of both hosh and central hall style, which are in danger of collapse and deterioration. Information on the zone's population and area is obtained from (PASIA) 2007 report.
126. An HRC survey conducted in spring 2000 examining the urban fabric in four Old City quarters found that almost 60 percent of the 1,225 buildings identified as historic (rehabilitated and otherwise) were inhabited, compared to 15 percent in 1995. The Old City population was estimated to be eight thousand people (about two thousand families). Vitullo, A. (2003) "People Tide to Place: Strengthening Cultural Identity in Hebron's Old town" *Journal of Palestine Studies*, (33: 1) 77
127. Vitullo, A. (2003) "People Tide to Place: Strengthening Cultural Identity in Hebron's Old town" *Journal of Palestine Studies*, (33: 1), 81

128. Hebron Rehabilitation Committee., RAWIQ., Swedish International Development Cooperation Agency (SIDA). (2001) *Survey of the Traditional Town Neighbourhoods and Buildings*, HRC, Hebron, Palestine.
129. Hebron Rehabilitation Committee., RAWIQ., Swedish International Development Cooperation Agency (SIDA). (2001) *Survey of the Traditional Town Neighbourhoods and Buildings*, HRC, Hebron, Palestine.
130. الجعبه, نظمي. (2008) الخليل القديمه سحر مدينة و عماره تاريخيه, منشورات لجنة اعمار الخليل, 16 الخليل, فلسطين.
Jubeh, N (ed). (2008) (*Al-khalil Al-kadema Sehro Madena Wa 'Amara Tarkhyah Old- Hebron, a City Misty and Historical Architecture*), Hebron Rehabilitation Committee, Hebron, 17
131. Hebron Rehabilitation Committee., RAWIQ., Swedish International Development Cooperation Agency (SIDA). (2001) *Survey of the Traditional Town Neighbourhoods and Buildings*, HRC, Hebron, Palestine.
132. Hebron Rehabilitation Committee., RAWIQ., Swedish International Development Cooperation Agency (SIDA). (2001) *Survey of the Traditional Town Neighbourhoods and Buildings*, HRC, Hebron, Palestine.
133. Aysil, Yavuz. (1998) Revitalization of Hebron Old Town Hebron Palestine, Technical Review, 5
134. Until the late 19th century the gates of the neighbourhoods used to function, today none of them exists.
الجعبه, نظمي. (2008) الخليل القديمه سحر مدينة و عماره تاريخيه, منشورات لجنة اعمار الخليل, 16 الخليل, فلسطين.
Jubeh, N (ed). (2008) (*Al-khalil Al-kadema Sehro Madena Wa 'Amara Tarkhyah Old- Hebron, a City Misty and Historical Architecture*), Hebron Rehabilitation Committee, Hebron, 19
135. الجعبه, نظمي. (2008) الخليل القديمه سحر مدينة و عماره تاريخيه, منشورات لجنة اعمار الخليل, 16 الخليل, فلسطين.
Jubeh, N (ed). (2008) (*Al-khalil Al-kadema Sehro Madena Wa 'Amara Tarkhyah Old- Hebron, a City Misty and Historical Architecture*), Hebron Rehabilitation Committee, Hebron, 22
136. الخليلي, الشيخ شمس الدين, محمد. تاريخ القدس و الخليل (1734). مؤسسة الفرقان للتراث الإسلامي, لندن. 2004 Al Khalilili, M. (1734) (*History of Jerusalem and Al-khalil*), M, Al bakhit (ed), republished in 2004, Al- Furqan Islamic Heritage Foundation, London, 142
137. Dalton, C. (1897) Nots on the Hebron Haram, *Palestine Exploration Fund Quarterly Statement*, (29) 199

138. The Hebron Rehabilitation Committee surveyed the mosques found within the traditional part of the town; the dates of construction come either from the Justification Court Records or from inscription panels. The traditional town contains the following eight mosques:
- Al-Hawili mosque, located on the north-east side of the Sanctuary, was built in 1320;
 - Ahmad Bin-Athman mosque, located in the Al-Qazzazyn' neighbourhood, dates back to the Mamluke period;
 - Birkit Al-Qazzazin mosque, located in the Bani Dar neighbourhood, dates back to the Mamluke period;
 - Al-Qazzazin mosque, located in the Al-Qazzazin neighbourhood;
 - Al-Aqiab mosque, located in the Al-Qazzazyn neighbourhood, dates back to the 7th century;
 - Abū-Aqafih mosque, located in the Al-Qalah neighbourhood, dates back to the Mamluke period;
 - Al-Biyk mosque, located in the Al-Masharqah Al-Fawqah neighbourhood, dates back to the early 1900s; and
 - Al-Wahsh mosque, located in the Kyuwn neighbourhood, dates back to the early 1900s.
- Hebron Rehabilitation Committee., RAWIQ., Swedish International Development Cooperation Agency (SIDA). (2001) *Survey of the Traditional Town Neighbourhoods and Buildings*, HRC, Hebron, Palestine
139. Zawiya; it is a place which was used for practicing and learning the Islamic religion sciences. This place is different from the Madrasah (school), which was used for the teaching of sciences besides religion. The term Zawiya in Arabic means corner; this building is called so since it was established to accommodate a religious Sufi Muslim who was retired for teaching learning and practicing religion.
140. From the HRC survey, the following are most important noted Zawayahes are:
- aby arriesh dats to 15th century and located at Qiyton neighbourhood.
 - ash-Shaykh ali kanfosh next to Birkat as-Sultan, al adhamieyih located at Qiyton neighbourhood
 - ash-Shaykh abdurrahmen, located next to the sanctuary from Northeast,
 - al-magarbeih, located to the north of sanctuary and dating to 1254,
 - ali al bakka located at ash-Shaykh neighbourhood dating to 1269, aljaeberah located at al-Hoshiyyah neighbourhood and dating to 1570s,
 - ash-Shaykh tarainiy located at al-Qazzazin neighbourhood and constructed during 15th century,
 - ash-Shaykh khayriyy located in ash-Shaykh neighbourhood,
 - al-kaderiyeh located at al-Kaliah neighbourhood,
 - all-alkaysiyy located at Qiyton neighbourhood.
- Hebron Rehabilitation Committee. (2000) final report to Swedish International Development Agency.

141. Maqam a structure which accommodates the graves of a Sufi or religious scientists. Local people and pilgrims used to visit them, during religious occasions. Examples of them are: ash-Shaykh Eyssa located in al-'Aqabah neighbourhood and dating to 1360s, ash-Shaykh burhan addein located in Qiytun neighbourhood and dating to 1331, ash-Shaykh rehan located in al-kaliah neighbourhood, ash-Shaykh rasheed located in al-Akrad neighbourhood, Johar located at the east of the sanctuary.
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142. أبو بكر, أمين. (1994) قضاء الخليل 1864-1918, منشورات لجنة بلاد الشام, عمان.
Abu-baker, A. (1994) (*Qada Al-khalil, Hebron District 1864-1918*), Bilad Al-Sham Committee Publications, Amman, 96-98
143. The traditional town has the following nine bazaars, or 'Suwks':
- Suwk Al-Bazar is located in the Al-kalah neighbourhood. It is composed of an open courtyard surrounded with shops, and is non-specialised.
 - Suwk Al-Bashwrah is not specialised in any goods, and is located in Al-kalah neighbourhood. It is composed of two parallel rows of shops.
 - Suwk Khan Adjrd is located in the Al-Kalah neighbourhood. It is non-specialised.
 - Suwk Al-Dibs is located in the Al-Kalah neighbourhood. It is specialised in grape products.
 - Suwk Al-Khuhar is located in the Al-kalah neighbourhood. It is specialised in vegetables.
 - Suwk Al-Skafiyih is specialised in shoe making and is located in the Al-Hwshiyih neighbourhood. It is composed of two parallel rows of shops and was constructed in 1898.
 - Suwk Al-Laban is specialised in yogurt and cheese trade, and is located in the Al-Hwshiyih neighbourhood. It is composed of two parallel rows of shops.
 - Suwk Al-Magharbih is not specialised. It is located in the Al-Kazzazyn neighbourhood and is composed of two parallel rows of shops.
 - Suwk Al-Kazzazyn is specialised in vegetables, and is located in the Al-Kazzazyn neighbourhood. It is composed of two parallel rows of shops.
- Hebron Rehabilitation Committee., RAWIQ., Swedish International Development Cooperation Agency (SIDA). (2001) *Survey of the Traditional Town Neighbourhoods and Buildings*, HRC, Hebron, Palestine
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 The included buildings are those which are constructed until the end of 1950s.
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147. Givish, D and Kark, R. (1993) The Cadastral Mapping of Palestine, The geographical journal, (159: 1), 78
148. Givish, D and Kark, R. (1993) The Cadastral Mapping of Palestine, The geographical journal, (159: 1), 81
149. Hebron Rehabilitation Committee., RAWIQ., Swedish International Development Cooperation Agency (SIDA). (2001) *Survey of the Traditional Town Neighbourhoods and Buildings*, HRC, Hebron, Palestine.
150. Cerasi, M. (2003) "Some Consideration on the Mediterranean Architecture Active in the Constitution of the Three-Arched Lebanese House Type: Fashion and Grooves of Memory", M, DAVIE (ed) *La Maison Beyrouthine Aux Trois Arcs Une Architecture Bourgeoise Du Levant (The Three Arched House)*, ALBA and URBAMA Publications, France, 319-342
151. AKPOLAT, M. (2003) "Three-Arched Houses in Antakya, Kilis, and Gaziantep", M, DAVIE (ed) *La Maison Beyrouthine Aux Trois Arcs Une Architecture Bourgeoise Du Levant (The Three Arched House)*, ALBA and URBAMA Publications, France, 137-165
152. Vitullo, A. (2003) "People Tide to Place: Strengthening Cultural Identity in Hebron's Old town" *Journal of Palestine Studies*, (33: 1), 76
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APPENDIX A

GLOSSARY OF ARABIC TERMS

This part provides a list of Arabic words used in the thesis text, are transliterated into Latin alphabet using the Encyclopedia of Islam transliteration system, the English explanation of each name is provided. Table A.1 provides the used transliteration system.

Latin lettering	In Arabic characters	English Explanation
al-Aradi	الأراضي	Lands
‘Aqd	عقد	Superstructure
‘Aqd Salib	عقد صليب	Cross-vault
‘Aqd Barmyl	عقد برمیل	Barrel-vault
‘Aqd Dawamir	عقد دوامر	Jack-vault
al-Khalil	الخليل	Hebron (city name)
al-Haram al-Ibrahimiyy	الحرم الإبراهيمي	Ibrahimi Sanctuary
al-Qal’ah	القلعه	Castle
al-Maqbarah Karantna	الكرنتينا	Hospital
al-Mahkamah ash-Shar’iyyah	المحكمة الشرعيه	Islamic Justification court
al-Maqbarah	المقبره	Cemetery
al-Mustashfayat	المستشفيات	Hospitals
as-Saraya	السرايا	Government hall
ar-Rus	عروس	See figure 121
Asas	أساس	Foundation
Iywan	إيوان	Semi open space, closed from top, opened from side.
Bab	باب	Door

Bawanit	بوانيت	Small peaces of timber used to fill the framework gaps
Birkah	بركه	Water pool
Burtash	برطاش	Window or door sill
Dahlyz	دهليز	Courtyard entrance
Dar al-‘Ifta	دار الإفتاء	Religious institution or court
Jami’	جامع	Mosque
Takiyyah	تكية	A place; food is given
Hajar Jiri Abyad	حجر جيرى أبيض	White Limestone
Hajar Jiriyy Ahmar	حجر جيرى أحمر	Red Limestone
Hajar Jiriyy Khalyli	حجر جيرى خليلي	Hebron’s Limestone
Hajar Kham	حجر خام	Undressed stone
Hajar Maqtu’	حجر مقطوع	Cut stone
Hajar Matabbah	حجر مطبّه	Dressed stone using Fine bush hammer
Hajar Mulattash	حجر ملطش	Coarse dressed stone
Hajar Mulattash imfajjar	حجر ملطش مفجر	Fine coarse dressed stone
Hajar Mulattash Shaf	حجر ملطش شف	Dressed stone using pick or pointed hammer
Hajar Musamsam	حجر مسمسم	Roughly cut stone,
Hajar Mushadhab	حجر مشذب	Rusticated dressed stone
Hajar Tubzih	حجر طبره	Frame
Halq	حلق	Door frame
Halq al-bab	حلق الباب	Window frame
Halq Al-shubbak	حلق الشبّاك	See figure 121
Hammal	حمال	Public bath
Hammam as-Sayyid al-Khalil	حمام السيد الخليل	Neighbourhood
Hārah	حارة	Islamic calendar
Hijri	هجري	Crescent, see figure 121
Hilal	هلال	Extended family house
Hosh	حوش	Senonian and Eocene soil, of soft quality stone,
Huwwar	حور	

Hyt	حيط	Wall
Hyttan	حيطان	Walls
al-bayt	قاع البيت	Room's lower solid area near the entrance
Kamt	قمت	Lintel
Khalil ar-Rahman	خليل الرحمن	Name of Hebron
Khan	خان	Market and rest house
Khazazin	خزازين	Wall cupboard
khirbah	خربه	Harvest village
Kharab	خراب	Plural of khirbah
Qisarah	قصاره	Plastering
Kuhlah	كحله	Pointing stone
Liwan	ليوان	Central hall
Maddadah	مدّاده	Vertical support
Maddah	مدّه	Roof plastering
Mahallah	محلة	Neighbourhood
Mahallat	محلات	Neighbourhoods
Maqam	مقام	A religion person's tomb
Mastabah	مصطبة	Rooms actual space
Midlak	مدلاك	Implementing the pointing mixture in the gaps
Midmak	مدماك	Stone course
Mizan Hayt	ميزان حيط	Split line
Rakayiz	ركايز	Vertical supports of the framework
Raksah	ركسة	Wall niche
Ramma	رمّى	See figure 121
Rukbah	ركبه	A strong pillar-like projection at the rooms
Sahat	ساحة	Public Square
Saha Samawiyyah	ساحة سماوية	Courtyard
Sahra'	صحراء	Desert
Shakush	شاكوش	Hummer

Shubbak	شَبَّك	Window
Shuhaf	شحف	Small pieces of stone
Silah	سلاح	Window or door Jamb
Suq	سوق	Market place
Tabo	الطابو	Land registration
Tal	تل	Hill
Tariq	طريق	Street
Trashah	طراشه	Whitewash
Tubar	طوبار	Framework
Wadi	وادي	Valley
Zawiyah	زاويه	A place used for learning and practicing religion
Zifir	زفر	First stone of arch or vault
Zuqaq	زقاق	Very narrow passage

APPENDIX B

CONSTRUCTION MATERIALS AND STRUCTURAL TECHNIQUES

B.1 House Construction

Foundation Asasat: due to the West-Bank's hilly topographic settings, and especially those of Al khalil. The Palestinian masons easily found a hard strata of rock on top of which they were able to construct the foundation of their structures. The depth of a sound stream rock layer played an important role in the dwelling's site selection for. Thereafter dwellings of towns and villages were situated at the sloping side of the mountains; it overlooked the agricultural land or valley below and gaining the advantage of hard rock strata located close to the surface. Excavations for the foundations would continue until the hard rock layer was found at one to two meters depth. In few cases when the rock layer was extremely deep, the foundation trench's depth equaled the total height of the structure. CANAAN, T. (1932-33)* mansions another method used when the hard rock layer was found to be so far from the surface:

“To dig at a distance of two to three meters large square holes, two meters square all along the foundation line. In these holes thick strong piers (suma, samat) are built. They are joined by strong and broad arches built of lat. The top of the arches should not rise as a role higher than the level of the ground. Lat are large flat slabs of hard stone”.¹

After the digging of the foundation trenches is completed the foundation's construction starts; hard rubble stone of good quality combined with mortar was used for the foundation walls. In most cases, when the excavated earth is of good quality it was cleared from large aggregate and mixed with water and lime to provide the foundations with good mortar. The foundation walls were normally 20-30 cm wider than the dwelling wall's thickness, and as a rule it should not be less than 120cm.

CANAAN, T. (1933) The Palestinian Arab houses its Architecture and Folklore, *The Journal of the Palestine Oriental Society*: Jerusalem, (XIII) 2.

Walls Hytan: the walls are measuring 80-130cm; the purpose of this wall thickness was to support the load and of the cross, barrel and Jack vaulted superstructures as well as supporting the vault's thrusts. A climatic advantage of good heat isolation is gained from such thick walls; the interior of such dwellings remained cooler in the summer and warmer in the winter. The wall thickness caused both window and door openings to be framed inside a niche measuring 50-80cm in depth, a fact which enabled such niches to act as a sun breaking elements, through which indirect sunlight is obtained*.

After the dwelling's foundation is completed, the wall construction starts. The thick load bearing walls are composed of external and inner courses of stone. The gap in-between the external and the inner courses is filled with medium and small rubble stones combined together by mortar. Lime, white earth Huwwar* are mixed together in 2:1 proportions, and water is added later to the mixture to produce mortar. The mortar should have a good binding capacity to get the external and the inner courses well connected together with the filled rubble stones.

The external face of the wall would characteristically have more regularly cut and regularly coursed stones than the inner face; more attention was given to the external walls surface than the internal one. The inner face of the wall was rarely found to be dressed because it used to be plastered. Dressed stone of various textures are found at the wall's exterior face. The wall construction process begins with the master builder marking the wall's external faces lines, and then placing the corner stones first. For each course the corner stones are the once to be placed first, and then a thin rope was stretched from the upper edge of one corner stone to that of a correspondent corner stone. The rope was used to define the direction of the whole course. In order to assure that the stone courses were placed perpendicularly above one another, occasionally the master builder used a spirit level or plumb-line locally called Myzan Hyt. Small pieces of stones were used to support the main stones keeping them vertically.

*Huwwar: Senonian and Eocene soil, it has white are of soft quality owning chalky nature. Thaw information about this, wall construction process and techniques, mortar mixture components and proportions are obtained from interviewed master builders.

As a rule, the joints of one stone course should not fall in the same line with those of the lower course. After the external course is completed the construction of the inner course begins with less attention paid to the regularity of the stone shapes and courses. The most important issue taken into consideration was the general vertical alignment of the inner face, though the stones of the inner surface were not dressed*.

The gap in-between the external and the inner course should be filled with rubble stone and mortar before another course of stone was added on top. For external face and the inner face of the wall to be better bound to each others, a stones called Dastwr was placed at various intervals; such stone runs along the wall's whole thickness. The walls of the room played a very important role in supporting the valuated superstructure. According to the desired form of the vault each of the room's four walls eventually features a pointed, semicircular or elliptical form. The walls acquire their arched form at between one and one-and-a-half meters height from the ground' the arched part of the wall was called Hilal which means crescent*.

The Rukabih, which means knee are pillar-like projections located at each of the room's four corners. Those are important structural elements which assisted, together with the four crescents in carrying the heavy valuated superstructure. However, they also aimed at transmitting the load to the ground. The first stone of a Rukabih to be projected was called the Zifir*.

Canaan, T. (1933)* indicates that in rooms measuring approximately six meters square or with wall thickness measuring less than 80cm, the Rukabih starts to project from the ground level of the room. When a high vault with a larger span is needed, the Rukabih was elevated from the ground about 1.5m. Information gained from Canaan. T. and the interviewed master builders shows that the thickness of a rukbeh was determined by the span of the room and the cross vault geometry. Both agree that the Rukabih thickness must be one quarter of the span for semicircular vaults, it should be more than a quarter for segmental and elliptical vaults, and for the pointed vaults its thickness could be less than the span quarter.

* See figure 121, is a sketch of a traditional cross vaulted room

Window Shubbak and Door Babb openings are found with a vast range of

sizes, profiles and shapes issues which are discussed on case study section of this thesis. Only the construction of window and door openings within the room walls will be emphasized here. During the wall construction the door and window openings were marked. The whole frame surrounding either the window or door opening was called a Halk, or a Halk Al-bab for the door frame and Halk Al-shubbak were used for the window frame. The stones of the window or door frames were formerly more carefully dressed and cut. Each piece of the frame's stones had two dressed faces: the first is that going along with the elevation wall, and the other is that measuring 12-30cm deep and located along with the opening depth.

After the window or door opening is marked the master builder would first place the door threshold or window sill locally called Bwrtash. Then the opening construction continues with the jambs slah stones being placed vertically above each other. The spirit level or plumb line was used to guarantee the jamb's vertical alignment. The construction of the openings jambs continues together with the courses of the wall. As soon as the desired height of an opening is reached by the placement of the uppermost jamb's stone called Zifir, the time comes for the lintel to be placed. In many cases the lintel is used to relay at the jambs of the openings. When an arched or straight profiled opening two or more number of stones are used instead of the lintel to close the opening from above, this upper section of an opening frame was called a kamt. The kamt, is composed of an odd number of stones, could withstand the load of the wall's upper parts by means of compression. When the kamt of a window or door is arched the arch keystone would balance the concentrated load coming from above*. While the opening construction at the external surface of the wall took place, a window or door niche would be constructed together with the inner face of the wall courses, the upper part of which is featured segmental or semicircular profiled.

*CANAAN, T. (1933) The Palestinian Arab houses its Architecture and Folklore, *The Journal of the Palestine Oriental Society*: Jerusalem, (XIII).

This was supported by an arch profiled timber framework. Wall niches and

cupboards were distributed randomly within the room's walls, and their number and size varied according to requirements. The construction of the wall niches did not differ in concept from that of window or door niche; all were constructed from brick-like stones. Unlike the window and door niches the external courses of the wall niche are the same as those regular exterior elevation wall courses. Where the wall niche was subdivided by shelves and closed by timber shutters it was called khazayn. When the niches are arched profiled and large in size measuring 2-3m long x 1.5 - 3 meters high and 40-70cm deep, usually they are neither subdivided nor closed, and locally called Raksih, meaning a space used for storing bedding*.

Superstructure 'Akid: three types of superstructures are found in the stone masonry Palestinian traditional architecture: Cross-vaulted 'Akid Salyb, is the most widespread type of superstructure, and is found within both hwsh and Central-hall houses*. The cross vaulted superstructure is a system which progressed from the earlier organic hwsh dwelling to the later free standing individual Central-hall houses. It continued to be the main roofing system until the Jack Vault 'Akid Dawāmir superstructure was introduced to Palestine by the beginning of the 1930s.

Structurally, the cross vaults are carried by the earlier mentioned Rukabih which projected out from the four corners of the room, and the thick load bearing semicircular, pointed, elliptical, or segmental profiled walls locally each called Hilal. Therefore, the cross vaulted superstructures are classified according to the above motioned four types of profiles*. The construction of the vault is the most complex and difficult section of a room. Soon after the arch profiled four walls Hilal are completed and the four Rukab is sprained from the corners of the room, the master builder initiates the timber framework Twbār of the cross vault. The first step of the timber framework is carried out by the placement of a timber pole called 'Arws at exactly the center of the room.

*Interviews with: Haj Abd Alah Abu hilal, 86 years old mason from Abu Dies- Jerusalem, Haj Mohamed Abu Al Balad 83 years old from Abu Dies- Jerusalem, Idress Alnatshah from Hebron: 88 years old, Abd Alraof Al Kawasma 75 years old from Hebron
It measures and defined the total height of the room and it is usually higher than the total height of the surrounding crescent-like walls. This timber pole is

considered to be the most important element of the whole framework where it used to support the whole framework. The 'Arws was connected to the surrounding load bearing walls by timber joists which are of two types: the Rammā are those joists used to make the connection with the room's four corners Rukabi; they run in an inclined direction. The Ramma is placed above the central pole from one side and supported from the Rukabi side, by small vertical poles, the upper part of which is joined with the Ramma by transverse timber pieces*.

The Hammal runs more or less in a horizontal direction, and four pieces of it connect the central pole 'Arws with the central point of the crescent-like walls. At the central summit of the highest crescent there was previously a recessed void inside of which the edge of a Hammaal and Ramma joists were supported by vertical poles locally called rakayz; these assisted the central pole in carrying the heavy vaults load. The remaining eight triangular voids between the Hammal and Ramma joists and the arched like section of the wall, are filled with smaller pieces of timber joists known as bawanyt were placed. After the timber framework was completed, the remaining gaps were covered with olive trees branches or any other available plants branches with sufficient strength. Above these branches, old mattresses, clothes and palm leaves were placed to ensure that all the voids were closed. At this stage, the master builder and his assistants began to cover the framework with a layer of earth followed by two layers of mortar. The lower layer is less supportive, it is a mixture of manure and straw. The upper layer of mortar is composed of a smooth mixture of lime and Huwwar; it is stronger giving the vault the final desired form*.

After the smooth layer of mortar dries, the masonry valuating process begins. Cut in uneven form, pieces of the best quality and the strongest limestone are used for the roofing of the vault. The master builder places those stones next to each other as if he is tiling a floor, and his assistants are responsible for filling the gaps between the larger stones with smaller ones of same quality. Good quality mortar is used to fill

* See figure 121, is a sketch of a traditional cross vaulted room

the remaining gaps; it is composed of lime mixed in sufficient quantities with Huwwar. The compared valuated stones locked together with the filled mortar in

between gave the vault sufficient strength to withstand different types of loads. The vaulting process took place from the lower part to the upper, and continued until the remaining gap at the summit center of the vault was filled with the keystone locally called 'swrit el 'Akid.

Because the Cross-vault's center was higher than the upper part of the crescent like walls, the construction of external courses of the arched like walls had to continue until the desired height of the walls was reached. When the walls get higher than the highest point of the vault, hiding its slightly shallow form, the result was a flat roof. In some other cases the external face of the walls was lower than the vault summits, leading to the concaved form of the vault.

Roof finish Maddih: to protect the whole structure from rainwater, various methods were used according to the financial conditions of the owner. The simplest of these was a layer of Huwwar and straw mixture, rolled several times until it became compact. Wealthier owners would get the roofs of their dwellings plastered by a layer of lime and sand mixture. A more costly method sometimes implemented involved a layer of smashed line stone aggregates mixed equally with lime, water and ashes. Such a mixture became very hard and durable. In a few cases the very rich people finished the roofs of their dwellings with flagstone tiles. In all the cases the roof had a spot hole for getting rid of rainwater. It was formerly made of a concaved piece of metal, stone or clay, and was usually located at one of the roof corners. The roof finish sloped in the direction of the water spot.

Barrel Vault 'Akid Barmyl: this type of vaulting system does not differ in concept from the above described cross vaulted superstructure. The technique used, along with material and process of implementation are nearly the same. The difference is more or less related to the utilized framework geometry and supporting system. In the case of a Barrel vault superstructure a round

* See figure 121, is a sketch of a traditional cross vaulted room
semicircular, pointed, elliptical or segmental profiled vault is carried by two opposite thick load bearing walls. The other two walls were constructed up to the height of

round vault filling the arched profiled side of the vault. As in the case of a cross vault, when a flat roof is desired the un-built gap left between the round part of the vault and the load bearing walls were filled with rubble stones, bound together by mortar.

Jack Vaults 'Akid Dawamir: were the latest type of superstructure used in the Palestinian traditional dwellings. This system was introduced to Palestine by the beginning of the 20th century. The thick load bearing walls were built up until the desired height of the space is reached. Metal beams with I cross-sections were stretched between two opposite walls which were longer. The (I) beams were regularly distributed with a distance of 50-80cm in between. The gap between each two metal beams was filled with a slightly shallow vault; the construction technique and material of this does not differ in concept from that of barrel vault.

B.2 Finishing Works

The floors: the Palestinian traditional dwellings of both hosh and Central-hall types used to be finished in different methods which mostly depended on the material availability and financial conditions of the owners. Three floor finish methods are found. The simplest method used was the so called Maddih; it is composed of a mortar layer consisting of equal amounts of lime and smoothly crushed limestone powder. The mixture was treated with water for two to three days until every grain of lime is slaked, and then it was laid and polished for three days. Later the floor was polished by a piece of marble for five to six days until the floor surface became fairly smooth. Flagstone slabs were used as tiles; the room's floor was first manually leveled. A layer of stone aggregates was laid on top of the natural ground in order to get the room floor leveled and to resist the dampness and humidity. After the room's floor was prepared flagstone tiles were carefully placed using mortar of the same previously described Maddih mixture.

Colored cement tiles is recently utilized for finishing the Central-hall house interiors, Amiry, S. (2000)* indicated that the first colored floor tile factory was established in

Jerusalem in 1912 by the Qaterisisyeh brothers. The machinery of this factory was imported from Italy, although the first pattern molds were imported from Italy, Germany and Spain. Later elaborated pattern molds were developed by local blacksmiths to fit with the local test. Most of the materials used for the production of tiles were locally produced; only the colored cement dyes were imported from Germany. The Qassisye factory continued the production of these tiles until it was closed in 1969. The implementation method used when making such tiles is not far in concept from that used for the flagstone slabs.

Interior walls finishing (Plastering): the traditional plastering material is made from flax-threads cut into small pieces mixed together with a good percentage of slaked lime. The mixtures were mixed; when the mixture is ready it is left for some time until it becomes semi solid. The material was applied to the walls; primarily into three layers: firstly a rendering layer called is applied to fill the gaps. This has a rough texture which helps to provide an uneven surface to bind better with the floating coat which is smoother in texture. The second coat aims at rendering the surface in more even condition: a 1m long ruler and a sprit level are used during the rendering of the second coat to ensure the straightness and verticality of the surface. Finally the finishing coat is implemented; this is a fine smooth coat which uses pure slaked lime. Later whitewash soup was applied; it is composed of very fine smoothed powder of lime mixed very well with water, and is applied in two layers.

Exterior Wall Finishing (Stone joints pointing) Kuhlih: is an important phase of the house construction, having both structural and aesthetic value. It prevents rainwater from penetrating the walls of the dwelling which may cause decay and humidity. First the joints were cleared and raked out using a pointed hammer. Then the pointing work starts by filling the joints with a mixture made of: lime, sand and limestone powder mixed very well with water. An iron tool called Midlak

*Amiry, S. (2000) *Traditional Floor Tiles in Palestine*, Riwaq publications, Palestine 9.

was used for filling the joints with the mixture, which had to be smashed very well until it fills the gap. This is used not only to cover the joints but also to cover the

edges of the stone; in some cases it was slightly projected from the stone edges.

Timber and Iron Works

The construction of a dwelling was completed and ready for habitation soon after the fixture of the doors and windows. After the year 1900s, the blacksmith industry spread widely in Palestine. Prior to that timber frames and plates were used for the dwelling doors and windows production. Metal did not completely replace timber; at the very beginning metal doors with elaborate designs replaced the timber exterior doors of the dwellings, with the interiors featuring timber doors. It was only at the beginning of 1960s that the production of timber window frames was totally replaced by metal window frames. After 1900s timber shutters are replaced by metal shutters made out of simple metal sheets. Window openings were equipped with metal grills protections. The Hwsh dwelling's were protected with simple vertical metal grills combined with two or three horizontal plates of iron, while Central-hall houses featured elaborate and ornamented metal grill.

CURRICULUM VITAE

CURRICULUM VITAE

PERSONAL

Name and surname Ashraf Abu_Hilal
Date and place of birth June 15, 1976, Jerusalem
Nationality Palestinian
Languages Arabic, English and Turkish
Sex Male
Marital Status Married

ADDRESS

In Turkey

Home address Turkey, Ankara, Eryaman, 4 Etap, 17-711 Ada, 23-3
E-Mail Address noa_ashraf@yahoo.com
Home Phone Number 0090 312 2830099
Mobile phone number 0090 5059287577

In Palestine

Jerusalem, Abu Dies, Ashraf Abu Hilal
Home address 009702 2796693
Home Phone Number 00972 522443337
Mobile phone number

ACADEMIC QUALIFICATIONS

1995-1999 Bachelor of Architecture (B. Arch) with Honors degree
Faculty of architecture
Eastern Mediterranean University
Turkish Republic of Northern Cyprus

2000-2001 Masters of Architecture (M. Arch)
Faculty of architecture
Eastern Mediterranean University
Turkish Republic of Northern Cyprus

Thesis title Affordable residential open buildings for low income groups in the West Bank-Palestine

2002-2008 Ph.D. On going expected date for thesis defense is February 2009.
Faculty of Architecture
Middle East Technical University
Ankara, Turkey
Thesis title The Changing Architectural Style Realized in the Palestinian Domestic
Vernacular Architecture during the End of 19th / Beginning of 20th
Centuries- Case Study from Hebron

SCHOLARSHIPS

2000-2001 Masters degree Eastern Mediterranean University, tuition fees
2007-2008 scholarship
TUBITAK, Ph.D. Fellowships for Foreign Country Citizens

PROFESSIONAL BODIES AND COMPUTER SKILLS

1999 Registered in the Jordanian Architects and Engineers Association
1999 Registered in the Palestinian Architects and Engineers Association
Professional Ability in using (CAD 2000, 2D)
Medium Ability in using (CAD2000, 3D)
Windows: Microsoft word, PowerPoint and Excel

EMPLOYMENTS

1999-2000 Did an Internship with the UNDP- Engineering Unit Bethlehem 2000
project

2000-2001 For two semesters, teaching assistant Department of architecture,
Eastern Mediterranean University.
Turkish Republic of Northern Cyprus

2002-2002 As an Architect, designer
Adnan Safaini consultant Architects and Engineers
Dubai, U.A.E

2005-2006 Part time instructor, one academic semester
Department of Architecture
Birzeit University

2005-2008 Established, NOA Consultant Architects and Engineers
Ramalah, Palestine
Acts as general manager and senior architect

TEACHING EXPERIENCE

- 2000-2001** Teaching assistant for two academic semesters
Department of Architecture, Eastern Mediterranean University
Arch 402: The graduation projects, Architectural design six
Arch 201: Second Year Design Project.
Arch 351: Urban Design Course.
- 2005-2006** Part time lecturer,
Department of Architecture, Birzeit University
Visual Communication course, included both theoretical and studio
section

PROFESSIONAL EXPERIENCE

- 2002-2002** Worked as an architect at Adnan Safaini consultant Architects and Engineers, passed through various architectural professional sections such as: Working drawings, details design and architectural design.
Participated in the design of the following projects:

Designed three proposals for Ajman University of Science and Technology student dormitory building, the last proposal was accepted by the university building committee and the project is under construction now.

Designed AL-Aine Club Hospital Proposal, the project still under dissection

Participated in the design of Sek Zayed tower Building G+22 floor residential building. Both the owner representative and the municipality approve the project where it is under construction since 15/8/2002.

Participated in the design of Alatar tower building G+5B+62 floors. The project design is approved by the owner and going into the municipality regulations.

Designed 16 villas 1000-1600 M sq. held the responsibility of conducting several meetings with the owners during the design of the each villa.

2005-2008

Established, NOA Consultant Architects and Engineers, acts as general manager and design team leader for the following projects:

The design of Zahrat Al Madaen Housing project, owned by Zahrat Al Madaen community, it has 65 housing units in four types varying in size. (Under construction)

The design of Al Ribat Plaza commercial and residential tower, owned by Al Ribat Plaza group for investment and development, the building owns 10.000m² in twelve floors: (In the final stages of the finishing).

The design of Jawaher Lal Nihro school, owned by the Palestinian ministry of education and higher education. The school has a total area of 4500m², and it is located on the West Bank-Abu Dies.

The design of Canaanite amusement land, the proposed project is located in the city of Jericho on a flat land owning 200 000m², the project provides space for multifunctional entertainment and recreational facilities such as: aqua park with open and closed swimming pools of 4500m², camping and fishing zone, 145 bangles in three types, sport facilities of different types, shopping and ice skating space, amphitheater, and an aquarium. (Proposal)

The design of Jerusalem University teaching hospital proposal

Participated on the competition of Edward Said national institute of music in Ramalah (Proposal)



Figure 1: Middle East Partition Map, Sykes-picot Agreement (1916)
 Source: Archive of Palestinian Academic Society for the Study of International Affairs (PASSIA)

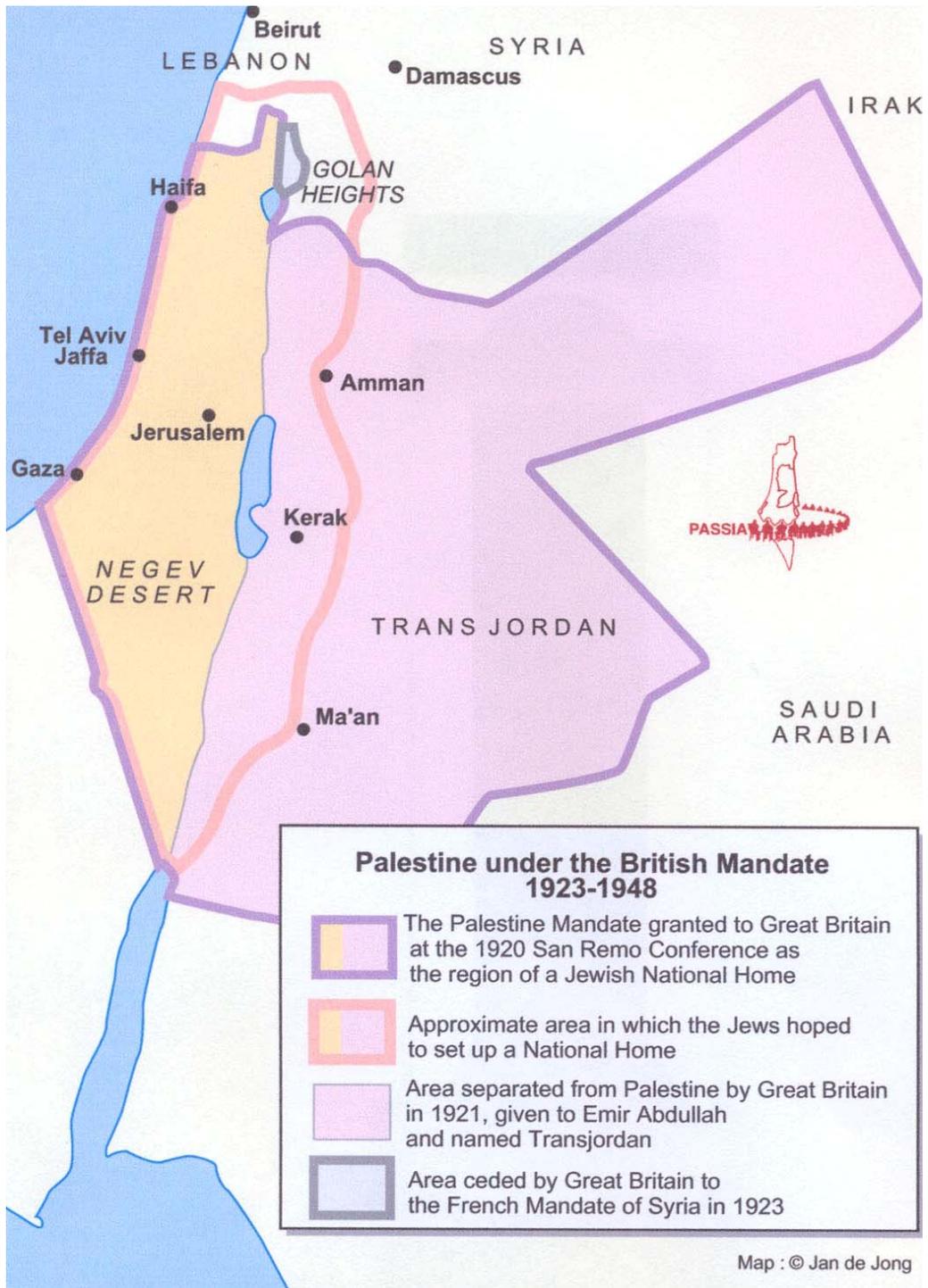


Figure 2: Palestine under the British Mandate 1923-1948
 Source: (PASSIA) Archive

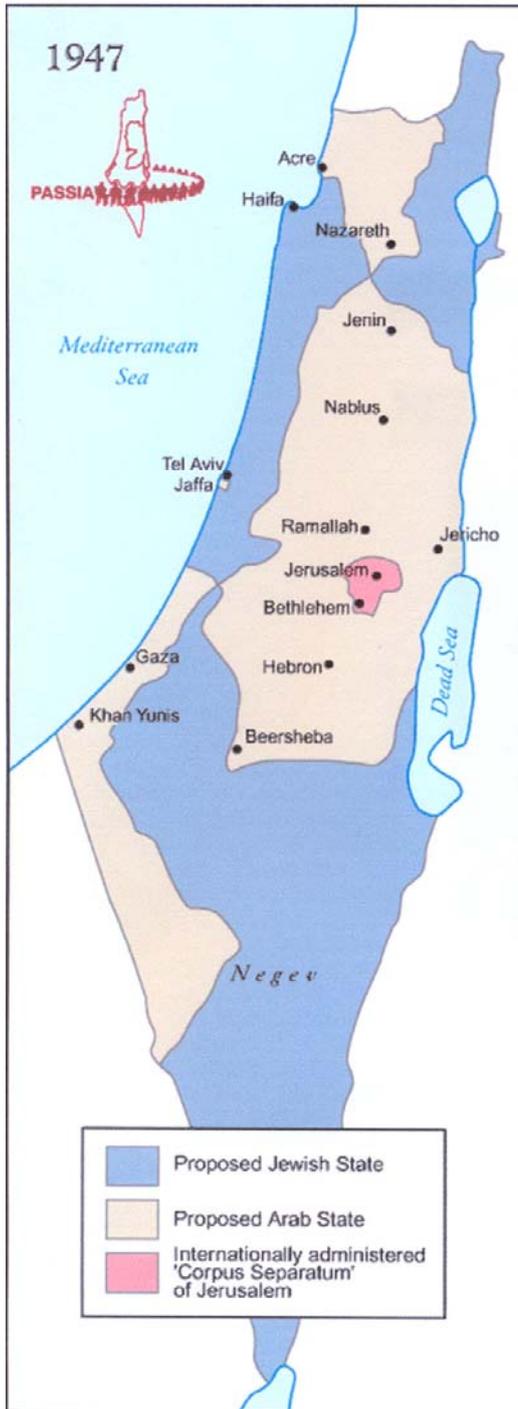


Figure 3: 1947, UN resolution 181

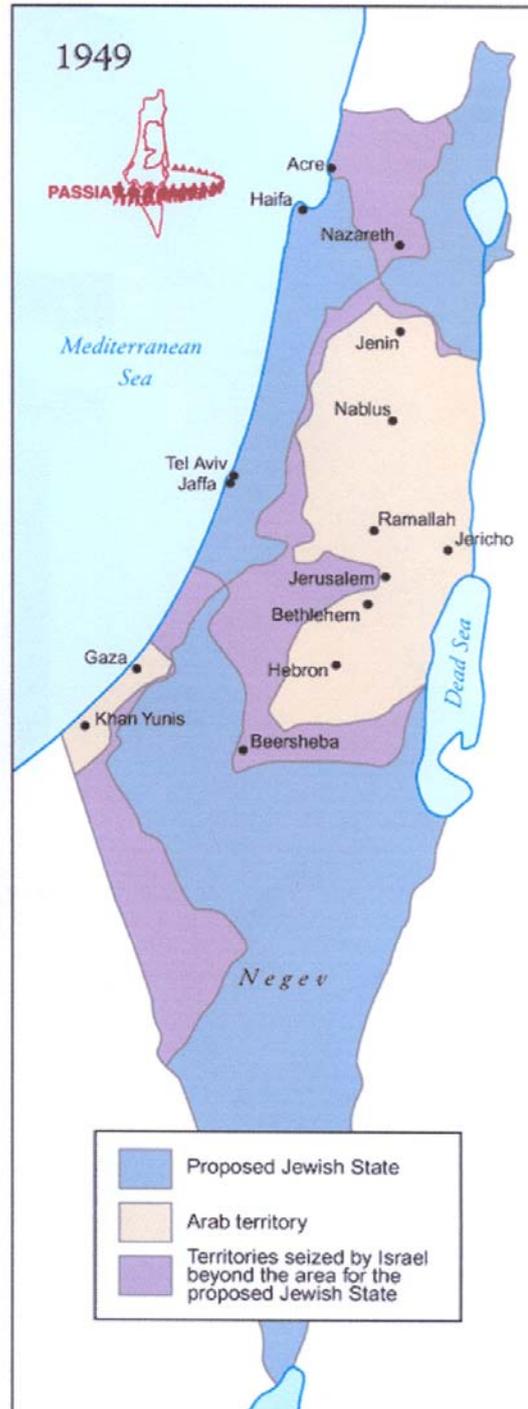


Figure 4: 1949 Palestine, Rhodes Armistice line

Source: (PASSIA) Archive



Figure 5: Palestine after 1967, West Bank and Gaza strip
 Source: (PASSIA) Archive



Figure 6: West Bank topography
Source: RAND Corporation

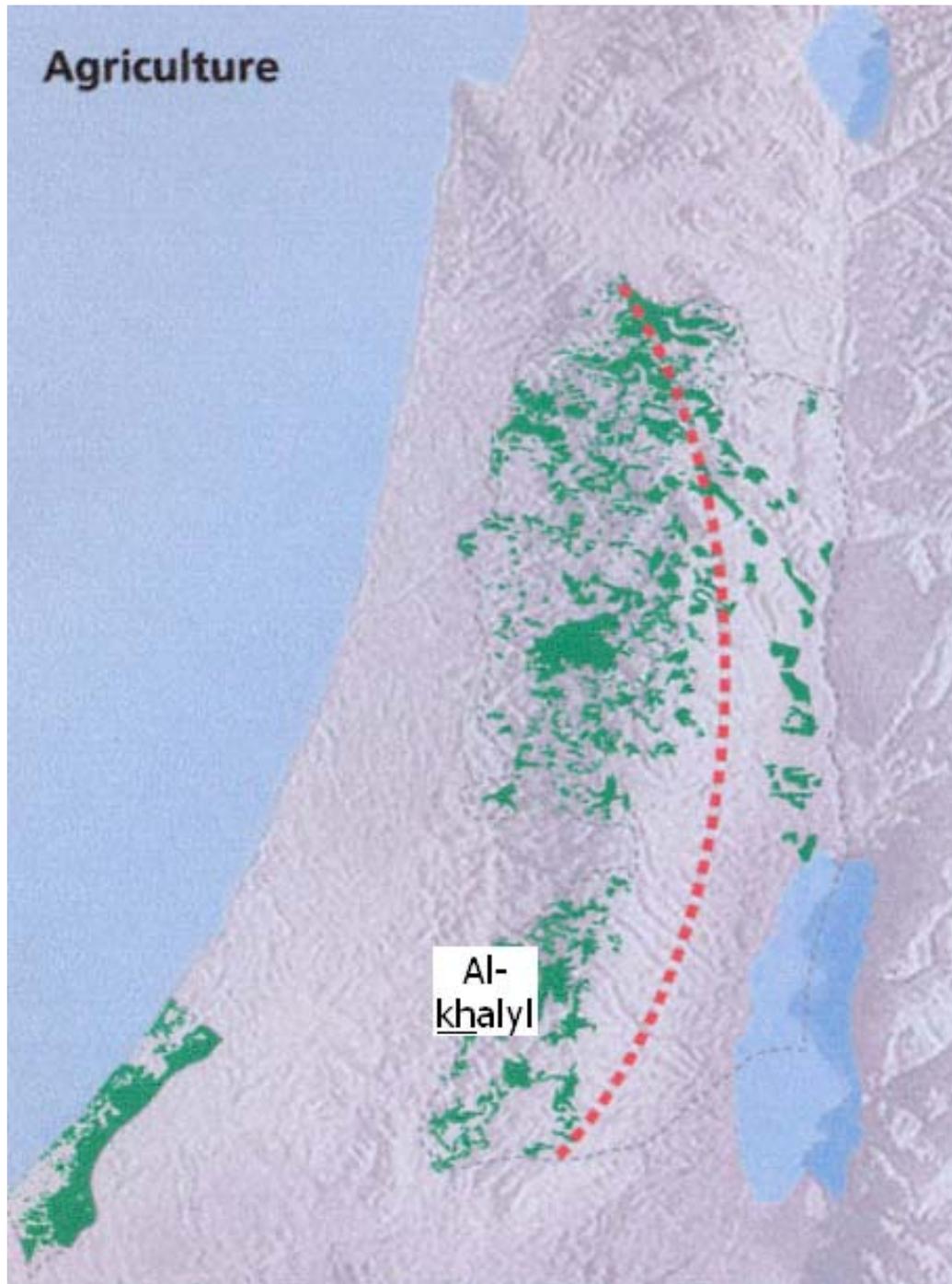


Figure 7: West Bank; agricultural land distribution
Source: RAND Corporation

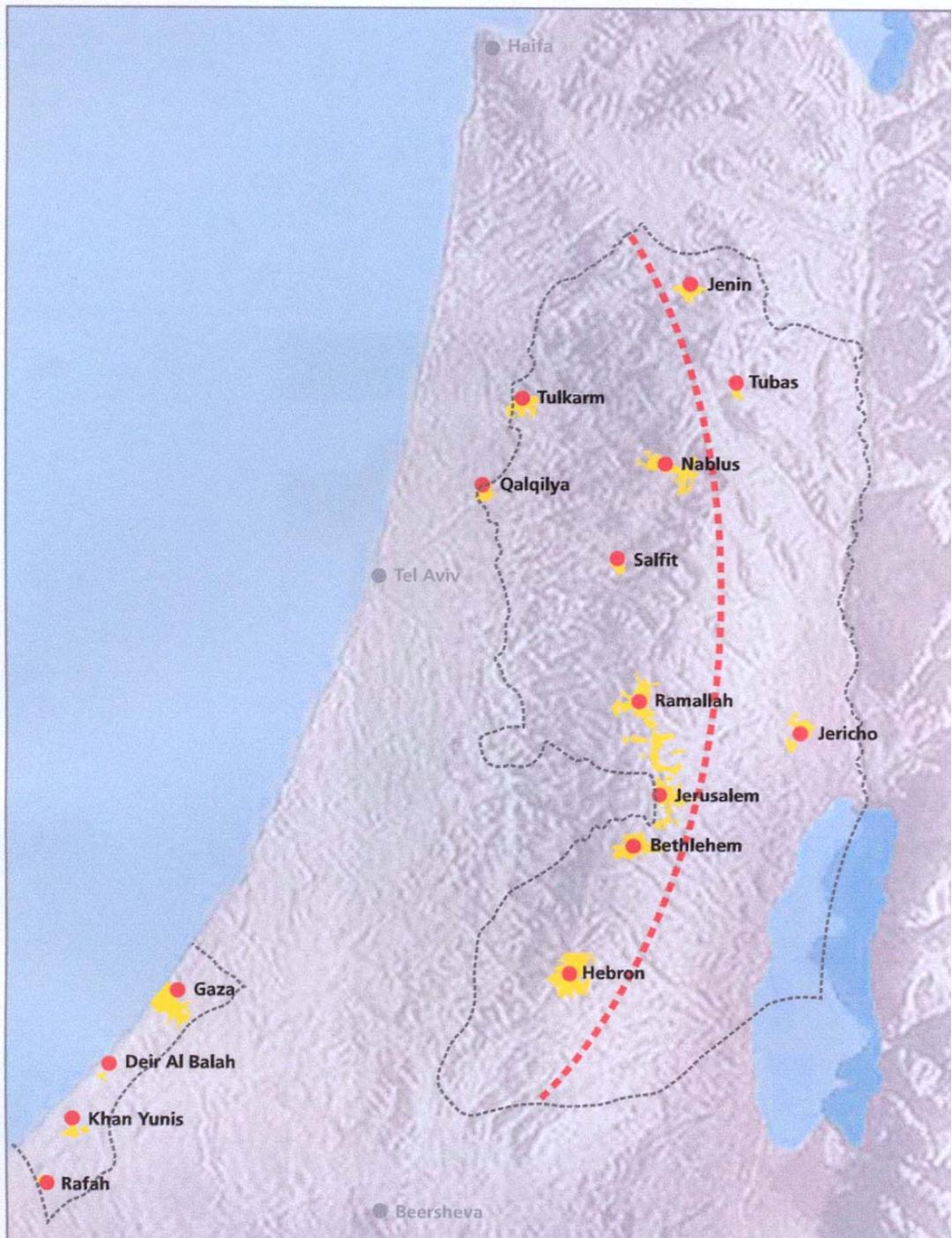


Figure 8: West Bank 11 major cities
 Source: RAND Corporation

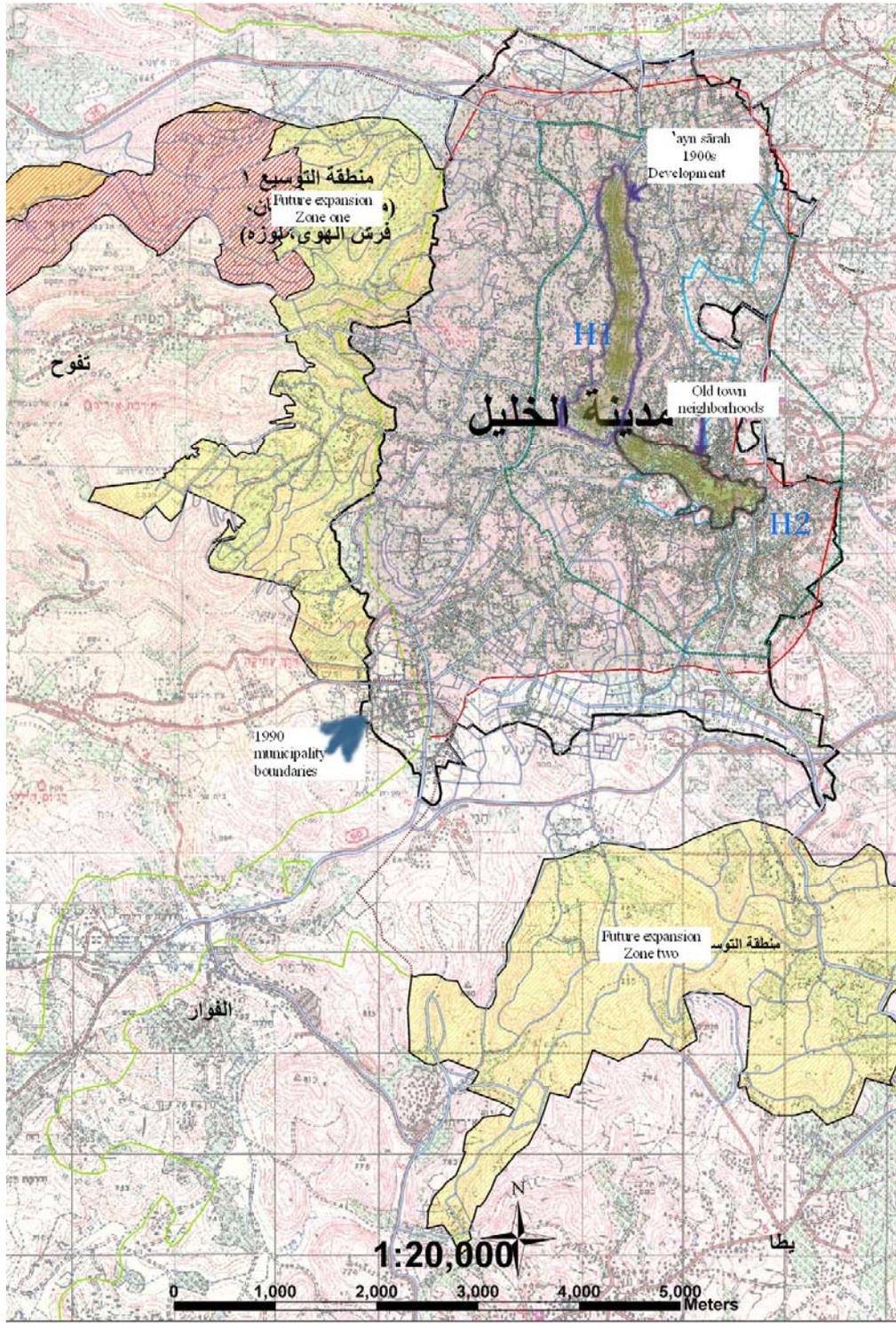


Figure 9: Al-Khalil map, current Municipal boundaries.
 Source: Al-Khalil Municipality archive

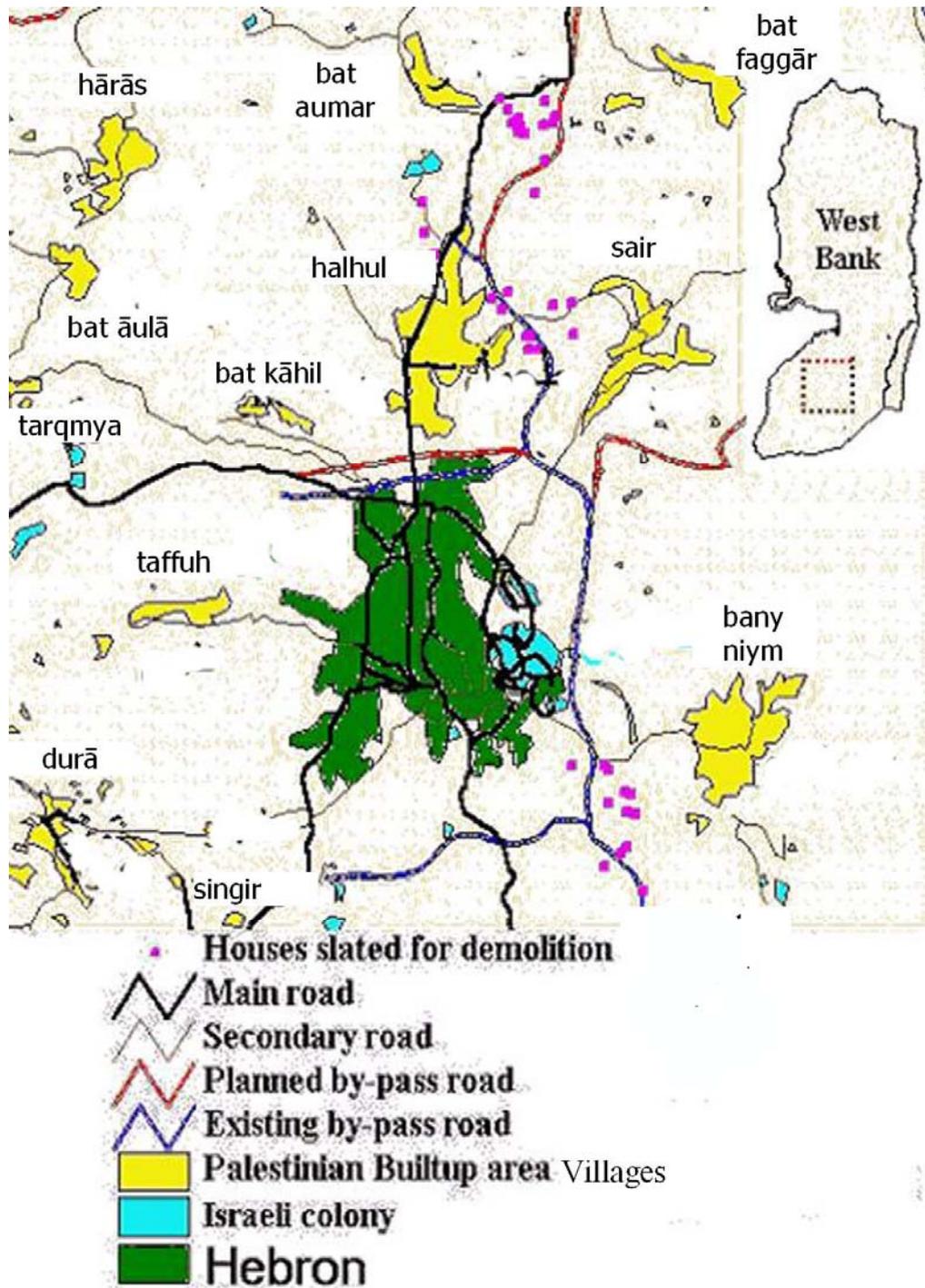


Figure 10: Al-Khalil, surrounding villages, and Israeli colonies
 Source: Hebron Rehabilitation Committee (HRC) archive

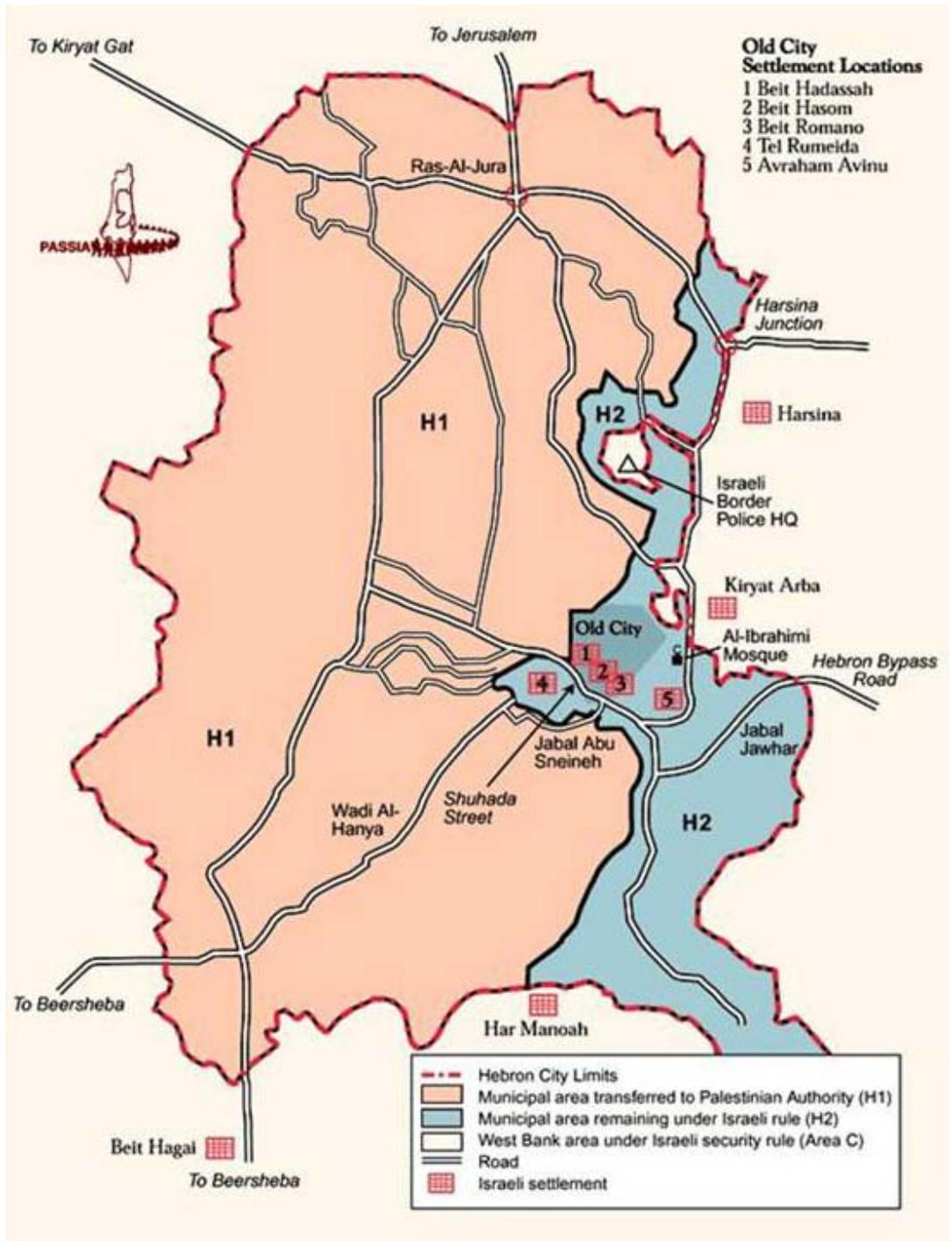


Figure 11: The Oslo Al-Khalil agreement 1999 map.
Source: (PASSIA) archive

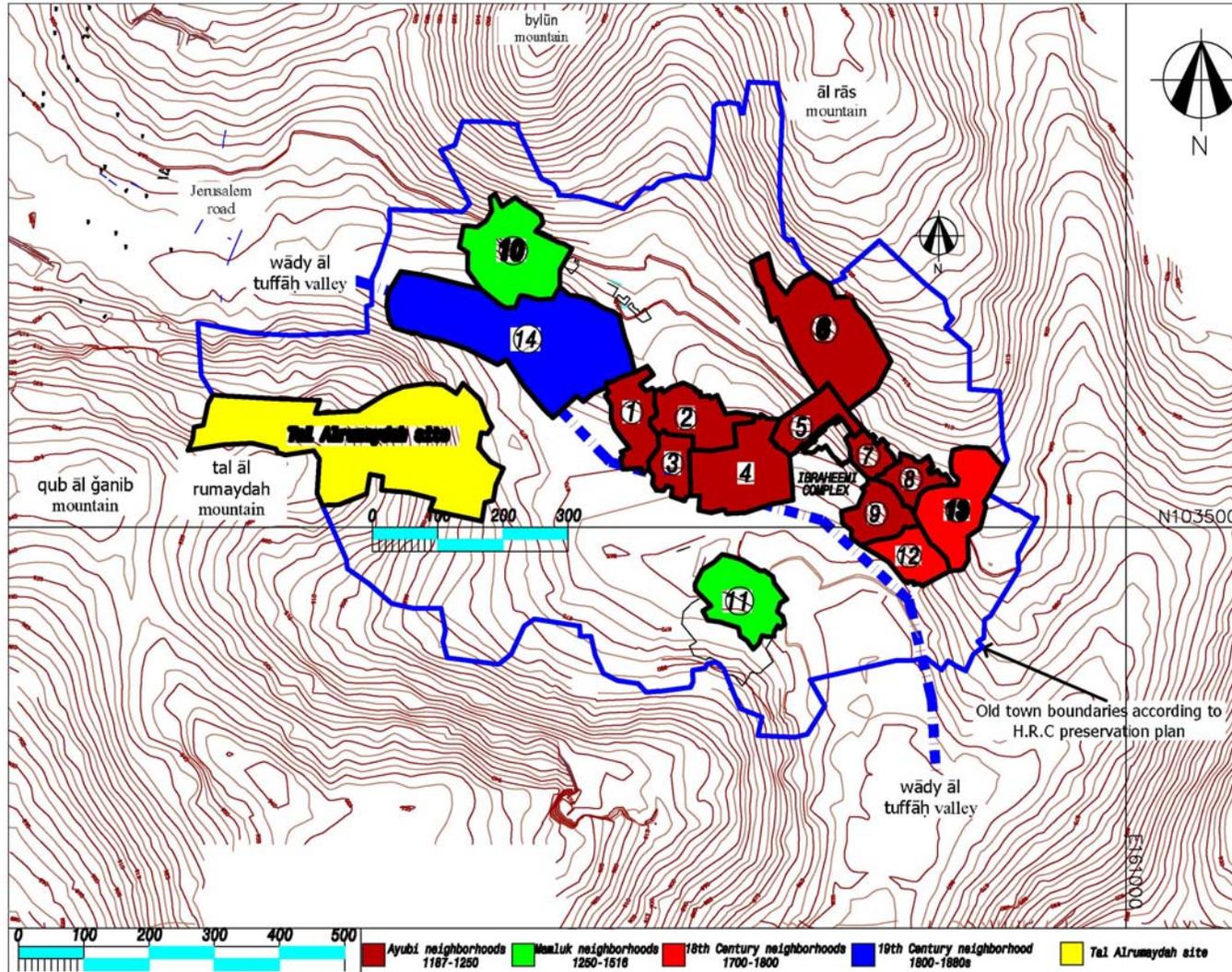


Figure 12: Old fabric 14 neighborhoods reproduced from (H R C) GIS survey of the old town neighborhoods.

Original maps Source: Palestinian National Authority, Ministry of Local Governments (PNA-MLG), and (HRC) GIS survey

Nine neighborhoods dates to Ayoubi period (1187-1250), those are:

Number 1 al-Qazzazin, number 2 as-Sawaknih, number 3 al-'Aqabah, number 4 Bani dar, number 5 al-Kaliah, number 6 al-Akrad, number 7 al-Muhtasib, number 8 al-Madarsih, number 9 al-Hoshiyyah.

Two neighborhoods added During the Mamluke period (1250-1516), those are: number 10 Qiytun and number 11 ash-Shaykh

Three neighborhoods are dating to the 18th century are: Number 12 al-Masharqah at-Tahta, number 13 al-Masharqah al-Fwqa, and number 14: Bab az-Zawiya

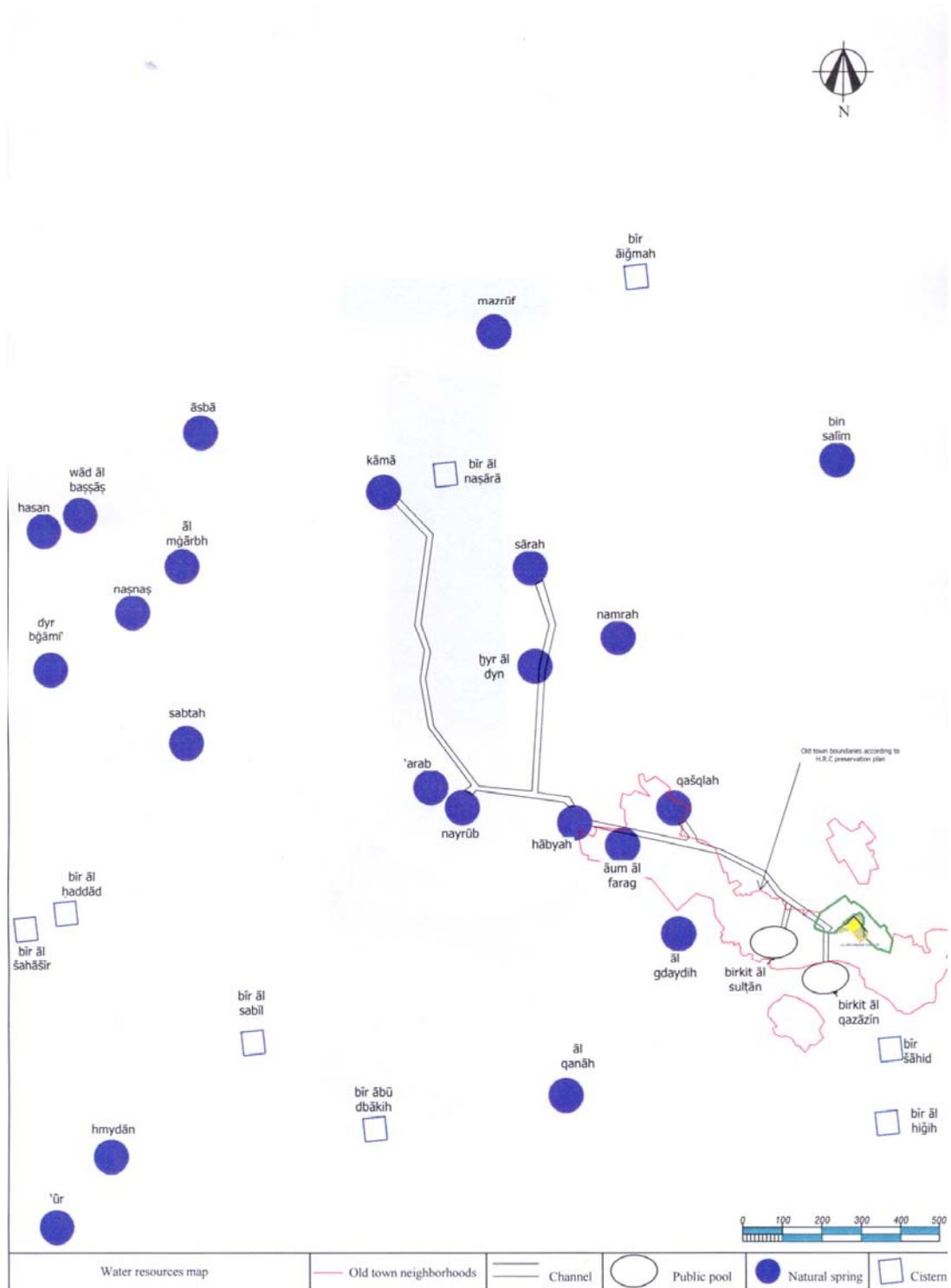


Figure 13: Location of the surrounding water resources to Al-Khalil,
 Source: Abu Bakr, A. 1994. pp 26

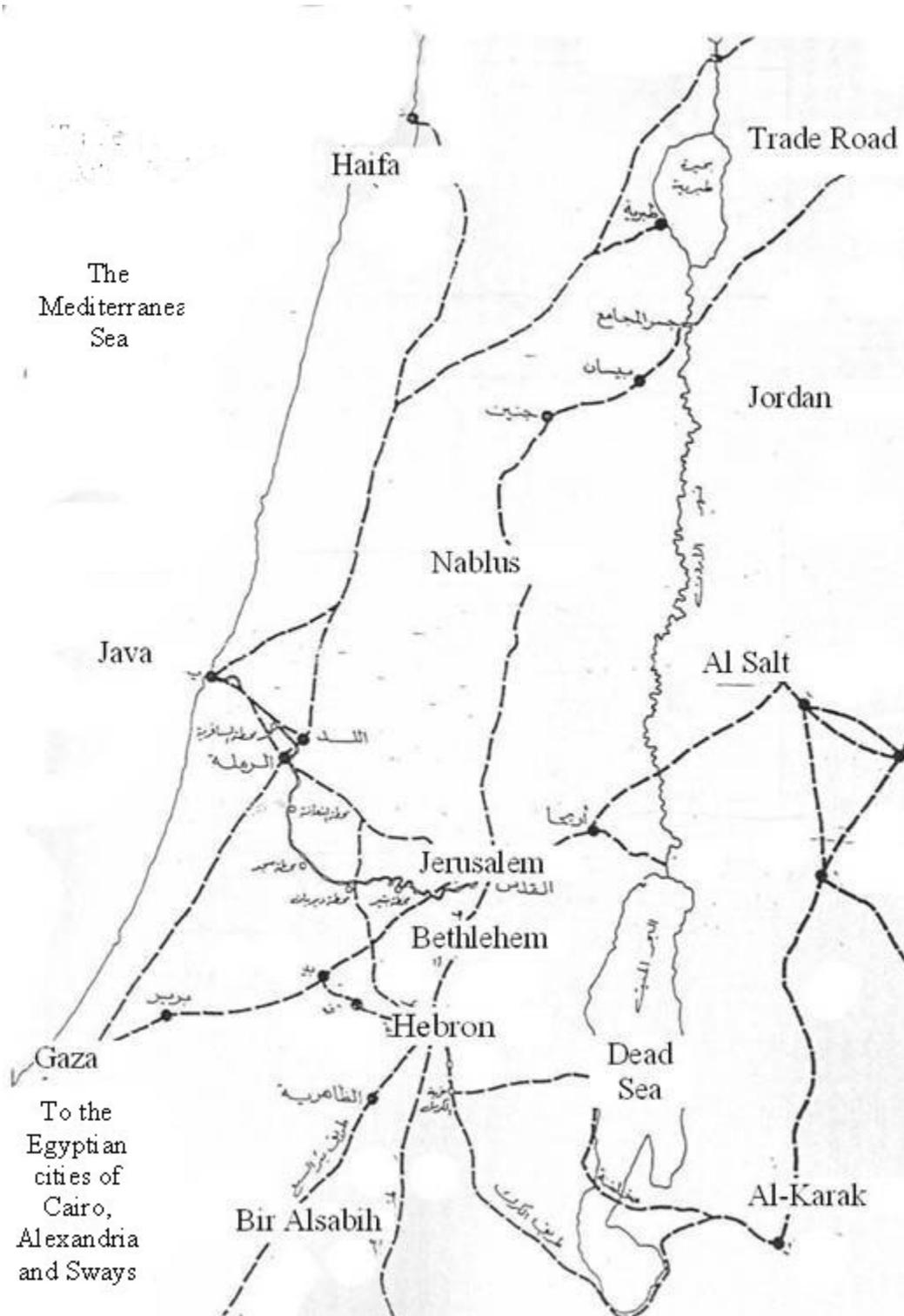


Figure 14: Al-Khalil location and trade routes,
 Source: Abu Bakr, A. 1994. pp 467

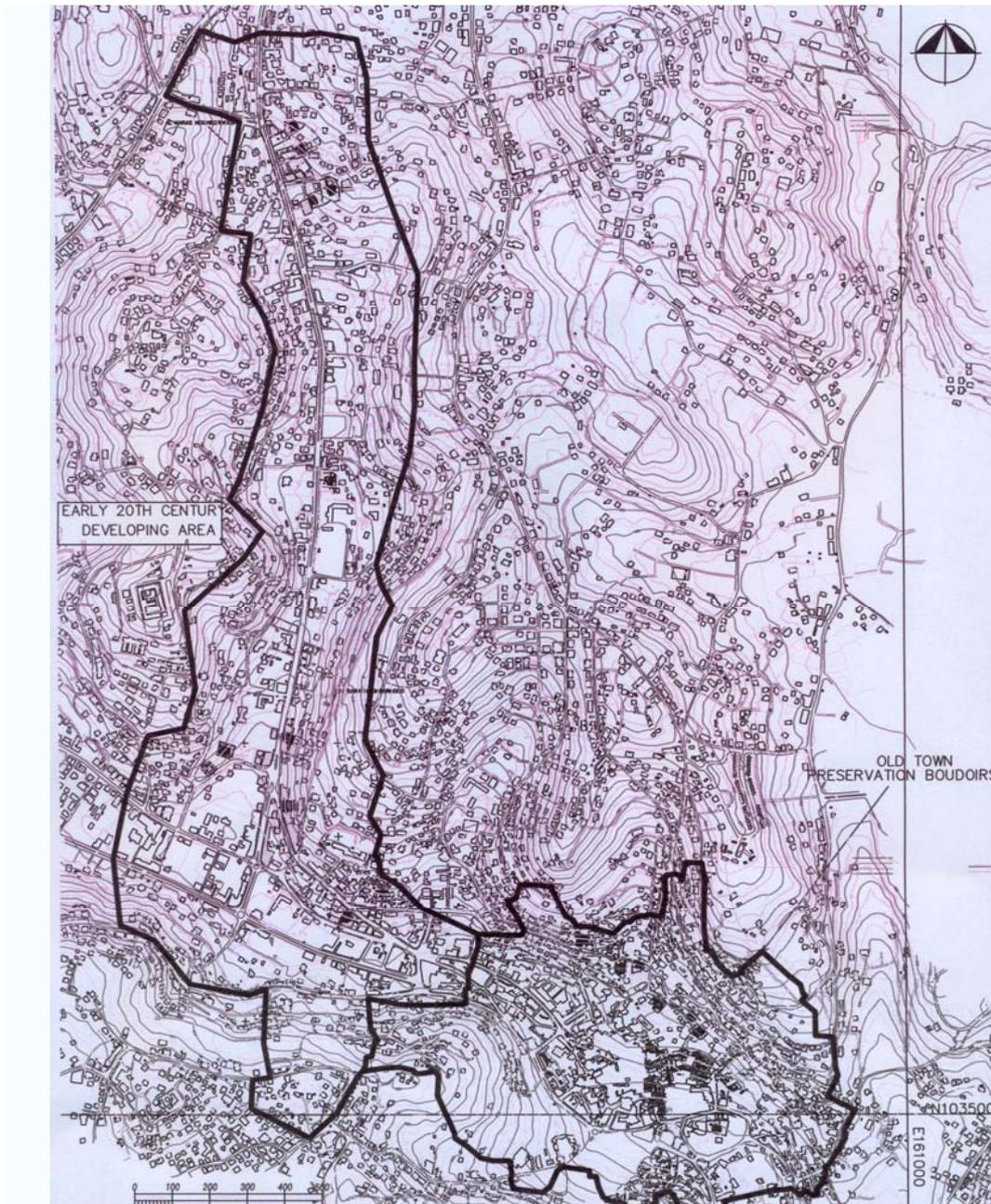


Figure 15: Al-Khalil map, early 20th century newly established Ayn Sara region and the traditional part of the town. Development map showing the location of houses included in the measured survey. Houses of: 1- Muhammad iz Zghayyar, 2-‘Iz id-Din al-Hammury, 3- Atif al- Hammury, 4- Musa Shahin, 5- Hisham iz-Zghayyar, 6- Ratib an-Nazir, 7- Shakir ad-Duaik, 8- Abdul ‘Afu al-Muhtasib, 9- Yasir id-Duaik, 10- Awni id-Duaik, 11-‘Ali ‘Arafah, and 12- Muhammad as-Salaymah, 13- Yusif al-Ja’bari, 14- Jabir al-Ja’bari, 15-‘Abdul ‘af al-Ja’bari, 16- Mosa an-Natshih, 17- Abdul -Aziz an-Natshih, 18- Murtada ad-Duaik, 19- Kasir ad-Duaik, and 20- Hamzah Shahin
 Source: (PNA-MLG)

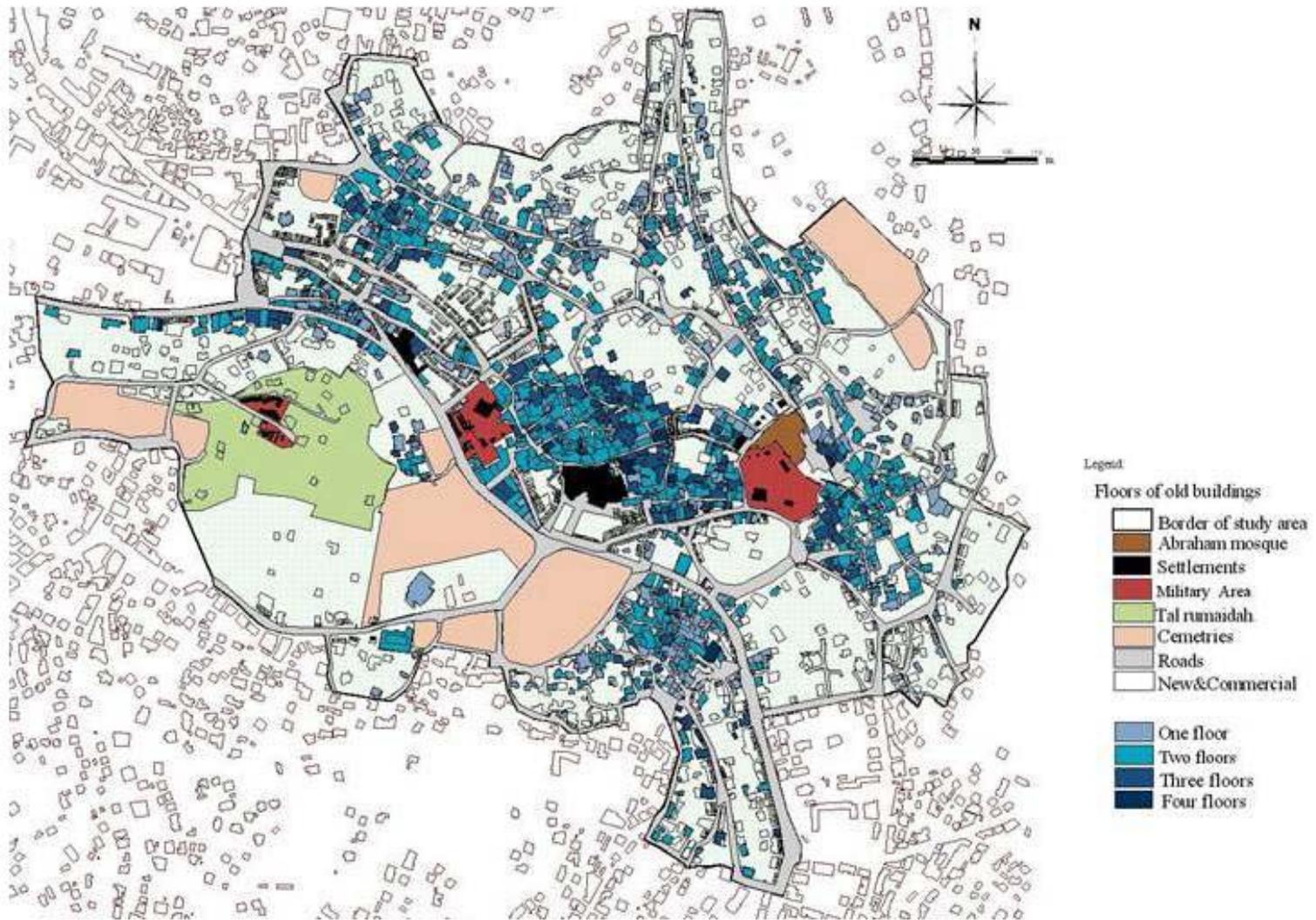


Figure 16: the old fabric old buildings heights. Source: HRC, 2001 GIS survey

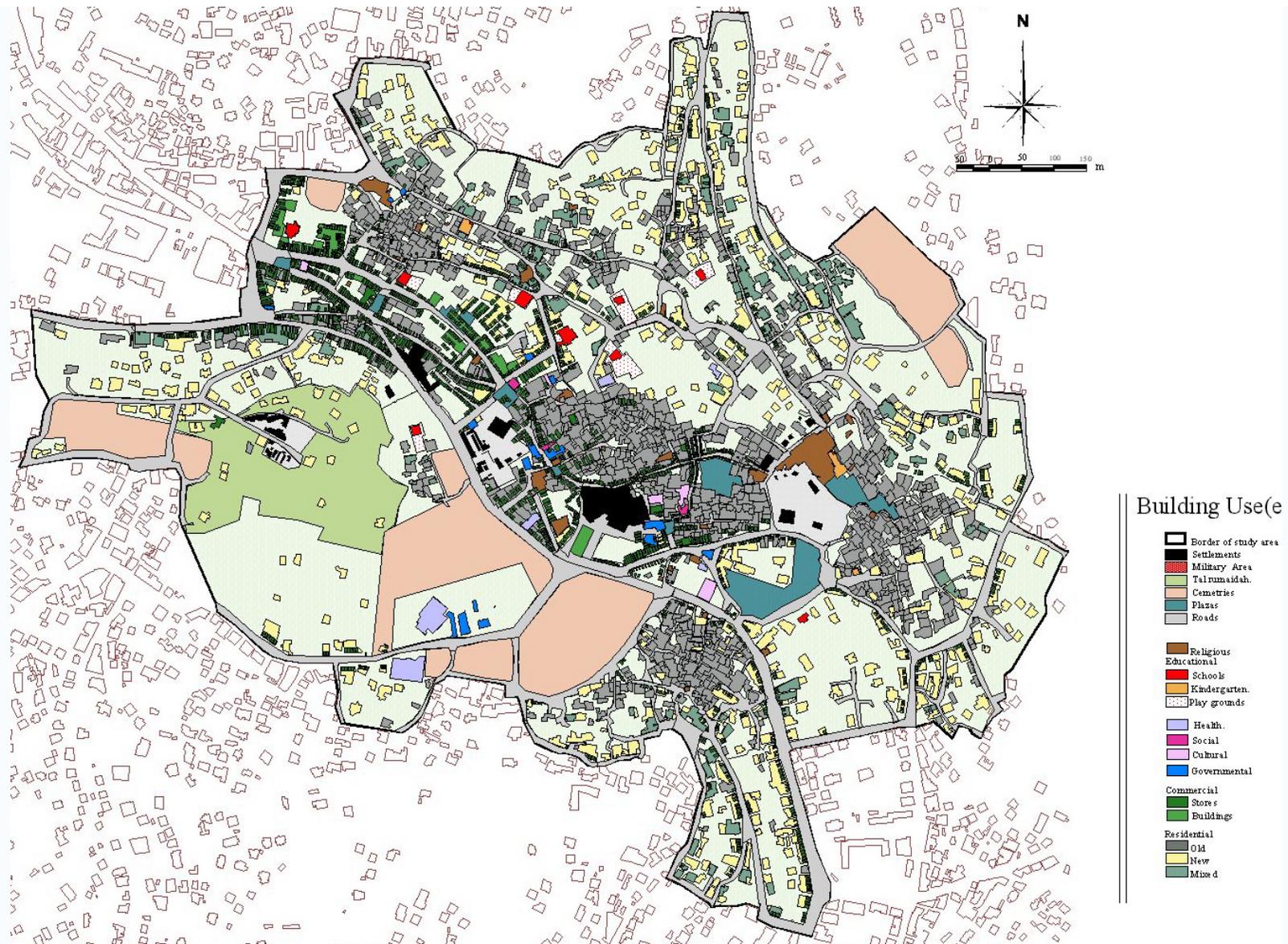


Figure 17: Existing building use, Source: HRC, 2001 GIS survey



Figure 18: early 20th century Ayn Sarah region houses of: 1- Muhammad iz-Zghayyar
, 2-‘Iz id-Din al-Hammory, 3- Atif al- Hammory, 4- Musa Shahin
5- Hisham iz-Zghayyar, 6- Ratib an-Nazir, 7- Shakir ad-Duaik, 8- Abdul ‘Afu al-
Muhtasib, 9- Yasir id-Duaik, 10- Awni id-Duaik, 11-‘Ali ‘Arafah, and 12-
Muhammad as-Salaymah

Source: (PNA-MLG)

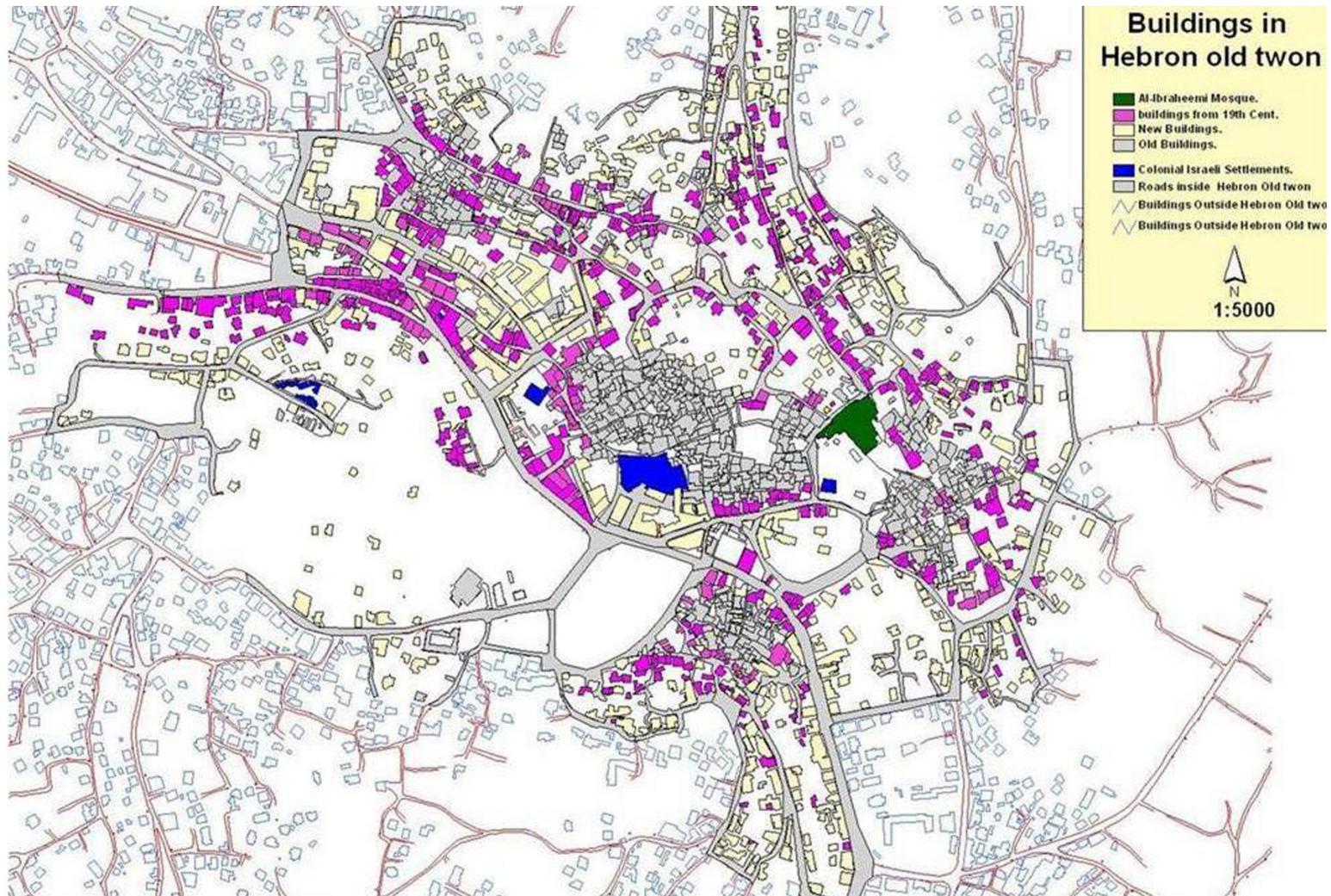


Figure 19: pre 19th century buildings, end of 19th century buildings and new building dating to 1960s-2001. Source: HRC, 2001 GIS survey

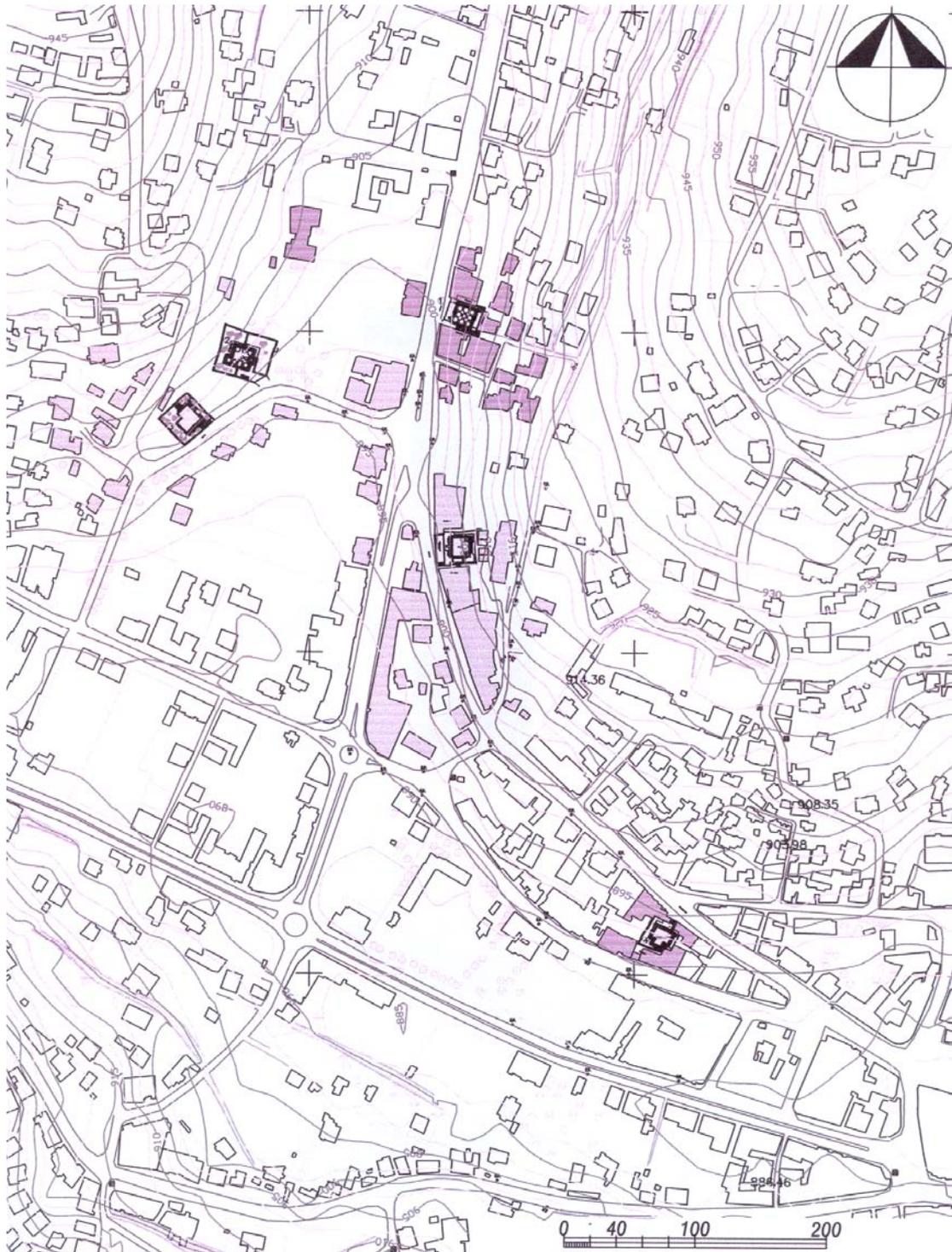


Figure 20: Ayn Sarah, site location, houses of: 1- Muhammad iz-Zghayyar , 2-‘Iz id-Din al-Hammory, 3- Atif al- Hammury, 4- Musa Shahin 5- Hisham iz-Zghayyar, Source: (PNA-MLG)

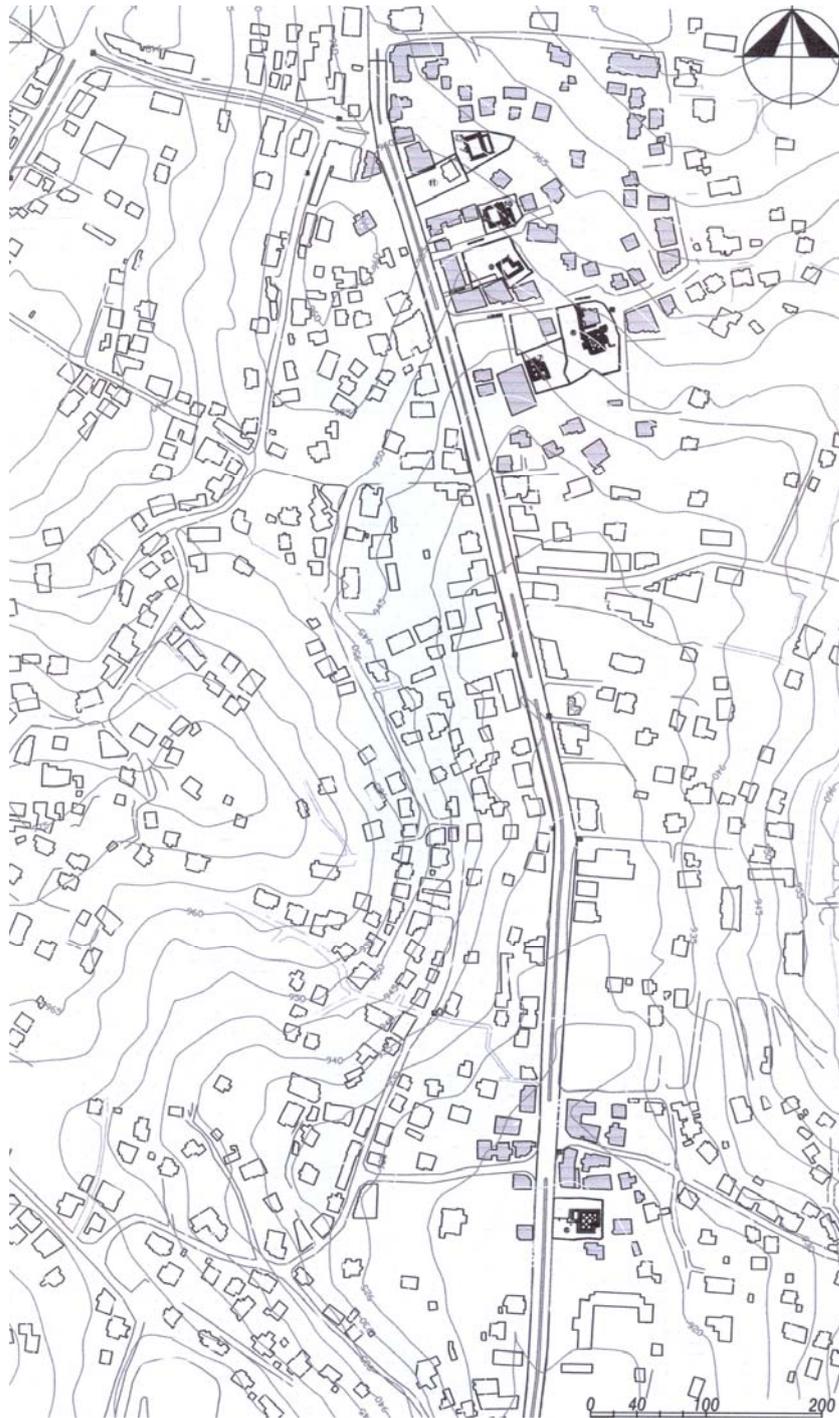


Figure 21: Ayn Sarah, site location, houses of: , 6- Ratib an-Nazir, 7- Shakir ad-Duaik, 8- Abdul ‘Afu al-Muhtasib, 9- Yasir id-Duaik, 10- Awni id-Duaik, 11-‘Ali ‘Arafah, and 12- Muhammad as-Salaymah
Source: (PNA-MLG)

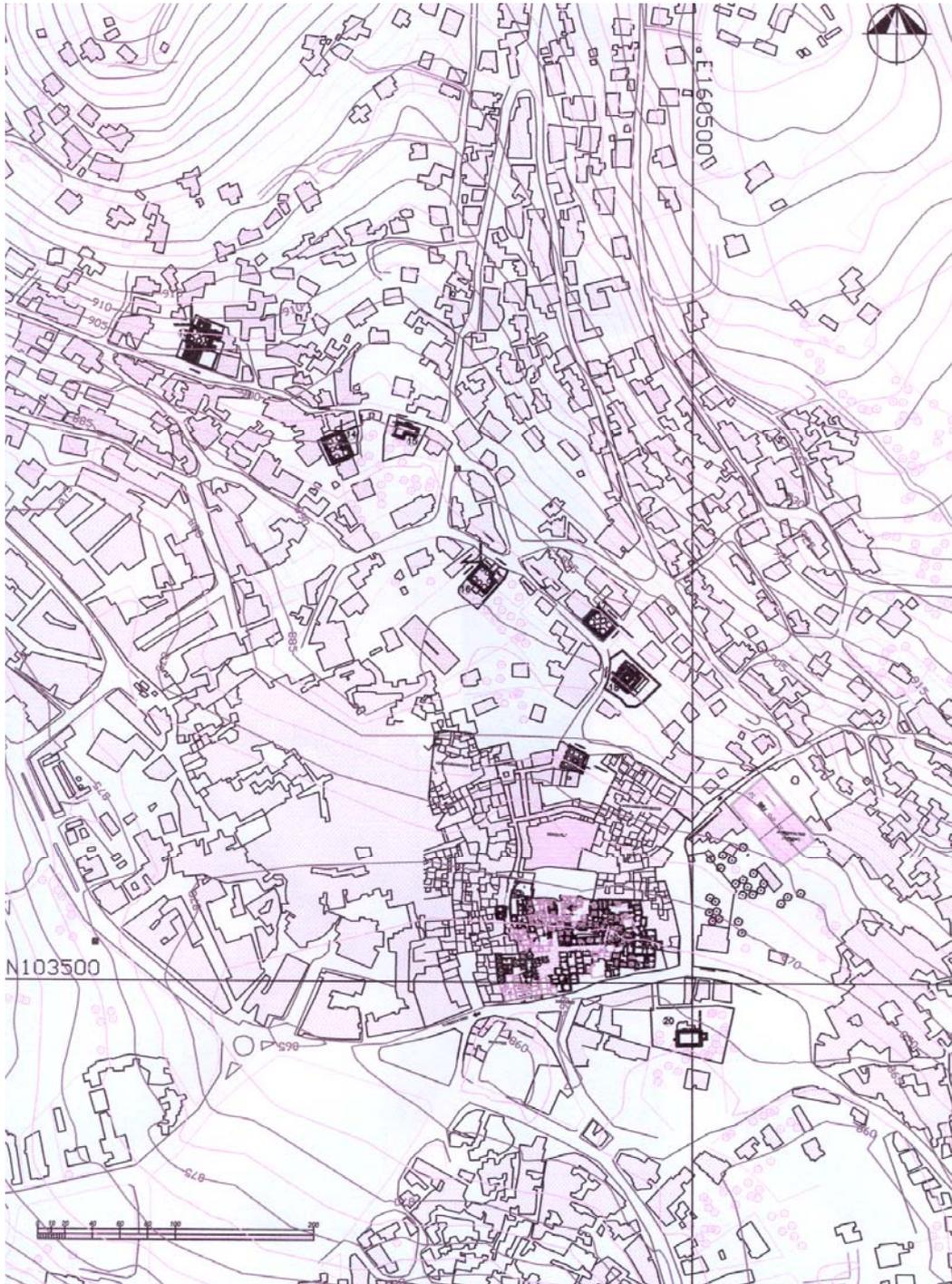


Figure 22: traditional town, site location, houses of: 13- Yusif al-Ja’bari, 14- Jabir al-Ja’bari, 15- ‘Abdul ‘af al-Ja’bari, 16- Mosa an-Natshih, 17- Abdul -Aziz an-Natshih, 18- Murtada ad-Duaik, 19- Kasir ad-Duaik, and 20- Hamzah Shahin

Source: (PNA-MLG)



Figure 19: eighteen hosh in neighborhood. Source: original map HRC archive

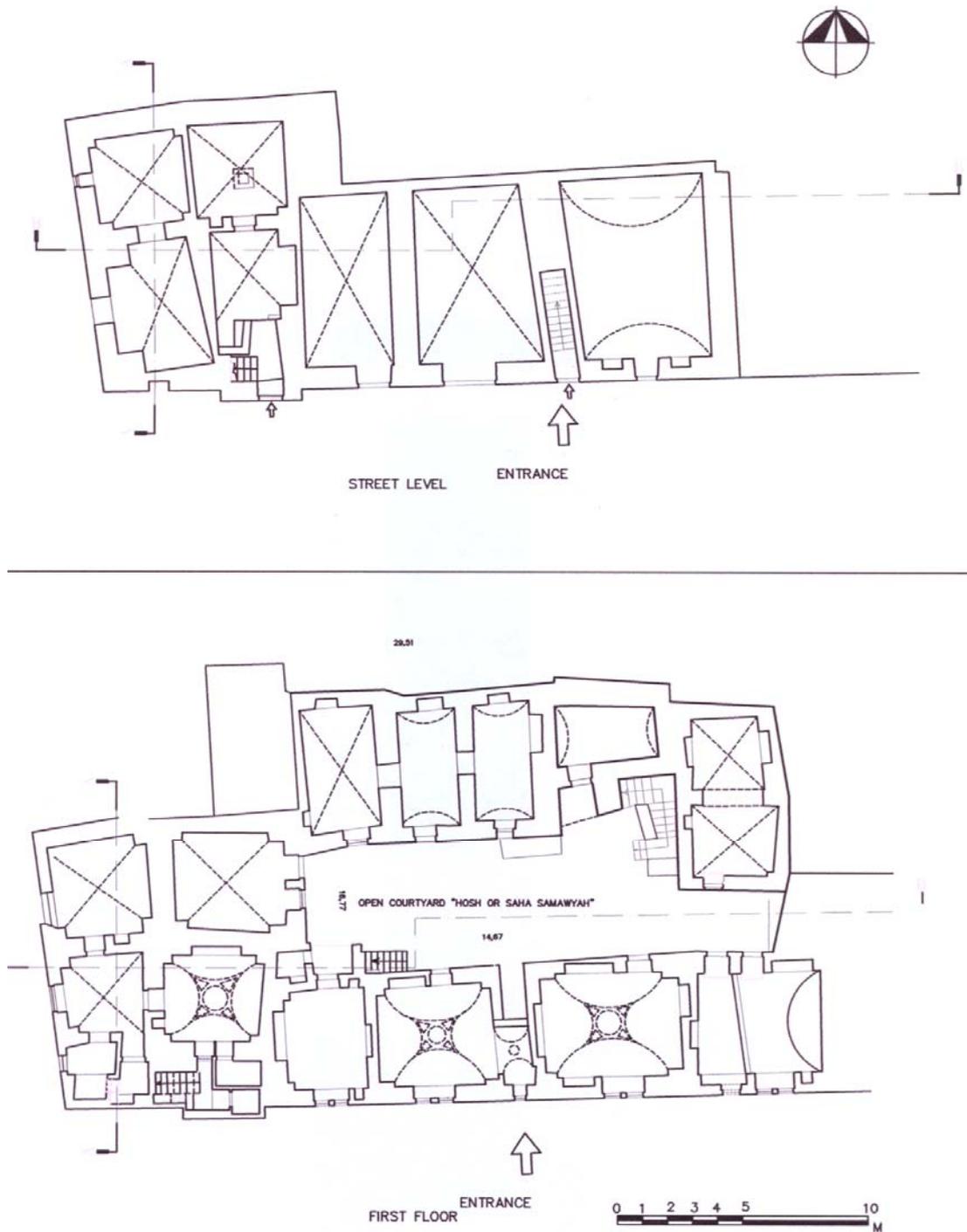


Figure 24: Al-Khateeb hosh, street level (ground floor) and courtyard (first floor) level floor plans. Source: HRC archive

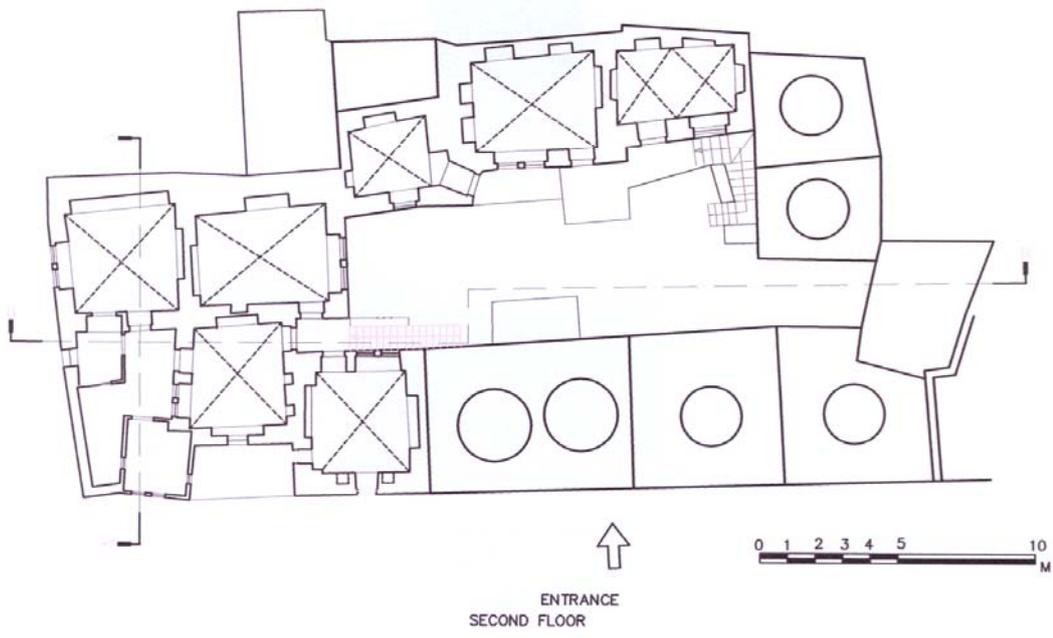
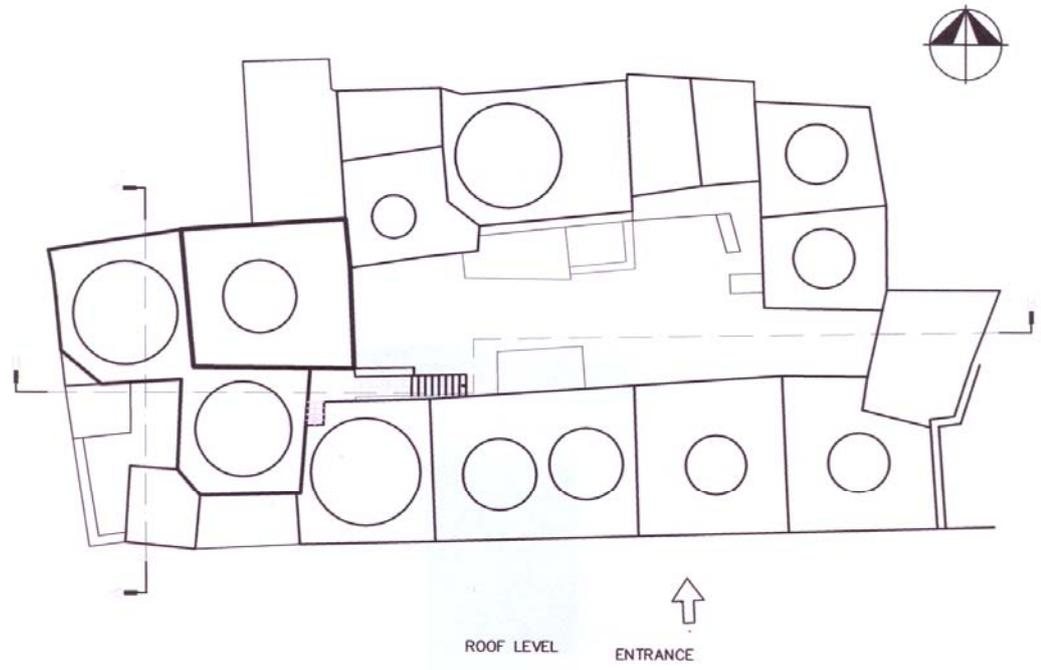


Figure 25: Al-Khateeb hosh, second floor level and roof level floor plans
Source: HRC archive



Figure 26: Al-Khateeb hosh, sections and elevations
 Source: HRC archive



Figure 47: al- Shuhada Street



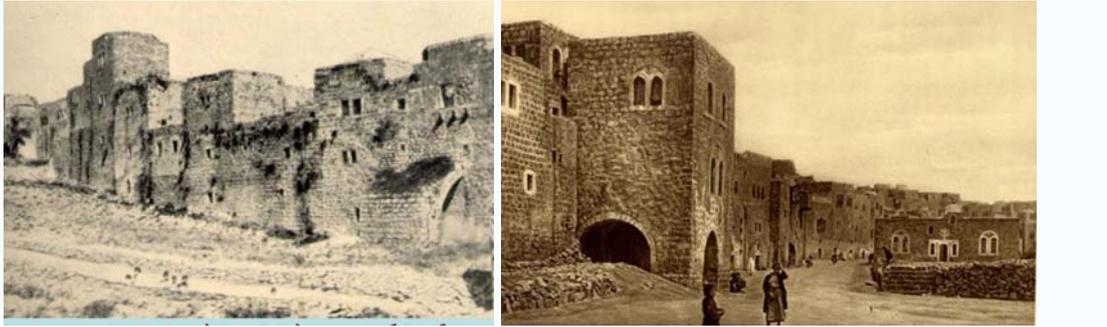
Figure 48: al- Shuhada Street



Figure 49: al- Shuhada Street



Figure 50: view of the traditional town from the south-west direction
Source: taken in 1890, HRC archive.



Figures 51 and 52: traditional town, al-Hoshiyyah neighborhood from south
Source: 1880s photographs, HRC archive.



Figure 53: panorama of Bani Dar neighborhood from north direction.



Figure 54: square located in Bani Dar neighborhood



Figure 55: square located in Bani Dar neighborhood

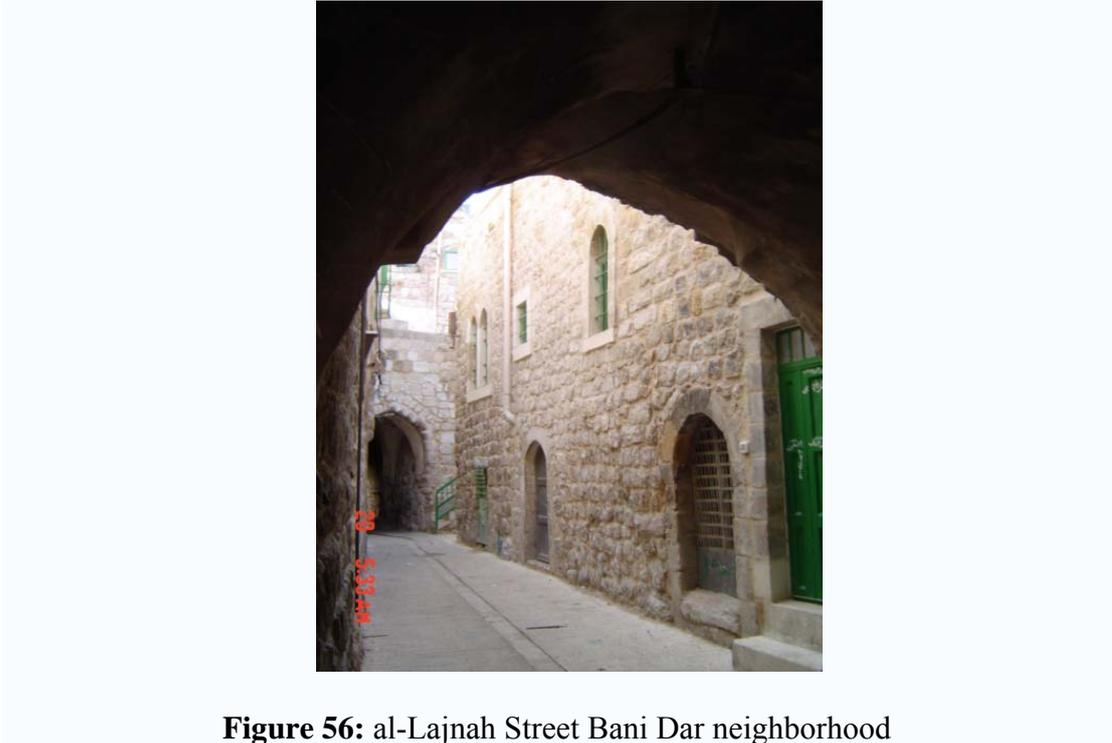
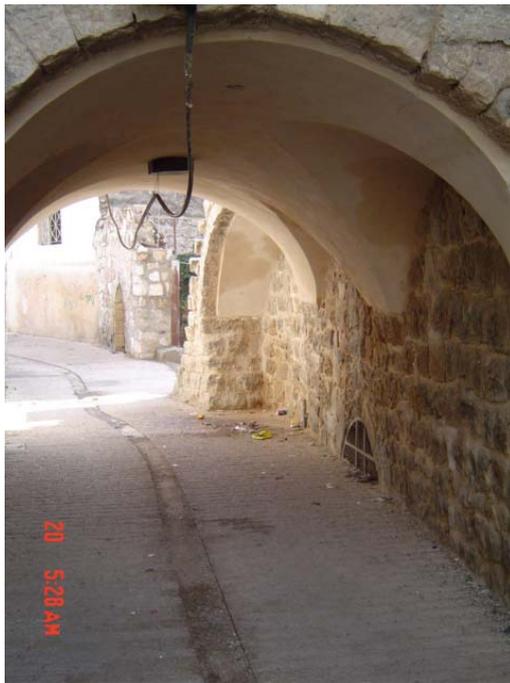


Figure 56: al-Lajnah Street Bani Dar neighborhood



Figures 57 and 58: ash-Shaykh Street Bani Dar neighborhood



Figure 59: Imam Zokak Bani Dar neighborhood



Figures 60, 61: Suq Al-Lalaben bazaar in al-Hoshiyyah neighborhood



Figures 62, 63, 64, and 65: Bani Dar neighborhood, al-khateeb hosh



Figure 66: twin window located the north wall's west side

Figure 67: twin window on the second a floor of the south elevation al-khateeb hosh



Figure 68: the south elevation left side at the upper level



Figure 69: street level window at the south-elevation.



Figure 70: a shop door at the street level in south elevation of al-khateeb hosh.



Figure 71: the Ibrahimiyy Sanctuary
Source: HRC archive



Figure 72: main (west) elevation, Yosef Abu-Snaynih house, Jerusalem Road



Figure 73: main (south) elevation, shohada street central-hall house



Figure 74: main (east) elevation, kaysi house Jerusalem street



Figure 75: main (east) elevation, Imman house, shuhada street



Figure 76: al-Kaliah neighborhood, al-Haram street



Figure 77: al-Kaliah neighborhood, al-Ja'abari house



Figure 78: Shuhada street, owner unknown



Figure 79: Shuhada Street, owner unknown



Figure 80: Ayn Sarah neighborhood, King Faysal Street, owner unknown



Figure 81: Al-Kalah neighborhood, Al-Haram street, owner unknown



Figure 82: Ayn Sarah neighborhood, King Faysal Street, owner unknown



Figure 83: Ali Imam house Shuhada street



Figure 84: Ayn Sarah neighborhood, King Faysal Street, owner unknown



Figure 85: Ayn Sarah neighborhood, Jerusalem road, Hebron University information center



Figure 86: Ayn Sarah neighborhood, King Faysal Street, owner unknown



Figure 87: Ayn Sarah neighborhood, King Faysal Street, owner unknown



Figure 88: Shuhada street, unknown owner



Figure 89: Shuhada street, unknown owner

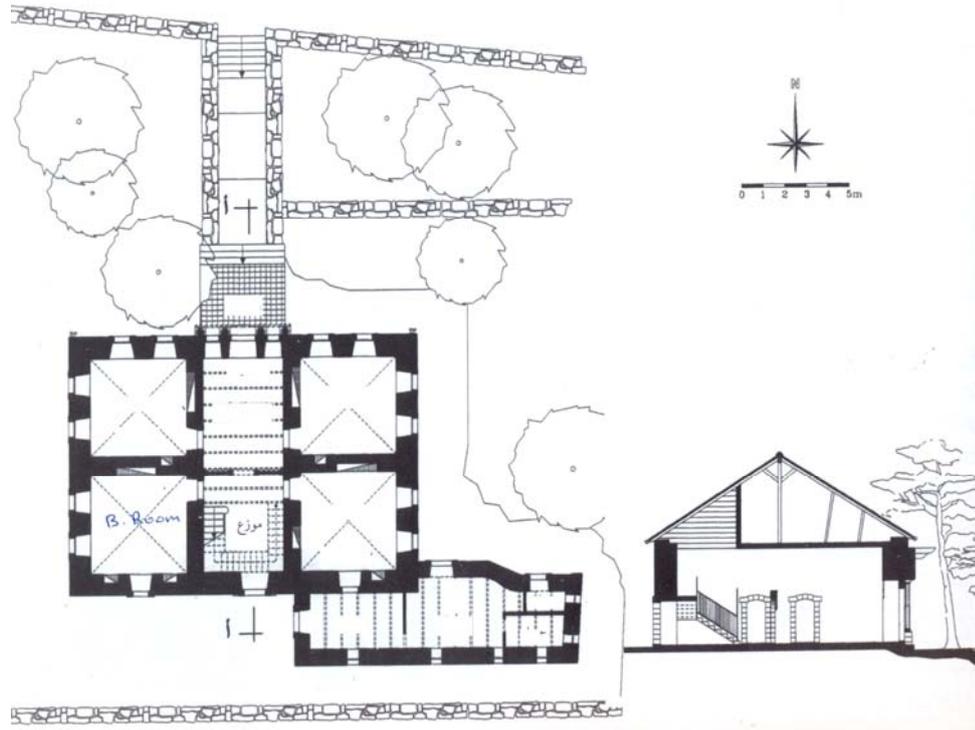


Figure 90: Al Dabas house-Ramallah constructed in 1902. Plan and section, then main elevation photograph

Source: Jubeh, N., KHALDON, B. (2002) Ramallah Architecture and History, Riwaq publications, Ramallah; 69 – 71.

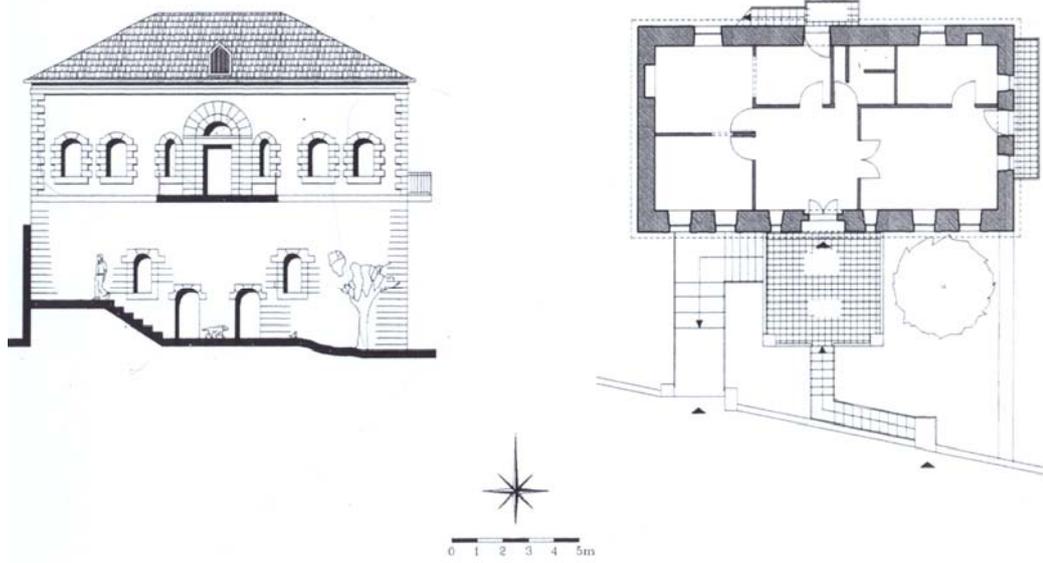


Figure 91: Ibrahim Salem Issa house-Ramallah constructed in 1911. Plan, elevation, and then main elevation photograph

Source: Jubeh, N., KHALDON, B. (2002) Ramallah Architecture and History, Riwaq publications, Ramallah; 82 – 84

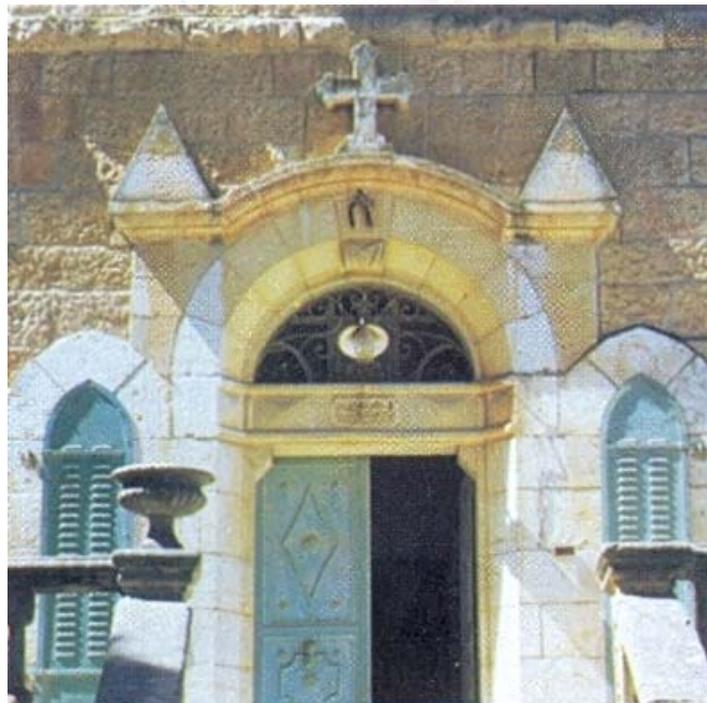
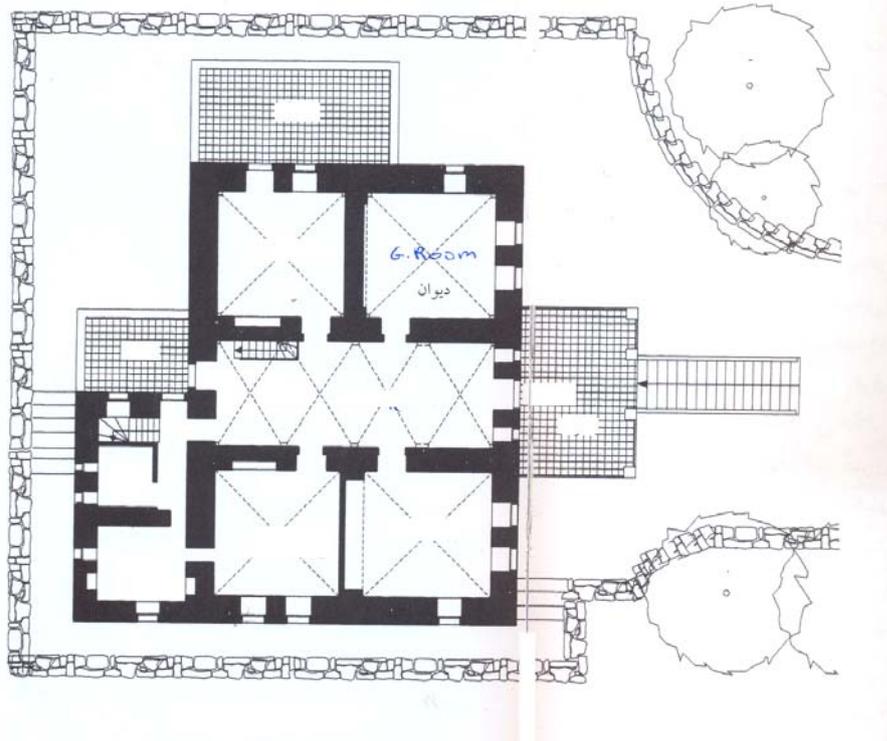


Figure 92: Ibrahim Al batih house-Ramallah constructed in 1922. Plan main entrance photograph
 Source: Jubeh, N., KHALDON, B. (2002) Ramallah Architecture and History, Riwaq publications, Ramallah; 111 – 112

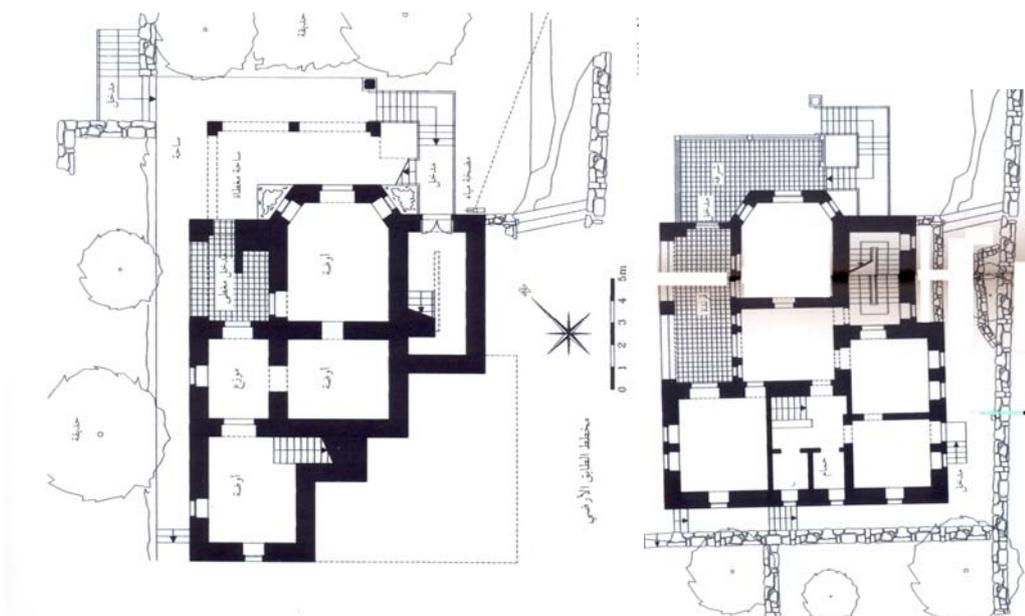


Figure 93: Halil Al batih house-Ramallah constructed in 1926. Plan and main elevation photograph

Source: Jubeh, N., KHALDON, B. (2002) Ramallah Architecture and History, Riwaq publications, Ramallah; 117 – 119

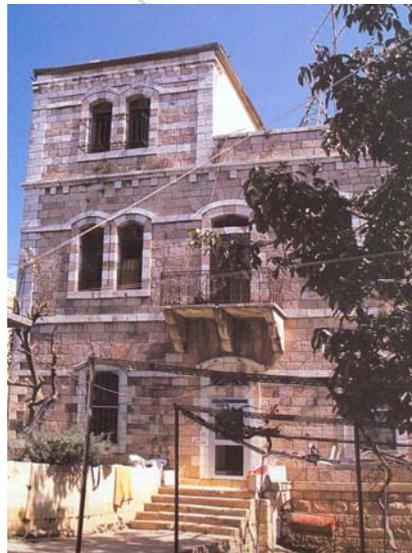
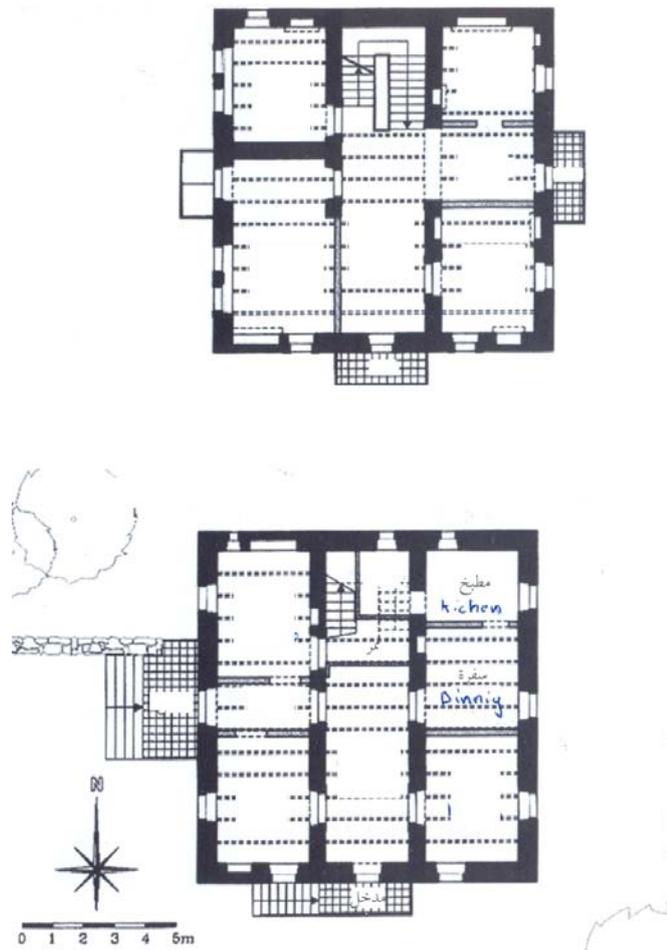


Figure 94: Mittri Al Dibgi house-Ramallah constructed in 1914. Plans, then main elevation photograph

Source: Jubeh, N., KHALDON, B. (2002) Ramallah Architecture and History, Riwaq publications, Ramallah; 93 – 94

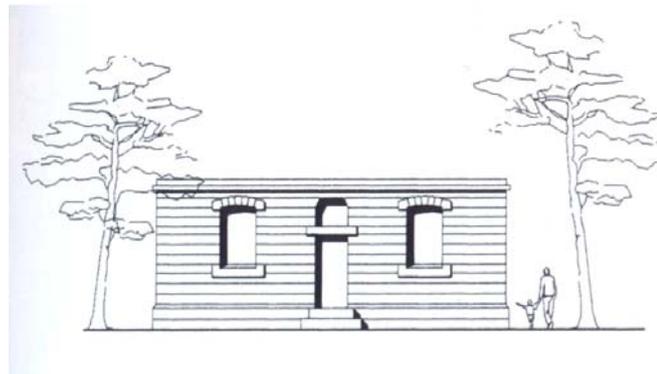
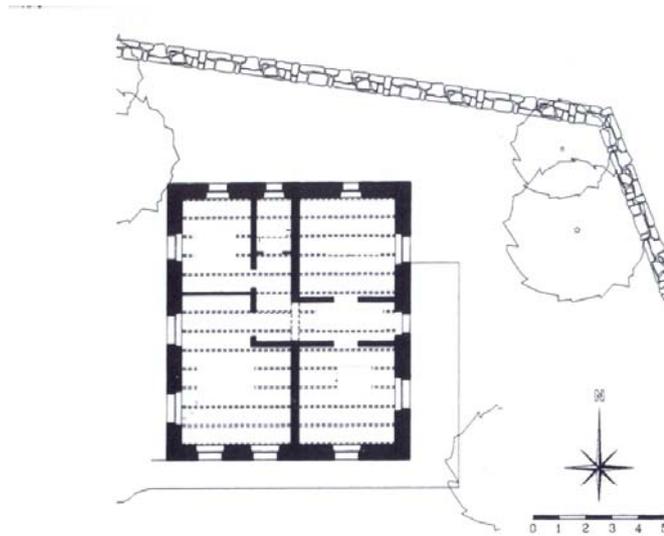


Figure 95: Mosa Jagab house-Ramallah constructed in 1932. Plan, elevation, and main elevation photograph

Source: Jubeh, N., KHALDON, B. (2002) Ramallah Architecture and History, Riwaq publications, Ramallah; 208 – 210

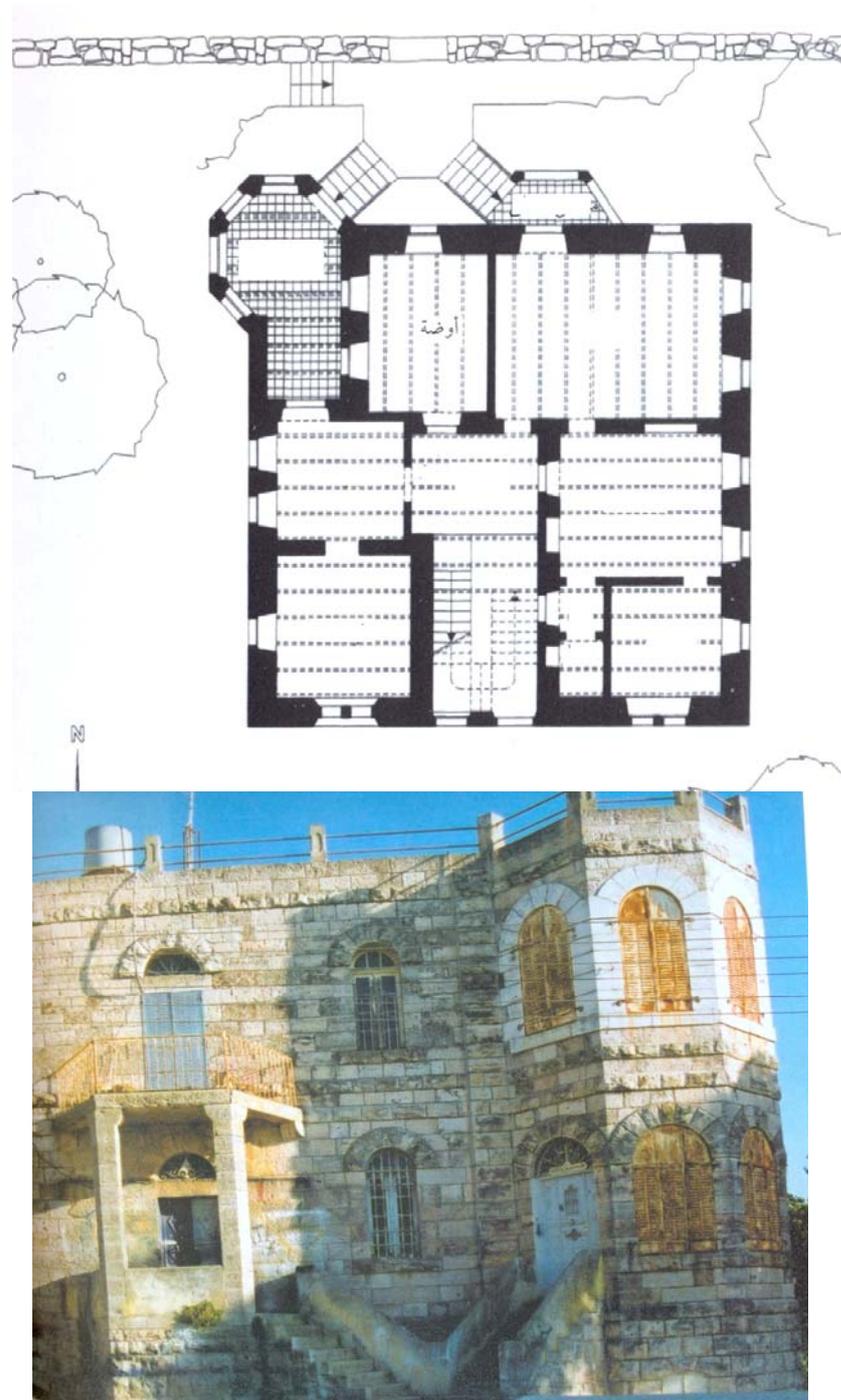


Figure 96: Jabber Salem -Ramallah constructed in 1922. Plan and main elevation photograph

Source: Jubeh, N., KHALDON, B. (2002) Ramallah Architecture and History, Riwaq publications, Ramallah; 132 – 134

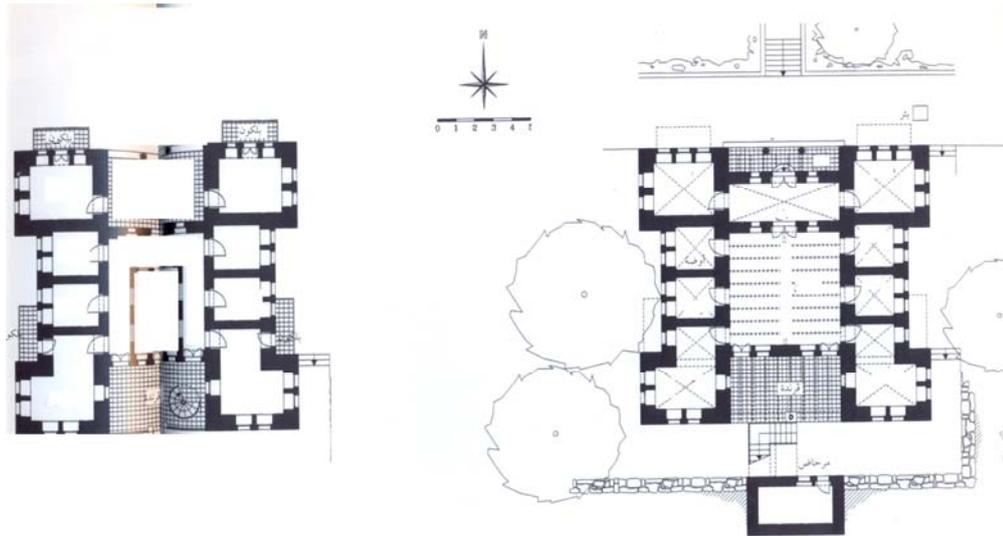


Figure 97: Rashed Fota -Ramallah constructed in 1922. Plans and main elevation photograph

Source: Jubeh, N., KHALDON, B. (2002) Ramallah Architecture and History, Riwaq publications, Ramallah; 120 – 124

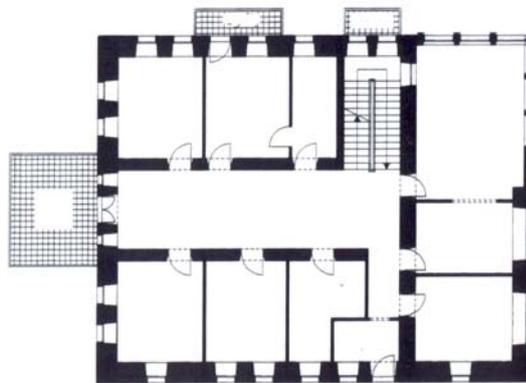
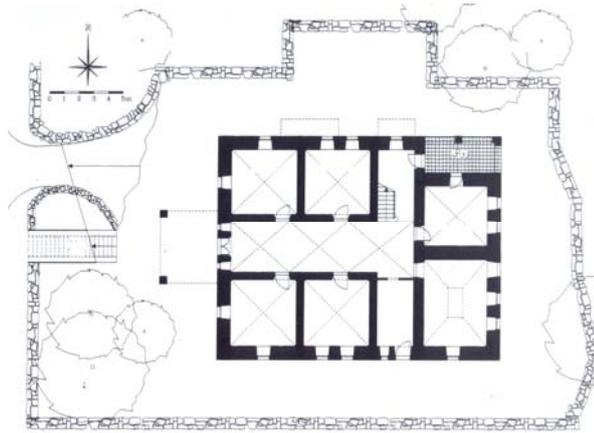


Figure 98: Karem Halaf -Ramallah constructed in 1928. Plans and main elevation photograph

Source: Jubeh, N., KHALDON, B. (2002) Ramallah Architecture and History, Riwaq publications, Ramallah; 164 – 169

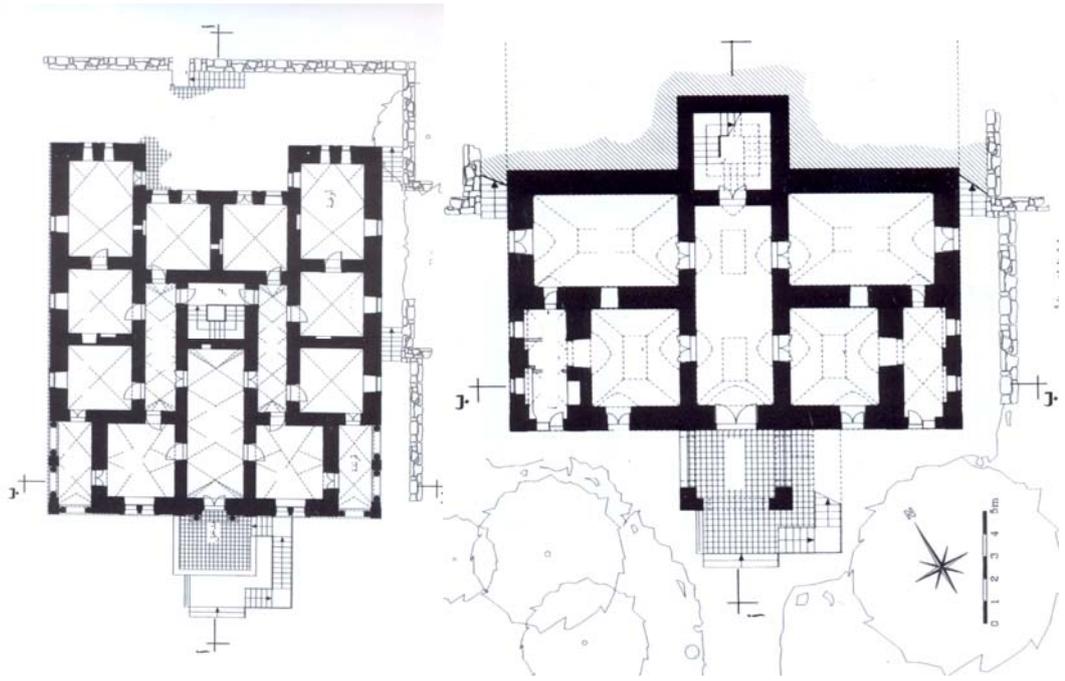


Figure 99: Rashed Jobran -Ramallah constructed in 1926. Plans and main elevation photograph

Source: Jubeh, N., KHALDON, B. (2002) Ramallah Architecture and History, Riwaq publications, Ramallah; 154 – 159

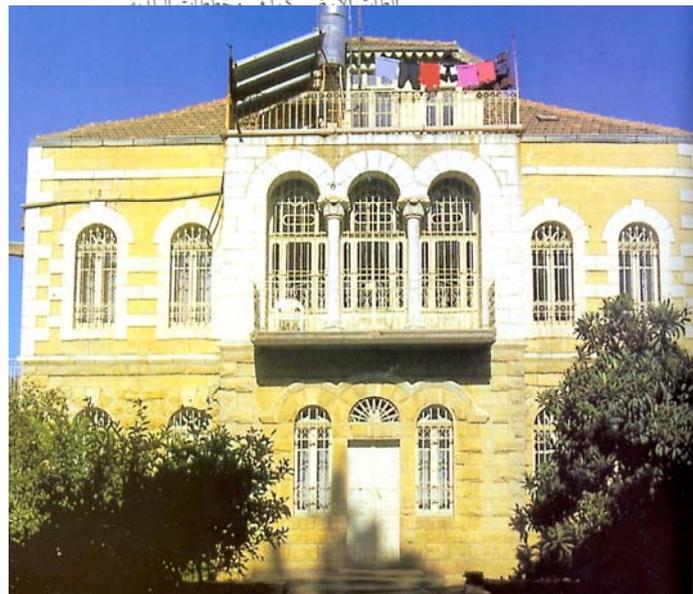
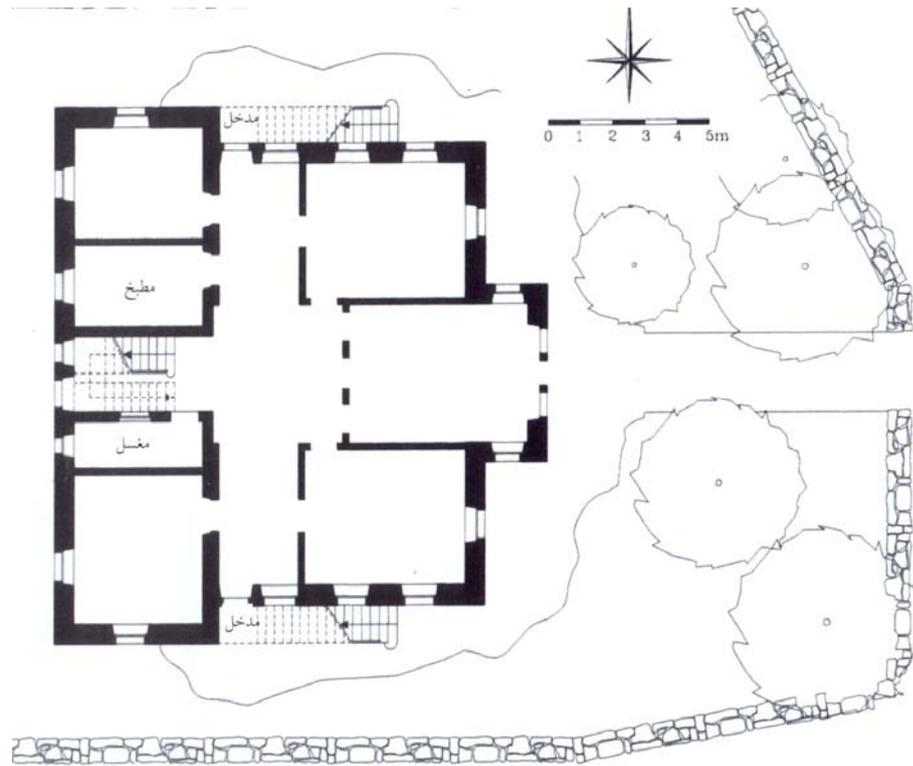


Figure 100: Salem Farah -Ramallah constructed in 1926. Plan and main elevation photograph

Source: Jubeh, N., KHALDON, B. (2002) Ramallah Architecture and History, Riwaq publications, Ramallah; 149 – 152

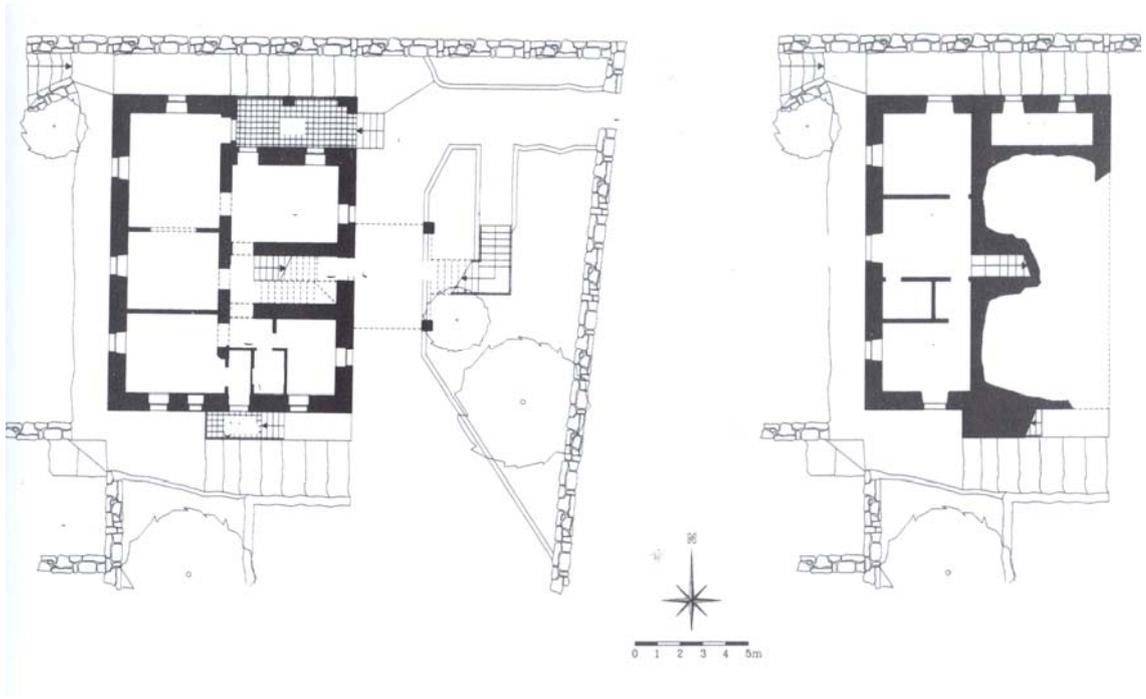


Figure 101: Yosef Al Batih -Ramallah constructed in 1930. |Basement, ground floor plans and main elevation photograph

Source: Source: Jubeh, N., KHALDON, B. (2002) Ramallah Architecture and History, Riwaq publications, Ramallah; 174 – 176

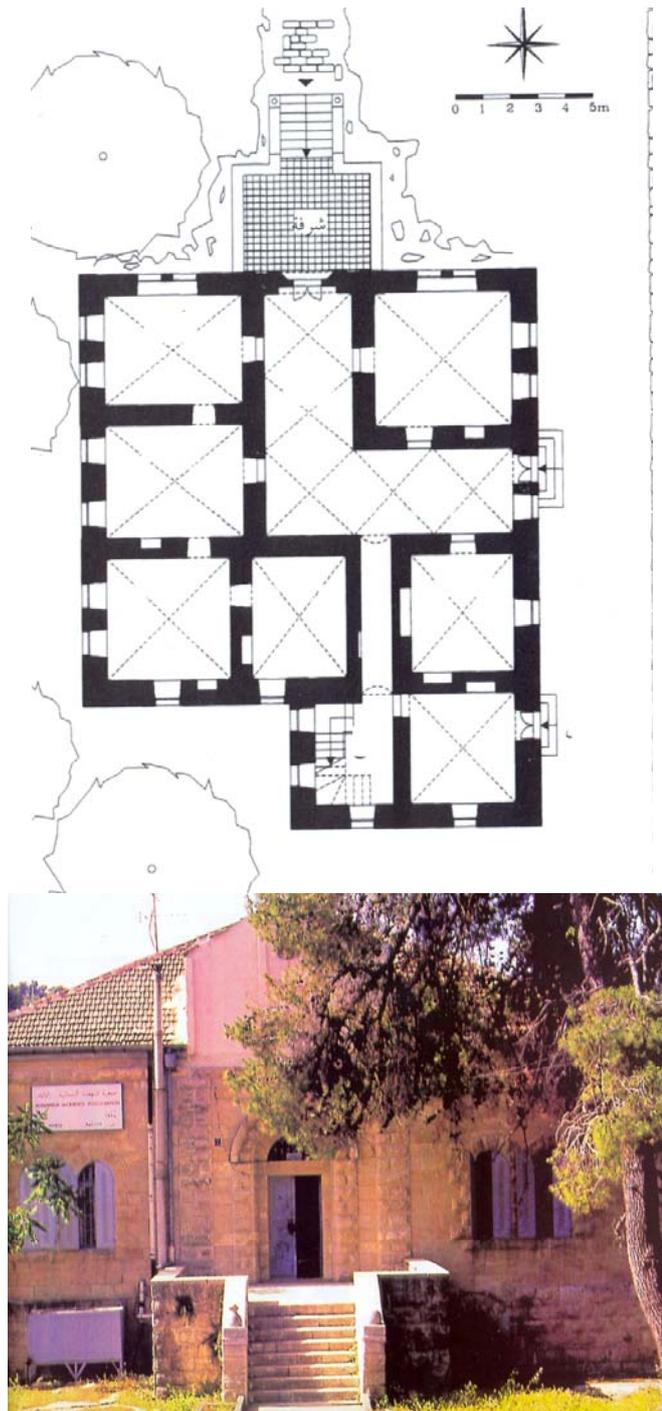


Figure 102: Ali Al Batih -Ramallah constructed in 1927. Plan and main elevation photograph

Source: Jubeh, N., KHALDON, B. (2002) Ramallah Architecture and History, Riwaq publications, Ramallah; 160 – 162

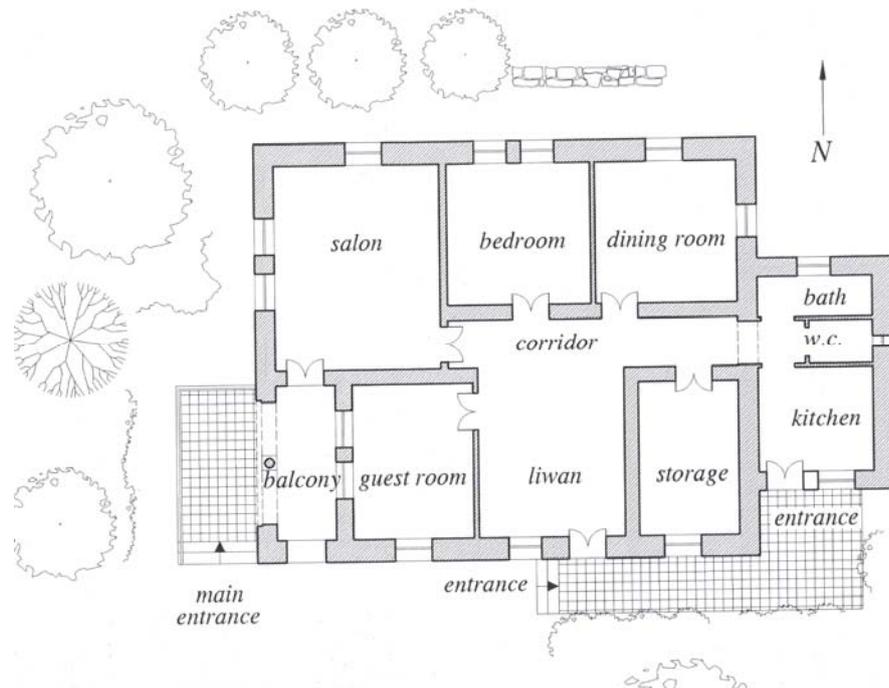


Figure 103: Olaybo house - Jerusalem constructed in 1930. Ground floor plan and south-west elevations photograph
 Khasawneh, D. (2001) Memories engraved in stone Palestinian urban mansions, Riwaq publications, Ramallah;106 – 107

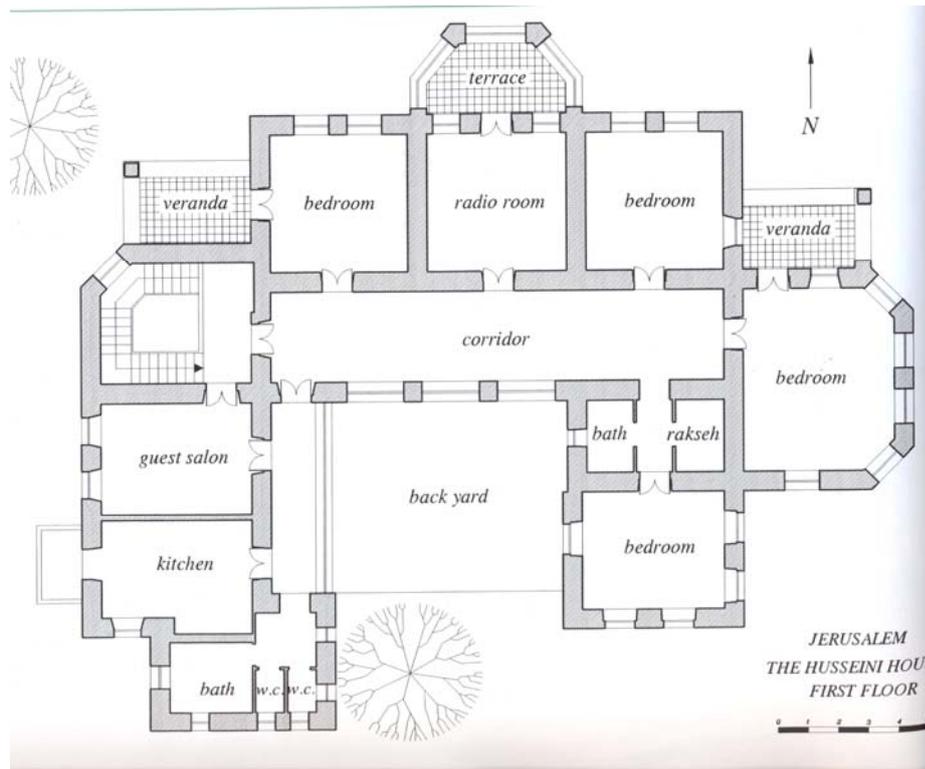


Figure 104: Saied Hosayni - Jerusalem constructed in 1902. Ground floor plan and north (main) elevation photograph

Source: Khasawneh, D. (2001) Memories engraved in stone Palestinian urban mansions, Riwaq publications, Ramallah; 99 – 100

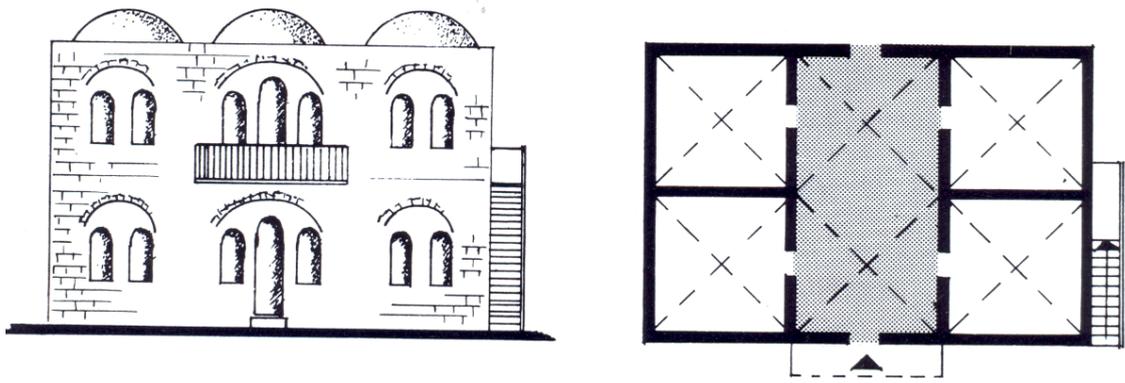
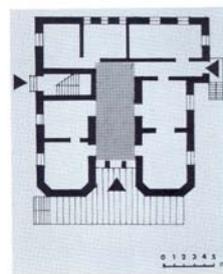


Figure 105: Central-hall - Jerusalem constructed in 1911. Plan and elevation
 Source: Koryanker, D. (1991) Jerusalem Architecture-Periods and Styles Arab Buildings outside the Old City Walls, Bet Kether publication, Jerusalem; 72

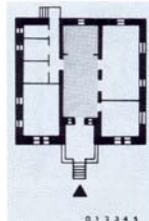


שני אנגלים בולטים וקטע חזית מרכזי שקוע אופייני לבתי-דירות
 ערביים רבים מתקופת המנדט.



תוכנית אופיינית לפיה מחולק הבית לשלוש קבוצות של חדרים. ליואן
 מרכזי עם שורת חדרים משני צדיו.

Figure 106: Central-hall - Jerusalem constructed in 1911. Plan and perspective
 Source: Koryanker, D. (1991) Jerusalem Architecture-Periods and Styles Arab Buildings outside the Old City Walls, Bet Kether publication, Jerusalem; 275



תוכנית הבית: לואן מרכזי עם חדרים משני צדיו.

Figure 107: Central-hall - Jerusalem constructed in 1916. Plan and perspective
 Source: Koryanker, D. (1991) Jerusalem Architecture-Periods and Styles Arab
 Buildings outside the Old City Walls, Bet Kether publication, Jerusalem; 374



Figure 108: Central-hall - Jerusalem constructed in 1918. Perspective
 Source: Koryanker, D. (1991) Jerusalem Architecture-Periods and Styles Arab
 Buildings outside the Old City Walls, Bet Kether publication, Jerusalem; 22



Figure 109: Central-hall - Jerusalem constructed in 1898. Perspective
Source: Koryanker, D. (1991) Jerusalem Architecture-Periods and Styles Arab
Buildings outside the Old City Walls, Bet Kether publication, Jerusalem; 177



Figure 110: Ahmed Ishtayeh Central hall houses - Jerusalem constructed in 1929.
Main elevation and Central-hall looking east



Figure 111: Kaled Kamal Central hall houses-Jerusalem constructed in 1935
Main west elevation, then south elevation



Figure 112: Yosef Kastero Central hall houses-Jerusalem constructed in 1938. Main
elevation west, then Central-hall facing west then east



Figure 113: Al Hilal central hall houses-Jerusalem constructed in 1922. Main north elevation and main entrance

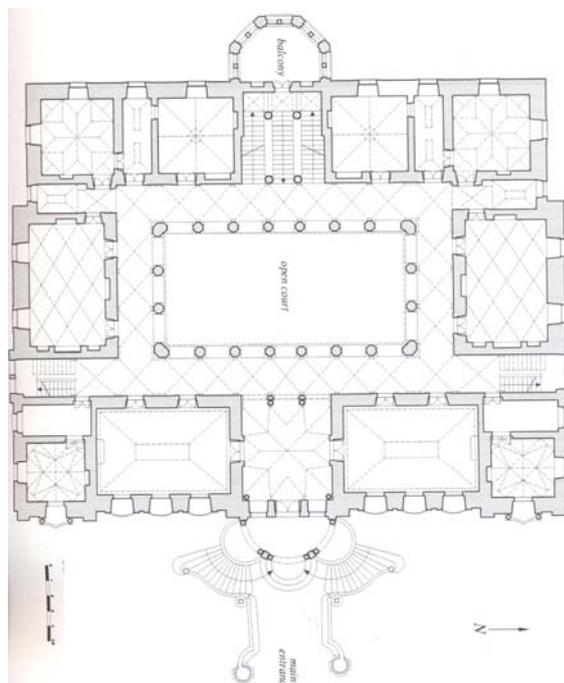


Figure 114: Jaser palace - Bethlehem constructed in 1914. Plan and main elevation
 Source: Khasawneh, D. (2001) Memories engraved in stone Palestinian urban mansions, Riwaq publications, Ramallah; 24

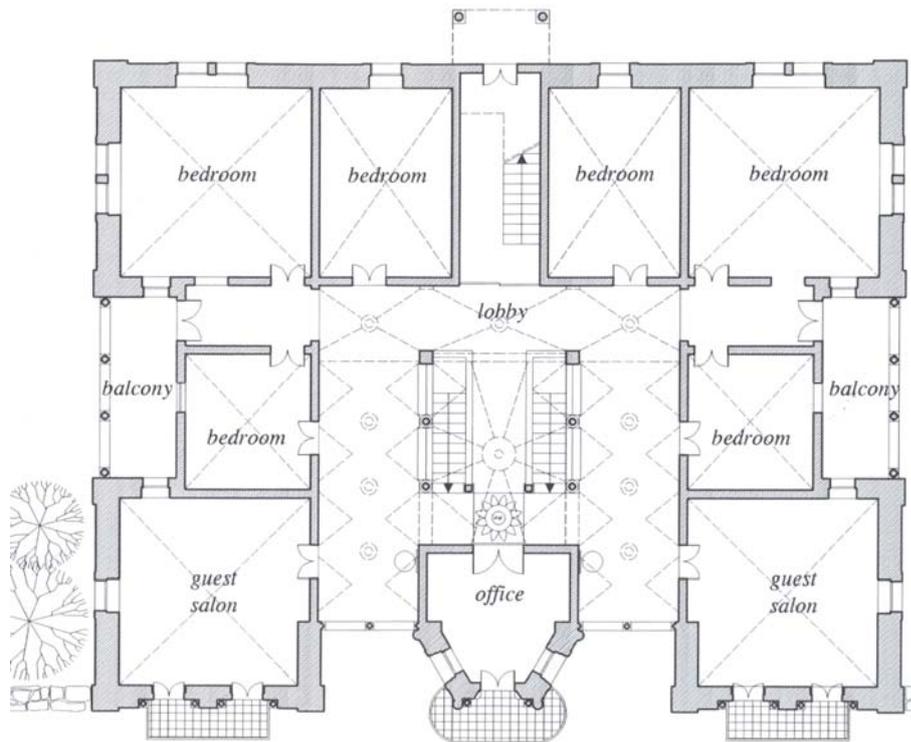


Figure 115: Shahwan house - Bethlehem constructed in 1917. Plan and man elevation

Plan

Source: Khasawneh, D. (2001) Memories engraved in stone Palestinian urban mansions, Riwaq publications, Ramallah; 36



Figure 116: Central-hall house – Bethlehem, El mahed street



Figure 117: Central-hall house – Bethlehem, El mahed street



Figure 118: Central-hall house – Bethlehem, El mahed street



Figure 119: Central-hall house – Bethlehem, Jerusalem rood



Figure 120: Central-hall house – Bethlehem, Jerusalem rood

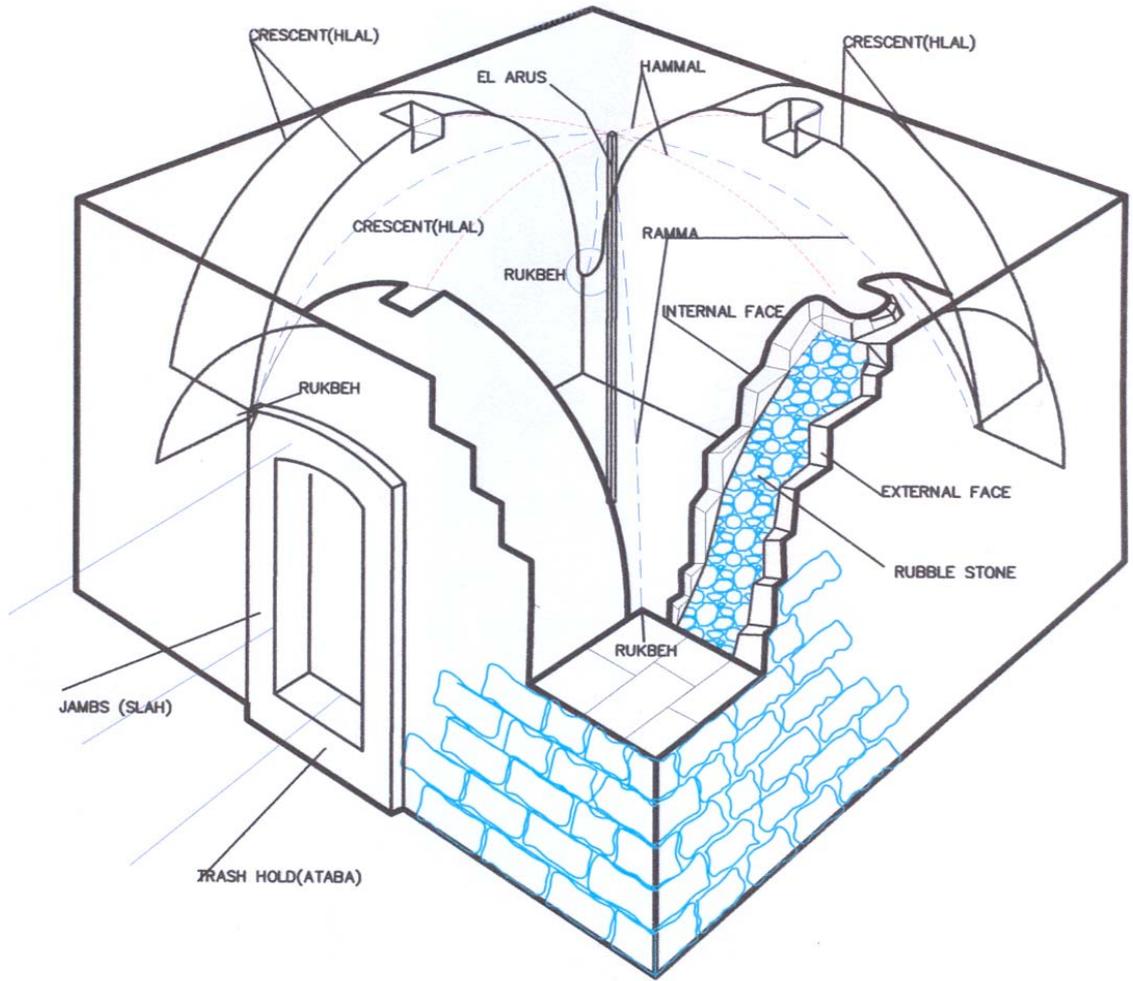


Figure 121: Sketch of a cross vaulted room

1. Muhammad iz-Zhayyar House

Photographs: figure 1.1 to figure 1.7

Drawings: figure D 1.1, figure D 1.2, figure D 1.3 and figure D 1.4



Figure 1.1: Main Elevation (West)



Figure 1.2: South Elevation



Figure 1.3: space 1.3, south-west corner



Figure 1.4: space 1.2, north wall



Figure 1.5: entrance on south elevation



Figure 1.6: space 1.8, niches



Figure 1.7: space 1.1, north wall

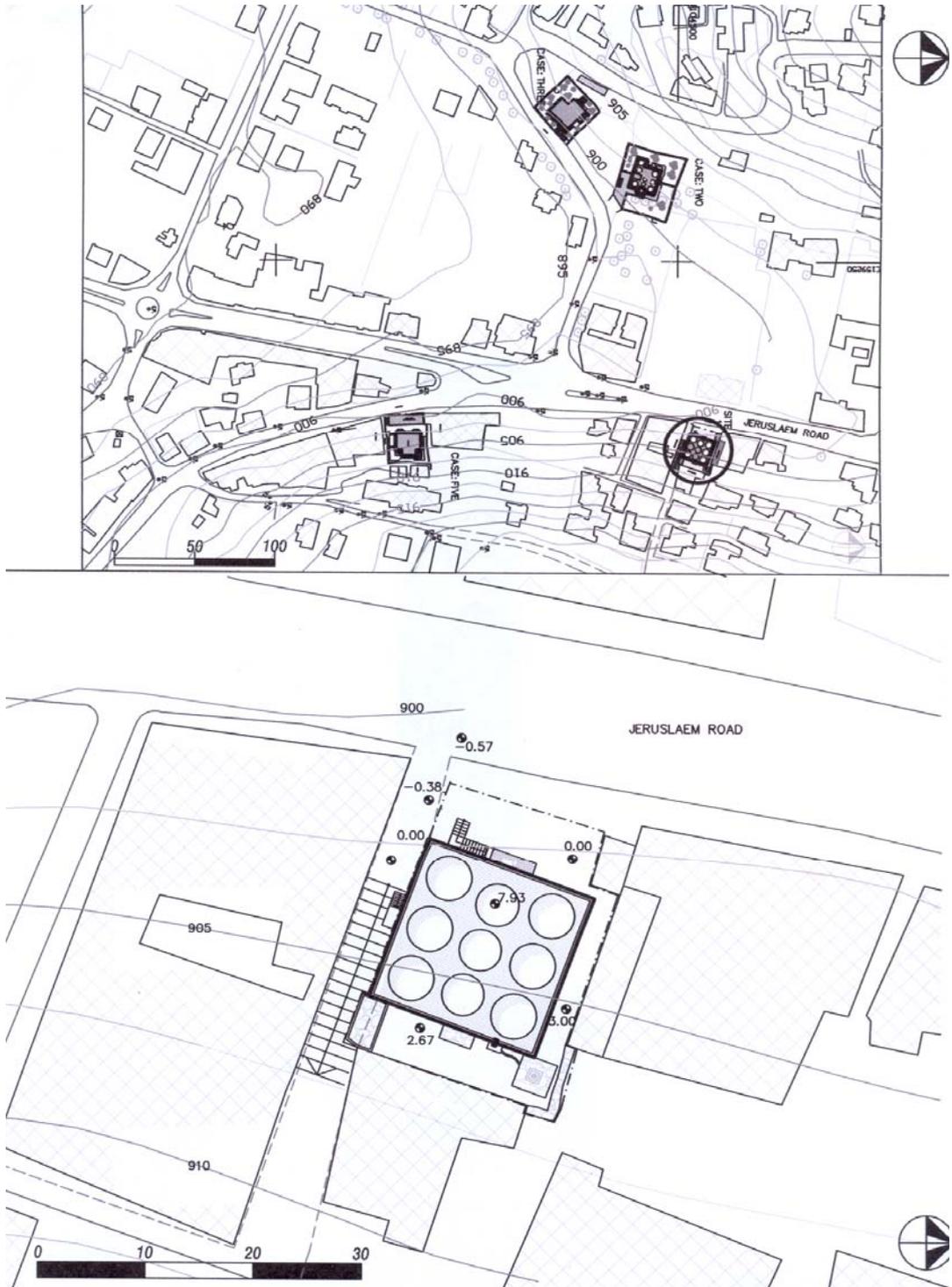


Figure D 1.1: Site Location and Site Plan

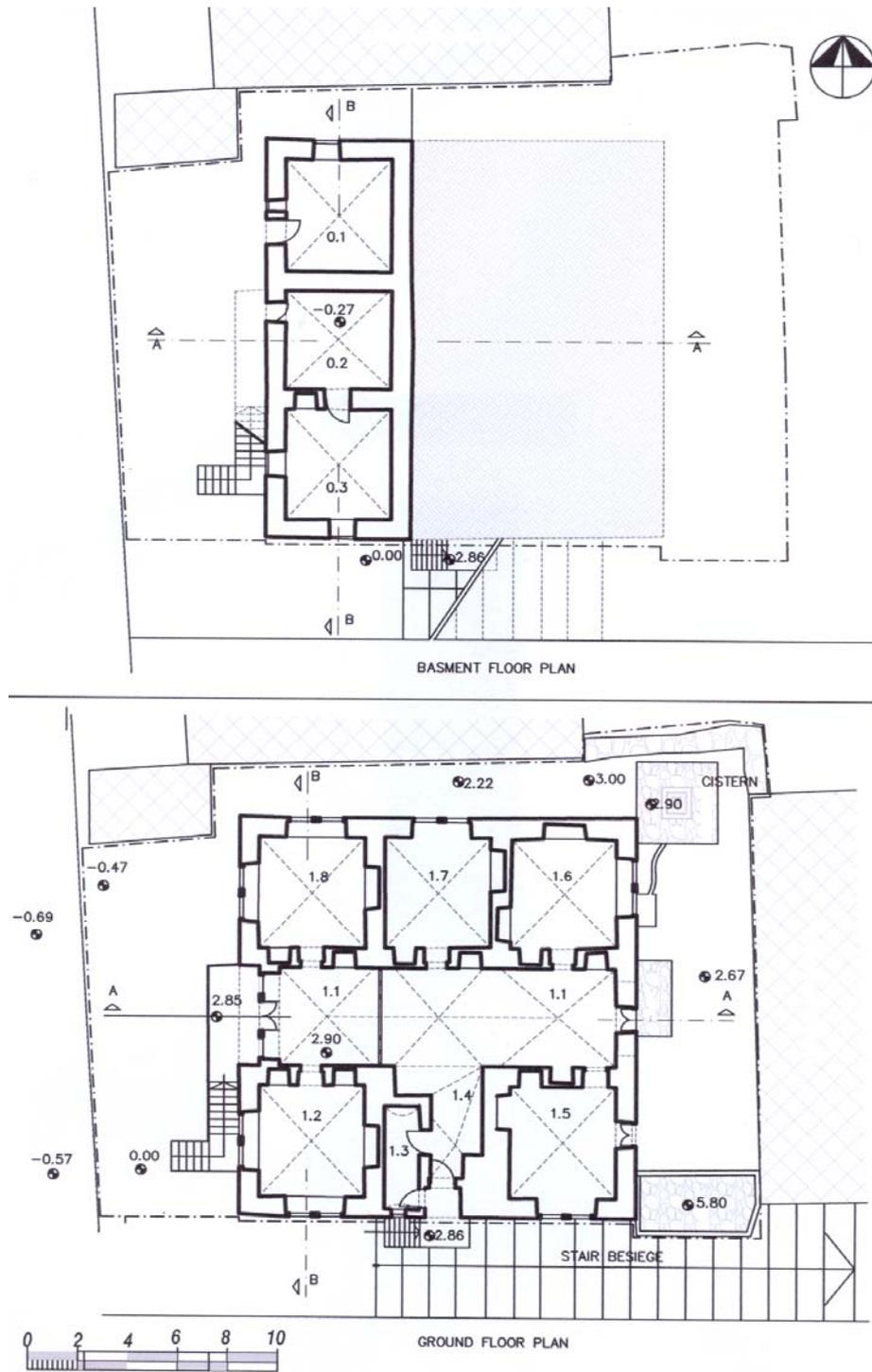


Figure D 1.2: Basement and Ground Floor Plans

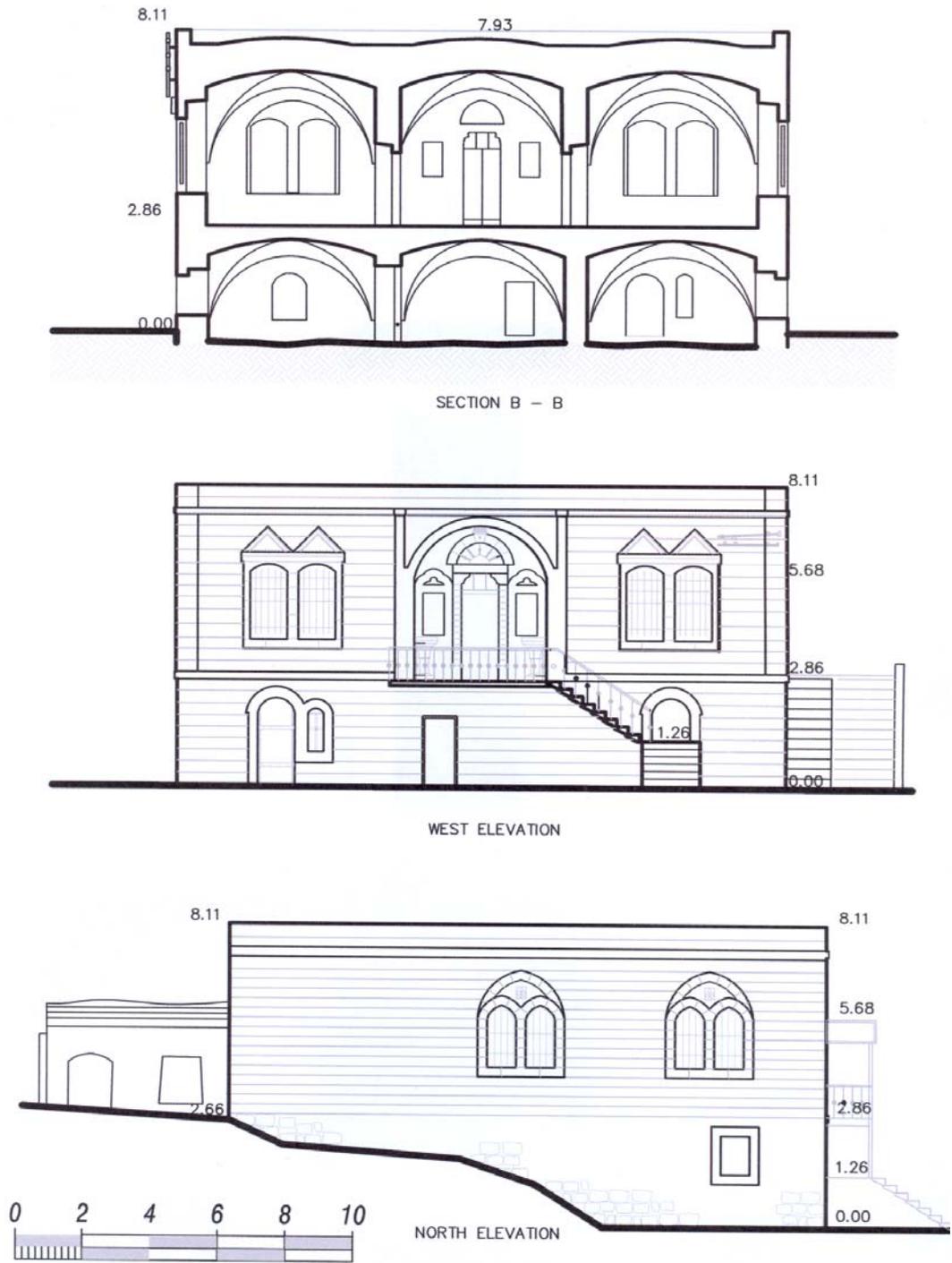


Figure D 1.3: section and elevations, sheet one

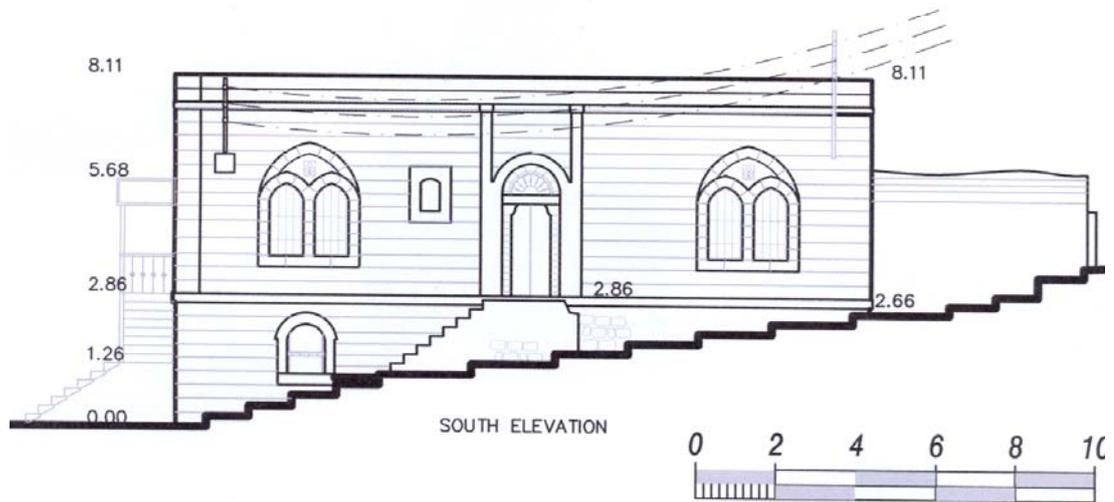
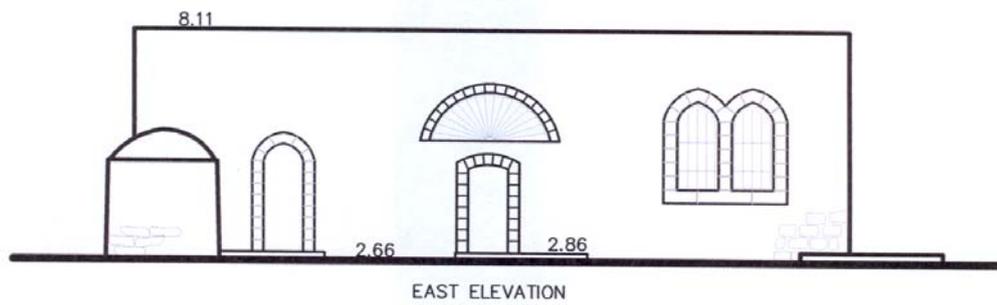
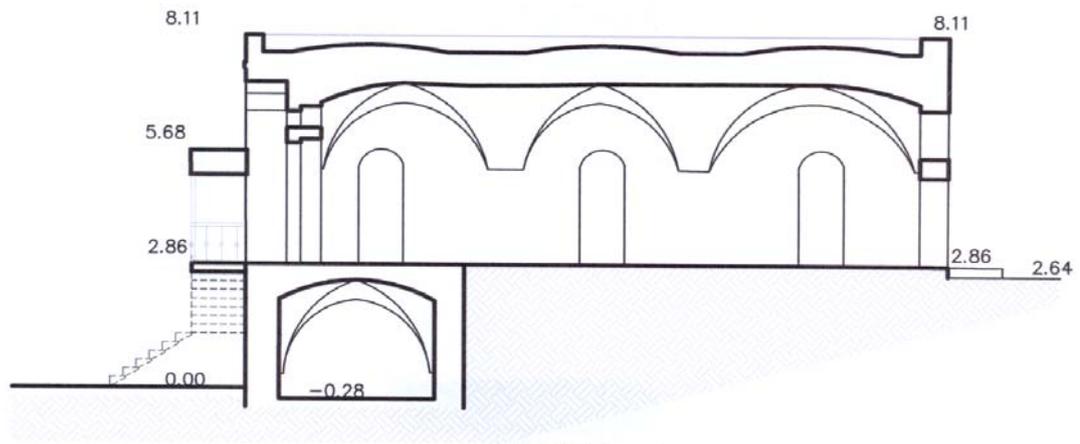


Figure D 1.4: section and elevations, sheet two

2. 'Iz id-Din al-Hammory House

Photographs: figure 2.1 to figure 2.10

Drawings: figure D 2.1, figure D 2.2, figure D 2.3, and figure D 2.4



Figure 2.1: East Elevation



Figure 2.2: South Elevation



Figure 2.3: ground floor entrance
, south elevation



Figure 2.4: ground floor entrance veranda entrance

Figure 2.5: space 1.5 first floor entrance

From inside looking east



Figure 2.6: space 1.5 staircase space to first floor



Figure 2.7: space 1.6, north wall



Figure 2.8: space 0.8, north-east corner



Figure 2.9: space 1.2, west wall



Figure 2.10: space 1.2, east wall



Figure D 2.1: Site Location and Site Plan

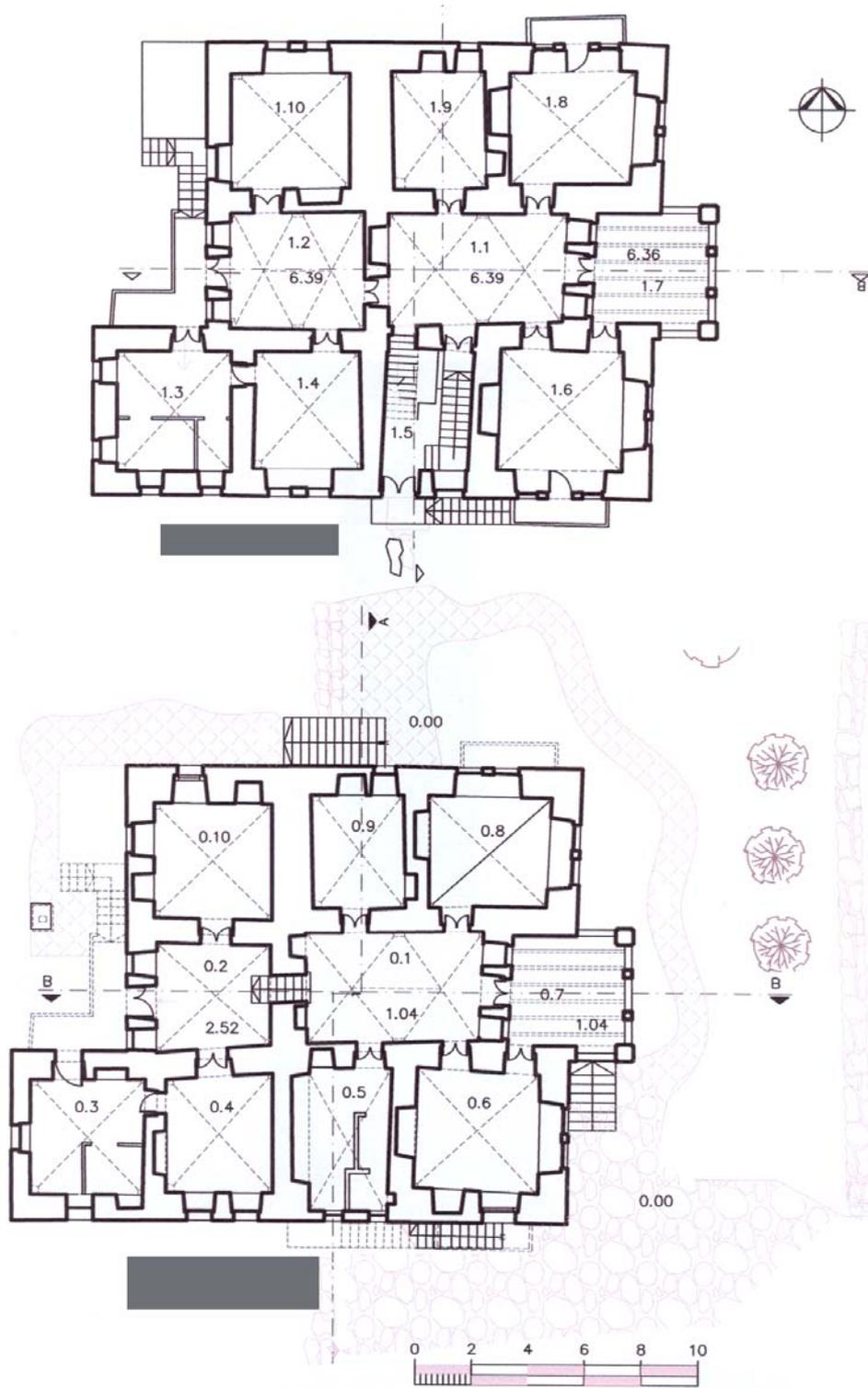


Figure D 2.2: Ground and First Floor Plans

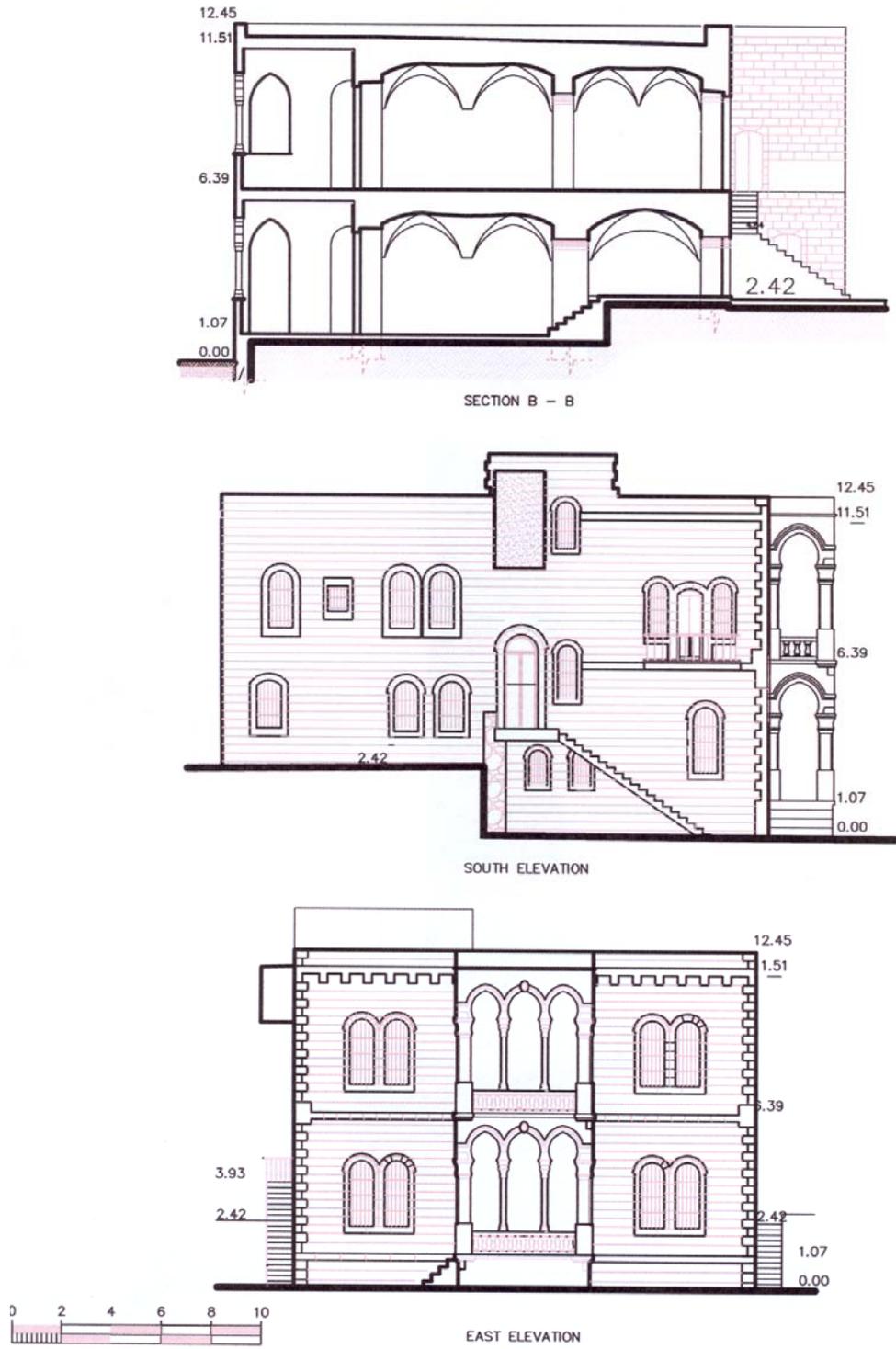


Figure D 2.3: sections and elevations, sheet one

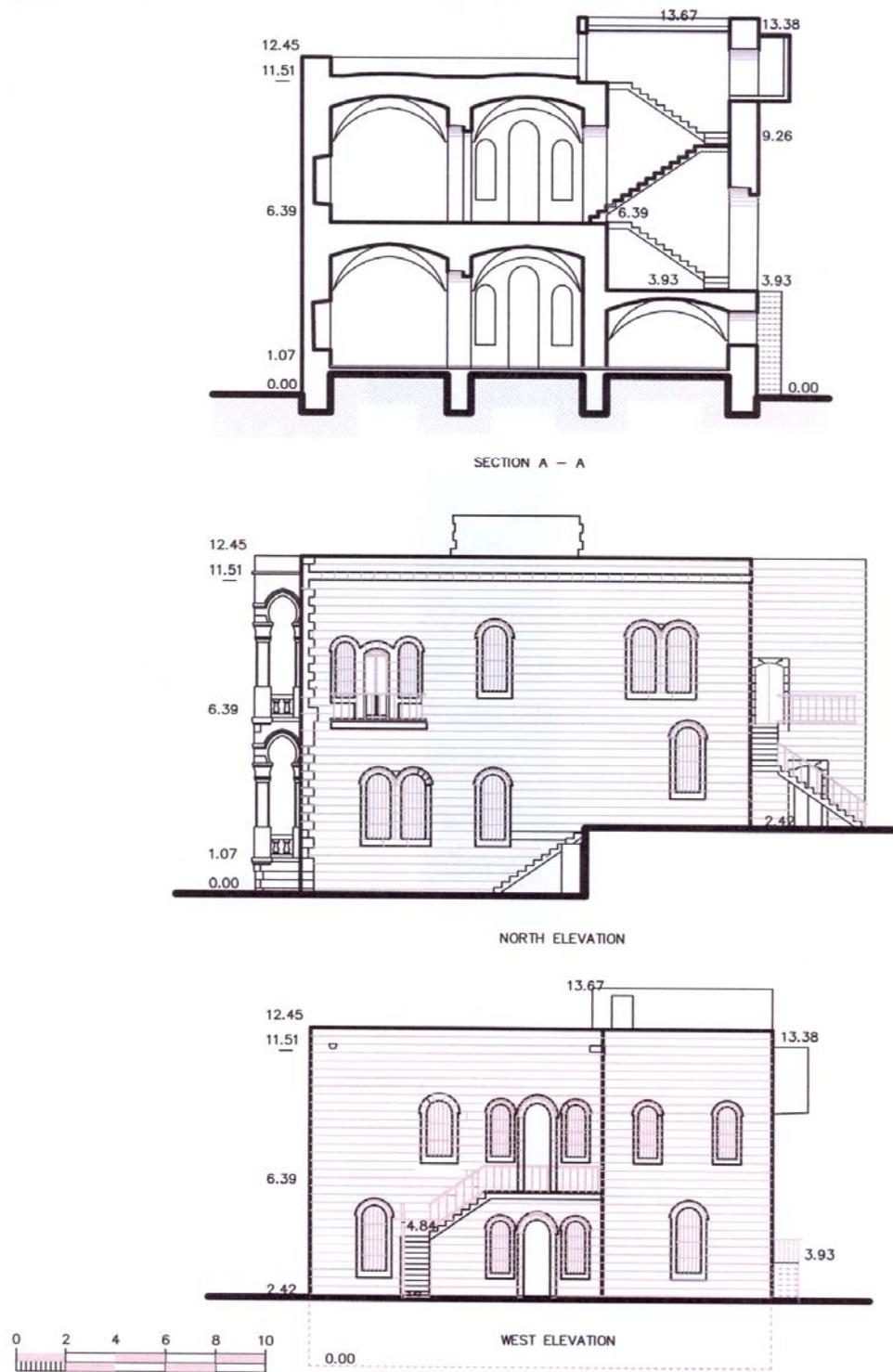


Figure D 2.4: sections and elevations, sheet two

3: Atif al- Hammury House

Photographs: figure 3.1 to figure 3.8

Drawings: figure D 3.1, figure D 3.2, figure D3.3, and figure D3.4



Figure 3.1: East Elevation



Figure 3.2: North Elevation



Figure 3.3: South Elevation



Figure 3.4: East Elevation, entrance details



Figure 3.5: East Elevation, twin-window



Figure 3.6: East Elevation, entrance recess



Figure 3.7: space 0.1, east wall corner



Figure 3.8: space 0.2, north-west corner

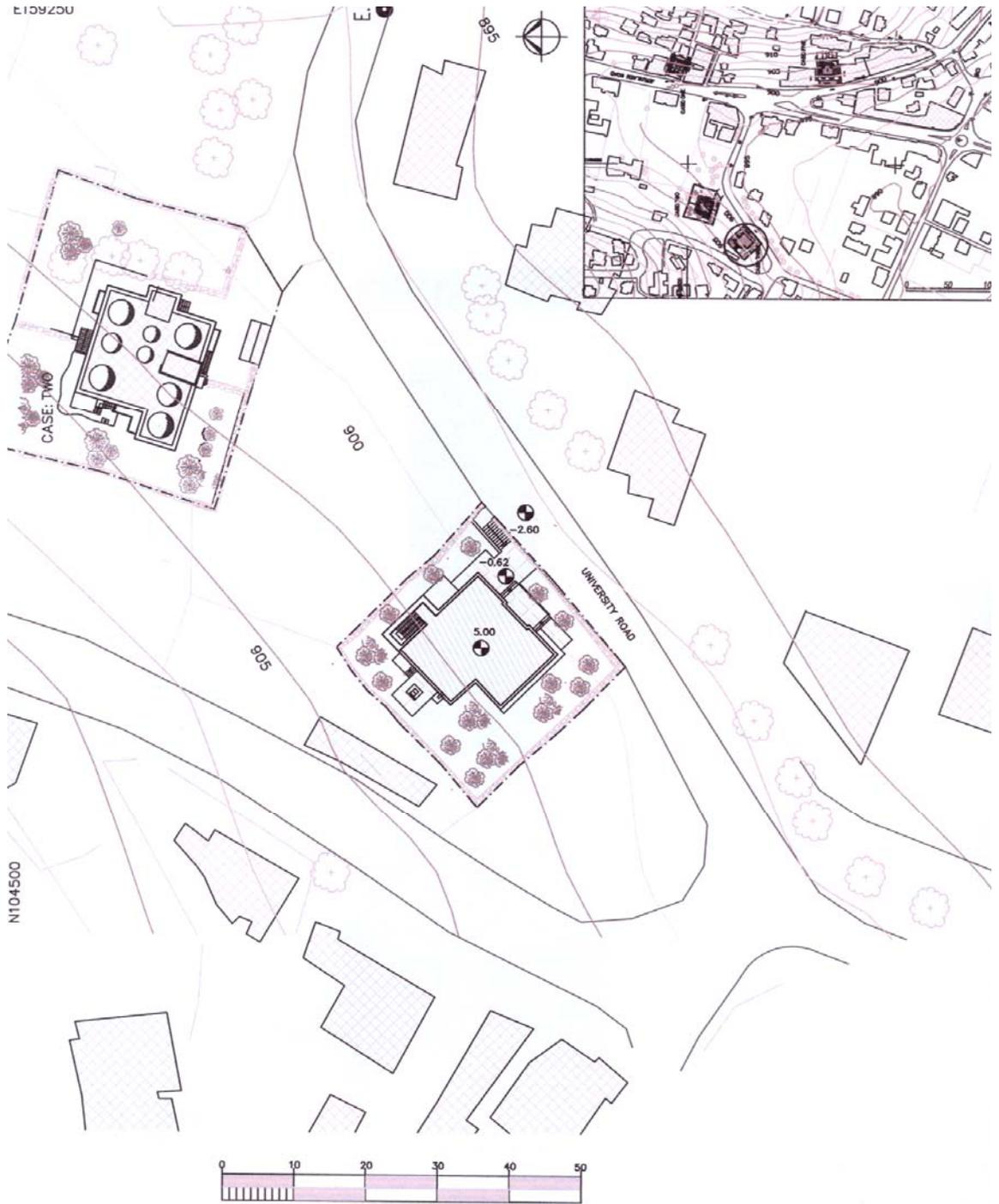
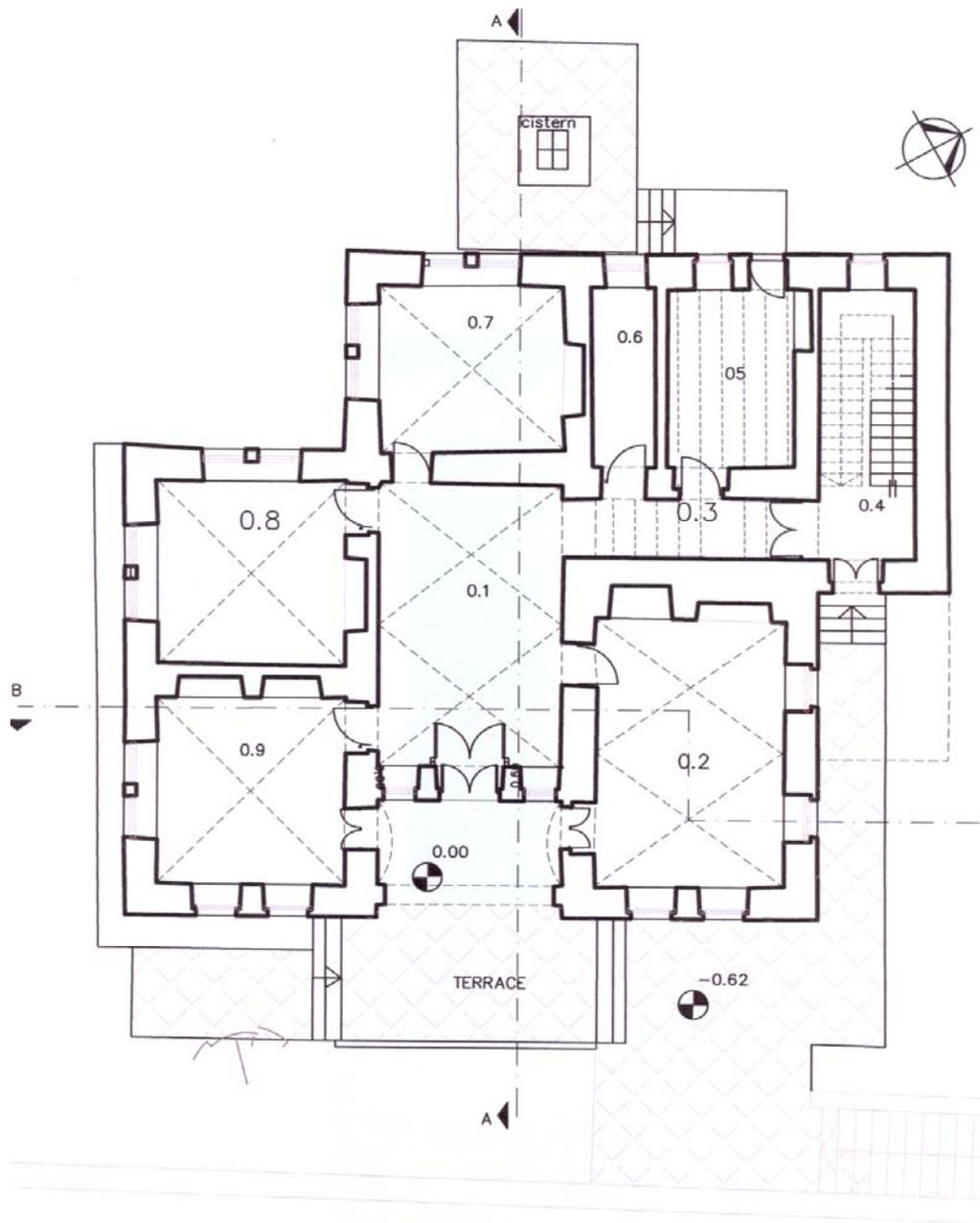


Figure D 3.1: Site Location and Site Plan



GROUND FLOOR PLAN

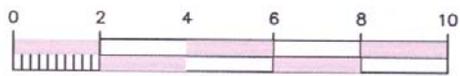
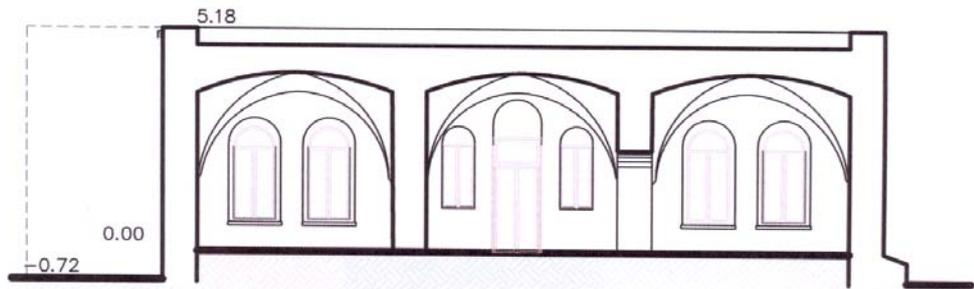
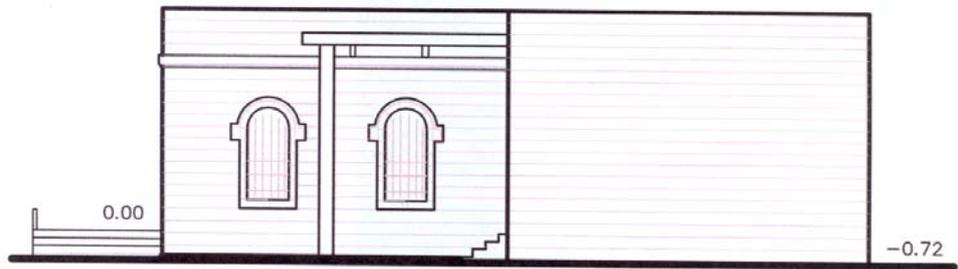


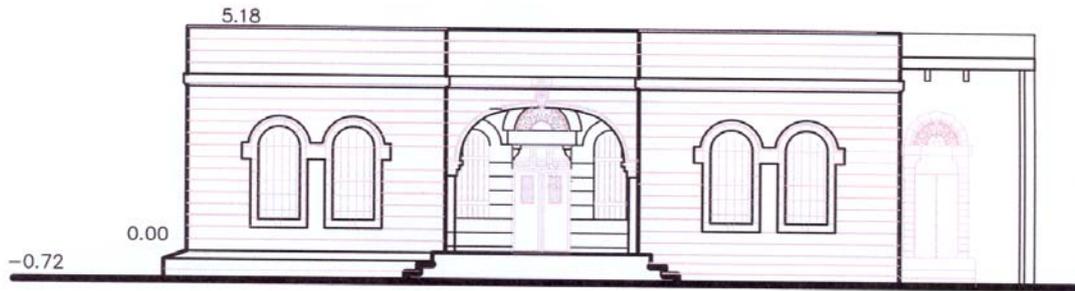
Figure D 3.2: Ground Floor Plan



SECTION A - A



SOUTH ELEVATION



EAST ELEVATION

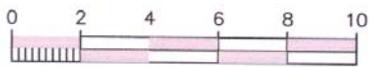
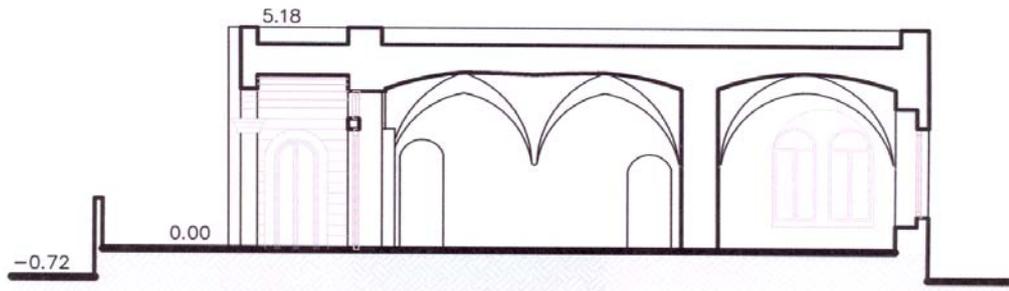
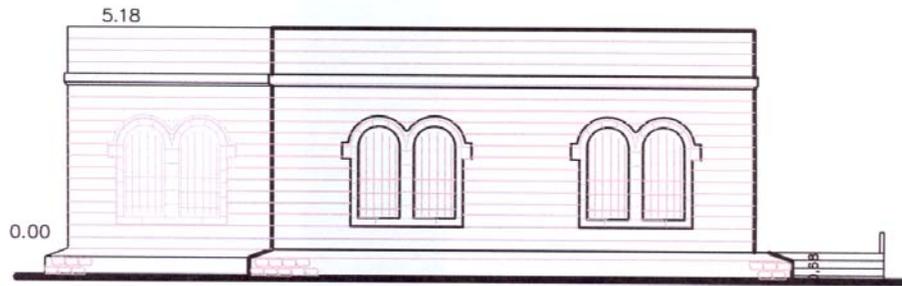


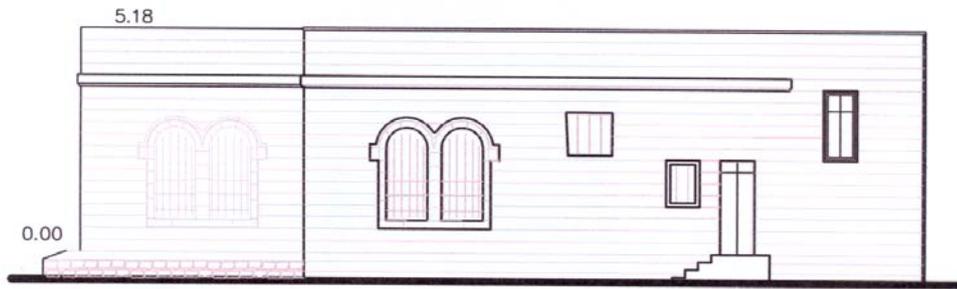
Figure D 3.3: elevations and sections, sheet one



SECTION B - B



WEST ELEVATION



NORTH ELEVATION



Figure D 3.4: elevations and sections, sheet two

4. Musa Shahin House

Photographs: figure 4.1 to figure 4.8

Drawings: figure D 4.1, figure D 4.2, figure D 4.3, and figure D 4.4



Figure 4.1: North Elevation



Figure 4.2: North Elevation



Figure 4.3: West Elevation

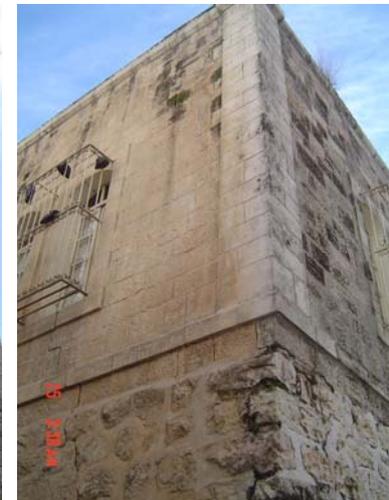


Figure 4.4: north-west corner



Figure 4.5: space 0.1, north wall



Figure 4.6: space 0.1, south wall



Figure 4.7: space 0.8, north-east corner



Figure 4.8: space 0.3, north-east corner

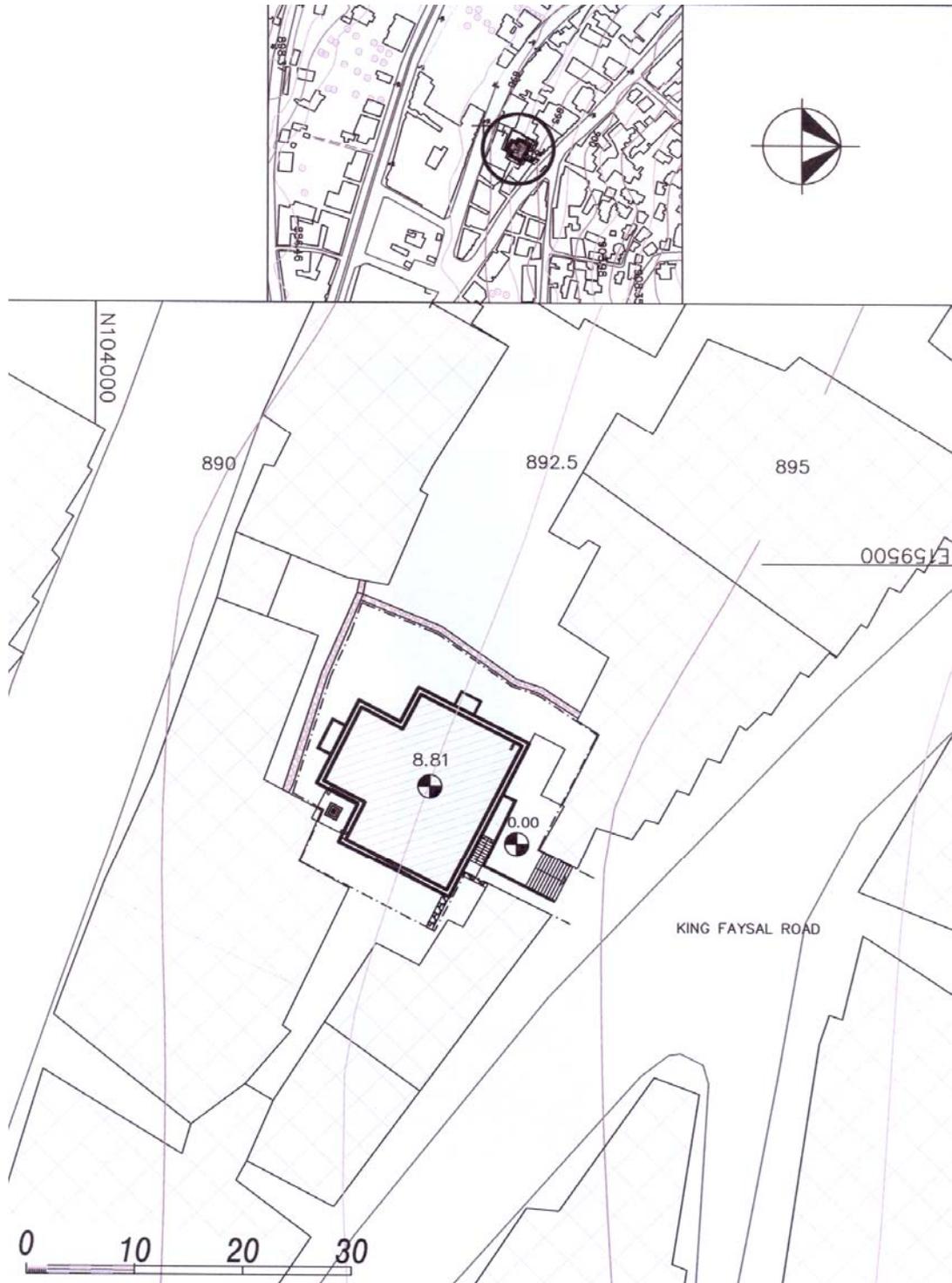


Figure D 4.1: Site Location and Site Plan

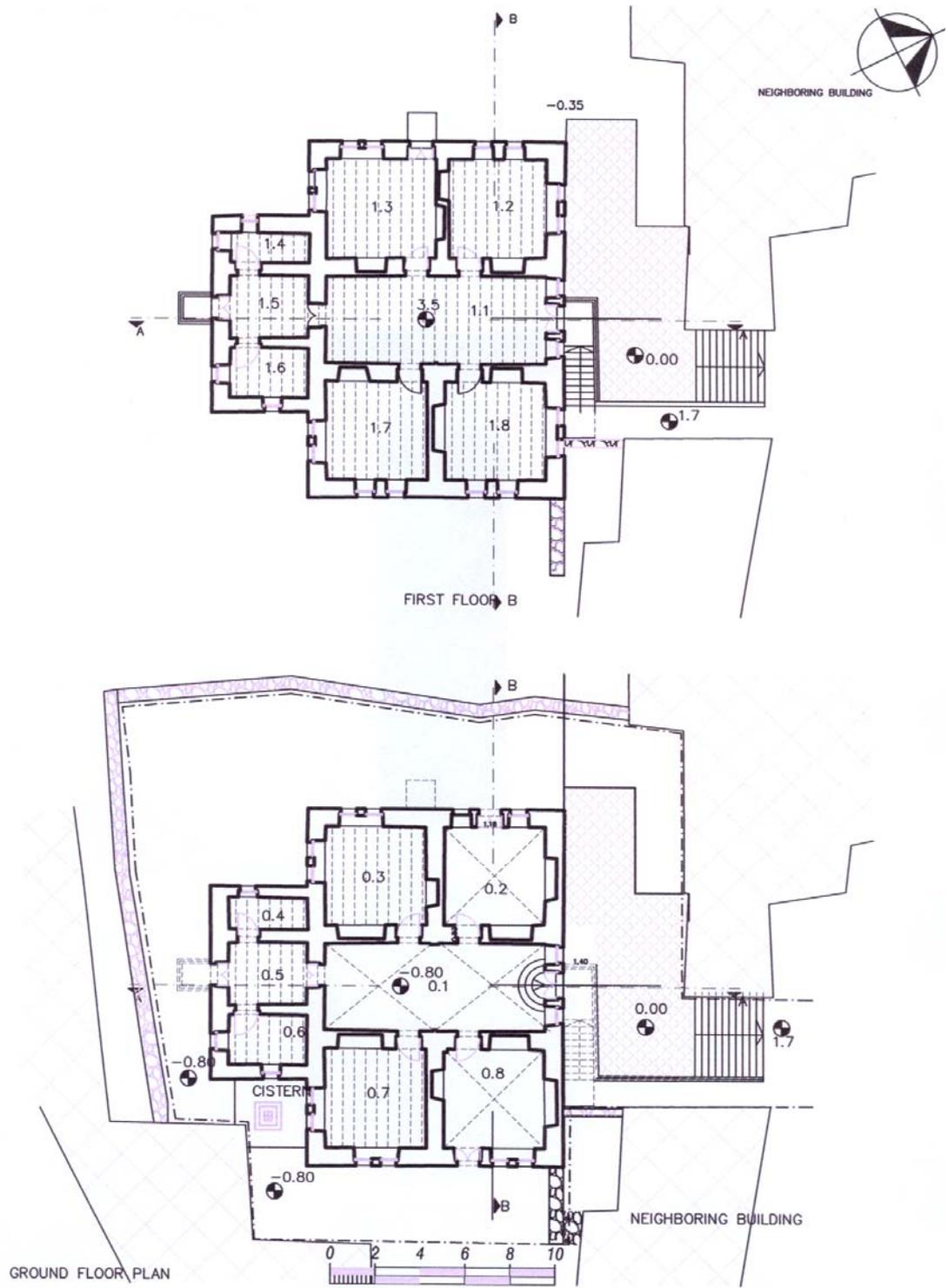


Figure D 4.2: Ground and First Floor Plans

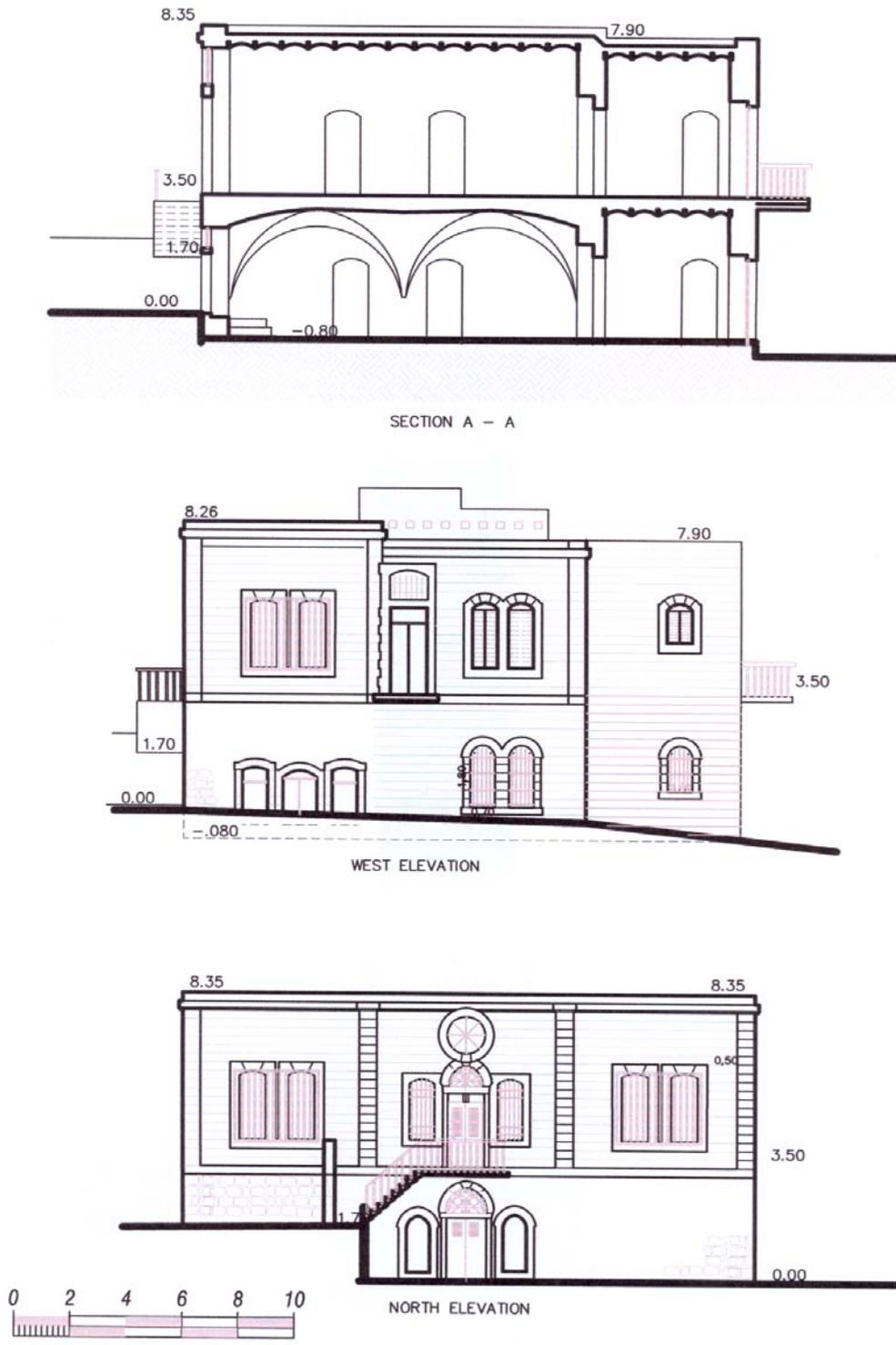
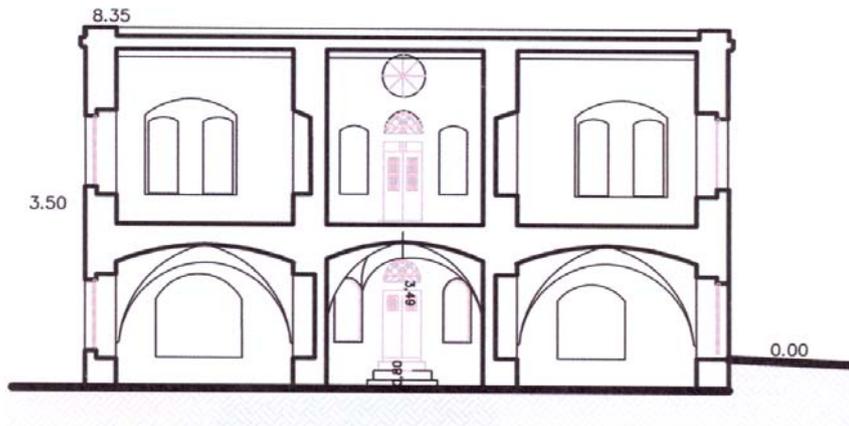
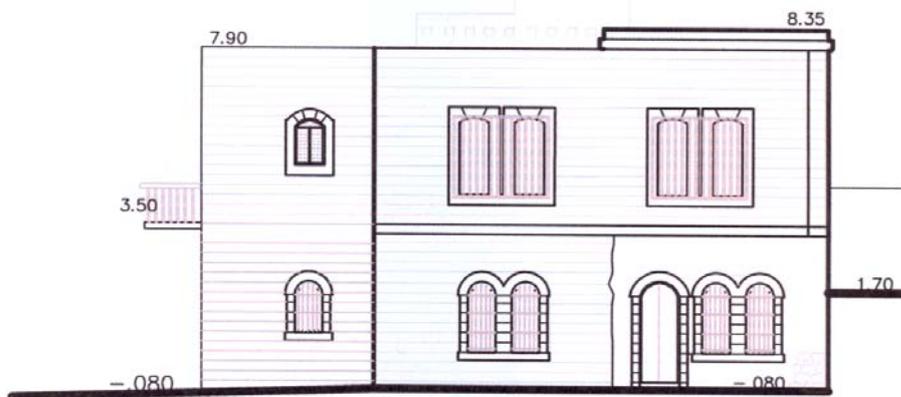


Figure D 4.3: elevations and section, sheet one



SECTION B - B



EAST ELEVATION



SOUTH ELEVATION

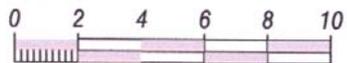


Figure D 4.4: elevations and section, sheet two

5. Hisham iz-Zghayyar House

Photographs: figure 5.1 to figure 5.11

Drawings: figure D 5.1, figure D 5.2, figure D 5.3, and figure D 5.4



Figure 5.1: West Elevation



Figure 5.2: Entrance floor finish



Figure 5.3: South Elevation



Figure 5.4: space 1.1, west wall



Figure 5.5: space 1.1, east wall



Figure 5.6: space 1.2, west wall



Figure 5.7: space 1.2, east wall



Figure 5.8: space 1.8, south-east corner

Figure 5.9: space 1.8, north-east corner



Figure 5.10: space 1.4, south-east corner

Figure 5.11: space 1.3, south-east corner

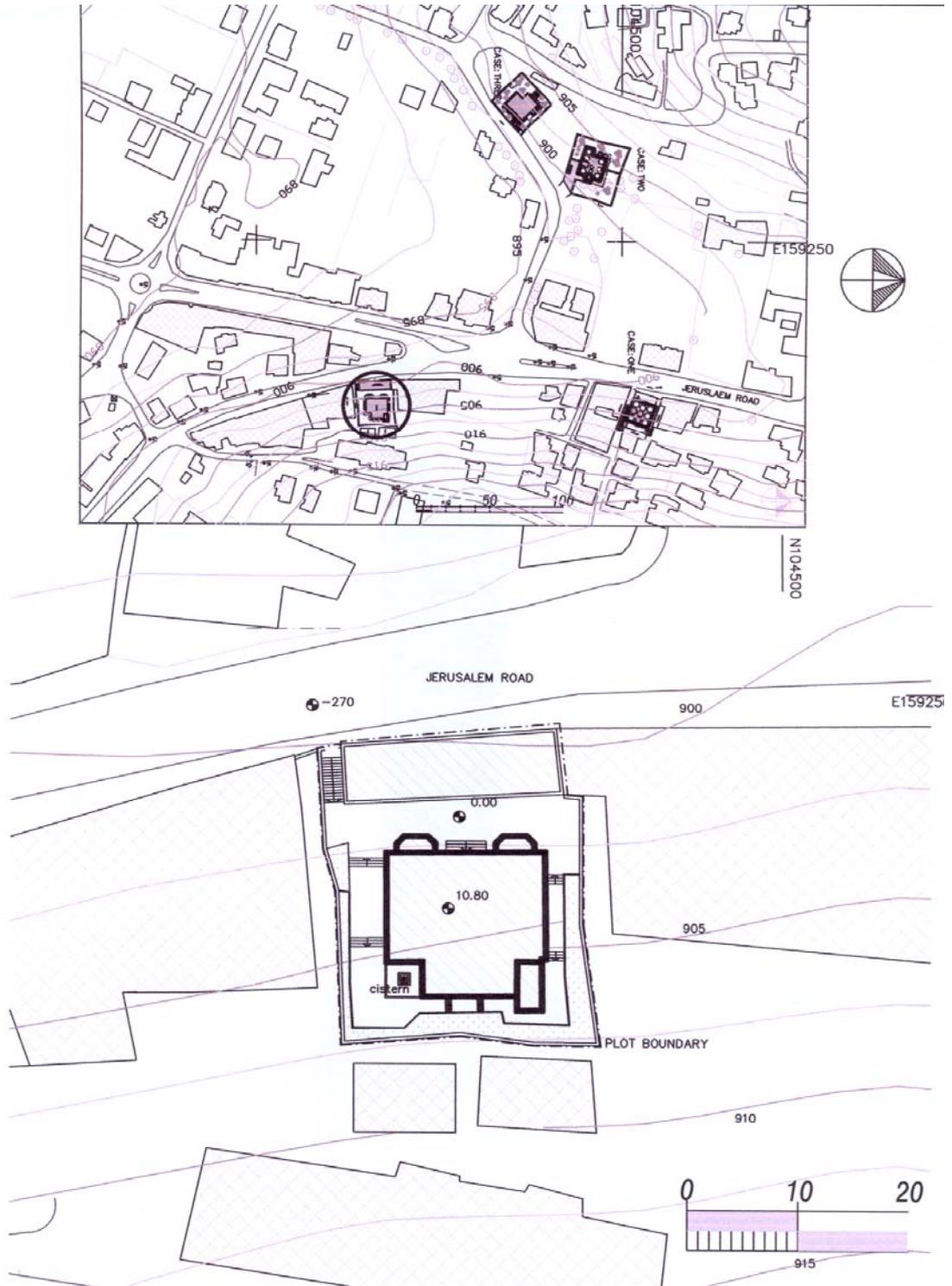


Figure D 5.1: Site location and site plan

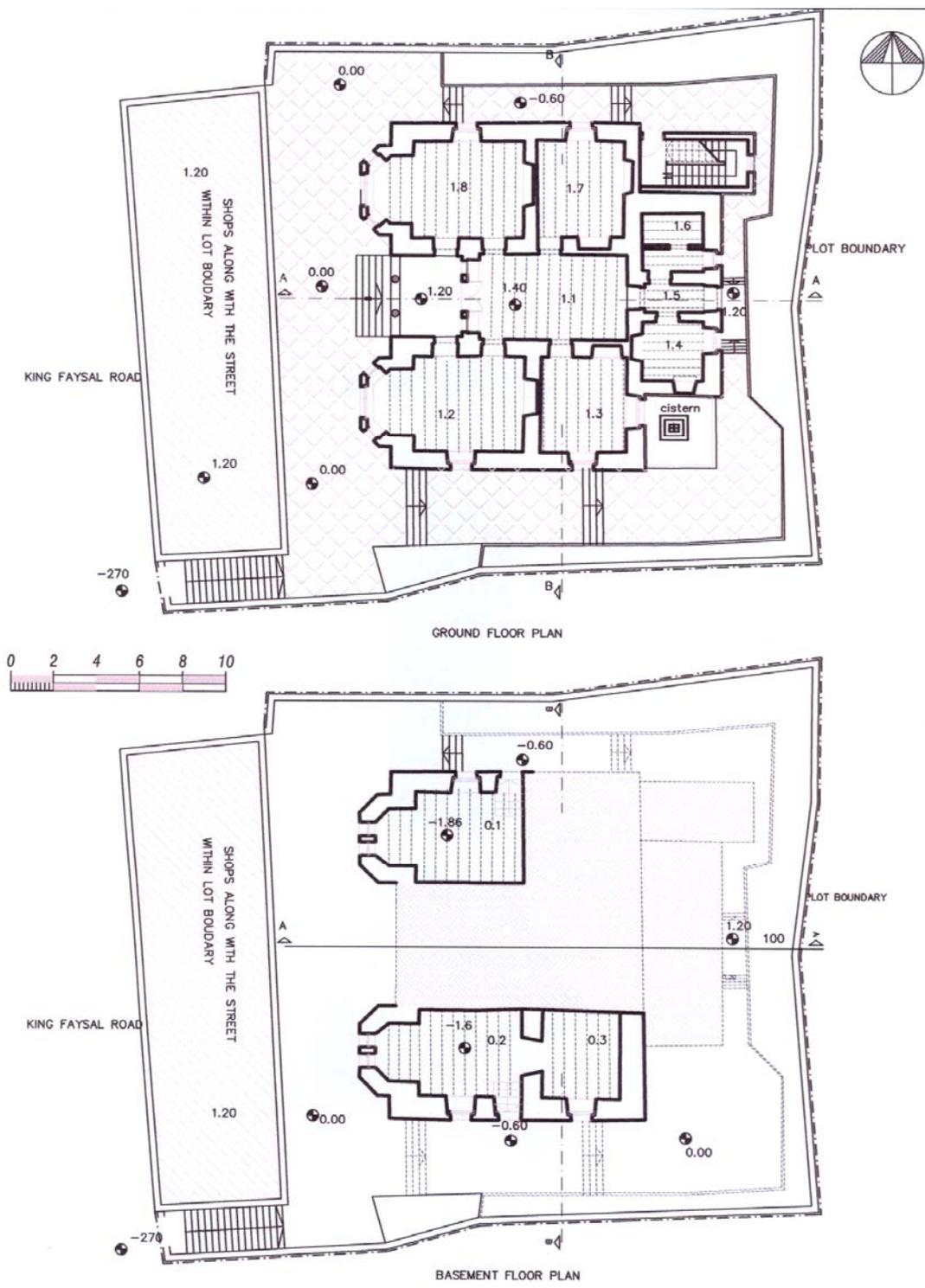


Figure D 5.2: Ground and First Floor Plans

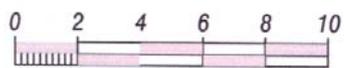
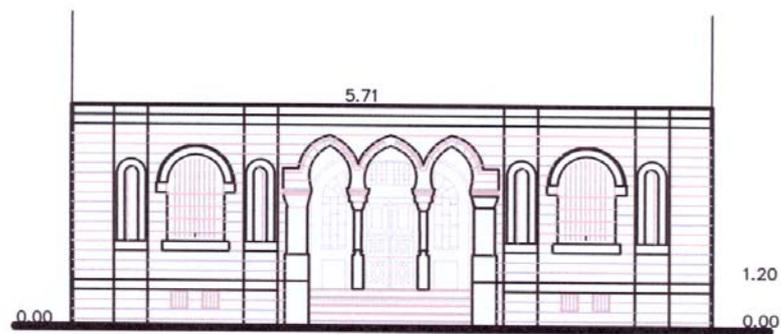
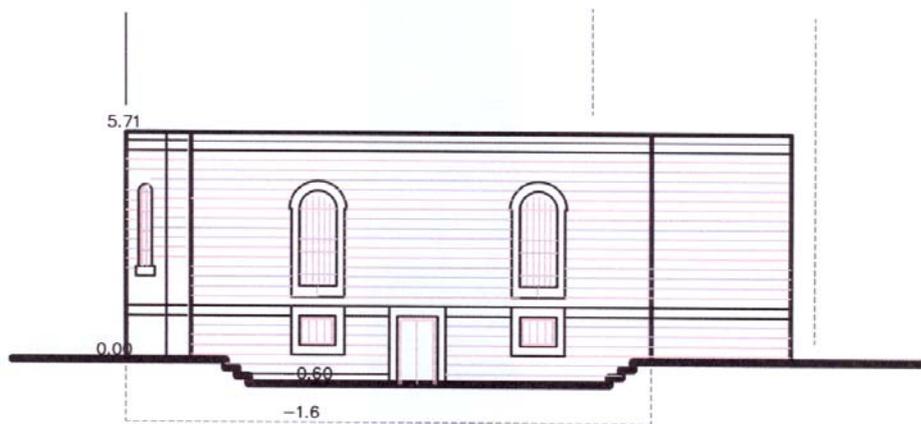
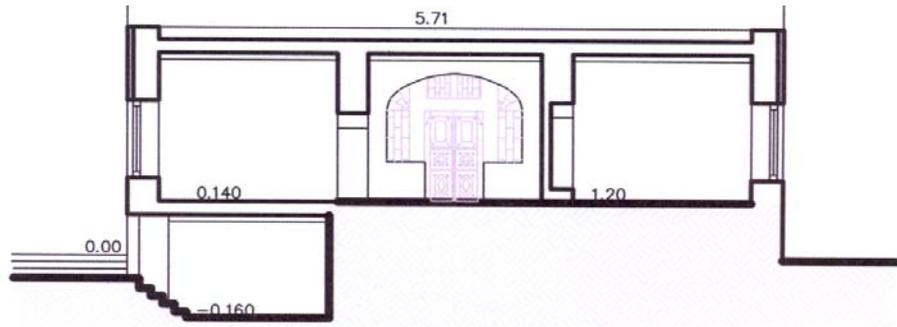


Figure D 5.3: sections and elevations, sheet one

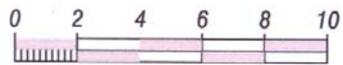
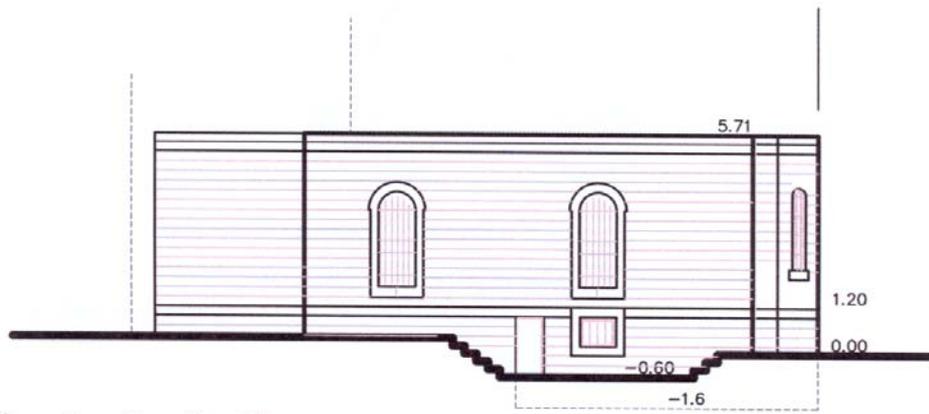
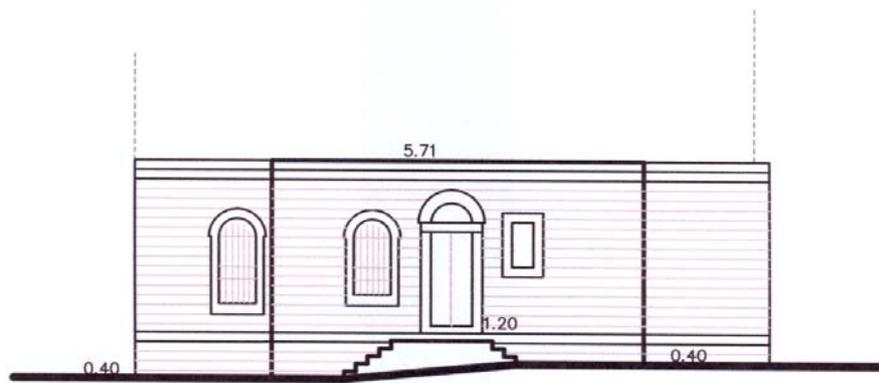
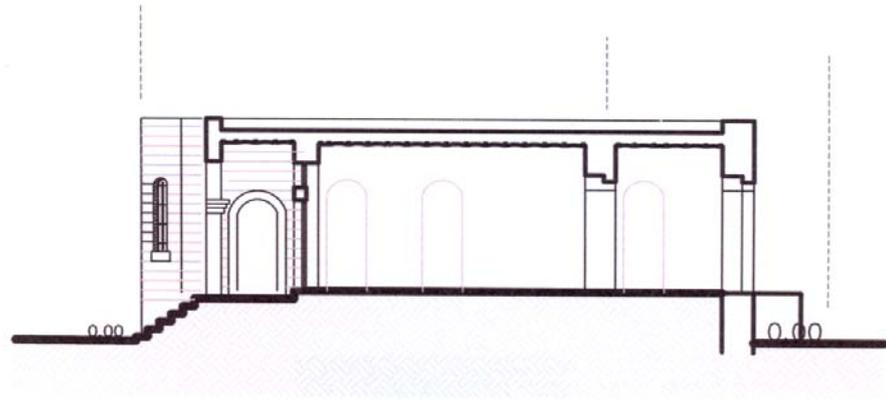


Figure D 5.4: sections and elevations, sheet two

6. Ratib an-Nazir House

Photographs: figure 6.1 to figure 6.9

Drawings: figure D 6.1, figure D 6.2, figure D 6.3, and figure D 6.4



Figure 6.1: West Elevation



Figure 6.2: South Elevation



Figure 6.3: North Elevation



Figure 6.4: East and South elevations



Figure 6.5: space (0.8), west wall



Figure 6.6: window details



Figure 6.7: door opening to space (0.3)



Figure 6.8: space 0.1, on the left looking east wall, on the right looking west wall



Figure 6.9: space 0.2, north wall on the left and on the right south west corner.

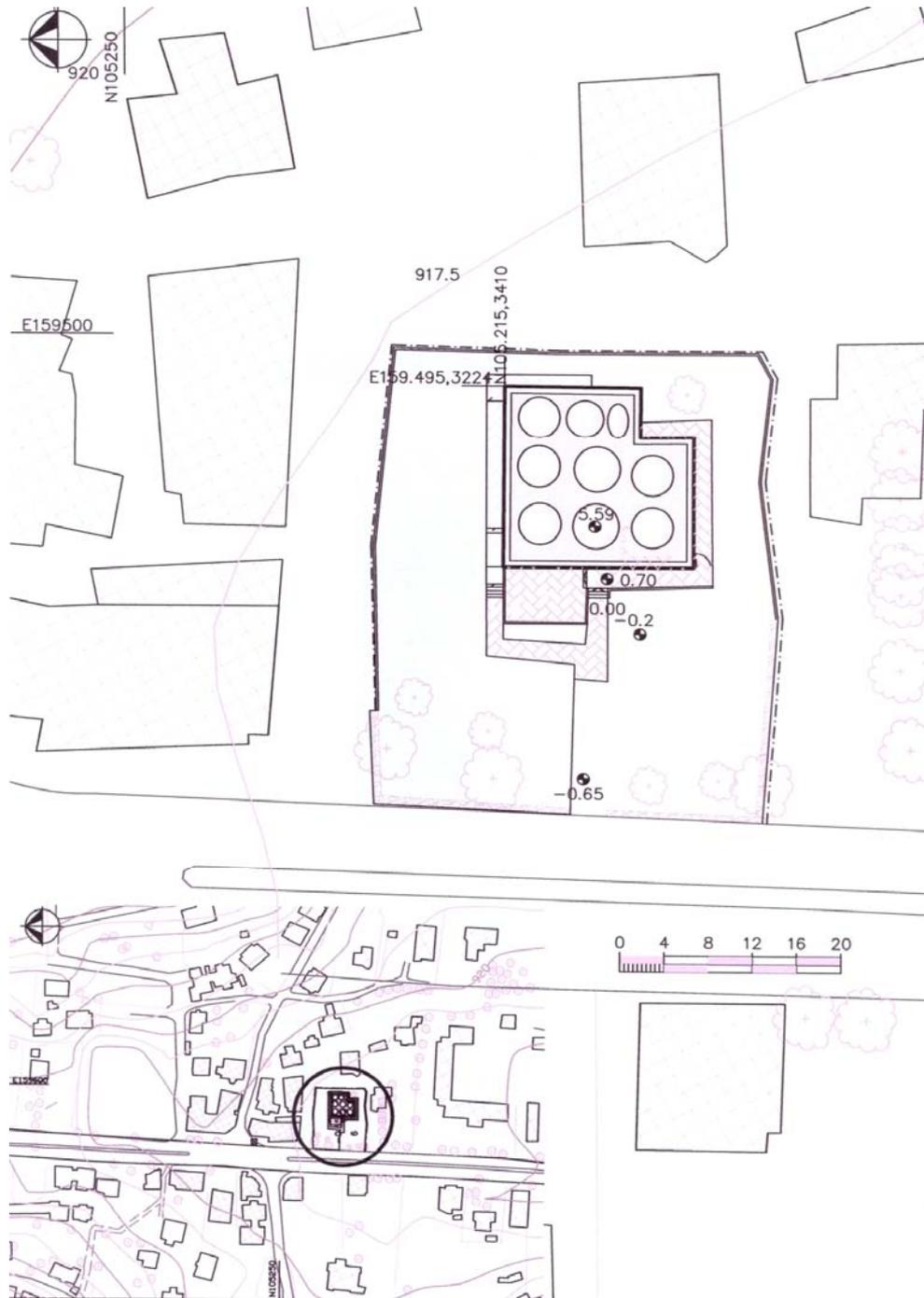


Figure D 6.1: Site location and site plan

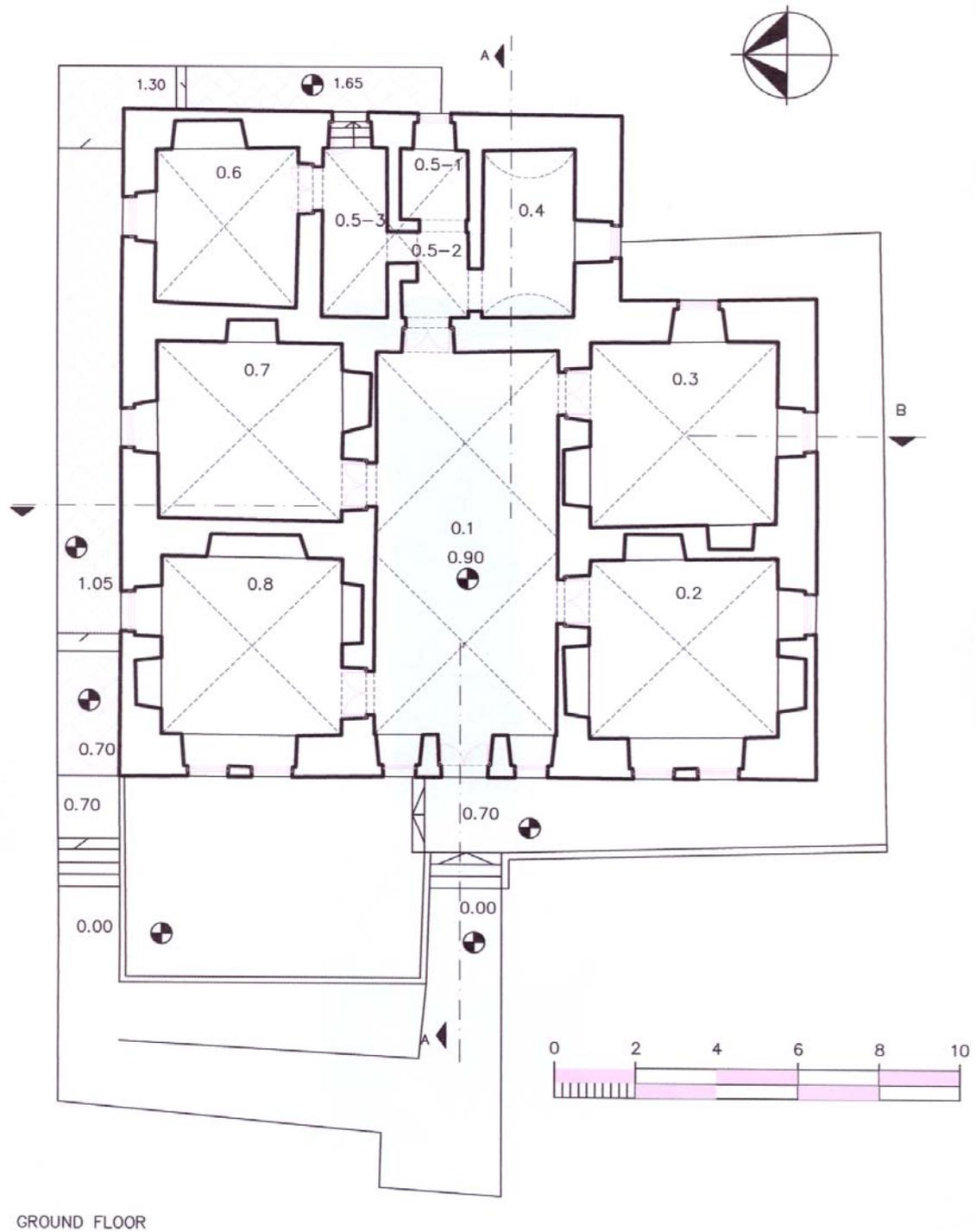
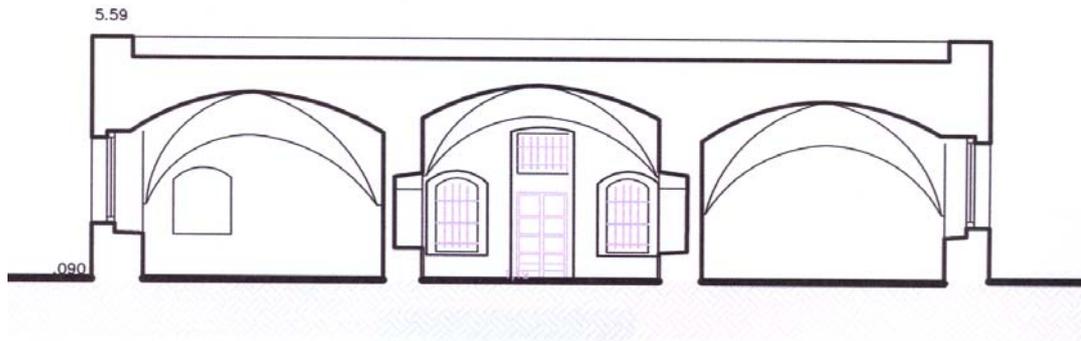
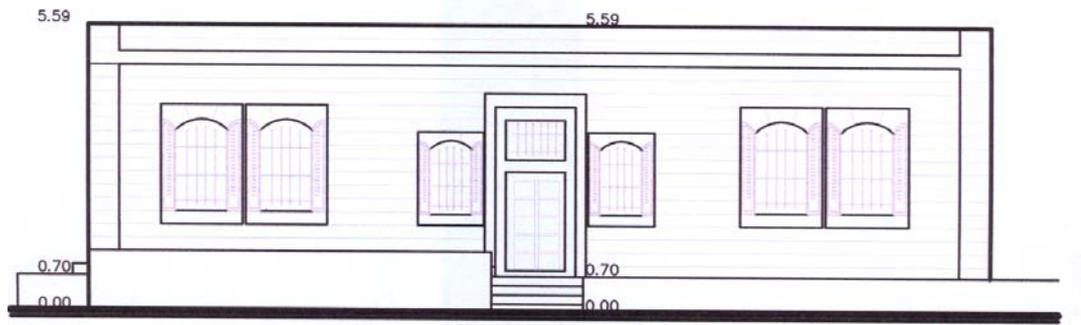


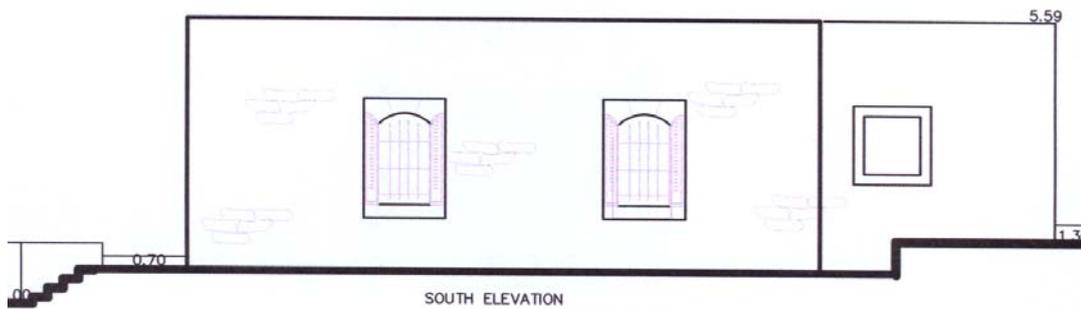
Figure D 6.2: Ground Floor Plan



SECTION B - B



WEST ELEVATION



SOUTH ELEVATION



Figure D 6.3: elevations and section, sheet one

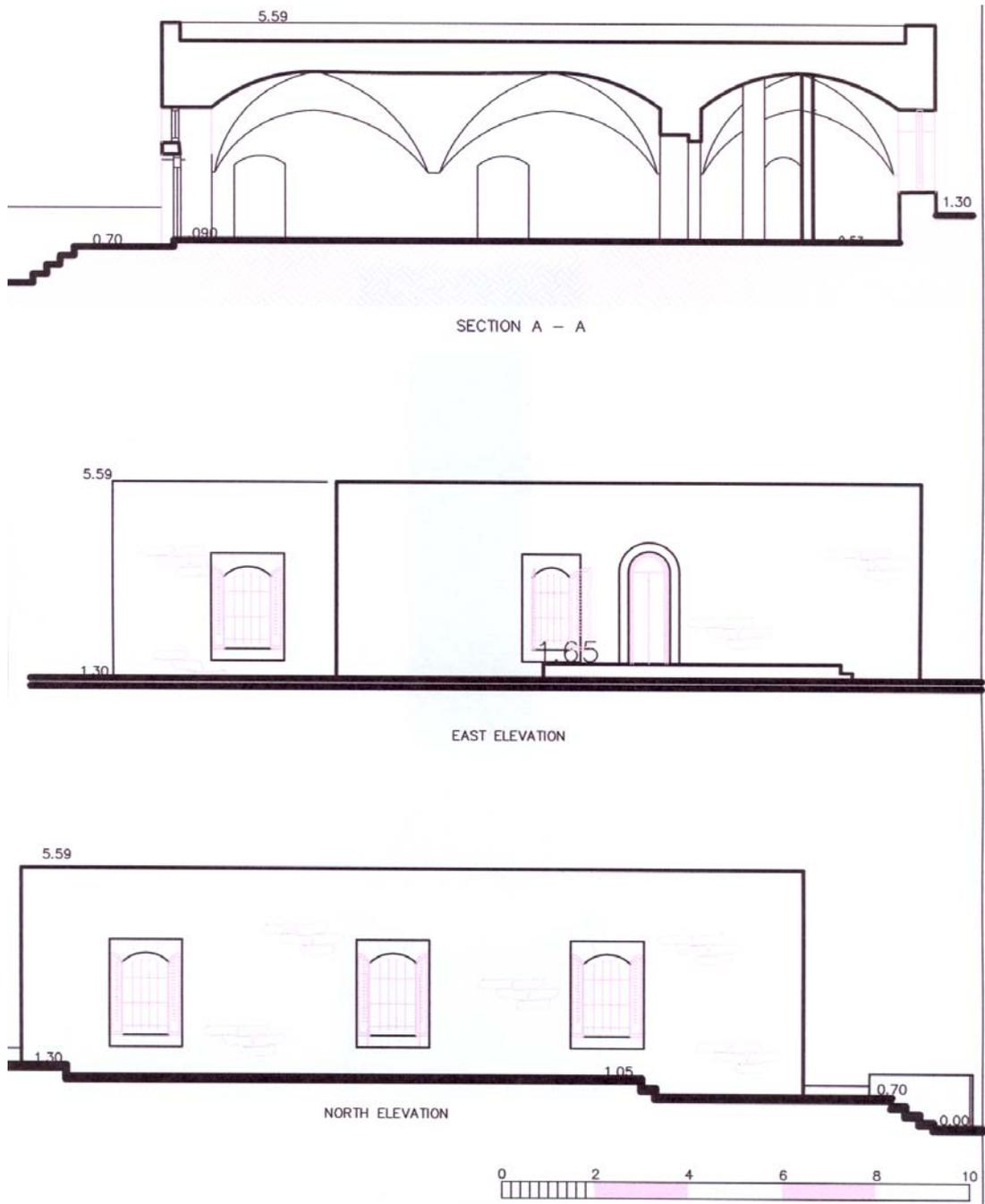


Figure D 6.4: elevations and section, sheet two

7. Shakir ad-Duaik House

Photographs: figure 7.1 to figure 7.7

Drawings: figure D 7.1, figure D 7.2, figure D 7.3, and figure D 7.4



Figure 7.1: Main Elevation (West)



Figure 7.2: Main Elevation (West), details and three arched veranda



Figure 7.3: Main Elevation (West), details and three arched veranda



Figure 7.4: North Elevation



Figure 7.5: South Elevation



Figure 7.6: space 1.1, looking north-west corner then looking west wall



Figure 7.7: space 1.3, on the left looking north, on the right looking west-south corner

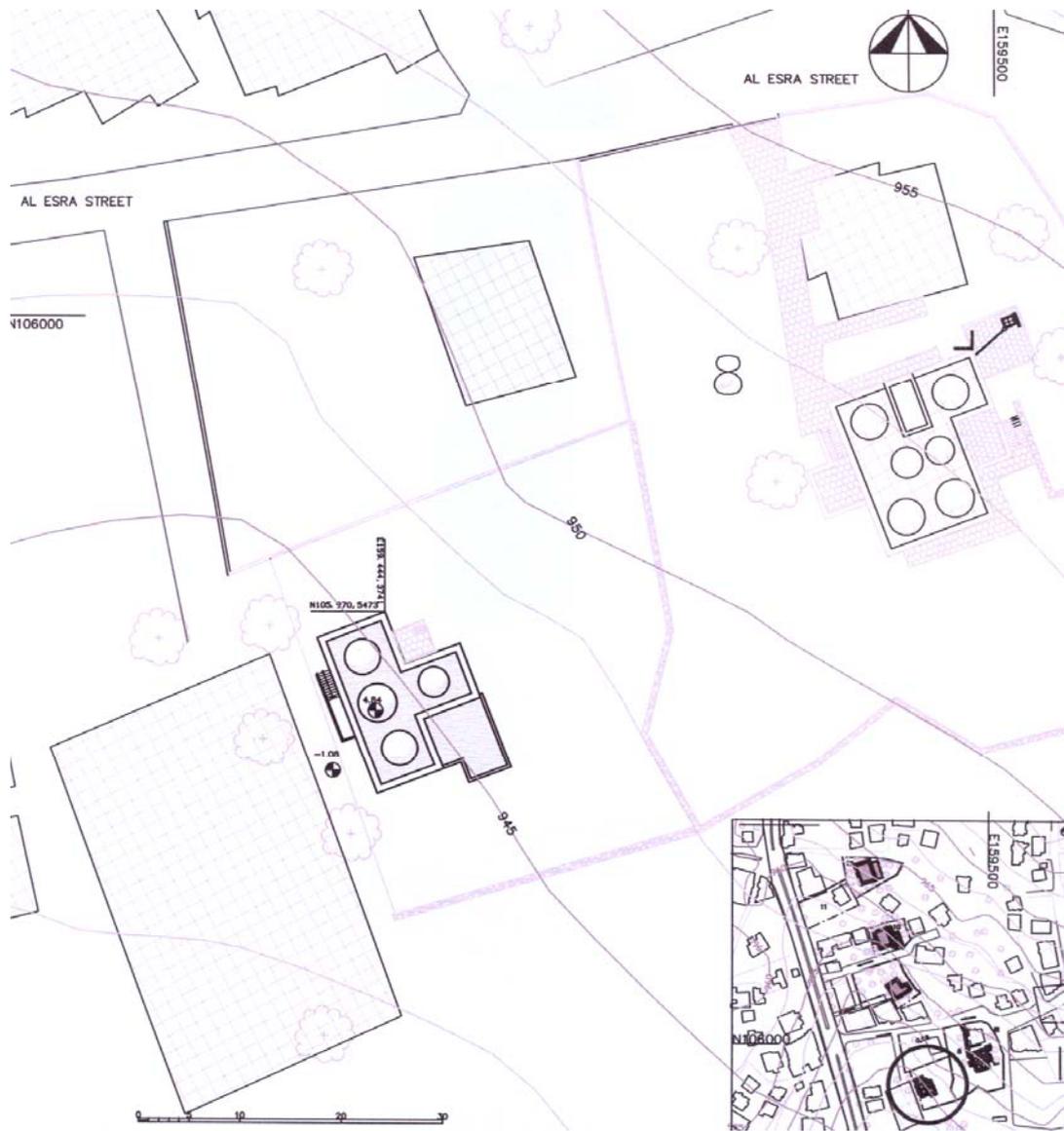


Figure D 7.1: Site Location and Site Plan

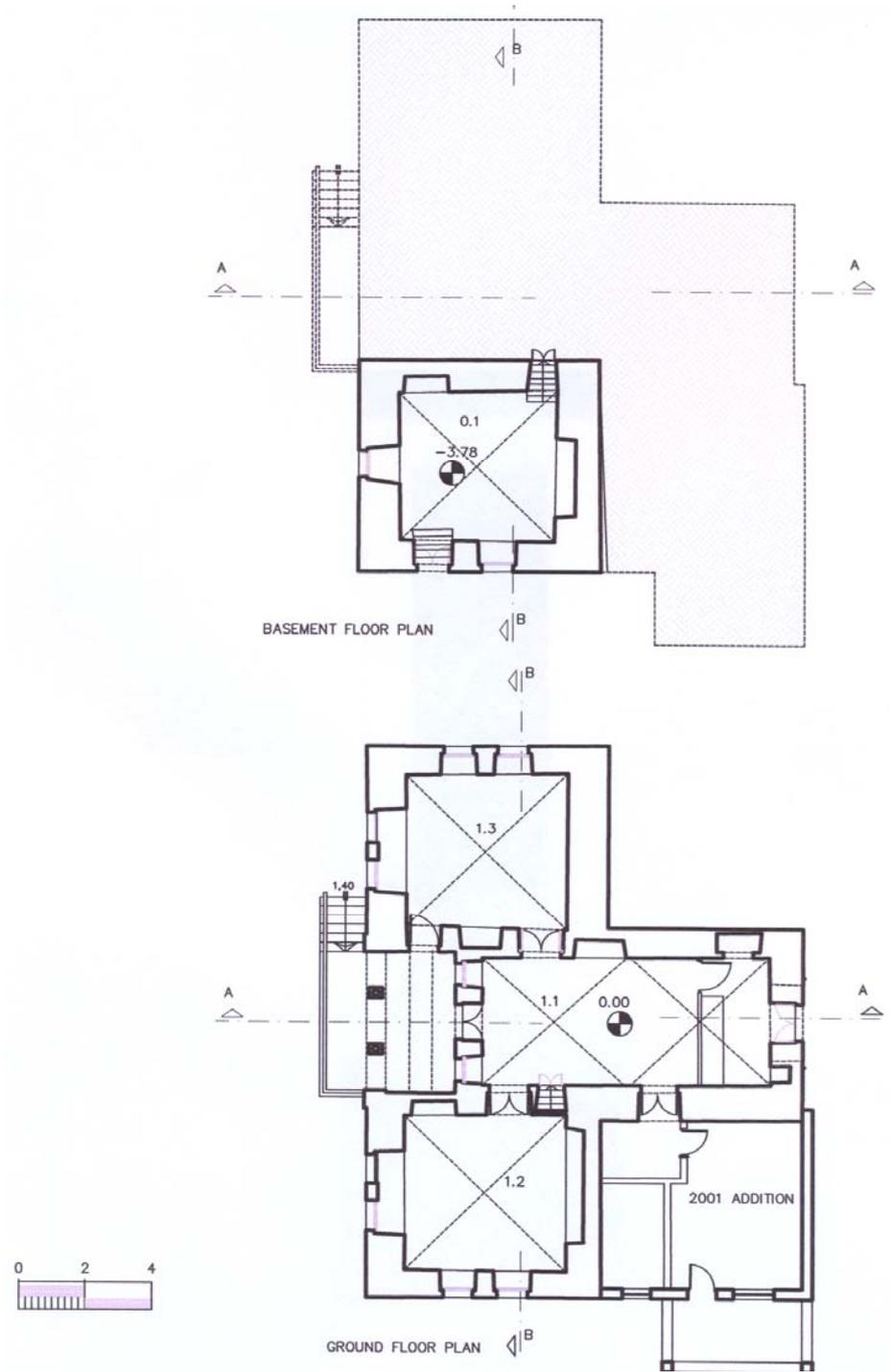


Figure D 7.2: Ground and First Floor Plans

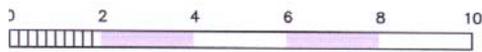
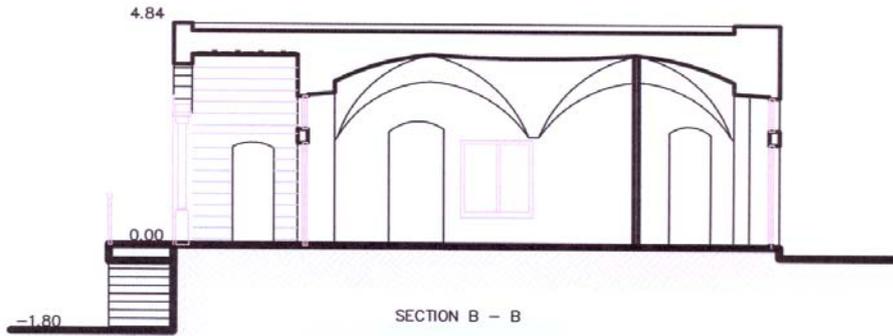


Figure D 7.3: sections and elevations, sheet one

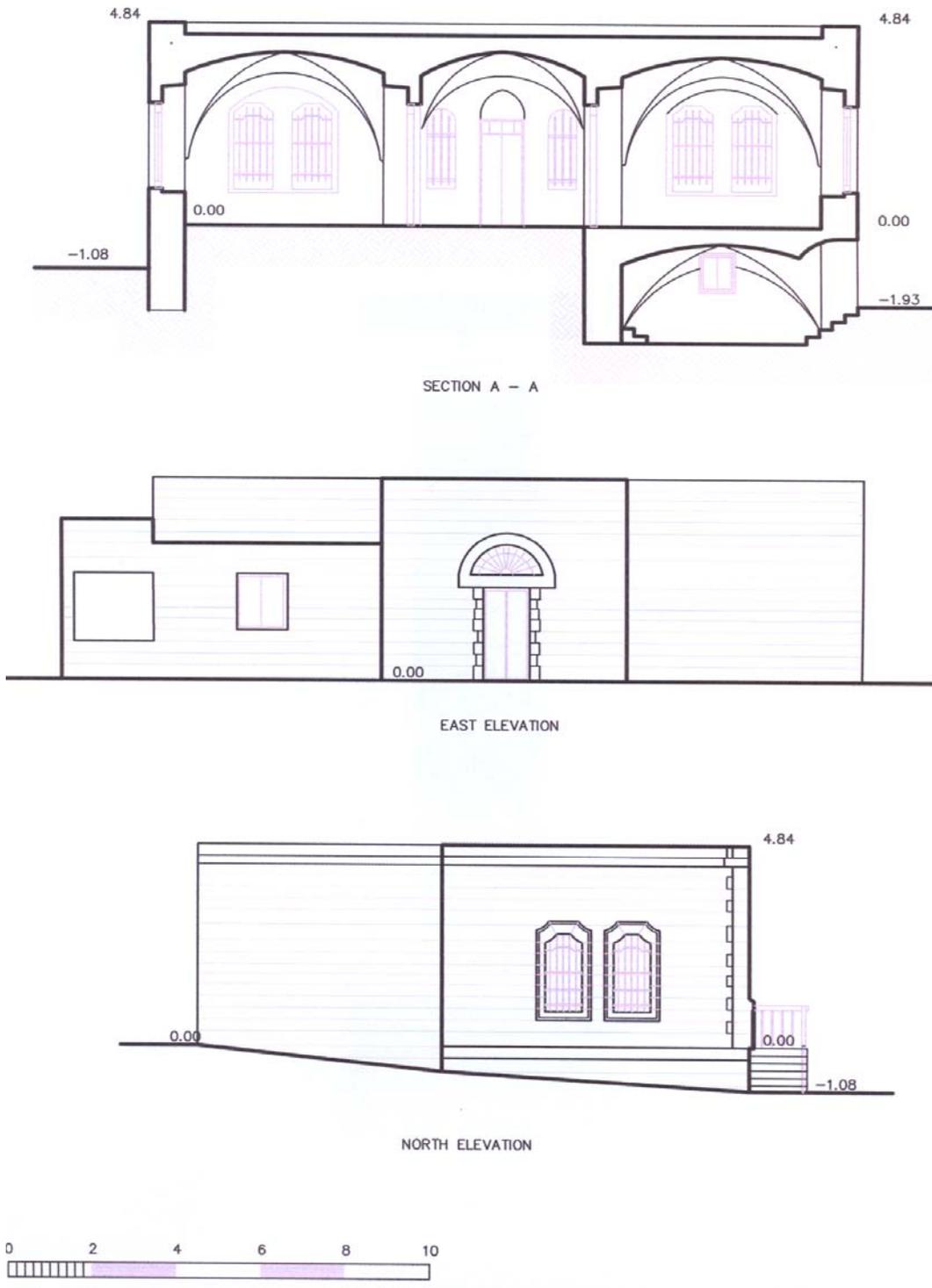


Figure D 7.4: sections and elevations, sheet two

8. Abdul 'Afu al-Muhtasib House

Photographs: figure 8.1 to figure 8.10

Drawings: figure D 8.1, figure D 8.2, figure D 8.3, and figure D 8.4



Figure 8.1: North-West Corner



Figure 8.2: South Elevation



Figure 8.3: Three Arched Veranda



Figure 8.4: North Elevation



Figure 8.5: South Elevation



Figure 8.6: space 1.1, looking west

Figure 8.7: space 1.1, looking east



Figure 8.8: space 1.6, on the left looking west, on the right looking east



Figure 8.9: space 1.2, on the left looking north-west corner, on the right looking south-west corner



Figure 8.10: space 1.3, looking south then looking north-east corner

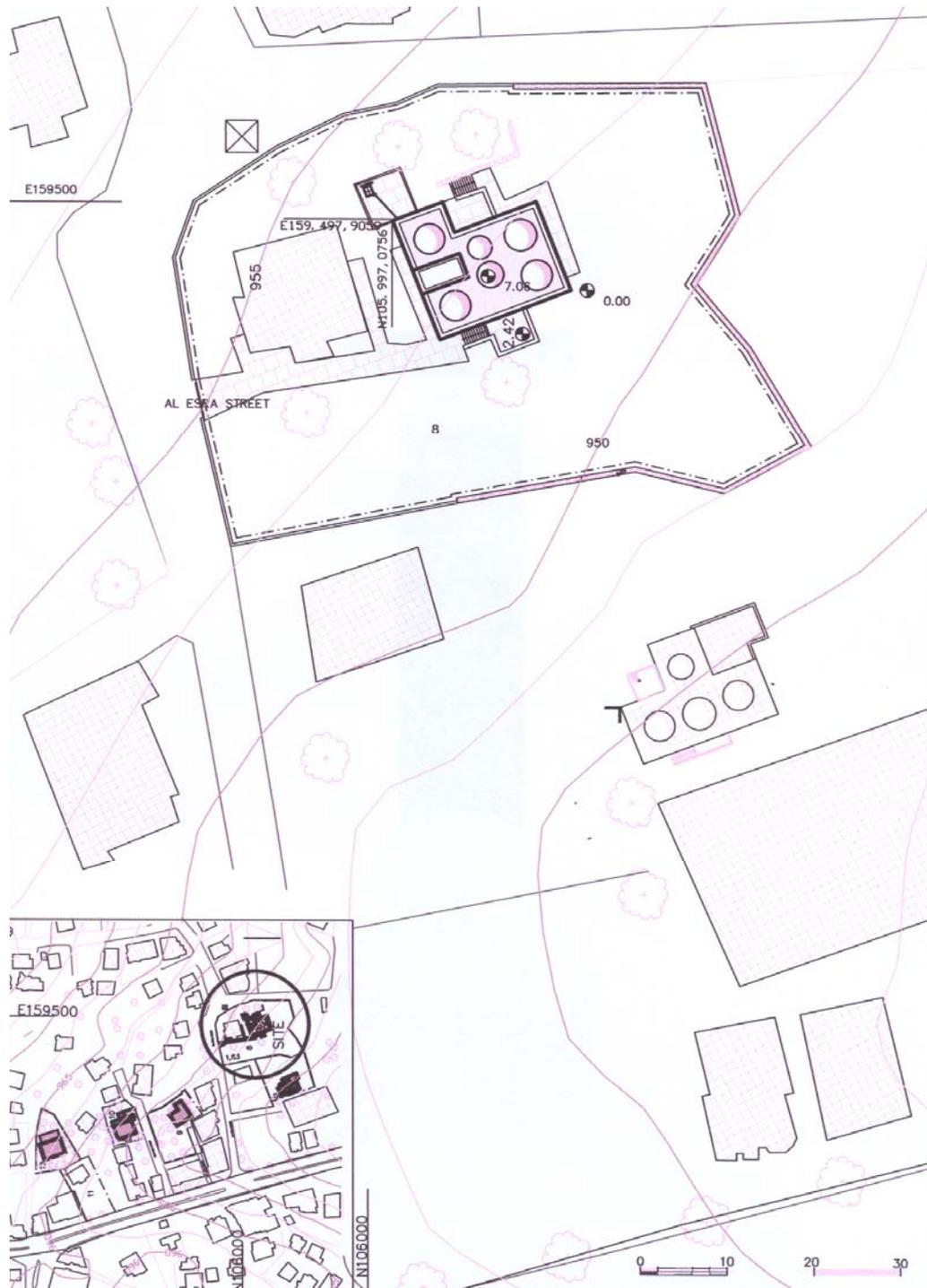


Figure D 8.1: Site Location, and Site Plan

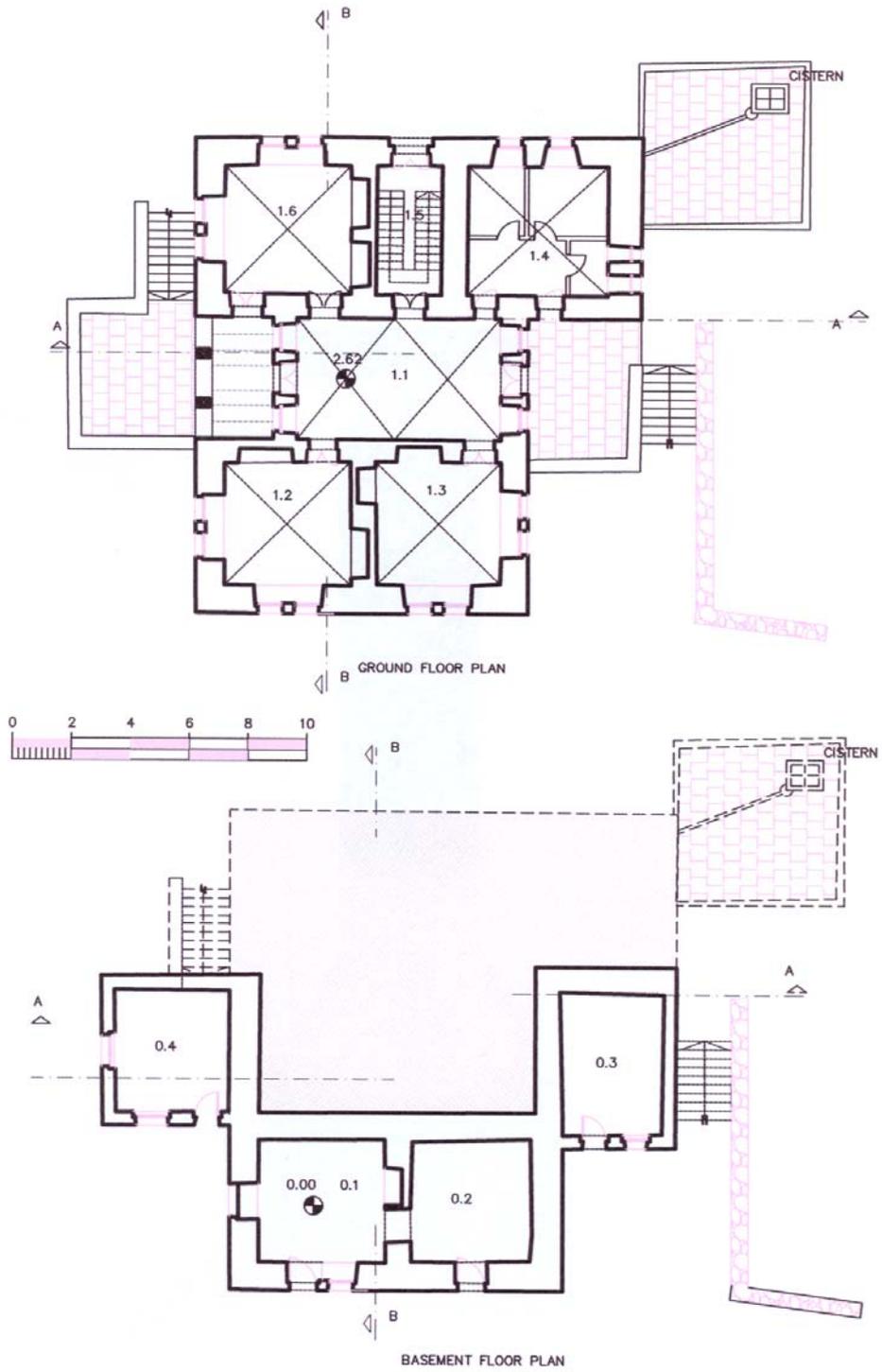


Figure D 8.2: Basement and Ground Floor Plans

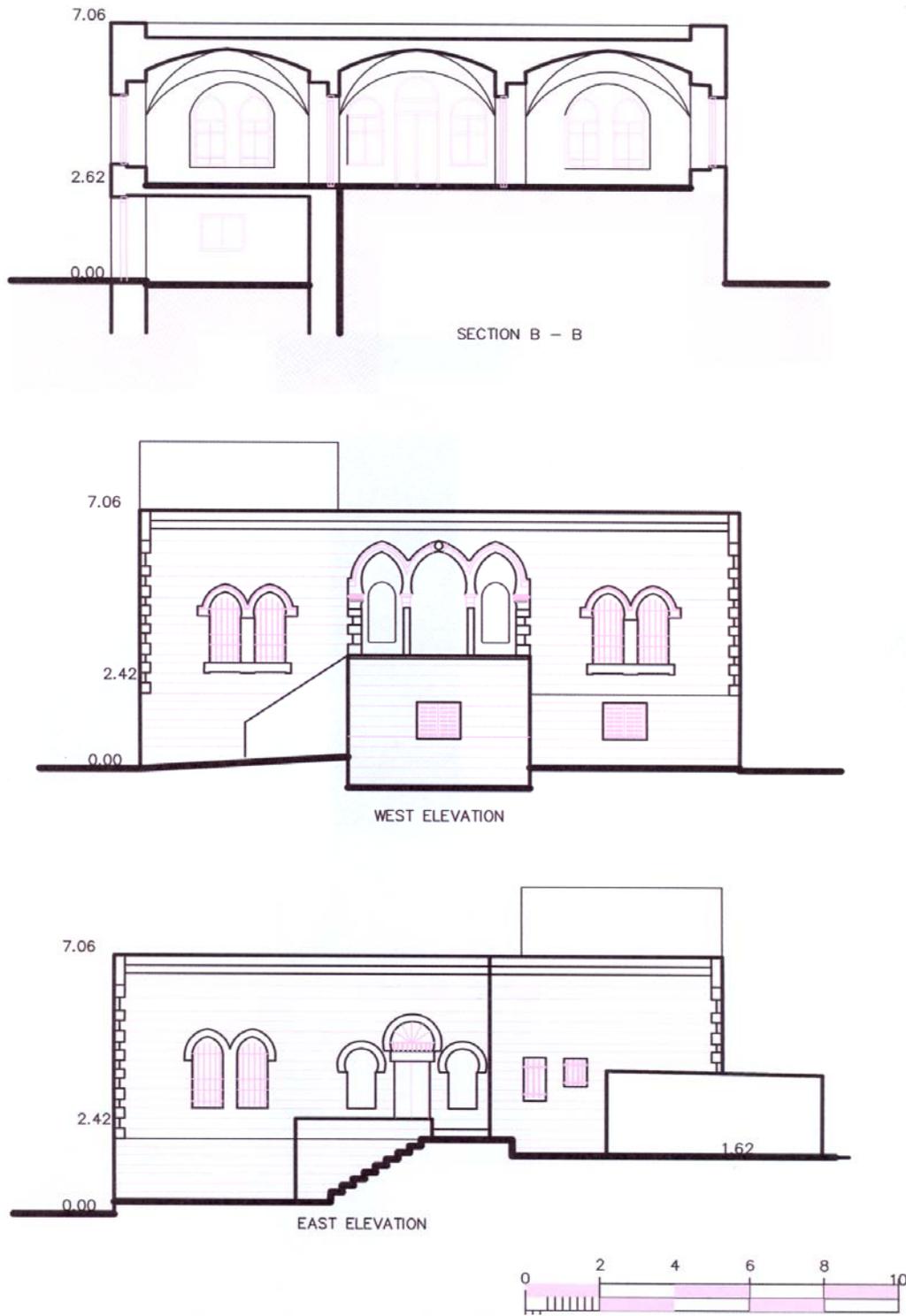


Figure D 8.3: elevations and sections, sheet one

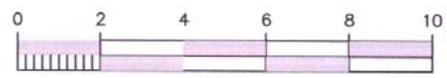
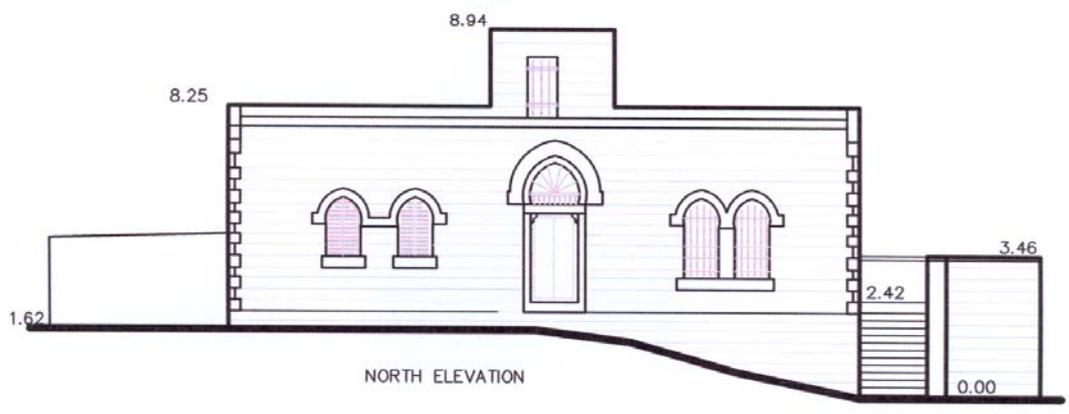
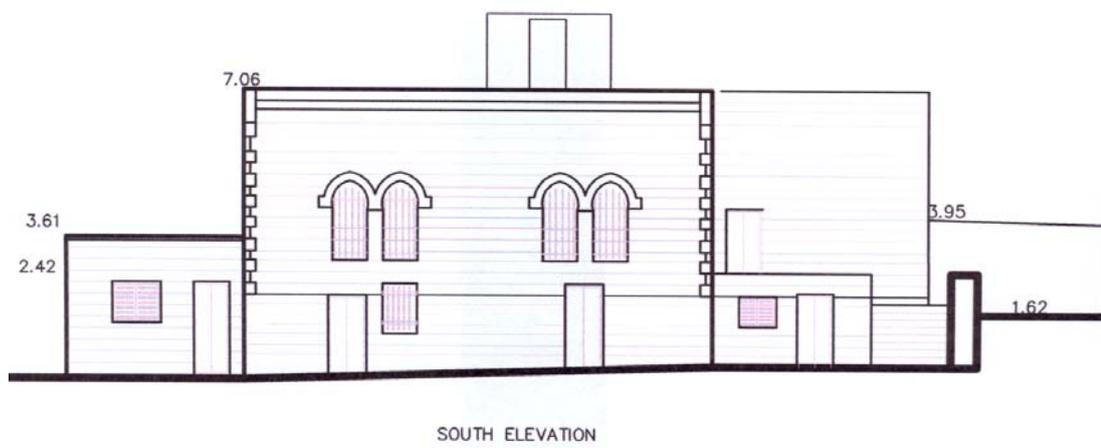
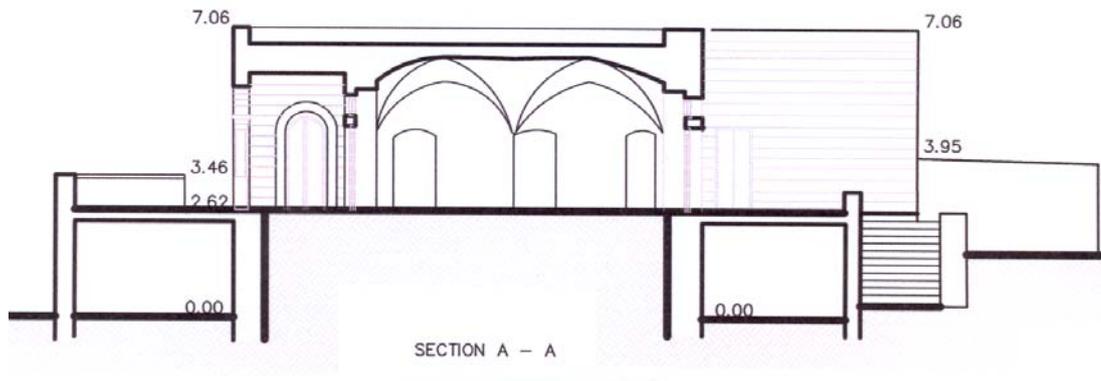


Figure D 8.4: elevations and sections, sheet two

9. Yasir id-Duaik House

Photographs: figure 9.1 to figure 9.10

Drawings: figure D 9.1, figure D 9.2, figure D 9.3, and figure D 9.4



Figure 9.1: Main Elevation (West)



Figure 9.2: Main Elevation (West), details



Figure 9.3: Main Elevation (West), details



Figure 9.4: North Elevation



Figure 9.5: South Elevation



Figure 9.6: East Elevation



Figure 9.7: space 1.1, looking west



Figure 9.8: space 1.1, looking east



Figure 9.9: space 1.7, looking west and south-west directions



Figure 9.10: space 1.4, south-west corner, then south-east corner

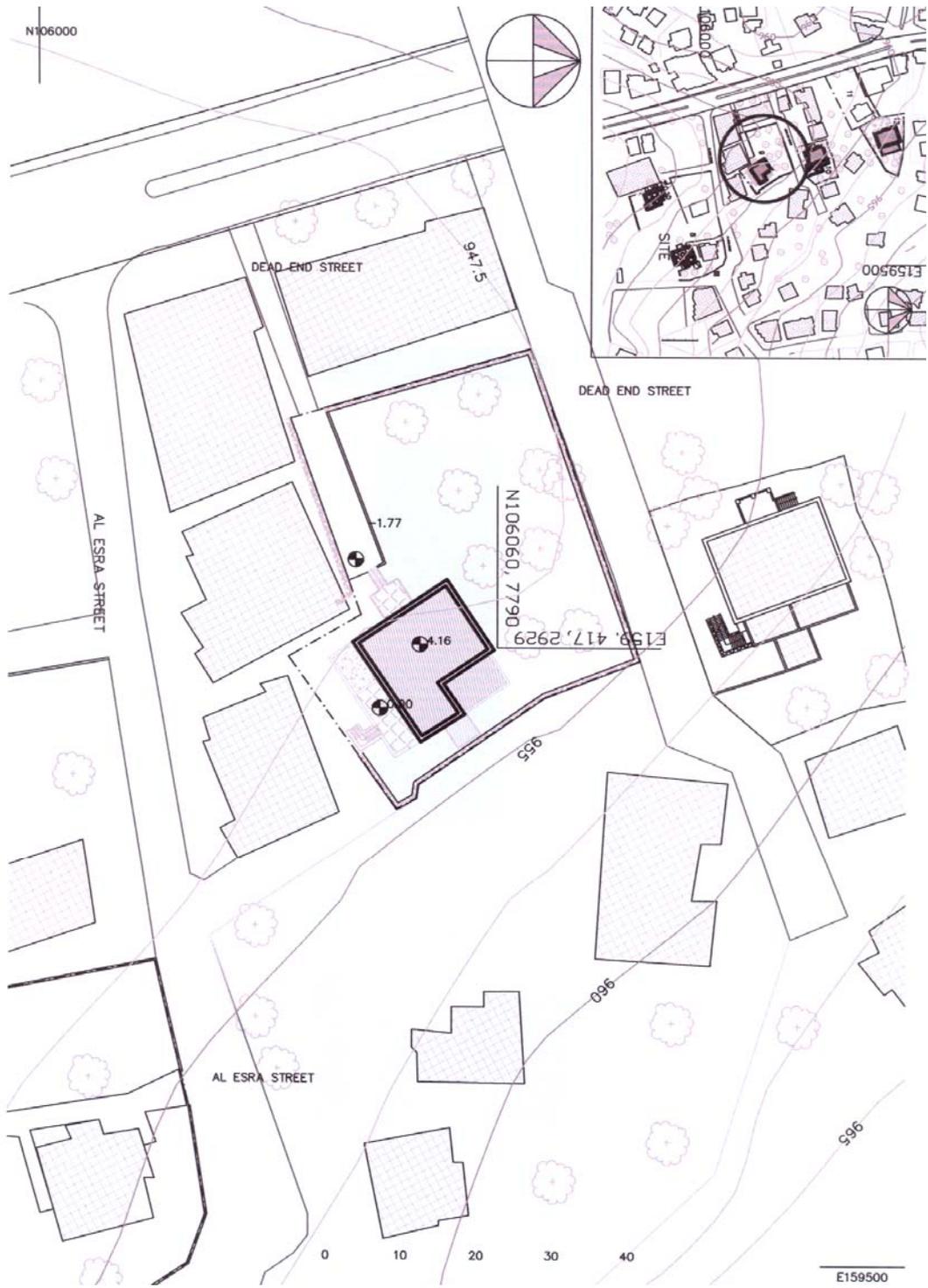


Figure D 9.1: Site Location and Site Plan

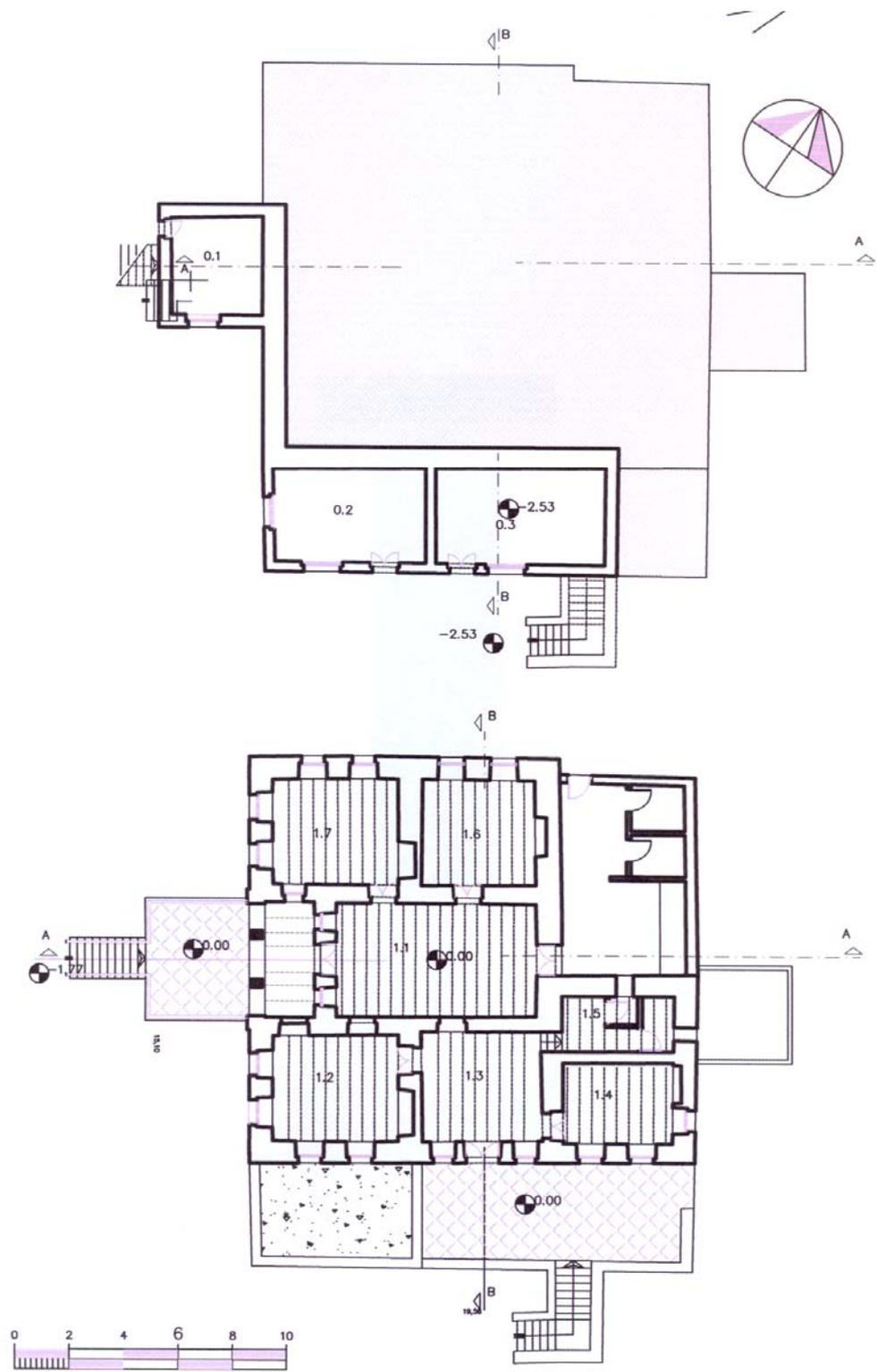


Figure D 9.2: Basement and Ground Floor Plans

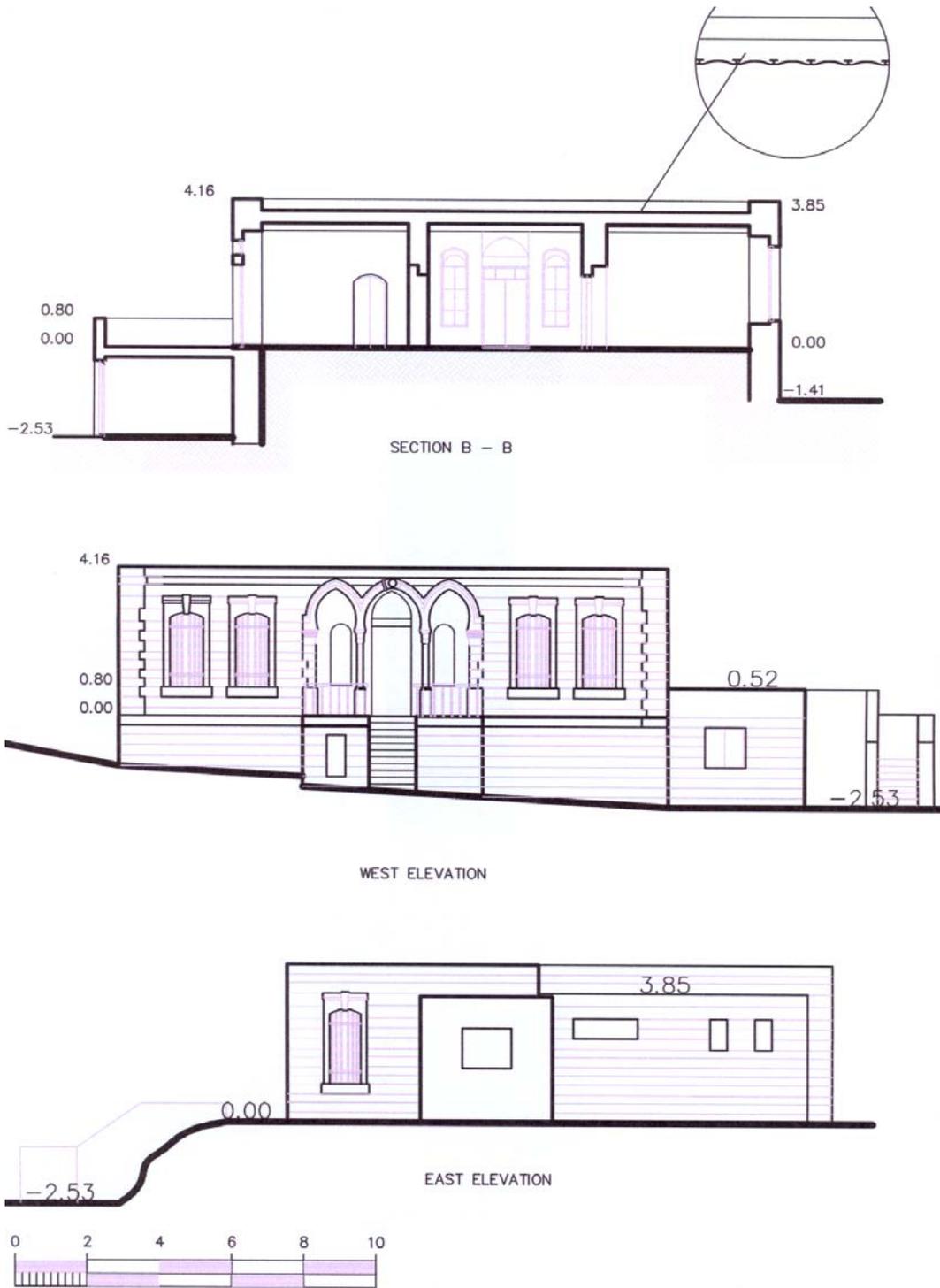


Figure D 9.3: elevations and section, sheet one

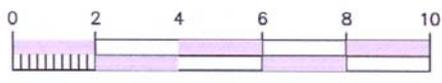
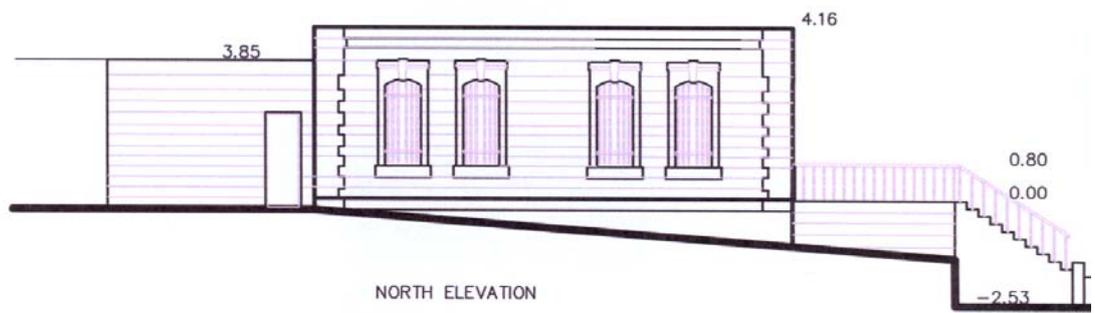
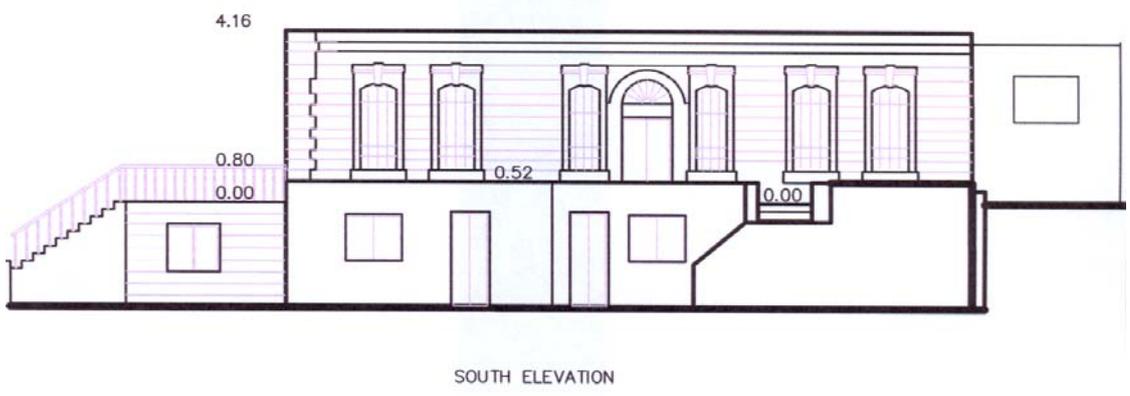
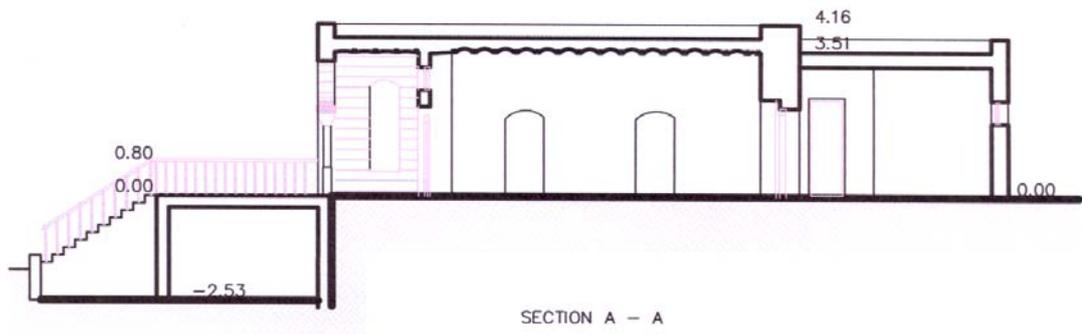


Figure D 9.4: elevations and section, sheet two

10. Awni id-Duaik House

Photographs: figure 10.1 to figure 10.8

Drawings: figure D 10.1, figure D 10.2, figure D 10.3, and figure D 10.4



Figure 10.1: Main Elevation (West)



Figure 10.2: South Elevation



Figure 10.3: North Elevation



Figure 10.4: East Elevation



Figure 10.5: internal elevation of three-arched entrance recess



Figure 10.6: space 0.1, looking west then looking east



Figure 10.7: space 0.2 doors, north wall cupboard at east wall



Figure 10.8: space 0.2 doors, on the left south wall window niche, on the right west wall window niche

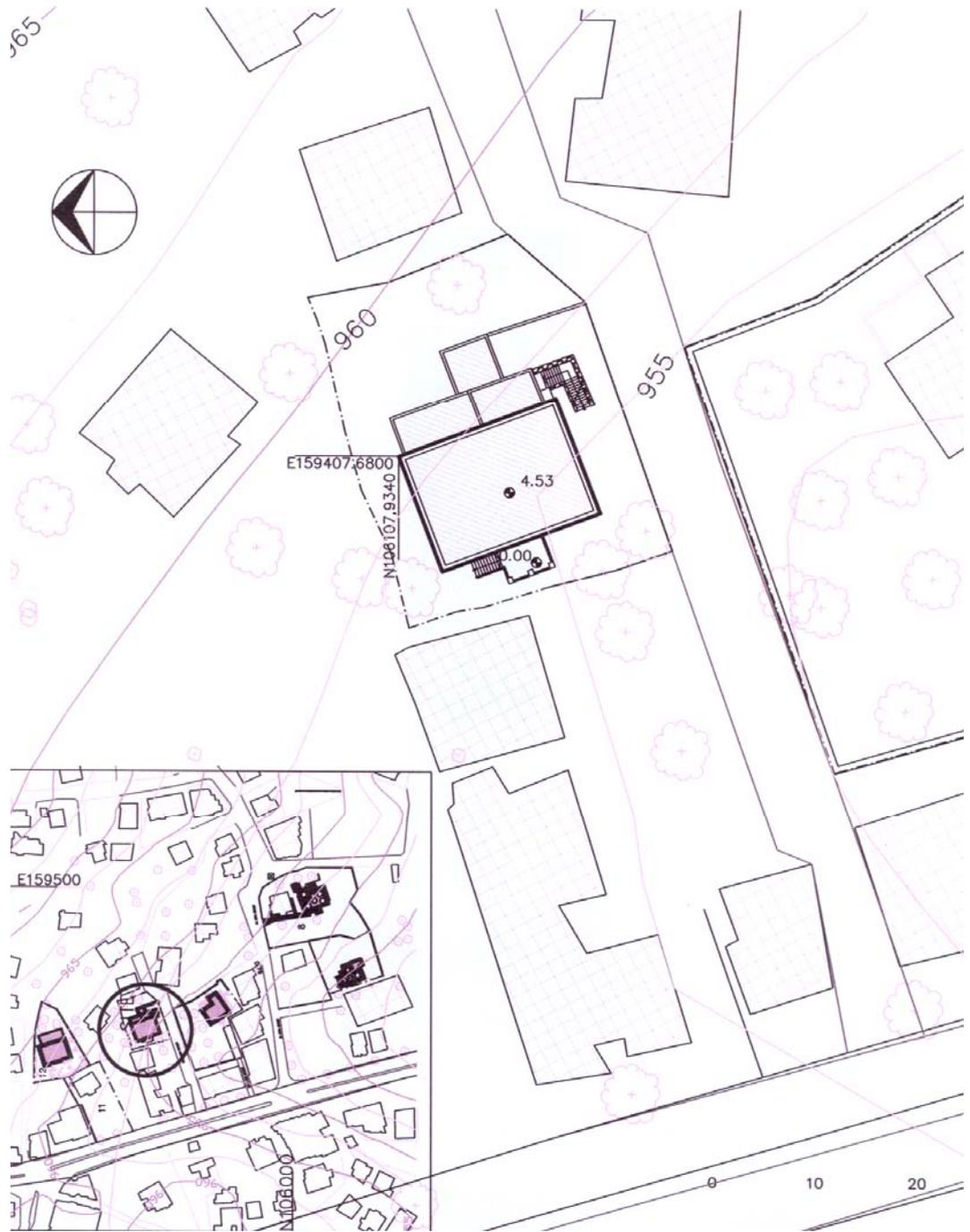


Figure D 10.1: Site Location and Site Plan

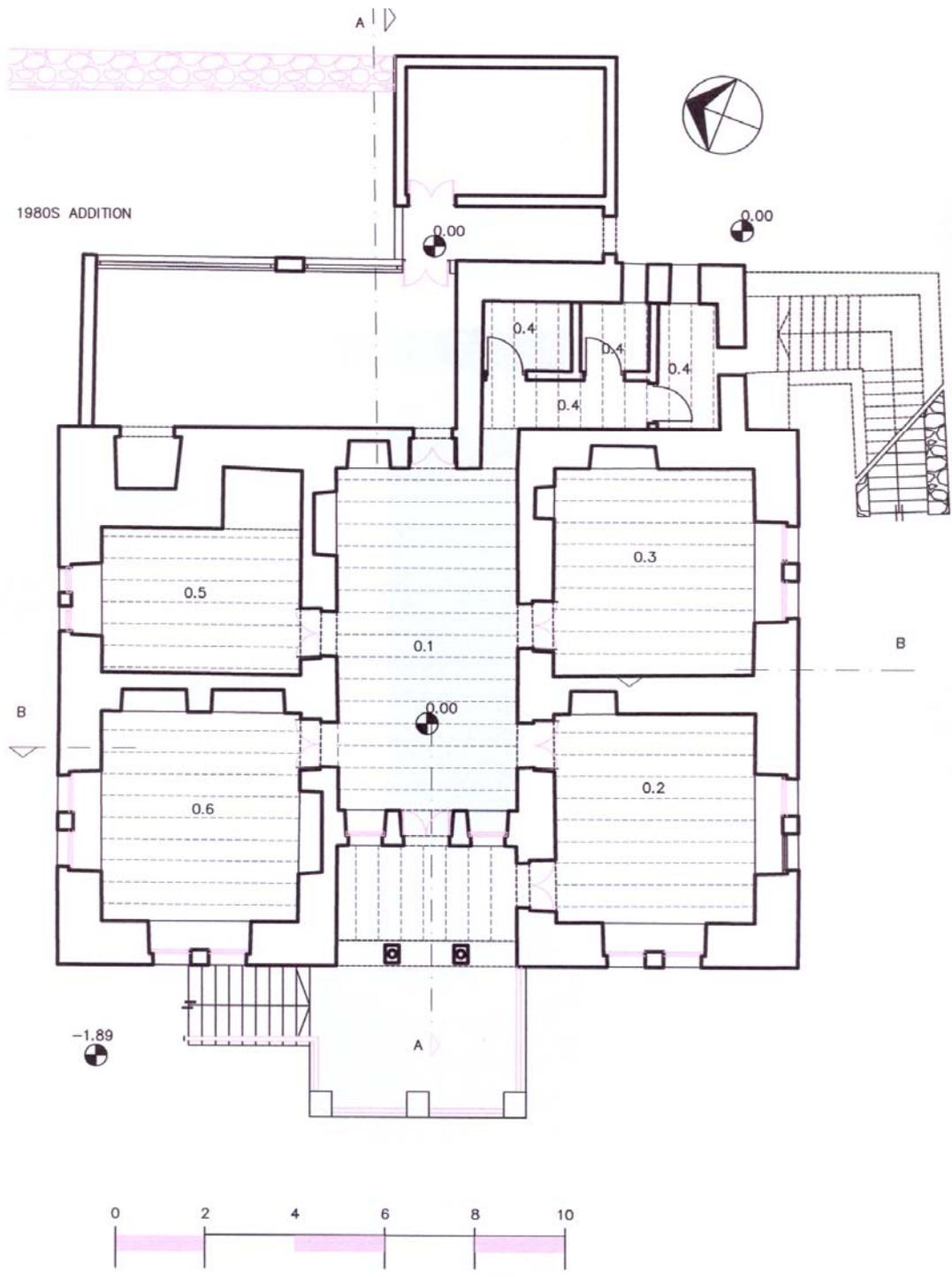


Figure D 10.2: Ground Floor Plan

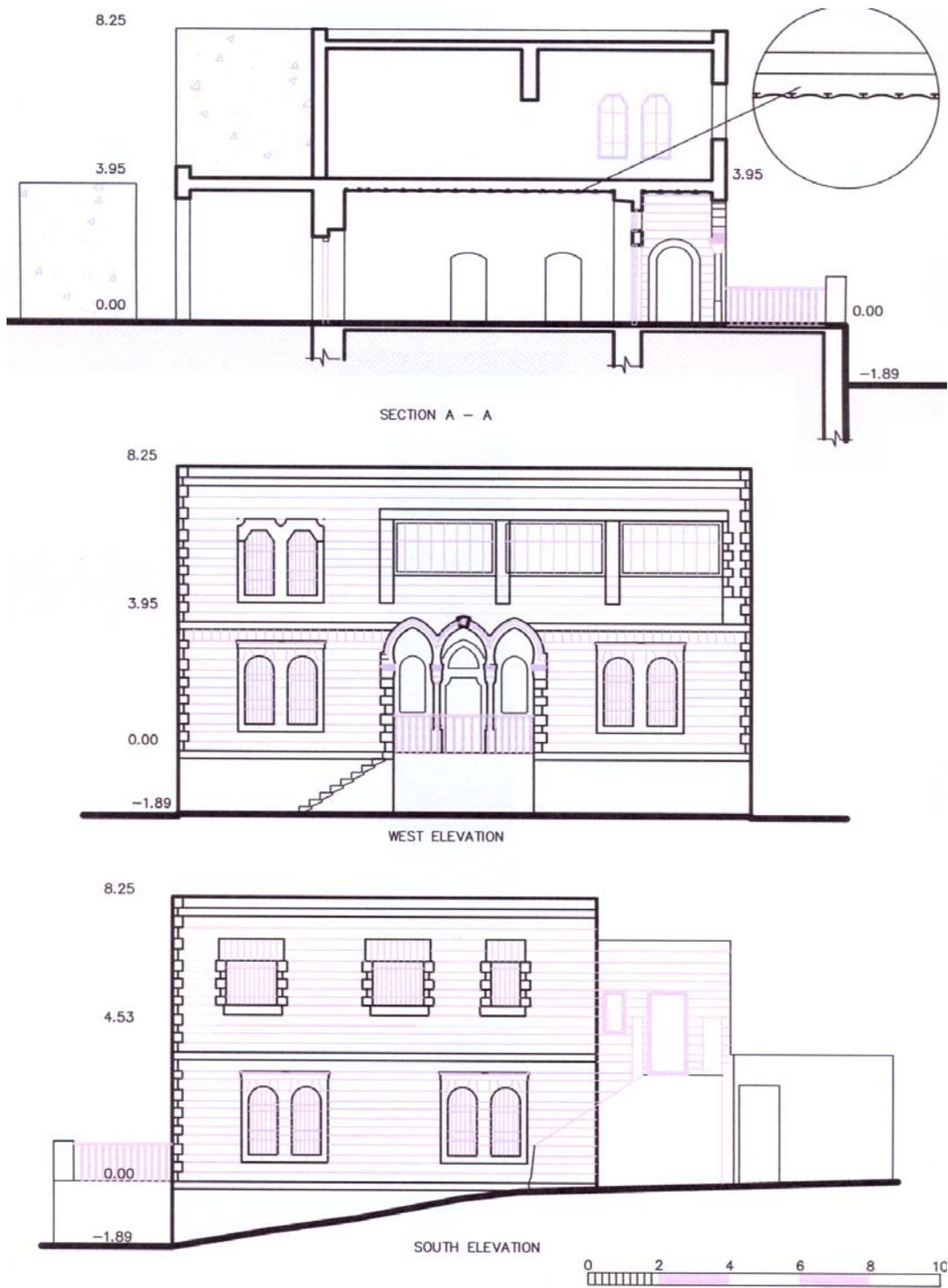


Figure D 10.3: elevations and section, sheet one

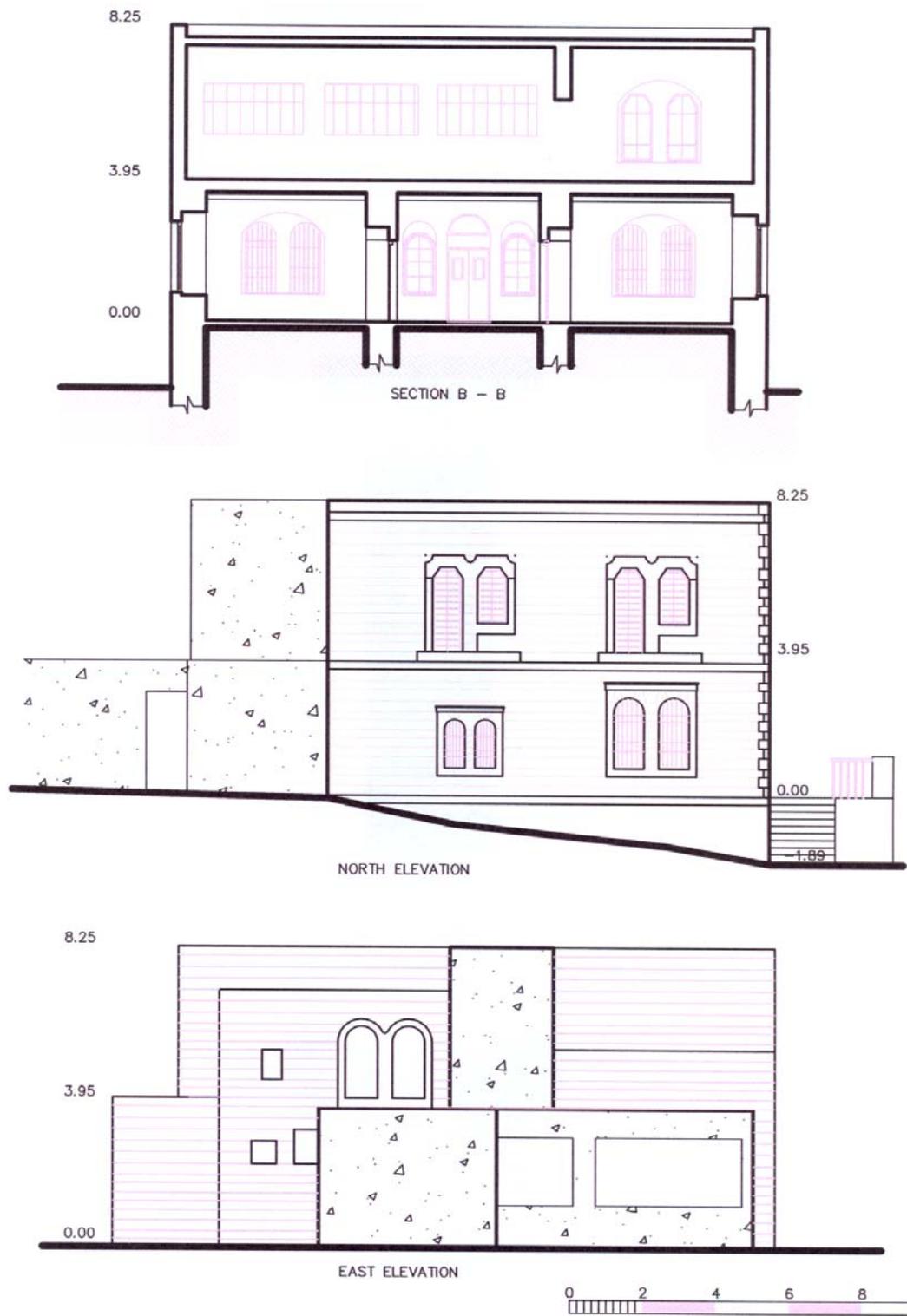


Figure D 10.4: elevations and section, sheet two

11. 'Ali 'Arafah House

Photographs: figure 11.1 to figure 11.6

Drawings: figure D 11.1, figure D 11.2, figure D 11.3, and figure D 11.4



Figure 11.1: Main Elevation (West)



Figure 11.2: Main Elevation (West), three arched entrance wall recess



Figure 11.3: South and East Elevations



Figure 11.4: North Elevation



Figure 11.5: space 0.1, east wall



Figure 11.6: space 0.6, south-east corner

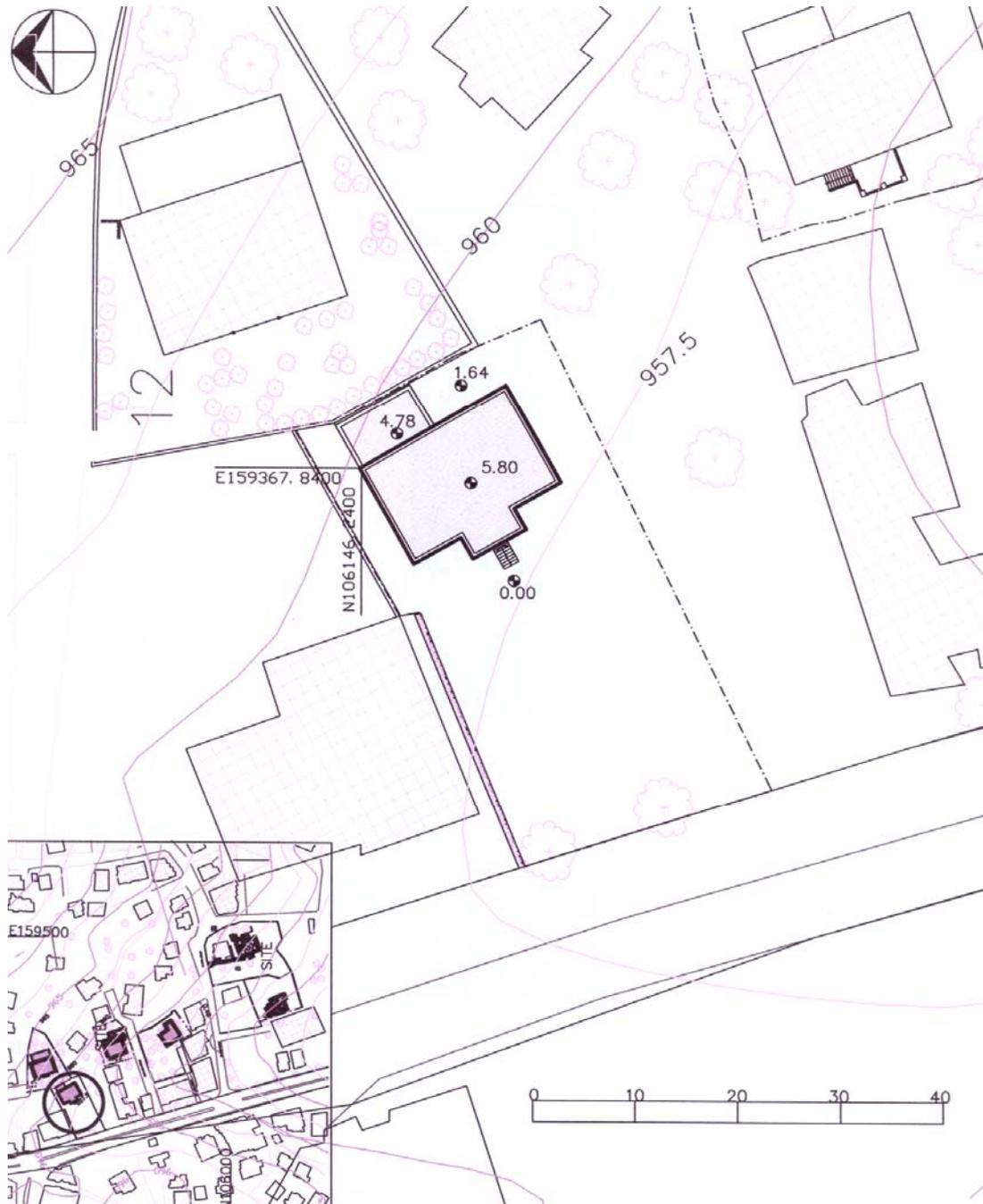


Figure D 11.1: Site Location and Site Plan

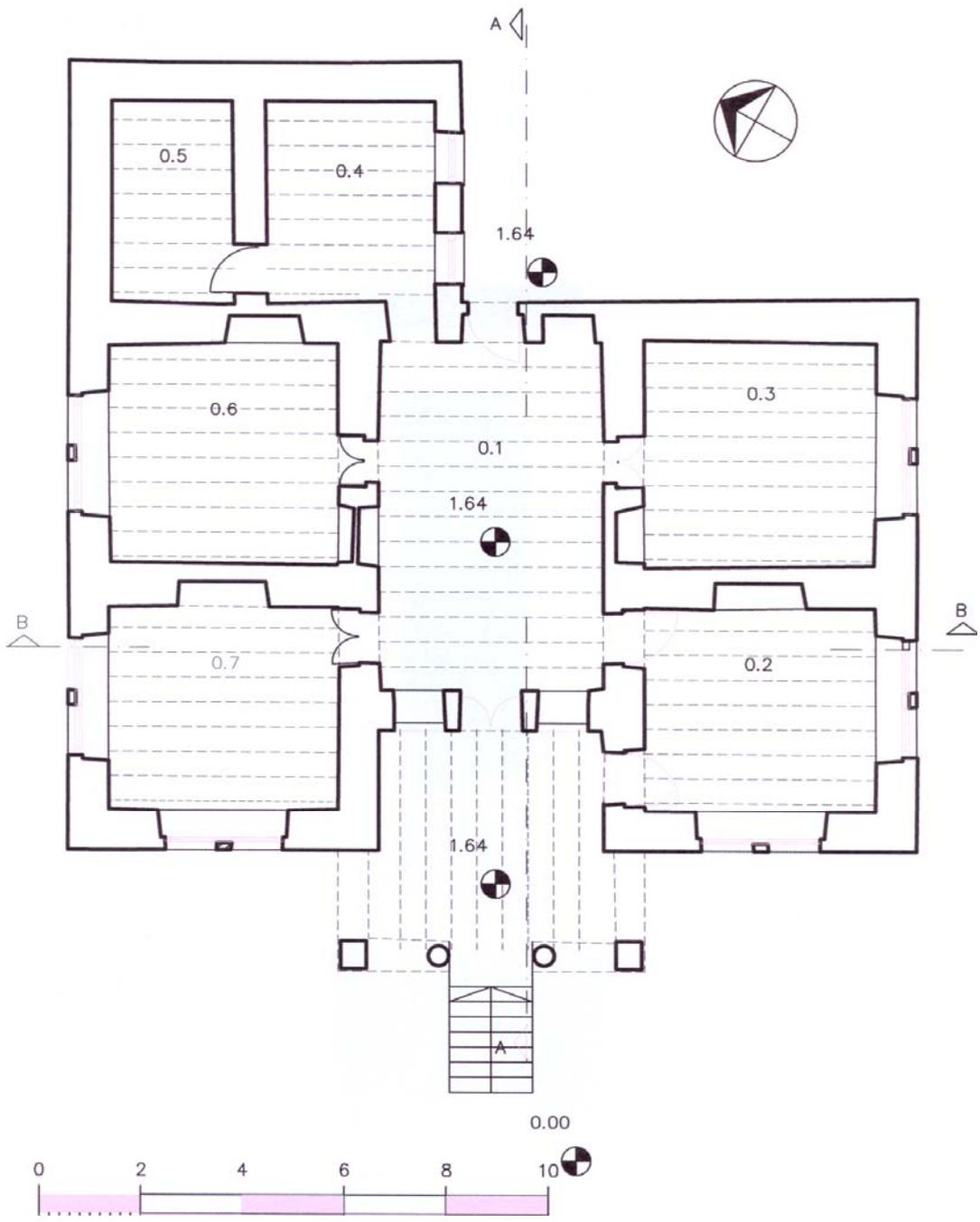


Figure D 11.2: Ground Floor Plan

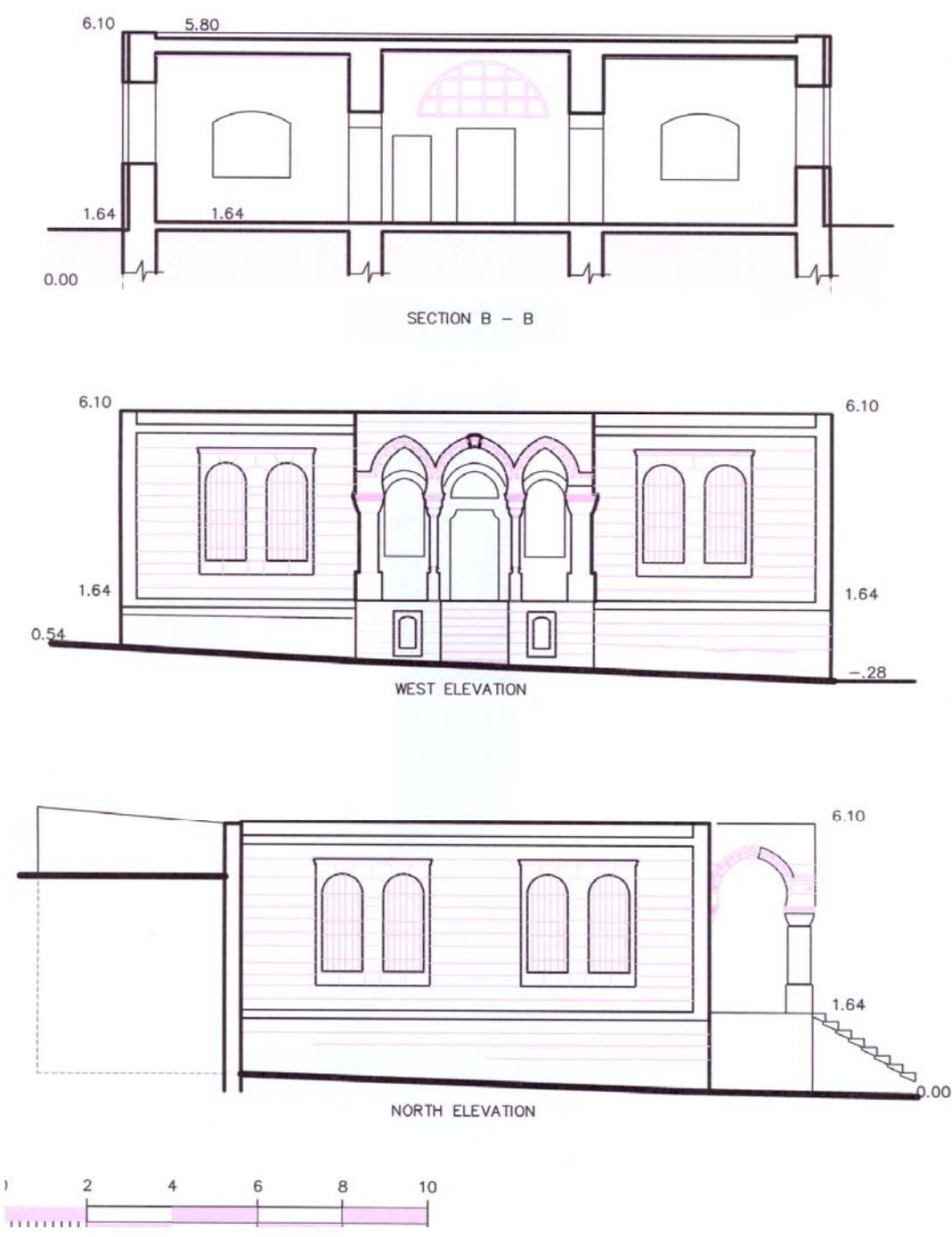


Figure D 11.3: section and elevations, sheet one

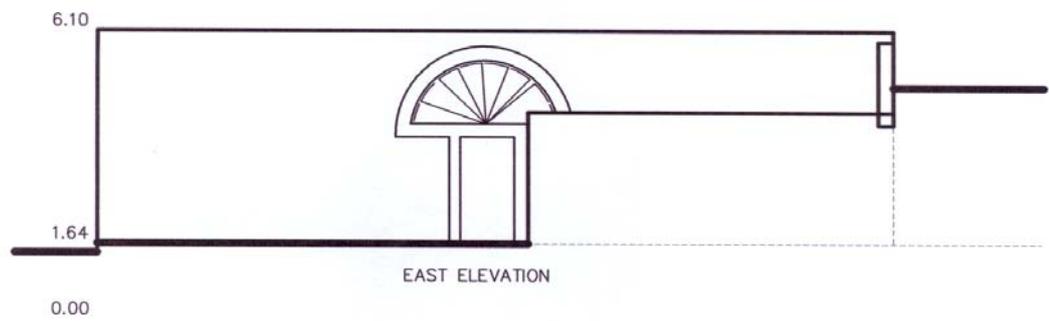
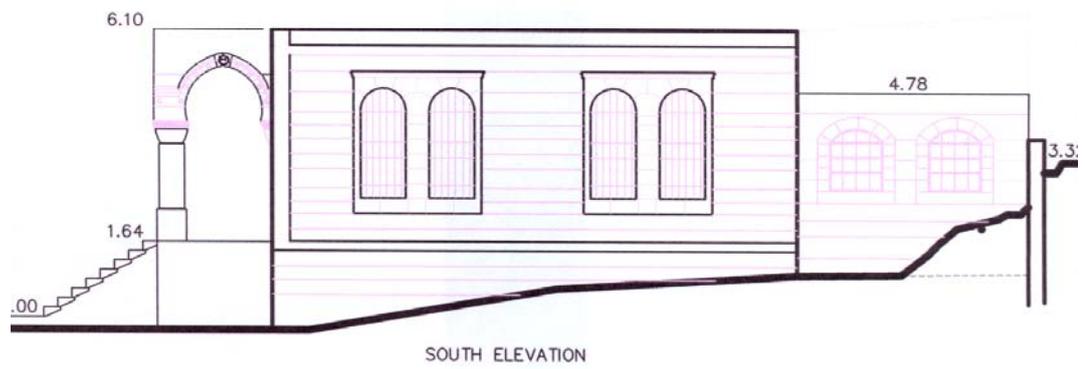
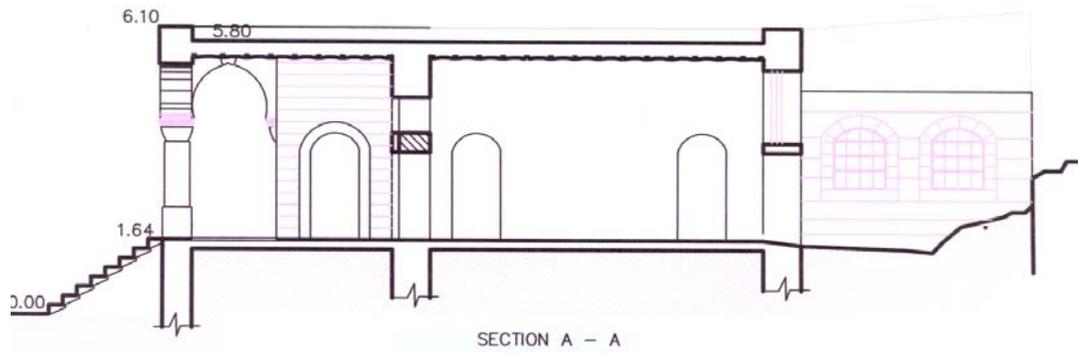


Figure D 11.4: section and elevations, sheet two

12. Muhammad as-Salaymah House

Photographs: figure 12.1 to figure 12.9

Drawings: figure D 12.1, figure D 12.2, figure D 12.3 and figure D 12.4



Figure 12.1: Main Elevation (West)



Figure 12.2: Main Elevation (West), the three arched details



Figure 12.3: South Elevation



Figure 12.4: space 0.1, looking west **Figure 12.5:** space 0.1, looking east

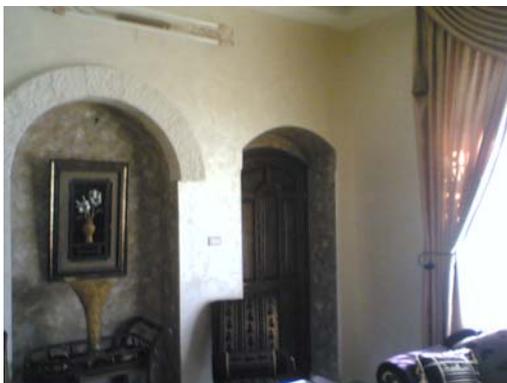


Figure 12.6: space 0.5, on the left looking south-west corner, on the right looking north-west corner



Figure 12.7: space 0.5, on the left looking east wall, on the right looking south-east corner



Figure 12.8: space 0.2, on the left looking south wall, on the right looking north-east corner



Figure 12.9: space 0.3, north wall then south-east corner

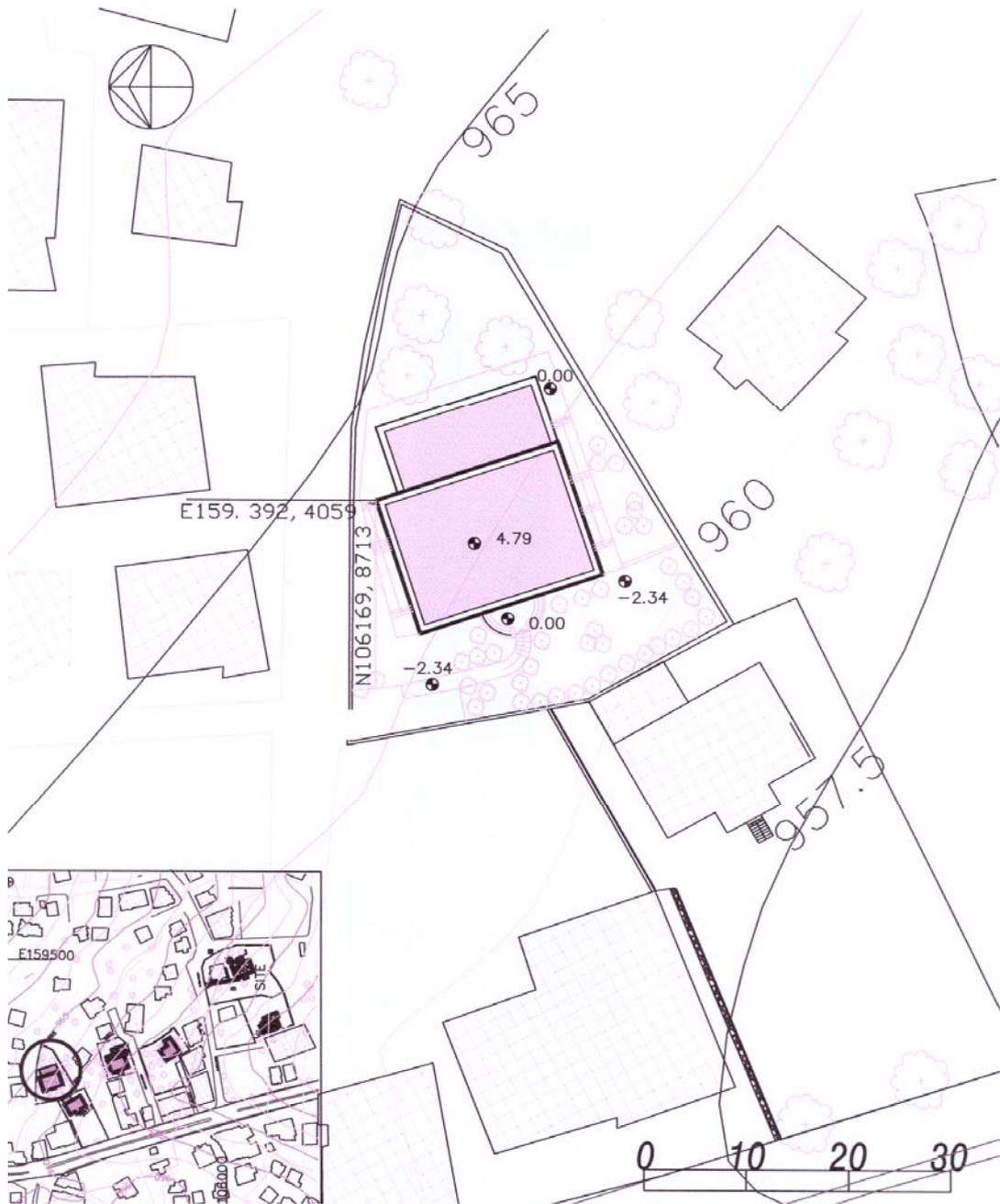


Figure D 12.1: Site Location and Site Plan

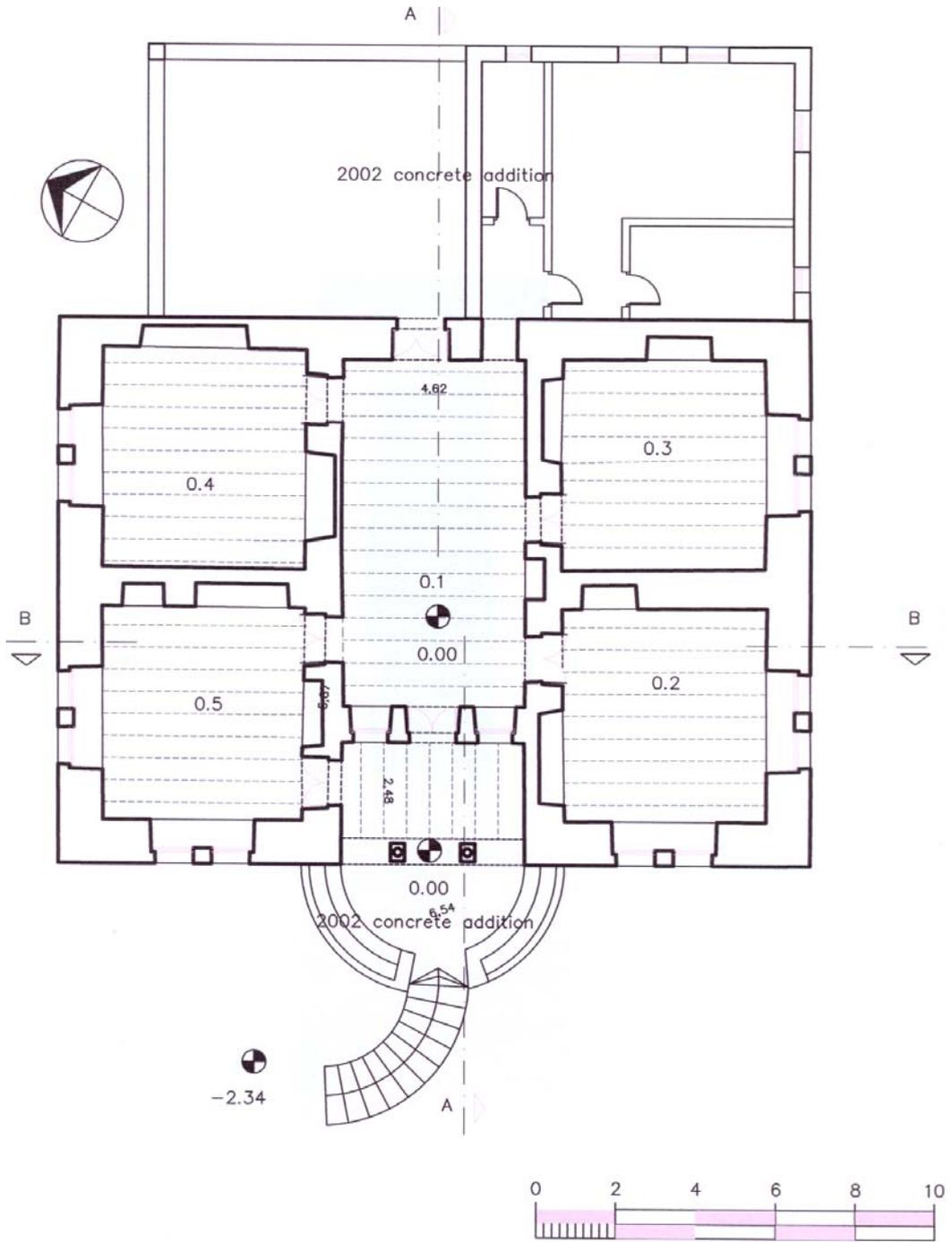


Figure D 12.2: Ground Floor Plan

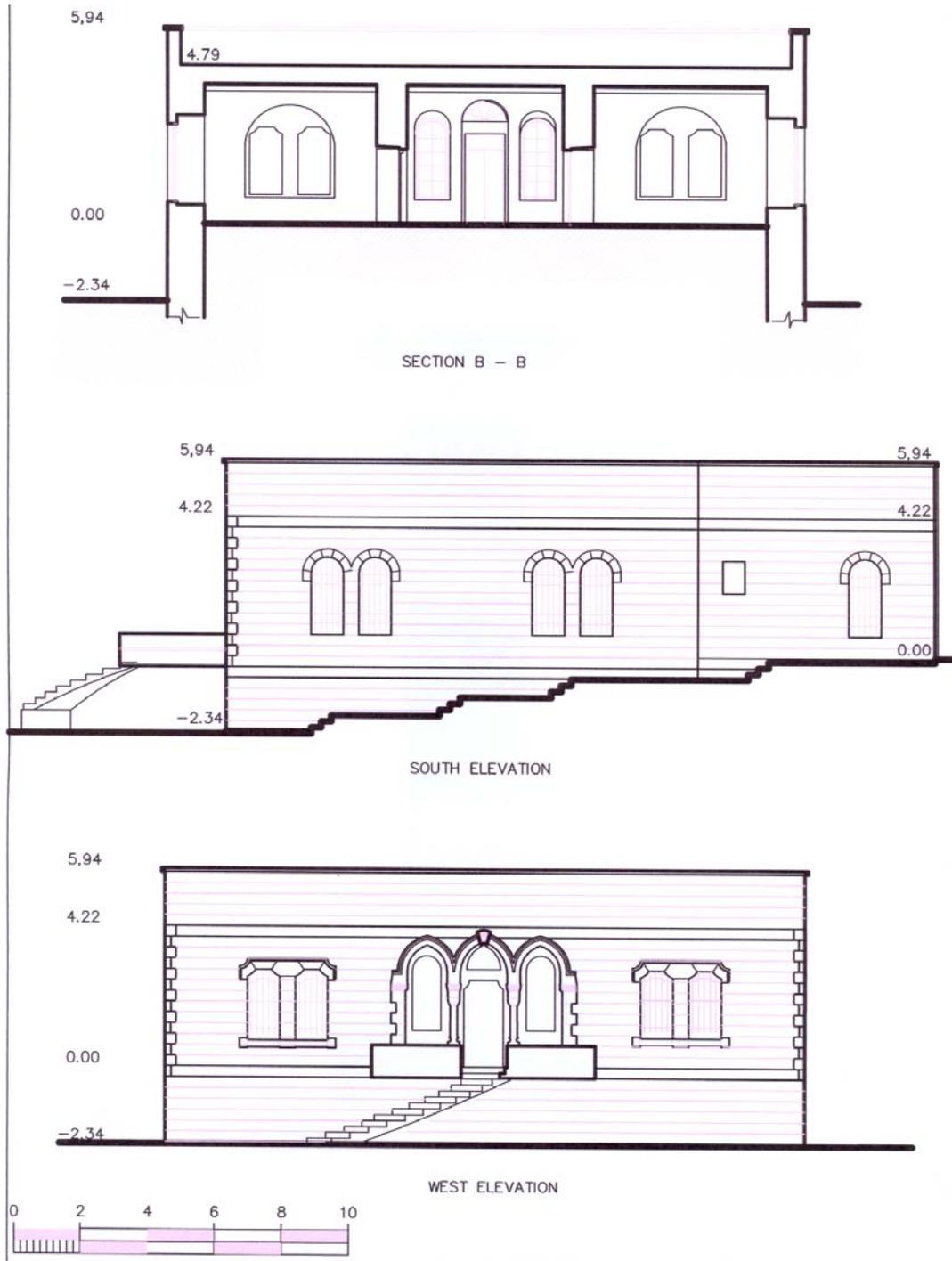


Figure D 12.3: section and elevations, sheet one

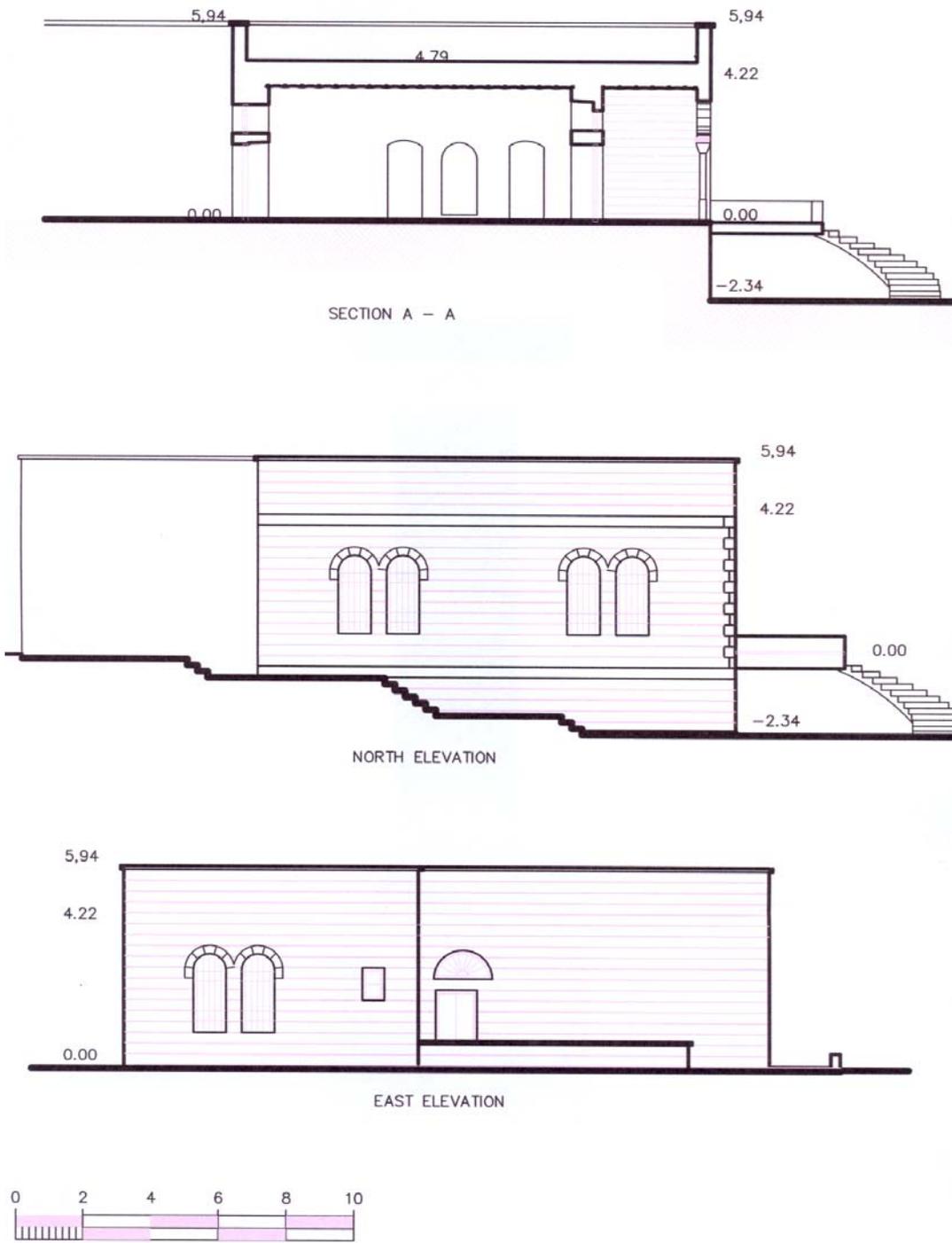


Figure D 12.4: section and elevations, sheet two

13. Yusif al-Ja'bari House

Photographs: figure 13.1 to figure 13.8

Drawings: figure D 13.1, figure D 13.2, figure D 13.3, and figure D 13.4



Figure 13.1: Main Elevation (South)



Figure 13.2: Main Elevation, details



Figure 13.3: West Elevation



Figure 13.4: space 1.1, looking south



Figure 13.5: space 1.1, looking then north



Figure 13.6: space 1.2, looking south

Figure 13.7: space 1.6



Figure 13.8: space 1.6, north-west corner then south wall

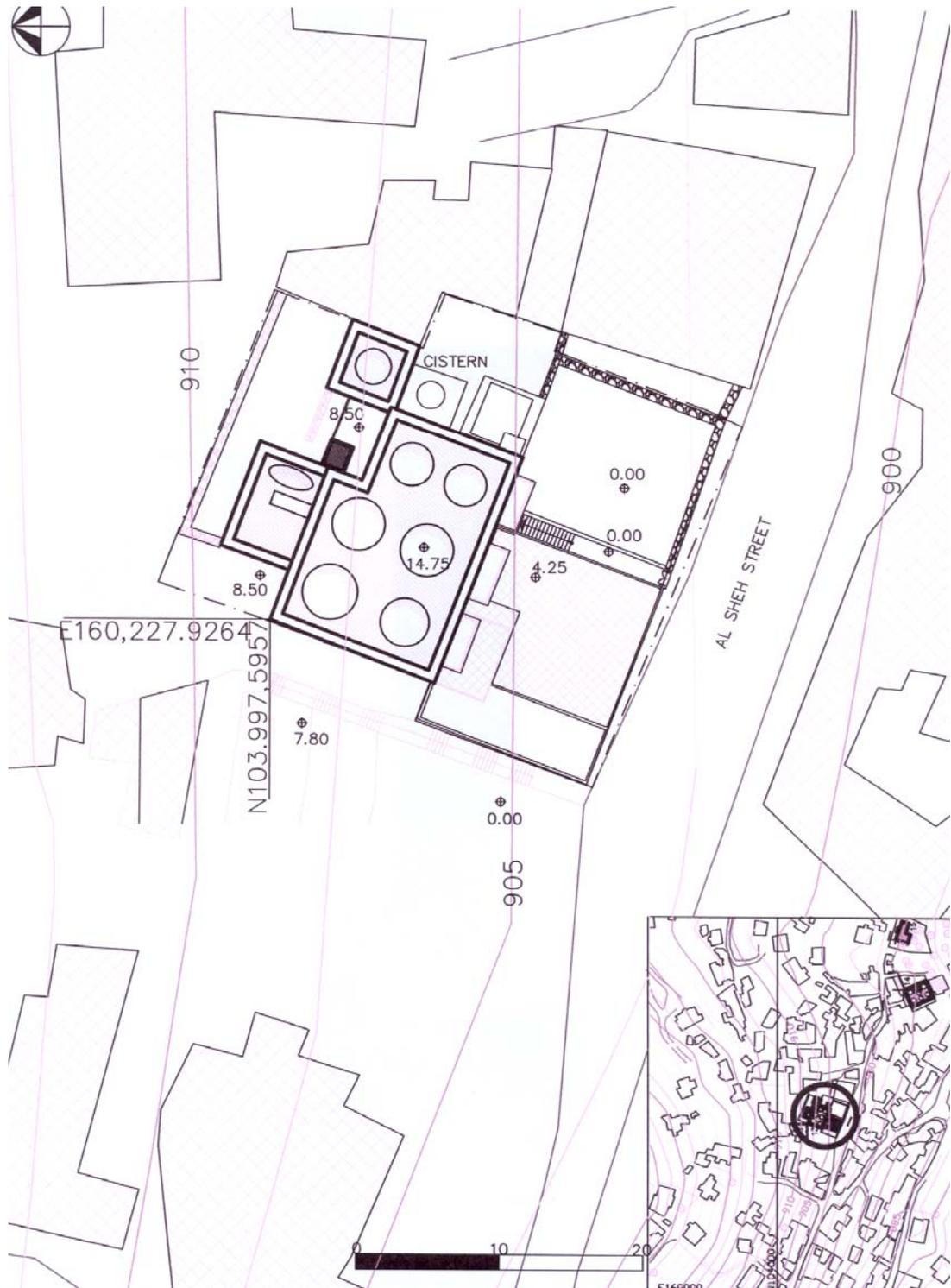


Figure D 13.1: Site Location and Site Plan

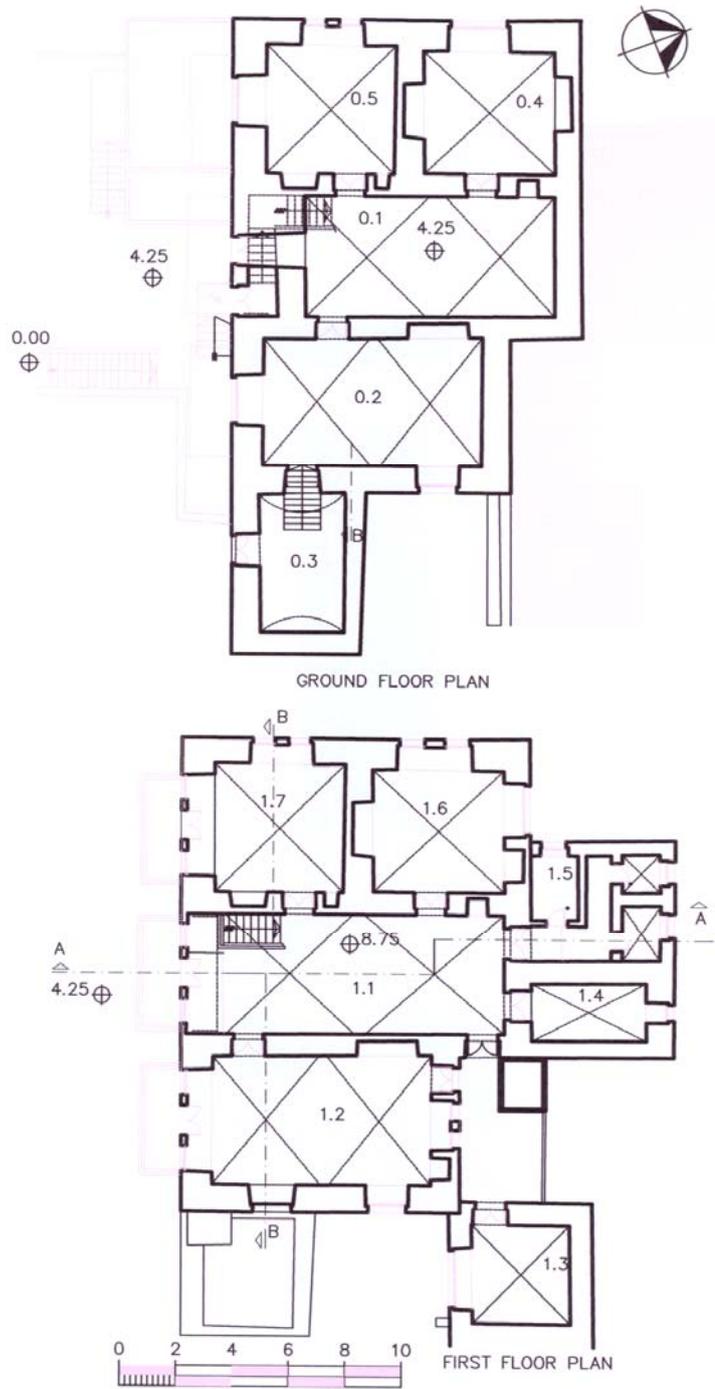


Figure D 13.2: Ground and First Floor Plans

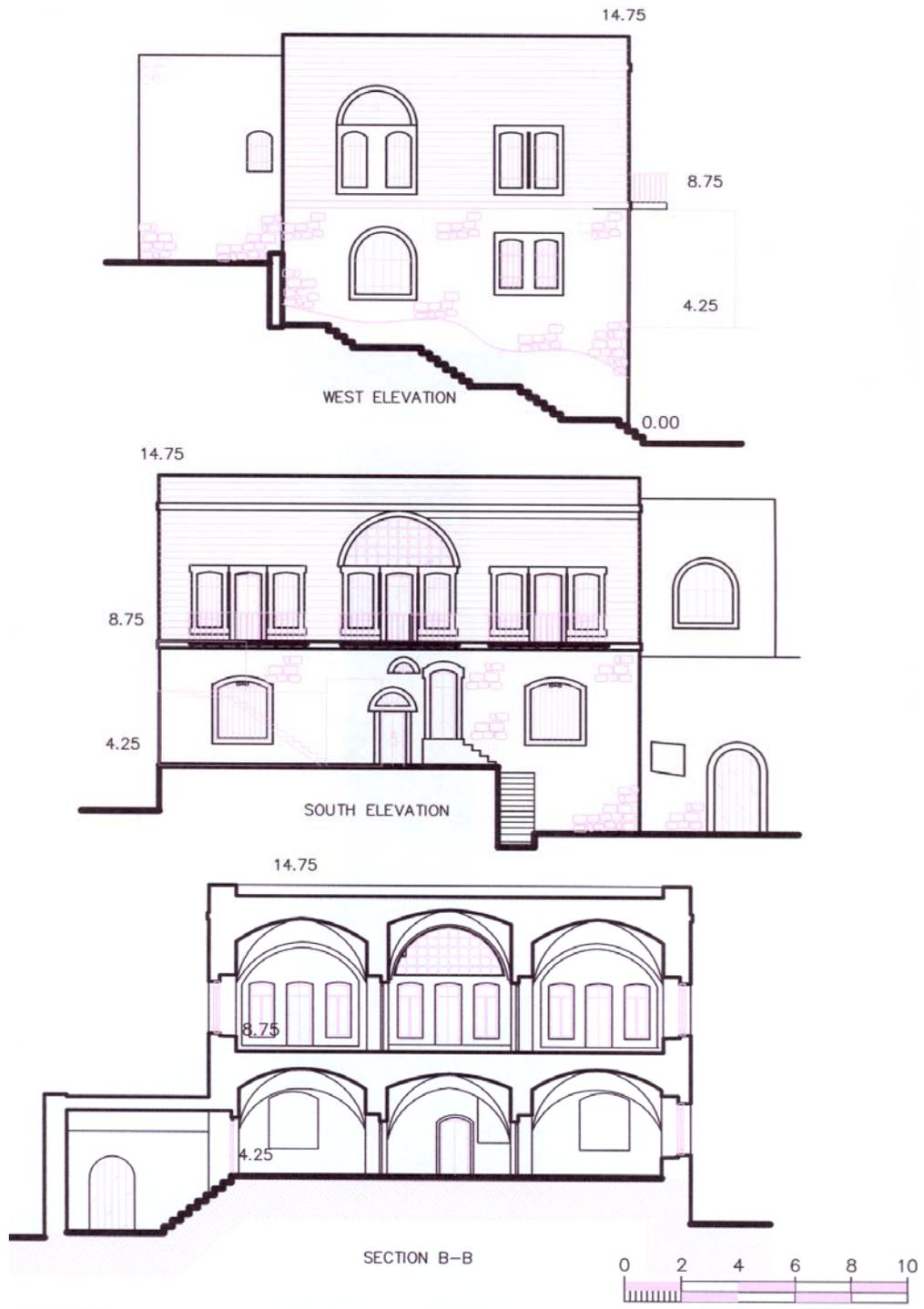


Figure D 13.3: section and elevations, sheet one

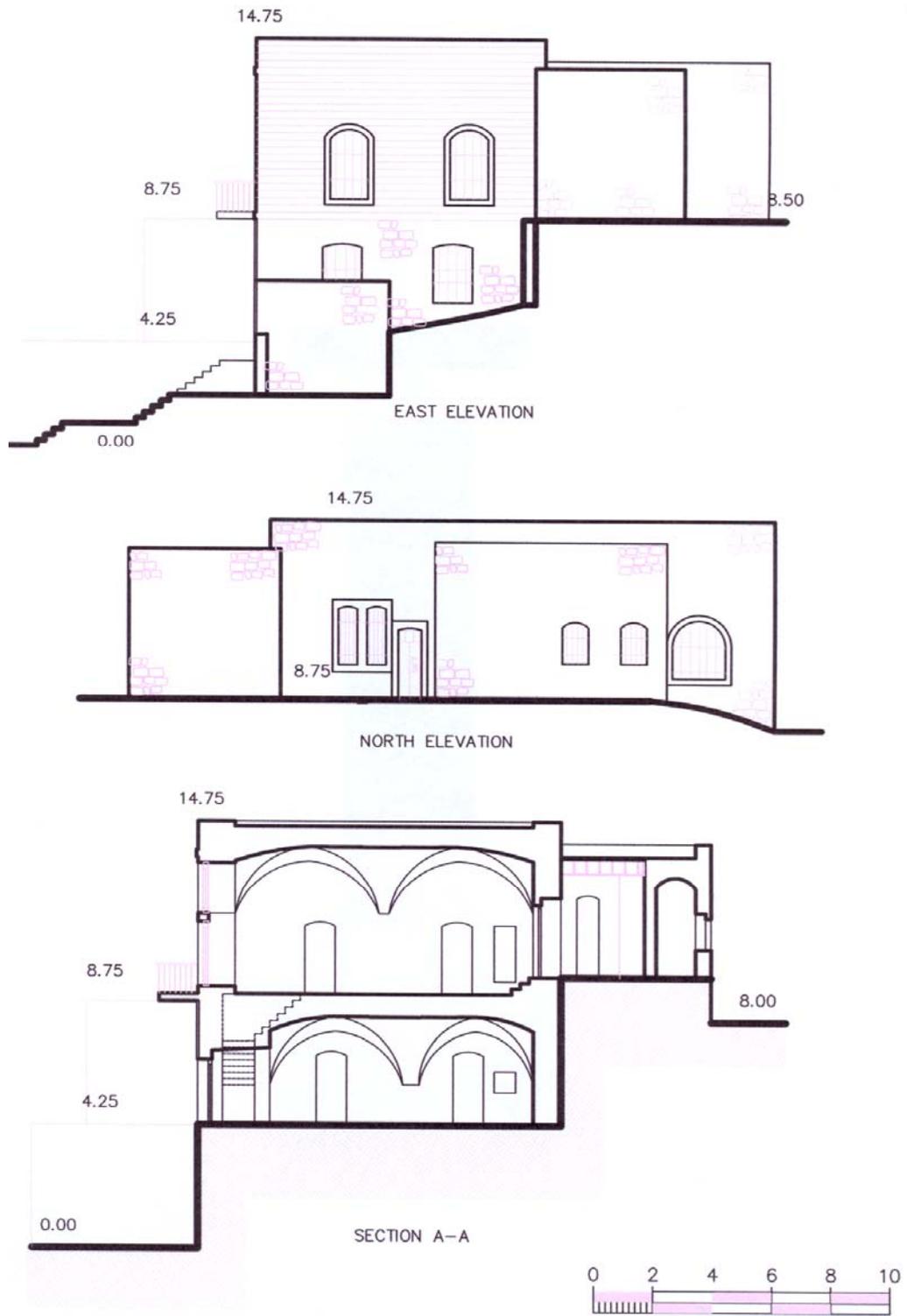


Figure D 13.4: section and elevations, sheet two

14. Jabir al-Ja'abari House

Photographs: figure 14.1 to figure 14.7

Drawings: figure D 14.1, figure D 14.2, and figure D 14.3



Figure 14.1: Main Elevation (East)



Figure 14.2: West Elevation



Figure 14.3: space 0.1, on the left looking west, on the right looking north wall



Figure 14.4: space 0.2, on the left looking east, on the right looking west



Figure 14.5: space 0.4, on the left looking south-east corner then north-east corner



Figure 14.6: space 0.5, on the left looking south-east corner, then north wall

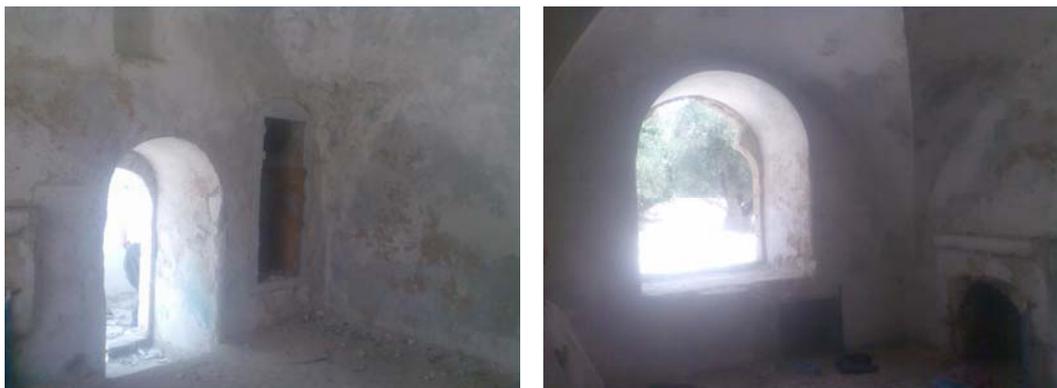


Figure 14.7: space 0.3, on the left looking north east corner, then east wall

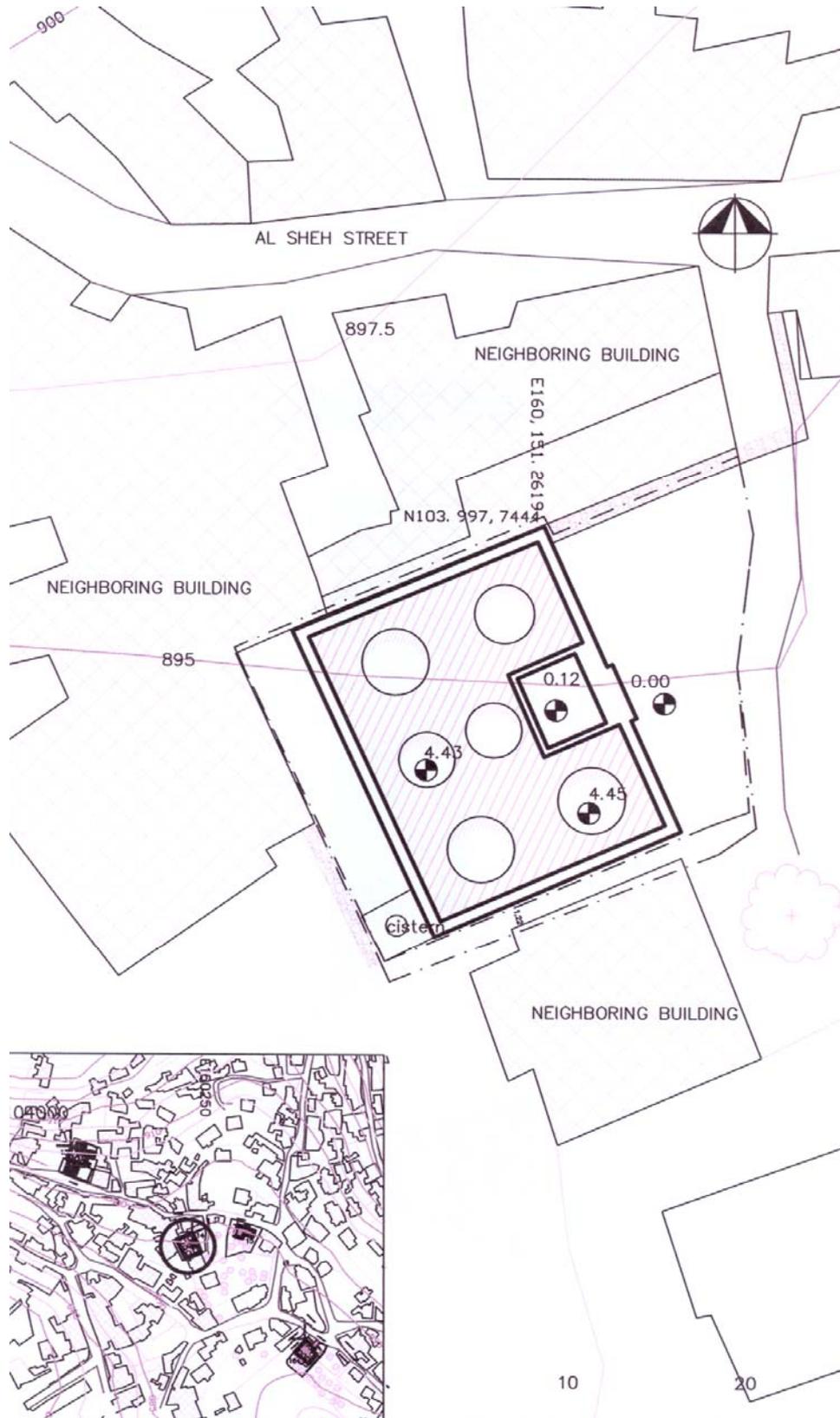


Figure D 14.1: Site Location and Site Plan

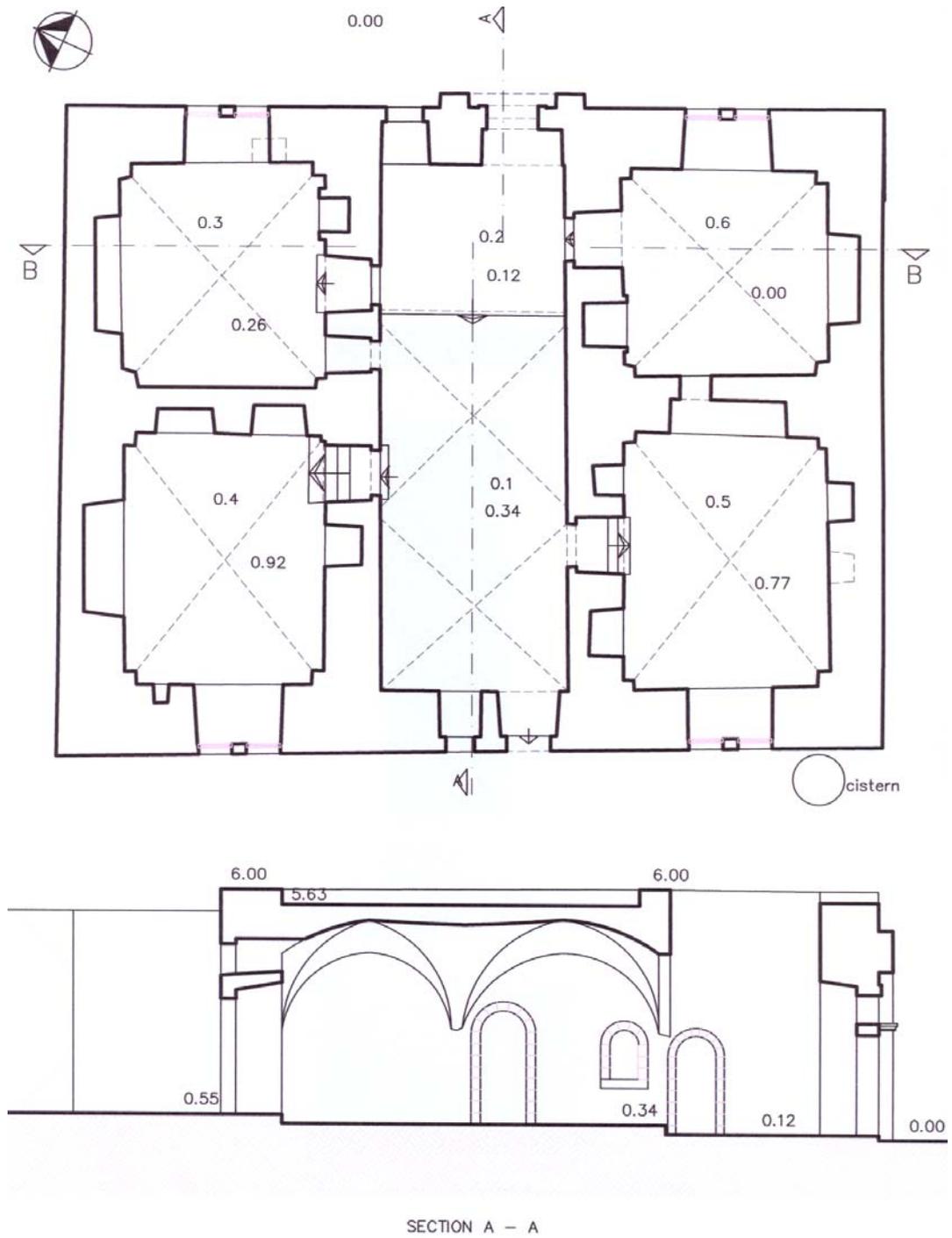


Figure D 14.2: Ground Floor Plan and Section A - A

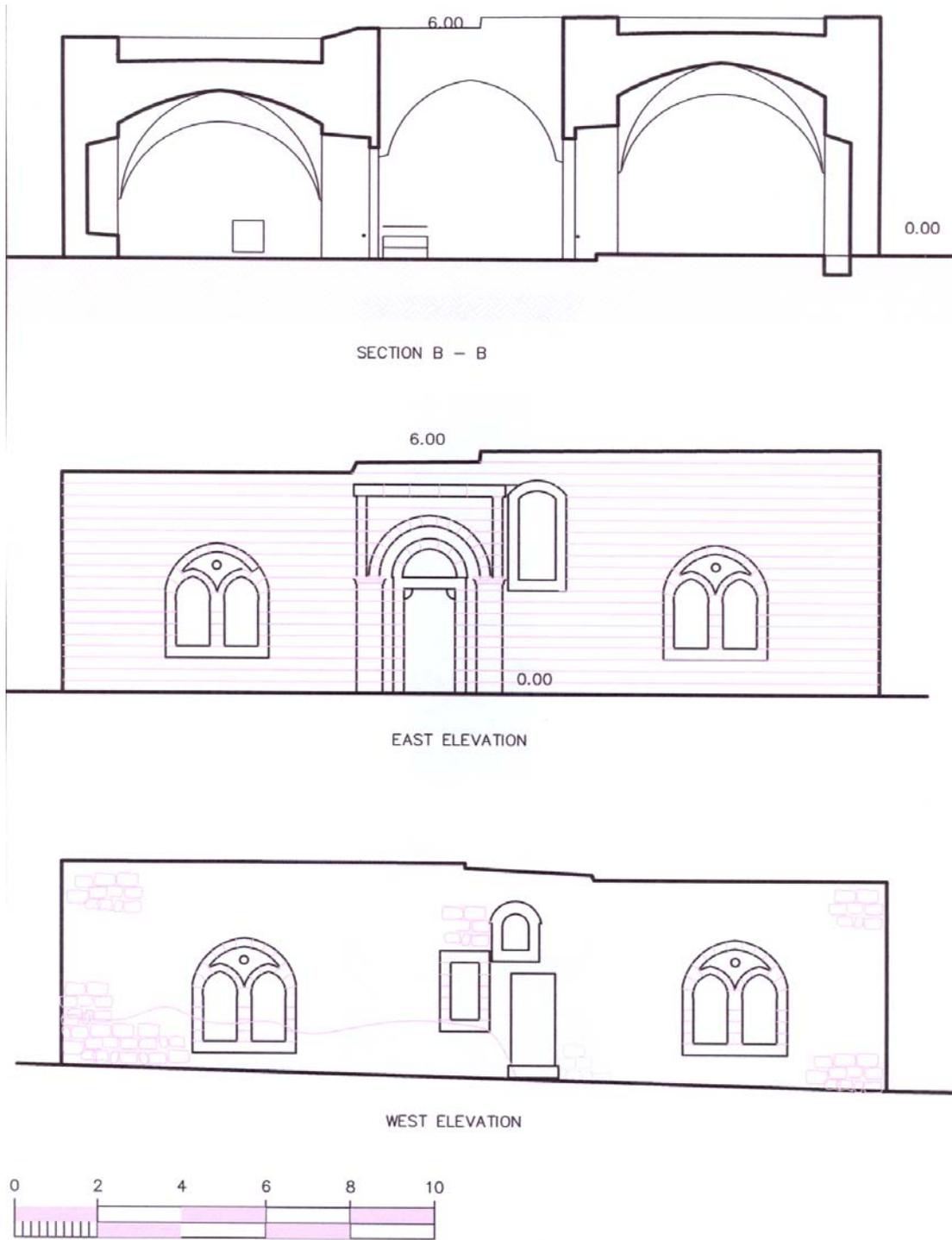


Figure D 14.3: Section and Elevations

15. ‘Abdul ‘af al-Ja’bari House

Photographs: figure 15.1 to figure 15.7

Drawings: figure D 15.1, figure D 15.2, figure D 15.3, and figure D 15.4



Figure 15.1: Main Elevation (North)



Figure 15.2: Main Elevation (North)



Figure 15.3: West Elevation



Figure 15.4: South Elevation



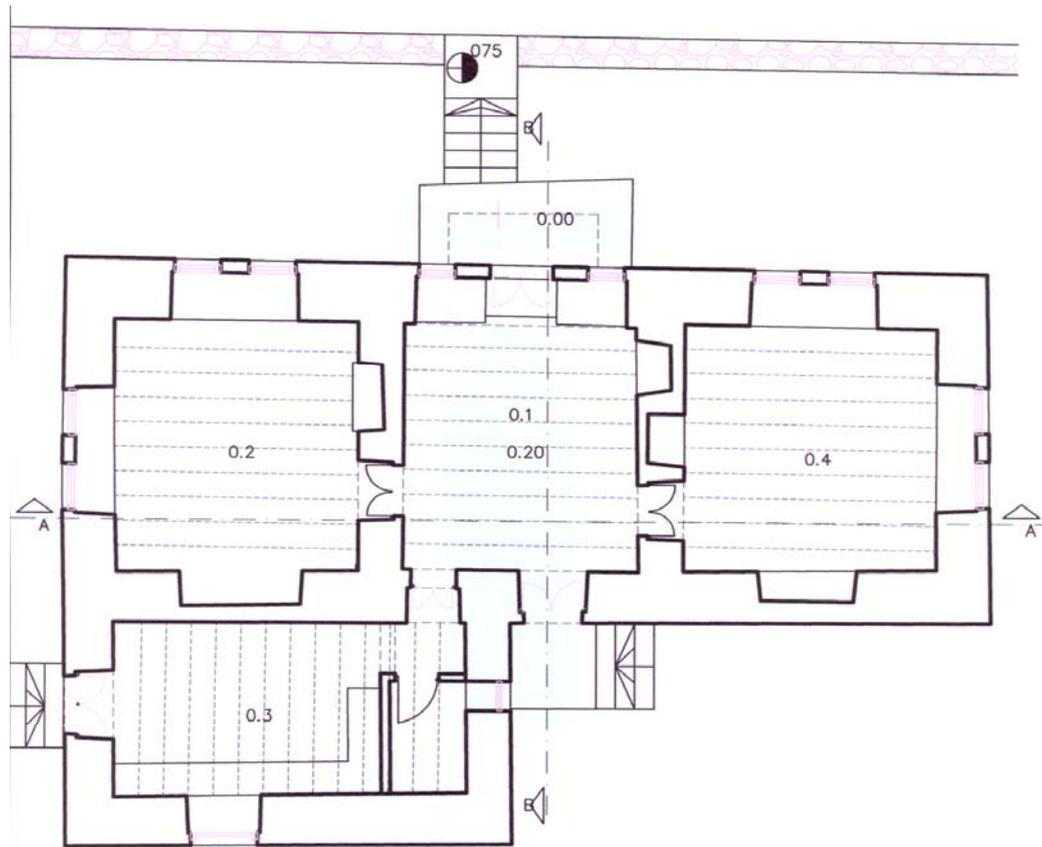
Figure 15.5: East Elevation



Figure 15.6: space 0.2, on the left looking south-west corner, on the right south-west corner



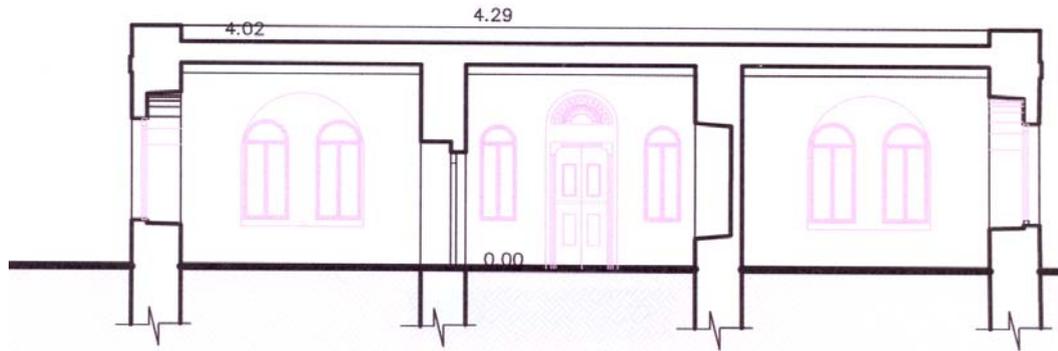
Figure 15.7: space 0.4 on the left looking south-east corner, on the right east wall cupboard



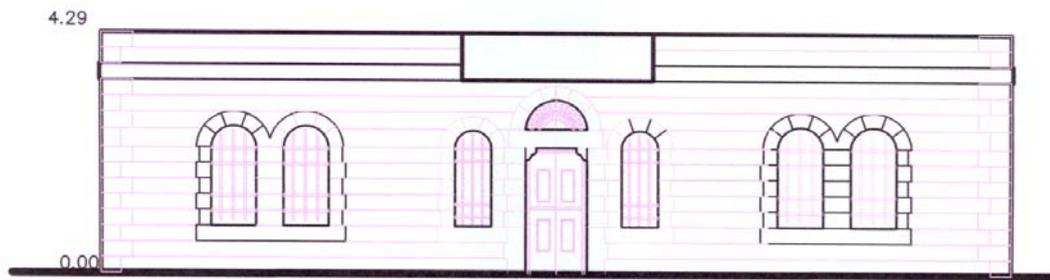
GROUND FLOOR PLAN



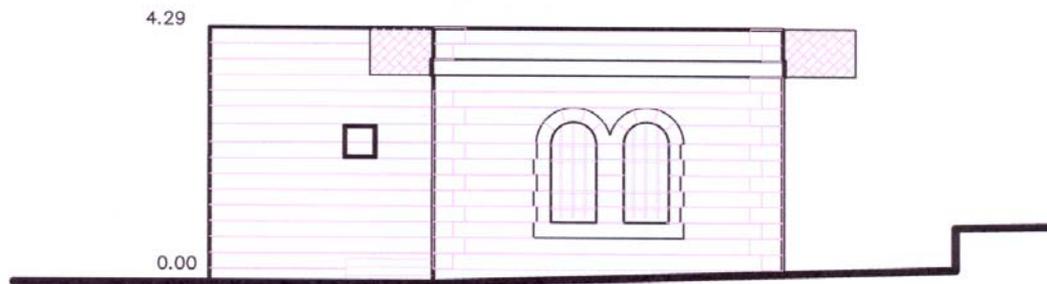
Figure D 15.2: Ground Floor Plan



SECTION A-A



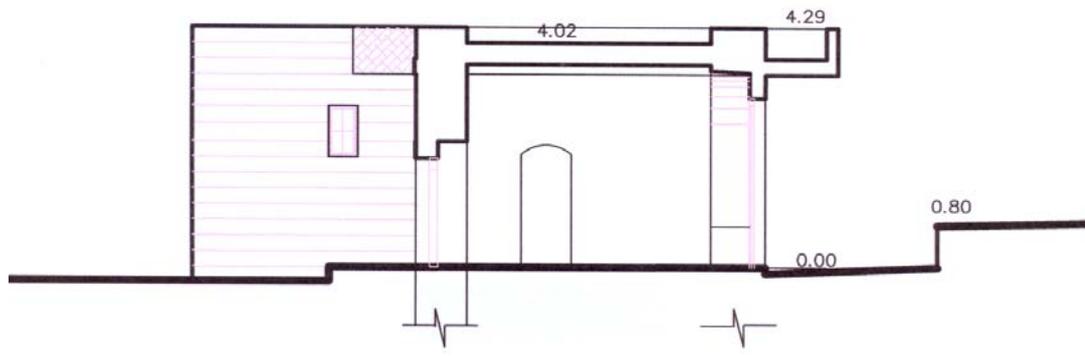
NORTH ELEVATION



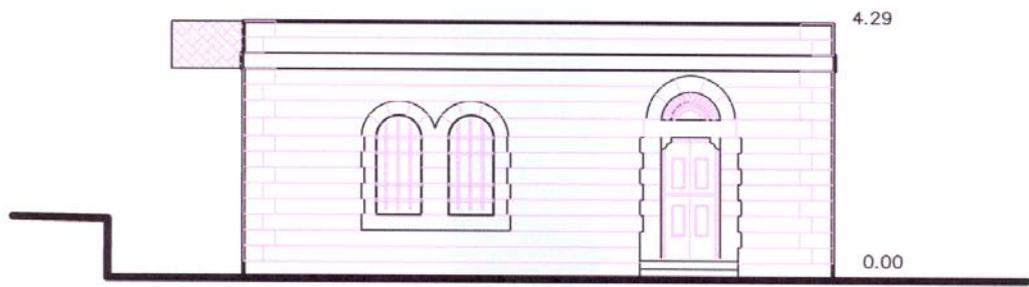
EAST ELEVATION



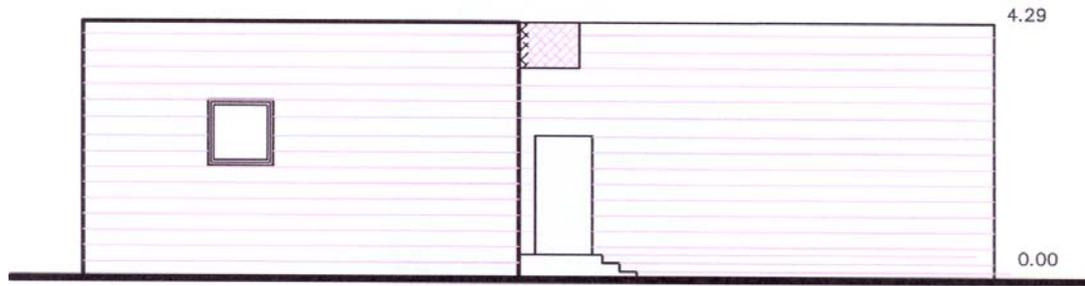
Figure D 15.3: Section and Elevations, sheet one



SECTION B-B



WEST ELEVATION



SOUTH ELEVATION



Figure D 15.4: section and elevations, sheet two

16. Mosa an-Natshih House

Photographs: figure 16.1 to figure 16.5

Drawings: figure D 16.1, figure D 16.2, figure D 16.3, and figure D 16.4



Figure 16.1: West Elevation

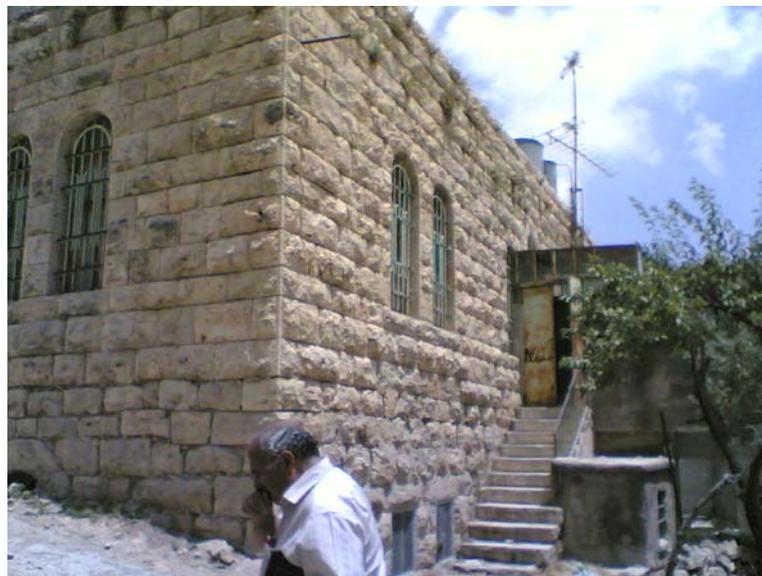


Figure 16.2: South Elevation



Figure 16.3: North Elevation



Figure 16.4: West Elevation Entrance
corner

Figure 16.5: space 1.3, south-east
corner

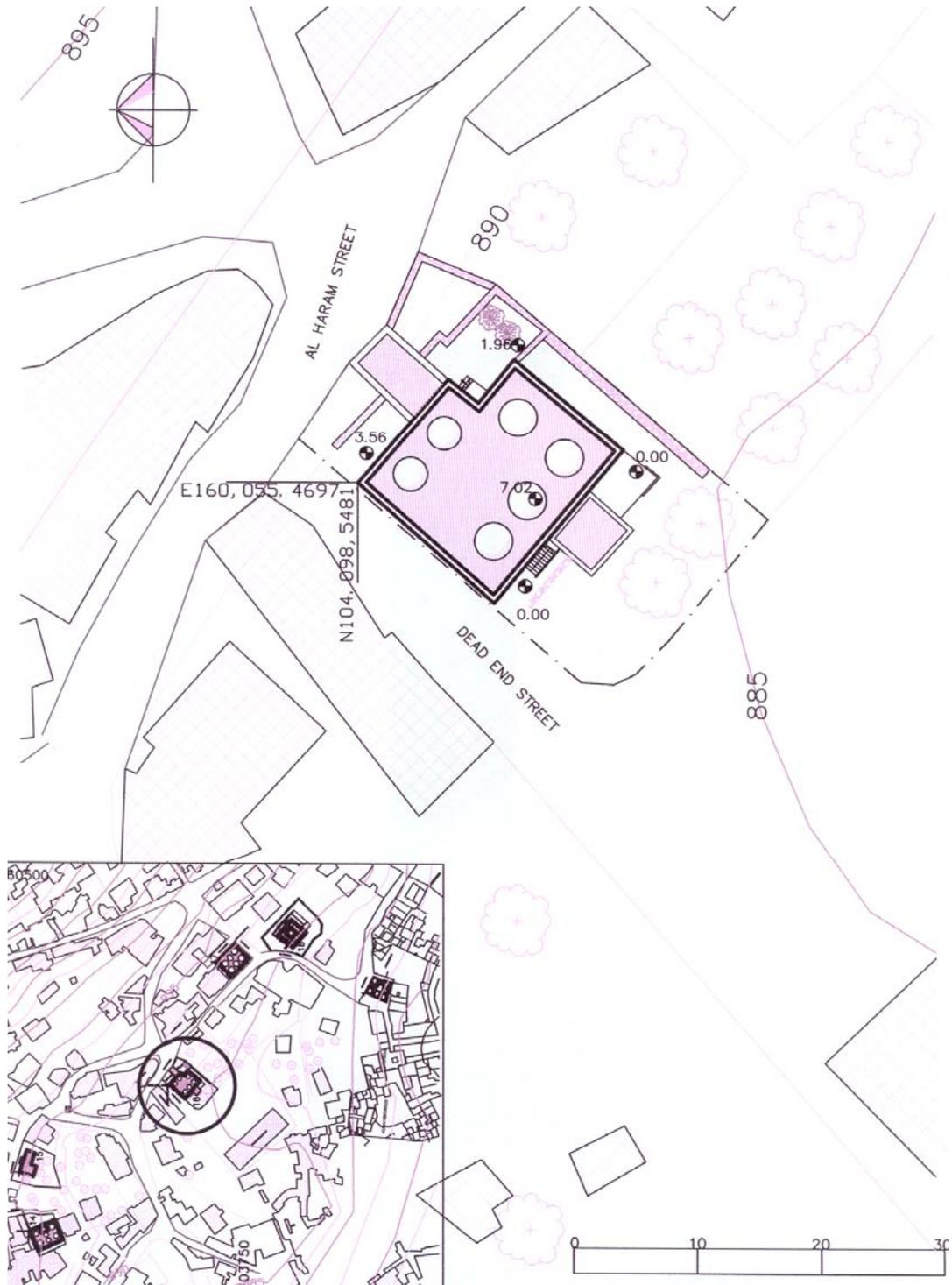


Figure D 16.1: Site Location and Site Plan

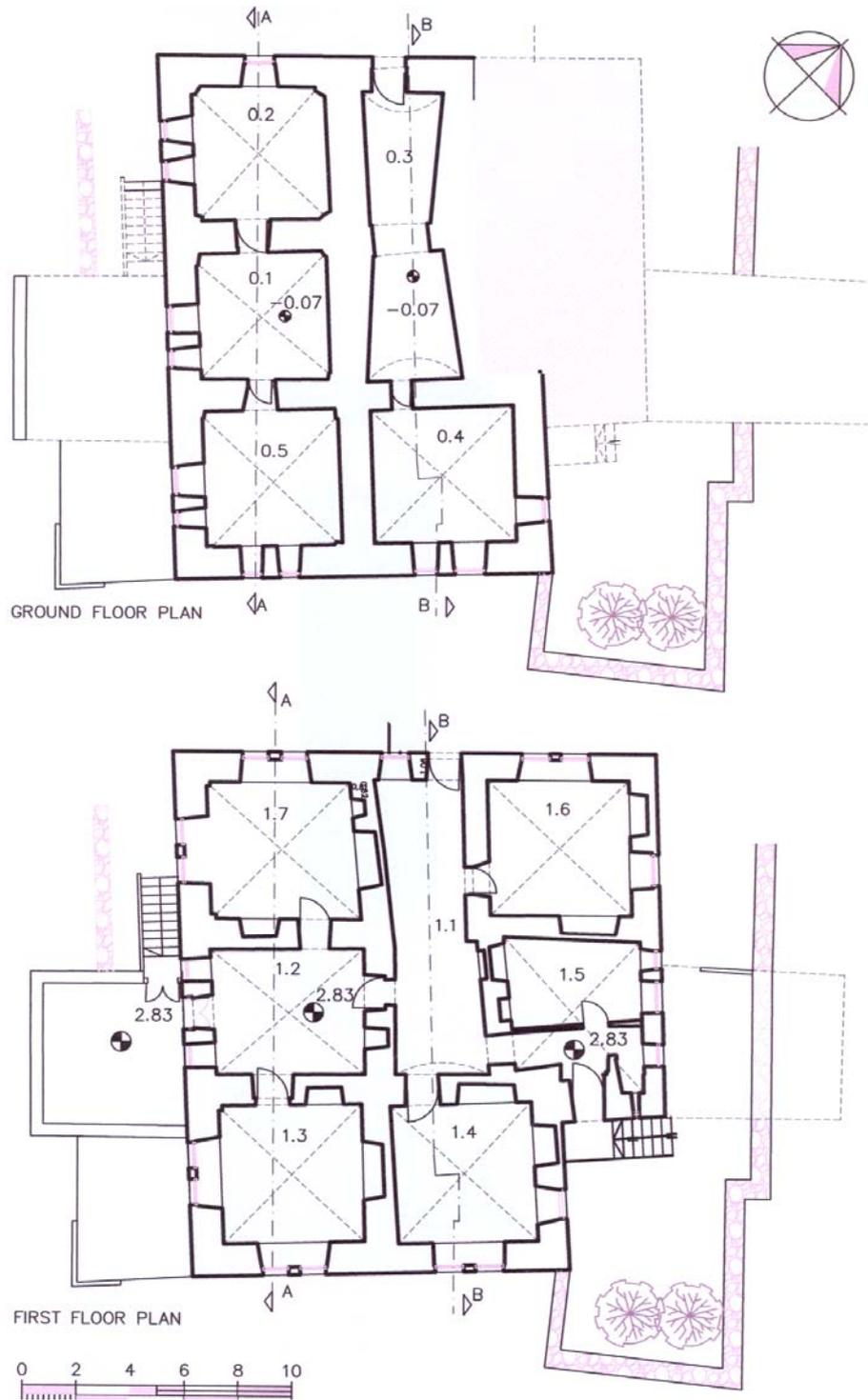
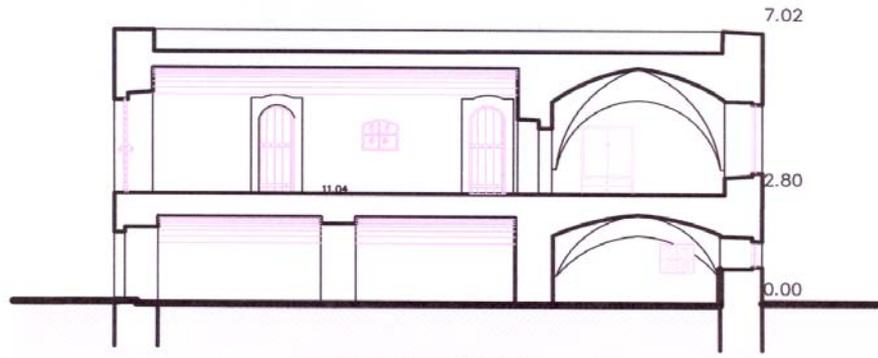
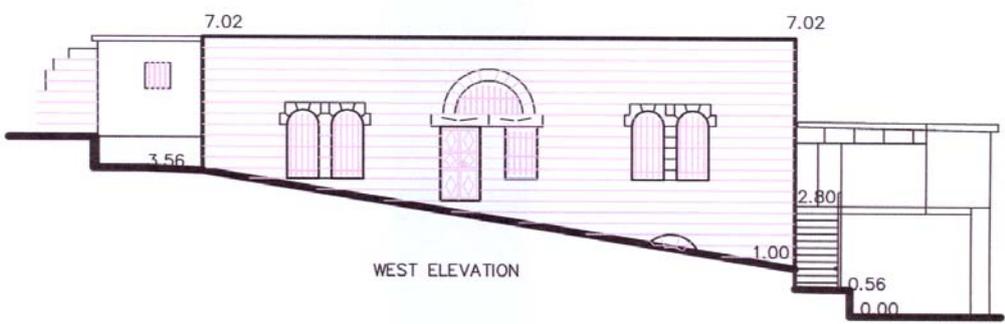


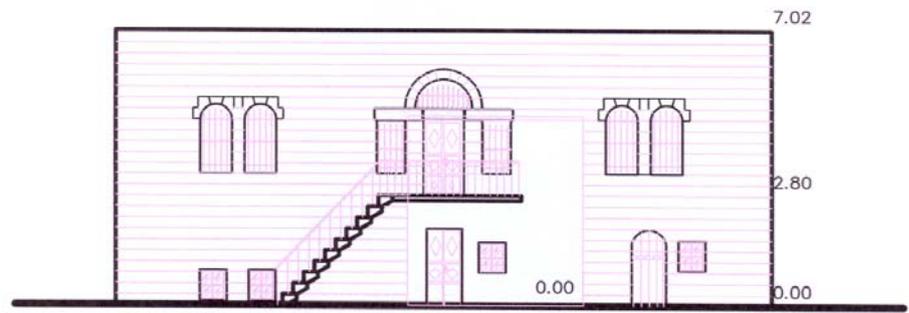
Figure D 16.2: Partial Basement and Ground Floor Plans



SECTION B-B



WEST ELEVATION



SOUTH ELEVATION

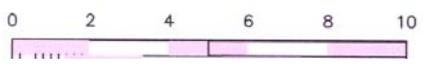
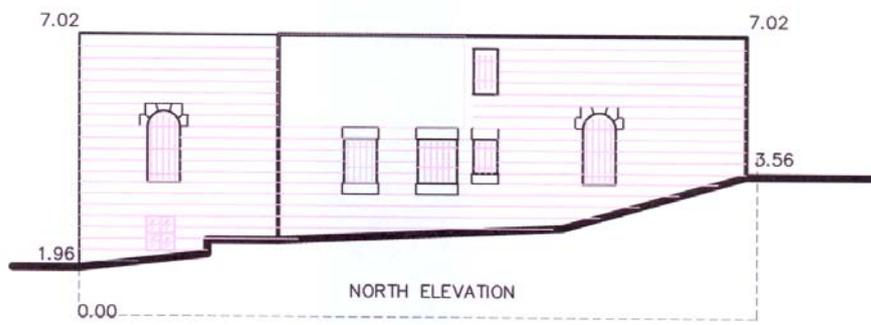


Figure D 16.3: section and elevations, sheet one



SECTION A-A



NORTH ELEVATION



EAST ELEVATION

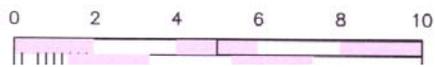


Figure D 16.4: section and elevations, sheet two

17. Abdul -Aziz an-Natshih House

Photographs: figure 17.1 to figure 17.6

Drawings: figure D 17.1, figure D 17.2, figure D 17.3, and figure D 17.4



Figure 17.1: Main Elevation South, then East Elevation



Figure 17.2: space 1.1, south wall, then looking north wall



Figure 17.3: space 1.1, looking south-west, and then looking stairs leading to north exit



Figure 17.4: space 1.2, on the left looking south-east corner, on the right looking south wall



Figure 17.5: space 1.3, on the left looking south west corner, on the right looking east wall window



Figure 17.6: space 1.5, on the left looking north-west corner, on the right looking south wall window

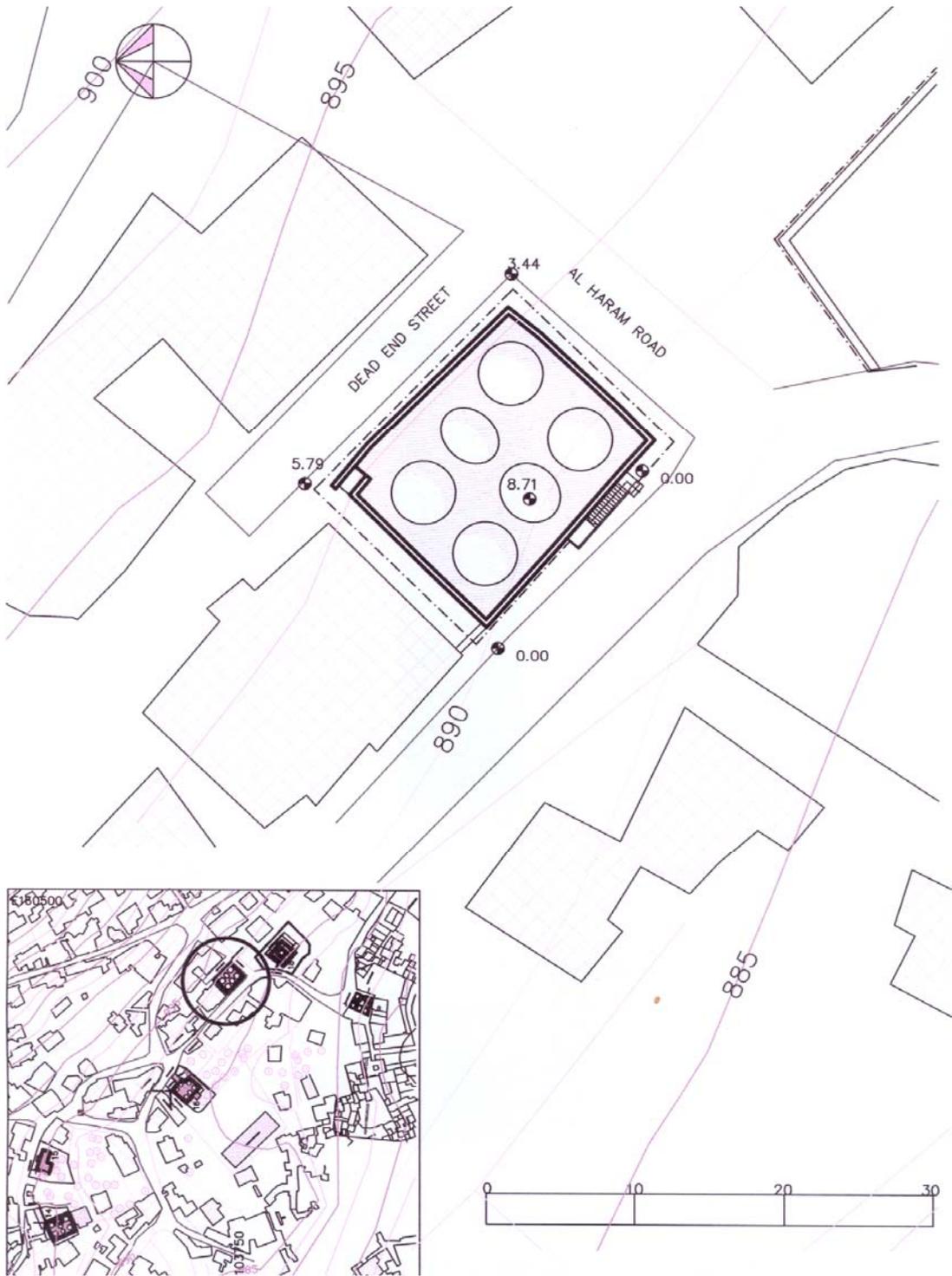


Figure D 17.1: Site Location and Site Plan

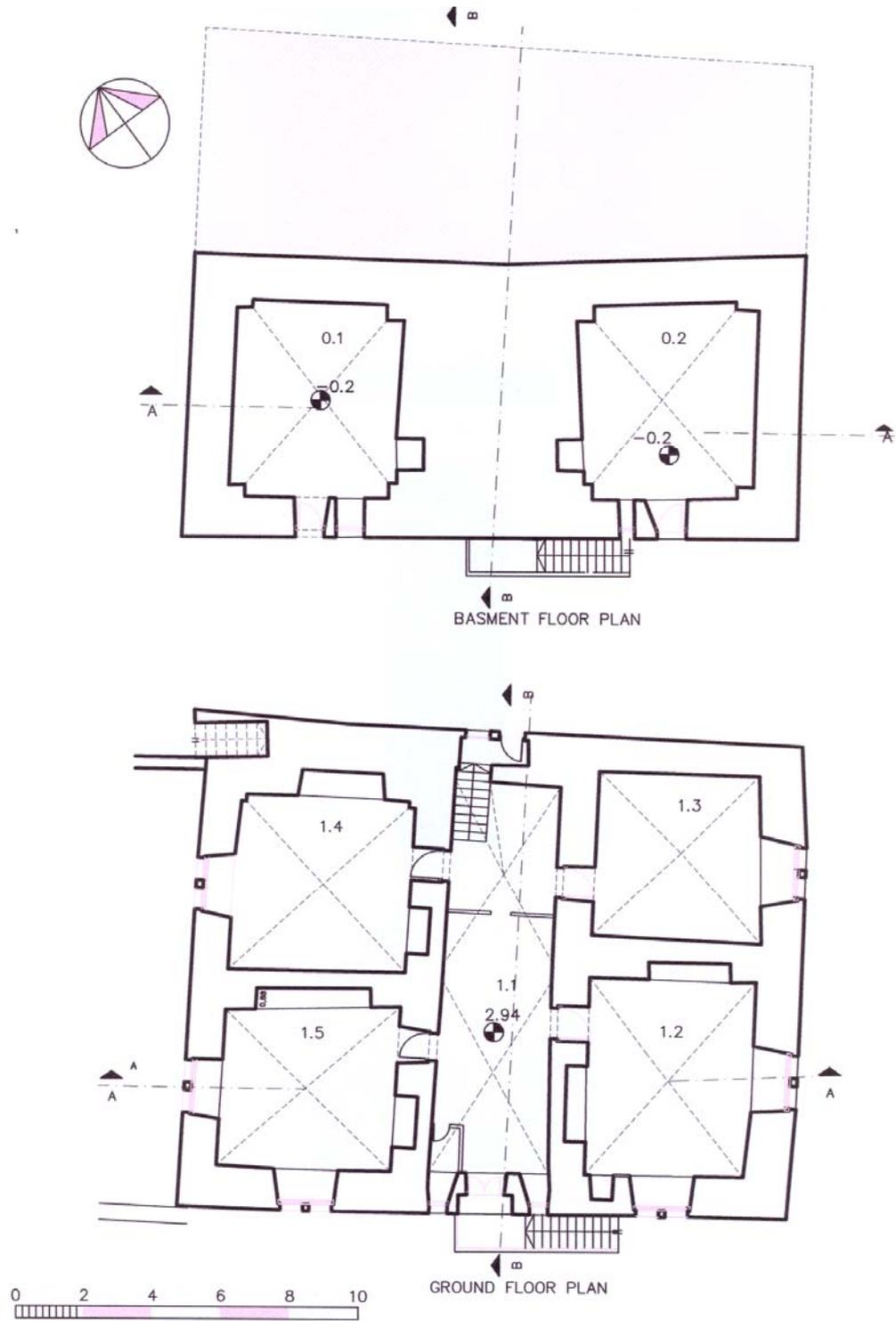


Figure D 17.2: Basement and Ground Floor Plans

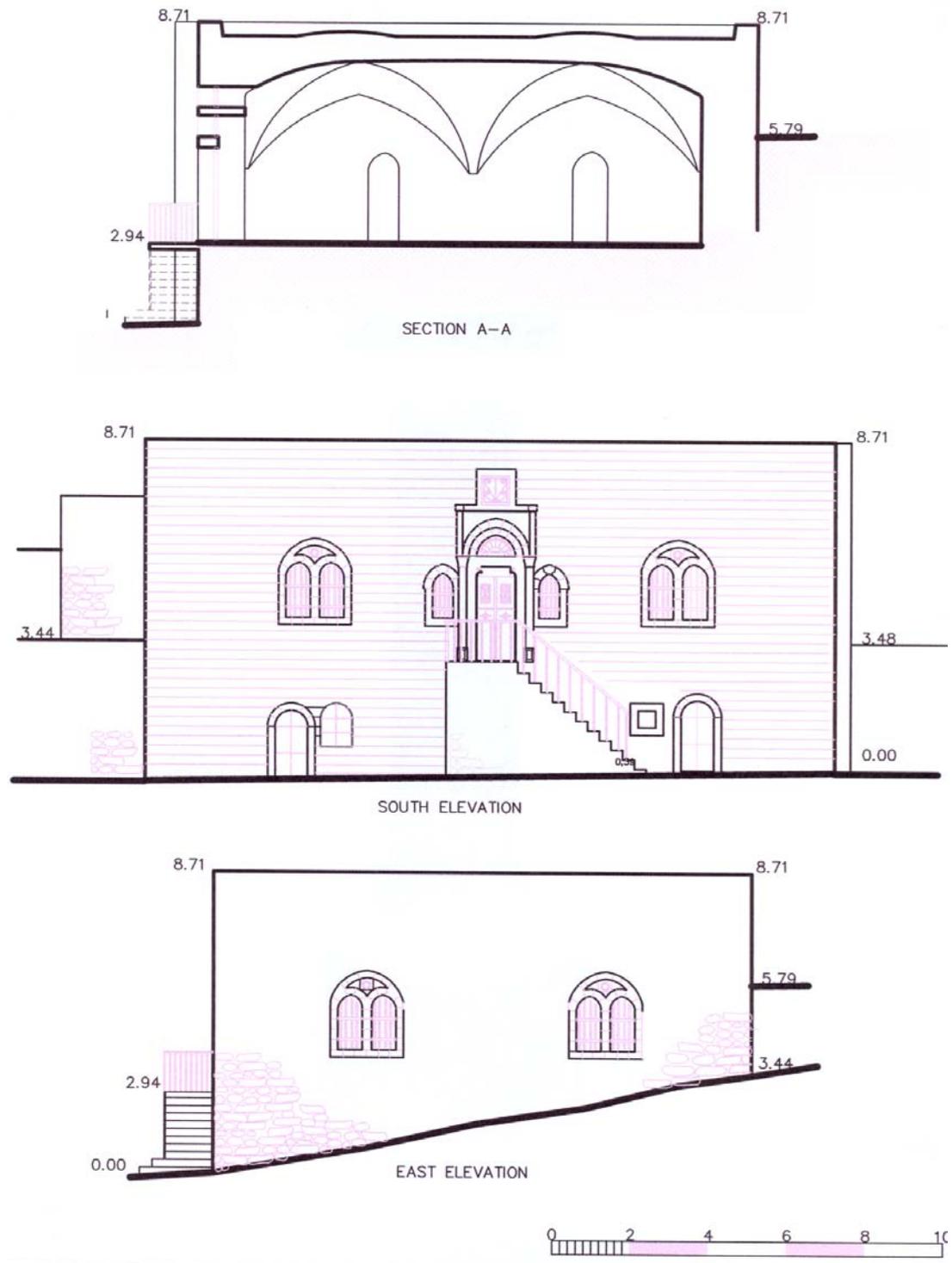


Figure D 17.3: section and elevations, sheet one

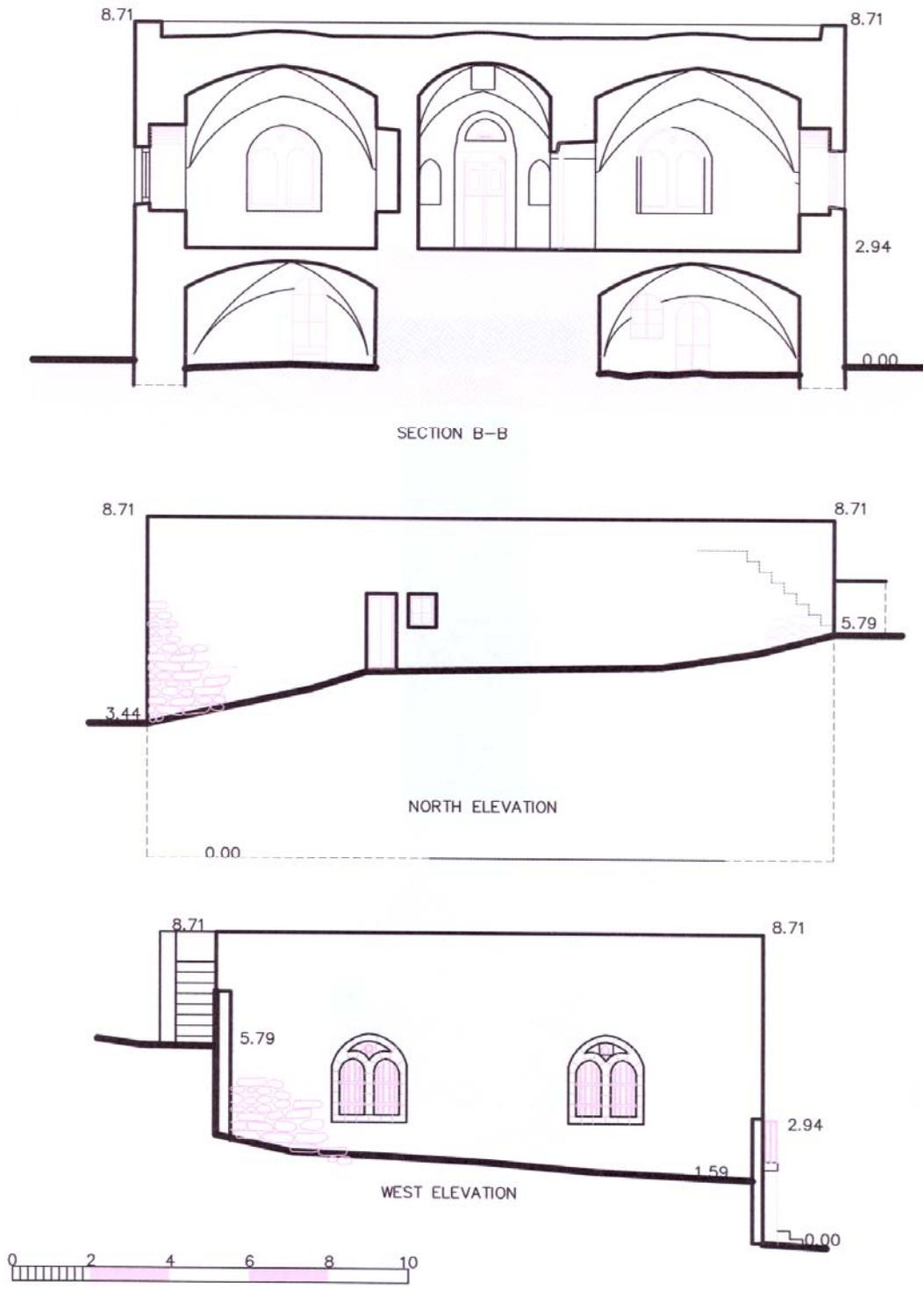


Figure D 17.4: section and elevations, sheet two

18. Murtada ad-Duaik House

Photographs: figure 18.1 to figure 18.8

Drawings: figure D 18.1, figure D 18.2, figure D 18.3, and figure D 18.4

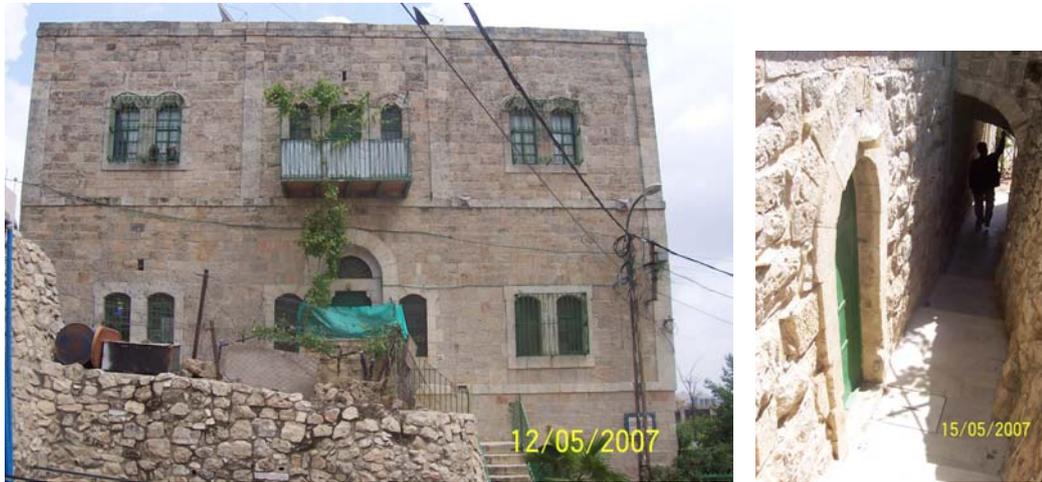


Figure 18.1: Main Elevation (West)



Figure 18.2: South Elevation



Figure 18.3: East Elevation



Figure 18.4: Window Details



Figure 18.5: space 2.6, door opening to space 2.5, then south-east corner



Figure 18.6: space (2.1), looking to space (2.6), then looking to space (2.2)



Figure 18.7: space (2.1), looking to stairs at north wall



Figure 18.8: space (0.1), looking east wall

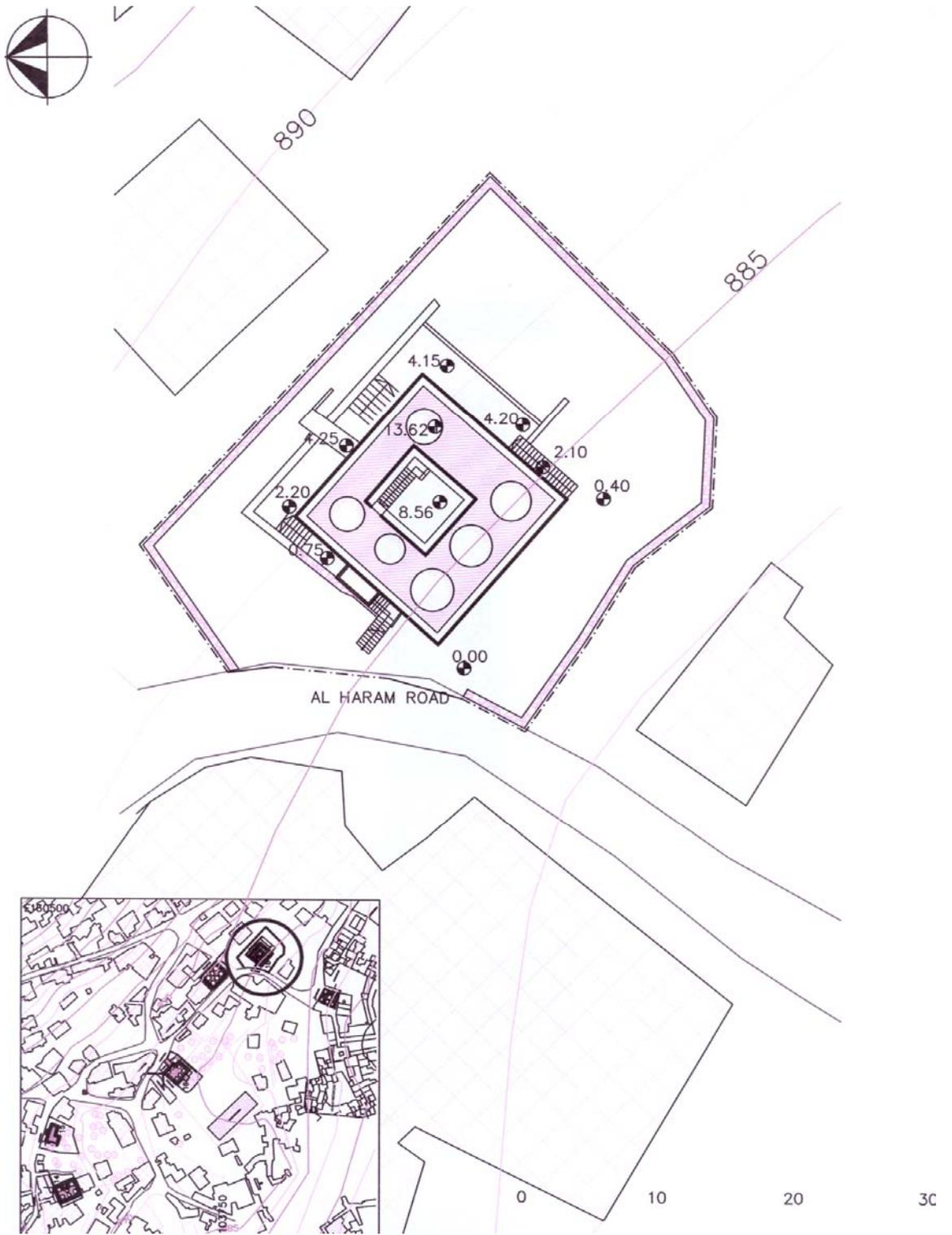


Figure D 18.1: Site Location and Site Plan

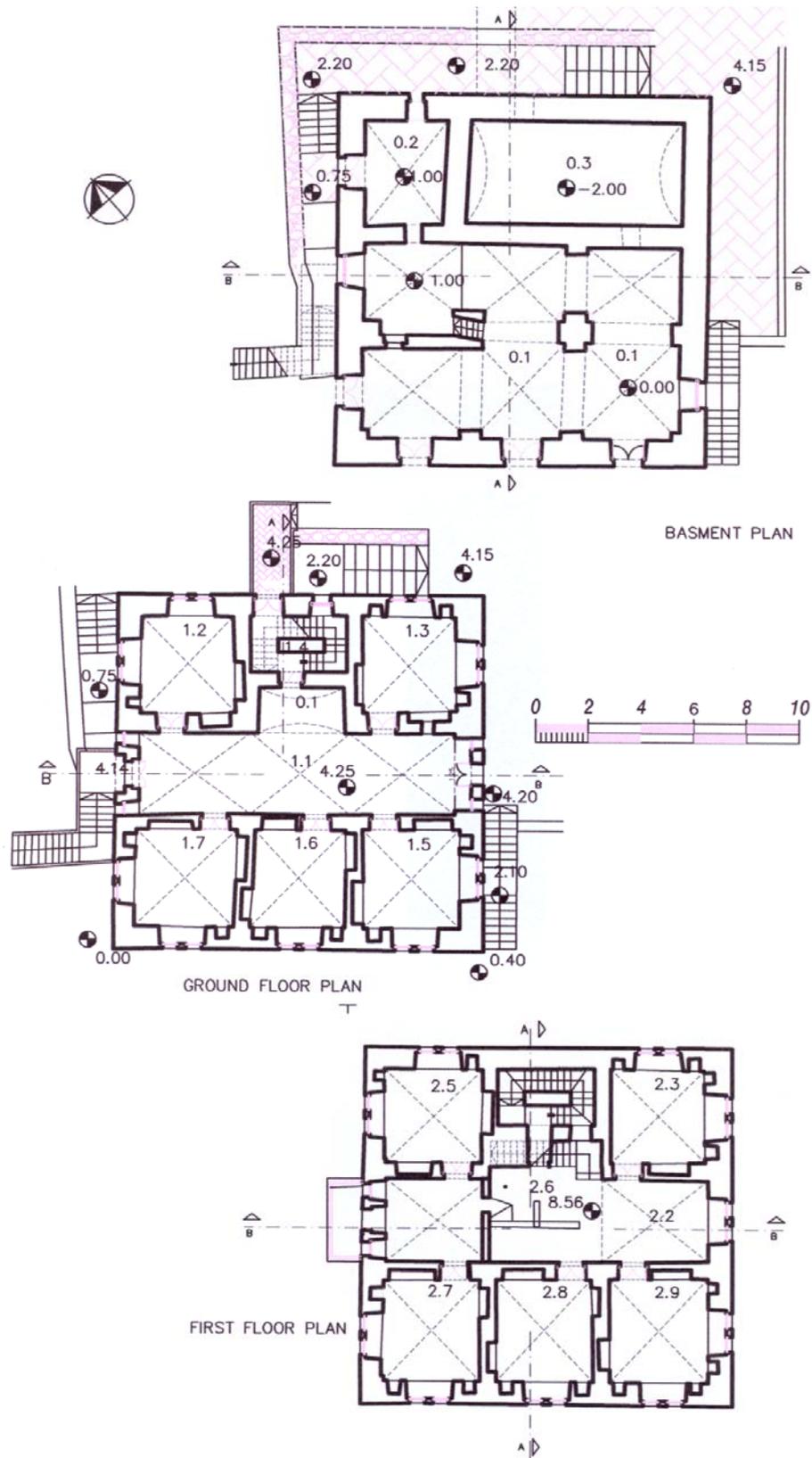


Figure D 18.2: Basement, Ground and First Floor Plans

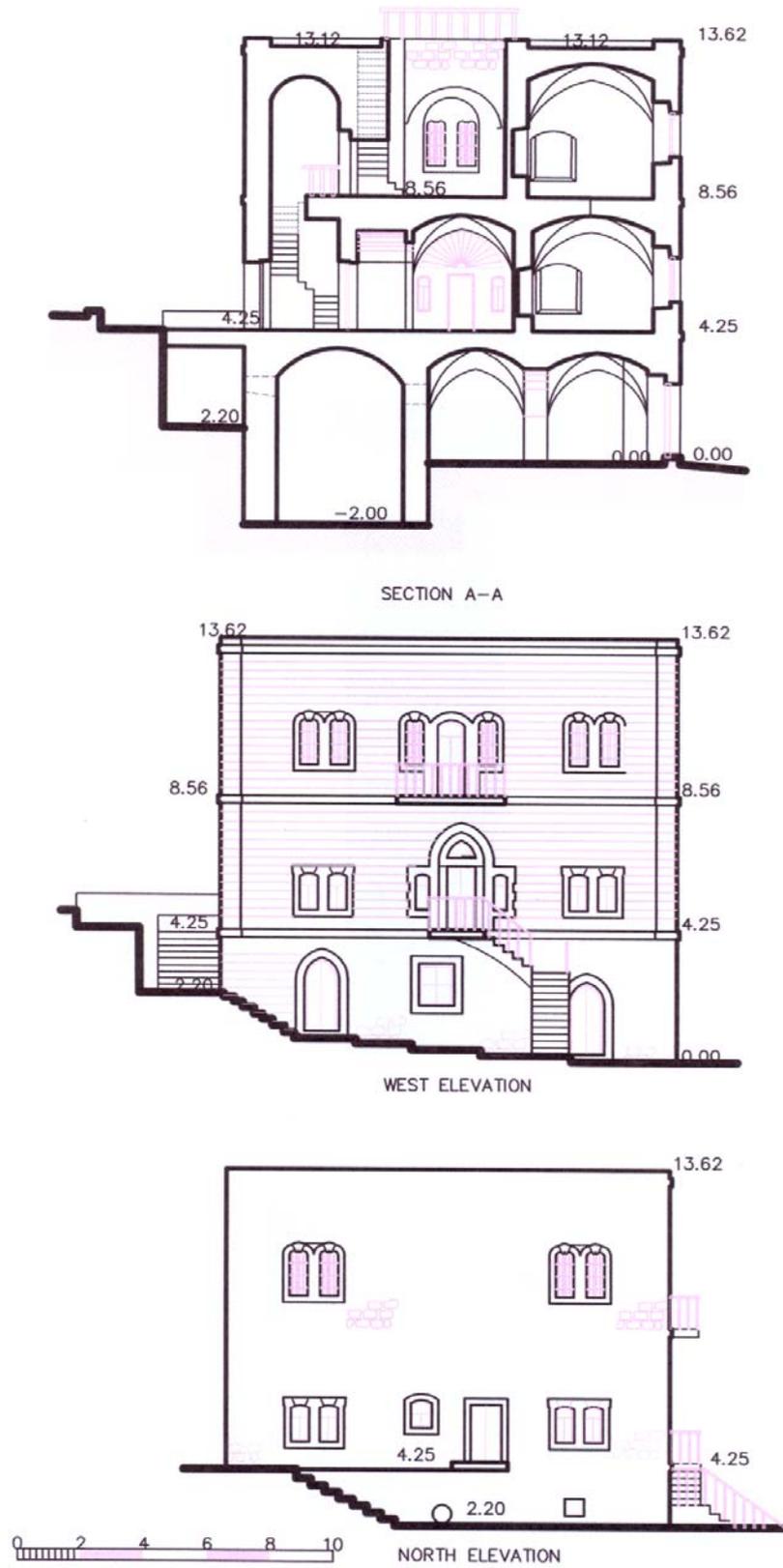


Figure D 18.3: section and elevations, sheet one

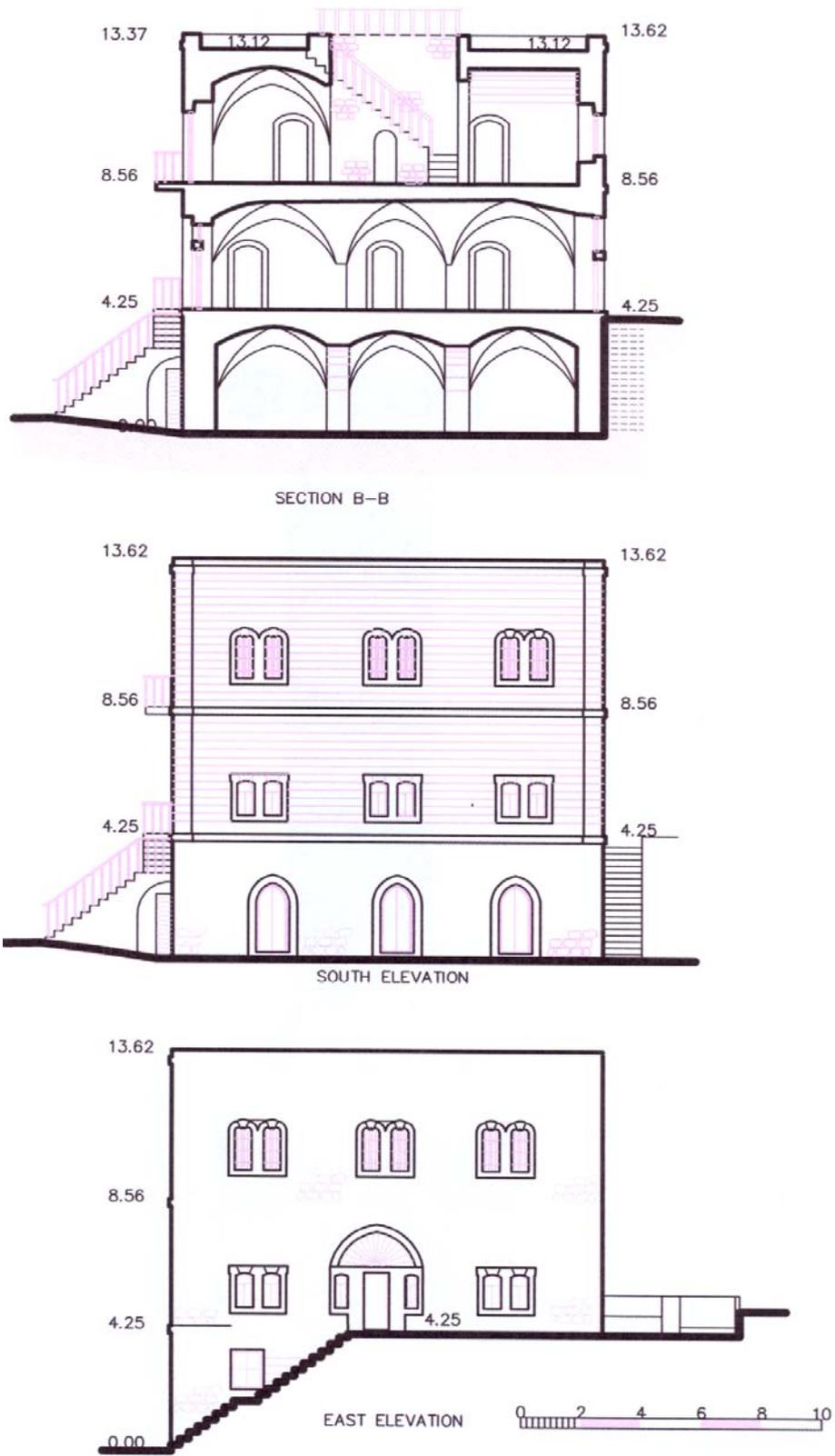


Figure D 18.4: section and elevations, sheet two

19. Kasir ad-Duaik House

Photographs: figure 19.1 to figure 19.10

Drawings: figure D 19.1, figure D 19.2, figure D 19.3, and figure D 19.4



Figure 19.1: East and North Elevations



Figure 19.2: Main Elevation (West)



Figure 19.3: space 1.2, west wall stairs



Figure 19.4: space 1.6, cross vault then north wall niche



Figure 19.5: space 1.7 south wall window, then space 2.2 stairs from ground floor



Figure 19.6: space 2.1 looking east wall stairs to the roof, then space 2.8



Figure 19.7: space 2.2 (Aywān) west wall, then space 2.4 (Aywān) north wall



Figure 19.8: space 2.9 east wall then space 2.5 north wall



Figure 19.9: space 2.1 (Aywān) looking west, then looking east



Figure 19.10: space 2.1 looking north-west, then looking south wall

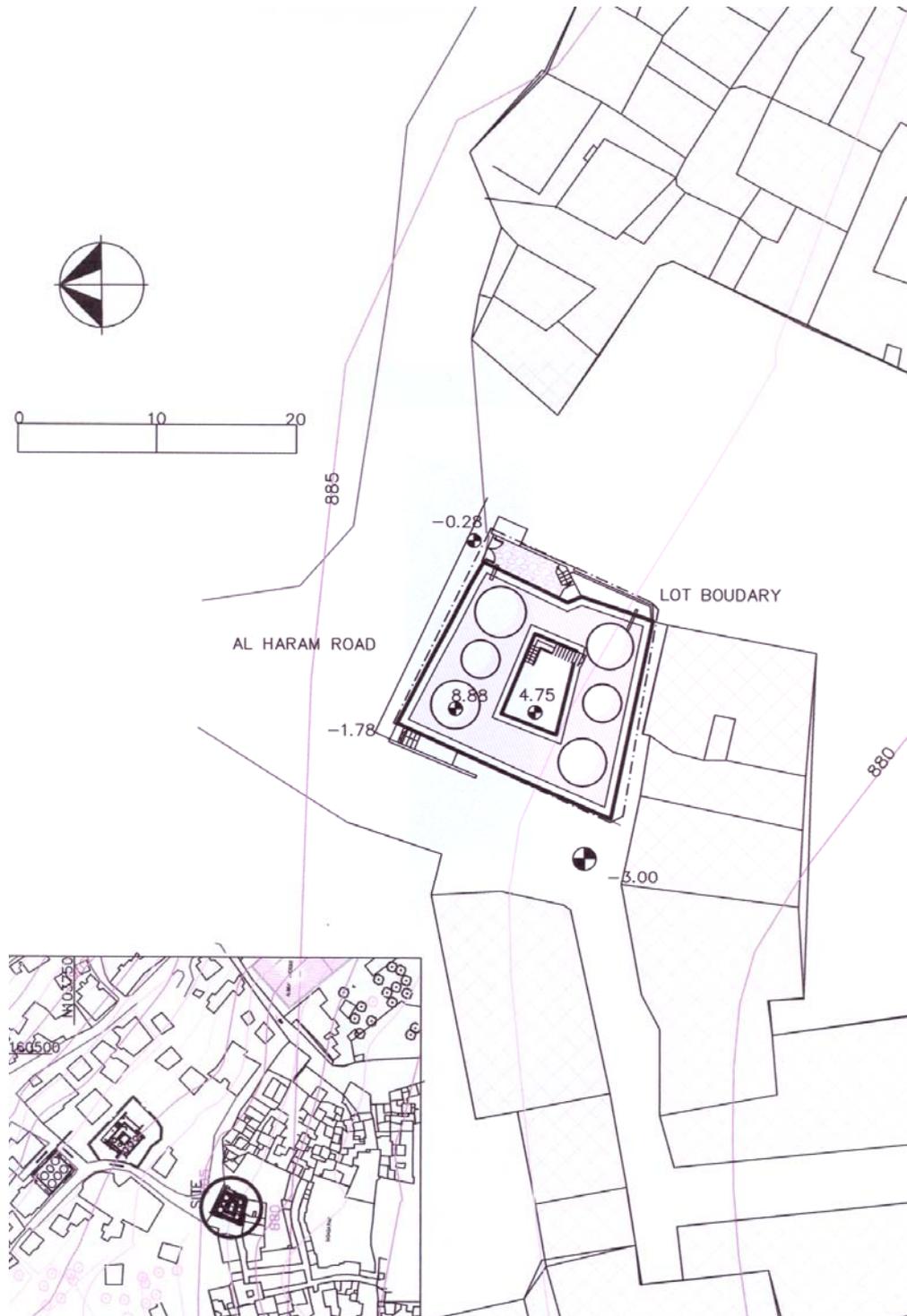


Figure D 19.1: Site Location and Site Plan

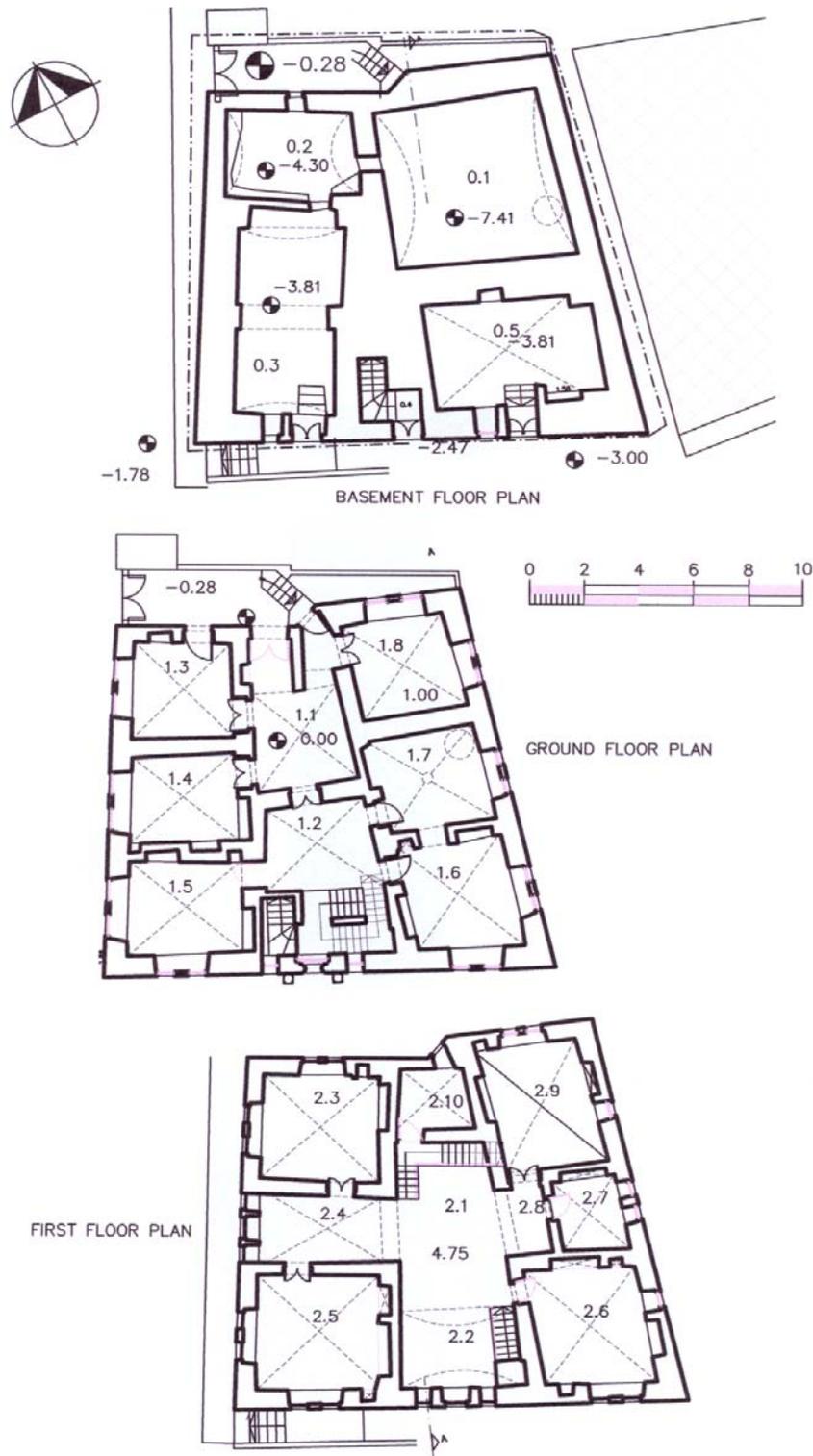


Figure D 19.2: Basement, Ground and First Floor Plans

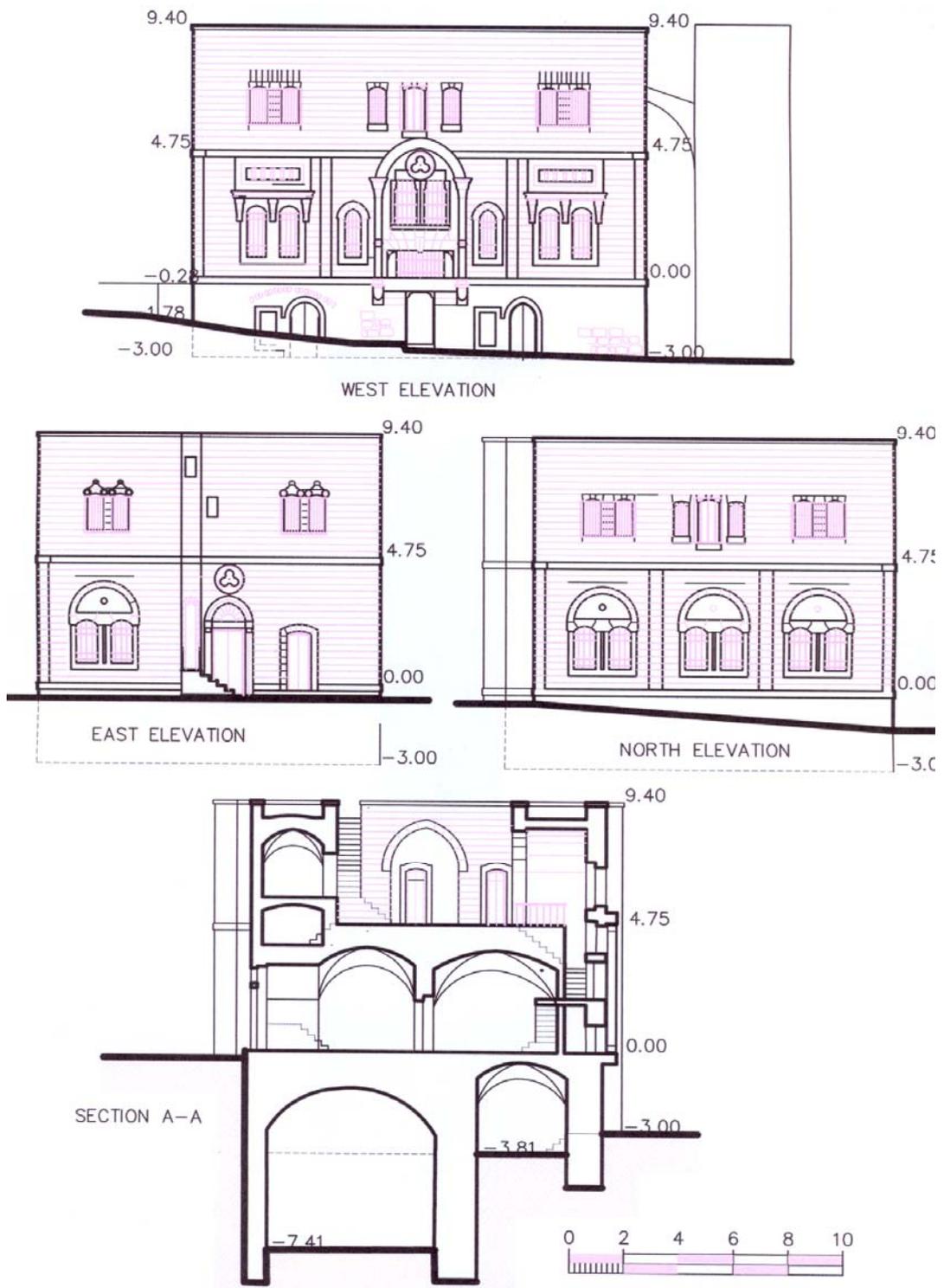


Figure D 19.3: Section and Elevations

20. Hamzah Shahin House

Photographs: figure 20.1 to figure 20.4

Drawings: figure D 20.1, figure D 20.2, figure D 20.3 and figure D 20.4



Figure 20.1: Main Elevation (North)



Figure 20.2: South Elevation



Figure 20.3: space 0.1 looking north, then space 0.2 looking west



Figure 20.4: space 0.5, floor tiles

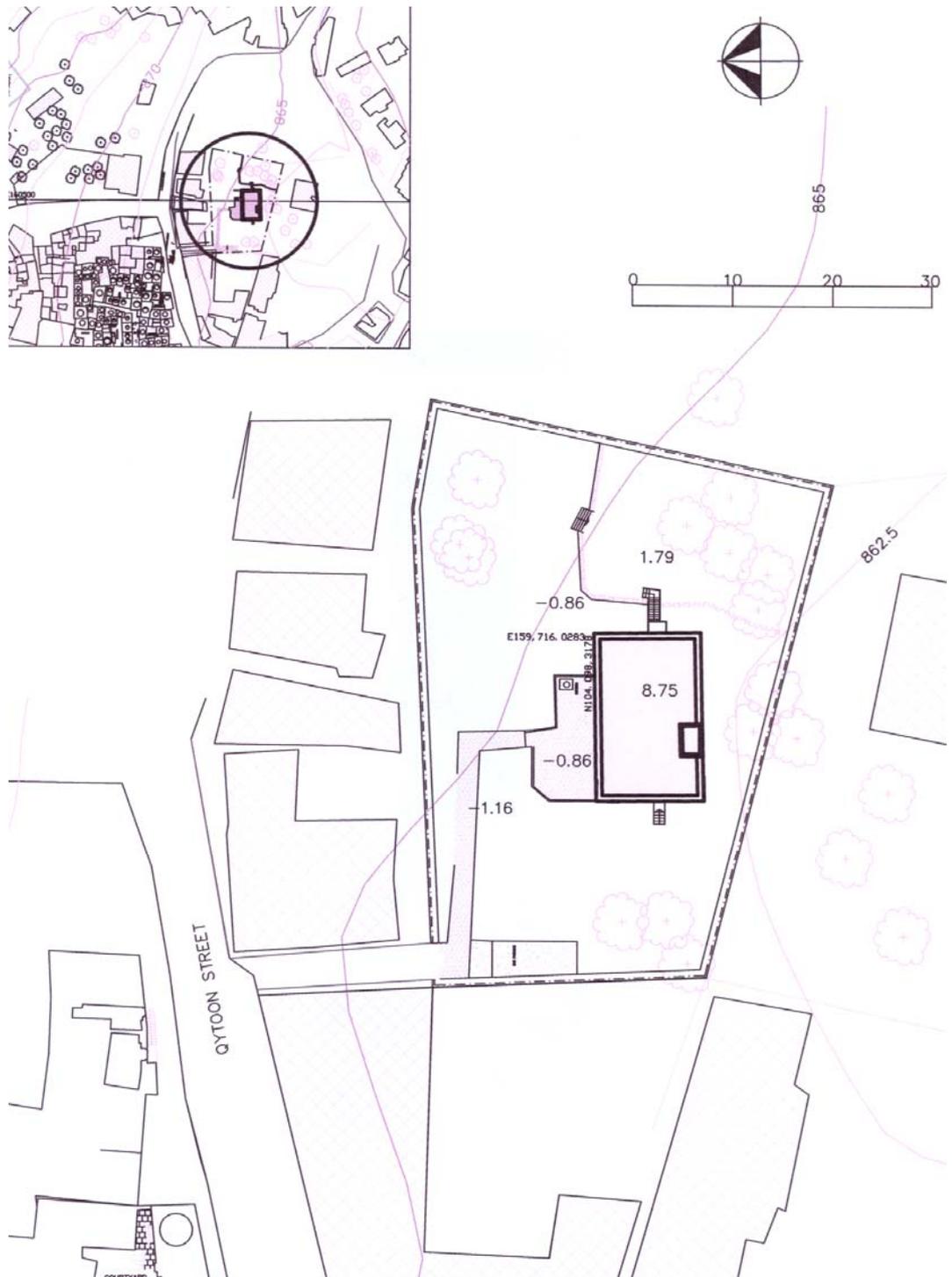
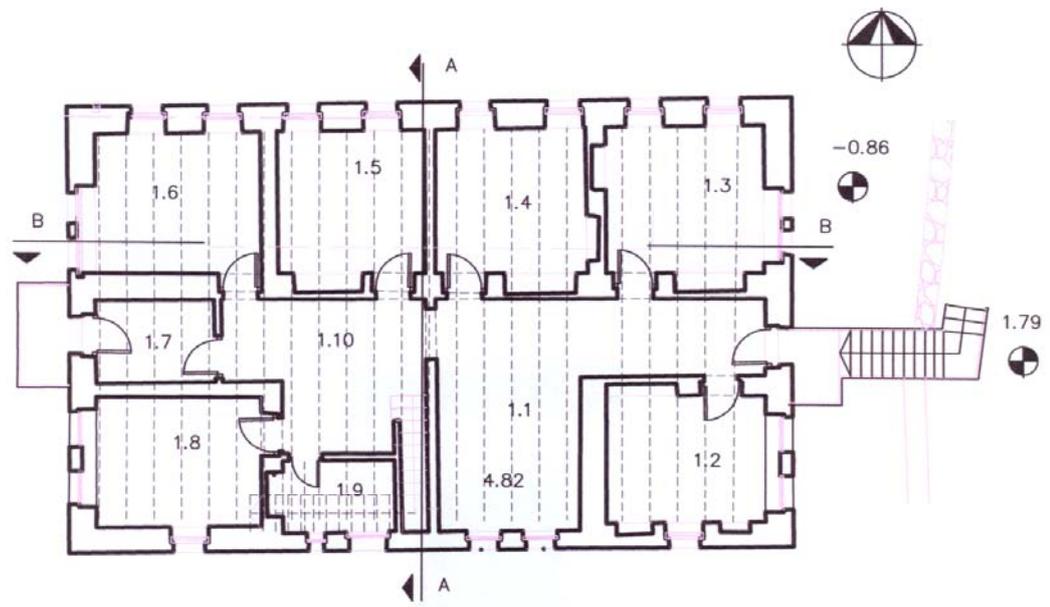
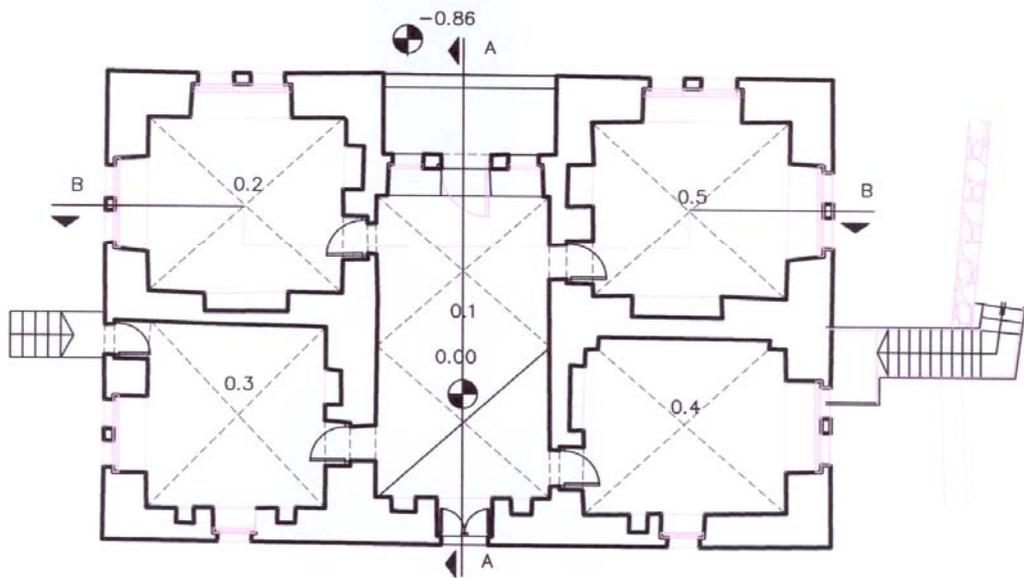


Figure D 20.1: Site Location and Site Plan



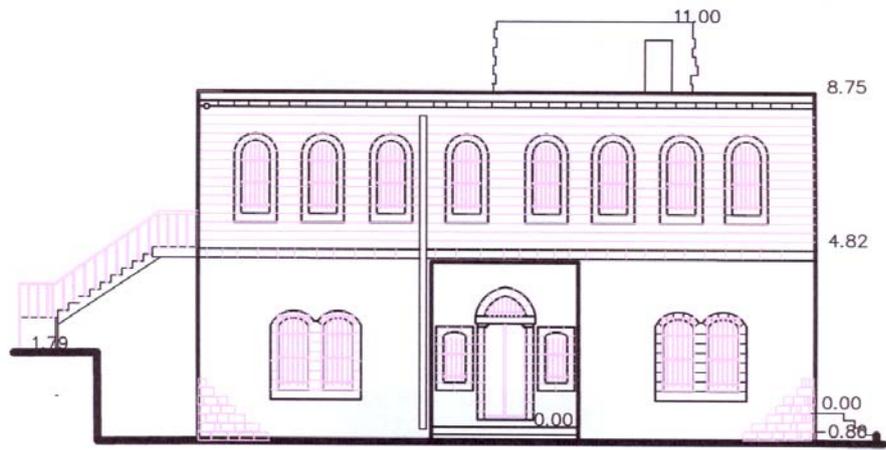
FIRST FLOOR PLAN



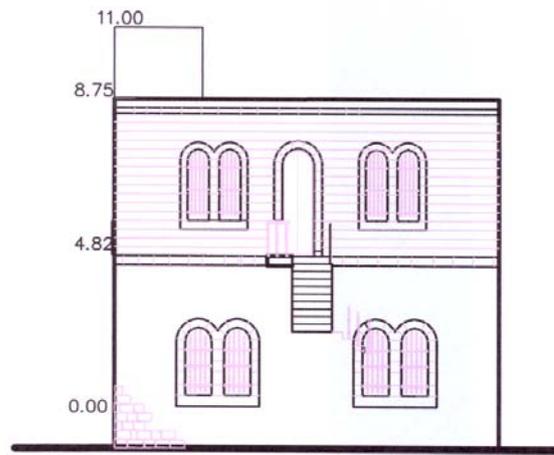
GROUND FLOOR PLAN



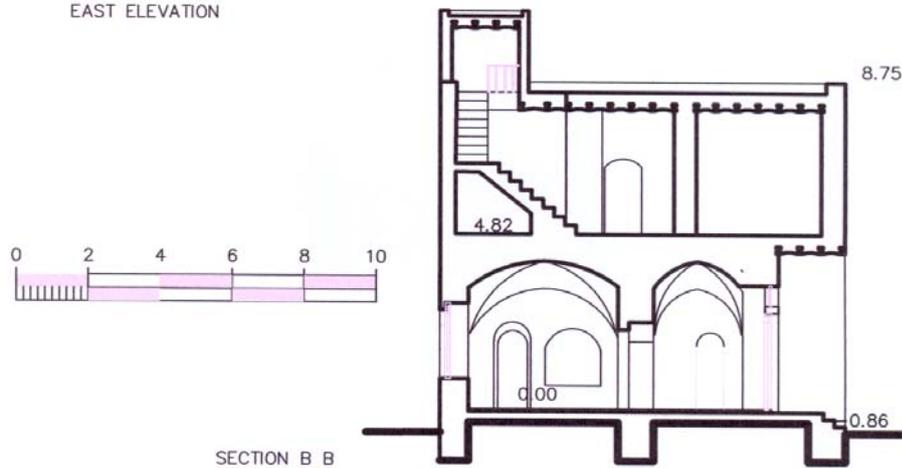
Figure D 20.2: Ground and First Floor Plans



NORTH ELEVATION



EAST ELEVATION



SECTION B B

Figure D 20.3: section and elevations, sheet one

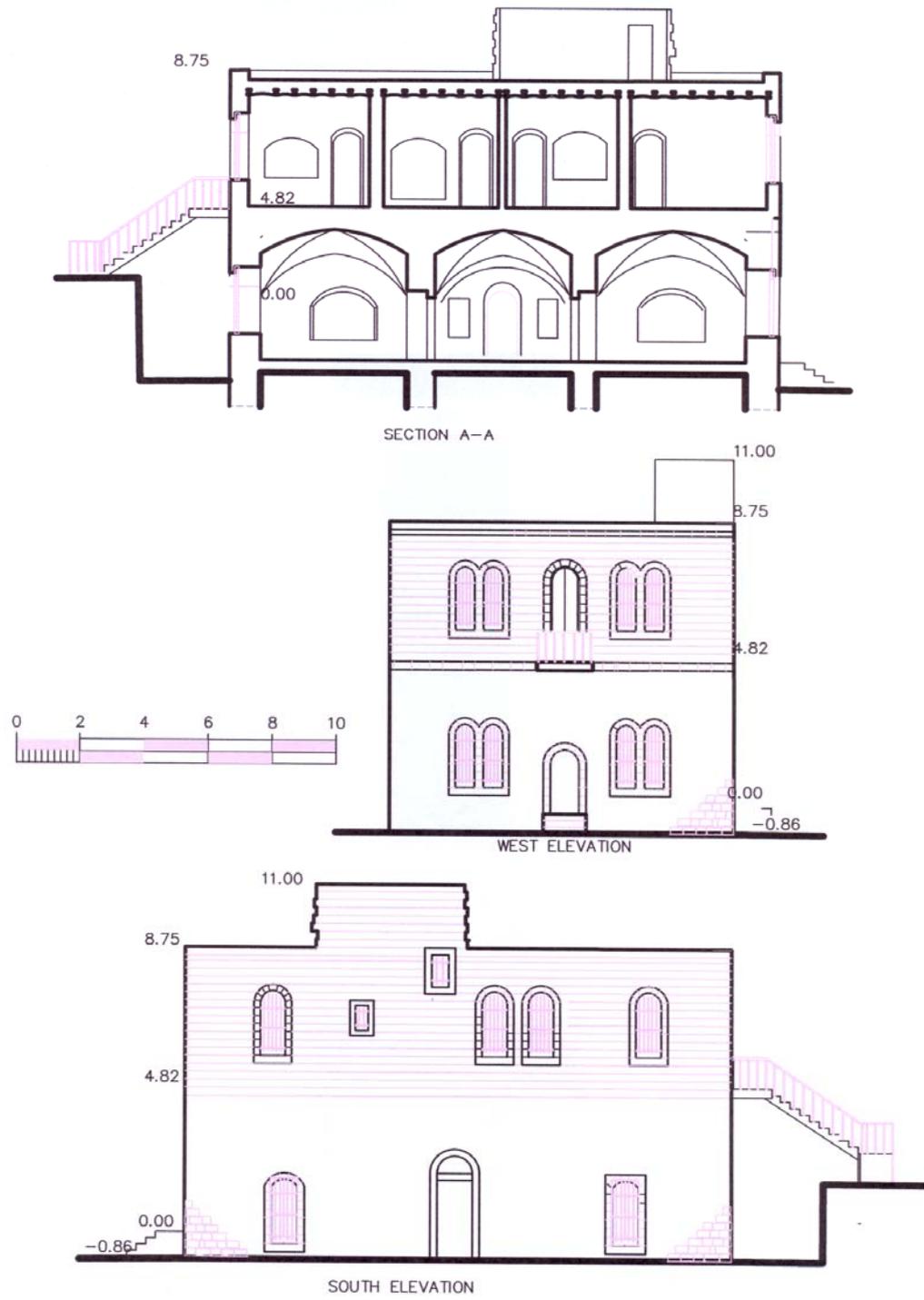


Figure D 20.4: section and elevations, sheet two