RESTORATION PROJECT OF A TRADITIONAL HOUSE IN CAMİŞERİF DISTRICT 5227 STR. NO: 14 MERSİN

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

BY

YAVUZ SALİM YILMAZ

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF SCIENCE IN RESTORATION
IN
ARCHITECTURE

JULY 2005

Approval of the Graduate School of Natural and Applied Sciences

_____

Prof. Dr. Canan ÖZGEN

Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science.

_____

Assoc. Prof. Dr. Selahattin ÖNÜR

Head of Department

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.

_____

Assoc. Prof. Dr. Gül ASATEKİN

Supervisor

Examining Committee Members

Instr. Dr. Fuat GÖKÇE	(METU, ARCH)	_____
Assoc. Prof. Dr. Gül ASATEKİN	(METU, ARCH)	_____
Prof. Dr. Işık AKSULU	(Gazi Univ., ARCH)	_____
Instr. Dr. Nimet ÖZGÖNÜL	(METU, ARCH)	_____
M. Arch. Nedret ÖZALP	(Ministry of Culture)	_____

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ABSTRACT

RESTORATION PROJECT OF A TRADITIONAL HOUSE IN CAMİŞERİF DISTRICT 5227 STR. NO:14 MERSİN

Yılmaz, Yavuz Salim

M.S., Department of Architecture, in Restoration

Supervisor : Assoc Prof. Dr. Gül Asatekin

July 2005, 218 pages

The subject of this thesis is to prepare the restoration project of a traditional house in Camişerif District, Mersin, where has the most dense traditional house tissue, in order to handle the subject as a case study on the traditional houses of Mersin for the later conservation movements in the region.

Within the context of the study, the present states of the site and the building are studied in detail and the original state of the building is investigated through historical and comparative study of the building with other examples of traditional residential architecture.

The study ends with a proposal for a restoration project according to the evaluation of the information gathered.

Keywords: Restoration, Traditional Residential Architecture in Late Ottoman Period, Mersin.

ÖZ

CAMİŞERİF MAHALLESİ 5227 SOK. NO:14 MERSİN'DE
GELENEKSEL BİR KONUTUN RESTORASYON PROJESİ

Yılmaz, Yavuz Salim
Yüksek Lisans, Mimarlık Bölümü, Restorasyon Anabilim Dalı,
Tez Yöneticisi: Doç. Dr. Gül Asatekin

Temmuz 2005, 218 sayfa

Bu tezin konusu, bir Osmanlı geç devir konutu olan ve bölgedeki geleneksel konut dokusunun en yoğun olarak bulunduğu Camişerif Mahallesi, Mersin'de bulunan binanın restorasyon projesinin, daha sonra yapılacak olan koruma projelerine bir örnek oluşturacak biçimde hazırlanmasıdır.

Çalışma kapsamında, yapının ve çevresinin bugünkü durumu detaylı olarak incelenmekte; tarihi araştırma ve yapının benzer örneklerle karşılaştırılması ile özgün durumu araştırılmaktadır.

Toplanan bilgilerin değerlendirilmesi ışığında, çalışma bir restorasyon projesi önerisi ile sonuçlanmaktadır.

Anahtar Kelimeler: Restorasyon, Geç Dönem Osmanlı Geleneksel Konut Mimarisi, Mersin.

In Precious Memory of Assoc. Prof. Alpay ÖZDURAL…

ACKNOWLEDGEMENTS

I would like to express my gratitude to Assoc. Prof. Dr. N. Gül Asatekin, the supervisor of this thesis, who has supported guided me by deep interest and patience with her opinions and comments throughout all phases of the thesis. Secondly, I would also to express my gratitude to Prof. Dr. Tamer Gök for his guidance, efforts and patience throughout the thesis process.

I would like to thank the jury members; Prof. Dr. Işık Aksulu, Instr. Dr. Fuat Gökçe, Instr. Dr. Nimet Özgönül and M. Arch. Nedret Özalp for their suggestions and comments during the juries.

I am grateful to my friends Tülin Selvi Ünlü, Nida Naycı, Meltem Uçar, Tuba Akar, Mine Ertan, Nihal Gürol, Mehtap Çelik, Ulaş Alagöz for their interest and assistance during the process of this thesis.

I would also thank to Akdeniz Municipality of Mersin and Mersin University, Akdeniz Kent Araştırmaları Merkezi for their support by opening their archives to for this thesis.

I would like to express my gratitude to my family Meral, Muhsin, Cengiz, Oğuz, Banu, Semin, Kaan, Ateş and Lal Yılmaz for supporting me during the process of this thesis.

Finally, I would like to thank to my lovely fiancé Banu Es for being with me and for her great patience during this process.

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CHAPTER 1

INTRODUCTION

1.1 Aim And Content Of The Study:

The aim of the study is to prepare a restoration project of a traditional house in Camişerif District in Mersin in the name of contemporary scientific theory which will be a case study for the later applications in the region. The steps of the project will be as fallows; Survey, Descriptions, Analysis, Historical Research and Comparative Study, Restitution, Restoration.

1.2 Selection Of The Building:

Selected building is a very typical traditional Mersin house with its architectural elements, use of material and construction technique, and scale. The interventions to be done on the building will be good case study for the whole of the region's traditional examples. Also the building has contemporary additions which show a unique construction technique of a transitional period.

The building was expropriated by Mersin Akdeniz Municipality, to be used as its cultural center. The proposal of the restoration of the building will be evaluated by the municipality for the implementation.

1.3 Methodology:

1.3.1 Survey:

Instead of the traditional manual surveying methods, the survey device called Trimble 5600 Dr200+ Total Station[1] which is a basically a teodolite with an electronic distance measurement device, was used for the preparation of the

[1] The technical specifications can be found in Appendix.

measured drawings. The device was used to accelerate, facilitate and also to raise the accuracy of the measurements. All the survey was done by one person. Total station gives the possibility of measuring coordinates of each required point. This tool gives the chance of creating accurate horizontal and vertical axes in 3 dimensions. This gives the ability of locating the measured building into this system without any extra support of traditional techniques like using datum line, taking measurement by hand etc. So, every detail can be measured through the use of this equipment.

Although the accuracy of this equipment is very prospective, this building was measured according to the traditional system. This had limited the use of the capacity of the total station for being a few technique used by the author. Still, method and the capacity of the equipment are tested and this will guide further studies as being an early use of this technique.

Characteristics and requirements of this technique are explained below to draw the framework of further studies.

In the frame of this work, the Total Station is used to accelerate, facilitate, and to raise the accuracy of the site survey and also to allow one surveyor person to complete the work to be done. The traditional surveying methodology which is the desired fragment of the total set of measured drawings, is to be measured separately in its own framework, is applied to the Total Station surveying method and all the measurements such as plans, sections, and elevations, are measured separately. Although the 3 dimensional data is collected at the site, the measured drawings will be presented in traditional format of presentation, instead of presenting a total 3D model which is the collected data's required format by the total station.

The total station was made to measure three dimensional coordinates of the aimed point. Once the device is leveled on a station point by the user and aimed to a point by the optical lens or the laser beam (user selected), it measures the distance and the horizontal and vertical angles. By the use of the measured data, it calculates the 3D coordinates of the aimed point. It can be used with or without a reflecting prism. The prism raises the accuracy in long distances. The

accurate point readings are can be done up to 6 kilometers with prism, 400 meters without a prism and minimum 2 meters range needed. The device has its own special high technological characteristics. To achieve a high accuracy, the device is equipped with some electronic tools which are called Servo Unit, Automated Fine Leveling Device and a Laser Pointer. Servo Unit is a motorized, vertical and horizontal aiming machine. This unit helps us to aim the device more accurately. The Automated Fine Leveling Device is basically electronic pendulum which makes the fine leveling very accurately and tolerates the user faults, after the user's rough leveling. By the help of the servo unit, it controls its leveling twice on a station point by turning around itself 360 degrees. The device does not give permission to the user to measure any point without leveling even if it was damaged during the survey. The Laser Pointer helps us to define the aimed points more accurately, especially useful in short distances.

The measured points are saved in a hardware memory of the Total Station. The measured points transfer to a computer by a software called Geodimeter Software Tools 2.0 and they are being converted to a *.dxf (Drawing eXchange Format) by the program. The vectorised points are ready to be used in AutoCAD 2005 CAD (Computer Aided Drafting) Program in a 3 Dimensional cyber space.

The use of the device brings us the ability to see all the detailed measurements in a 3 dimensional space and this will allow us to draw and to present the measured drawings in a 3D cyber model. In the further studies the format of the measured drawings can be changed into a computer based 3D format. This technique will be more efficient in order to present the whole data which have been collected during the site survey.

1.3.2 Description

The description fallows an order beginning from the general to the detail of the building itself. The descriptions will be beginning from the general location of the dwelling in the region and the surrounding environment.

The detailed descriptive information about the building itself then be given, again with an order from general to detail, from exterior to interior. First

the façades will be described from left to right, bottom to top. The interior spaces will be first described; beginning with a general description of the space and then the detailed description of the walls with an order from the space's wall which the entered door to the space is on, and then continues with a clockwise order. After that the floor and the ceiling will be described. All the measurements which are done at the site survey, will be given in metric units, in order to use the same system with the documentation stage. The height measurements will be given from the assigned specific datum line which has been selected randomly and keeps the same for the entire dwelling.

A coding is prepared for the spaces. The typology of the doors and windows also has a coding to ease and avoid any confusion about the description of the spaces.

Consequently, structural and architectural features, materials, construction techniques and condition of the structure documented and evaluated within the building.

1.3.3 Historical Research And Comparative Study

The historical research includes historical background of Mersin and Camişerif District, and the studied dwelling.

Written and illustrated documents about the region and the close environment have been researched. Also the previous verbal researches which have been done by Local History Group of Mersin, was evaluated. The illustrated documents and maps of the local municipality, was also researched. The documents of the local land registration were temporarily closed for the researchers, so that the research could not be done.

Comparative study is done with the selected examples of the close environment, close period of construction in Camişerif District. Therefore, the dwelling is evaluated in comparison with other examples of civil architecture in Mersin and also a previous typological study on civil traditional architecture has been evaluated in order to understand the region's traditional architecture's values and the characteristics of the region.

Historical research and the comparative study have been done to collect valuable information about the original structure, construction technique, aesthetic values, original materials and even the social factors on shaping the traditional civil architecture of Mersin. The use of the collected information will be especially in the restitution stage in order to understand the original state of the dwelling and the later interventions.

1.3.4 Analyse

Analysis will be done in order to understand and to diagnose the building's problems and its properties. All of the analyses are depending on the visual analysis done during the site survey by the author in February of 2005 and they do not depend on a scientific laboratory analysis.

1.3.5 Restitution

Restitution is done to understand the state of the building when it was constructed and the later interventions in the entire life of it until it comes to the current state.

The restitution study is based on the fallowing sources:

a) Evaluation of the existing traces
b) Comparative study on the dwelling itself
c) Comparative study on other traditional dwellings at the close environment.
d) Architectural necessity

The restitution is based on the gradation of the reliability of the sources. The most reliable one is the evaluation of the existing traces. The reliability changes according to information that is taken from the evaluation of existing traces and clues.

1.3.6 Restoration

The most important thing in conservation of architectural haritages is to provide a regular maintenance. This is only possible when an efficient function is

provided. In order to provide a function, the building has to be restored with an economically sustainable function.

Restoration of the studied dwelling is done in the light of obtained information from the previous studies which have been done during this study. Intervention decisions of the dwelling in the name of restoration have been taken by evaluation of the values of the dwelling, the state of deterioration of the materials, sources of the deteriorations, historical research, structural defects, and contemporary needs of the assigned new function of the dwelling.

CHAPTER 2

GENERAL CHARACTERISTICS OF THE ENVIRONMENT OF THE BUILDING

2.1 Location And General Characteristics Of The Built Environment

The building is located in Camişerif District at the South- Eastern part of Mersin, where the densest traditional dwelling tissue appears within the new high-rise contemporary blocks. The district was on the sea shore before the sea was filled to create Atatürk Park, located at the south end of the district. The sea shore was located where Uray Street is existent today, had 5 quays at that time, and has always been in Mersin's trade and financial center throughout history. The situation of the district did not change even today, and the trade and economic life still continues at the site. Traditional built environment nowadays jammed into the contemporary high rise building blocks.

The district lies just near the Mediterranean Sea, and forming the east edge of the city. All the streets of the district are paved with asphalt. The main street names are: The ones parallel to the sea from South to North: İsmet İnönü Boulevard, Uray Street, İstiklal Street, CemalPaşa Street; The ones perpendicular to the sea from East to West: Çakmak Street and Kuvayi Milliye Street. The 5227 Street which the traditional dwelling, subjected to the thesis, is located on is in between İstiklal, Çakmak and Cemalpaşa Streets.

The district has a grid iron plan, where the streets are situated parallel and perpendicular to the sea shore. Being relatively a new city of Ottoman Empire, the building lots of the district was not divided by the inheritance in generations in Mersin. So, the geometrical patterns of the building lots are still continuing today.

The built environment of the region is generally composed of commercial spaces at ground floors and houses at upper floors. Upper floors of the buildings, which are closer to the main streets, are now being used as offices. Traditional buildings which are in relatively good condition are mostly used as houses.

Figure 2-1 Aerial Photograph of Mersin, Camişerif District

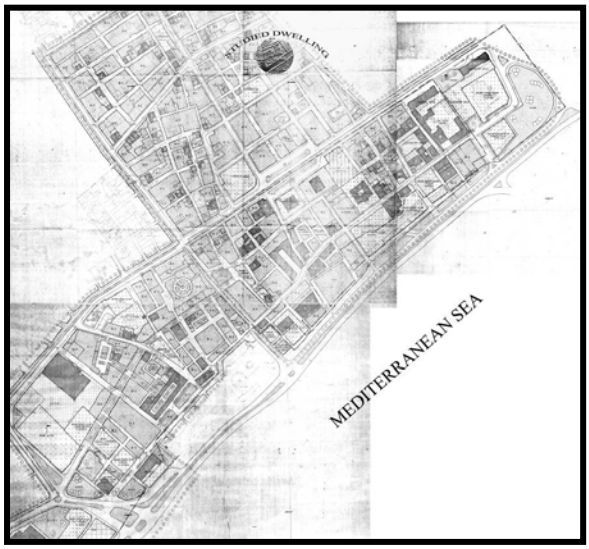

Figure 2-2 Conservation Plan of Camişerif District

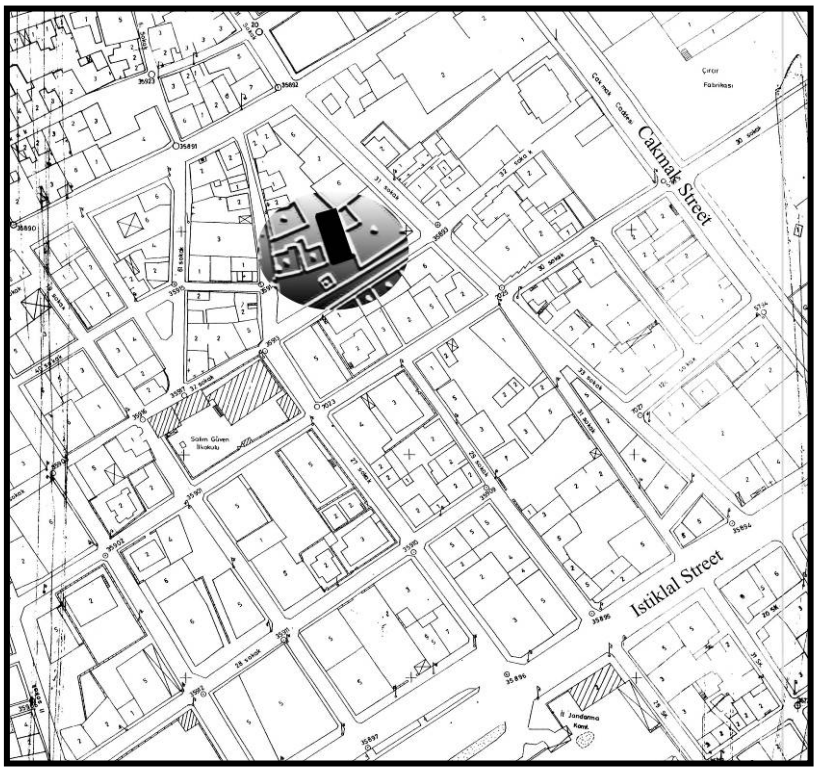

Figure 2-3 Existing Map of Camişerif District

Figure 2-4 General View From Camişerif District 5227 Street

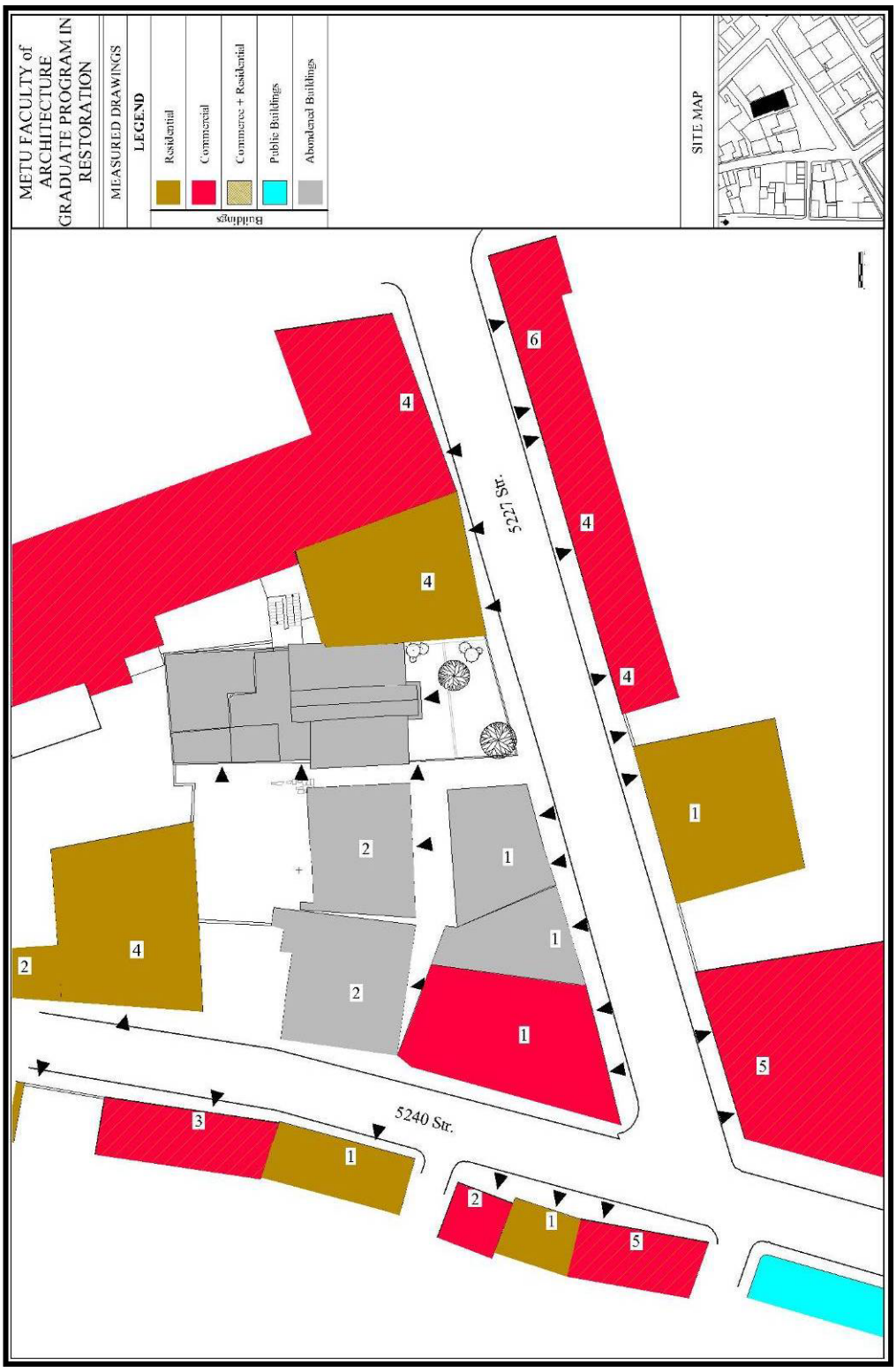

Figure 2-5 Functions of Close Neighbourhood

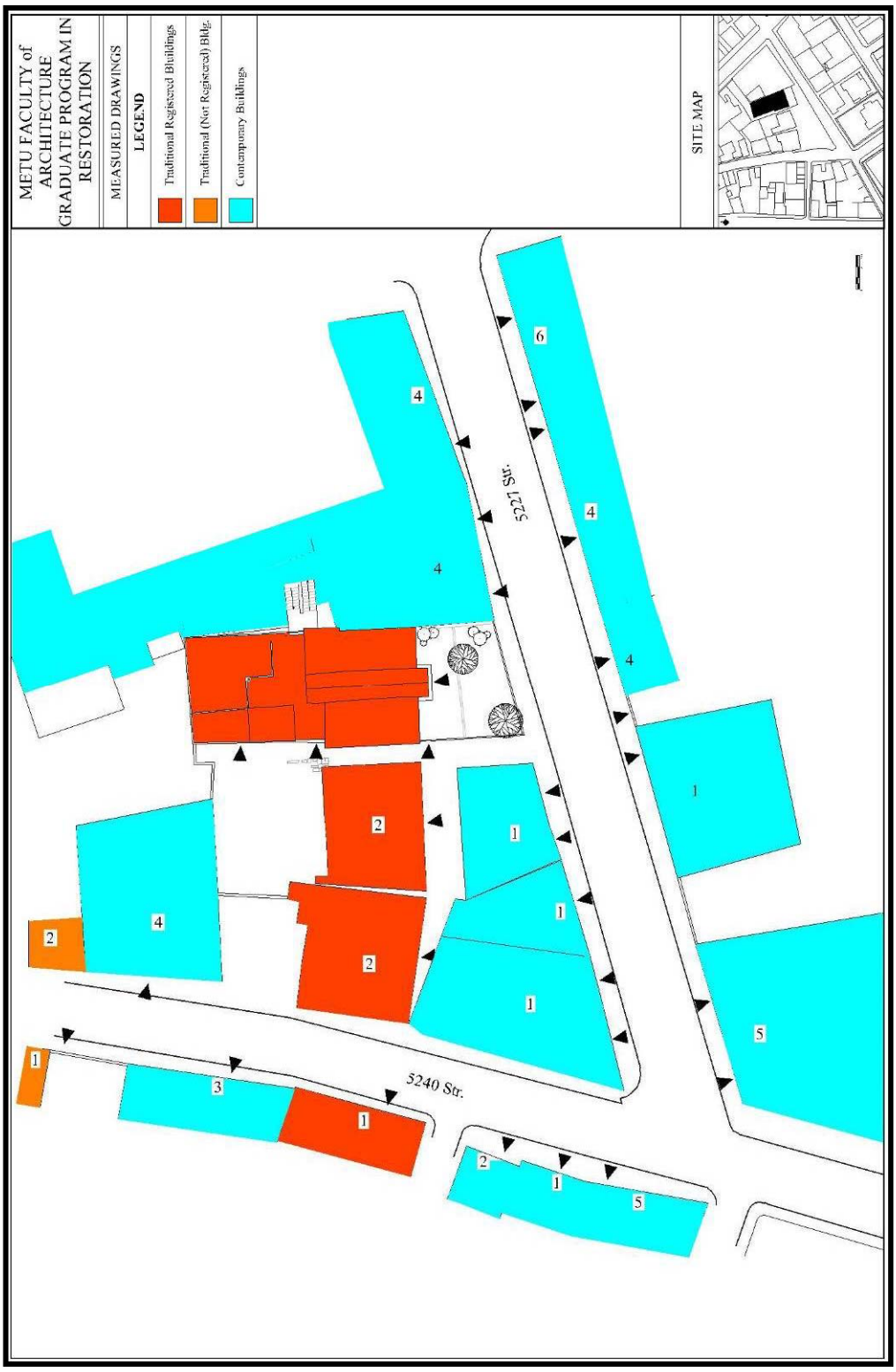

Figure 2-6 Structure of Close Neighbourhood

2.2 Social Structure

Camişerif District, which constitutes the first settlement core of the city, comprises the urban tissue and traditional and contemporary built environment.

The official and commercial buildings are located especially through the main axis; Uray Street and İstiklal Street which are parallel to the sea shore. The region which is located at the north of İstiklal Street comprises the commercial and residence functions at most. At this region which includes the traditional dwelling of which is the subject of the thesis, there is a transformation through the main axis. The inner parts of the region are mostly composed of residential use and depot, technical services, commercial, etc. uses at the ground floors.

The functional variety has reflected the social structure of the region. At the regions where the residential uses are dense, the lower and the middle income groups are concentrated. The commercial function's variety is due to "Port Town" identity of the city from the establishment and the development periods parallel to the existence of ethnic variety of the population of the city, which is composed of Muslims and Non-Muslims together.

The previous researches of the city (conservation plan and revision) show that the mean family population is 4 to 6 people and the population of the region is to be young and its 20-25 percent of the population is between the ages 17 – 32. This young population gives the strong clue of the transformation of the users and the owners of the buildings. (Çetiner, 1992, 48)

There is no recent research for the population settled in this region of the city, questioning the ethnic roots of the residents. But some of the known ethnic roots of the region is; Turk, Kurd, Fellah, Greek, Armenian and Maruni.

CHAPTER 3

DOCUMENTATION OF THE PRESENT STATE OF THE BUILDING

3.1 General Description Of The Building

The dwelling is situated at the Camişerif District, 5227 Street, Number: 14. It is a rectangular building lot, giving its narrow façade to the street, is attached to a contemporary 4 storey reinforced concrete apartment at east. An abandoned 2 storied traditional house is located at the west of the dwelling. There are two contemporary apartment blocks are located at the north of the dwelling. There are four entrances to the dwelling. The first one is at the south façade of the dwelling which can be entered from the jerry-built garden wall's door, and the others are at the west façade of the dwelling.

The building lot is facing to the street from its southern, narrow, 11,33m long side. The western side of the lot is 23,76m long, and it is attached to the building lot of the traditional dwelling located at the west. From the northern end of the west side of the lot, the boundary line turns to east for 5,50m and then turns to south for 4,33m. This 5,50*4,33m dimensioned approximately square shaped part of the lot is projected from the main body. This part is 4,55m from the east side of the lot. The east side of the lot is 20,46m long. The area of the building lot is 247m2. The building is constructed attached to the south – eastern corner of the lot. The base area of the dwelling is 195 m2. It has a rectangular plan with 20,18 * 9,91 m dimensions. 79 percent of the lot is occupied by the dwelling. The dwelling consists of three main stories; a ground floor, first floor and a c*ihannüma* floor. The building has been expropriated by the Akdeniz Municipality of Mersin in 2004 to be a cultural center of the municipality.

The ground floor and the first floor are built up with cut stone masonry and the projection at the first floor is built up with timber system, with walls without infill (*bağdadi*). Only at the northern part of the dwelling in the spaces G06 and G11, reinforced concrete columns can be observed as a supporting structural element. Cihannüma is built up with timber skeleton system without infill, *bağdadi* at the interior, timber board covers at the exterior.

3.2 Exterior Description Of The Building

3.2.1 South Façade

This is the main entrance façade of the ground floor. The façade is parallel to the street and 10,16m long. It is a symmetrical façade. It is attached to a contemporary reinforced concrete four storey apartment block from the most east end. C*ihannüma* at the top and the projection at the first floor can be viewed at this façade. The ground and the first floor are cut stone masonry except the projection which is built up with timber skeleton system without infill. Cihannüma is built up with timber skeleton system without infill and covered with timber boards at exterior.

The south façade of the dwelling can be described in three parts. These are the three stories of it: Ground Floor, first floor and cihannüma floor:

Ground Floor of The Façade: Ground floor part of the south façade begins from ground which is from the average of -0,03m from datum line, to the stone cornice at +3,59m from datum line which separates the first floor and the ground floor at the façade and projects 0,10m from the façade surface. There are four windows with timber shutters are located symmetrically on the façade. The first one (WG1) is located 0,73m from the west end and begins at +1,14m from datum line with 1,77*0,91m dimensions. The second one (WG1) is located 2,42m from the west end and begins at +1,14m from datum line with 1,77*0,91m dimensions. There is an arched main entrance door opening with a cut stone casing (DG1) with the dimensions 1,72*3,57m at the middle of the façade, located 4.34m from the west end. The third window (WG1) is located 7,00m from the west end and begins at the 1,07m from datum line with 1,77*0,91m dimensions. The fourth

window (WG1) is located 8,69m from the west end and begins at +1,07m from datum line with 1,77*0,91m dimensions. The ground floor is plastered which is a cement based plaster with a rough surface and a dark grey color, from ground up to 1,14m from datum line with a rough surfaced cement based plastered. After this height, the ground floor is plastered with a cement based, smooth surfaced and light gray of plaster fully up to the cornice. The plaster is detached and fades away in patches and in these places; we can see the cut stone masonry. These plaster

Figure 3-1 South Façade

detachments are mostly begins at the +1,14m from datum line to the maximum 2,26m from datum line. There is an almost circular shaped hole with a 0,21m diameter, on the stone masonry wall at 0,34m from datum line and 2,12m from the west end of the façade.

First Floor Part of Façade: First floor part of the South façade begins from the cornice at +3,75m from datum line, to the timber fascia at +7,37m from datum line and 0,05m thick which separates the first floor and the roof. The façade is constructed with cut stone masonry system except the projection, which is constructed with timber skeleton system without infill and plastered. There is no plaster can be observed at this part of the façade except the projection itself. The projection stands at the middle of the façade, which is 3,84m from the west end and 2,77m wide. There are four windows (W12) standing symmetrically at two

sides of the projection. The first one (W12) is located 0,67m from the west end and begins at +4,74m from datum line with 1,04*1,95m dimensions. The second one (W12) is located 2,32m from the west end and begins at +4,74m from datum line with 1,04*1,95m dimensions. There is a hole on the stone masonry, over the windows at +6,99m from datum line with the 0,26*0,18m dimensions. After the second window the projection begins. The projection begins from +3,70m from datum line which overlaps about 0,05m to the stone cornice, to +7.36m from datum line which cihannüma begins. There is a window located at the middle of the projection (W11a), 4,61m from the west end of the façade and begins at +4,74m from datum line with 1,26*1,87m dimensions. There is a timber covering board with a 0,21m thickness is located all along the projection, at the most bottom end. Two timber elements with 0,10m thickness which begins from +3,92m from datum line and ends at the 6,63m from datum line, are located at both sides of the projection. After the projection, the third window (W12) is located 6,94m from the west end and begins at +4,74m from datum line with 1,04*1,95m dimensions. The fourth one (W12) is located 8,58m from the west end and begins at +4,74m from datum line with 1,04*1,95m dimensions. There is a circular formed hole on the stone masonry, over the windows at +7,06m from datum line with a 0,14m diameter.

Cihannüma Floor of Façade: Cihannüma floor part of the South façade begins from the timber fascia at +7,42m from datum line. The gable roofed *cihannüma* is located at the middle of this part of the façade. The wings of the gable roof are standing at both sides of cihannüma. The eave of the roof projects 0,27m from the west end of the façade. The timber roof structure has the *French tile*. The timber structural element with 0,10m thickness can be observed under the terracotta tiles. The timber structural element attaches to cihannüma at +8,63m from datum line. Gable of the roof is plastered. *Cihannüma* begins 3,89m from the west end from +7,36m from datum line over the projection up to +10,44m from datum line where the top of the gable roof is located. The projecting part of cihannüma is a semi-open space and the top of it is covered by a projecting gable roof. The eaves of the roof are projecting 0,32m at both sides. It is covered by zinc plates. The

gable of the roof has a timber structural frame which is 0,10m thick. In this triangular timber frame, the gable is constructed with timber skeleton system without infill with *bağdadi* type of wall construction technique and the laths of *bağdadi* can be observed. This part of the roof is supported by two 0,10*0,10m timber structural elements at two sides. The distance between these two timber supports is 2,51m. Between these timber supports there is a balustrade from +7,64m from datum line to +8,47m from datum line exists. There are 15 timber laths with 0,04m thickness are located vertically between two horizontal timber structural elements with 0,08m thickness. Behind the balustrades, there is a wall with timber structural system without infill with timber covering boards. The boards are 0,25m thick. There is a door (DC2) with 0.79*2,00m dimensions, located 4,03m from the west end of the façade and it reaches +9,54m from datum line on the top. A window on the same wall (WC2) with 0.71*1,02m dimensions is located 5,34m from the west end and begins at +8,38m from datum line. After cihannüma the east wing of the gable roof begins from +8,63m from datum line. This side of the roof attaches to a contemporary four storey reinforced concrete dwelling at +7,53m from datum line at the east end of the façade. The timber roof structure has the *French tile*. Under the terracotta tiles, the timber structural element with 0,10m thickness can be observed. The gable of the roof is plastered. At the east end of the roof where the building attaches to the contemporary one, there is an intervention with cement based plaster 9,65m from the west end of the façade to the contemporary building.

3.2.2 West Façade

The west façade of the building is 21,35m long, including the projection on the south façade, and the highest level which is the top of the roof of cihannüma, *is* +10,44m. This façade of the dwelling can be described mainly in four topics. These are: The northern part, the southern part, the projection and cihannüma.

Northern Part of Façade: This part of the façade is attached to a briquette garden wall from the ground up to +2,45m from datum line at the north end of the façade. It attaches to the original southern part façade surface 0,23m behind. The

northern part of the façade is constructed with cut stone masonry. Partial cement based plaster remainings can be observed. It is 11,93m long. Between the stories at the levels +3,74 and +6,55m from the datum line, there is a reinforced concrete slab with a thickness 0,13m, projects 0,08m.

Figure 3-3 Southern Original Part of West Façade

Figure 3-2 Northen Part of West Façade

The ground floor ground level rises from -0,03m from datum line at the south end to +0,37m from datum line at the north end. There are three doors on this part of the façade. The first one (DG4) with the dimensions 1,09*2,04m which is 4,98m from the north end, begins from +0,34m from datum line to +2,39m from datum line and opens to the space G11. The second one which is a jerrybuilt door with reused elements with the dimensions 1,22*2,12m, is 5,16m from the north end and begins from +0,20m from datum line to +2,33m from datum line and opens to the space G10. There is a reinforced concrete element with 0,17m thickness from ground up to the top of the door, exists at the north end of this door. This element supports another reinforced concrete horizontal element which begins from the top of the door with 0,19m thickness and reaches to the south end of the façade. It is supported by another reinforced concrete vertical element here.

This element is 0,27m thick and it reaches from ground up to the first floor's slab at +3,64m from datum line. The third door which is a jerrybuilt door with reused elements with the dimensions 0,92*2,13m, is 10,73m from the north end and begins from +0,17m from datum line to +2,30m from datum line and opens to the space G06. There is a vertical reinforced concrete element with 0,18m thickness, at the north side of the door, attaches to the horizontal reinforced concrete element between the second and the third doors at +2,28m from datum line. There are two openings over the doors. The first one is 0,30m from the north end and begins at the level +2,62m to +3,29m from datum line. Its dimensions are 1,92*0,67m. Under this opening, up to the level +2,17m and 0,38m from the datum line to the south of the opening, brickwork can be seen. The second one is 7,77m from the north end and begins at the level +2,50m to +3,29m from datum line. Its dimensions are 3,88*0,76m.

First floor begins from the slab level at +3,73m from datum line to the upper slab level at +6,44 from datum line. It is made up of cut stone masonry. There is a reinforced concrete horizontal element can be seen attached to the slab projection at +3,73m from datum line with a 0,37m height, beginning from the north end and reaching 4,83m far. Another horizontal reinforced concrete element, attaches the upper slab projection at the level +6,44m from datum line with a height of 0,14m and continuous all through this part of the façade. There are four windows and one opening can be seen on this part of the façade. The first one (W112) is located 1,09m from the north end and begins at +4,86m from datum line with 0,82*1,43m dimensions. Between the first window and the second window, there is a vertical dark deposit all along the two slabs with an average thickness of 0,38m. The second window (W110) is located 2,37m from the north end and begins at +5,59m from datum line with 0,63*0,70m dimensions. The third one (W110) is located 3,88m from the north end and begins at +5,59m from datum line with 0,63*0,70m dimensions. There is an opening in the stone masonry wall which is located 5,63m from the north end and begins at +4,49m from datum line with 1,19*0,65m dimensions. There is a 0,17m high reinforced concrete lintel exists on it. The

fourth window (W17a) is located 9,97m from the north end and begins at +4,56m from datum line with 1,77*1,67m dimensions.

Over the upper reinforced concrete slab projection, there is one row of brick which is 5cm high from +6,50m from datum line. It continuous up to 5,02m from the north end of the façade. After this, 5,02m from the north end, there is a cut stone masonry wall rises up to 9,13m from the north end. It rises from 6,53m from datum line to +8,57m from datum line. There is a 20cm thick reinforced concrete slab begins +8,37m from datum line, all through the wall. Two rows of cut stone at the levels +6,92m and +7,66m from datum line projects approximately 0,10m at the northern end of the wall. There are two openings on the masonry wall. The first opening is located 5,69m from the north end of the façade and begins at +6,91m from datum line with 1,10*1,47m dimensions. The second opening is located 7,58m from the north end of the façade and begins at +7,26m from datum line with 1,13*1,09m dimensions. One row of cut stone at the level +7,66m from datum line, projects 0,06m at the south end of the wall. At this point, two rows of stone continues till the end of the façade. This wall begins from +6,55m from datum line to +7,37m from datum line. There is a 0,12m thick slab, covers the top of the stone masonry.

Southern Part of Façade: This part of the façade projects 0,23m from the northern part. This part is made up of cut stone masonry. It is 8,29m long. The ground level is average -0,04m from datum line. This part of the façade is covered with a timber structure gable roof with French tile covering which begins at +7,04m from datum line to +8,27m from datum line and it is attached to cihannüma. Five rows of cut stone at the levels; +2,80, +3,50, +4,17, +4,80 and +5,43m from datum line and projects approximately 0,10m at the northern end of the wall. There is a 0,05m deep hole on the stone masonry, 0,19m from the north end at +2,03m from datum line with 0,10*0,04m dimensions. There are four windows located on this part of the façade. The first window (WG2) is located 1,32m from the north end of this part and begins at +1,03m from datum line with 0,91*1,77m dimensions. There is a circular shaped hole on the stone masonry,

2,81m from the north end at +2,39m from datum line with 0,21m diameter. There is another circular shaped hole on the stone masonry at, 4,16m from the north end of the wall at 0,18m from datum line with 0,18m diameter. There is a trace on the jointings of the stone masonry of an opening with a flat arch masonry on the top. It is located 4,77m from the north end of this part of the façade, at +0,61m from datum line with 0,84*1,28m. The second window (WG2) is located 6,23m from the north end of this part and begins at +1,00m from datum line with 0,91*1,77m dimensions. The third window (W13) is located 1,28m from the north end of this part and begins at +4,63m from datum line with 0,98*1,92m dimensions. The fourth window (W13) is located 6,05m from the north end of this part and begins at +4,61m from datum line with 0,98*1,92m dimensions. The stone cornice which separates the ground and the second floor on the south floor at +3,46m from datum line to +3,63m from datum line, turns to this façade for 0,14m and projects for 0,06m.

Projection: The projection stands 20,23m from the north end of the west façade. It is constructed with timber skeleton system without infill. The walls of the projection are constructed with timber skeleton system without infill. It projects 1,12m at +3,59m from datum line till the top of the gable roof on cihannüma at the 10,44m from datum line. There is a timber board begins at +3,59m level till +3,80m from datum line, all through the projection. A timber stud is located at the south edge of the projection from +3,80m to +6,47m from the datum line with a thickness of 0,11m. There is only one window (W11b) on this part of the façade. This window is located 0,02m from the north end of the projection at +4,53m from datum line with the 0,91*1,93m dimensions. The open part of the projection is being cut by horizontal timber flooring covered by a metal based material at +7,19m from datum line. Timber flooring has a thickness of 0,10m. This flooring element projects 0,23m on the south and west direction. There is a vertical timber support with 0,08*0,08m dimensions, is located 1,00m from the north end of the projection. The support reaches to the roof and attaches to it at +9,46m from datum line. There is a balustrade is located at +8,25m from datum line, between the north edge of the projection and the timber support. There

is a horizontal timber element with 0,05m thickness which forms the upper edge of the balustrade and stands over 5 vertical timber elements with 0,03m thickness. Behind the vertical elements, there is a gridal formed timber fence element is made up of 0,01m thick laths and nailed to the balustrade. There is a timber structure gable roof with zinc plate cover over the projection, projects 1,41m from the north edge of the projection from the level +9,46, to the 10,44m from datum line.

Cihannüma: Cihannüma is constructed with timber skeleton system without infill. It begins 10,31m from the north façade. It is 11,32m long including the projecting open part of cihannüma. There is a severely deteriorated part with a demolished roof at the north part of cihannüma. This part begins from the northern end and it is 1,62m long where the roof of southern part of the west façade begins at +8,27m from datum line. This part reaches to maximum height of +9,45m from datum line. It is constructed with timber skeleton system without infill. There is no plaster and timber laths can be observed. There is a timber frame of a door opening, is 0,92m from the north end of cihannüma, 0,7m wide at +9,24m from datum line on the top. The walls are timber board covered after this part of cihannüma which is 8,07m long. The roof has demolished at the first 1,51m. The roof is constructed with timber structure and covered by French tiles except the zinc plate covered 2,53m part of the southern end of the roof. The roof begins at +9,46m from datum line and reaches +10,44m from datum line on the top. There is a window (WC1) located 7,68m from the north end of cihannüma and begins at +8,40m from datum line with 0,73*1,03m dimensions. There is a cement based plaster intervention where the roof and cihannüma join.

3.2.3 North Façade

The north façade of the building can just be entered from a contemporary reinforced concrete six storey high dwelling's ground floor which attaches from the north-east corner of the thesis subject dwelling. North façade of the building is 9,41m long. The ground level increases from +0,33m to +0,57m from datum line from west to east direction. There is a contemporary reinforced concrete six storey

high building's ground floor and the first floor balcony stand in front of the building and attaches to it. The contemporary building attaches from ground level (+0,57m from datum line) to the end of the first floors balcony at +5,94m from datum line. It attaches till 2,87m from the east end of the north façade. There is a briquette garden wall attached to the dwelling at +2,44m from datum line and 1,65m long. The north façade is constructed with cut stone masonry. There are some partial cement based plasters remainings can be observed at ground floor level. There is a reinforced concrete horizontal element from +3,44m from datum line to +3,77m from datum line, begins 2,89m from the east end of the north façade where can be viewed from the contemporary building, to 4,86m from the east end. After this, the reinforced concrete element's upper level continuous up to the end of the façade. The lower level turns down up to +2,02m from datum line with a 0,41m thickness. The reinforced concrete element turns to west direction till the end of the façade with a thickness of 0,17m at the level +2,02m from datum line. The element turns upright with a thickness of 0,33m and joins with horizontal element with a 0,42m thickness and forms a rectangular frame at the west end of the façade. It is filled with brick masonry inside this reinforced concrete frame and there is an opening which begins at +2,66m from datum line and 7,23m from the east end of the façade with the dimensions of 1,87*0,63m. The opening is covered by a metal based net. There is an opening at the stone masonry wall with an irregular shape at +2,45m from datum line and 3,07m from the east end with 0,33*0,18m mean dimensions. There is an opening on the stone masonry wall 4,69m from the east end beginning at the ground level (+0,50m from datum line) to +2,38m from datum line with 0,96*1,87m dimensions. Inside the opening, there is a reused, non-functioning timber door nailed to the stone masonry. Between the opening and the horizontal reinforced concrete element, there is a reinforced concrete part 4,86m from the east end at +2,38m with 1,12*1,07m dimensions. Above this reinforced concrete part, on the horizontal reinforced concrete element, there are 16 iron reinforcement bars of concrete comes out of the reinforced concrete and projects in two rows at +3,47m from datum line and 5,07m from the east end of the north façade. First floor begins

after +3,77m from datum line where the reinforced concrete horizontal element's upper level located. There is another horizontal reinforced concrete element all through the north façade, exists at the level +6,27m to +6,55m from datum line. This element forms the roof of the part which begins 6,93m from the east end to the west end of the façade. On this element, 6,71m from the east end of the façade, there is another reinforced concrete horizontal element projects 0,14m with 0,08m thickness up to the west end of the facade. From the point 6,93m from the east end till the east end the roof rises to +7,51m from datum line. There is a horizontal reinforced concrete element at the upper end of this part with 0,22m thickness. The upper 0,09m of it, projects for 0,14m from the façade. Over the reinforced concrete element there is a row of brick work rises to +7,54m from datum line. There are two windows exist between the reinforced concrete elements at the levels, +3,77m and +6,27m from datum line, of the façade. The first one (W17b) is located 4,48m from the east end and begins at +4,52m from datum line with 1,82*1,84m dimensions. There is a semi circular shaped hole on the stone masonry wall at the 3,71m from datum line with 0,11m diameter. The second window (W113) is located 7,09m from the east end and begins at +4,52m from datum line with 1,09*1,72m dimensions. There is another window (W19) at an upper level +6,55, 1,31m from the east end and with 1,29*0,71m dimensions. There is a zinc plate awning over this window. 5,09m behind the north façade plane, the C01 coded space's roof rises to +8,59m from datum line. it begins 6,75m from the west end of the north façade till the east end of the façade. There is a 0,21m thick reinforced concrete slab is covering the roof of it. The rest of the façade is cut stone masonry. Behind this plane, 10,54m behind the north façade plane, cihannüma and the east wing of the timber gable roof structure can be viewed. The east wing of the timber structure gable roof is standing on a cut stone masonry wall which can be viewed only in two rows because of the attached reinforced concrete slab. The reinforced concrete slab is at +6,46m from datum line. After the slab, the cut stone masonry wall can be viewed till +7,05m from datum line. The timber structure gable roof which is covered by *French tile*, begins after +7,05m from datum line. The east wing of the roof attaches to a

contemporary four storey high building at +7,53m from datum line. It rises up to +8,26m from datum line where the wing of the roof attaches cihannüma 3,97m from the east end of the north façade. The gable of the roof is covered carelessly by irregular tin plates. Because of some material loss on the tin material, vertical timber structural elements and some horizontal timber covering plate remainings can partially observed. The remainings of the timber material are severely deteriorated. 3,97m from the east end of the north façade, cihannüma begins. Cihannüma stands on a cut stone masonry wall which can be viewed only in two rows because of the attached reinforced concrete slab. The reinforced concrete slab is at +6,46m from datum line. After the slab, the cut stone masonry wall can be viewed till +7,05m from datum line. After this level, the timber skeleton structure *cihannüma* can be viewed. The timber structure gable roof of cihannüma has been collapsed till 3,26m to the south direction from the north façade plane of cihannüma. The viewed, standing roof at the back, begins from +9,48m from datum line and reaches to +10,44m from datum line at the top. The gable is empty and the inner timber structure can be seen. The north façade of cihannüma is covered by timber plates. There are some partial, irregular tin plate covering interventions done below +8,37m from datum line. There is a window remaining is located on the façade. The window's upper level is at +9,62m. It is 0,87m wide. There is a solid timber shutter can be seen. The lower level is covered with a thick timber element and it blocks the observation and the measurements. The timber

Figure 3-4 North Façade

plate covers of the north façade of cihannüma, projects for 0,20m to the west direction at the south end.

3.2.4 East Façade

Because of the attaching contemporary reinforced concrete four storey high building, the east façade of the building could not be observed and measured.

3.3 Interior Description Of The Building

3.3.1 Ground Floor

The ground floor consists of 15 spaces. These spaces at the ground floor are coded from G01 to G15. The spaces G02, G03, G04, G05, G14 and G15 are the normal room spaces. G01 is a *sofa* space with a longitudinal plan scheme at the north – east direction and entered from the main entrance at the south façade. The space G06 can both entered from G01 and a door at the west façade. G07 which is a WC is located in the space G06. G08 which is a bathroom and G09 which is a kitchen, can both entered from the space G06. The space G10 can be entered from

a door located at the west façade and there is a reinforced concrete staircase is located in the space. Another door located on the west façade, leads to the space G11. The spaces G12 which is a bathroom and G13 which is a WC are located inside the space G11.

3.3.1.1 Space G01

The space G01 which has a rectangular plan 7,76*2,41m in dimensions and 3,35m in height is located in the middle of the south end of the ground floor. It is the *sofa* space of the southern part of the ground floor. The spaces G02 and G03 at the west side, G04 and G05 at the east side and G06 at the north side are all can be accessed through the space G01

All the walls of this space are plastered.

The space G01 is entered through a double winged with an arched clearstory door (DG1) on the south façade. This door is located in the middle of the southern wall of the space. The door is 0,42m from the east wall of the space G01. From ground up to the 0,57m from datum line, the wall is deteriorated and white deposit on the plaster can be observed.

The west wall of the space G01 is 7,76m in length and 3,44m in height. There are two doors located on this wall. The first door (DG3) is a single wing timber door with 1,01*2,33m dimensions and it is 2,79m from the south wall of the space. This door opens to the space G02. The other door (DG3) on the wall is 4,82m from the south wall with 1,01*2,33m dimensions. The door opens to the space G03. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to the 0,94m from the datum line, average level. The wall can only be observed from ground up to +3,39m from datum line, because of the plastic based covering material of the ceiling.

Figure 3-5 Space G01

The north wall of the space G01 is 2,41m in length and 3,44m in height. There is a window and a door is located on this wall. The window and the door are constructed together as one (DG2). The window is a timber sash window with 0,99*1,72m dimensions and it begins directly from the east wall of the space. The window is located at +1,10m from datum line. This window opens to the space G06. The door is 1,02m from the east wall with 1,35*2,59m dimensions. The door opens to the space G06. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to the 0,94m average from datum line. The wall can only be observed from ground up to +3,32m from datum line, because of the plastic based covering material of the ceiling.

The east wall of the space G01 is 7,76m in length and 3,44m in height. There are two doors located on this wall. The first door (DG3) is a single wing timber door with 1,01*2,33m dimensions and it is 1,99m from the north wall of the space. This door opens to the space G04. The other door (DG3) on the wall is

4,03m from the north wall with 1,01*2,33m dimensions. The door opens to the space G05. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to the 0,98m average from datum line. The wall can only be observed from ground up to the 3,33m from datum line, because of the plastic based covering material of the ceiling.

The floor is covered by hexagonal mosaic tiles. All the sides of the mosaic tiles are 0,11m long. There are 40 tiles on the long side and 15 tiles on the short side. The ground level is deformed but tiles are in good condition.

The ceiling is covered by a plastic based fabric material. This additional material is nailed by some timber laths irregularly to the ceiling. The ceiling can not be observed from the covering material. From the partially observed parts from the small holes on the covering material, it appears that the ceiling is a lathed timber ceiling type and severely deteriorated.

3.3.1.2 Space G02

The space G02 which has a rectangular plan 3,47*4,42m in dimensions and 3,24m in height is located at the south – west corner of the ground floor. It is a room entered from the *sofa* space G01.

All the walls of this space are plastered.

The space G02 is entered through a single winged door (DG3) on the east wall of the space. This door is located 0,64m from the north wall of the space and the dimensions of the door are 1,01*2,33m. The east wall of the space is 4,42m long and 3,20m in height. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to the 0,42m average from datum line.

The south wall of the space G02 is 3,47m in length and 3,22m in height. There are two windows located on this wall. The first window (WG1) is a double winged timber window with solid timber shutter and balustrades with 0,91*1,77m dimensions, beginning at +0,91m from datum line and it is 0,45m from the east

wall of the space. The other window (WG1) on the wall is 2,23m from the east wall with 0,91*1,77m dimensions, beginning at +0,92m from datum line. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall is deteriorated because of the dampness problem most probably caused by

Figure 3-6 Space G02

the rising damp problem from ground up to the 0,94m average from datum line and the penetration of the water from the windows.

The west wall of the space G02 is 4,43m in length and 3,29m in height. There is a window (WG2) located on this wall. The window is a double winged timber window with solid timber shutter and balustrades with 0,91*1,77m dimensions, beginning at +0,93m from datum line and it is 0,86m from the south wall of the space. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to the 0,28m average from datum line and the penetration of the water from the window.

The north wall of the space G02 is 3,47m in length and 3,23m in height. There is a timber baseboard all through the wall from ground with a 0,12m height.

The floor is a timber structure floor covered by a plastic based fabric material. The floor is deformed especially at the west end of the space.

The ceiling is a timber lathed ceiling. The laths are in south to north direction. It is in a good condition.

3.3.1.3 Space G03

The space G03 which has approximate square plan 2,99*3,42m in dimensions and 3,24m in height is attached to the space G02 from the south wall of the space. It is a room entered from the *sofa* space G01.

Figure 3-7 Space G03

All the walls of this space are plastered.

The space G03 is entered through a single winged door (DG3) on the east wall of the space. This door is located 1,85m from the north wall of the space and the dimensions of the door are 1,01*2,33m. The east wall of the space is 2,99m long and 3,24m in height. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +0,51m average from datum line.

The south wall of the space G03 is 3,44m in length and 3,28m in height. There is a timber baseboard all through the wall from ground with a 0,12m height.

The west wall of the space G03 is 2,97m in length and 3,26m in height. There is a window and hole located on this wall. The hole is a circular shaped hole with

a 0,21m diameter, 0,42m from the south wall. The window (WG2) is a double winged timber window with solid timber shutter and balustrades with 0,91*1,77m dimensions, beginning at the 0,96m from datum line and it is 1,04m from the south wall of the space. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall is deteriorated because of the dampnessness problem most probably caused by the rising damp problem from ground up to the 0,10m average from datum line and the penetration of the water from the window.

The north wall of the space G03 is 3,42m in length and 3,23m in height. There are two windows located on this wall. The window (WG4) is a single winged timber window with balustrades with 0,48*0,62m dimensions, beginning at +2,06m from datum line and it is 1,25m from the west wall of the space. It opens to the space G06. The window (WG5) is a double winged timber window with balustrades with 0,71*1,02m dimensions, beginning at +0,83m from datum line and it is 2,37m from the west wall of the space. It opens to the space G06. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall is deteriorated because of the dampness problem most probably caused by the rising dampness problem from ground up to the 0,77m average from datum line.

The floor is timber structure. The floor is irregularly deformed. Especially at the north – east corner of the floor, there are some interventions with timber materials can be understood from the irregular forms of the used material.

The ceiling is a timber lathed ceiling. The laths are in east to west direction. The ceiling, at the south end, begins from a timber element which projects 0,10m from the wall. It is in a good condition.

3.3.1.4 Space G04

The space G04 which has a rectangular plan 3,21*4,61m in dimensions and 3,28m in height is attached to the space G05 from the south wall of the space. It is a room entered from the *sofa* space G01.

All the walls of this space are plastered.

Figure 3-8 Space G04

The space G04 is entered through a single winged door (DG3) on the west wall of the space. This door is located 3,50m from the north wall of the space and the dimensions of the door are 1,01*2,33m. The west wall of the space is 4,59m long and 3,28m in height. There is a door which has been described and a window located on this wall. The window (WG3) is a single winged timber window with balustrades with 0,93*0,97m dimensions, beginning at +1,82m from datum line and it is 0,34m from the north wall of the space. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall is deteriorated because of the dampnessness problem most probably caused by the rising damp problem from ground up to +0,58m average from datum line.

The north wall of the space G04 is 3,21m in length and 3,28m in height. There is a timber baseboard all through the wall from ground with a 0,12m height. There is a circular shaped hole on this wall with 0,18m diameter at +2,70m from datum line. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +0,98m average from datum line.

The east wall of the space G04 is 4,01m in length and 3,29m in height. There is a window on this wall. The window (WG6) is a double winged timber window with solid timber shutter and balustrades with 1,15*1,62m dimensions, beginning at +1,08m from datum line and it is 1,89m from the south wall of the space. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall is severely deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to the 1,50m average from datum line from the datum line and the penetration of the water from the window. The deteriorated portion of the wall rises up to +2,10m from datum line at the south end of the east wall.

The south wall of the space G04 is 3,17m in length and 3,26m in height. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall is severely deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +2,10m from datum line at the east end and +0,30m from datum line at the west end.

The floor is timber structure and severely deteriorated. The floor has collapsed and a lot of material loss is observed. The ground is at the -0,44m from datum line. There is a stone vertical element which supports the floor structure can be observed from the collapsed structure.

The ceiling is a timber lathed ceiling. The laths are in north - south direction. The ceiling is in good condition but there are some small regional white deposits can be seen.

3.3.1.5 Space G05

The space G05 which has a rectangular plan 3,20*4,44m in dimensions and 3,25m in height is located at the south – east corner of the ground floor. It is a room entered from the *sofa* space G01.

All the walls of this space are plastered.

Figure 3-9 Space G05

The space G05 is entered through a single winged door (DG3) on the west wall of the space. This door is located 2,72m from the north wall of the space and the dimensions of the door are 1,01*2,33m. The west wall of the space is 4,44m long and 3,25m in height. There is a timber baseboard all through the wall from the round with a 0,12m height. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +0,18m average from datum line.

The north wall of the space G05 is 3,20m in length and 3,25m in height. There is a timber horizontal element is projecting 0,02m from the wall with 0,12m thickness located at +1,82m from datum line and continues all through the wall. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall is severely deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +1,52m from datum line at the east end and +0,20m from datum line at the west end.

The east wall of the space G05 is 4,42m in length and 3,25m in height. There is a timber baseboard all through the wall from ground with a 0,12m height. There

is a rectangular well shaped crack which could be a trace, on the plaster, 2,73m from the north wall at +0,90m from datum line with 0,91*1,77m dimensions. The wall is severely deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +1,50m average from datum line and the penetration of the water from the window. The deteriorated portion of the wall rises up to +1,90m from datum line at the north end of the east wall.

The south wall of the space G05 is 3,18m in length and 3,25m in height. There are two windows located on this wall. The first window (WG1) is a double winged timber window with solid timber shutter and balustrades with 0,91*1,77m dimensions, beginning at +0,90m from datum line and it is 0,29m from the east wall of the space. The other window (WG1) on the wall is 1,94m from the east wall with 0,91*1,77m dimensions, beginning at +0,88m from datum line. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to the 0,94m average from datum line and the penetration of the water from the windows.

The floor is timber structure and severely deteriorated. The floor has collapsed and the only the western side of the floor is structurally still connected to the main building.

The ceiling is a timber lathed ceiling. The laths are in north - south direction. The ceiling is in good condition.

3.3.1.6 Space G06

The space G05 which has a rectangular plan 5,86*4,41m in dimensions and 3,43m in height is located 8,16m from the south façade. It is a room entered from the *sofa* space G01 or directly from the west façade.

All the walls of this space are plastered with cement based plaster.

The space is entered through the door (DG2) which is constructed together with a window at +0,99m from datum line have the dimensions of 2,36*2,63m and located on the south wall and attached to the east wall of the space G06. The

north wall of the space is 5,86m long and 3,43m in height. There is a reinforced concrete column with 0,24*0,20m dimensions located 0,03m in front of the wall, 1,36m from the east wall of the space. There are two more windows on the wall other than the described one. The first window (WG5) on the wall is 2,90m from the east wall with 0,71*1,02m dimensions, beginning at +0,78m from datum line. The second window (WG4) on the wall is 4,26m from the east wall with 0,48*0,62m dimensions, beginning at +2,05m from datum line. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +0,26m average from datum line. The plasters up to +1,84m from datum line are lost and the stone masonry can be observed.

Figure 3-10 Space G06

The west wall of the space is 4,41m long and 3,43m in height. There is a door located 0,26m from the south wall with 0,99*2,14m dimensions. This door is a jerrybuilt door constructed with reused timber elements and located on the west façade of the dwelling. There is a opening at +2,43m from datum line beginning 0,29m from the south wall with 3,86*0,74m dimensions. The space G07 is a WC space in the space G06. The partition walls of the space G07 begins from the

north wall of the space G06 and it is 1,17m long. The walls of G07 are begins at ground level to +2,43m from datum line. The walls of the space G07 are plastered cut stone masonry and the ceiling of it is reinforced concrete. The east wall of the space G07 can be seen while observing the west wall of the space G06 therefore the east wall of the G07 will be described here. The east wall of the space G07 has an opening at +1,85m from datum line with 0,41*0,42m dimensions. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +0,26m average from datum line.

The north wall of the space G06 is 5,66m long and 3,43m in height. The space G07's east wall and the door which leads in can be viewed. The partition walls of the space G07 are plastered cut stone masonry. They begin from ground at +0,09m from datum line to +2,44m from datum line. The opening of the door begins from ground up to +2,26m from datum line and begins from the west wall with 0,65m wideness. The door inside the opening is a jerrybuilt door constructed with reused elements. The door begins from ground at +0,09m from datum line and reaches +1,92m from datum line. There is a firewood or coal caldron constructed from cut stone and plastered on the faces, is attached to the space G07 at the east end. It has 0,72*0,72m dimensions on the plan and height of the element is 0,91m. The inner caldron is cylindrical shaped metal based material with a diameter 0,41m. There is a washbasin constructed from cut stone masonry and plastered on the faces, attaches to the caldron from the east end. The washbasin has 1,04*0,76m dimensions on the plan and 0,42m in height. There is a reinforced concrete column located 4,10m from the west wall of the space G06 with 0,33*0,26m dimensions. There is a door which leads to the space G08 is located 4,69m from the west wall and the opening has 0,72*2,07m dimensions. The door is a jerrybuilt one. Over the space G08, there is an opening on the north wall of the space G06 beginning at +2,46m from datum line. This opening has 1,04*0,99m dimensions.

The east wall is 4,43m long and 3,43m in height. There is a door opening and a window is located on this wall. The door opening is 1,84m from the north wall and 0,95*2,02m dimensions. The window (WG3) is a single winged timber

window with balustrades with 0,93*0,97m dimensions, beginning at +1,89m from datum line and it is 3,39m from the north wall of the space. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +1,25m average from datum line.

The floor is screed covered.

The ceiling is reinforced concrete slab. There are two reinforced concrete beams on the ceiling. The first one is located 4,31m from the west wall and begins at +3,13m from datum line to the ceiling with 0,23m thickness. The beam is between two columns on the south and north walls. The second one is perpendicular to the first beam and attaches to the west wall at the other end. The beam begins from +3,20m from datum line to the ceiling with 0,23m thickness.

3.3.1.7 Space G07

The space G07 is a WC space which is located in the space G06. Space G06 has a approximate square plan, 1,11*0,97m in dimensions and 2,17m in height is located north – west corner of the space G06. It is a space entered from the space G06 through a jerrybuilt door located on the south wall of the space. The door is located 0,26m from the south wall with 0,99*2,14m dimensions. All the walls of the space are constructed with cut stone masonry and plastered. There is an opening at the east wall of the space G07 at +1,85m from datum line with 0,41*0,42m dimensions.

The ceiling is reinforced concrete slab and it is in good condition.

The floor is screed covered and there is a squat closet made up of cement based mosaic. It is attached to the east wall of the space and 0,13m from the north wall with 0,60*0,50m dimensions.

3.3.1.8 Space G08

The bathroom space G08 which has a rectangular plan 1,82*2,07m in dimensions and 2,21m in height is located 12,85m from the south façade and 4,06m from the west façade. It is a room entered from the space G06.

All the walls of the space are plastered. The walls are painted to a dark reddish color from ground up to +1,16m from datum line.

The bathroom space G08 is entered through a door on the south wall of the space. The south wall of the space is 1,76m long and 2,21m in height. The opening of the door is 0,23m from the east wall of the space with 0,73*2,07m. The door inside the opening is a jerrybuilt door. The reused door did not fit in size and there are some timber elements are used to close the left spaces. The west wall is 2,07m long and 2,21m in height. The north wall is 1,82m long and 2,21m in height. The east wall is 2,07m long and 2,21m in height. There is a chimney hole element at the 2,19m from datum line to the ceiling.

The floor of the space G08 is screed covered at the average +0,22m from datum line.

The ceiling of the space is reinforced concrete slab at +2,46m from datum line.

3.3.1.9 Space G09

The space G09 has a rectangular plan 2,37*3,20m in dimensions and 3,41m in height. There is a kitchen bench located 1,34m from the west wall and the wall set 0,37m behind the north wall from this point. The space is located 9,85m from the south façade and located attached to the east façade of the building. It is a kitchen entered from the space G06.

All the walls of this space are plastered.

The space G09 is entered through a door opening on the west wall of the space. This door is located attached to the south wall of the space and the dimensions of the opening are 0,92*2,03m. The west wall of the space is 2,37m long and 3,41m in height. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +0,18m average from datum line.

The north wall of the space is 3,24m long and 3,41m in height. There is a kitchen bench located 1,34m from the west wall and the wall set 0,37m behind the north wall from this point. The bench is 0,68*1,93m in dimensions and located at

+0,93m from datum line. There is a partition wall on the bench which is 2,32m from the west wall with 0,08m thickness and 0,80m in height. There is a metal based chimney hood located between the partition wall on the bench and the east wall. The chimney hood begins from +1,23m from datum line with 0,82m wideness and reaches +2,50m from datum line with 0,28m wideness. From the point where the chimney hood finishes, the chimney with 0,15m wideness begins and the chimney goes through the ceiling. There is a kerosene kitchen stove located just under the chimney hood. The wall is deteriorated because of the

Figure 3-11 Space G09

dampness problem most probably caused by the rising damp problem from ground up to +1,29m average from datum line.

The east wall of the space is 2,79m long and 3,41m in height. There is a double winged window (WG6) located 0,77m from the south wall with 1,15*1,62m dimensions. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to the 1,58m average from datum line.

The south wall of the space is 3,20m long and 3,41m in height. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to the 1,64m average from datum line.

The floor of the space G09 is screed covered and the accumulation of debris covered the material. The floor is at +0,16m from datum line.

The ceiling of the space is reinforced concrete slab. It is in a good condition.

3.3.1.10 Space G10

The space G10 has a rectangular plan 2,08*3,69m in dimensions. The space is located 12,83m from the south façade and located attached to the west façade of the dwelling. It is a staircase space entered from the west façade. The space is entered through a jerrybuilt door which is located on the west wall of the space, constructed with reused elements, and the dimensions of the opening of the door is 1,22*2,12m. It is attached to the north wall of the space and begins from +0,20m from datum line to +2,33m from datum line.

All the walls of the space are plastered.

The west wall of the space is 2,07m long and 2,20m in height.

The north wall of the space is 3,60m long and it rises with the staircase from +0,04m from datum line to +3,50m from datum line. The north wing of the reinforced concrete staircase is located attached to this wall. The staircase begins 1,24m from the west wall of the space. The staircase is 0,94m wide. There are six steps up to the landing at +1,19m from datum line. The landing has 1,00*2,08m dimensions. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +0,44m average from datum line.

The east wall of the space is 2,08m long and it is 3,46m high. The described landing is located at +1,19m from the datum line. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +0,42m average from datum line.

The south wall of the space is 3,69m long and it rises with the stair case from +0,99m from datum line to +2,25m from datum line. There are 9 steps; 0,91m long between two landings is located on this wall. The stairs begins from the landing at +1,19m from datum line to the other landing on the west wall at +2,25m from datum line. The wall is deteriorated because of the dampness

problem most probably caused by the rising damp problem from ground up to +0,42m average from datum line.

There is a partition timber wall between the two wings of the stairs. This partition element does not have any organic connection with the building elements. The partition wall is basically composed of timber reused elements nailed each other and a piece of timber used as a door.

The floor of the space G10 is screed covered, and accumulation of debris can be observed. The floor is at +0,04m from datum line.

3.3.1.11 Space G11

The space G11 which has a rectangular plan 5,40*4,92m in dimensions and 3,49m in height is located at the north – west corner of the dwelling. It is a room entered directly from the west façade.

Figure 3-12 Space G11

All the walls of the space are plastered.

The space G11 is entered through a double winged door which is located 1,36m from the south wall of the space and 1,10*2,04m in dimensions, is located on the west wall of the space G11. The west wall is 4,80m long and 3,49m in height. The spaces G12 and G13 are attached to this wall. The space G12 is located attached to the north – west corner of the space G11. The east wall of the

space which will be described in here, is 2,03m long and it begins from ground +0,18m from datum line to +2,12m from datum line. There is a jerry built door with reused elements located attached to the north wall of the space G11. The door has 0,94*1,84m dimensions. The east wall of the space is cut stone masonry and plastered. There is a timber horizontal element with 0,12m thickness, is located on the top of the wall. The east wall of the space G13 which is a WC space is located at the south – west corner of the space G11. The east wall of the space G13 which will be described in here, is 1,21m long and it begins from ground +0,18m from datum line to +2,17m from datum line. The east wall of the space is cut stone masonry and plastered. There is a timber horizontal element with 0,13m thickness, is located on the top of the wall. There is an opening 2,73m from the south wall of the space, is located at +2,33m from datum line and has 0,67*1,92m dimensions. There is a reinforced concrete beam can be observed on the west wall which begins from +3,20m from datum line. The beam is 0,38m high and continuous all through the west wall. There is a column attached to the south – west corner of the space is located with 0,30*0,30m dimensions. There is a reinforced concrete beam at the east – west direction, attaches to the column from +3,20m from datum line to +3,51m from datum line where the ceiling begins. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +0,63m average from datum line.

The north wall of the space G11 is 5,40m and 3,49m in height. It is constructed with cut stone masonry and plastered. The space G12 is located at the west corner of this wall. The south wall of the space which will be described in here, is 1,32m long and it begins from ground +0,18m from datum line to +2,12m from datum line. There is an opening with 0,02cm projecting casing with 0,06m thickness, is located at +1,60m from datum line with 0,93*0,40m dimensions, attached to the west wall of the space G11. The south wall of the space G12 is cut stone masonry and plastered. There is a timber horizontal element with 0,12m thickness, is located on the top of the wall. There is a reinforced concrete column located 2,17m from the west wall of the space G11 and it’s dimensions are

0,24*0,31m. There is a reinforced concrete beam at the south – north direction, attaches to the column at +3,25m from datum line. Between the beam and the column, there is a triangular reinforced concrete support element supports the beam. This triangular element begins at +2,50m from datum line on the column and supports and attaches the beam 0,41m from the column at +3,50m from datum line. There is a door opening located 3,30m from the west wall with 0,93*2,20m. The opening is closed by the help of some irregular timber elements. There is a reinforced concrete element over the opening can not be observed fully because of the plaster. The partially viewed part begins from +2,43m from datum line with 0,77*1,42m. The wall is severely deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +2,23m average from datum line.

The east wall of the space is 4,92m long and 3,49m in height. It is constructed with cut stone masonry and plastered. There are two doors and a window are located on this wall. The window (WG7) is a sash window with balustrades with 1,15*1,59m dimensions, beginning at the 1,07m from datum line and it is 0,29m from the north wall of the space. The first door (DG6) is located 2,00m from the north wall of the space and the dimensions of the door are 1,08*2,29m. The second door (DG5) is located 3,79m from the north wall of the space and the dimensions of the door are 1,09*2,33m. there is a reinforced concrete beam at +3,38m from datum line with 0,16*0,34m dimensions, located 4,47m from the north wall, attaches the east wall. The wall is severely deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +1,11m average from datum line.

The south wall of the space G11 is 5,60m long and 3,49m in height. It is constructed with cut stone masonry and plastered. There is a column standing 0,02m in front of the wall, 2,93m from the east wall and 0,24*0,32m in dimensions. There is a reinforced concrete beam at the south – north direction, attaches to the column at the 3,20m from datum line. Between the beam and the column, there is a triangular reinforced concrete support element supports the beam. This triangular element begins at +2,50m from datum line on the column

and supports and attaches the beam 0,41m from the column at +3,50m from datum line. There is another beam at +3,20m from datum line to the ceiling, is standing between the east wall to the column and to the column located at the south – west corner of the space. There is a reinforced concrete beam trace all through the wall is standing between +2,21m and +2,47m from the datum line. The north wall of the space G13 which will be described in here, is 1,28m long and it begins from ground +0,18m from datum line to +2,17m from datum line. The north wall of the space is cut stone masonry and plastered. There is a timber horizontal element with 0,13m thickness, is located on the top of the wall. There is a door opening attached to the west wall of the space and it has 0,78*1,92m dimensions. The door is a jerrybuilt one constructed with reused elements. The wall is severely deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +0,66m average from datum line.

The floor of the space G11 is screed covered and accumulation of debris can be observed. The current use of the space is as poultry. The chicken feces are also accumulated on the floor in time.

The ceiling of the space is reinforced concrete slab. It is in a good condition. There are 3 beams can be observed on the ceiling. The first one is in between two columns; 2,29m from the west wall and it is in north – south direction. The second one is in east – west direction in between the north column which stands 2,17m from the west wall, and the east wall. The third one is in east – west direction in between the south column which stands 2,39m from the west wall, and the east wall.

3.3.1.12 Space G12

The space G12 is located in the space G11. Space G12 has a rectangular plan, 1,15*1,77m in dimensions and 1,92m in height is located north – west corner of the space G11. It is a space entered from the space G11 through a jerrybuilt door located on the east wall of the space. The door is located attached to the north wall with 0,94*1,84m dimensions. All the walls of the space are constructed with cut

stone masonry and plastered. There is an opening at the south wall of the space G12 at +1,60m from datum line with 0,93*0,40m dimensions.

The ceiling is chipboard constructed.

The floor is screed covered and accumulation of debris can be observed. The current use of the space is as poultry. The chicken feces are also accumulated on the floor in time.

3.3.1.13 Space G13

The space G13 is a WC space which is located in the space G11. Space G11 has a approximate square plan, 1,12*0,94m in dimensions and 1,95m in height is located south – west corner of the space G11. It is a space entered from the space G11 through a jerrybuilt door located on the south wall of the space. The door is located attached to the west wall with 0,78*1,91m dimensions. All the walls of the space are constructed with cut stone masonry and plastered. There is an hole at the west wall of the space G13 at +1,89m from datum line with 0,34*0,28m approximate dimensions.

The ceiling is chipboard constructed.

The floor is screed covered and there is a squat closet made up of cement based mosaic. It is attached to the west wall of the space and 0,39m from the south wall with 0,60*0,50m dimensions.

3.3.1.14 Space G14

The space G14 has a rectangular plan 3,28*3,60m in dimensions and 3,33m in height. The space is located at the north – east corner of the dwelling. It is a room entered from the space G11.

All the walls of this space are plastered.

The space G14 is entered through a double winged door (DG6) 0,55m from the south wall of the space on the west wall of the space with 1,08*2,29m dimensions. The west wall of the space is 3,60m long and 3,33m in height. There is a window with balustrades (WG7) located 2,25m from the south wall at +1,07m from datum line with 1,15*1,59m dimensions. The wall is deteriorated because of

the dampness problem most probably caused by the rising damp problem from ground up to +2,09m average from datum line.

The north wall of the space is 3,28m long and 3,33m in height. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +2,09m average from datum line.

The east wall of the space is 3,69m long and 3,33m in height. There is a double winged with balustrades window (WG6) located at +1,07m from datum line, 0,95m from the north wall with 1,15*1,62m dimensions. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +2,35m average from datum line.

The south wall of the space is 3,28m long and 3,33m in height. There is a window (WG7) is located 1,03m from the east wall of the space at +1,07m from datum line with 1,15*1,59m dimensions. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +2,04m average from datum line.

The floor of the space G14 is screed covered and the accumulation of debris covered the material. The current use of the space is as poultry. The chicken feces are also accumulated on the floor in time. The floor is at +0,27m from datum line.

The ceiling of the space is reinforced concrete slab. It is in a good condition.

3.3.1.15 Space G15

The space G15 has a rectangular plan 3,23*3,43m in dimensions and 3,32m in height. The 1,14m long, west part of the south wall is set 0,35m behind. The space is located 12,84m from the south façade and located attached to the east façade of the dwelling. It is a room entered from the space G11.

All the walls of this space are plastered.

The space G15 is entered through a door (DG5) on the west wall of the space. The west wall of the space is 3,81m long and 3,32m in height. This door is located attached to the north wall of the space and the dimensions of the door are

Figure 3-13 Space G15

1,09*2,33m. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +1,11m average from datum line.

The north wall of the space is 3,23m long and 3,32m in height. There is a window (WG7) is located 1,01m from the west wall of the space at +1,07m from datum line with 1,15*1,59m dimensions. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +2,29m average from datum line.

The east wall of the space is 3,43m long and 3,32m in height. There is a double winged window (WG6) located 0,94m from the south wall with 1,15*1,62m dimensions. The wall is deteriorated because of the dampness problem most probably caused by the rising damp problem from ground up to +2,46m average from datum line.

The south wall of the space is 3,20m long and 3,32m in height. The 1,14m long, west part of the south wall is set 0,35m behind. The wall is deteriorated

because of the dampness problem most probably caused by the rising damp problem from ground up to +1,29m average from datum line.

The floor of the space G15 is screed covered and the accumulation of debris covered the material. The chicken feces are also accumulated on the floor in time. The floor is at +0,30m from datum line.

The ceiling of the space is reinforced concrete slab. It is in a good condition.

3.3.2 First Floor

First floor consists of 19 spaces. These spaces at the first floor are coded from I01 to I19. The spaces I07, I08, I11, I16, I17, I18 and I19 are the normal room spaces. I15 is a *sofa* space with a longitudinal plan scheme at the north – east direction. First floor can be reached through the space I01 which the staircase is located in.

3.3.2.1 Space I01

The space I01 has a rectangular plan 5,45*2,06m in dimensions. The space is located 12,73m from the south façade and located attached to the west façade of the dwelling. It is a staircase space reached from the space G10 at the ground floor or the space C01 at cihannüma floor.

All the walls of the space are plastered.

The west wall of the space is 2,06m long and 2,82m in height. It is constructed with stone masonry. It is located in between two landings of the staircase, between the from datum lines; +2,45m and +5,07m. There is an opening on the stone masonry wall at +4,49m from datum line with 1,19*0,65m dimensions.

The north wall of the space is 5,64m long. The height of the wall at the north end is 2,82m in between two landings, and after 2,96m from the north wall at the east direction, it reaches the normal storey height which is 2,59m. It is constructed with stone masonry. The north wing of the reinforced concrete staircase is located attached to this wall. The staircase begins 0,74m from the west wall, after the

landing, of the space. The staircase is 0,81m wide. There are nine steps up to the storey at +3,70m from datum line. There is a door leading to the space I02 is located here. The door (D15) is located 3,10m from the west wall with 1,19*2,49m. There is a convex curvilinear corner at the east end of the wall. The curve is almost a quarter circle with 0,18m radius.

The east wall of the space is 2,03m long and it is 2,59m high. It is constructed with stone masonry. The described convex curvilinear corner is located at the north end of the wall. The wall is painted to a dark reddish color from the slab to +4,78m from datum line.

Figure 3-14 Space I01

The south wall of the space is 5,70m long. The height of the space between the east wall and the point where the staircase's south wing begins is 2,59m. This part is 2,37m long from the east wall. The south wing of the staircase is 2,23m long with 9 steps. There is a door and two windows are located on this wall. The door (D15) is located 0,07m from the east wall with 1,19*2,49m dimensions. The first window (W18) is located 1,73m from the east wall, at +5,48m from datum line with 0,68*0,46m. The second window (W18) is located 3,28m from the east wall, at +5,50m from datum line with 0,68*0,46m dimensions.

The floor of the space I01 is screed covered

The ceiling is reinforced concrete slab. It is in a good condition.

3.3.2.2 Space I02

The space I02 which has a rectangular plan 4,72*2,92m in dimensions and 3,52m in height is located at the middle of the north façade of the dwelling. All the walls of the space are constructed with stone masonry. It is a room entered from the space I01.

All the walls of the space are plastered.

The south wall of the space is 2,85m long and 3,52m in height. There is a door (D15) is located 1,26m from the east wall of the space with 1,19*2,49m dimensions.

The west wall of the space is 4,72m long and 3,52m in height. There is a door and a window is located on this wall. The door (D17) is located 1,84m from the south wall with 0,86*2,44m dimensions. The window (W19) is located 1,76m from the south wall, at +6,39m from datum line with 1,29*0,71m dimensions. There is a mosaic baseboard all through the wall from ground with a 0,12m height. The wall is deteriorated (dark deposit, micro & macro biological growth and granular disintegration) probably caused by the penetration of water through the window.

The north wall of the space is 2,92m long and 3,52m in height. There is a triple winged window (W17b) with metal balustrades, is located 0,52m from the west wall, at +4,40m from datum line with 1,82*1,84m dimensions. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The east wall of the space is 4,80m long and 3,52m in height. There are two doors located on this wall. The first door (D17) which leads to the space I07, is located 2,41m from the north wall of the space with 0,86*2,44m dimensions. The second door (D17) which leads to the space I08, is located 3,76m from the north wall of the space with 0,86*2,44m dimensions. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The reinforced concrete slab of the space is paved by 0,20*0,20m dimensioned mosaic tiles. They are in a good condition.

The ceiling of the space is reinforced concrete slab. The north – east corner of the ceiling has some material loss and the reinforcement bars of the structure can be seen. There is a dampness problem, most probably caused by the penetration of rain water from the roof, exists.

3.3.2.3 Space I03

The space I03 which has a rectangular plan 2,36*0,97m in dimensions and 2,57m in height is located 16,77m from the south façade of the dwelling and attached to the west façade. All the walls of the space are constructed with stone masonry. It is a room entered from the space I02.

The east wall of the space is 0,97m long and 2,57m in height. The space is entered through a door (D17) located 0,05m from the north wall of the space with 0,86*2,44m dimensions.

The south wall of the space is 2,40m long and 2,57m in height. There are two doors are located on this wall. The first door is located 0,85m from the east wall of the space with 0,85*2,45m dimensions. The second door is located 1,52m from the east wall of the space with 0,85*2,45m dimensions.

The west wall of the space is 0,97m long and 2,57m in height. There is a lavatory located 0,24m from the south wall of the space. There is a window (W10) located 0,16m from the south wall, at +5,59m from datum line with 0,64*0,71m dimensions.

The north wall of the space is 2,36m long and 2,57m in height. There is a door located on this door. It is located 1,26m from the west wall of the space with 0,87*2,47m dimensions.

The floor which is at +3,68m from datum line, is reinforced concrete slab with screed cover.

The ceiling is reinforced concrete slab and in a good condition.

3.3.2.4 Space I04

The space I04 which has an approximate square plan 1,35*1,52m in dimensions and 2,53m in height is located 15,04m from the south façade of the dwelling and 1,37m from the west façade. All the walls of the space are constructed with stone masonry. It is a room entered from the space I03.

The north wall of the space is 1,30m long and 2,53m in height. The space is entered through a door located 0,11m from the west wall of the space with 0,86*2,40m dimensions.

The east wall of the space is 1,52m long and 2,53m in height.

The south wall of the space is 1,35m long and 2,53m in height. There is a trace of an removed element on the plaster of the wall; 0,40m high and 0,29m wide.

The west wall of the space is 1,55m long and 2,53m in height. There is a window (W110) located on this wall. It is located 0,26m from the south wall of the space at +5,59m from datum line with 0,64*0,71m dimensions.

The floor which is at +3,70m from datum line, is reinforced concrete slab with screed cover.

The ceiling is reinforced concrete slab and in a good condition.

3.3.2.5 Space I05

The space I05 which has a rectangular plan 0,93*1,52m in dimensions and 2,53m in height is located 15,04m from the south façade of the dwelling and attached to the west façade. All the walls of the space are constructed with stone masonry. It is a room entered from the space I03.

The north wall of the space is 0,90m long and 2,53m in height. The space is entered through a door located 0,07m from the west wall of the space with 0,86*2,40m dimensions.

The east wall of the space is 1,52m long and 2,53m in height. There is a window (W110) located on this wall. It is located 0,64m from the north wall of the space at +5,59m from datum line with 0,64*0,71m dimensions.

The south wall of the space is 0,93m long and 2,53m in height.

The west wall of the space is 1,50m long and 2,53m in height. There is a window (W110) located on this door. It is located 0,40m from the south wall of the space at +5,59m from datum line with 0,64*0,71m dimensions.

The floor which is at +3,70m from datum line, is reinforced concrete slab with screed cover. There is a squat closet made up of cement based mosaic on the floor. It is attached to the south wall of the space and 0,20m from the east wall with 0,60*0,50m dimensions.

The ceiling is reinforced concrete slab and in a good condition.

3.3.2.6 Space I06

The space I06 which has a rectangular plan 1,88*2,29m in dimensions and

Figure 3-15 Space I06

2,57m in height is located north – west corner of the dwelling. All the walls of the space are constructed with stone masonry. It is a room entered from the space I03.

The south wall of the space is 2,36m long and 2,57m in height. The space is entered through a door opening located 0,24m from the east wall of the space with 0,88*2,47m dimensions. There is a kitchen bench located, which will be described in detail with the west wall, at +4,51m from datum line, attached to the west wall and projecting 0,66m on the south wall.

The west wall of the space is 1,81m long and 2,57m in height. There is a window (W112) located on this wall. It is located 0,03m from the south wall of the space at +4,86m from datum line with 0,83*1,44m dimensions. The kitchen bench is located on this wall. The bench is 1,81m long (as long as the wall), projecting for 0,66m at +4,51m from datum line. There is a partition wall on the bench which projects 0,44m from the wall surface with 0,12m thickness and 0,50m in height. There is a 0,19m high from the floor surface and 0,12m wide wall, parallel to the west wall and 1,81m long (as long as the wall). The wall is right under the bench and defines a space under the bench.

The north wall of the space is 2,29m long and 2,57m in height. The described bench can be observed from the west wall to 0,66m from the west wall. There is a window (W113) located on this door. It is located 1,11m from the west wall of the space at +4,52m from datum line with 1,09*1,72m dimensions.

The east wall of the space is 1,88m long and 2,57m in height.

The floor which is at +3,73m from datum line, is reinforced concrete slab with screed cover.

The ceiling is reinforced concrete slab and in a good condition.

3.3.2.7 Space I07

The space I07 which has a approximate square plan 3,28*3,44m in dimensions and 3,50m in height is located north – east corner of the dwelling. All the walls of the space are constructed with stone masonry. It is a room entered from the space I02.

The west wall of the space is 3,44m long and 3,50m in height. The space is entered through a door (D17) located 0,08m from the south wall of the space with 0,86*2,44m dimensions. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The west wall of the space is 3,28 long and 3,50m in height. There is a window (W19) located on this wall. It is located 1,06m from the west wall of the

space at +6,55m from datum line with 1,29*0,71m dimensions. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The east wall of the space is 3,44m long and 3,50m in height. There is a window (W17a) located on this wall. It is located 0,99m from the north wall of the space at +4,60m from datum line with 1,82*1,84m dimensions. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The south wall of the space is 3,27m long and 3,50m in height. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The floor which is at +3,71m from datum line, and it is reinforced concrete slab, paved by 0,20*0,20m dimensioned mosaic tiles. They are in a good condition.

The ceiling is reinforced concrete slab and in a good condition.

3.3.2.8 Space I08

The space I08 which has a approximate square plan 3,29*3,38m in dimensions and 3,50m in height is located 12,81m from the south façade of the dwelling and attached to the east façade. All the walls of the space are constructed with stone masonry. It is a room entered from the space I02.

The west wall of the space is 3,38m long and 3,50m in height. The space is entered through a door (D17) located 2,36m from the south wall of the space with 0,86*2,44m dimensions. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The north wall of the space is 3,29m long and 3,50m in height. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The east wall of the space is 3,53m long and 3,50m in height. There is a window (W17a) located on this wall. It is located 1,02m from the north wall of the space at +4,60m from datum line with 1,82*1,84m dimensions. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

Figure 3-16 Space I08

The south wall of the space is 3,32m long and 3,50m in height. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The floor which is at +3,69m from datum line, and it is reinforced concrete slab, paved by 0,20*0,20m dimensioned mosaic tiles. They are in a good condition.

The ceiling is reinforced concrete slab and in a good condition.

3.3.2.9 Space I09

The space I09 which is mainly two joined rectangular space can be described in two parts. The first part is the transitional, longitudinal on the north – south direction and rectangular shaped 4,48*1,29m and 2,56m in height is located 8,15m from the south façade of the dwelling and 4,75m from the west façade. The second part is a rectangular shaped, 1,00*1,32m and 2,56m in height, space attached to the first part from 1,05m from the north wall of the space. These spaces will be described in two parts. All the walls of the space are constructed with stone masonry. The spaces are transitional spaces between the spaces I01, I10, I11, I13, I14, and I15.

The first part: The north wall of the space is 1,29m long and 2,56m in height. The space is entered from the space I01 through a door (D15) located 0,05m from

Figure 3-17 Space I09

the west wall of the space with 0,86*2,44m dimensions. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The east wall of the space is 4,48m long and 2,56m in height. There is a door (D16) and a window is located on this wall. The door which opens to the space I10, located 1,89m from the north wall and 0,89*2,49m in dimensions. The window (W14) which opens to the space I16, is located 3,41m from the north wall at +4,68m from datum line and 0,78*1,82 in dimensions. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The south wall of the space is 1,32m long and 2,56m in height. There is a door and window combination element (D13) is located on this wall. The west wall of the space finishes 0,05m before it touches the element. Because of the west wall the element's door part can be viewed in this space and the window part of the element can be seen in the space I11. It is located attached to the east wall of the 2,45*2,56m in dimensions. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The west wall of the space is 4,42m long and 2,56m in height. There is a door (D16) located on this wall. The door which opens to the space I11, located 1,34m from the south wall and 0,89*2,49m in dimensions. There is a mosaic baseboard

all through the wall from ground with a 0,12m height. the second part of the space is attached 2,41m from the south end of this wall.

The second part: The south wall of the space is 1,34m long and 2,56m in height. There is a window (W111) located 0,60m from the east end at +4,67m from datum line and 0,74*0,91m in dimensions. There is a lavatory located 0,64m from the east end of the wall at +4,66m from datum line with 0,50*0,40m dimensions. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The west wall of the space is 1,00m long and 2,56m in height. There is a door (D16) leading to the space I13, located 0,19m from the south end of the wall with 0,89*2,49m dimensions. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The north wall of the space is 1,32m long and 2,56m in height. There is a door (D16) is located on this wall. The door opens to the space I14 and located 0,40m from the east end of the wall with 0,89*2,49m dimensions. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

The floor which is at +3,71m from datum line, and it is reinforced concrete slab.

The ceiling is reinforced concrete slab and in a good condition.

3.3.2.10 Space I10

The space I10 which has a rectangular plan 3,27*2,64m in dimensions and 2,56m in height is located 9,84m from the south façade of the dwelling and attached to the east façade. All the walls of the space are constructed with stone masonry. It is a room entered both from the space I09 and I16.

The west wall of the space is 2,64m long and 2,56m in height. The space is entered through a door (D16) located attached to the south wall of the space with 0,89*2,49m dimensions. There is a firewood or coal caldron constructed from cut stone and plastered on the faces, is attached to the space I10 at the east end. It has 0,71*0,53m dimensions on the plan and height of the element is 0,78m. The inner

caldron is cylindrical shaped metal based material with a diameter 0,41m.There is a convex curvilinear corner at the north end of the wall. The curve is almost a quarter circle with 0,18m radius. There is a mosaic baseboard all through the wall from ground with a 0,12m height.

Figure 3-18 Space I10

The north wall of the space is 3,26m long and 2,56m in height. The described caldron and the curve are located at the west corner. There is a kitchen bench located right after the caldron, 0,71m from the west end at +4,54m from datum line. The bench is standing over three vertical concrete elements. The first one is located 0,69m from the west and with 0,07m thickness. The second one is located 2,05m from the west and with 0,13m thickness. The third one is located 2,88m from the west and with 0,12m thickness. There are two small partition walls located on the bench. The first one is 0,71m from the west end at +5,54m highest from datum line and 0,07m thick. The second one is located 1,81m from the west end at +5,54m highest from datum line and 0,13m thick. There is a metal based chimney hood located between the two partition walls on the bench. The chimney hood begins from +5,14m from datum line with 1,03m wideness and reaches +5,91m from datum line with 0,49m wideness. From the point where the chimney hood finishes, the chimney with 0,15m wideness begins and the chimney goes

through the ceiling. There is a convex curvilinear corner at the east end of the wall. The curve is almost a quarter circle with 0,18m radius.

The east wall of the space is 2,80m long and 2,56m in height. There is a window (W16) located on this wall. It is located 0,93m from the north wall of the space at +4,60m from datum line with 1,16*1,62m dimensions.

The south wall of the space is 3,27m long and 2,56m in height. There is a door opening located 2,04m from the east end with 0,85*1,83m dimensions. The door opening has a door frame inside, and the plasters around the frame are lost.

The floor which is at +3,64m from datum line, and it is reinforced concrete slab.

The ceiling is reinforced concrete slab and in a good condition.

3.3.2.11 Space I11

The space I11 which has a rectangular plan 2,20*4,44m in dimensions and 2,56m in height is located 8,09m from the south façade of the dwelling and attached to the west façade. All the walls of the space are constructed with stone masonry. It is a room entered from the space I09.

The east wall of the space is 2,20m long and 2,56m in height. The space is entered through a door (D16) located attached to the north wall of the space with 0,89*2,49m dimensions. The wall has a 0,05m gap and does not touch the south wall of the space.

The west wall of the space is 4,44m long and 2,56m in height. There are two windows located on this wall. The first window is a part of a composite element which consists of a door and a window (D13), and the door part can not be observed from this space, because of the wall between the spaces I11 and I09. The wall does not join with the element and it stays 0,05m from the element surface. The composite element (D13) is located 1,02m from the west wall with 2,45*2,59m dimensions. The window part of the composite element is located at +4,53m from datum line. The second window (W15) is located 2,36m from the east wall of the space at +4,55m from datum line with 1,00*1,79m dimensions.

The west wall of the space is 2,16m long and 2,56m in height. There is a window (W17a) located on this wall. It is located 0,14m from the south wall of the space at +4,56m from datum line with 1,82*1,84m dimensions. There are some material losses of plaster and also organic growth is observed on the wall where the window is located. The source of the problems is most probably is the water penetration from the window.

The south wall of the space is 4,27m long and 2,56m in height. There is a door and two windows are located on this wall. The door (D14) which opens to the space I12, is located 0,32m from the west wall begins at +4,04m from datum line with 0,78*2,37m dimensions. The first window (W111) is located 1,43m from the west end at +4,67m from datum line and 0,74*0,91m in dimensions. The

Figure 3-19 Space I11

second window (W111) is located 3,30m from the west end at +4,67m from datum line and 0,74*0,91m in dimensions.

The floor which is at +3,70m from datum line, and it is reinforced concrete slab.

The ceiling is reinforced concrete slab. There are some big regional white deposit areas and some dampness problem is observed.

3.3.2.12 Space I12

The space I12 which has a rectangular plan 1,07*2,14m in dimensions and 2,56m in height is located 10,44m from the south façade of the dwelling and attached to the west façade. All the walls of the space are constructed with stone masonry. It is a room entered from the space I11.

The south wall of the space is 1,07m long and 2,56m in height. The space is entered through a door (D14) which is located 0,26m from the west wall begins at +4,04m from datum line with 0,78*2,37m dimensions.

The west wall of the space is 2,14m long and 2,56m in height.

The north wall of the space is 0,97m long and 2,56m in height.

The east wall of the space is 2,12m long and 2,56m in height.

The floor which is at +3,70m from datum line, and it is reinforced concrete slab.

The ceiling is reinforced concrete slab and in a good condition.

3.3.2.13 Space I13

The space I13 which has a rectangular plan 1,68*1,93m in dimensions and 2,56m in height is located 10,48m from the south façade and 1,48m from the west façade of the dwelling. All the walls of the space are constructed with stone masonry. It is a room entered from the space I09.

The east wall of the space is 2,10m long and 2,56m in height. The space is entered through a door (D16) which is located 0,19m from the south wall with 0,89*2,49m dimensions.

The west wall of the space is 1,68m long and 2,56m in height. There is a window located on this wall. The window (W111) is located 0,82m from the east wall at +4,67m from datum line and 0,74*0,91m in dimensions.

The west wall of the space is 2,10m long and 2,56m in height. There is a convex curvilinear corner at the north end of the wall, 1,93m from the south end. The curve is almost a quarter circle with 0,18m radius.

The north wall of the space is 1,73m long and 2,56m in height. The convex curvilinear corner is located 1,52m from the east end of the wall. There is a

window (W18) located 0,47m from the east end at +5,50m from datum line with 0,68*0,46m dimensions.

The floor which is at +3,70m from datum line, and it is reinforced concrete slab.

The ceiling is reinforced concrete slab and in a good condition.

3.3.2.14 Space I14

The space I14 which has a rectangular plan 0,83*1,12m in dimensions and 2,56m in height is located 11,76m from the south façade and 3,07m from the west façade of the dwelling. All the walls of the space are constructed with stone masonry. It is a room entered from the space I09.

The south wall of the space is 1,15m long and 2,56m in height. The space is entered through a door (D16) which is located 0,23m from the east wall with 0,89*2,49m dimensions.

The west wall of the space is 0,85m long and 2,56m in height.

The north wall of the space is 2,10m long and 2,56m in height. There is a window (W18) located 0,20m from the west end at +5,50m from datum line with 0,68*0,46m dimensions.

The east wall of the space is 0,83m long and 2,56m in height. .

The floor which is at +3,70m from datum line, and it is reinforced concrete slab. There is a squat closet made up of cement based mosaic on the floor. It is attached to the east wall of the space and 0,23m from the south wall with 0,60*0,50m dimensions.

The ceiling is reinforced concrete slab and in a good condition.

3.3.2.15 Space I15

The space I15, which has a rectangular plan 8,92*2,41m in dimensions and 3,38m in height, is located in the middle of the south end of first floor. It is the *sofa* space of the southern part of first floor. The spaces I16 and I17 at the west side, I18 and I19 at the east side and I09 at the north side are all can be accessed through the space G01

All the walls of this space are plastered.

The space I15 is entered through (D13).

The north wall of the space I15 is 2,41m in length and 3,31m in height. There is a window and a door is located on this wall. The window and the door are constructed together as one (D13). The window is a timber sash window with 0,99*1,91m dimensions and it begins directly from the west wall of the space. The window is located at the 1,10m from datum line. This window opens to the space I11. The door is 0,99m from the west wall with 1,34*2,59m dimensions. The door opens to the space I09. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall can only be observed from ground up to the 7,33m from datum line, because of the plastic based covering material of the ceiling.

Figure 3-20 Space I15

The east wall of the space I15 is 8,96m in length and 3,39m in height. There are 2 doors and a window is located on this wall. The first door (D11) is a double winged door, 1,88m from the north wall of the space with 1,19*2,66m dimensions, and opens to the space I16. The second door (D11) is a double

winged door, 3,69m from the north wall of the space with 1,19*2,66m dimensions, opens to the space I17. The timber sash window (W11c) is located 8,08m from the north wall at +4,69m from datum line with 0,92*1,94m dimensions. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall can only be observed from ground up to +7,23m from datum line, because of the plastic based covering material of the ceiling. There are some small regional dampness traces on the wall at the places closer to the ceiling.

The south wall of the space I15 is 2,41m in length and 3,38m in height. There is a timber sash window (W11a) located 0,62m from the east wall at +4,55m from datum line, 1,26*1,87m in dimensions. The bottom 0,04m thick timber element goes all through the wall. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall can only be observed from ground up to the 7,06m from datum line, because of the plastic based covering material of the ceiling.

The west wall of the space I15 is 8,92m in length and 3,39m in height. There are 2 doors and a window is located on this wall. The timber sash window (W11b) is located 0,01m from the south wall at +4,69m from datum line with 0,92*1,94m dimensions. The first door (D11) is a double winged door, 4,08m from the south wall of the space with 1,19*2,66m dimensions, and opens to the space I18. The second door (D11) is a double winged door, 5,88m from the south wall of the space with 1,19*2,66m dimensions, opens to the space I19. There is a timber baseboard all through the wall from ground with a 0,12m height. The wall can only be observed from ground up to +7,11m from datum line, because of the plastic based covering material of the ceiling. There are some small regional dampness traces on the wall at the places closer to the ceiling.

The floor is timber skeleton but the floor is covered by a plastic based covering sheet material, so the structure can not be observed.

The ceiling is covered by a plastic based fabric material. This additional material is nailed by some timber laths irregularly to the ceiling. The ceiling can not be observed from the covering material. From the partially observed parts

from the small holes on the covering material, it appears that the ceiling is a lathed timber ceiling type and severely deteriorated.

3.3.2.16 Space I16

The space I16 which has a rectangular plan 3,21*4,70m in dimensions and 3,49m in height is attached to the space I17 from the south wall of the space. It is a room both entered from the *sofa* space I15 and I10.

All the walls of this space are plastered.

The space I16 is entered through a double winged door (D11) on the west wall of the space. This door is located attached to the north wall of the space and the dimensions of the door are 1,19*2,66m. The west wall of the space is 4,70m long and 3,49m in height. There is a window (W14) is located 3,35m from the south wall at +4,53m from datum line and 0,77*1,91m in dimensions. There is a timber baseboard all through the wall from ground with a 0,12m height.

Figure 3-21 Space I16

The north wall of the space I16 is 3,21m in length and 3,49m in height. There is a door opening located 0,32m from the west end with 0,85*1,83m dimensions. The door opening has a door frame inside, and the plasters around the frame are lost. The plaster till +6,52m from datum line over the door opening are lost and the vertically oriented timber laths of the structure can be observed. There is a

timber baseboard all through the wall from ground with a 0,12m height. There is a circular shaped hole on this wall with 0,18m diameter at the 2,70m from datum line. There is a dampness problem and dark deposits are observed on the wall especially from +6,10m from datum line to the ceiling.

The east wall of the space I16 is 4,69m in length and 3,49m in height. There is a window (W16) located on this wall. It is located 1,60m from the north wall of the space at +4,60m from datum line with 1,16*1,62m dimensions. There is a timber baseboard all through the wall from ground with a 0,12m height. There is a severe dampness problem on the wall is causing dark and white deposits, organic growth and small amounts of material loss on the plaster.

The south wall of the space I16 is 3,23m in length and 3,49m in height. There is a door (D12) is located 1,78m from the east wall with 0,85*2,60m dimensions. There is a timber baseboard all through the wall from ground with a 0,12m height.

The floor is timber structure at +3,68m from datum line. The timber covering boards are on the north – south direction. There are 16 rows of average 0,20m wide timber boards are used. The timber elements have partial dark deposit areas and deteriorated especially the region under the window on the east wall. there are some darkening on the timber and there are some material loss in small amounts is observed especially at the regions closer to the east wall.

The ceiling is a timber "*şaşırtmalı"* type of ceiling at +7,20m from datum line. There is a 0,20m wide timber frame is surrounding the ceiling. Inside this frame, the timber boards are oriented on the north – south direction, longitudinally. There are 15 rows of average 0,20m wide timber boards are used. There are some small regional white deposits and color change of the timber material can be seen especially at the east side of the ceiling.

3.3.2.17 Space I17

The space I17 which has a rectangular plan 3,20*4,43m in dimensions and 3,40m in height is located at the south – east corner of first floor. It is a room both entered from the *sofa* space and the space I17.

All the walls of this space are plastered.

The space I17 is entered through a double winged door (D11) on the west wall of the space. This door is located 0,37m from the north wall of the space and the dimensions of the door are 1,19*2,66m.The west wall of the space is 4,43m long and 3,40m in height. There is a timber baseboard all through the wall from the round with a 0,12m height.

The north wall of the space I17 is 3,20m in length and 3,40m in height. There is a door (D12) located 0,55m from the west wall with 0,85*2,60m dimensions. There is a timber baseboard all through the wall from ground with a 0,12m height.

The east wall of the space I17 is 4,52m in length and 3,40m in height. There is a 0,22m deep niche 2,73m from the north wall, at +4,45m from datum line and 0,91*1,78m in dimensions. There is a timber baseboard all through the wall from ground with a 0,12m height.

Figure 3-22 Space I17

The south wall of the space I17 is 3,28m in length and 3,40m in height. There are two windows located on this wall. The first window (W12) is a double winged timber window with timber shutter with 1,04*1,94m in dimensions, beginning at +4,46m from datum line and it is 0,35m from the east wall of the space. The second window (W12) is a double winged timber window with timber shutter with 1,04*1,94m in dimensions, beginning at +4,45m from datum line and it is

1,94m from the east wall of the space. There is a timber baseboard all through the wall from ground with a 0,12m height. The timber covering boards are on the north – south direction. There are 16 rows of average 0,20m wide timber boards are used.

The floor is timber structure. It is at +3,63m from datum line.

The ceiling is a timber "*şaşırtmalı"* type of ceiling at +7,07m from datum line. There is a 0,20m wide timber frame is surrounding the ceiling. Inside this frame, the timber boards are oriented on the north – south direction, longitudinally. There are 15 rows of average 0,20m wide timber boards are used.

3.3.2.18 Space I18

The space I18 which has a rectangular plan 3,51*4,41m in dimensions and 3,32m in height is located at the south – west corner of first floor. It is a room entered from the *sofa* space I15.

All the walls of this space are plastered.

The space I18 is entered through a double winged door (D11) on the east wall of the space. This door is located 0,35m from the north wall of the space and the dimensions of the door are 1,19*2,66m. The east wall of the space is 4,41m long and 3,32m in height. There is a timber baseboard all through the wall from ground with a 0,12m height.

The south wall of the space I18 is 3,51m in length and 3,32m in height. There are two windows located on this wall. The first window (W12) is a double winged timber window with timber shutter with 1,04*1,94m in dimensions, beginning at +4,48m from datum line and it is 0,43m from the east wall of the space. The second window (W12) is a double winged timber window with timber shutter with 1,04*1,94m in dimensions, beginning at +4,47m from datum line and it is 2,03m from the east wall of the space. There is a timber baseboard all through the wall from ground with a 0,12m height.

The west wall of the space I18 is 4,39m in length and 3,32m in height. There is a window (W13) located on this wall. The window is a double winged timber window with 0,91*1,77m dimensions, beginning at +4,61m from datum line and

it is 0,86m from the south wall of the space. There is a timber baseboard all through the wall from ground with a 0,12m height.

The north wall of the space I18 is 3,48m in length and 3,32m in height. There is a timber baseboard all through the wall from ground with a 0,12m height.

The floor is a timber structure floor at +3,64m from datum line. The timber

Figure 3-23 Space I18

covering boards are on the north – south direction. There are 17 rows of average 0,20m wide timber boards are used.

The ceiling is a timber "*şaşırtmalı"* type of ceiling at +7,07m from datum line. There is a 0,20m wide timber frame is surrounding the ceiling. Inside this frame, the timber boards are oriented on the north – south direction, longitudinally. There are 17 rows of average 0,18m wide timber boards are used. The current use of the space is as poultry. The chicken feces are accumulated on the floor in time.

3.3.2.19 Space I19

The space I19 which has approximate square plan 3,05*3,47m in dimensions and 3,31m in height is attached to the space I18 from the south wall of the space. It is a room entered from the *sofa* space I15.

All the walls of this space are plastered.

The space I19 is entered through a double winged door (D11) on the east wall of the space. This door is located attached to the south wall of the space and the dimensions of the door are 1,19*2,66m. The east wall of the space is 3,05m long and 3,31m in height. There is a timber baseboard all through the wall from ground with a 0,12m height.

The south wall of the space I19 is 3,47m in length and 3,31m in height. There is a timber baseboard all through the wall from ground with a 0,12m height.

The west wall of the space I19 is 3,01m in length and 3,31m in height. There is a window (W13) located on this wall. The window is a double winged timber window with 0,91*1,77m dimensions, beginning at +4,61m from datum line and it is 0,95m from the south wall of the space. There is a timber baseboard all through the wall from ground with a 0,12m height.

The north wall of the space I19 is 3,46m in length and 3,31m in height. There

Figure 3-23 Space I19

is a window(W15) is located on this wall. The window is a double winged timber window with balustrades with 1,00*1,91m dimensions, beginning at +4,58m from datum line and it is 1,18m from the west wall of the space. It opens to the space

I11. There is a timber baseboard all through the wall from ground with a 0,12m height.

The floor is timber structure at +3,69m from datum line. The timber covering boards are on the north – south direction. There are 17 rows of average 0,20m wide timber boards are used. The current use of the space is as poultry. The chicken feces are accumulated on the floor in time.

The ceiling is covered by a plastic based fabric material. This additional material is nailed by some timber laths irregularly to the ceiling. The ceiling can not be observed from the covering material. From the partially observed parts from the small holes on the covering material, it appears that the ceiling is a timber "*şaşırtmalı"* type of ceiling and severely deteriorated.

3.3.3 *Cihannüma* Floor

3.3.3.1 Space C01

The space C01 has a rectangular plan 2,05*2,75m in dimensions. The space is located 12,73m from the south façade and located attached to the west façade of the dwelling. It is a staircase space reached from the space I01 at first floor or the open space of the roof.

All the walls of the space are plastered.

The west wall of the space is 1,52m long and 3,06m in height. It is constructed with stone masonry. It is located in between the landing of the staircase at +5,27m from datum line and the ceiling of the space at the 8,33m from datum line. There is an opening on the stone masonry wall at +6,91m from datum line with 1,10*1,46m dimensions.

The north wall of the space is 2,68m long. The height of the wall at the north end is 3,06m in between the landing and the ceiling, and after 1,01m from the north wall, after the landing, the staircase begins from +5,27m from datum line and reaches the roof at the 6,47m from datum line with 7 steps. The wall height decreases 1,86m on the top. The wall is constructed with stone masonry. The north wing of the reinforced concrete staircase is located attached to this wall. The

staircase is 0,81m wide. There is an opening on the east wall of the space, leads to the open space of the roof.

The east wall of the space is 2,05m long and it is 1,86m high. It is constructed with stone masonry.

The south wall of the space is 2,75m long. The south wing of the staircase is 1,67m long with 7 steps. This wing of the staircase begins from the from datum line +3,70 and reaches to the from datum line 5,27m at the landing. So the height of the wall begins from 4,63m to 3,06m.

The floor of the space I01 is reinforced concrete stairs.

The ceiling is reinforced concrete slab. It is in a good condition.

3.3.3.2 Space C02

The space C02 has a rectangular plan 1,68*2,76m in dimensions. The space is located 10,88m from the south façade and located attached to the west façade of the dwelling. It is a space entered from the open space of the roof.

Figure 3-25 Space C02

All the walls of the space are plastered.

The space is entered through an opening on the south wall of the space. The opening is located 0,43m from the west wall of the space with 2,46*1,87m

dimensions. The south wall of the space is 2,88m long and 1,87m in height. It is constructed with stone masonry.

The west wall of the space is 1,52m long and 1,87m in height. There is an opening located on this wall. the opening is 0,27m from the south wall, at +7,26m from datum line with 1,12*1,09m dimensions. It is constructed with stone masonry.

The north wall of the space is 2,76m long and it is 1,87m high. It is constructed with stone masonry.

The east wall of the space is 1,68m long and 1,87m in height. It is constructed with stone masonry.

The floor of the space C02 is reinforced concrete slab at +6,46m from datum line. There is a row of cut stone on the floor of the opening at the south wall. The width of the stones is 0,12m.

The ceiling is reinforced concrete slab at +8,33m from datum line. It is in a good condition.

3.3.3.3 Space C03

The space C03 has a rectangular plan 2,32*3,49m in dimensions. The space is located 6,16m from the south façade and 3,40m from the west façade of the dwelling. It is a space entered from the open space of the roof. The space is deteriorated and deformed. The roof has collapsed.

All the walls of the space are plastered.

The space is entered through a severely deformed door opening on the west wall of the space. The opening is located 0,71m from the south wall of the space with 2,32*3,49m dimensions. The west wall of the space is 3,44m long and 2,27m in height. There is an opening with a timber frame which opens to the inner east wing of the roof, is located 0,82m from the south wall of the space at +7,46m from datum line with 0,56*0,73m dimensions. The wall is timber skeleton structure constructed with the walls without infill with *bağdadi* technique. The wall is severely deteriorated and deformed. There is no plaster left on the walls

and the deformation of the wall is more severe at the north end. Structurally the wall is not stable.

The north wall of the space is 2,34m long and 2,27m in height. There is a severely deteriorated and deformed window located on this wall. The window is 0,62m from the west wall, at +8,27m from datum line with 0,87*1,23m dimensions. It is constructed with stone masonry. The wall is timber skeleton structure constructed with the walls without infill with *bağdadi* technique. The wall is severely deteriorated and deformed. There is no plaster left on the walls and the deformation of the wall is more severe at the north end. Structurally the wall is not stable.

Figure 3-26 Space C03

The east wall of the space is 3,48m long and it is 2,27m high. There is a window frame remaining is located attached to the north wall of the space. The window frame is located at +8,35m from datum line with 1,22*1,03m dimensions. There is an opening with a timber frame which opens to the inner east wing of the roof, is located 0,51m from the north wall of the space at +7,46m from datum line with 0,56*0,73m dimensions. There is only approximately 0,50m long from the south wall, plaster remains. The plasters on the wall are lost on the rest of the wall and the *bağdadi* laths can be observed. The wall is timber skeleton structure constructed with the walls without infill with *bağdadi* technique. The wall is

severely deteriorated and deformed. There is no plaster left on the walls and the deformation of the wall is more severe at the north end. Structurally the wall is not stable.

The south wall of the space is 2,32m long and 2,27m in height. There (DC1) which leads to the space C04, is a door located 0,73m from the east wall with 0,90*1,92m dimensions. The wall is timber skeleton structure constructed with the walls without infill with *bağdadi* technique.

The floor is a timber structure floor at +7,31m from datum line. The timber covering boards are on the north – south direction. There are 11 rows of average 0,20m wide timber boards are used.

The roof of the space has collapsed.

3.3.3.4 Space C04

The space C04 has a rectangular plan 2,35*5,88m in dimensions and 2,22m in height. The space is located at the middle of the south façade.

All the walls of the space are plastered.

The space is entered through a door (DC1), from the space C03, which is located on the north wall, located 0,74m from the west wall with 0,90*1,92m dimensions. The north wall of the space is 2,35m long and 2,22m in height. The wall is timber skeleton structure constructed with the walls without infill with *bağdadi* technique and plastered on.

The east wall of the space is 5,88m long and 2,22m in height. The wall is timber skeleton structure constructed with the walls without infill with *bağdadi* technique and plastered on. There is an opening with a timber frame located 1,65m from the north end, on the wall at +7,54m from datum line and 0,62*0,81m in dimensions opening to the inner east wing of the roof. There is a window (WC1) located 3,71m from the north end of the wall at +8,47m from datum line with 0,76*1,00m dimensions. There is a timber baseboard all through the wall from ground with a 0,12m height.

The south wall of the space is 2,32m long and 2,22m in height. The wall is timber skeleton structure constructed with the walls without infill with *bağdadi*

technique and plastered on. There is a window and a door leading to the space C05, is located on this wall. The window (WC2) is located 0,38m from the east wall of the space at +8,25m from datum line with 0,71*1,02m dimensions. The door (DC2) is located 1,51m from the east wall and 0,79*2,00m in dimensions. There is a timber baseboard all through the wall from ground with a 0,12m height.

Figure 3-27 Space C04

The west wall of the space is 5,88m long and it is 2,22m in height. The wall is timber skeleton structure constructed with the walls without infill with *bağdadi* technique and plastered on. There is a window (WC1) is located 1,28m from the south wall of the space at +8,34m from datum line and 0,78*1,00m in dimensions. There is a timber baseboard all through the wall from ground with a 0,12m height.

The floor is a timber structure floor at +7,26m from datum line. The timber covering boards are on the north – south direction. There are 11 rows of average 0,20m wide timber boards are used.

The ceiling is a timber lathed ceiling. The laths are in south to north direction. It is in a good condition.

3.3.3.5 Space C05

The space C05 has a rectangular plan 1,03*2,49m in dimensions and 2,20m in height. The space is located at the middle of the south façade. It is a balcony space of cihannüma.

The space's detailed descriptions of the wall and the balustrades have been given at the south façade.

The floor is a timber structure floor at +7,33m from datum line. The floor is covered by a metal based sheet material.

Figure 3-28 Space C05

The ceiling is a timber lathed ceiling. The distance between the laths is 0,25m. There are 9 laths are located. The laths are in south to north direction. It is in a good condition.

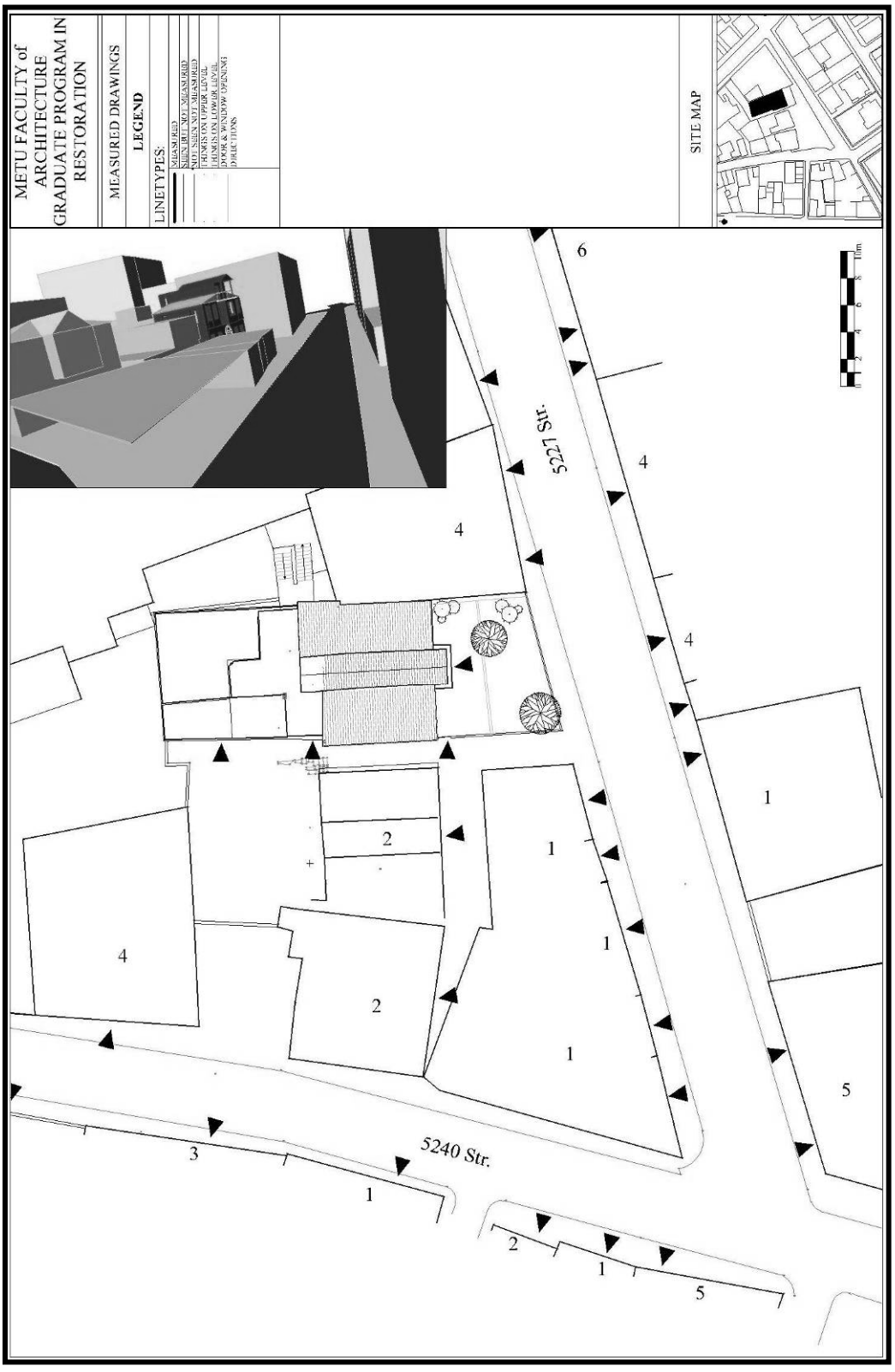

Figure 3-29 Site Plan

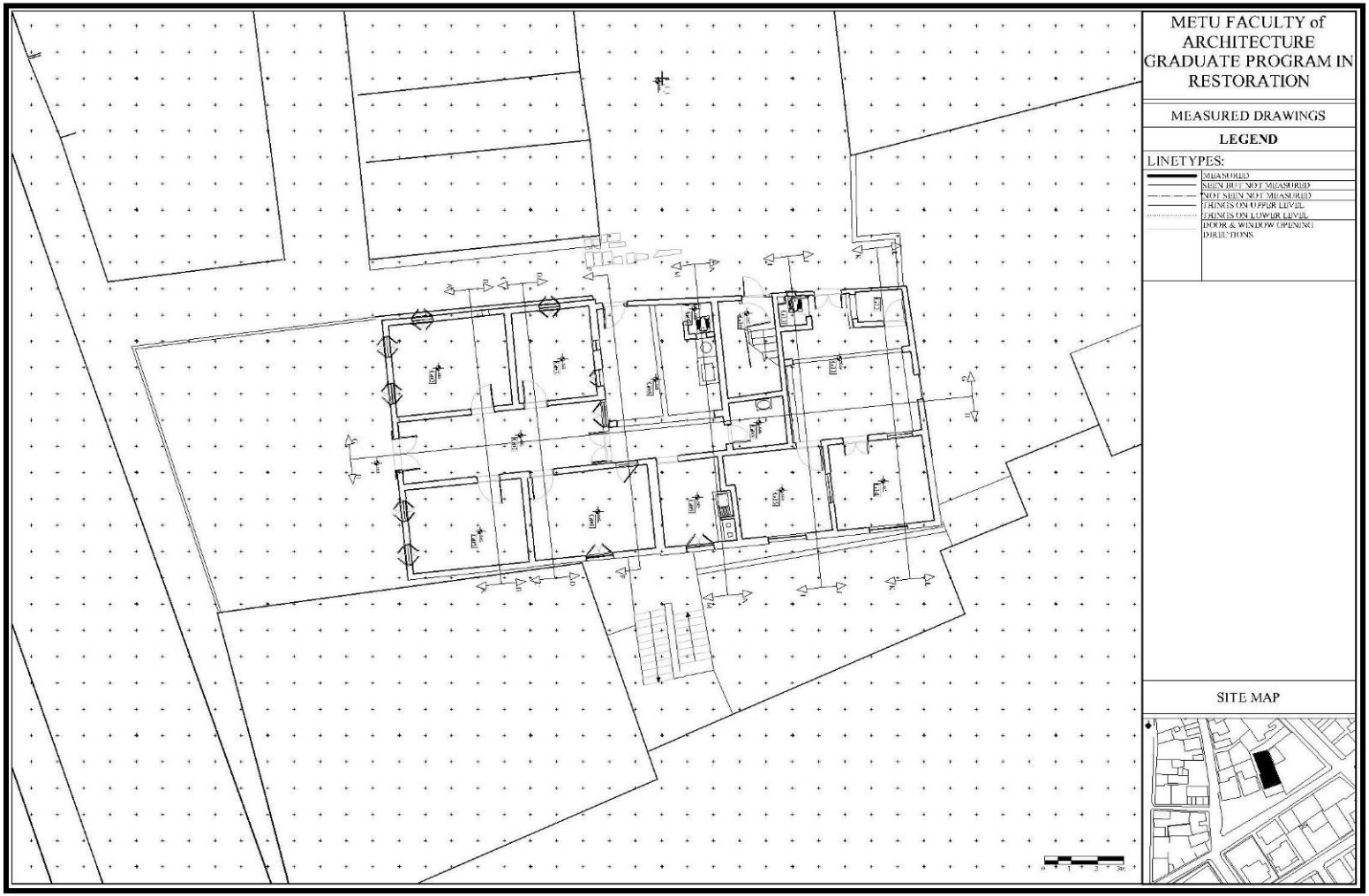

Figure 3-30 Ground Floor Plan

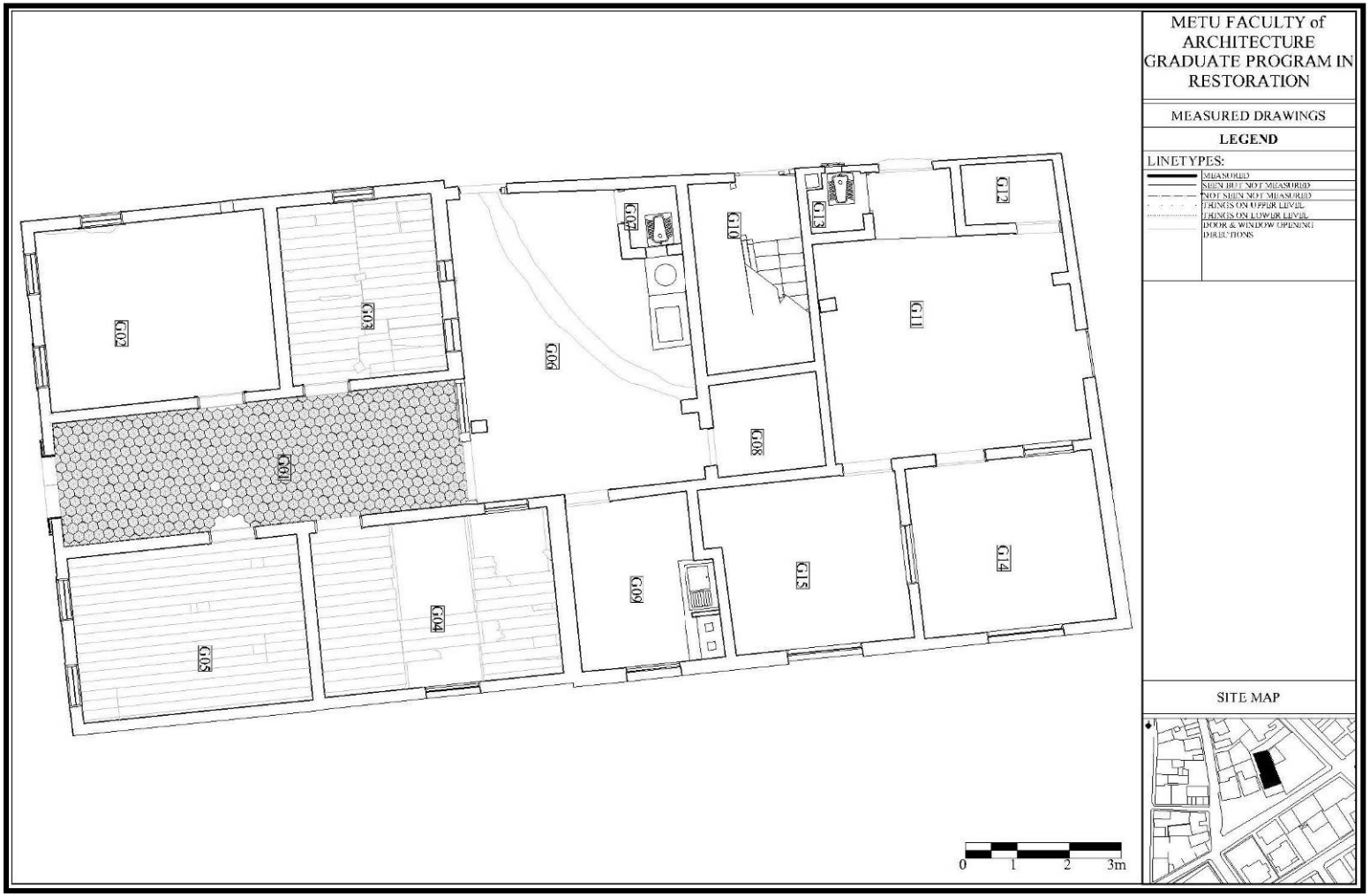

Figure 3-31 Ground Floor "Floor Plan"

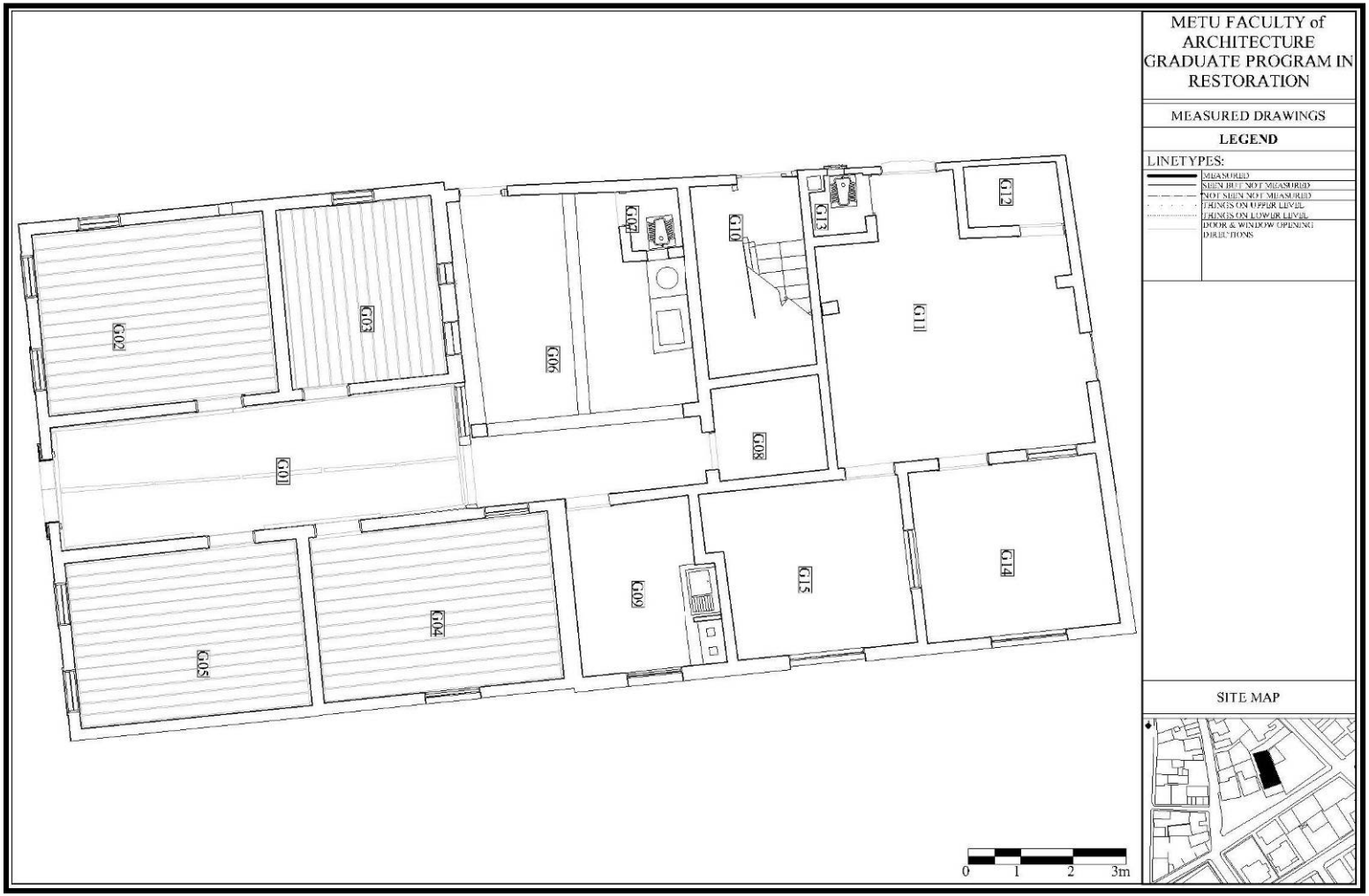

Figure 3-32 Ground Floor "Reflected Ceiling Plan"

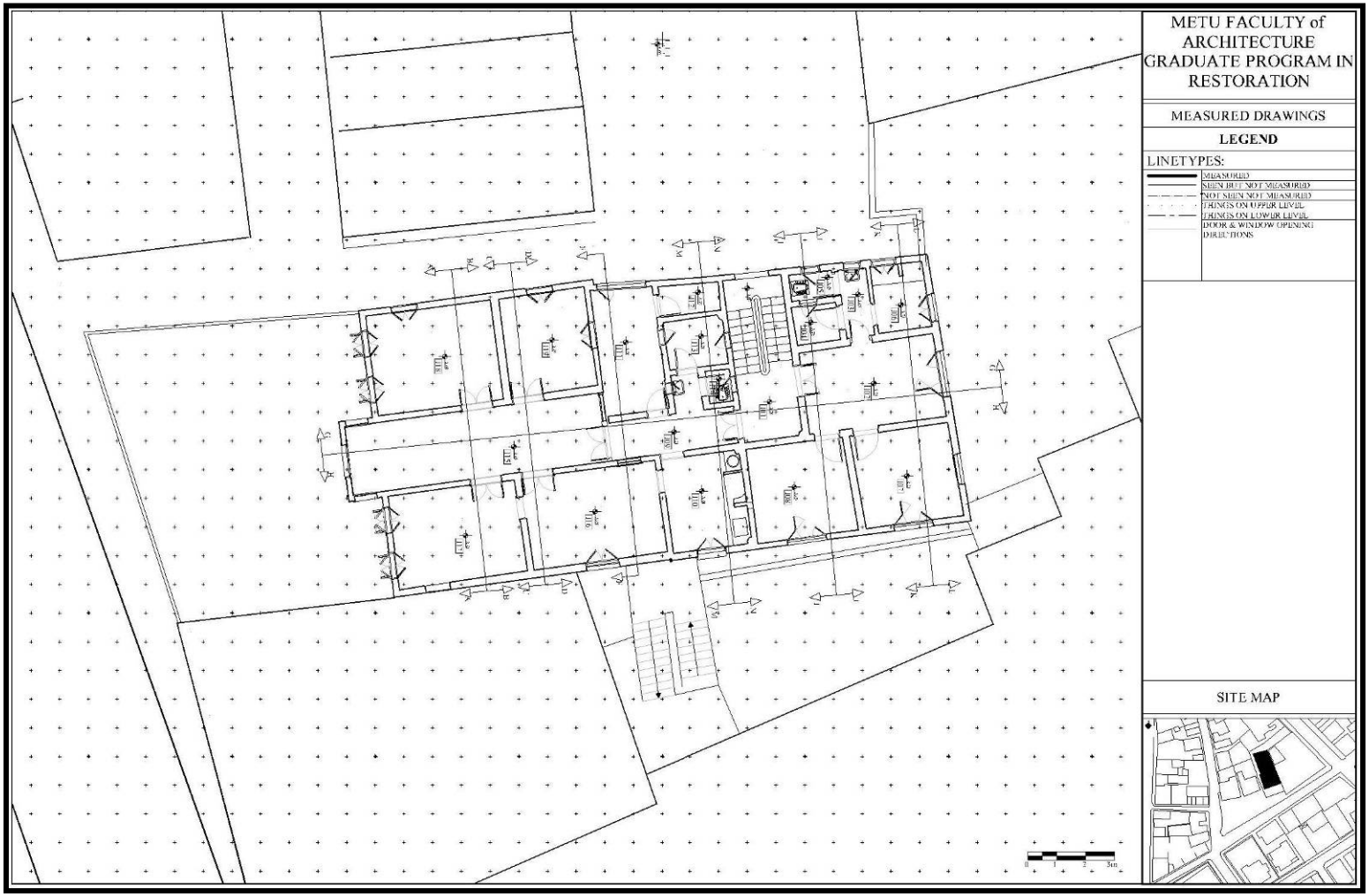

Figure 3-33 1st. Floor Plan

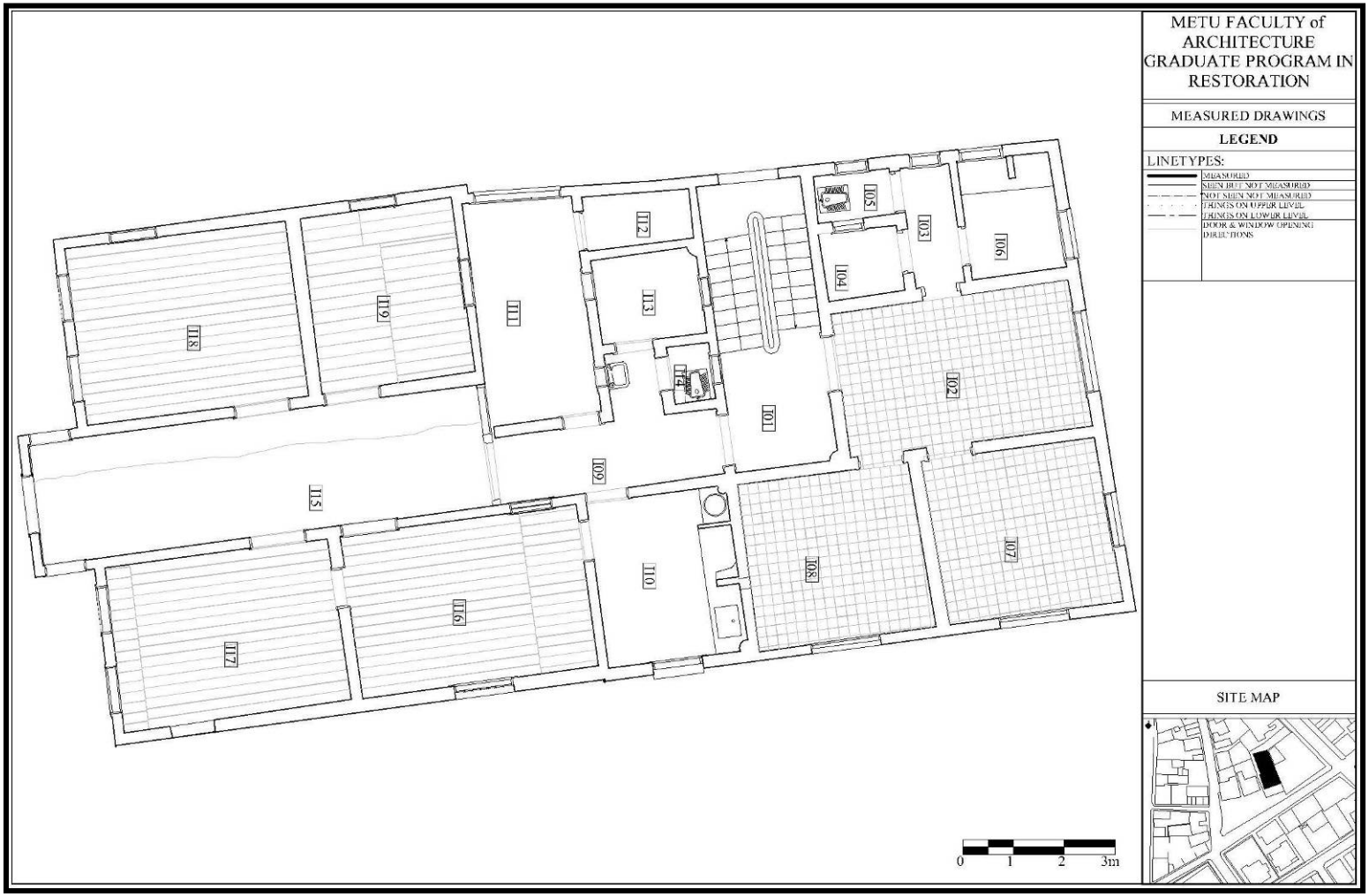

Figure 3-34 1st Floor "Floor Plan"

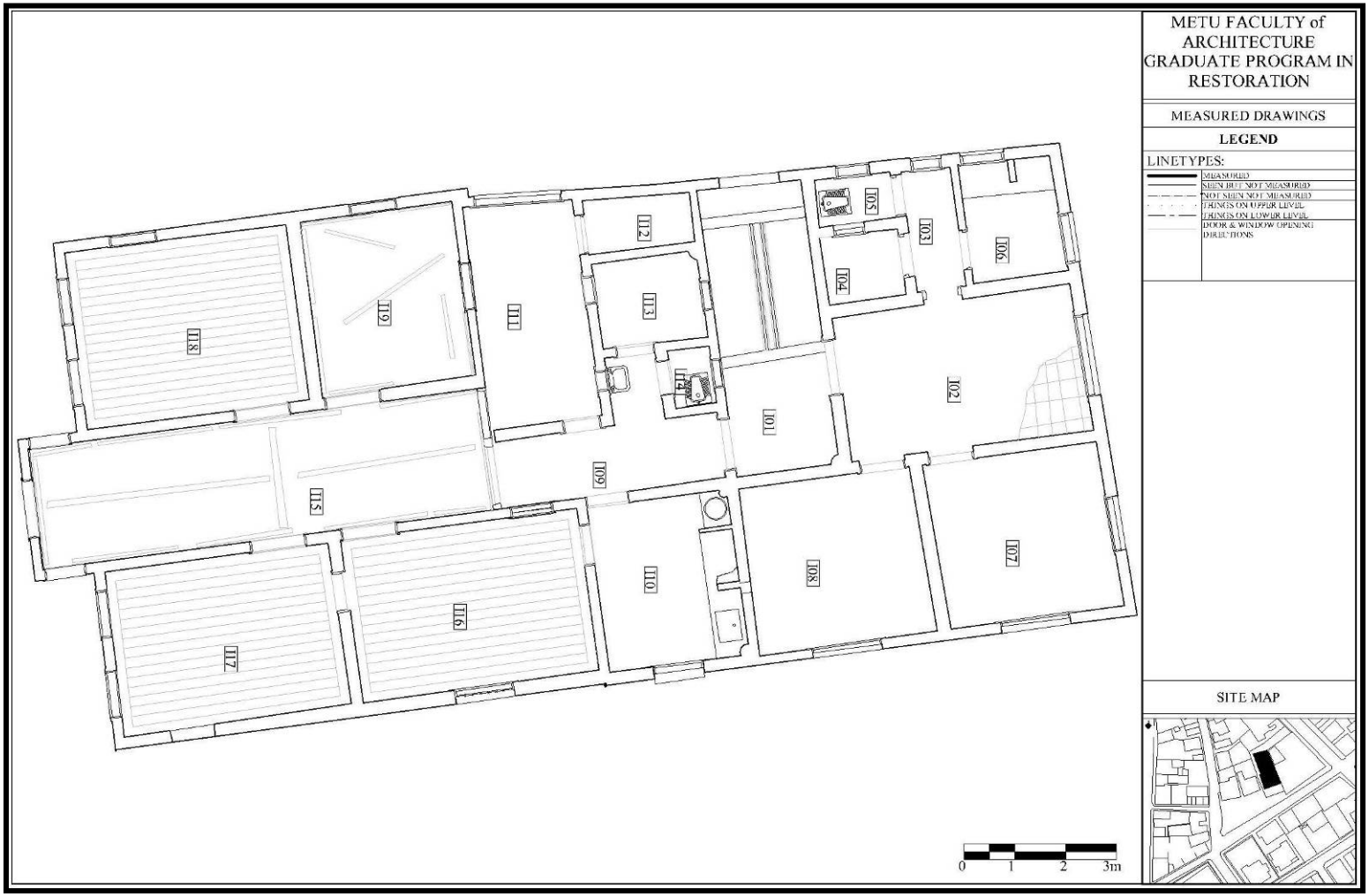

Figure 3-35 1st Floor "Reflected Ceiling Plan"

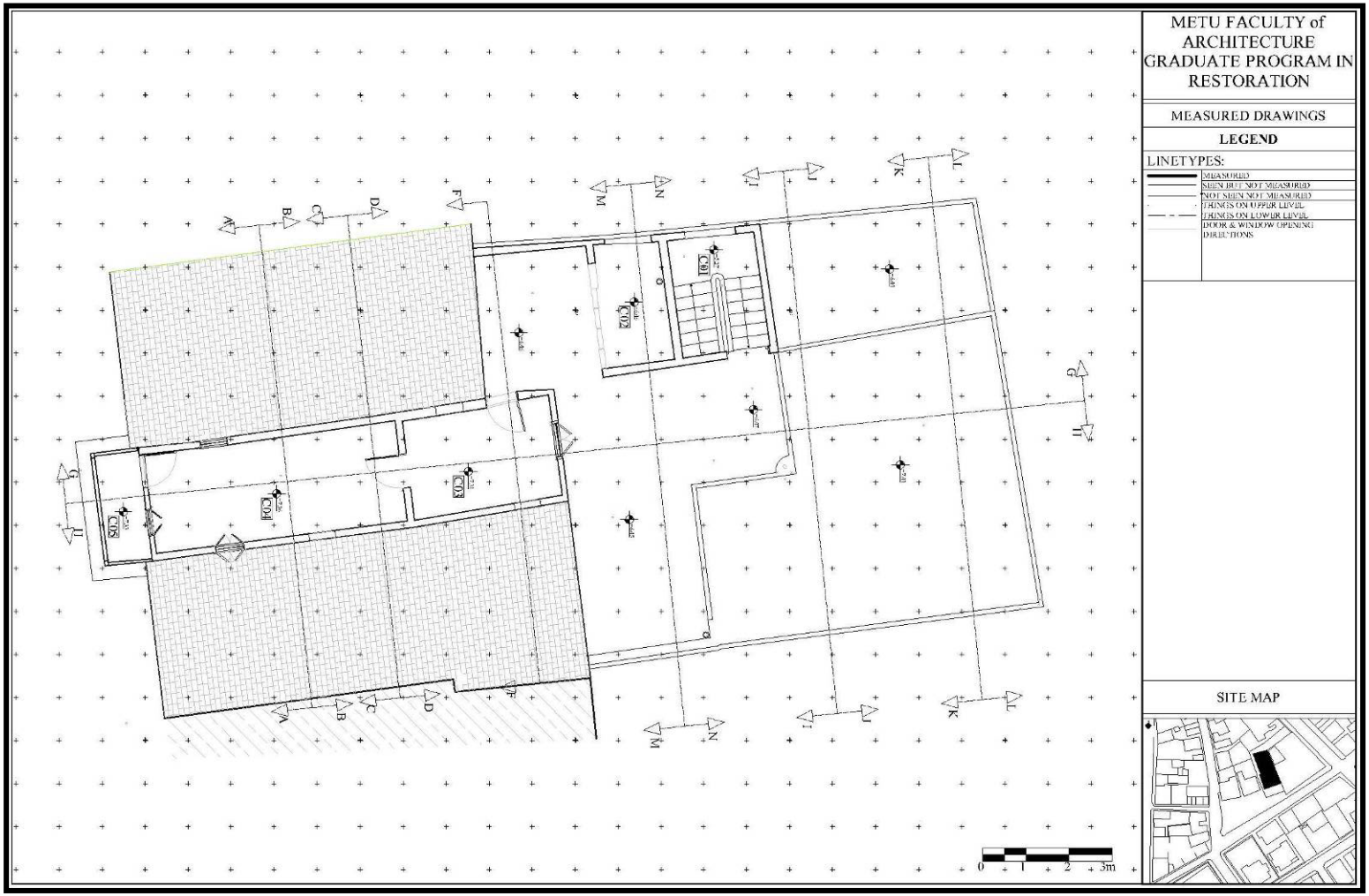

Figure 3-36 *Cihannüma* Floor Plan

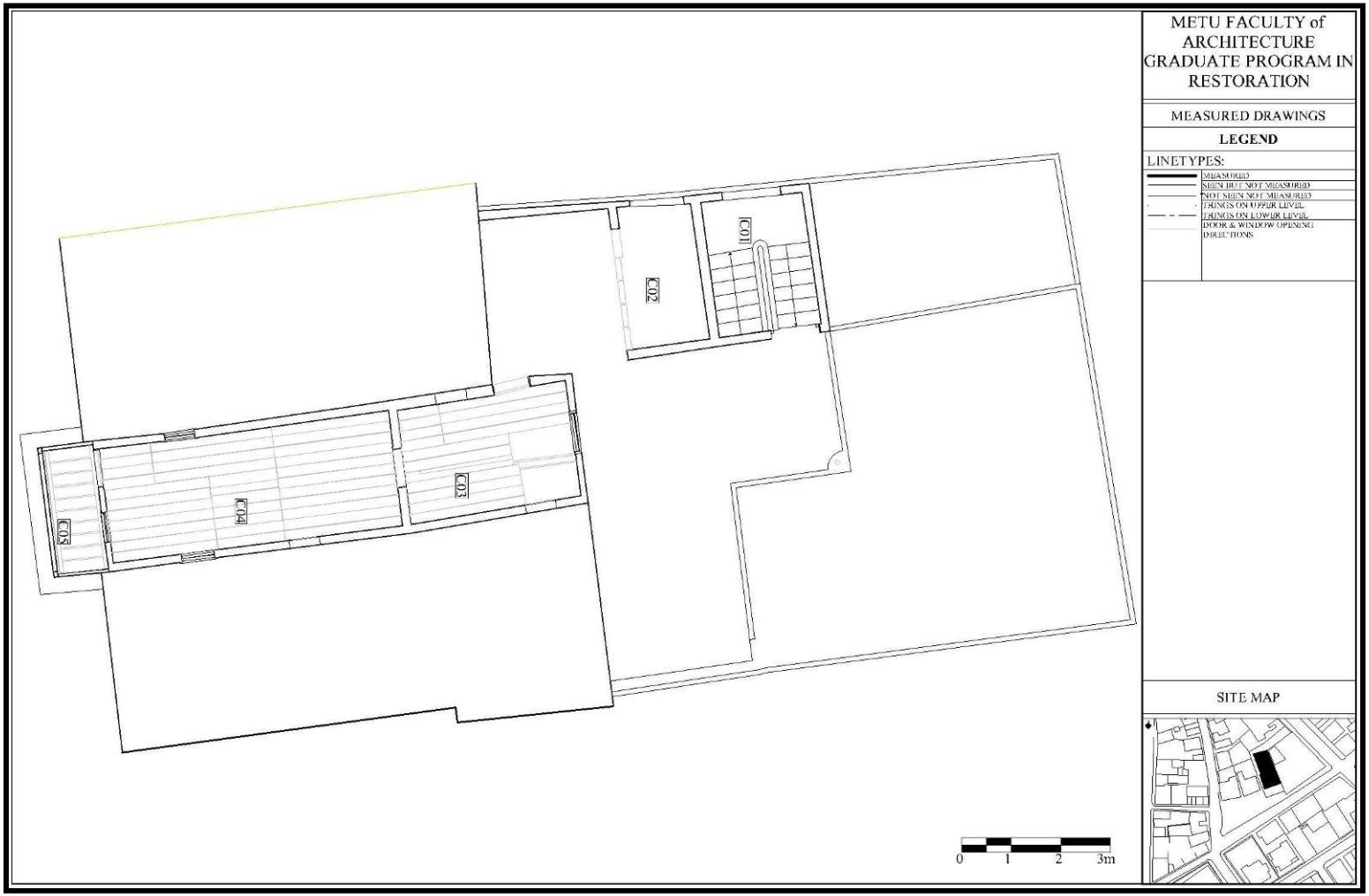

Figure 3-37 *Cihannüma* Floor "Floor Plan"

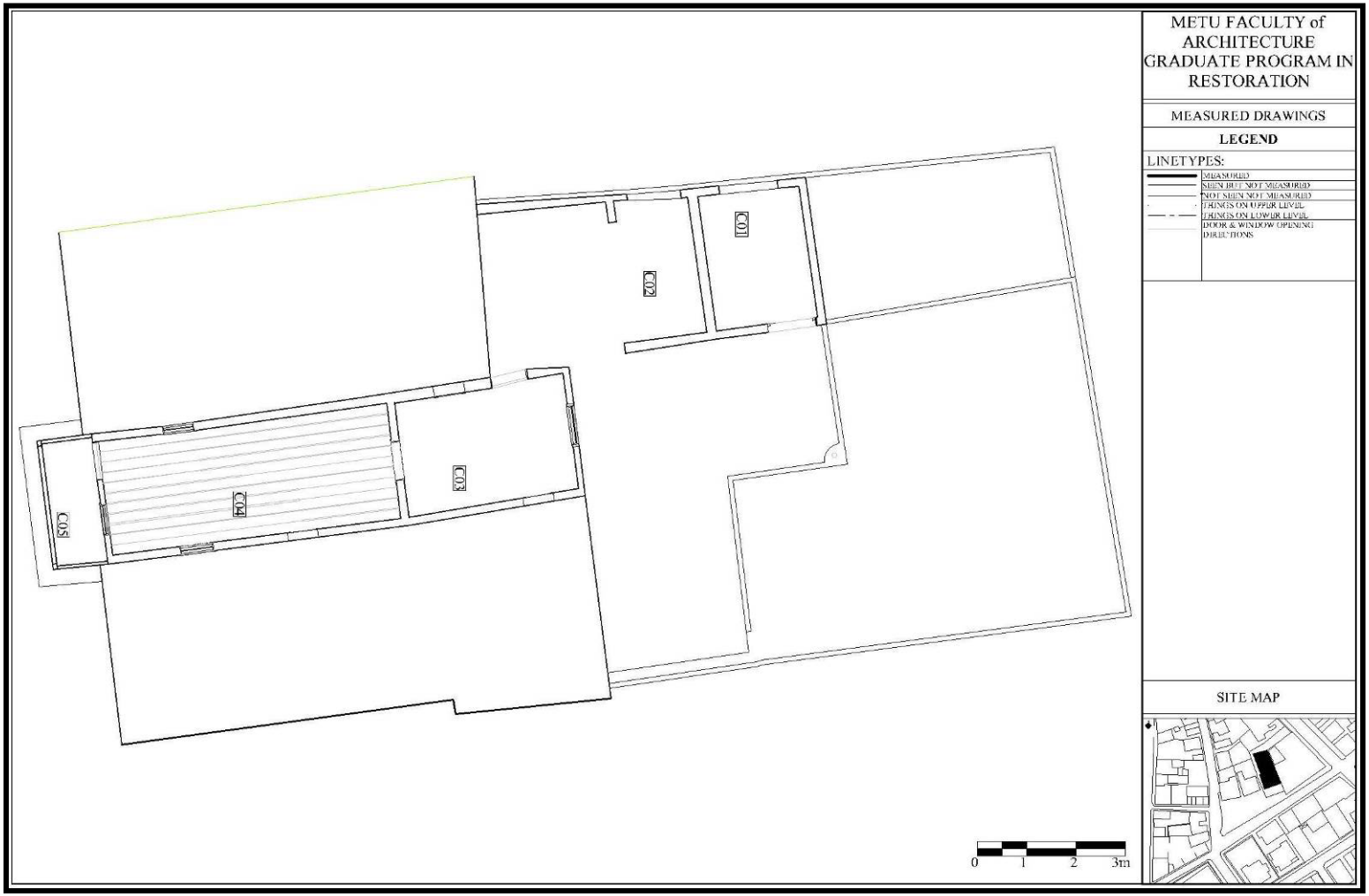

Figure 3-38 *Cihannüma* Floor "Reflected Ceiling Plan"

Figure 3-39 South Elevation

Figure 3-40 West Elevation

Figure 3-41 North Elevation

Figure 3-42 Section A-A

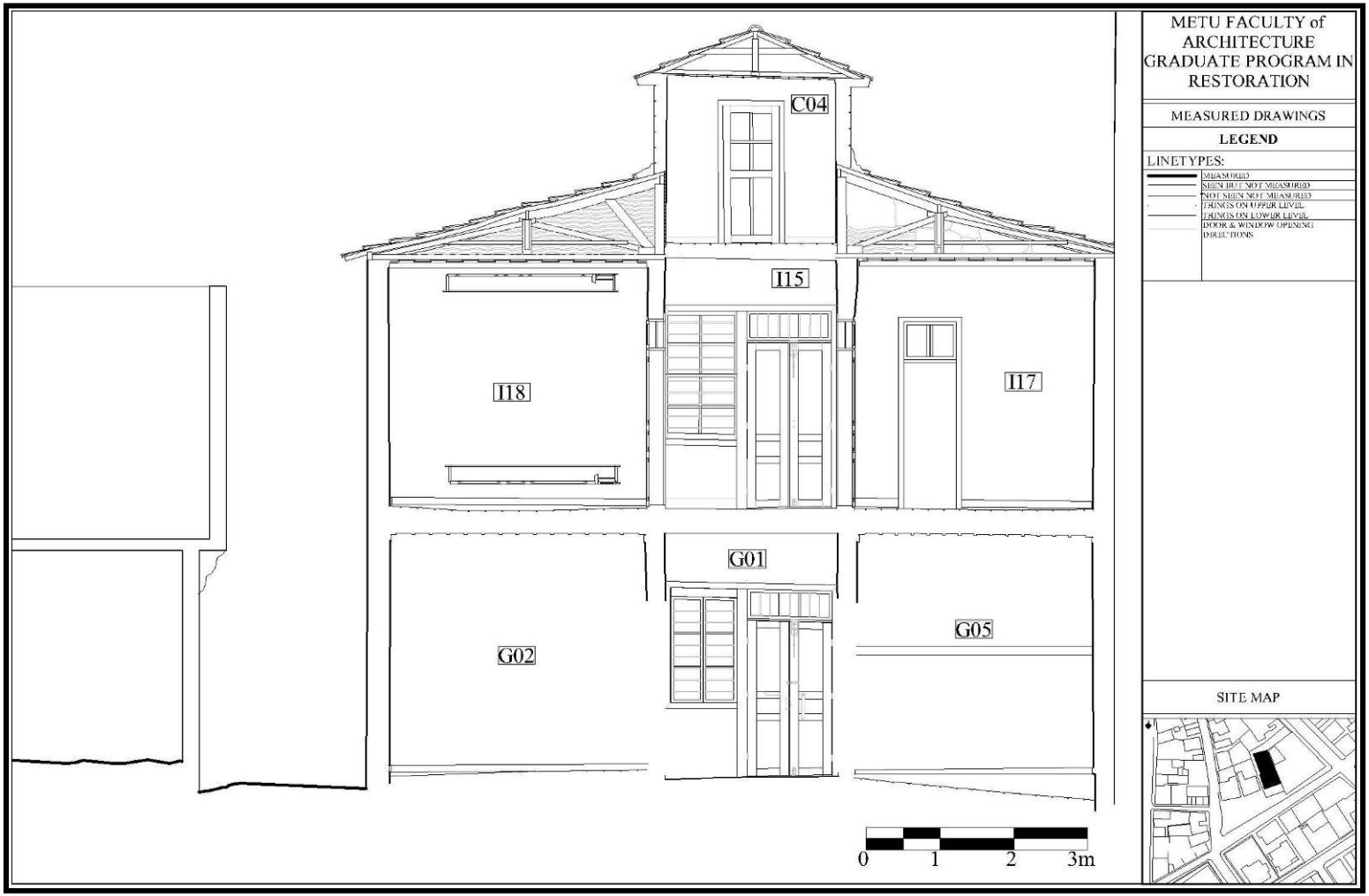

Figure 3-43 Section B-B

Figure 3-44 Section C-C

Figure 3-45 Section D-D

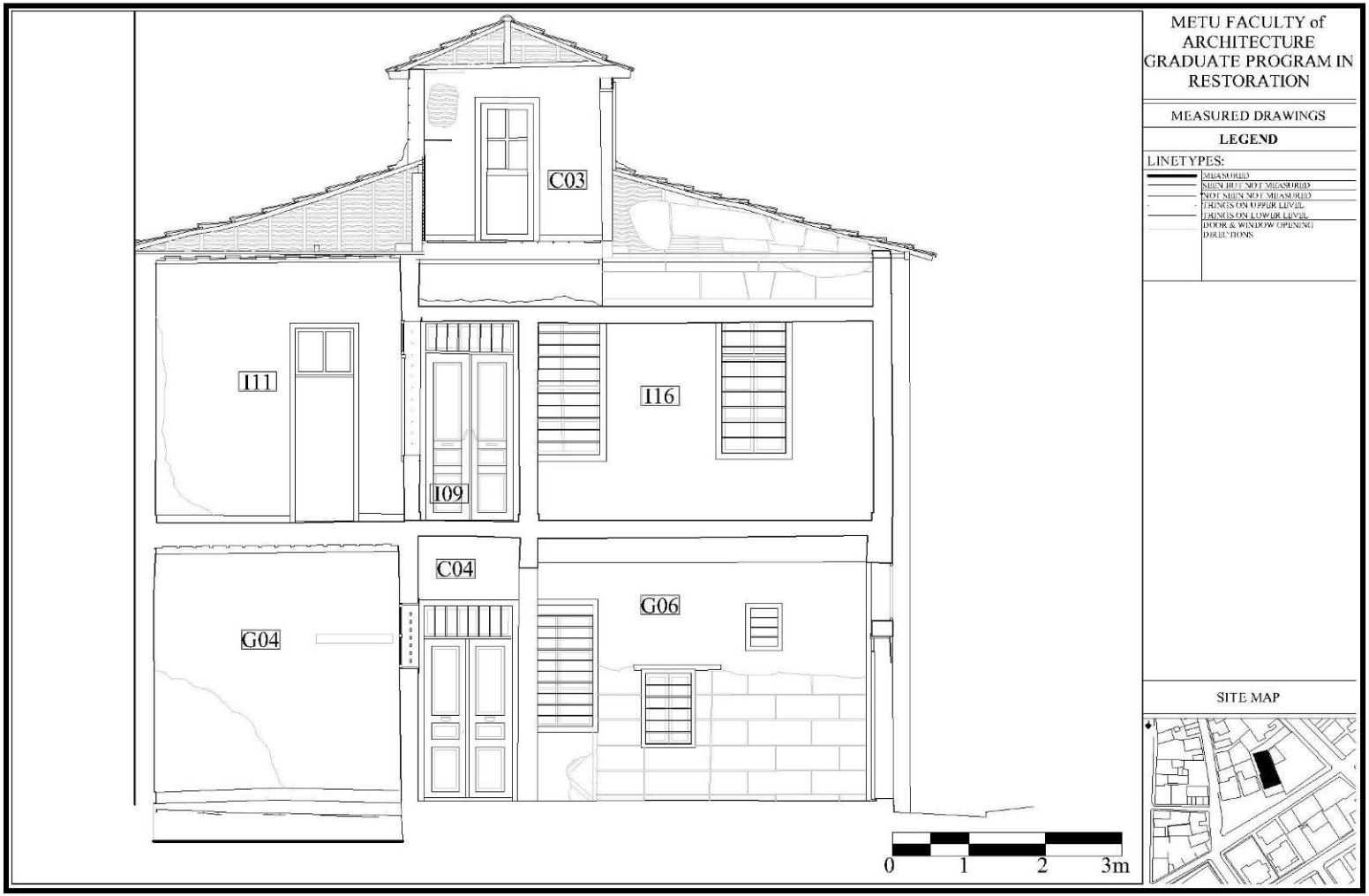

Figure 3-46 Section F-F

Figure 3-47 Section G-G

Figure 3-48 Section H-H

Figure 3-49 Section I-I

Figure 3-50 Section J-J

Figure 3-51 Section K-K

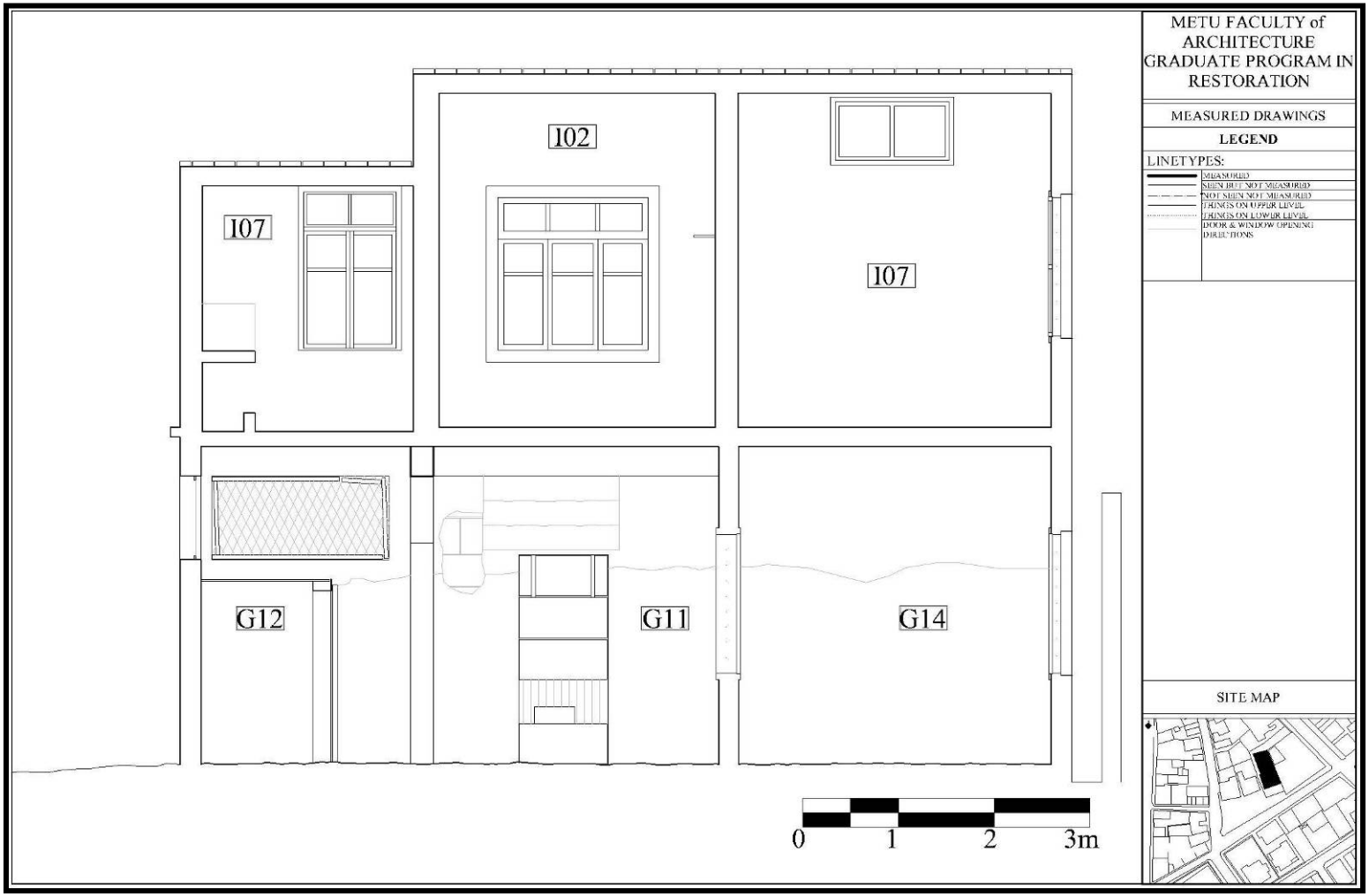

Figure 3-52 Section L-L

Figure 3-53 Section M-M

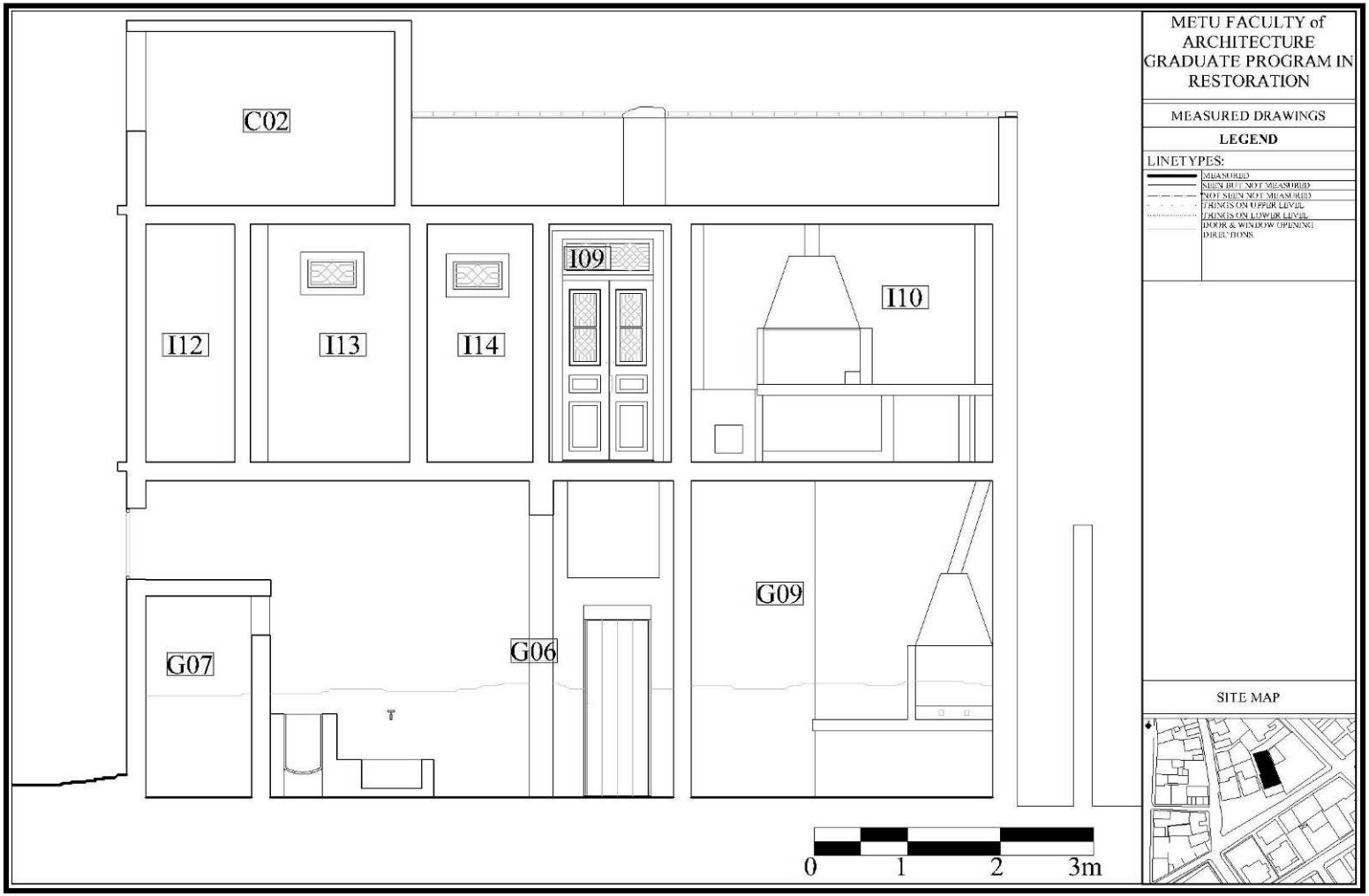

Figure 3-54 Section N-N

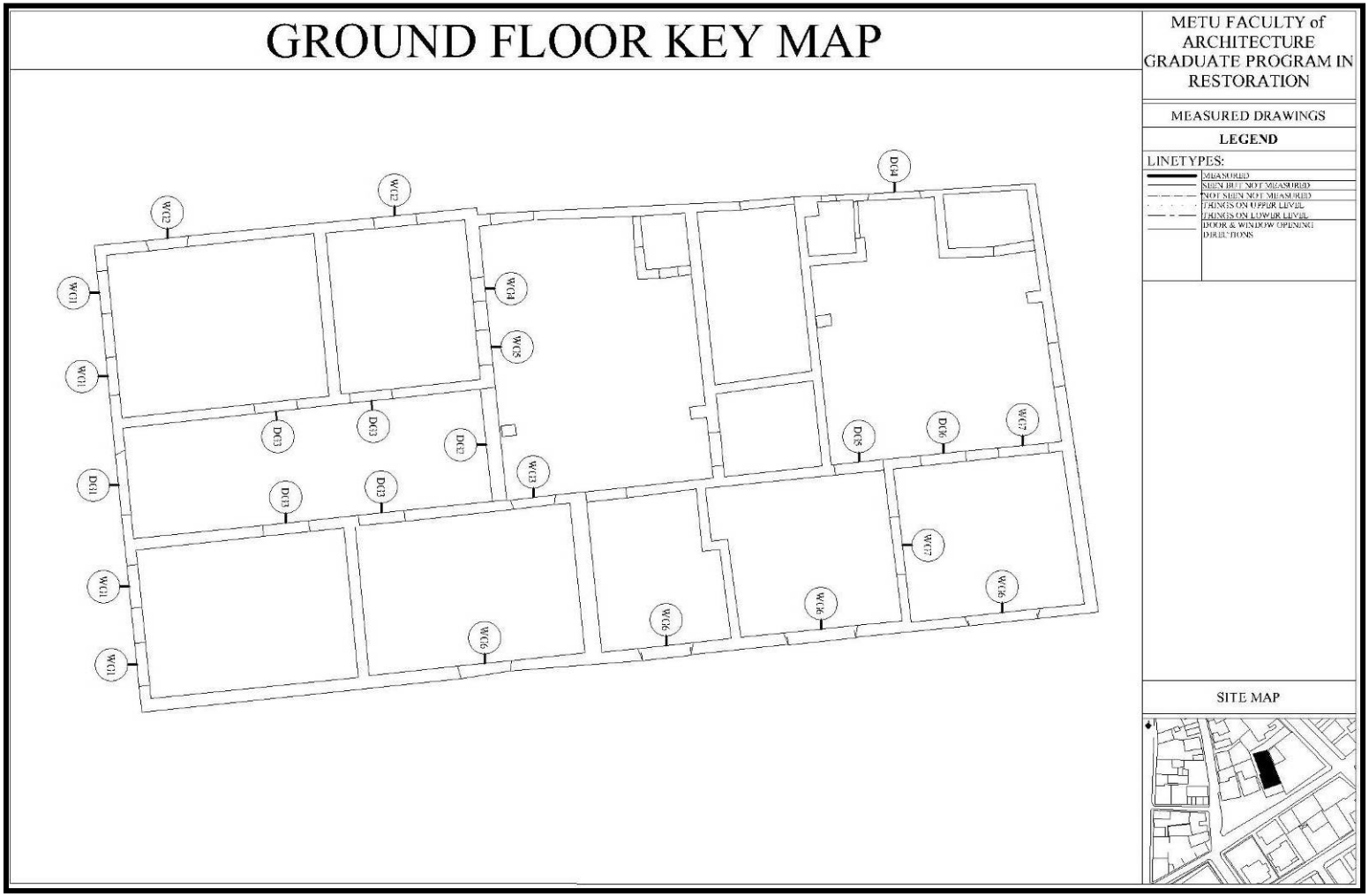

Figure 3-55 Ground Floor Key Map For Details

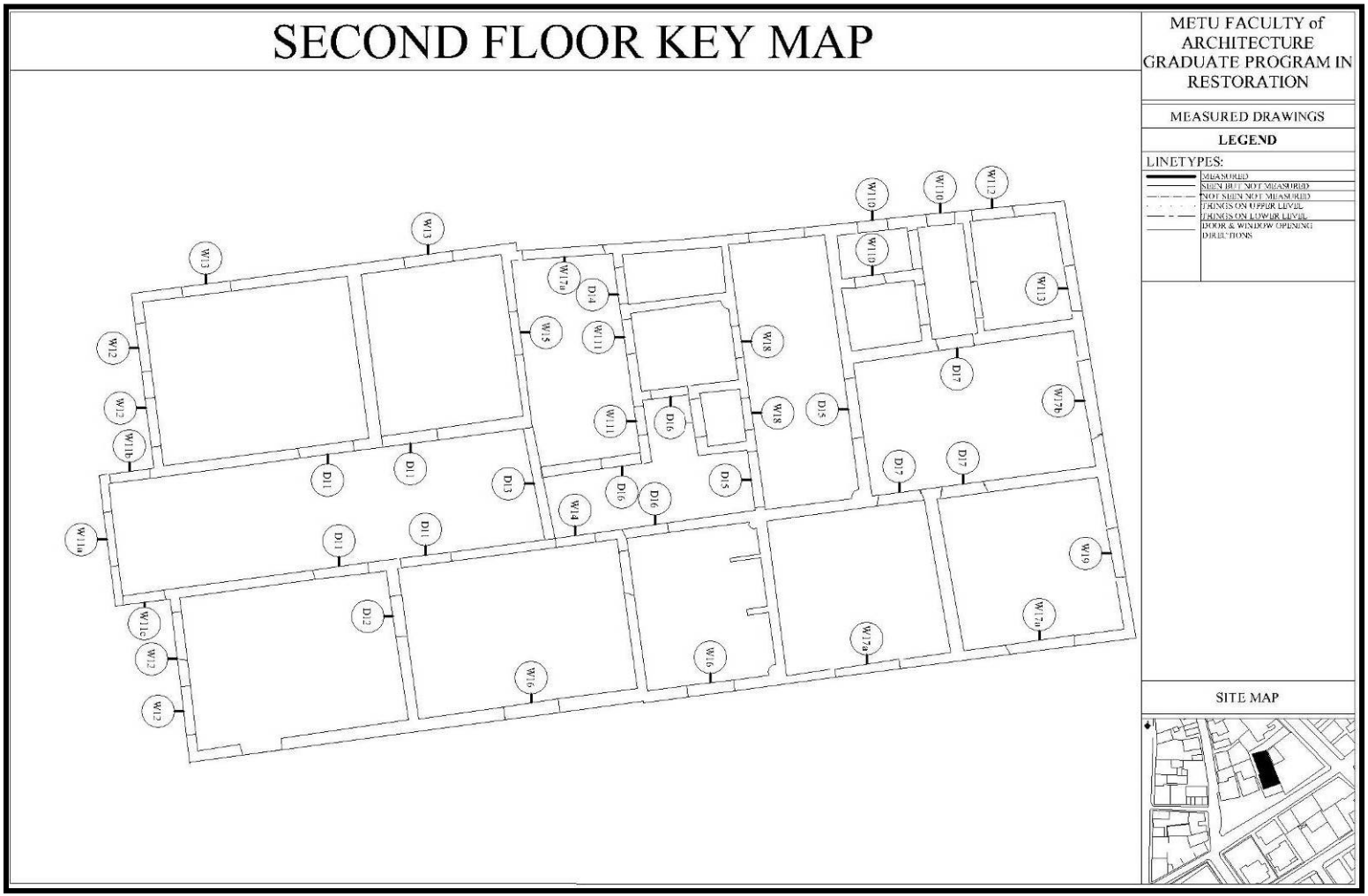

Figure 3-56 1st Floor Key Map For Details

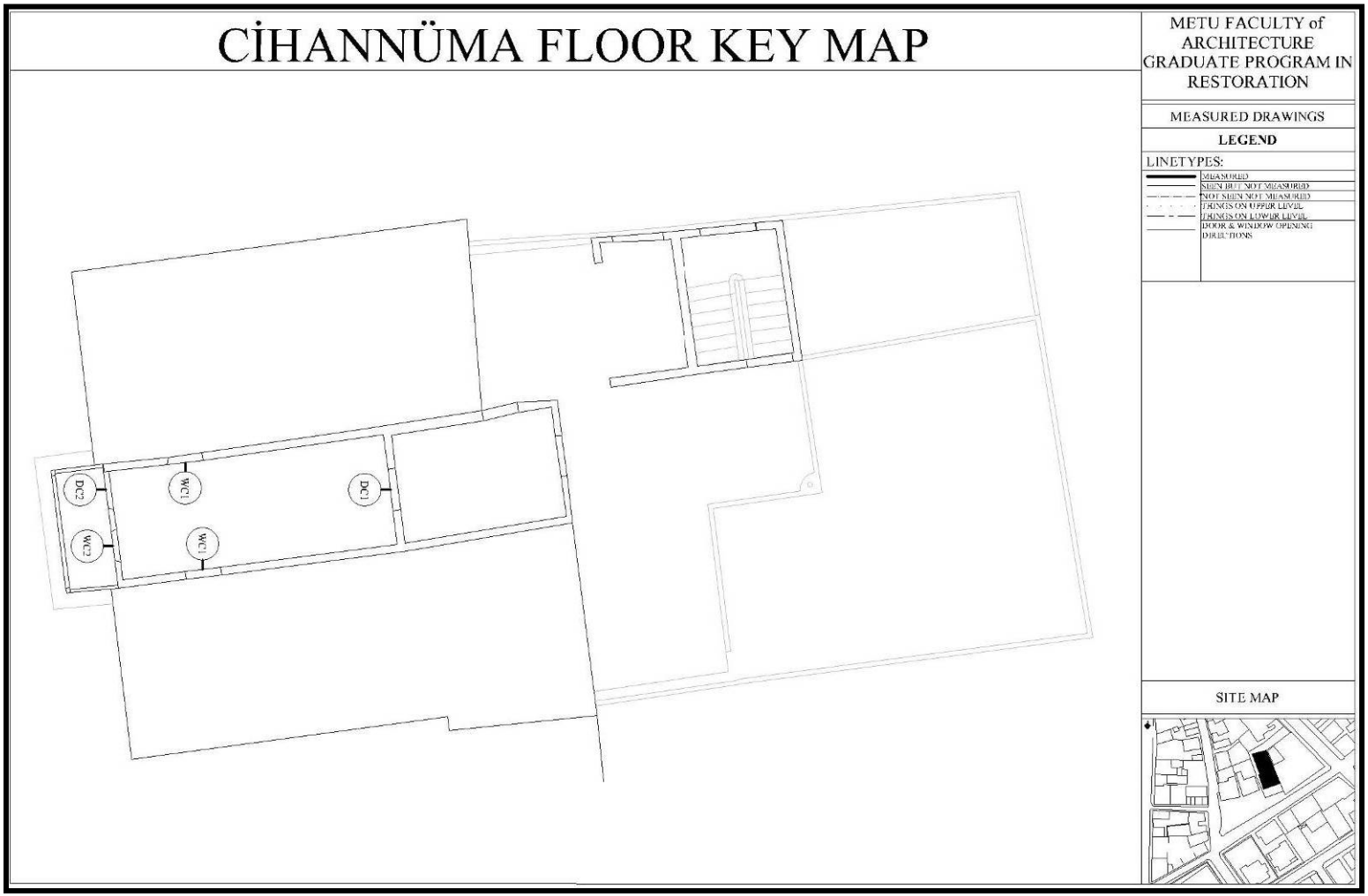

Figure 3-57 *Cihannüma* Floor Key Map For Details

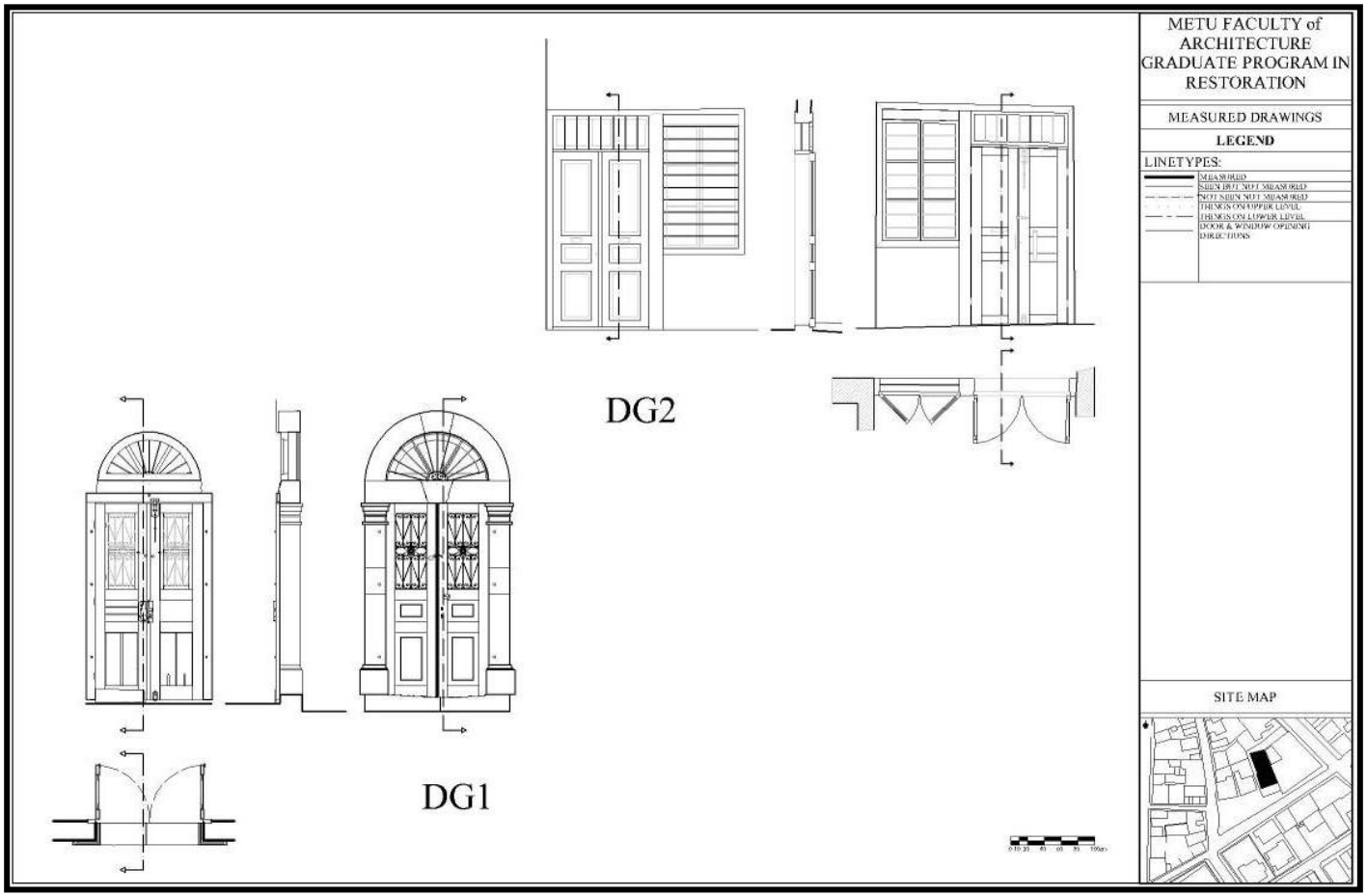

Figure 3-58 Detail Drawings; Doors of Ground Floor

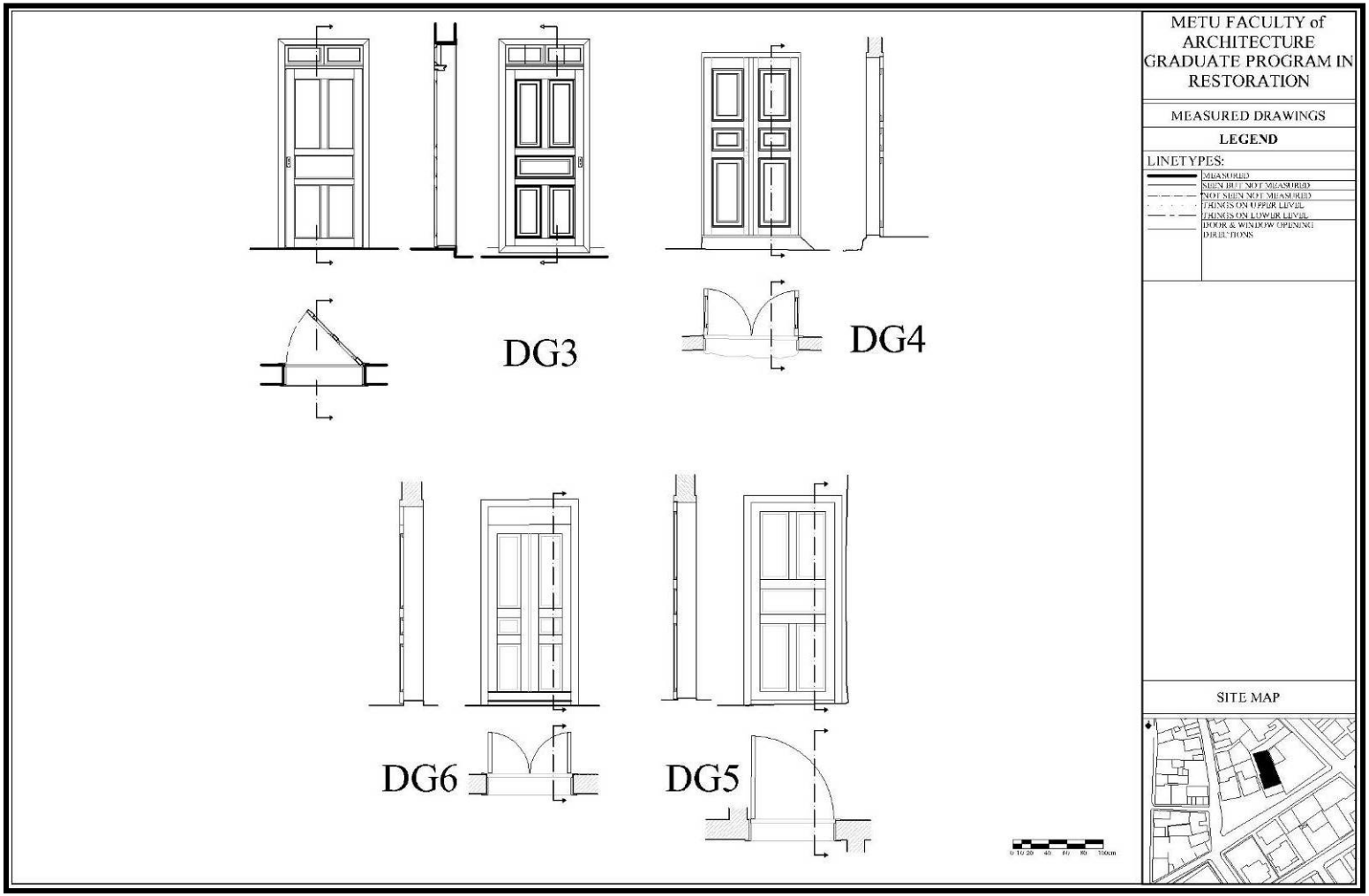

Figure 3-59 Detail Drawings; Doors of G round Floor (Continued)

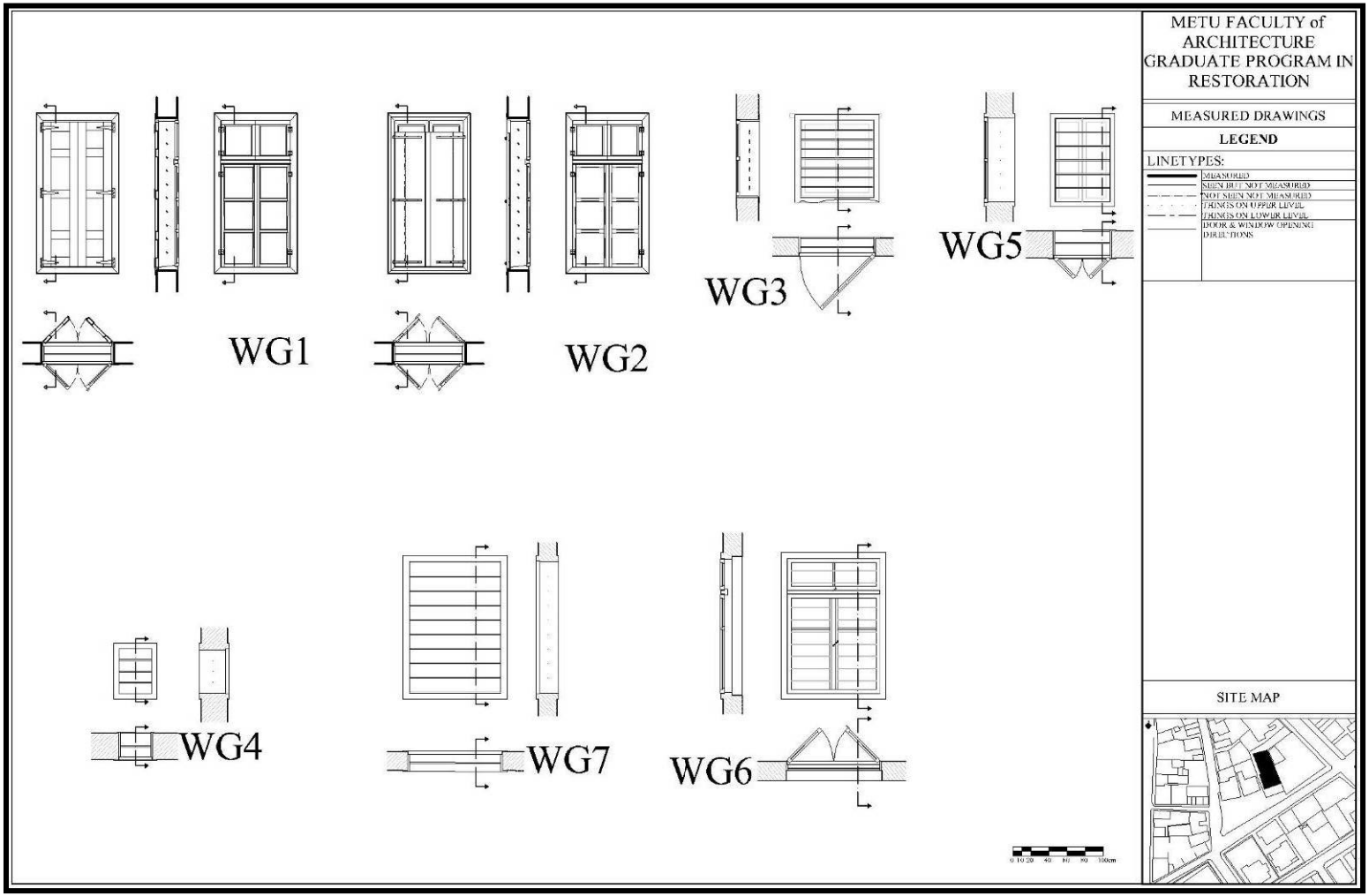

Figure 3-60 Detail Drawings; Windows of Ground Floor

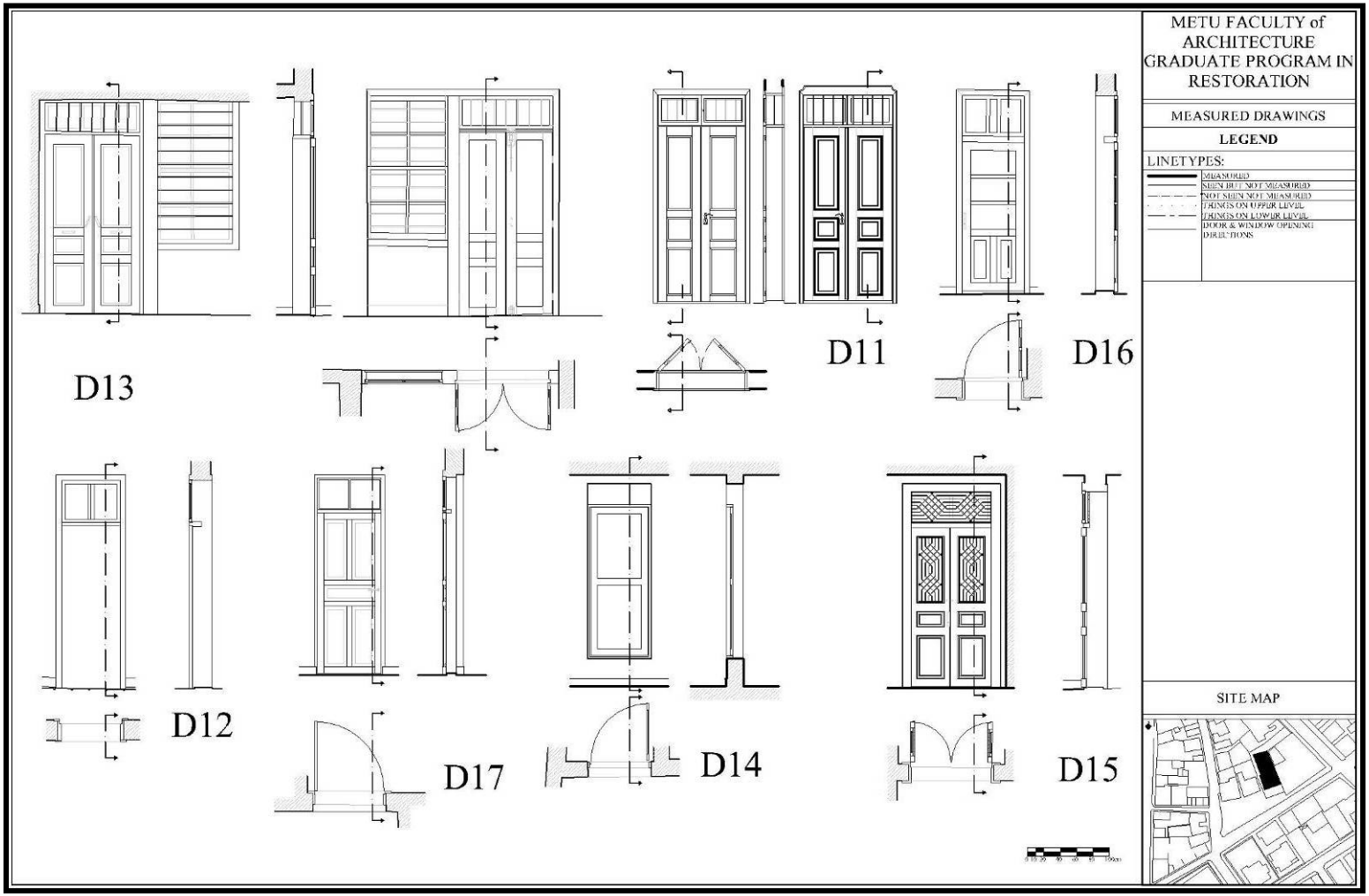

Figure 3-61 Detail Drawings; Doors of 1st Floor

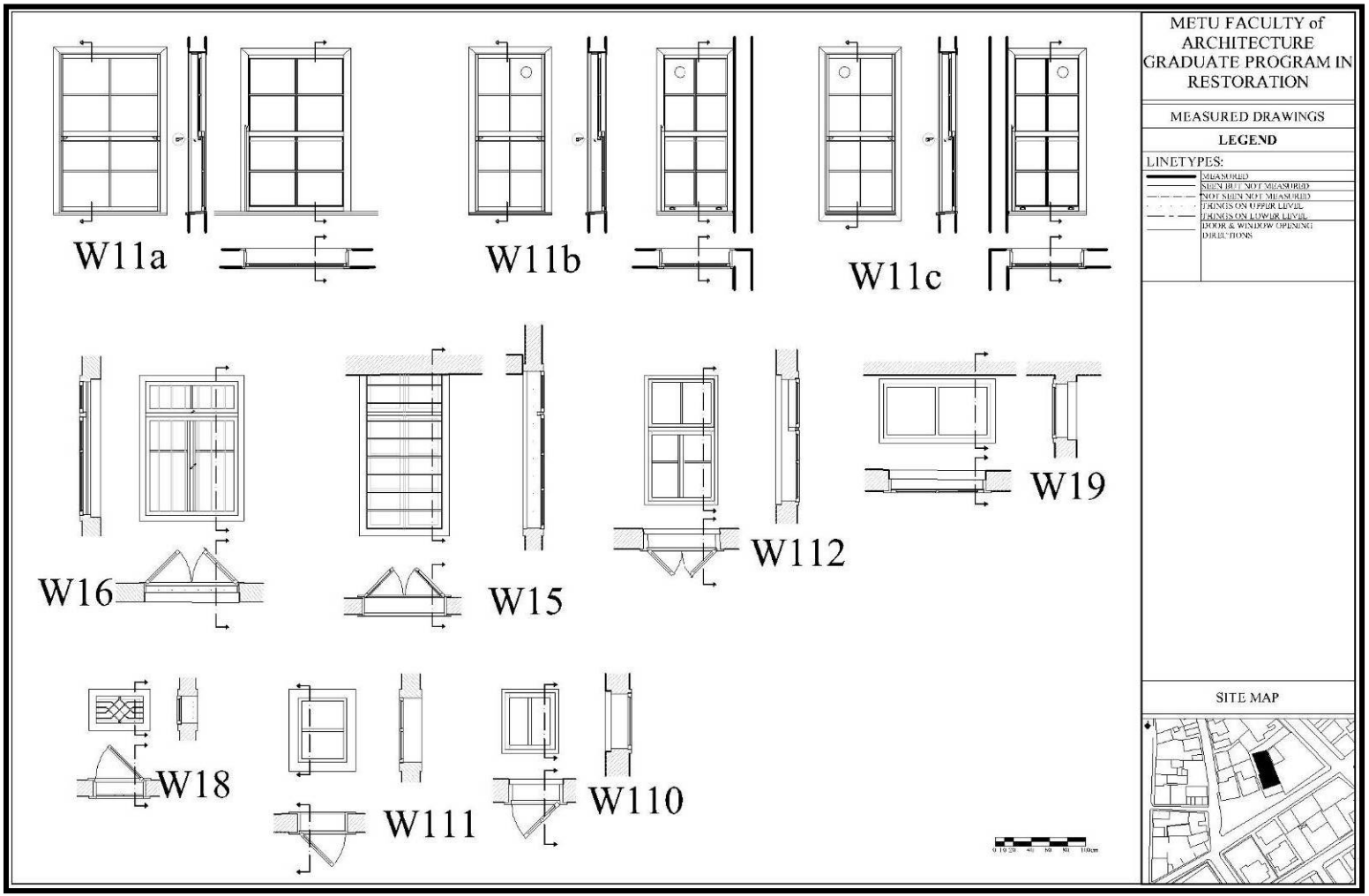

Figure 3-62 Detail Drawings; Windows of 1st Floor

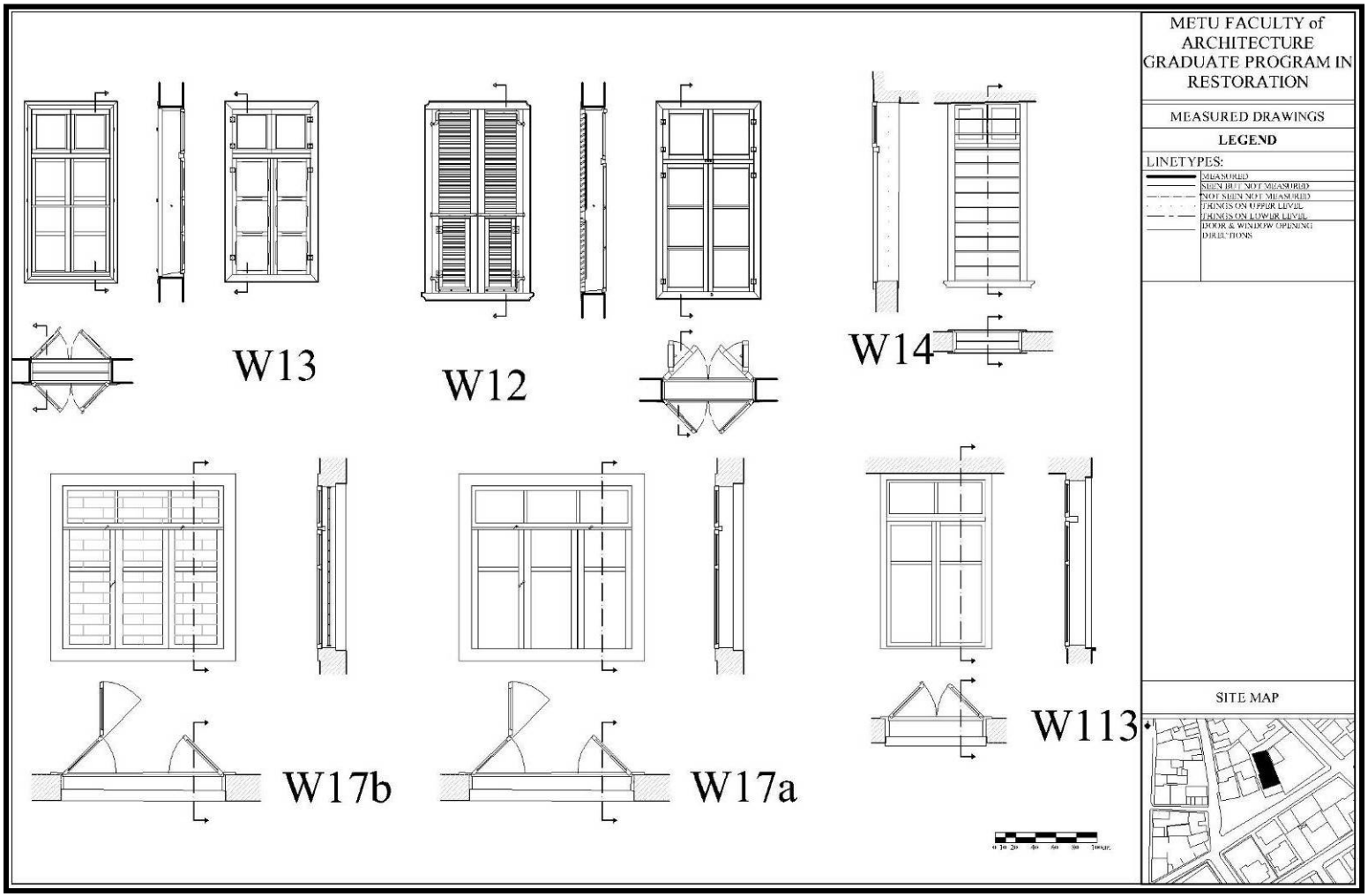

Figure 3-63 Detail Drawings; Windows of 1st Floor (Continued)

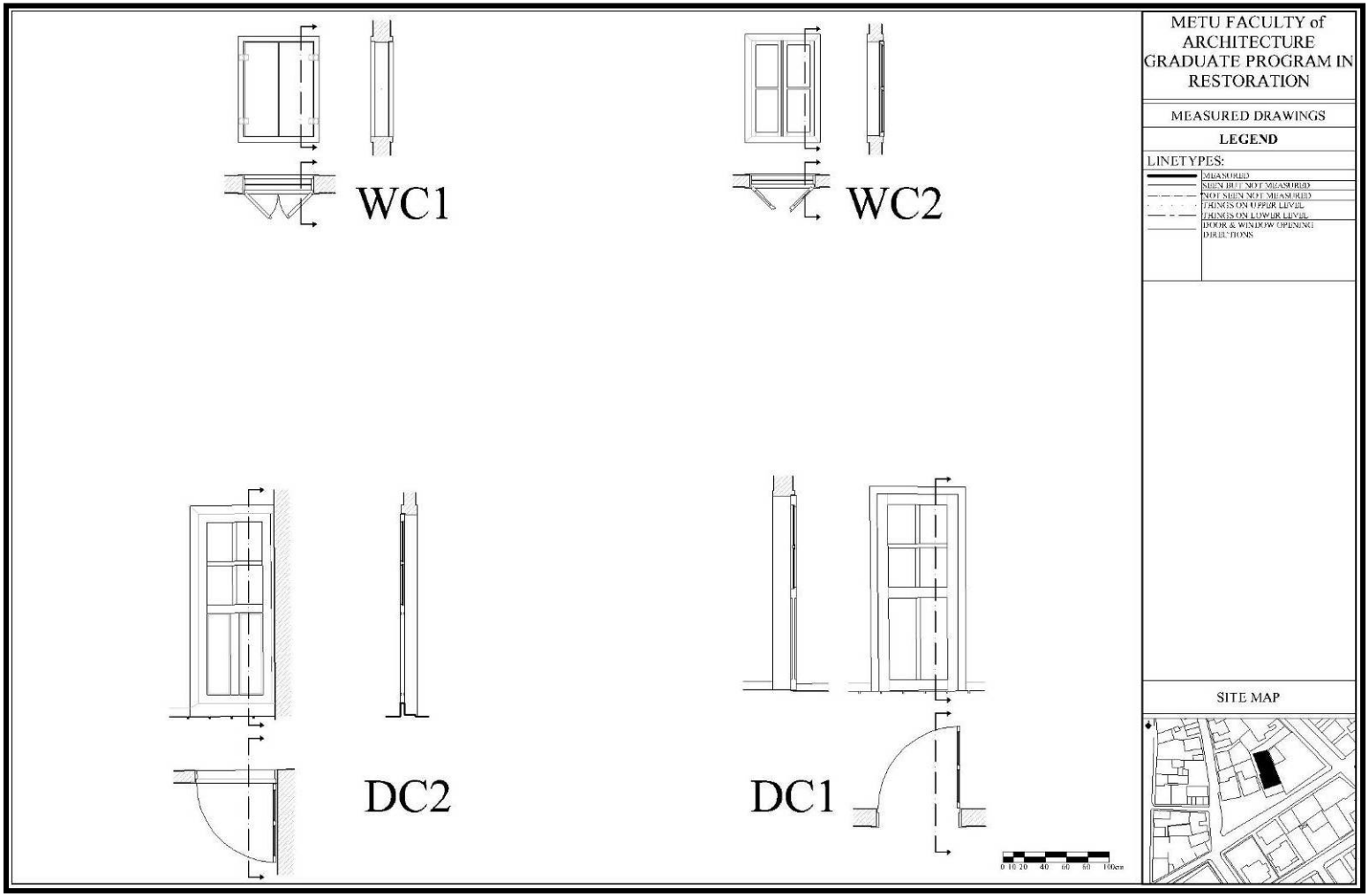

Figure 3-64 Detail Drawings; Doors & Windows of *Cihannüma* Floor

3.4 Materials And The Construction Techniques Used In The Dwelling

Construction techniques and the materials used in the dwelling's construction will be described in this chapter. The materials are going to be described as relation to their construction techniques. Construction techniques are handled under two main headings, are assigned through the structural behavior of the system. The first one is the vertical systems which transfer the loads vertically to the ground, and the second one is the horizontal systems which form the horizontal surfaces and transfer the loads to the vertical systems. The construction techniques of the dwelling have been described, depending on the visual analysis on some specific regions of the dwelling where some detailed inspections have been made during the site survey. Described construction techniques are most probably vary at the rest of the dwelling and it can only be defined during the restoration's implementations at the site when the existing covering materials are stripped.

3.4.1 Vertical:

Vertical systems are the walls and the posts, and these can be described in three main topics according to general characteristics of their construction:

3.4.1.1 Masonry:

The main factor in classification is the used unit material which is either cut stone or brick, in this technique. The secondary classification criterion is according to the used of joint material. According to these criteria, there are three main construction techniques can be defined under masonry heading which exists in the dwelling's construction.

3.4.1.1.1 Cut Stone Masonry With Lime Mortar

This technique is used to build the internal and external load bearing walls of the ground and first floor of the southern original part of the dwelling. The width of the walls varies from 19cm to 26cm. Light yellowish colored sand stone is used

as cut stone in masonry. Lime mortar is used as pointing material in between the stones. It is a light grayish colored mixture with fine aggregates. In this cut stone masonry construction technique, cut stone row heights does not remains the same and it varies from 29cm to 53cm. wall surfaces at the façades are not plastered except the first floor part of the south façade which is plastered with a cement based plaster. All the internal walls of this wall type are plastered with lime plaster. It is a dark whitish colored mixture with fine aggregates.

Figure 3-65 Cut stone wall masonry with lime mortar at the west façade

3.4.1.1.2 Cut Stone Masonry With Cement Mortar:

This technique is used to build the internal and external load bearing walls of the ground and first floor of the northern part of the dwelling. The width of the walls varies from 16cm to 25cm. Light yellowish colored sand stone is used as cut stone in masonry. Cement mortar is used as pointing material in between the stones. It is a grayish colored mixture with fine aggregates. In this cut stone masonry construction technique, cut stone row heights almost remains the same and it varies from 36cm to 38cm. Wall surfaces at the façades have some partial cement plaster remaining. All the internal walls of this wall type are plastered with cement plaster. It is light grayish colored plaster with fine aggregates.

3.4.1.1.3 Brick Masonry With Cement Mortar:

This technique is used to build a small part of a wall inside the cut stone masonry wall at the north-western corner of the dwelling. Other use of the brick masonry is on the reinforced concrete roof's edges as a single row on the northern part of dwelling. The dimensions of the unit material are: 5*10*22cm. Cement mortar is used as pointing material. Exterior and interior surfaces of the brickwork are plastered with cement plaster.

3.4.1.2 Timber Skeleton Structure:

Timber skeleton structure without infill construction technique is used in the dwelling at the projection and cihannüma. The main factor, in classification, is the used technique to form the wall surfaces. There are three main topics can be given in order to define the construction technique.

3.4.1.2.1 Type A:

This type is constructed by timber posts and nailed timber laths (approximately 4cm thick laths and the gap between the laths are 3cm average value) on the posts and plastered at the interior surface and timber board covered (timber boards have 18-20cm average thickness) at the exterior surface. The timber laths and the some structural posts are rough cut timber. These materials are roughly processed before the use of material in the construction and they are not considered to be a finish material. The timber boards at the exterior surface of this type are named as fine cut timber. These materials and the all kinds of well processed and finished timber materials are considered to be fine cut timber. Plaster used at the internal face of the wall is lime plaster. This construction technique will be mentioned as type A. Type A is used to build the south, east and west façades of cihannüma.

3.4.1.2.2 Type B:

This type is constructed by timber posts and nailed timber laths, at the internal and the external faces of the constructed wall, (approximately 4cm thick laths and the gap between the laths are 3cm average value) on the posts and plastered at both interior and exterior surfaces. Lime plaster is used at this

technique, but there are some partial cement plasters remaining exist at the north end of cihannüma. This will be mentioned as type B. Type B is used to build the north and north end of west façades of cihannüma and the projection on south façade.

3.4.1.2.3 Type C:

This type is constructed by timber posts and nailed timber laths, at the internal face of the constructed wall, (approximately 4cm thick laths and the gap between the laths are 3cm average value) on the posts and plastered at the interior surface, and the other surface of the wall which is facing inside of the timber roof structure, is not plastered. The timber laths are rough cut timber. This will be mentioned as type C. Type C is used to build the east and west façades below the roof level of cihannüma.

3.4.1.3 Reinforced Concrete:

Reinforced concrete is used as columns in the spaces G11 and G06. There are also some reinforced concrete vertical elements inside the cut stone masonry at the northern part of the dwelling. Reinforced concrete is the structural element form of the cement based materials. It is strengthen by the iron bars inside its main body. It has a grayish color with fine and coarse aggregates.

3.4.2 Horizontal:

Horizontal systems are the slabs, floorings, roofs, beams, lintels, ceilings and the earth claddings. These can be described in three main topics according to general characteristics of their construction and the material used:

3.4.2.1 Timber Structure:

Timber structure is the main structural element in horizontal structures at the southern original part of the dwelling. There are four main topics can be given in order to define the used construction technique.

3.4.2.1.1 Timber Roof Structure:

The timber roof structure is a gable roof. It is covering all the southern original part of the building including the projection and cihannüma. It is covered with terracotta tiles which are French type. It is a hanging roof structure supported by the stone masonry load bearing walls. The roof structure is covered by the ceiling of a space at the bottom which is connected to the king trusses of the structure which can be either "Bindirmeli" or "Çıtalı" type of ceiling. The structural elements of the roof structure are rough cut timber. Timber roof structure of the southern part of cihannüma is partially covered by zinc plate.

Figure 3-66 Timber roof structure

3.4.2.1.2 "BİNDİRMELİ" TYPE Of CEILING:

The term "*Bindirmeli*" is the locally used term for this type of construction technique of ceiling in Mersin's dialect of construction. This ceiling type is connected to the timber roof structure's timber beams. 21cm wide timber boards are nailed to the structural beams. The boards are nailed with approximately 19cm gap between each other and then the second row of timber boards are nailed to the first rows to fill the gap. These timber elements are well processed and finished timber boards which are considered to be named as fine cut timber. There is an approximate value of 1cm overlapping of the timber boards. There is a plastic based coating sheet is used as water isolation material at the space I19. It is a

nylon sheet, nailed to the ceiling irregularly by the help of some irregular shaped rough cut timber laths.

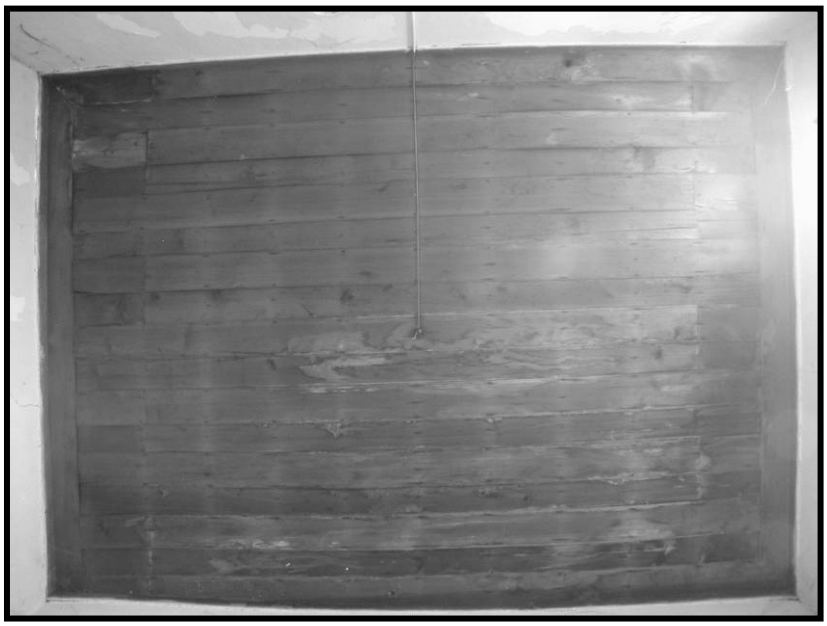

Figure 3-67 "Bindirmeli" Type of Ceiling

3.4.2.1.3 "ÇITALI" TYPE Of CEILING:

The term "*Çıtalı"* refers to the lathed ceiling type which is a widely used ceiling construction technique in Ottoman residence architecture. This ceiling type is connected either to the timber roof structure's timber beams or to the timber structure flooring beams. 23cm wide timber boards are nailed to the structural beams. These timber elements are well processed and finished timber boards which are considered to be named as fine cut timber. The boards are nailed side by side with a minimum gap. Timber laths (4cm wide and 2cm high) are nailed to the timber boards over the joints. These timber laths are also considered to be named as fine cut timber. There is a plastic based coating sheet is used as water isolation material at the spaces I15 and G01. It is a nylon sheet, nailed to the ceilings irregularly by the help of some irregular shaped rough cut timber laths.

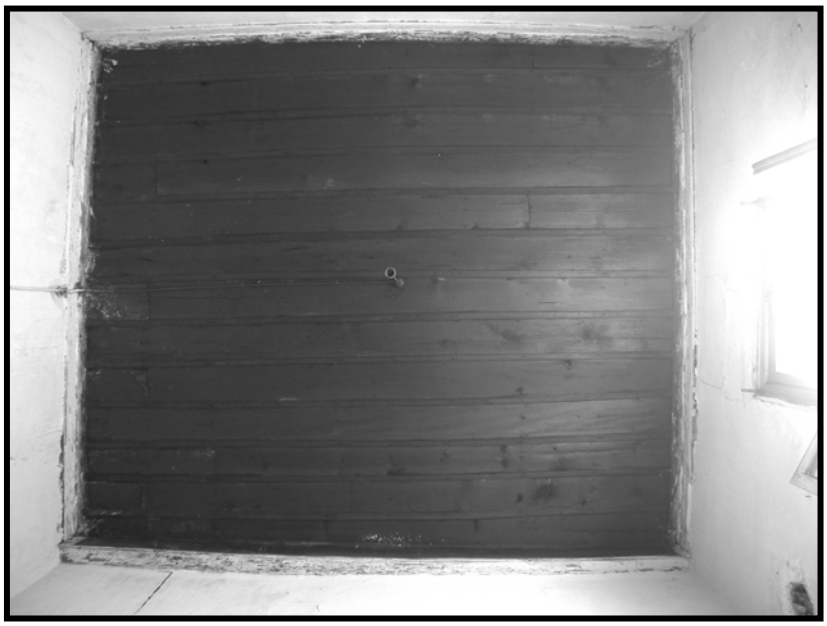

Figure 3-68 "Çıtalı" type of ceiling

3.4.2.1.4 Tımber Flooring:

There are two kinds of timber flooring in the dwelling construction.

3.4.2.1.4.1 Timber Flooring Type A (At Ground Floor):

The timber flooring's beams which are fine cut timber beams, are supported by cut stone posts at the middle and by the load bearing stone masonry walls at the both ends. The timber flooring boards which are fine cut timber are nailed perpendicular to the beams. The boards have generally 2*22cm sectional dimensions and longitudinal dimensions of the boards, varies. Plastic based coating sheet is used as a water isolation material at the spaces G01 and G02. It appears to be a later intervention after the severe deterioration of the timber roof structure. The material is a rubberized waterproof cloth at the floor coverings.

3.4.2.1.4.2 Timber Flooring Type B (At Upper Floors):

The timber flooring's beams are supported by the load bearing stone masonry walls at both ends and they are covered by a ceiling of a space at the bottom which can be either "Bindirmeli" or "Çıtalı" type of ceiling.. Over the beams which are fine cut timber beams, there are irregularly shaped, rough cut, 1cm high covering timber boards nailed perpendicular to the beams. There is a

secondary beam which is rough cut timber beam located over these boards, parallel with the primary timber beams. Between these secondary timber beams, there is a rubble stone infill exists. The timber flooring boards which are fine cut timber are nailed perpendicularly to these timber secondary beams. The boards have generally 2*22cm sectional dimensions and longitudinal dimensions of the boards, varies. Plastic based coating sheet which is used as a water isolation material at the space I15 on the flooring is a later intervention to be used as a water isolation material after the severe deterioration of the timber roof structure. The material is a rubberized waterproof cloth at the floor coverings. Timber flooring of the space C05 is coated with a metal based sheet material.

3.4.2.2 Reinforced Concrete:

Reinforced concrete is used as slabs, beams and lintels and also there are some reinforced concrete horizontal elements inside the cut stone masonry at the northern part of the dwelling. it is the structural element form of the cement based materials. It is strengthen by the iron bars inside its body. It has a grayish color with fine and coarse aggregates. Reinforced concrete slabs are paved with mosaic tiles at the spaces I02, I07 and I08. Mosaic is a cement based material used for its aesthetic and architectural features. It is a unit material made up from cement based mixture to. Its color varies according to the aggregates used to make the material. The tiles are geometrically ornamented with black and white colors. They are square shaped and each side of the material is 20cm. there are some debris exist on the reinforced concrete slab, at the gap between the slab and the timber flooring of cihannüma.

3.4.2.3 Earth Cladding:

The compacted soil is covered by two different materials at the ground floor. There are two kinds of earth cladding used in the construction of the dwelling and they are named according to these paving materials.

3.4.2.3.1 Mosaic Tile:

Compacted soil is paved by mosaic tiles at the space G01. Mosaic tiles are hexagonal shaped and each side of the tile is 11cm long. The tiles are geometrically ornamented with dark blue, light blue and light yellow colors.

3.4.2.3.2 Screed Cover:

Compacted soil is paved by screed which is the dark grayish colored finishing material on the floor with fine and coarse aggregates, is used as pavement material, at the ground floor of northern part of the dwelling.

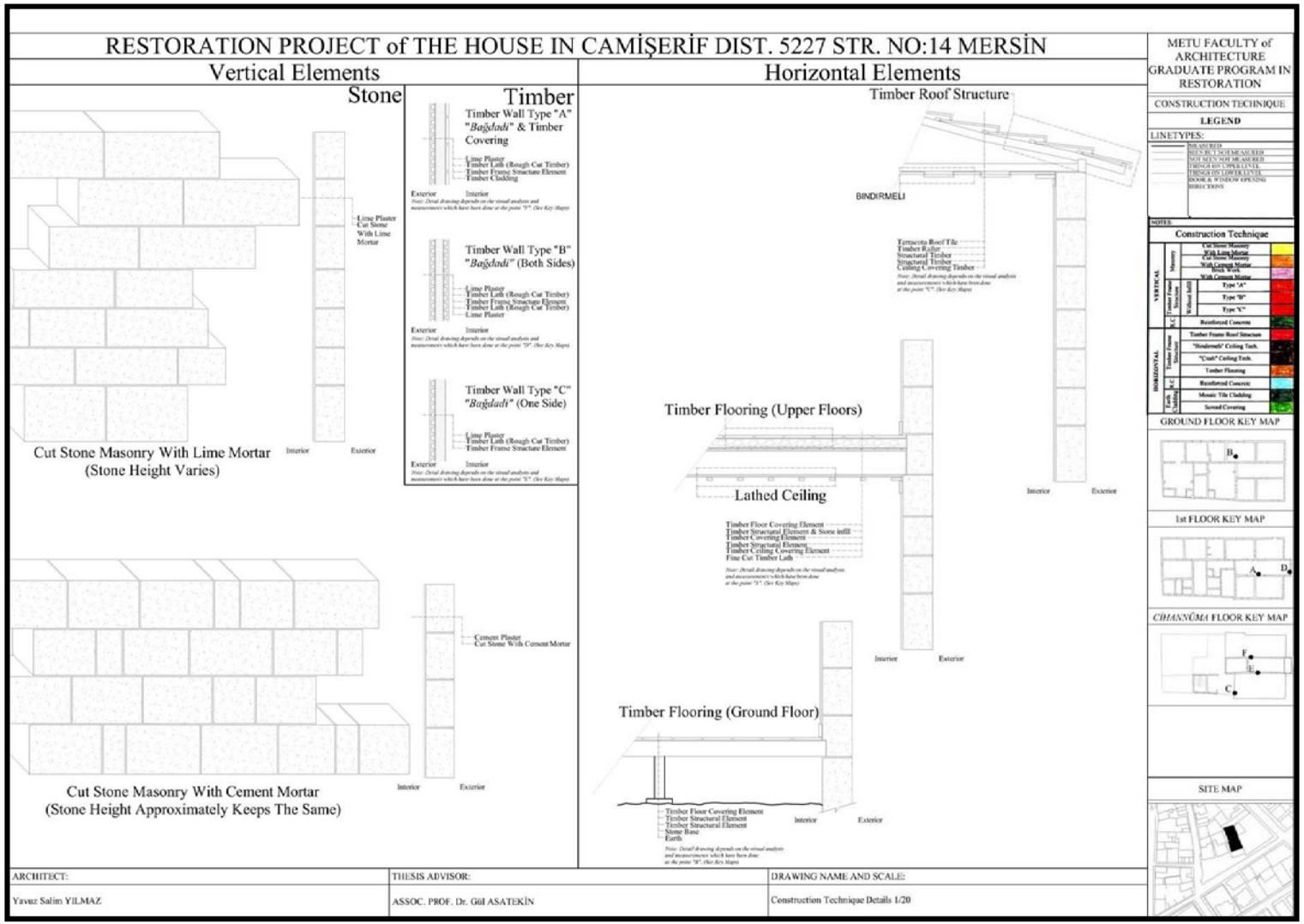

Figure 3-69 Construction Techniques Detail Drawings

Figure 3-70 Construction Technique Drawings 1

Figure 3-71 Construction Technique Drawings 2

Figure 3-72 Material Analysis Drawings 1

Figure 3-73 Material Analysis Drawings 2

Figure 3-74 Structural System Analysis 1

Figure 3-75 Structural System Analysis 2

3.4.3 Architectural Features

3.4.3.1 Doors

3.4.3.1.1 External Doors

There are three external doors in the dwelling. There is only one located at the southern original part of the dwelling. it has an arched opening with stone casing. There is a clearstory on the top with balustrades. The door is double winged and made up of timber. Both wings of the door have small, single winged windows with ornamented balustrades.

3.4.3.1.2 Internal Doors

There are forty door openings in the building. Sixteen of them are located at the southern original part of the dwelling. The classifications of the doors are done according to these sixteen traditional doors. Main criteria on classifying of the doors are wing numbers and the architectural elements on the doors. The architectural elements are the clearstories and the balustrades on them. According to these criteria, there are four types can be defined in the dwelling. These are: ID1 (Single winged, without clearstory, only used at cihannüma), ID2a (Single winged, with clearstory with balustrades, only used at the ground floor), ID2b (Single Winged, with clearstory without balustrades, only used at the first floor), and ID3 (Double winged, with clearstory with balustrades, mostly used at the first floor and there is one located at the ground floor). All the doors are made of timber. The clearstories are glazed and the balustrades are made of iron.

3.4.3.2 Windows

There are fifty seven window openings in the building. Twenty nine of them are located at the southern original part of the dwelling. The classifications of the windows are done according to these twenty nine traditional windows. Main criteria on classifying of the windows are; the structural behavior of the

opening, the opening's geometrical ratios, the existence of the shutters, the type of the shutters, the opening style of the window and existence of the architectural elements. The architectural elements are the clearstories and the balustrades. All of the windows are with flat arched or linteled opening in the dwelling, but the structural behavior couldn't be analyzed accurately, so that in order to prevent any kind of speculation these two kinds will be classified together. According to these criteria, there are eleven types can be defined in the dwelling. These are: W1 (The opening's width to height ratio is equal or less than 1\2, sash windowed and without or with a single balustrade), W2 (The opening's width to height ratio is equal or less than 1\2, sash windowed and with a multiple balustrades), W3 (The opening's width to height ratio is equal or less than 1\2, double winged windowed and without or with a single balustrade),W4 (The opening's width to height ratio is equal or less than 1\2, double winged windowed and with multiple balustrades), W5 (The opening's width to height ratio is more than 1\2, sash windowed and without or with a single balustrade), W6 (The opening's width to height ratio is more than 1\2, double winged windowed and with multiple balustrades), W7 (The opening's width to height ratio is equal or more than 1\2, double winged windowed and without or with a single balustrade), W8 (The opening's width to height ratio is more than 1\2, double winged windowed and with multiple balustrades), W3-SH1 (W3 properties + Sun Blinded shutter), W4-SH2 (W4 properties + Solid shutter), W7-SH2 (W7 properties + Solid shutter). There is no any specific order of distribution of the window types.

3.4.3.3 Staircase

There is only one reinforced concrete staircase in the located in the dwelling. It is leading from ground floor to cihannüma floor. It is located in the mid-west of the dwelling.

3.4.3.4 Decorative Elements

A stone masonry cornice is located at the south façade. It separates the ground and the first floors at the façade as described before.

There are two timber posts are located on the projection's corners as described before. Upper ends of the posts are ornamented.

3.5 Physical State Of The Building

The actual condition of the dwelling can be defined as bad. Being of being abandoned and severely deteriorated and partially demolished timber roof structure are the main reasons of severe deterioration. The structural elements of the dwelling are being exposed to all kinds of atmospheric conditions and this causes the deteriorations to accelerate.

3.5.1 Condition Of Structure

Insect attack on the timber material weakens the timber structure. Therefore the structure, especially; the timber roof structure and the timber skeleton structure of cihannüma is in danger. The timber flooring of space C03 partially collapsed at the north end and the half of the rest have local bearing failure. The timber flooring of the space G04 has collapsed and space G05 has some local bearing failures at the north end of the space. Composite structure (stone masonry and reinforced concrete) at the northern part of the dwelling does not have structural problems.

3.5.2 Deformations

There is no serious deformation observed on vertical stone masonry or reinforced concrete structure. Main deformation problems occur on the timber structure. The projection on the south façade has been sagged. The timber floorings of I10 and I15, and the ceiling of space C04 have also been sagged. The main reason of this kind of sagging problems is the deteriorated and weakened timber structural elements.

3.6 Condition Of Fabric

White deposit can be defined as white powder deposits on the materials. Possible cause of the deterioration is discarding the damp driven salt to the

surface of the material. It is mostly observed; all through the ground floor at average +1,50m from the datum line.

Dark deposit can be defined as black or gray colored material on the building material. Possible cause of the deterioration is vegetation, rain water and atmospheric effects. Under the openings and in generally appears as partial regions, at the edges of the reinforced concrete roof structure and at north of the west façade where the drainage problem of the roof occurs.

Macro biological growth can be defined as vegetation. It is seen as either some kinds of planting or moss growth. It is possibly caused by damp problem. This deterioration type has mostly observed at east end of the south façade and on the terracotta tiles which are located on the timber roof structure.

Micro biological growth can be defined as white or light gray colored froth like formations located on the deteriorated material. It is possibly caused by damp problem. This deterioration type has mostly observed at all through the ground floor at the interior walls at average +1,50m from the datum line and at the eastern walls of the southern original part of the dwelling where the building attaches the contemporary block.

Granular disintegration is can be defined as the material to turn into dust. It is basically, binding material to be solved in the water caused by the damp problem. This deterioration type has mostly observed at all through the ground floor walls at average +1,50m from the datum line, under the openings and in generally appears as partial regions and at the eastern walls of the southern original part of the dwelling where the building attaches the contemporary block.

Accumulation of dirt mostly appears as accumulation of acidic chicken feces on the floor. It is caused by the current use of the dwelling as coop for poultry.

Color change can be defined as loss or change of the original color of the material possibly caused by atmospheric effects, damp problem and solar rays.

Numerous of surface cracks can be observed at the dwelling.

Insect attack has only deteriorating effect on timber material. Effect of it is; attacking insects decrease the density of the material and gives a sponge like

structure to timber and this cause the material to loose its structural property. Most of the structural members of the dwelling are under the attack of insects.

Oxidation has only deteriorating effect on metal based materials. Almost all the metal based materials (i.e. balustrades of the windows) are open to the atmospheric effects, and this causes materials to oxidize.

It is obvious that the main reason of the deteriorating problems is the dampness. The damp problem possibly caused by two main factors. These are; rain water penetration and the rising damp problem. Rain water penetration to the materials caused by deteriorated and partially collapsed timber roof structure, wrong or inadequate detailing, deteriorated window and door openings and drainage problems.

Figure 3-76 Material Decaying Forms and Structural Defects 1

Figure 3-77 Material Decaying Forms and Structural Defects 2

CHAPTER 4

HISTORICAL RESEARCH

4.1 History Of Mersin

Mersin is standing between the cities; Adana, Niğde, Konya, Antalya. It stands south of Turkey, at the west end of the Taurus Mountains. The southern edge of the city is the Mediterranean Sea. [2]

Kizuvatna is the oldest known name of the region, followed by the name Que during Hittite period, and Cilicia in the antique age. The area has subsequently been occupied in turn by the Assyrians, Persians, Romans, Byzantium, Seljuks, Anatolian Seljuks, Ramazanoğulları, Karamanoğulları and the Ottoman Empire, which all left their mark in history and created outstanding cultural civilizations in their own regions.[2]

The surroundings of Mersin are paradoxically old, whereas Mersin is one of the newest port cities on the Mediterranean. There is a tumulus called Yumuk Hill in the Soğuksu Valley, located at 4 kilometers North West of Mersin. The historians say that the mother of Mersin is Yumuk Hill. A city at least five thousand years old was found there during the excavations, which was understood to be the most important trade and defense point during the Hittite era. Whereas the Pompeipolis ruins located at 7 kilometers west of Mersin, show the existence of a grand city during the Roman rule. After the decline of those two cities, the Seljuks arrived at the Çukurova plain and conquered the cities by the Mediterranean shore one by one. At that time the tribe of Mersinoğlu settled down in the place where Mersin is located today, building a pretty little village. That

village lived its humble life till the mid 19th century, after which its name began to be heard.[2]

Mersin's name was not mentioned in the map which was drawn by Piri Reis in 16th century.[2]

While Evliya Çelebi was traveling in 1671 from Silifke to Tarsus, he passed through the Yumuk River and then Karaisalı Village after the Mezitoğlu Village, on the horse. Mezitoğlu village is known as Mezitli settlement which is located Southwest of Mersin, today. Yumuk River is located northwest of Mersin. Also, while Evliya Çelebi coming from Silifke direction, after passing through Erdemoğlu (Erdemli) Village and then the Gergendir (Gilindire) Stream, somewhere nearby here (20 -25km away from Mersin), he mentions a Turcoman Village which he spent the night, as "Mersinoğlu". This information strengthen the possibility of, Mersin to be set as a nomad winter quarters and later moved to its recent place, but the travelers believed that the name "Mersin" came from the tree called Mersin (also called as Murt or Myrtus) which can be found in the region.[3]

In the first quarter of the 19th century, the ships coming to the region was anchoring in front of Yeniköy where is located in a shallow bay in the west of Tarsus Stream's mouth. The armies which was sent Anatolia by sea by Egyptian İbrahim Pasha, is known as went ashore from a quay. It is known that the quay's of Kazanlı and Karaduvar was also used in the past from time to time. Because of the developing technology of the steam powered ships, needed deeper ports to come alongside, but because of the filling effects of the Seyhan River and Tarsus Stream Yeniköy bay became useless. They searched for a better place to make a port which is enough from Seyhan River and Tarsus Stream, close to Taurus Mountains and protected from flood. This caused the marine traffic to turn towards Mersin. This caused Mersin to be the port of Tarsus and Çukurova and

[2] http://www.kultur.gov.tr
[3] H. Ü., Sanat Tarihi A.B.D. Öğretim Üyeleri (1995)

later on Eastern and Southeastern Anatolia. Parallel to this development the city's trade life activated, and this activation caused the city to grow very fast.[4]

Mersin was being described as a few shed built for the protection from the malaria sickness, by English marine officer, Beaufort, in 1812.[5]

The map drawn by W. M. Leake in 1824, Mersin was being showed as Antique Zephyrium city where the Mersin River reaches the sea. The gulf where Mersin located in, and the settlement are mentioned as the same name; Zephyrium, and does not tell anything else about Mersin.[6]

The act of agricultural restoration in 1832 by Egyptian İbrahim Pasha is followed by "Fırka-i Islahiye" program by the Ottoman administration.[7]

The Free trade pact which was signed with Western Europe and Tanzimat Firman allowed the foreigner capital to come in to the empire and privileged the none-Muslims and the Levantines.

According to Adana Province's yearbook (salname) of 1842, Mersin was a village which was connected to Gökçeli Township. After the use of quay by a few boats and ships, Mersin developed rapidly and became a township connected to Tarsus District of Adana Province.[7]

Latin Catholics got permission to build a church near by the sea in Mersin by a Firman from Sultan Abdulmecid.[7] Latin Catholic Church (recently on the Atatürk Street, near by the Toroğlu Apt.) managed by Kapusan priests. In 1887 the management of the church changed to St. Joseph priests.[8]

There have always been a few protestant in Mersin, so that was no special building constructed for them. A small building was used as a church for a while inside the American Collage where recent Tekel Company building now exists.[8]

In 1855, in a Firman which was sent to Adana governor of the province, told that there was no record found in the "Deftername-I Amire" in Istanbul about Mersin village and its quay, and also it could not be understood if it is connected

[4] Yavi (1998)
[5] Göktepe(1986)
[6] H. Ü., Sanat Tarihi A.B.D. Öğretim Üyeleri (1995)
[7] Yavi (1998)
[8] Develi (1987)

to a foundation or not. In the same year, in a very quick way, Mersin Village connected to Valide Sultan Foundation.[6]

C.Texier (1836); "*Zephyrium, where is 22km away from Tarsus, recently Mersin, however it is open to south and west winds, is the real port village of Tarsus. It has antique period ruins nearby. Half a century ago, the ships were coming alongside Kazanlı. But the mouth of the port was filled by the river, and the port was corrupted."*[9]

V.Langlois (1852-53); *"While coming from Pompeipolis to Mersin, the Yumruk chateau exists at the left hand side and you arrive through a Turkish bridge to Mersin. There are beautiful houses along the seaside. Beside the houses, there are some old city ruins, which are called Zephyrium. There are some more cities called Zephyrium at the coast. Today Mersin exists on these ruins. (This name is given because the Mersin trees are grown a lot here.) Although Mersin is open to the Elize winds, it is the most important port of the region. Beside these, in Mersin, in an official letter to Minister of Foreign Affairs; Teber, French Consul of Tarsus; Jille, mentions about some brick masonry tombs in 27 November 1836. (Approximately 10m aside from the coast, on the wavy days, tombs are covered by waves.) There is a tree which is infested by flies, surrounded by a wall beside Mersin. This tree has been accepted as sacred by the public. Probably there was a temple of Patron of eastern belligerent (warrior); St. George in the middle age. Because there was a marble found on which a figure of a Saint on a horse was drawn."* [6]

Mersin became the center of the district, of Adana province, which consists of Gökçeli, Kalınlı and Elvanlı villages.[4]

There was an English company, named Gold (according to the chamber of commerce, the name of the company is Gont), established a cotton gin factory in 1863 and this has brought the industrialization and development in Mersin.[5]

Sultan Abdulmecid ordered to build a fountain, in the name of Bezm-i Alem Valide Sultan, in Mersin, in 1861.[7] Sultan ordered to build a mosque, in the name of Bezm-i Alem Valide Sultan, in Mersin, in 1870.[7]

[9] Artan (2001)

The construction date of Greek Orthodox Church does not known exactly. It was where recent Bit Bazaar exists now. Recent Çankaya Primary school was its priest's education place. After the I. World War the Greek congregation exchanged (mübadele) and the church turned to a mosque. Later on its function changed into; education, entertainment and meeting hall and later on used as a cinema for a while. In 1944 it was demolished by the governor Tevfik Sırrı Gür and its stones are used in the construction of community center (halkevi).[8] Armenian Orthodox Church was built in 1870.[7]

Arab Orthodox Church was built in 1870.[10] The land was donated by Dimitri – Tannus Nadir brothers and also the construction was financed by them. While the widening works of Atatürk Street, some of the land of church was expropriated.[8]

English Traveler, Bishop Edvin John Davis came to Mersin in 17 April 1875; *"...Mersin seen just after the sun rise. It indebted its development to the cereals need after the Crimea War. Ships were anchoring away from the shore, and sometimes not anchoring at all in the winter. The coast is formed of the light brown sand hills. The plain goes trough east, and Taurus Mountains are two hour to North by horse.*

We entered to a custom's house with a very ruined appearance. The civilian dressed officers behaved us very politely. But what we heart is; they are complaining about the difficulties. We were unable to find even a hotel to stay. If you do not have a letter of recommendation, you have to stay in the inn. By the help of the vice consul of England we temporarily settled down to a pension.

Mersin, the people escaping not to get malaria sickness, took shelter in the beginning of the 1800th years, was a small settlement where a few huts arose on the stakes existed. Mersin with showing a great development especially after the Crimea War became a rich port city by exporting Cilicia (Kilikya) region's products.

[10] *This church can be Armenian Church. Two different sources tell different names but the construction date is the same. Also Ersal Yavi does not give the address to control in the book.*

Mersin, where various raced people make trade from the shops, with the square shaped stoned sidewalk streets which were ordered to make by ex-Adana governor Halil Pasha and with the number of beautiful stone made houses, is a developed small city. Greeks and Christian Syrians forms the population, European are a few in number. We met some people from the Greek colony.

Afternoon we went out to take a trip to the city. We passed through the gardens full of fruit trees for half an hour. Huts with the bright colors or summer huts exist but all of them are seems to be neglected. Only the peaches are very big and good. Fertile lands exist behind the gardens.

We traveled Greek and Christian Arab's schools and saw two churches. We went to the hospital. It is a roughly made but clean place. There is a dispensary and a nurse. There are only male patients can stay and no surgery could be made. A few Turks are living except the official officers. But the variable population is composed of Turks who are making all kinds of connection by camels. Next day English vice consul invited us to his residence. Malaria and dysentery contagious is widespread. Citiy's food stocks are good, breads are perfect, the water is in good quality even though it is warm. Water was obtained from the wells before. A few years ago there is an aqueduct constructed to bring water from the river from west.

They talked about some promenade places such as Gözne and İçme. It is approximately 1.5 hours away from Mersin and it has 3 hills around which can obviously understood that they are artificial. On one of these hills, there is a castle exists which was told to be constructed with Genoese. Anyway it is also assumed that every remains were made by Genoese here. It is also told that the regular stones are carried to Mersin for the new constructions. We saw the remaining stones of Pompeipolis used in the masonry of walls of Mr. Mavromati's shop who has introduced to me as the most important and richest Greek merchant of Mersin."[9]

Taşhan was built in 1871 by Mavromati and member of The Council of State; Vayvani. Taşhan: shops and offices at the ground floor, agencies, offices and residential units at the first floor.[11]

Adana – Tarsus – Mersin motorway built in 1885.[4]

According to Adana Province's yearbook (salname) of 1877 in Mersin: 98 shops, 50 wholesaler shops, 55 mill, 38 bakery, 22 workshop and 10 dye-house existed and overall with the villages connected to Mersin; 32 mosque, 54 "mescid" (small mosque), 2 "tekke" (dervish lodge), 25 "medrese" (Muslim theological school), 12 church, 1 "Ayazma" (sacred fountain of the Greeks), 91 "Sübyan Mektebi" (primary school).[5]

E.J. Davis came to the city in 1879.[7]

According to Adana Province's yearbook (salname) of 1880 in Mersin: Mersin is the port of Adana province, and all kinds of import and export was being made from the quay. There were four quays here which two of it was stone made and two of it was timber made. The municipality was earning money from the taxes of trade. And also two foreign maritime companies are mentioned; English Bell Company, and French Messageries Maritimes.[7]

Müftü Mosque and Medrese were built in1884.[7]

The railway between Adana – Tarsus – Mersin was built in 1886. From the old train station building which is 50m away to west from the existing recent train station, to Gümrük Square, Mesudiye Quarter and to the factory of Bodosaki in Soğuksu Street, a "dekovil"[12] (narrow gauge railroad) built.[7]

In 1886, there were 12 countries consulates were existing, the main ones are; USA, Germany, Russia, France and England.[7]

In 1886 one of the earliest Chamber of Commerce has established in Mersin.[5]

In an imperial prescript (irade-I seniye) dated 6 November 1888, tram establishment was being ordered.

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[11] Artan, (2002)

[12] According to Şinasi Develi (1987), there was a tram route constructed first in 1912 and then during the French occupation, this route disassembled and the materials are used to make the "dekovil" route, between the train station and custom house just to carry the objects.

In the prescript; permission got to buy the related material, to construct a tram between the train station and the French agent (recent Mersin shopping center). It was planned to complete the construction in 2 years but it could only be completed in 1912.[8]

Osmanlı and Ziraat Banks opened the branches in 1888. In 1889 Selanik Bank opened the branch in Mersin. [7]

In 1890, the exportation yearly income was 700,000 Golden Liras, and importation yearly income was 400,000 Golden Liras, from the port of Mersin.[5]

Tahtalı Mosque also called as Avniye mosque has built in 1890.[8]

One-third of the exportation was cotton in 1890 from Mersin.[5]

Vital Cuinet who made the Ottoman cities economic, social and cultural inventory work in the name of Düyun-u Umumiye (Public Depts) in 1891, gives detailed information about Mersin; "*Administrative center of the province is Adana, towns; Mersin, Tarsus and Karaisaoğlu. Villages connected to Mersin; Elvanlı and Gürceli. Overall population of the center of the lieutenant colonel (kaymakam), Mersin, with its villages, is 29,175. All the European countries have their representatives here, consuls, vice consuls and consulates increase the population of Mersin day by day. Fellahs whose religious beliefs and behaviors are totally different and usually dealing with gardening, are also included in this number. 3,500 of Christian, 2,700 of Greek Orthodox, 860 of Armenian, more than 260 of Latin Catholic. Mersin's settled population is approximately 9,000, 5,000 of them are Muslims. Non-settled population is too much. Because of the people coming by the steamship or sailboat and their settlement, there is a variable population.*[7]

V. Cuinet; Houses of Mersin is made from white (limestone) cut stone, single storied, terraced on the top and wide streets and built with an ordered plan. Mersin is mostly developing through the lighthouse side where the gardens exists mostly, every year new quarters are arising by the new building constructions. There are not too much monumental buildings exist in the city but the new buildings are attracting the attention. Maritime Lines Building, Train Station, Greek Church, lighthouse, the bridge on the Silifke side, etc… before the

construction of the railway the connection between Adana – Tarsus – Mersin was made by "Şose" (macadamized road). Mersin has one mosque, two Greek Church, one Latin Catholic Church, one *Maruni* Church[13] existing. Two medresse, one *Rüştiye* (high school) and two Muslim *Mektep-I İptidaiye* (primary school) exists. Greek Orthodoxy's have two schools and one maiden school. Armenian's has one masculine school, Catholics has one school which has 45 students. Saint Joseph nun's has one public school for 45 students open to everyone beside the private maiden school for 25 students.

The other buildings in Mersin are; 4 inns, 2 hotels, 90 depots, 2 steam powered mill, 1 wind mill. The construction of the railway caused arising of new quarters. Lemon and Orange trees attracts attention in the gardens. Fellahs deals with gardening. A second class lighthouse, at the south of Mersin, 300m away, lights approximately 14 miles away far. [7]

According to the registers of the Chamber of Commerce there were five timber, one stone based timber, one (special for railway) iron, totally 7 quays existed in 1893.[5]

According to the registers of the Chamber of Commerce in 1900; there were 3 hotels managed by Mahmut Ziya Pasha named; Kahire, Adana and Istanbul. Hanlızade Mustafa was also managing one hotel and a night club, but the names of them could not be found.[5]

In 1900, there is a factory in Mesudiye Quarter built which can process 300 tons of cotton and produces 200 tons of textiles in a year.[7]

In 1901, in response to the municipality not to take any income from the quays for four years, there is a, two storied, government office built from cut stone in Uray Street (recently "city health directorship"). There are; governor's office, administration of justice, finance office, Ziraat Bank and other governmental offices existed here.[7]

[13] According to Şinasi Develi (1987), Maruni Church was on the Uray Street, west of the Catholic Church and turned to mosque in 1987 named Nüzhetiye Mosque. It was closed because there was no priest found to work.

There is a synagogue[14] built for the Jews who are dealing with trade in 1906.[7]

At the beginning of the 20th century, the banks; Greek Athens Bank, French La Banque Française de Syrie and Banque Française Des Pays D'orient, opened their branches to Mersin.[7]

Parallel to the development of the Mersin Port which was transferring Çukurova's sources to the foreign countries; Tarsus and Adana were developing by the agricultural productivity and agricultural industry. In these years, productive city; Tarsus's population became twice larger than Mersin's and produced Electricity before Mersin.[7]

According to Adana Province's yearbook (salname) of 1901, Mersin's population is 23,443 and 1584 resident, 1 government office, 4 mosque and "mescid", 2 medresse, 3 church, 1 telegraph house, 1 *Rüştiye* (high school), 320 shop, 10 bakery, 4 inn, 3 Turkish bath, 15 coffee shop, 2 night club, 4 hotel, 14 bar, 5 restaurant existed.[7]

According to "Maarif" (public instruction) yearbook (salname) of 1903, 4 medresses, 16 "mektep-I iptidaiye" (primary school), 1 library, existed in Mersin.[7]

Historian and geographer F. Dietrich Schafer who came to Mersin in 1903,mentions that the population of Mersin is 9,000 and Europeans, mainly French people, built their houses at the seaside beside the port and the quarters seems like European towns; Europeans and the rich ones goes to the plateaus to escape from the hot weather from May to October.[7]

At the beginning of the 20th century, the main settlement was in Camii Şerif district where the trade life was dense. This district of Mersin enlarged through west and north directions and new districts arose there. On the wide streets which are parallel or straight to the port, the tradesmen's shop-depot-residents kind of houses existed mostly. Larger houses usually with a garden, are mostly could be found in Hamidiye Quarter and recent Atatürk Street. The main effect which makes Mersin's urban texture different, "Ebniye Nizamnameleri" which brings restrictions for the new constructions, after the Tanzimat Ferman.[7]

[14] According to Şinasi Develi (1987), synagogue was on Soğuksu Street.

Mersin's social and economical situation changed after the I. World War, first English than French occupations, and later the freedom war of Turks. Because of the war situation, some of the Turks went to the war field or migrated, non-Muslims had to move from the city and the Greeks went to Greece according to the exchange (mübadele). This caused the population to decrease and the economic dynamism was lost.[7]

According to the municipality census in 1927, the population of Mersin is 11,720 and this shows the rate of decrease according to the beginning of the century.[7]

On the later censuses; 1935: 17,700, 1945: 16,200. this was the effect of the II World War and 1928 – 30 world economic crisis.[7]

By the establishment of Mersin Elektrik T.A.Ş., the electricity reached to the residences, before the establishment of the company electricity could only used by some private industrialization companies. But because of the inefficient capacity and disagreement in the share, the company could not cover the requirement. Efficient electricity could reach the city in 1956 by the construction of the Seyhan Barrage in Adana.[7]

Famous City planner Austrian Herman Jansen prepared the city plan of Mersin in 1932. Gave importance on the historical texture of the city, conservative arrangements and wrong foresight of the population growth caused the plan to be unsuccessful.[7]

Turkey's first female mayor Müfide İlhan was selected in 1950.[8]

A new city plan macroform was done by İller Bank was1963, but again was not successful because of the wrong foresight of the city growth and modifications made in 1972.[7]

Modern port's development, the construction of the silo, development of the new industrial buildings on the Tarsus road, increasing number of shops and depots caused the settlement area to enlarge. Population growth by the migrations, the growth of construction sector caused the growth of the city around the old city with the high rise concrete buildings.[7]

The shore of Mersin in which the old city exists, filled, and gave permission to high concrete constructions.[7]

1/25,000 city plan's modification was made due to 2010 macroform.[7]

4.2 Evaluation

Camişerif District where the studied dwelling is located forms the core of the city throughout the history. The district played an important role in both trade and social life. The trade life occurred at the edges of the district where the main axis of the city are located and the residences were located at the core of the district. The trade and the social life was so integrated that it also reflected to the residence architecture of the Mersin. The use of depot spaces at the ground level is the basic reflection. The rapid development and the migration to the city have shaped its own architecture over the roots of traditional Ottoman architecture. While the plan schemes, general façade arrangements and elements reflecting traditional Ottoman architecture, the separate use of every level of the residences, space arrangements forms its own architectural style. Especially the main entrance doors of traditional residence architecture of Mersin specialized. Almost every door is different than the other and reflects the migrated cultural influence.

There is a break point occurs in the beginning of the 20th century. The effects of the 1st world war, economical conditions, cultural alteration and developing technology also have affected the architecture. New construction materials, and techniques such as reinforced concrete and iron, began to be used at the constructions. The new technology was adapted to the traditional techniques and aesthetic values, and formed its own architectural style.

CHAPTER 5

COMPARATIVE STUDY

Comparative study comprises the collected information from the site survey at close environment of the studied dwelling by the author and the collected and processed information from the previous studies done at the region.

A brief general definition of the traditional residence architecture of Mersin was made in the book Mersin Evleri (1995) as:

"Mersin, because of being a new city when founded after the Tanzimat Firman and Ebniye Nizamnameleri, development became different than the classic Ottoman cities. This difference also reflected to the residential architecture of the region. Instead of classic Ottoman architecture, the houses shaped by the available material, cosmopolitan settlers, the climatic and geographic conditions, small cell family as a effect of the rapid migration's instead of crowded families, and the effect of the dense trade life.

Mersin's residences are mostly single or two storied. They are mostly constructed from cut stone but sometimes the first floor or the "çıkma" can be "bağdadi". The residences, which are constructed with cut stone masonry, have a garden or a "hayat" directed to east or north. By this kind of orientation, the open area which will supply the air circulation to the house, will be protected from, the burning sun light of Mediterranean from the west or south, and the wind from the sea direction. The spaces of garden and "Hayat" which can be especially found in inner-"sofa" kind of residences in the dense trade texture around Uray Street, without appearing too large in size, are the places where the daily life spends. At the houses of exterior "sofa" kind in Kiremithane Quarter, the gardens appear large in size. These kind of houses have a fountain generally". (H.Ü, SANAT TARİHİ A.B.D. ÖĞRETİM ÜYELERİ, 1995, PP 44-46)

There are 28 traditional registered dwellings surveyed throughout the study. Comparative study has done under five headings; Site Plan, Plan Layout, Plan Elements, Façade Elements and Architectural Elements.

5.1 Site Plan

Attached order of traditional buildings is very rare in the surveyed region (2 of 26 of surveyed traditional dwellings). Most of the dwellings are separated from each other and mostly have a garden (23 of 26 of surveyed traditional dwellings).

Twelve of surveyed dwellings are located facing to a street. In these twelve dwellings; six of twelve are, single entrance provided from the street to the building, six of twelve are, multiple entrance provided from the street to the building lot and garden and building can be entered separately from the street.

Fourteen of surveyed dwellings are located at a street corner and facing to multiple streets. In these fourteen dwellings; nine of fourteen are, single entrance provided from the street to the building lot and the building is entered through the garden, five of fourteen are, multiple entrance provided from the street to the building lot and garden and building can be entered separately from the street.

Number of entrances to the buildings could not be located in the classifications because of the unidentified contemporary interventions.

The studied dwelling have a garden and facing to a single street, and the building and the building lot have multiple entrance provided.

5.2 Plan Layout

Very limited number (10 in number) of traditional dwelling's interior was surveyed throughout this study because of the behaviors of the current users. All of the surveyed dwellings have inner *Sofa* kind of plan scheme. *"The houses of Mersin which are usually two storied, does not have a connection between the floors. That is to say, every floor is for a different family or a function. In the houses with a basement floor, there is no connection between the first floor and the basement. If there is a "cihannüma" built to watch the city from a higher*

point or to watch the moon and stars at night (mehtabiye), this floor generally has a connection with the first floor. Thus, instead of a whole family order, there is a single family where each floor belongs to one family, order is being carried out. This shows the cell unit family structure. Beside these, this kind of houses can be rented easily to the people who came to work from out of Mersin."[3]

As a reflection of separate users of every storey in multi storied traditional residence architecture of Mersin, the staircases are located at the exterior of the dwelling, reached from the open space.

Main entrance doors, facing to the street which leads to the ground floor and opens to the *sofa* space, is located at the middle of dwelling and surrounded by two rooms at each two sides. The entrance door at the ground floor is either flush with façade surface or the wall of the door is set back from the façade surface as wide as *sofa's* width. There is another door opening to the open space from sofa space is generally located at the opposite side of the main entrance door. One room which is located at the opposite side of the entrance and reached from *sofa* space, projects as long as the staircase's width from the back façade at multi storey dwellings. The staircase is usually located in this "L" shaped area.

First floors of the dwellings are reached from the staircase. The staircase opens to the *sofa* space through a door at the first floor. The rooms at each two sides of *sofa* space have the same plan scheme with the ground floor. *Sofa* is either keeps the same form as ground floor or projects from the façade at the street façade. The projection is either in a balcony or projection form. *Sofa* space is separated by a partition wall, and the space at the projection end is used as a room in a unique case.

The studied building is a two storied dwelling with cihannüma. It is also an inner-*sofa* type of dwelling.

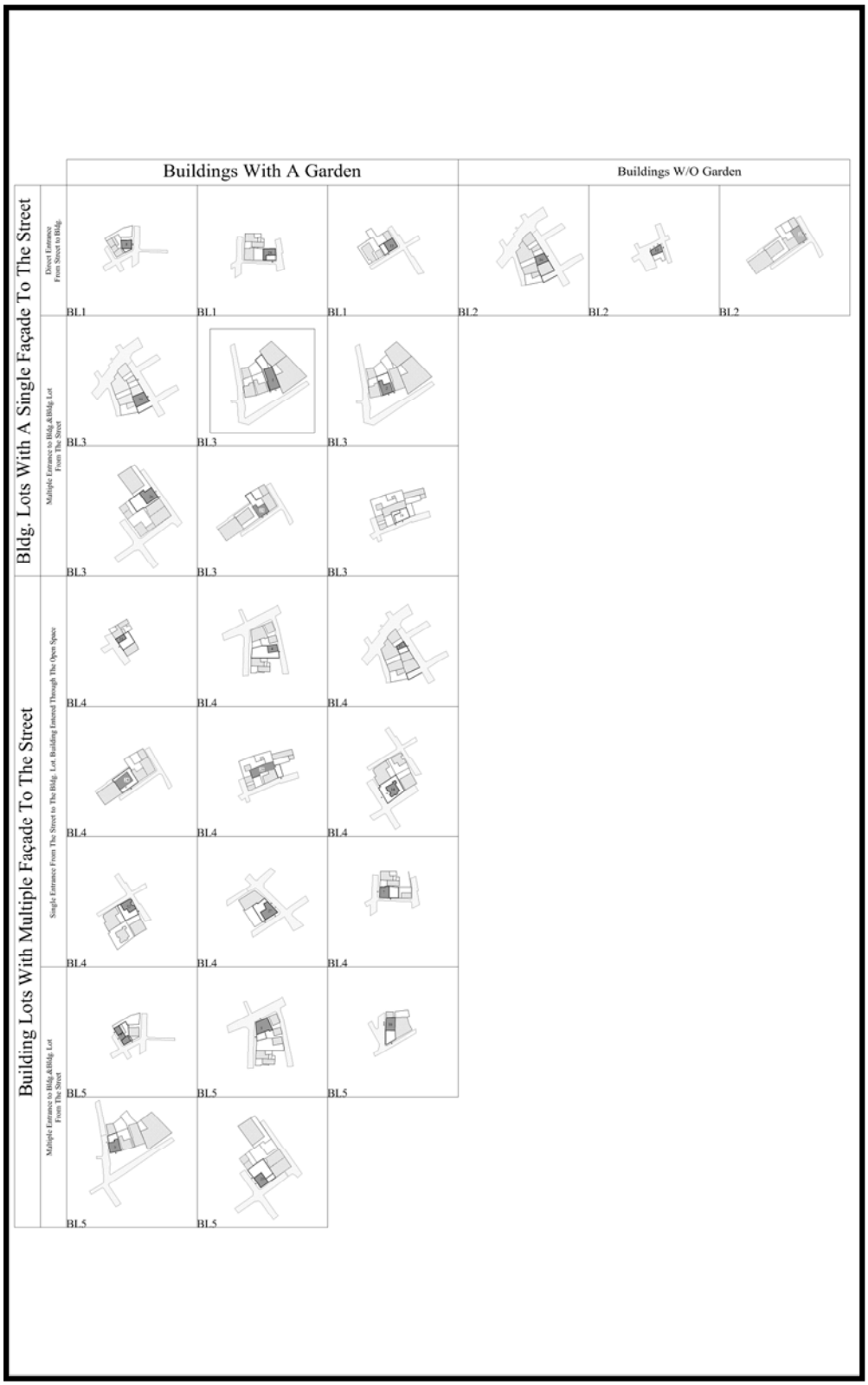


Figure 5-1 Typology of Building Lots

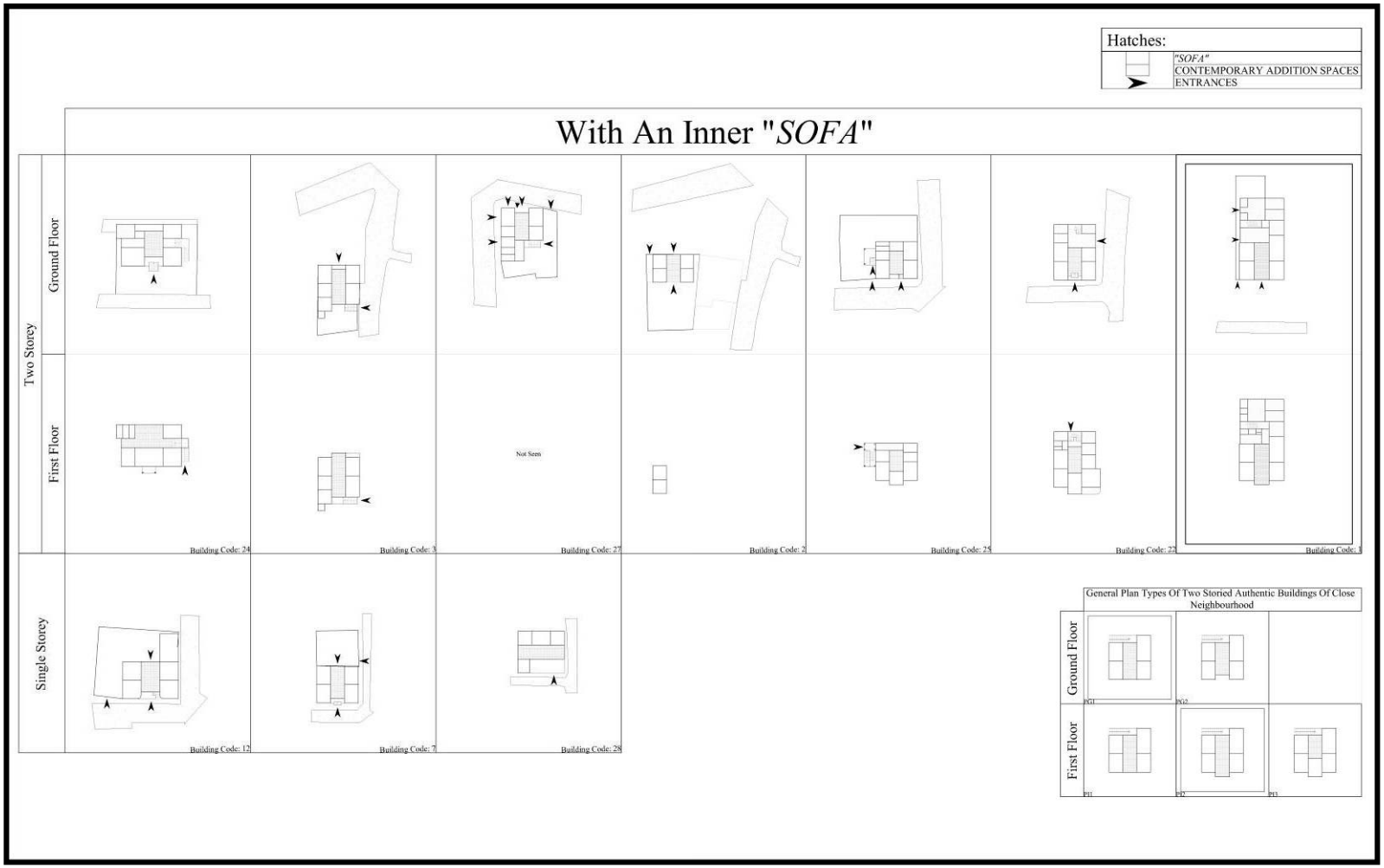


Figure 5-2 Plan Typology

5.3 Plan Elements

5.3.1 Rooms

Sofa and the room width's are almost the same in the surveyed buildings. All the surveyed rooms are in the quadrangle plain form. Rooms are very simple in their architectural arrangement and decoration. There is no specialized rooms exist, except very rare unique cases. Because of being a new city, Mersin's traditional architecture differs from classical Ottoman residence architecture especially in the room organization. Development of the new technology on furniture and the service equipments affected the traditional architecture of Mersin. This available technology replaced the need of architectural elements which needed to be constructed with the dwelling, such as *seki, sedir, yüklük, ocak*, etc. which omit architectural arrangement differences, shows that there is no architecturally privileged space was being arranged anymore.[6]

The studied dwelling have simple, not decorated rooms with timber ceiling and floorings. There is no in-situ furniture exists.

5.3.2 Sofa

Sofa spaces are very significant spaces in Ottoman architecture. These spaces have the same significant role in Mersin's traditional architecture. Main organization of the spaces is done according to *sofa*. It is commonly shared space, serves as a hall. Space has a semi-public place, at the public (open spaces) to private (rooms) hierarchical order. Generally it has a longitudinal quadrangle form in the inner *sofa* type of dwellings. Their floor claddings at the ground floors are mosaic tiles which are usually have geometrically shaped and colored ornaments on their surfaces and timber floorings at upper floors. Day light is provided through the clearstories with balustrade over the doors which open to the rooms or exterior of the dwelling. Beside these, there can be a window near the door which

opens to the garden. Height of the space is the same as the rooms. There is no special decoration or in-situ furniture is observed in the surveyed dwellings.

5.3.3 Service Spaces

There is only one original service space observed in the surveyed dwellings on a traditional registered dwelling in Camişerif District 5228 Street No: 14. The observed one was a separate construction made up from cut stone and it was attached to the dwelling at the rear façade. The entrance to the space was from the open space. It was a WC and bathroom space. All the rest of the surveyed buildings either have contemporary additions used as toilet or bathroom, or have nothing as a service space. On the other hand, the kitchen spaces may not be existed at any time because there was no need for an especially architecturally designed kitchen space. Ready made equipments and the furniture were available for a kitchen at those times. Because of this, there is no specially designed kitchen spaces exist in Mersin's traditional architecture except some unique examples.

There is no original service space exists at the studied dwelling. The northern part of the dwelling which is a later addition provides service spaces.

5.4 Façade Elements

5.4.1 Projection

Projection is one of the characteristic façade elements of the traditional Ottoman architecture. It is basically a cantilevering part of the dwelling from upper floors. It is also common façade element, used in traditional residence architecture of Mersin. It is usually found in the street façades. Projection is generally located at a single façade, mostly as an extension of *sofa* space, except one example, which has two projections at two façades, in the surveyed dwellings. It can be located at the middle or at a side of the façade. Also in two dwellings, the projection was all along the façade but it was projecting just for 40cm. Projections are projecting approximately for one meter. At the cases with

cihannüma, *cihannüma* stands on the projection and this projecting part of it can be either closed or open. The open ones are named as balcony.

There is a projection located at the middle of the façade in the studied dwelling. The balcony of cihannüma is located on the projection.

5.4.2 Windows

The openings of windows of the traditional dwellings at the close environment of the studied dwelling are quadrangular shaped, linteled or flat arched except one pointed arched example. Usually the opening's width to height ratio is equal or less than 1\2 and the opening can be with cut stone casing. The cut stone casings, in some cases, have some ornaments on them such as emphasized keystone or tooth row on the top. The ones at the ground floor or the ones which can be reached from staircase have generally multiple balustrades, and the rest is either have one balustrade or none. Most of the windows which have the width to height ratio equal or less than 1\2, have a clearstory. The windows are glazed and most of them are double winged windows, but there is also sash windows exist at the site. Shutters are also very common elements for traditional architecture of Mersin. Shutters are generally solid timber shutters at the ground floor and sun blinded shutters at upper floors. The sun blinded shutters have a smaller opening wing inside the wing in many examples.

Windows at the studied dwelling are all flat arched or linteled and without casing. The ones which the opening width to height ratio is equal or less than 1\2 have 3 different types; the first one is a sash window with balustrade, second one is a double winged window with clearstory and have a single balustrade, third one is a double winged window with a clearstory with balustrades. The ones which the openings width to height ratio is more than 1\2, have two kinds; the first one is a sash window with a single balustrade and the second one is a double winged window without a clearstory and with a single balustrade. Solid timber shutters and sun blinded shutters with an inner division is also exist at the studied dwelling.

5.4.3 Doors

Main entrance doors at the street façade are one of the most important elements of the façade. Usually most ornamented and sophisticated elements of the traditional architecture of Mersin are the main entrance doors. The openings are usually arched and have a highly ornamented stone casing. Segmented, semicircular, tangent, flat, shouldered and pointed arch types exist at the close environment of the studied dwelling. The ornaments of the casing vary. Almost all of the casings have a different kind of ornaments. The multi cultural effect of Mersin's social structure is being reflected in here. Tooth and egg rows, Corinthian order column heads are widely used. Most of them have a clearstory on top with ornamented iron balustrades. Doors are generally having double wings and they usually have a small glazed window with ornamented iron balustrades.

Main entrance door of the studied dwelling has a segmented arched opening with casing. There is a clearstory is located within the arch. Clearstory and the door element is separated by the stone masonry casing from each other.

5.4.4 Façade Finishing

Traditional dwellings of Mersin are mostly made up of cut stone masonry. The walls of the dwellings are not plastered and the masonry can be observed. In some cases there is a stone cornice located in between the ground floor and the first floor which projects from the façade surface. There are four kinds of profiles of these cornices found at the site.

At the timber structural system surfaces like the projection, cihannüma and gable, it is either plastered or timber board covered.

Some of the buildings have a toothed wall finish at the opposite corner of the street façade. This toothed wall finish is constructed by leaving one row of projecting cut stone on the row direction at the end on one flush row all through the wall height. In two cases, these toothed wall finishes are used for the integration of the later constructed stone masonry continuation.

The walls of the studied dwelling are not plastered and the cut stone masonry can be observed. There is a stone cornice exist between two stories at the south façade. The gable and the projection which are timber structure are plastered. Cihannüma have a timber board covering finish on the external walls. There is a toothed wall finish exist at the northern end of the southern original part of the dwelling.

5.4.5 Roof

Roofs of the traditional residence architecture are timber structure. They are either gable or hip roof. They are terracotta tile covered. Terracotta tiles are French type. The gables in the gable roofed cases are timber structure without infill and the surfaces are plastered. The eaves are projecting from the sides and they are timber board covered at the bottom.

Studied dwelling has a timber structural gable roof with French tiles. Eaves of the roof are deteriorated and existences of the board coverings at the bottom could not be understood.

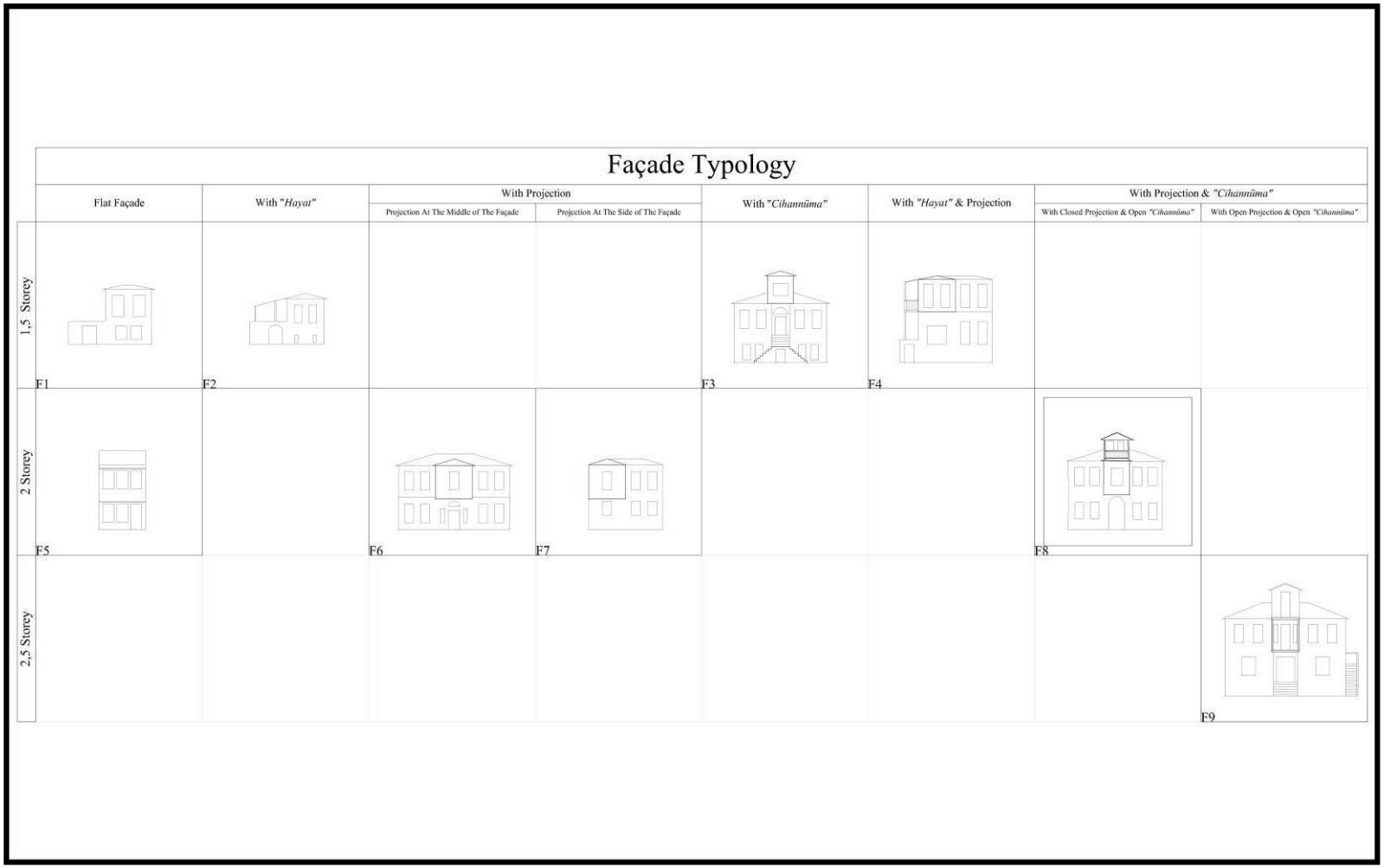


Figure 5-3 Faç ade Typology

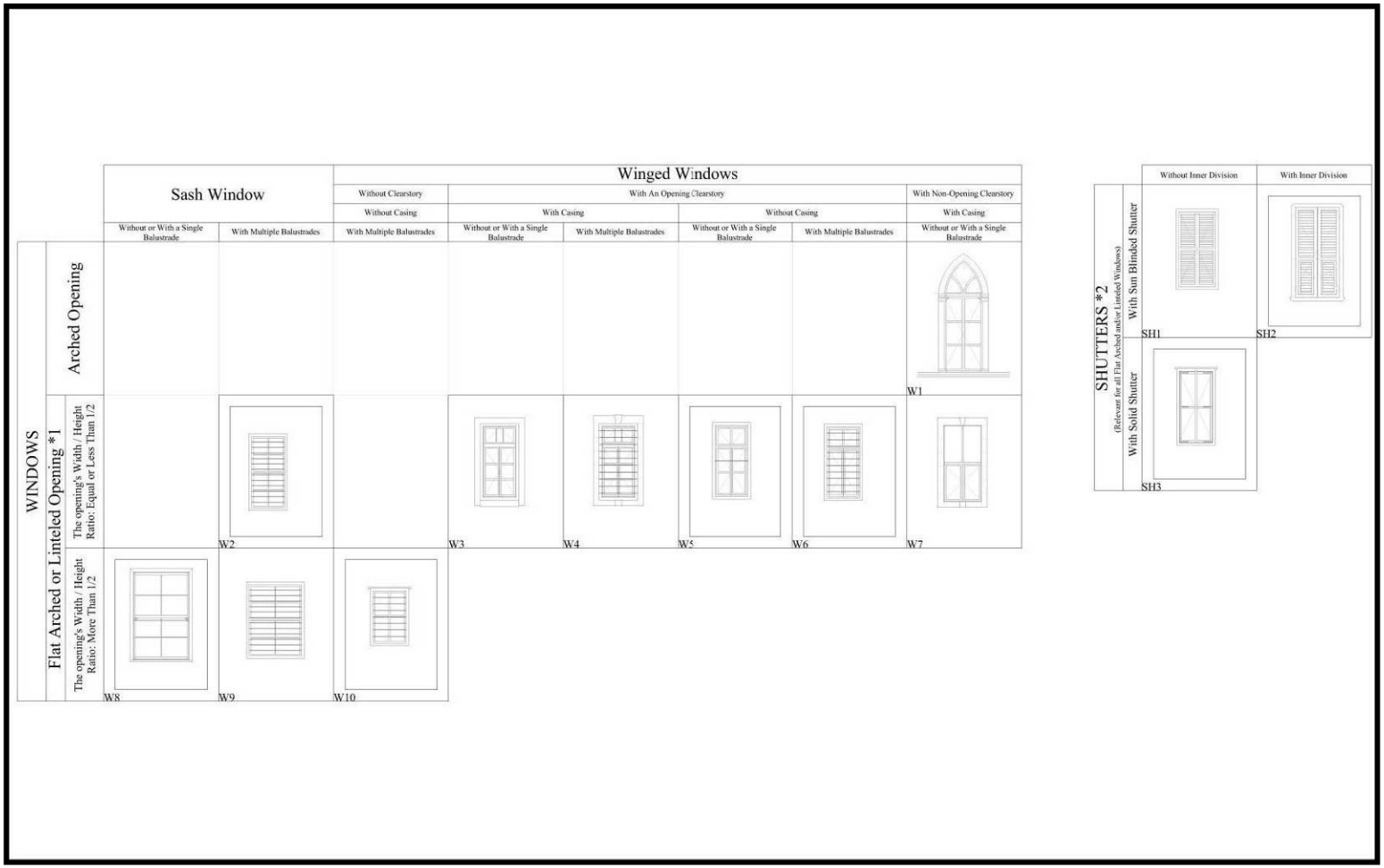


Figure 5-4 Window Typology

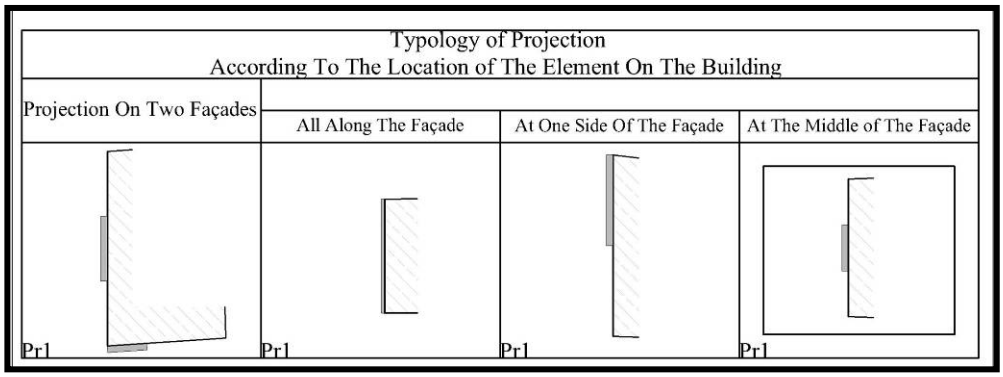


Figure 5-6 Typology of Projection

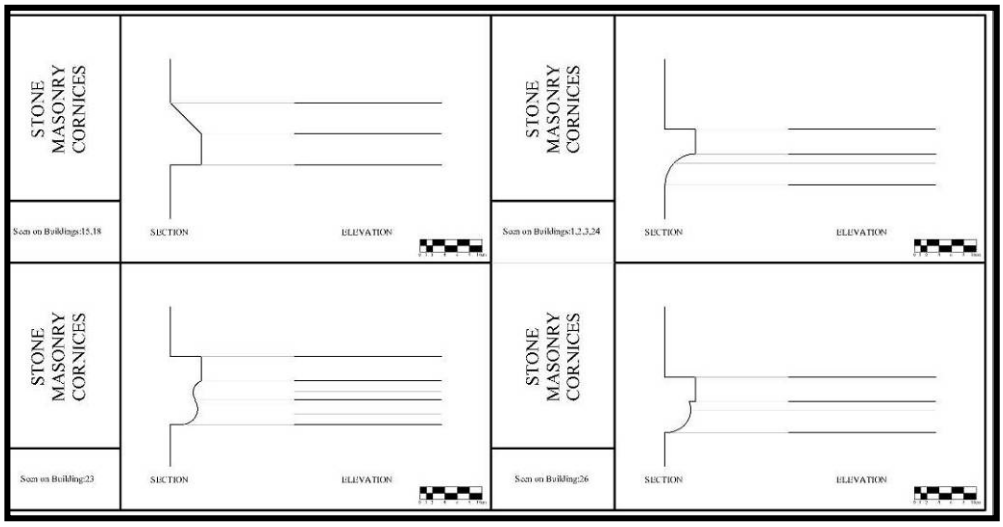


Figure 5-5 Typology of Stone Cornices

CHAPTER 6

RESTITUTION

6.1 Changes In The Dwelling

The studied dwelling has changed under the effects of the users and the environmental conditions. These changes are classified under four headings. These are additions, removals, alterations and unidentified. An evaluation of the traces has been done to define and process the clues within the building. The main factors on identifying changes are the characteristics of the element's material, form, details and the construction technique. Whenever, the studied dwelling provides less or no sufficient information than we need to understand the original state of the dwelling or the pervious interventions, than the comparative study or the architectural necessities are used. (see figure 6-1 – 6-2)

6.1.1 Additions

Northern part of the dwelling which is a composite structure of cut stone masonry with cement mortar and reinforced concrete structure, with 108m2 base area and two storey high, is a later addition to the southern original part of the dwelling.

Space G13 which is located in the space G11 is a later addition. The space is a WC space, constructed on a raised platform with cut stone masonry with cement mortar. It has a fiberboard ceiling and a jerry-built door. There is a irregularly shaped hole made on the stone masonry wall of west façade with iron balustrades for the ventilation of the space.

The doors located; on the west façade leading to the space G06, on the wall between the spaces I16 and I17, on the wall between the spaces I16 and I10, are

later additions. Form, dimensions, location and the details of the elements are differing from the rest of the similar examples of the studied dwelling.

Two rectangular openings on the west façade which opens to the spaces G06 and G11 are the later additions. The opening in the brick masonry at the north façade which opens to the space G11 is also a later addition.

The door opening at the west façade opening to the space G06 with a jerry-built timber door element in is a later addition, and the reinforced concrete posts and lintel gives the evidences of the intervention.

The opening with reinforced concrete lintel at west façade at the second floor which opens to the space I01 was partially closed with cut stone masonry on the top between the lintel and the reinforced concrete slab. This additional intervention's evidences can be observed at two vertical pointing of the cut stone masonry between the wall structure and the addition.

Cement based plaster on the south façade at the ground floor level, cement based plaster on cihannüma where cihannüma, and the west and east wings of the timber roof structure attach to each other, metal based material (tin) sheet covers of north façade cihannüma, irregularly shaped timber board, internal and external coverings of the windows at the space C03, plastic based floor coverings of the spaces G02 and I15, plastic based sheet coverings of the ceilings of the spaces G01, I15 and I19 are the later interventions added to the dwelling.

6.1.2 Removals

The traces on the north façade give us the clues of removal of a space which attached to this façade. The iron bars projecting from the reinforced concrete slab of the first floor over the door opening and the reinforced concrete traces on the wall are the traces of the removal.

The timber roof structure of the space C03 is demolished.

The eastern eave of timber roof structure is removed because of the attached contemporary apartment block.

There are some stone masonry elements are removed from the space C02 where the door opening existed on the south wall of the space.

The windows on the east wall of the spaces G05 and I17 are removed because of the attached contemporary apartment block at the east façade of the dwelling. The one at the space I17 is converted to a niche by putting a glass shelf inside the gap.

The timber shutters of the fallowing windows are removed and the hinges of them are observed on the frames: window at the first floor of the south façade which opens to the space G02, two windows on the first floor of the southern original part of the west façade which open to the spaces I18 and I19, window at the west façade of cihannüma which opens to the space C04.

Timber wings of the fallowing windows are removed and the existing hinges and the frames give the evidences of them to be existed: I10, G14 which is located at the west wall of the space, window between the spaces G14 and G15, G04 which is located on the west wall of the space, I11 which is located on the west wall of the space, C04 which is located on the west wall of the space.

Timber wings of the fallowing doors are removed and the existing hinges and the frames give the evidences of them to be existed: door of the spaces G09, I10, I06, C01, C03 which is located on the west wall of the space, and the door of the space I09 which is located on the west wall of the space and leads to the spaces I14 and I13.

Three 81*62cm dimensioned timber framed openings on the west and east walls of cihannüma have hinges on them which shows that there was a small door wing existed and removed.

Timber board covering materials of the space C03 is partially removed possibly because of severe deterioration caused by the damp problem from demolished roof structure.

Plaster on the north-east corner ceiling of the space's I02 is lost and the iron bars of the reinforced concrete structure can be observed.

Some partial remainings of cement based plasters show that the west façade of the northern part of the dwelling was plastered.

North end of cihannüma where *bağdadi* laths are observed, was plastered and removed.

6.1.3 Alterations

The door which is located on the west façade and opens to the space G10 is altered. The reinforced concrete interventions which can be observed from the west façade and the construction technique of the door give the evidences of the alteration.

Brick masonry at the north-west corner of the building where two previously described openings are located in, are the later alterations of the cut stone masonry.

Zinc plate cover of the timber roof structure at the southern part is an alteration of terracotta tiles.

6.1.4 Unidentified

There is a trace on the jointing of the stone masonry of an opening with a flat arch masonry on the top. It is located 4,77m from the north end of this part of the façade, at +0,61m from datum line with 0,84*1,28m. Because of its location and the dimensions, the function of the trace of an opening could not be identified.

6.2 Restitution

The dwelling has exposed to many changes in time according to the changing needs of the users. When the traces and the clues on the dwelling are examined, it can be seen that the original southern part of the dwelling have not been changed a lot in time but the later addition at the northern part needed some interventions to be done on the façades of the original part. Changes which dwelling has been exposed to, can be defined in two main phases which will be described at the fallowing chapters.

There are two proposals for restitution schemes are prepared for two phases (see figure 6-3 – 6-12). The original elements which do not exist at present and general order of the façades are described.

Figure 6-1 Analysis of Changes 1

Figure 6-2 Analysis of Changes 2

6.2.1 First Phase

It is the time when the dwelling has been constructed. There is no written or visual document could be reached about the exact construction date but it is estimated to be in the late 19th century when the rapid construction movement occurred in time in Camişerif District in Mersin.

The decisions of restitution are made as follows:

- There was a garden door located between the studied dwelling and the traditional dwelling located at the west side of the studied dwelling.
- There was a garden wall surrounding all the building lot borders at the west and north sides of the dwelling.
- There was no attached building at the east side of the dwelling.
- The northern part of the dwelling which is a composite structure of cut stone masonry and reinforced concrete structure, have not been existed in that period.
- There was a timber structure stair case existed on three cut stone steps on the north façade which begins from the ground level and reaches to cihannüma.
- The stair case was covered with a timber roof structure.
- All the timber roof structure was covered with French type of terracotta tiles.
- There was a service space which is entered through the garden and located attached to the north façade of the dwelling.
- There was a timber gable roof structure existed on the space G03.
- The window which is located on the west wall of the space G04 was the same with the window of the space I16 which is located on the west wall of the space.
- There was no plaster on the façades of the dwelling.
- There were two windows located at east walls of the spaces I17 and G05.

- The windows of the spaces I18 and I19 which are located on the west walls of the spaces had timber shutters.
- The window which is located on the south wall of the space I18 had timber shutters.
- All the windows of cihannüma had timber shutters except the one located on the south wall.
- Small gates which are located in cihannüma and leads to the timber roof structures west and east wings, had timber door wings.
- The ceiling of the space G03 was timber lathed ceiling on south – north direction.
- There was no door between the spaces I16 and I17.
- There was no door existed on the northern wall of I16.
- The window which is located on the east wall of the space G04 has changed.
- The window which is located on the east wall of the space I16 has changed.

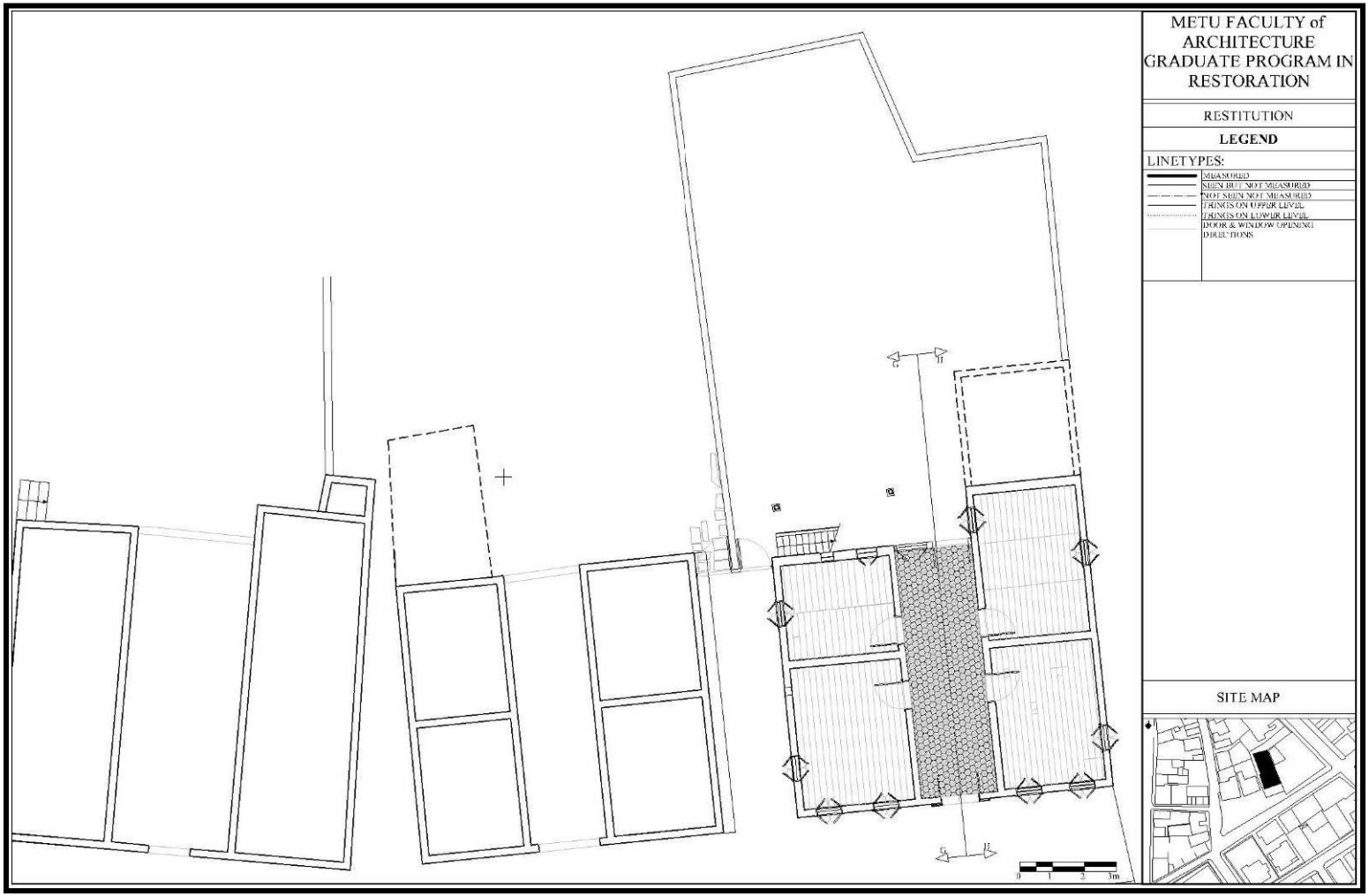


Figure 6-3 Ground Floor Plan

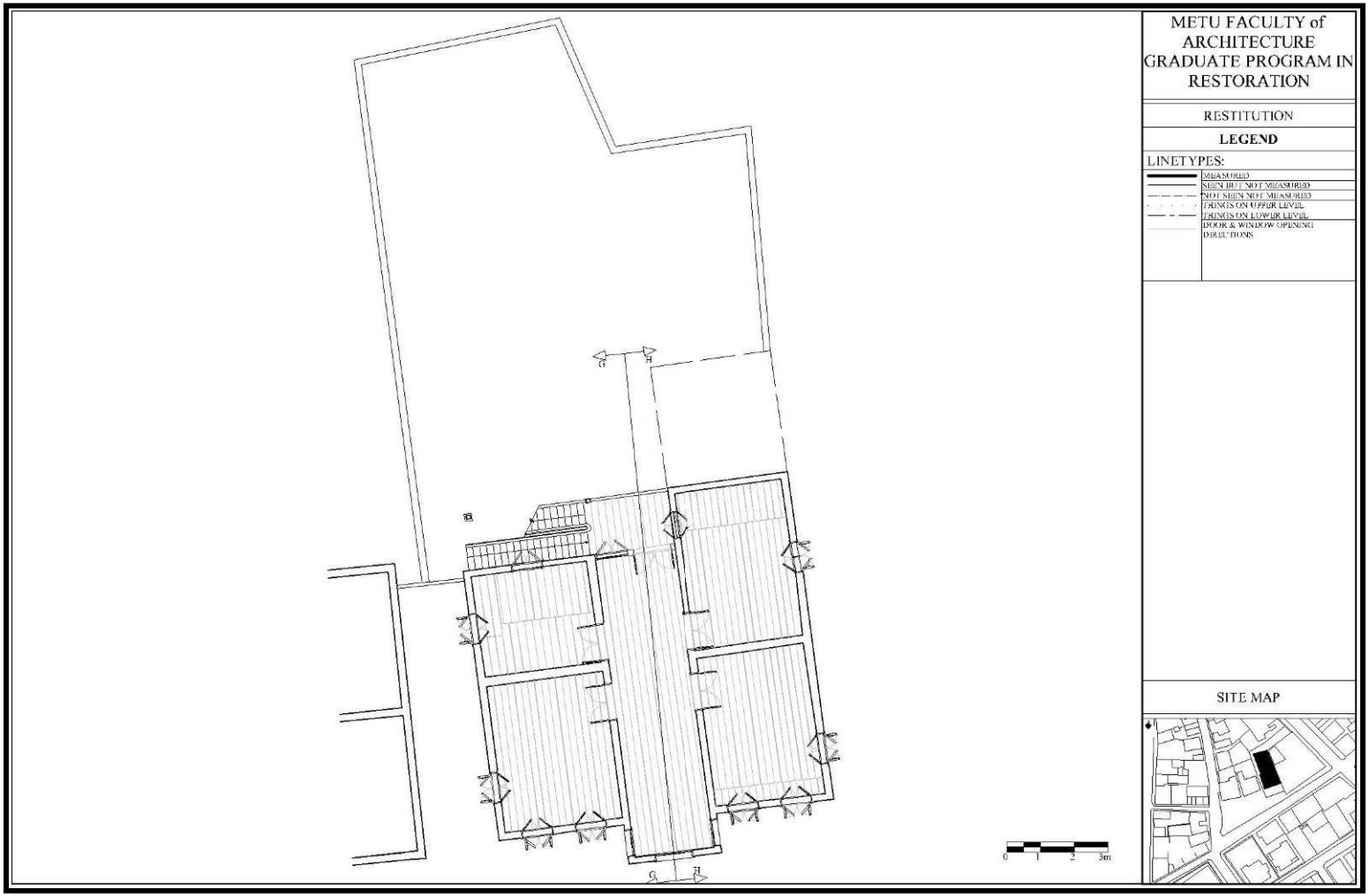


Figure 6-4 First Floor Plan

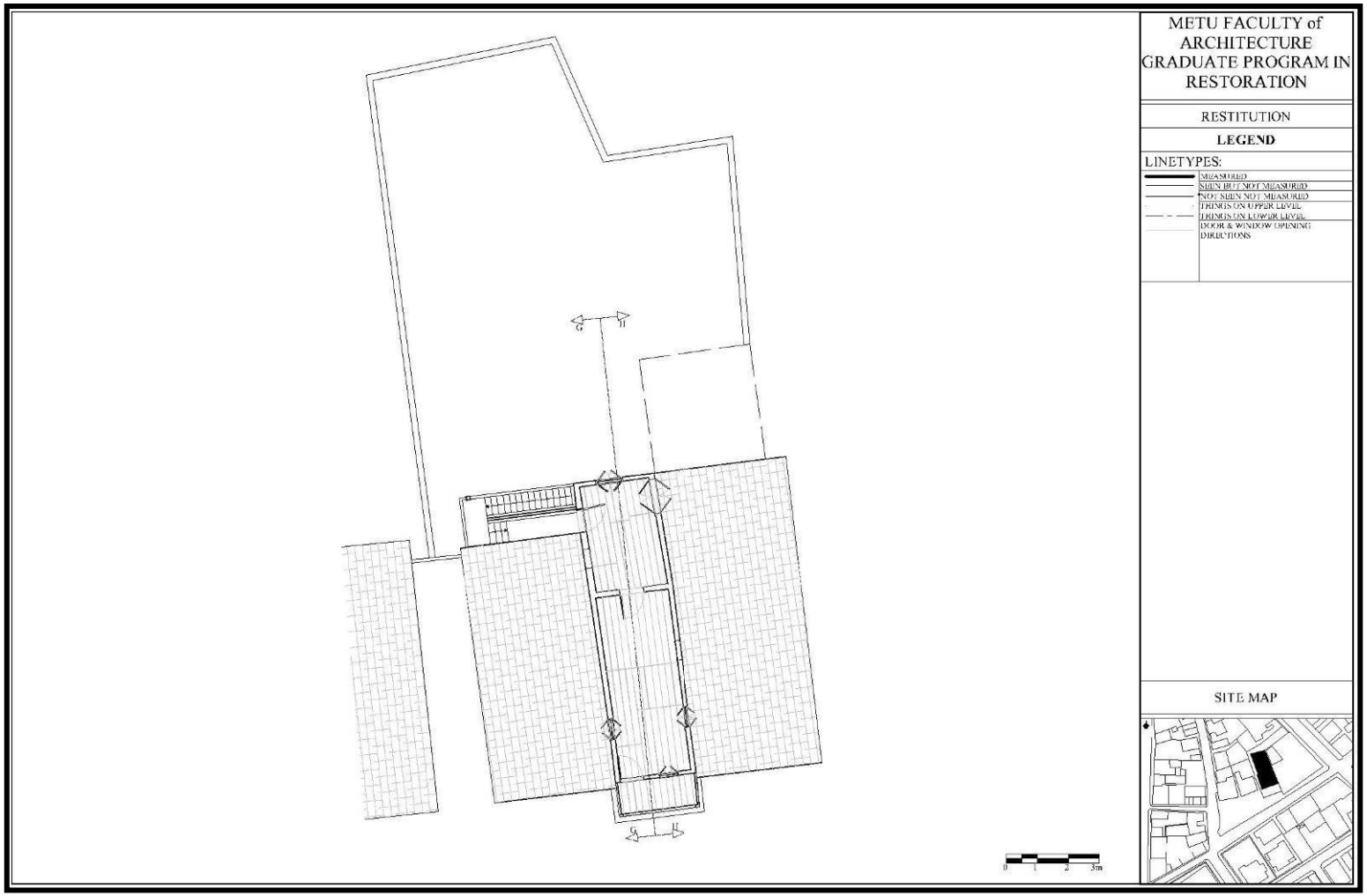


Figure 6-5 *Cihannüma* Floor Plan

Figure 6-6 South Facade

Figure 6-7 West Facade

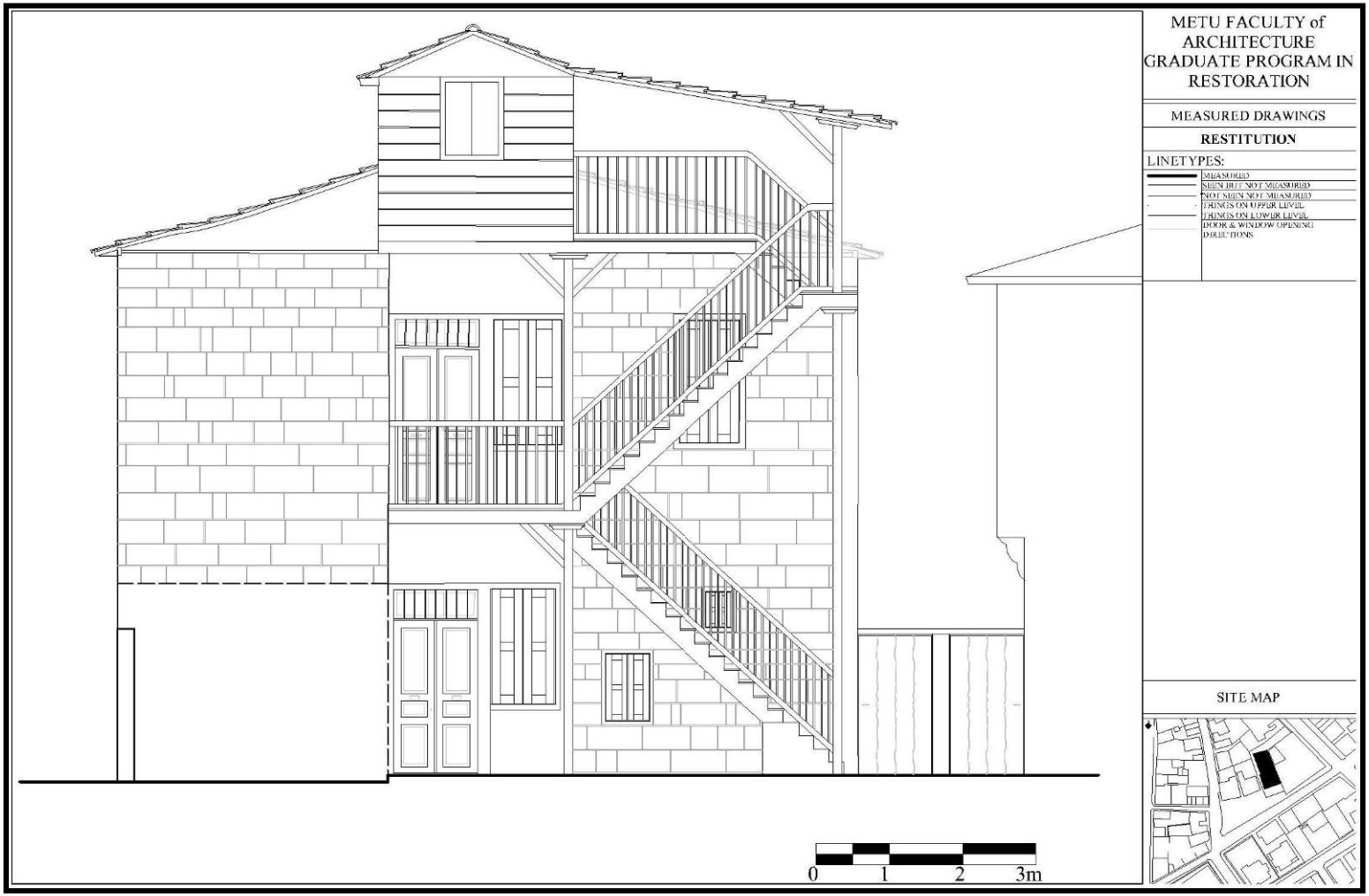


Figure 6-8 North Facade

6.2.2 Second Phase

Second phase: it is the time when the northern part of the dwelling was added. There is no exact date could be achieved from the researches about the addition's period. It is estimated to be in early 20th century around the year 1930.

- The northern composite structure part was added to the original southern part of the dwelling.
- Timber structure staircase was removed from the north façade.
- Timber roof structure over the staircase was removed.
- The space G13 did not existed.
- The window which is located on the west wall of the space G04 has changed to the current state.
- There was no door on the west façade leading to the space G06.
- The opening on the west façade which opens to the space G06 did not existed.
- The openings both on the west and north façade which open to the space G11 did not existed.
- The door opening to the space G10's location has changed.
- Reinforced concrete structure posts and lintels in the stone masonry of first floor part of the northern part of the dwelling did not existed.
- The reinforced concrete linteled opening to the space I01 on the west façade did not have a lintel on top and it was open up to the reinforced concrete slab.
- There was a WC space attached on the north façade with a reinforced concrete slab over.
- There was a building attached on the east side of the dwelling which needed the windows on the east walls of the spaces G05 and I17 to be removed.
- The door between the spaces I16 and I17 was added.
- The door between the spaces I10 and I16 was added.

- The window which is located on the east wall of the space G04 has changed.
- The window which is located on the east wall of the space I16 has changed.

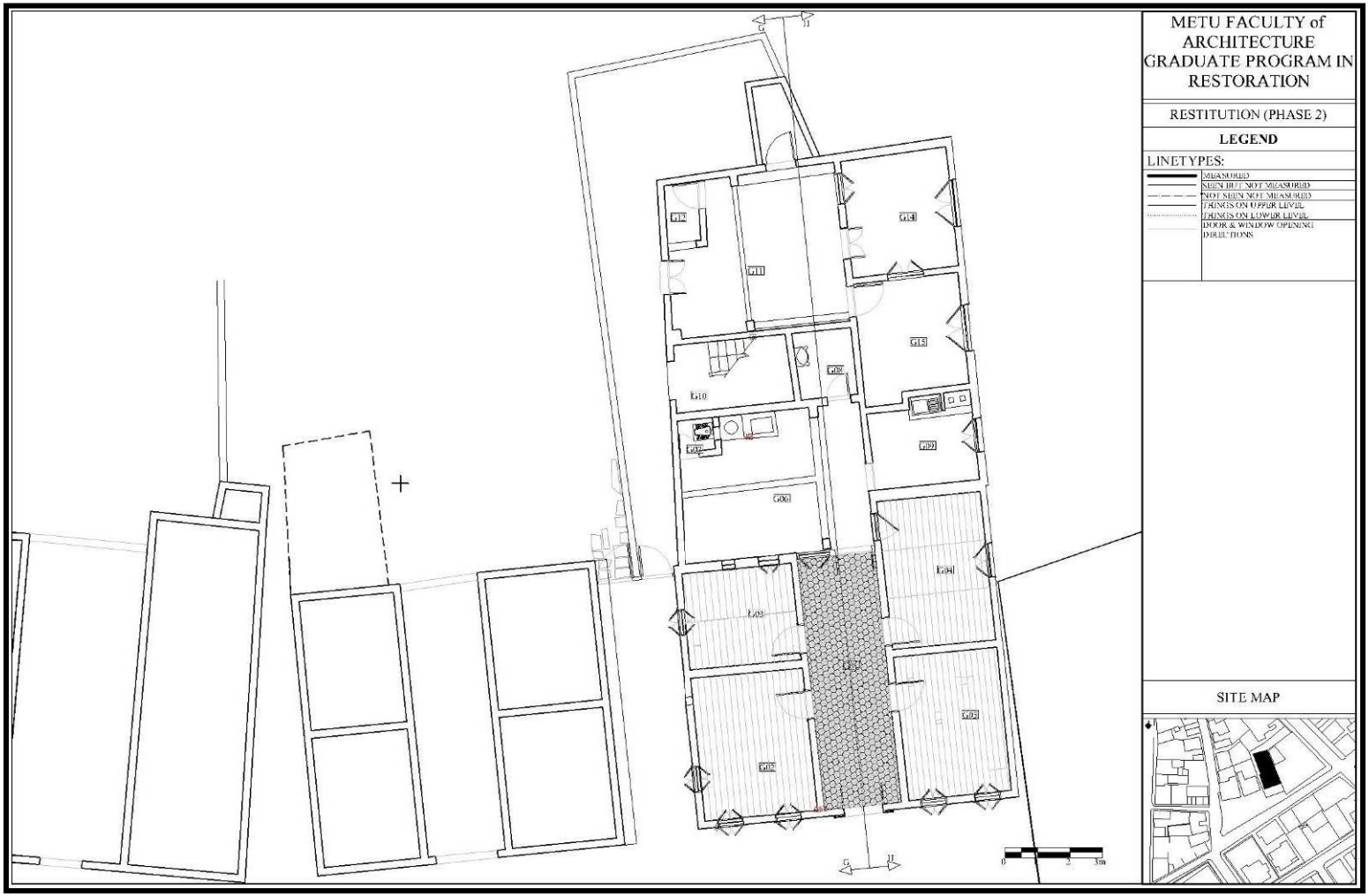


Figure 6-9 Ground Floor Plan

Figure 6-10 1st Floor Plan

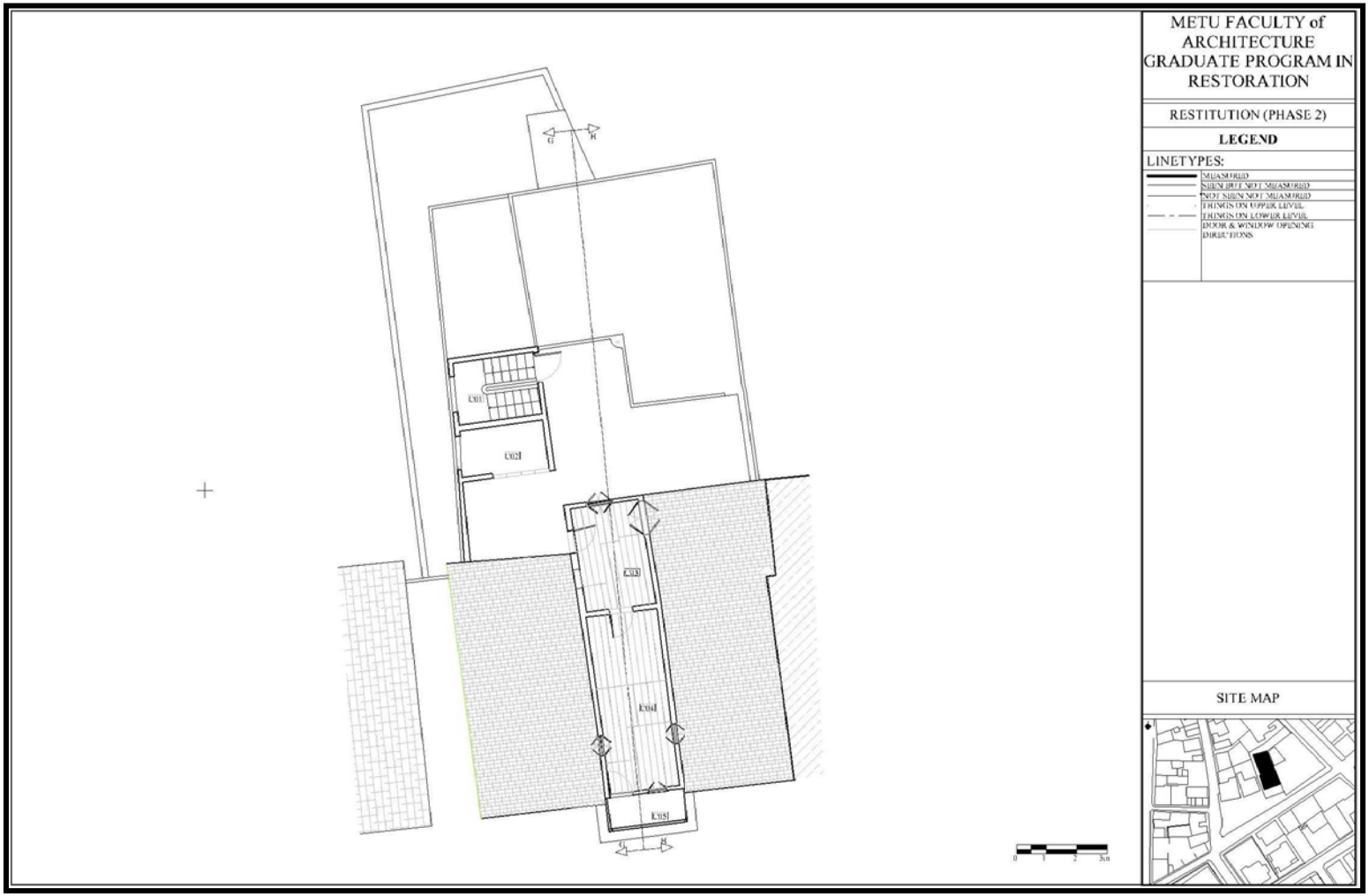


Figure 6-11 *Cihannüma* Floor Plan

Figure 6-12 South Elevation

Figure 6-13 West Elevation

Figure 6-14 North Elevation

6.2.3 Reliability And Sources Of Information

The sources of the restitution and their reliability will be shown on Table 6-1. The information is obtained to understand the original state of the dwelling and the changes in its entire life. Reliability of the information changes according to the source and the quality of the material. The gradation of the reliability of the information is listed below.

1. Existence, location, dimensions, form, material and the construction technique are obtained from the evidences from the traces or the remaining on the dwelling.
2. Existence, location and dimensions are from the traces or the remaining on the dwelling itself, one of; form, material or the construction technique are obtained from the comparative study within the dwelling itself.
3. Existence, location and dimensions are from the traces or the remaining on the dwelling itself and form, material or the construction technique are obtained from the comparative study within the dwelling itself.
4. Existence and the location are from the traces or the remaining on the dwelling itself and dimensions, form, material or the construction technique are obtained from the comparative study which have been done within the dwelling itself and the traditional residence architecture of Mersin.
5. Existence is from the traces or the remaining on the dwelling itself and location, dimensions, form, material or the construction technique are obtained from the comparative study which have been done within the dwelling itself and the traditional residence architecture of Mersin.
6. Existence and location is known from the architectural necessity and dimensions, form, material and the construction technique are obtained

from the comparative study which have been done within the dwelling itself and the traditional residence architecture of Mersin.

6.3 Distribution Of The Functions In The Spaces Of The Dwelling

Because of not having any kind of in-situ furniture in traditional residence architecture of Mersin, it is hard to identify the function of a space. There is no service space such as WC, bathroom etc. could be identified in the southern original part of the dwelling but the existence of only two original smoke holes on the north walls of the spaces G04 and I16 gives us the clues of possible uses of the spaces as kitchens with mobile furniture at both two floors. The other six spaces; G02, G03, G05, I17, I18 and I19 at the original southern part of the dwelling are the ordinary rooms which could be possibly used as living or bed rooms. Spaces I15 and G01 are the *sofa* spaces which are mainly used as transitional space and where daily routine life occurs. Spaces C03 and C04 which are located in cihannüma are the specialized rooms used as living rooms which provides a view to the city from a higher point.

The northern part of the dwelling can be defined in two main parts. The first one is the part which is located attached to the original southern part of the dwelling where mostly the service places are located in for the southern original part, and secondly, northern part which two independent flats are located.

Spaces G14, G15, I07 and I08 are the ordinary rooms possibly used as bedrooms. Space I02 is similar with a *sofa* space where is used both as a transitional space and the space where daily routine life occurs. Spaces G06 and G11 where the service spaces G12 (bathroom in the space G11), G13 (WC in the space G11), G07 (WC in the space G06) are the common transitional spaces and probably can be also used as living rooms. Spaces G02, G13, I05 and I14 are the WC spaces and the spaces G09, I06 and I10 are the kitchens. Space I12 is probably used as a depot. Spaces G10, C01 and I01 which have the reinforced concrete staircase in, provides the vertical circulation and the space I09 provides a horizontal circulation. Function of the space I11 couldn't be identified.

Table 6-1 Sources of information and reliability degrees in restitution.

SOURCES OF INFORMATION IN RESTITUTION

	Issue	Existance	Location	Dimensions			Form	Material	Construction Tech.\ Detail	Reliability Degree
				X	Y	Z				
1st PERIOD	Garden door	●	●	●	●	●	▲	●	▲	2
	Garden walls	●	●	●	▲	▲	▲	●	▲	4
	Service Space on the north façade	×	▲	×	×	×	×	×	×	6
	Stair case on the north façade	●	●	▲	●	●	▲	▲	▲	4
	Roof structure over the staircase	×	×	×	×	×	×	■	■	6
	Eave of the east wing of the timber skeleton roof structure	●	●	■	■	■	●	●	●	2
	Terracotta tile cover of the southern end of roof structure of cihannüma	●	●	●	●	●	●	●	●	1
	Roof cover of the space C03	●	●	●	●	●	●	●	●	2
	The window located on the west wall of the space G04	●	●	●	●	●	■	■	■	3
	The window located on the east wall of the space G05	●	●	●	●	●	■	■	■	3
	The window located on the east wall of the space I17	●	●	●	●	●	■	■	■	3
	Shutters of the windows of the spaces I18 and I19 which are located on the west walls of the spaces	●	●	●	●	●	●	■	■	2
	Shutters of the windows of the spaces G02 and G03which are located on the west walls of the spaces	●	●	●	●	●	●	■	■	2
	Shutters of the window of the space I18 which is located on the south wall of the space	●	●	●	●	●	●	■	■	1

TRACE REMAIN	●	COMPARATIVE STUDY WITHIN THE BUILDING	■	COMPARATIVE STUDY ON TRADITIONAL BUILDINGS OF MERSİN	▲	ARCHITECTURAL NECESSITY	×

Table 6-2 Sources of information and reliability degrees in restitution. (Cont.)

SOURCES OF INFORMATION IN RESTITUTION

	Issue	Existance	Location	Dimensions			Form	Material	Construction Tech.\ Detail	Reliability Degree
				X	Y	Z				
1st PERIOD (Continued)	Shutters of the windows of cihannüma	●	●	●	●	●	●	■	■	2
	Door wings of small gates, located on east and west walls of cihannüma	●	●	●	●	●	●	●	●	4
	Ceiling of the space G03	●	●	●	●	●	■	■	■	3
	Window of the space G04 on the east wall	●	●	■	■	■	■	■	■	3
	Window of the space I16 on the east wall	●	●	■	■	■	■	■	■	3
2nd PERIOD	Masonry wall of west façade (Removal of the openings and the R.C. posts and lintels on the west façade)	●	●	●	●	●	■	■	■	5
	Masonry wall of north façade (Removal of the opening to the space G11 and the R.C. posts and lintels on the north façade)	●	●	●	●	●	■	■	■	5
	Door of the space G10	●	■	■	■	■	■	■	■	5
	Opening to the space I01 on the west façade	●	●	●	●	●	●	●	●	2
	WC space on the north façade	●	●	●	╳	●	●	■	■	4
	Wings of the door of the space I09 which opens to the service spaces.	●	●	●	●	●	●	■	■	3
	Wing of the door between the spaces I16 and I17	●	●	●	●	●	■	■	■	3
	Wing of the door between the spaces I16 and I10	●	●	●	●	●	■	■	■	3
	Plaster on the west and north façades	●	●	●	●	●	●	●	●	2

TRACE REMAIN	●	COMPARATIVE STUDY WITHIN THE BUILDING	■	COMPARATIVE STUDY ON TRADITIONAL BUILDINGS OF MERSİN	▲	ARCHITECTURAL NECESSITY	╳

CHAPTER 7

RESTORATION

7.1 Evaluation Of The Present State Of The Dwelling

7.1.1 Cultural Values Of The Dwelling

Traditional residence architecture of Mersin has been shaped by several unique effects. Rapid migration, core family users, developed furniture and service equipment technology of the period, the effects of Tanzimat Firman, rapid development of the city and cultural diversity of the city can be defined as the main effects which has shaped the cities architecture. Beside these effects, climatic and geographic conditions are also played an important role on the traditional architecture of Mersin. All of these effects have shaped a city and architecture which were different than the rest of the classical Ottoman architecture. Architecture of the city and the city itself which have developed under these conditions, besides creating its own aesthetic and architectural values, have also carried characteristic features and values of the traditional Ottoman architecture.

A few of traditional residence architecture's samples have survived until today. There is only Camişerif district is left where these samples can form a pattern in the city. Condition of the remaining examples is going bad day by day because of lack of maintenance and interest of the citizens and they are jammed in the high rise contemporary blocks.

In this situation, the studied dwelling and the two registered neighboring dwellings are forming a group of traditional dwellings where the group forms a pattern. The studied dwelling reflects all the characteristic architectural and

aesthetic values of the traditional residence architecture of Mersin. The plan scheme, façade arrangements and elements, technique and the materials of the construction is typical for Mersin. Later additional northern part of the dwelling, belongs to a transitional period when the new materials, like concrete, is being used with traditional methods and systems. While using this composite structure, traditional plan scheme is being used with some modifications.

Besides being cultural heritages, traditional residence architecture's remaining samples are the physical evidences and carrying the documentary value of the civil life, socio economic and socio cultural structure, aesthetic values and technical level of their time of construction.

7.1.2 Functional Potentialities And Problems

Studied dwelling which is abandoned today, is open to the deteriorating effects of the atmospheric conditions. It is expropriated by Akdeniz Municipality of Mersin to be used as cultural center. The dwelling is suitable for this kind of a function with its size and location. This kind of a open to public function will develop the interest of the citizens to the cultural heritage. Municipality is planning to establish a directorate and an archive on conservation of city's cultural heritage of estate within the dwelling.

This proposal of function needs some interventions to the building. These interventions should not harm the original state of the dwelling. Some services like; water distribution systems, drainage systems, electricity systems and heating and cooling systems have to be installed. To provide an adequate function to the dwelling, the dwelling has to answer the contemporary needs of the users.

Northern additional part of the dwelling has a potential value for the functional purposes with its adequate size. The plan scheme of the southern original part of the dwelling is also adequate for office like purposes and the selected function for this part of the dwelling must not bring too many dynamic and static loads to the structure of the dwelling.

Most important problem of a historical dwelling is the lack of maintenance which causes the deterioration. Best way of providing maintenance is to be used

with an adequate function. The deteriorations caused by damp and atmospheric effects are also accelerated by the current abandoned situation of the dwelling.

7.1.3 Evaluation Of Physical Condition Of The Dwelling

Collapsed and severely deteriorated parts of the timber roof structure causes the most deteriorating effects on the dwelling. Rain water penetration to the dwelling causes all the materials to decay. Also the openings which the architectural elements are decayed or completely removed, causes rain water penetration. Another severely deteriorating effect on the dwelling is caused by the rising damp. Deteriorating effects of the rising damp is seen almost all the parts of the dwelling where located at the ground floor. Rain water drainage problems especially at the northern part of the dwelling also cause the damp problem. Damp problem causes decaying organic growth on the materials, sallination problem which causes an internal stress by drying and wetting cycles especially in the stone material, and also causes disintegration of the binding materials of the construction materials.

Another severely deteriorating effect on the dwelling is the insect problem on the structural and non structural timber materials. Structurally weakened timber materials cause material loss and structural deformations.

The current situation of the dwelling can be defined as structurally stable at the moment. But if necessary interventions to the sources of deteriorations not be done immediately, the construction materials of the dwelling which gives the architectural and aesthetic values to the dwelling will be lost. Some basic interventions such as; installation of a drainage system, repair of the timber roof structure, chemical treatments for the insect attacks etc. will stop the deterioration of the dwelling.

7.1.4 Evaluation Of The Changes In The Dwelling

The original southern part of the dwelling has its own documentary, architectural, cultural and aesthetic values which have been handled in the previous chapters and needs to be conserved and also it needs to be used. The

previous interventions to the dwelling did not harm the identity of the dwelling and also increased the documentary value of it. The interventions which have been done in time by the users beside its documentary value, has some deteriorating effects on the main body. Cement based material usage caused sallination problem which needs to be isolated especially from the stone material. another problem caused by the previous interventions is the structural behavior of the northern end of *cihannüma* which is possibly caused by the construction of the northern part of the dwelling.

There are some interventions which are done for isolation purposes such as; plastic based coating sheet covers, cement based plaster interventions where *cihannüma* and the roof structure come together etc. these interventions are done with contemporary materials, and their functions will no more needed when the appropriate conservation interventions occur.

The changes in the dwelling are defined under four headings as addition, removal, alteration, and unidentified (see chapter 7). The changes will be evaluated below, in order to understand the positive and negative effects on the original structure, architectural and aesthetic values.

Additional Northern part of the dwelling is being dated to a transitional period of when modern construction techniques and materials are being adopted to the traditional construction techniques and materials. It is being dated to 1920s. The technique and the composite structure which have been used in the additional part of the dwelling have a documentary value of its period. When the period's civil architecture examples of Mersin is inspected (see figure 7-1 – 7-3), it is obviously understood that there are several valuable in both aesthetic and documentary samples appears in Mersin. These samples have unique values in Mersin's architectural heritage but the additional northern part of the dwelling does not reflect the aesthetic and architectural values while carrying its period's construction technique and material's documentary value. Under these circumstances, northern part of the dwelling's external walls and the original façade arrangements will be conserved and interior of the space will be re arranged due to the new function and contemporary needs of the dwelling.

Figure 7-1 A House in Camişerif Dist. 5248 str. No:14

Figure 7-2 Şaşati Residence in Mersin \ Çamlıbel

Figure 7-3 A House in Camişerif Dist. 5248 str. No:14

7.2 Approach To Restoration

The current conservation movement by the municipalities and the university in Mersin had attracted the public attention to the architectural heritages. This attention has to be utilized by physical evidences of the consciousness. The implementation of this study by the municipality would be an appropriate way.

The dwelling will be used by the public and the economically sustainable function will bring the maintenance to the dwelling.

Studied dwelling beside carrying the typical aesthetic and architectural values of the traditional residence architecture of Mersin, it has its own unique values by; existence of *Cihannüma* which there is only two more can be found in close neighborhood, the later addition which points a breakpoint in time when the modern material was being adopted to the traditional techniques, the location where forms a tissue with two neighboring registered traditional dwellings.

The selected function of the dwelling is also very efficient where the aim of the study is to handle this restoration project as a case study for later conservation implementations. The selected function will help to increase the public consciousness, by the integrated use of it with the local artists and officers.

Restoration project will be handled in two parts. The first one will be the southern original part. The southern original part will be conserved with its original aesthetic and architectural features while conserving the original material and techniques. The structural capacity of this part will be considered and the new function must not bring too much extra dynamic and static load to this part.

The second one is the northern part of the dwelling. This part while carrying the documentary value of its period of construction, it does not reflect its aesthetic and architectural features of its time of construction. The inner structural and architectural features will be re arranged in order to have an adequate space for the new function. The external walls will be kept as it is, today, with its original façade arrangement and material which reflects the construction technique of its period.

7.3 Interventions

7.3.1 General Intervention Decisions

Depending on the evaluation of the present situation of the dwelling, general decisions about the restoration interventions are listed below:

- Original plan scheme, materials used and the construction techniques, architectural elements, ornaments etc. which the dwelling gains its cultural and architectural values, will be conserved.
- Additional northern part of the dwelling reflects the changing needs of the users in time, and it carries its own documentary value with its construction technique. The additional part needs to be conserved as a mass and the interior of this part needs to be rearranged according to the new function.
- Any kind of addition which has a deteriorating effect on the materials of construction will be removed.
- Additions which are reflecting the changing needs of users and document them will be kept and conserved.
- Removals which are done for preventing any kind of deteriorating effect will be kept.
- Removals will be remade if sufficient information according to the restitution reliability is enough.
- Altered elements will be protected if they reflect the features of the construction period.
- The altered elements if they are harmful to the dwelling and if there is no sufficient information provided, than the interventions will be done with contemporary materials and the techniques which will be in harmony with the original structure.

7.3.2 General Interventions For Removing The Sources Of Deteriorations

- Collapsed and deteriorated parts of the timber roof structure have to be isolated in order not to allow water penetration in to the dwelling.
- Insect attack on the structural and non structural timber materials are in a very dangerous state. Timber materials have to be treated with an adequate chemical and the timber material which will be used in the dwelling's restoration have to be pre treated against insect attack.

- Rain water drainage systems have to be installed to both reinforced concrete and timber roof structures of the dwelling.
- Rising damp problem at the ground level should be solved by an adequate drainage system which will be provided all around the dwelling and the sallination problem caused by rising damp have to be solved by removing the salt from the materials.
- The remaining of the organic growth should be mechanically removed from the surfaces after the damp problem solved.
- There is an isolation material should be provided to the east external wall of the southern original part of the dwelling, in order to solve the damp problem caused by the attached contemporary block.
- Screed cover of the northern part of the dwelling should be removed in order to overcome the rising damp problem.
- Cement based plaster on the south façade should be removed in order not to cause sallination problem.
- There is a dilatation should be provided where reinforced concrete structure touches the stone material, in order to prevent the sallination problem.

7.3.3 Repairs

Decision of repair approach depends on the material's state of decay. On the timber material, insect attack has caused the material to loose its structural property in most places. Point load test will be efficient to understand the current state of the material's structural capacity. An adequate test should be done by an expert. The tested materials should be classified in order to define the approaches to the materials.

Other material which should be examined by the experts is stone. The material can be lost its structural property from the decaying effects of the damp problem and the deteriorating effects of the atmospheric conditions. Sound velocity test should be an appropriate solution to understand state of the material's porosity. According to the structural capacity the material should be classified.

Repairs of the existing materials can be handled under three main headings.

1. Preservative Repairs To The Sound Materials:

The sound material should be treated in order to prevent future decays. Timber material should be treated with wood preservatives to prevent the future organic decaying forms.

Stone material should be cleaned from salt and the surface material should be mechanically cleaned where necessary.

2. Stabilization Of Decayed Parts:

Moderate decayed materials which can be used with consolidation should be examined by the experts and consolidation treatments according to the material have to be defined and applied.

3. Replacement:

Severely decayed materials which can not be used in the construction anymore should be replaced with same material. The timber material which is planning to be used in the structure as a replacing material, should be pretreated against the organic forms especially insects. The original materials should be examined by the experts in order to use the same or compatible material for the replacements.

7.3.4 Correction

The deformations which are described in detail in chapter 4, needs to be corrected in order to prevent the future deflect.

Deformations only occur on the timber structure. Possible cause of the deformations is the deteriorated structural materials. The walls and the floor covers should be stripped to examine the state of structural property of the timber structure. After the examination of the structural members by the experts, the corrections will be done if needed.

7.3.5 Completions

- The additions which harm the original plan scheme with first degree reliability will be removed.

- The additions which harm the original plan scheme with second degree reliability will be removed but the traces will be leaved on the place where the element is removed from.
- The additions with fifth and sixth degree reliability will be completed if architecturally needed with contemporary material and construction technique and with its estimated dimensions.
- The removals with first degree reliability will be completed with its original material, form, dimension, detail, and construction technique.
- The removals with second degree reliability will be completed with its original material, dimension, form, and construction technique and simple in detail.
- The removals with third and fourth degree reliability will be completed with its original material, estimated dimensions, and form. Contemporary construction technique and simpler in detail will be used.
- The removals with fifth and sixth degree reliability will be completed if architecturally needed with contemporary material and construction technique and with its estimated dimensions.
- The alterations with first degree reliability will be replaced with its original material, form, dimension, detail, and construction technique.
- The alterations with second degree reliability will be replaced with its original material, dimension, form, and construction technique and simple in detail.
- The alterations with third and fourth degree reliability will be completed with its original material, estimated dimensions, and form. Contemporary construction technique and simpler in detail will be used.
- The alterations with fifth and sixth degree reliability will be completed if architecturally needed with contemporary material and construction technique and with its estimated dimensions.

7.3.6 Functioning

The dwelling has been expropriated by Akdeniz Municipality of Mersin for the use of Cultural Center of the municipality. Proposed function was inspected by the authorities of the municipality and academicians from Mersin University before the expropriation in order to understand if the selected dwelling is adequate for this function. The decision of expropriation is taken after the consideration of the dwelling's architectural and aesthetic values, size, current condition of the dwelling, location and neighboring traditional dwellings.

The proposed function needs some specialized functional spaces which will be listed below:

1. Akdeniz Municipality, Directorate of architectural cultural property.
2. Archive and research center for the directorate.
3. Permanent exhibition space for the photographs of old Mersin.
4. Temporary exhibition space.
5. An Audio visual room.
6. Workshop and a classroom for the municipality center for supporting the local production of handicraft.
7. Depot for the equipments.
8. Service spaces.

Northern part of the dwelling's external walls will be conserved as it is, and the internal walls will be demolished. The internal walls and the slabs will be altered with contemporary materials in order to achieve adequately large enough spaces for exhibition and multi purpose hall functions.

Furniture and the equipments which will be used in the spaces will be free standing material where available.

7.3.7 Technical Equipment Installation

Electric installation: the current system at the northern part of the dwelling will be overhauled and used. At the southern original part of the dwelling, existing old cables will be removed and new electricity network project will be prepared

by an expert. The installations of the cables will be done in metal belt which holds all service equipments together.

Water installation: the current system at the northern part of the dwelling will be overhauled and used.

Heating and Cooling System: Fan coil type of central heating and cooling system will be used in the dwelling. Central machine will be placed in the space C02 and the distribution of cooled or hot water will be distributed from here due to an appropriate project done by an expert. Distribution pipes will be isolated to prevent the moisturizing effect. The pipes will be installed in a metal belt with the other service equipments. Fan coils will be installed in each space in according to the project.

7.4 Sequence Of Interventions

Stage 1:

First of all the damp problem of the building has to be solved. Demolished roof structure of the dwelling has to be covered with a temporary structure. A drainage system around the building has to be installed to solve the rising damp problem. The experts about structure and material need to diagnose the related matters and the urgent interventions on the structural deflect and material problems must be done. Especially the interventions for the insect attack have to be done as soon as possible. Removal of the plastic based coating sheets will also help the dwelling to dry in a shorter period.

Stage 2:

Screed cover and cement based plaster removal must be done at the second stage. Dilatation constructions where stone and reinforced concrete materials come together have to be done with a structural expertise. Plaster and timber covering removals for inspections of inner materials have to be done with consultation of material and structure expert. Samples have to be collected from the materials by an expert for detailed inspections and laboratory tests.

Stage 3:

The diagnostic study and survey investigations related to the building and the urgent interventions must be completed until this stage. The results of the second stage's diagnostic inspections will be evaluated for an appropriate intervention for the material decay forms and the structural deflects. According to the evaluated results of the inspections material and structural interventions have to be done in this stage. During the excavations or material removals there can be new information found. These kinds of information will be evaluated in time and these can cause the decisions to be changed in any time and in any stage. Electric networking, air conditioning and water and waste water drainage system experts have to be called to the site for the preparation of the projects.

Stage 4:

Stone masonry works according to the intervention decisions have to be done at this stage. After the completion of the masonry works, timber material works needs to be done. Service equipment preliminary works for the installation have to be carried out in this stage. The demolition of the internal walls and the slabs, after supporting the external walls of the northern part of the dwelling will occur at this stage. After this work new permanent supports of the external walls will be installed and the new structural system and partition walls will be constructed.

Stage 4:

Plaster works on the walls, ceramic tile covers at the service spaces, compacted soil pavements at the ground floor part of the northern part of the dwelling and the change of WC equipments will be done at this stage.

Stage 5:

The finish work of the tiles, timber elements etc. will be done after the installation of the service equipments of electric, water, air condition etc.

Stage 6:

Interior space organization equipped with necessary furniture will be provided.

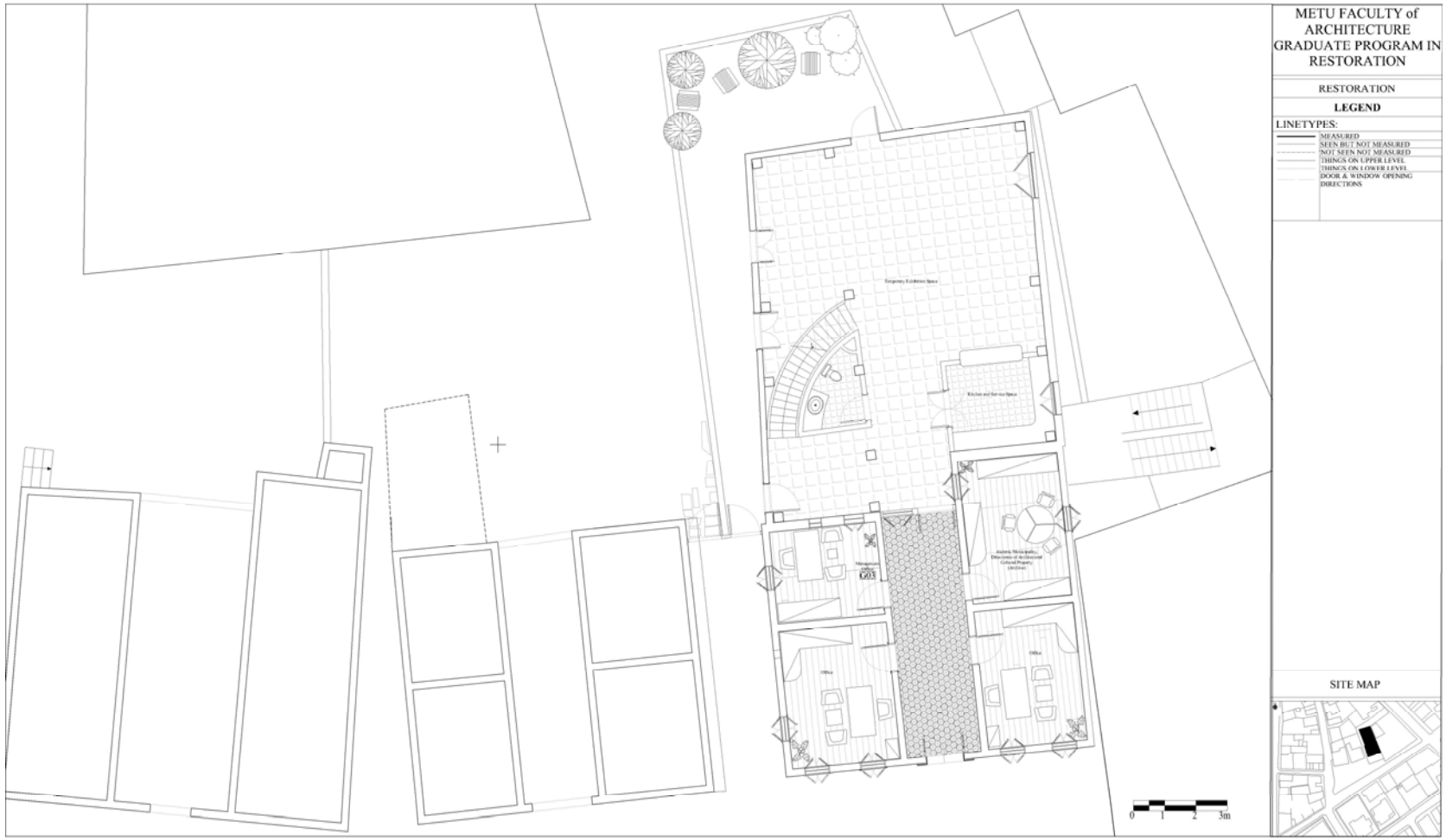


Figure 7-4 Ground Floor Plan

Figure 7-5 1st Floor Plan

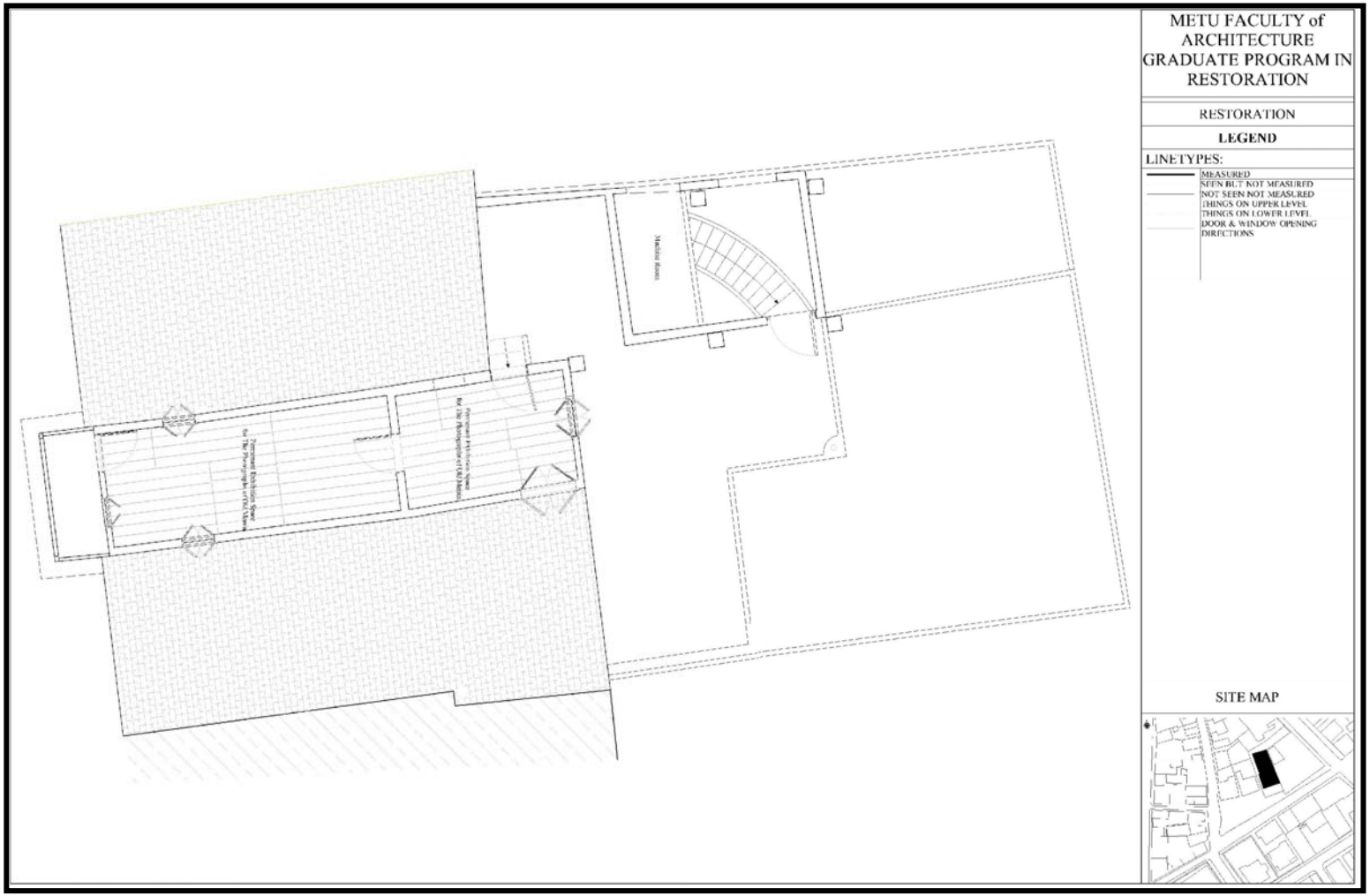


Figure 7-6 *Cihannüma* Floor Plan

REFERENCES

1. **ABAÇ**, Sudi , "Çorbada Tuzu Olanlar, 1730 – 1930 Arası Mersin'e İlk Yerleşen Aileler", İçel Sanat Kulübü Bülteni, 3, p7, 1992
2. **ABAÇ**, Sudi, "Evvel Zaman İçinde Mersin" İçel Sanat Kulübü Bülteni, 4, pp14-15, 1992
3. **ALTAY**, Hadi , Adım Adım Çukurova, Çukurova Turizm Derneği Yayınları No:1, Adana, 1965
4. **BABINGER**, Franz, "Mersina", Encyclopedia of Islam, Leiden, III, p466, 1936
5. **COVEL**, J., Early Voyages and Travels in the Levant, New York, 1893
6. **ÇADIRCI**, Musa, Tanzimat Döneminde Anadolu Kentlerinin Sosyal ve Ekonomik Yapıları, Ankara, 1991
7. **ÇETİNER,** N., **GÜLERSOY**, N. Z.,**AKIN**, N., **SALMAN,**Y., **EYÜBOĞLU**, E., Mersin Kentsel Sit Alanı Koruma Amaçlı İmar Planı Açıklama Raporu, P48, 1992
8. **GARSTANG**, J., Prehistoric Mersin: Yumuktepe in Southern Turkey, Oxford, 1953
9. **GÖKTEPE**, İ., Cumhuriyetin İlk Yıllarında Mersin Ticaret ve Sanayi Odası, Mersin, 1986
10. **KORUCU**, Ayhan, Mersin Nazım İmar Planları Raporu, Mersin, 1993
11. **LANGLOIS**, V., Eski Klikya (çev: Rahmi Balaban), Mersin, 1947
12. **ORTAYLI**, İlber, Tanzimat'tan Sonra Mahalli İdareler (1840 – 1878), Ankara, 1974
13. **ÇIPLAK**, Mustafa N., İçel Tarihi, Ankara, 1968
14. **UĞUR**, Sait, İçel Tarihi, I – II, Mersin, 1943 – 1944
15. **VARLIK,** Bülent, Emperyalizmin Çukurova'ya Girişi, Ankara, 1977

16. **ARTAN,** Gündüz, Takma Ad-Soyad-Rumuz Dizinleri (Tanzimattan Günümüze), Mersin, 1994
17. **BAYKARA,** Tuncer, "*Tanzimat'ta Şehir ve Belediye",* 150. Yılında Tanzimat, Ankara, pp: 277-87, 1992
18. **BRAUDEL,** F., *"Akdeniz",* Akdeniz, Mekan ve Tarih, İstanbul, 1990
19. **DAVİS,** E.J., Life in Asiatic Turkey. A Journal of Travel Alexandria, London, 1879
20. **DEVELİ,** Şinasi, Dünden Bugüne Mersin 1836 - 1987, Mersin, 1987
21. **DEVELİ,** Şinasi, *"Eski Mersin'den Esintiler - 2",* Mozaik, Mart, Mersin pp: 34 – 35, 1993
22. **DEVELİ,** Şinasi, *"Eski Mersin'den Esintiler",* Mozaik, Nisan, Mersin pp: 37 – 38, 1993
23. **DEVELİ,** Şinasi, *"Eski Mersin'den Esintiler - 3",* Mozaik, Mayıs, Mersin pp: 45 – 46, 1993
24. **DEVELİ,** Şinasi, *"Eski Mersin'den Esintiler",* Mozaik, 13, Mersin pp: 26 – 27, 1993
25. **DEVELİ,** Şinasi, *"Atatürk'ün Mersin'i Ziyareti",* Mozaik, 23, Mersin pp: 29 – 31, 1994
26. **EVLİYA ÇELEBİ**, Seyahatname (çev:Zuhuri Danışman), C.XIII, pp. 184 – 95, 1971
27. **TUĞLACI,** Pars, Osmanlı Şehirleri, İstanbul, 1985
28. **KARAL,** Enver Ziya, Osmanlı İmparatorluğunda İlk Nüfus Sayımı, Ankara, 1943
29. **KARPAT,** Kemal, *"Ottoman Population Records* and the Census of 1881/82 1893", IJMES, IX-2, 1978
30. **ŞERİFE,** Yorulmaz, *"Doğu Akdeniz'de Bi*r Osmanlı Liman Kenti Olarak Gelişen Mersin'de Yabancı Tüccarın Rolü ve Mersin'de Levanten Kültürü (19.yy)", *19.yy'da Mersin ve Akdeniz,* Mersin Üniversitesi Akdeniz Kent Araştırmaları Merkezi, Kolokyum, Nisan 18 – 20, Mersin, pp.2 – 14, 2002
31. **TOKSÖZ,** Meltem, *"An Eastern Mediterranean Port-Town In The Nineteenth Century"*, *19.yy'da Mersin ve Akdeniz,* Mersin Üniversitesi

Akdeniz Kent Araştırmaları Merkezi, Kolokyum, Nisan 18 – 20, Mersin, pp. 15 – 20, 2002

32. **TOLEDANO,** Ehud R., *"Where Have All the Egyptian Fallahin Gone To? Labor in Mersin and Çukurova (Second Half of The 19th Century)", 19.yy'da Mersin ve Akdeniz,* Mersin Üniversitesi Akdeniz Kent Araştırmaları Merkezi, Kolokyum, Nisan 18 – 20, Mersin, pp.21 – 28, 2002
33. **BOZKURT,** İbrahim, *"Salnamelere Göre XIX. Yy Sonları ile XX.yy Başlarında Mersin'in Demografik, Etnik ve Dinsel Yapısı", 19.yy'da Mersin ve Akdeniz,* Mersin Üniversitesi Akdeniz Kent Araştırmaları Merkezi, Kolokyum, Nisan 18 – 20, Mersin, pp.29 – 33, 2002
34. **BALTA,** Evangelia, *"The Greek Orthodox Comunity of Mersina (mid-19th Century – 1921)", 19.yy'da Mersin ve Akdeniz,* Mersin Üniversitesi Akdeniz Kent Araştırmaları Merkezi, Kolokyum, Nisan 18 – 20, Mersin, pp.39 – 43, 2002
35. **ADIYEKE,** Nuri, "*Osmanlı Döneminde İçelin Merkez Kaymaları, Etki Alanı Değişimleri ve Mersin Kentinin Doğuşu", 19.yy'da Mersin ve Akdeniz,* Mersin Üniversitesi Akdeniz Kent Araştırmaları Merkezi, Kolokyum, Nisan 18 – 20, Mersin, pp. 81 – 85, 2002
36. **Beyhan,** Burak – **UĞUZ,** Selçuk, *"Modernity's Imprints on Mersin: A Reinterpretation", 19.yy'da Mersin ve Akdeniz,* Mersin Üniversitesi Akdeniz Kent Araştırmaları Merkezi, Kolokyum, Nisan 18 – 20, Mersin, pp. 86 – 101, 2002
37. **UCAR**, M., Tarsus'ta Korunması Gerekli Bölgesel kent Dokusunun Değerlendirilmesi Üzerine Bir Araştırma, Yıldız Teknik Üniversitesi F.B.E. Mimarlık Anabilim Dalı Rölöve-Restorasyon Programı, Yayınlanmamış Yüksek Lisans Tezi, İstanbul, 2002

38. **ÜLKÜ,** Candan, "*19th Century Commercial Buildings in Mersin", 19.yy'da Mersin ve Akdeniz,* Mersin Üniversitesi Akdeniz Kent

Araştırmaları Merkezi, Kolokyum, Nisan 18 – 20, Mersin, pp. 102 – 109, 2002

39. **Demirtaş,** Ali, İçel İli İncelemeleri, Ankara, 1996
40. **Özveren,** Eğüp, Doğu Akdeniz Liman Kentleri.
41. **Yavi,** Ersal – Necla, Türliye Cumhuriyeti'nin Yetmişbeşinci Yılında İçel, İçel Valiliği Yayını, Ankara, 1998
42. **Artan,** Gündüz, Mersin'de Yaşadılar, Mersin Halk Eğitim Merkezi Yayını, Mersin, 2002
43. **Artan,** Gündüz, Mersin Gönüle Düşen Cemre, Akdeniz Belediyesi Kültür Y Yayınları, Mersin, 2001
44. **SÖZEN**, M., TANYELİ, U., Türk Evi Bibliyografyası, İstanbul, 1984
45. **YÜCEL**, Murat, Çukurova'da Türk İslam Eserleri ve Kitabeler, Adana, 1992
46. **HACETTEPE ÜNİVERSİTESİ, SANAT TARİHİ A.B.D. ÖĞRETİM ÜYELERİ**, Mersin Evleri, T.C. Kültür Bakanlığı Yayınları, Ankara, 1995
47. **VURAL**, Semihi, Yeni İşlevler Verilebilecek Eski Mersin Yapıları, Mersin, 1992
48. **AKTÜRE,** Sevgi, 19.Yüzyıl Sonunda Anadolu Kenti Mekansal Yapı Çözümlemesi, Ankara, 1981
49. **AREL,** Ayda, Osmanlı Konut Geleneğinde Tarihsel Sorunlar, İzmir, 1982
50. **BİNAN,** M., Türk Saçakları ve Kornişleri, İstanbul, 1952
51. **KAZMAOĞLU,** M – **TANYERİ,** U., *"Anadolu'da Konut Mimarisinde Bölgesel Farklılıklar"*, Yapı, 33, pp.29 – 41
52. **OĞUZOĞLU,** Yusuf, *"Anadolu Şehirlerinde Osmanlı Döneminde Görülen Yapısal Değişiklikler"*, V. Araştırma Sonuçları Toplantısı, I, Ankara, pp. 1 – 10, 1987
53. **TEKELİ,** İlhan, *"Osmanlı İmparatorluğu'nda Mekan Organizasyonundaki Değişmeler ve Türkiye Cumhuriyeti'nin Bölgesel Politikası I – II"*, Belgelerle Türk Tarihi Dergisi, 7 – 8, 1970-71
54. **TOKER,** Yıldız, "*Türk Evinde Dış Ahşap Süsleme"*, Türkiyemiz, 24, pp.54 – 61, 1978

55. YÜCEL, Erdem, "*Türk Mimarisinde Ağaç İşleri*", Arkitekt, 1 (1968), pp. 21 – 25, 1968

56. AKSOY, Erdem, *"Ortamekan: Türk Sivil Mimarisinde Temel Kuruluş Prensibi",* Mimarlık ve Sanat, 7 – 8, İstanbul, pp. 39 – 92, 1963

57. ASATEKİN, Gül – **BALAMİR,** Aydan, *"Varieties of Tradition and Traditionalism"*, TDSR, cilt:1, No.2, pp.61 – 70, 1990

58. BAYAZIT, Nigan v.d., "*Türk Evinde Mekanların Kullanıma Ayrılmasında Üç Düzeyde Mahremiyet Davranışı"*, İ.T.Ü. Yapı Araştırma Kurumu Bülteni, no.4, pp.53 – 63, 1976

59. ELDEM, Sedad Hakkı, Türk Evi Plan Tipleri, İ.T.Ü. Mim. Fak. Yay., İstanbul, 1972

60. ERİÇ, Murat, *"Geleneksel Türk Mimarisinde Malzeme Seçim ve Kullanımı"*, Yapı, No.33, pp.42 – 45, 1979

61. ESİN, Emel, *"M. IX – XII Yüzyıl Uygur Köşklerinden, Safranbolu Ev Mimarisine Gelişme"*, MTRE Bülteni, İ.T.Ü. Mim. Fak. Yay., No. 2/5-6, İstanbul, pp.15 – 18, 1976

62. KUBAN, Doğan, *"Türk Ev Geleneği Üzerine Gözlemler"*, Türk ve İslam Sanatı Üzerine Denemeler, İstanbul, pp.195 – 211, 1982

63. KUBAN, Doğan, *"Türkiye'de Malzeme Koşullarına Bağlı Geleneksel Konut Mimarisi Üzerine Bazı Gözlemler"*, Mimarlık, No.36, pp.15 – 20, 1966

64. KÜÇÜKERMAN, Önder, Anadolu'daki Geleneksel Türk Evinde Mekan Organizasyonu Açısından Odalar, İstanbul, 1973

65. NAUMANN, R, Eski Anadolu Mimarlığı(çev: Beral Marda), Ankara, 1975

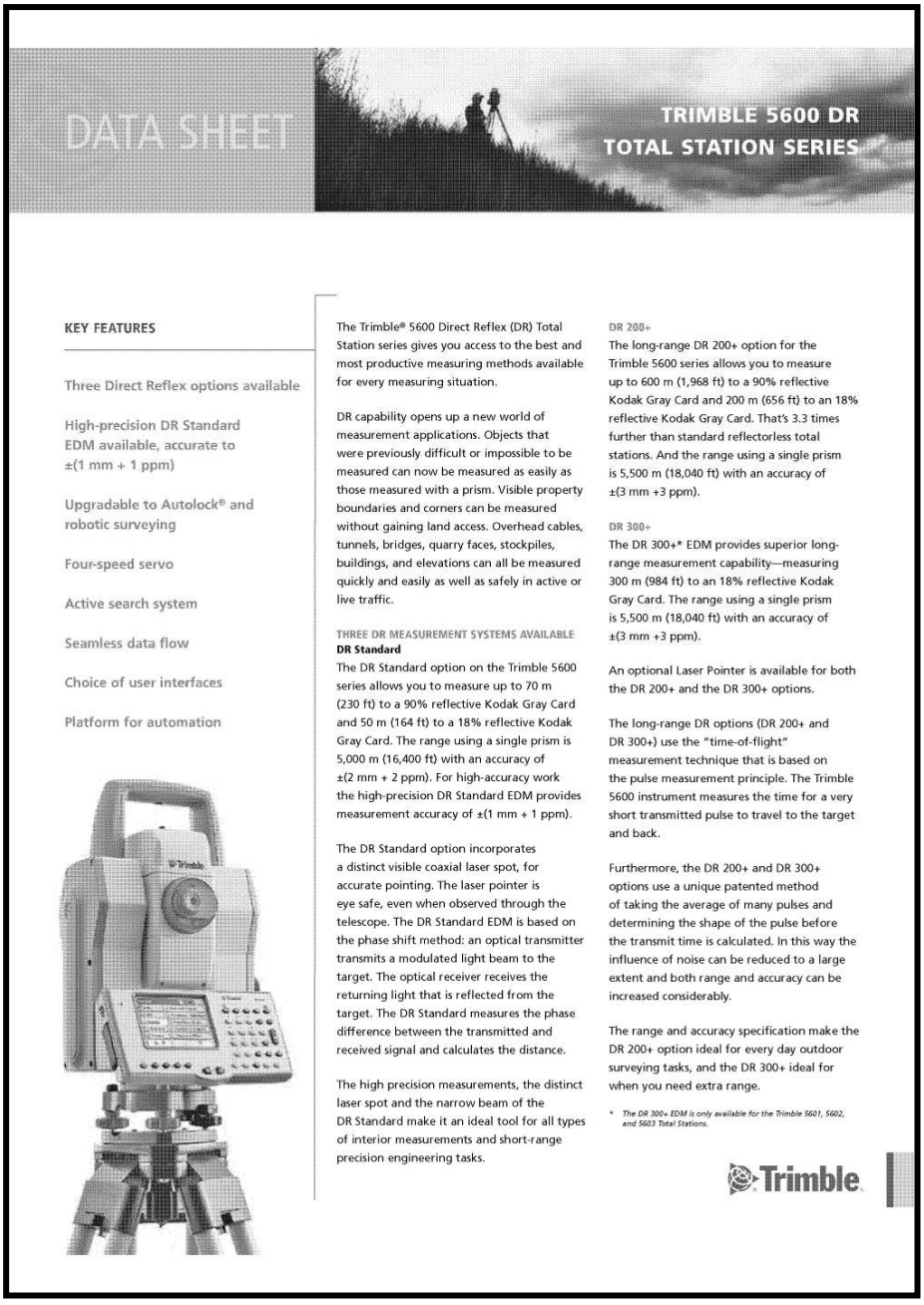
66. TANYELİ, Uğur – **KAZMAOĞLU,** Mine, "Anadolu Konut Mimarisinde Bölgesel Farklılıklar", Yapı, No:33, pp.29 – 41, 1979

67. SUHER, Hande, *"Çevre Koşulları İçinde Konut Eylemleri"*, Akademi, No.7, pp.6 – 11, 1967

68. Web site: Kültür Bakanlığı, http://www.kultur.gov.tr, January, 2005

69. Web Site: Visit Mersin, http://www.visitmersin.com, January, 2005

APPENDIX A



DATA SHEET

TRIMBLE 5600 DR
TOTAL STATION SERIES

KEY FEATURES

Three Direct Reflex options available

High-precision DR Standard EDM available, accurate to ±(1 mm + 1 ppm)

Upgradable to Autolock® and robotic surveying

Four-speed servo

Active search system

Seamless data flow

Choice of user interfaces

Platform for automation

The Trimble® 5600 Direct Reflex (DR) Total Station series gives you access to the best and most productive measuring methods available for every measuring situation.

DR capability opens up a new world of measurement applications. Objects that were previously difficult or impossible to be measured can now be measured as easily as those measured with a prism. Visible property boundaries and corners can be measured without gaining land access. Overhead cables, tunnels, bridges, quarry faces, stockpiles, buildings, and elevations can all be measured quickly and easily as well as safely in active or live traffic.

THREE DR MEASUREMENT SYSTEMS AVAILABLE

DR Standard

The DR Standard option on the Trimble 5600 series allows you to measure up to 70 m (230 ft) to a 90% reflective Kodak Gray Card and 50 m (164 ft) to a 18% reflective Kodak Gray Card. The range using a single prism is 5,000 m (16,400 ft) with an accuracy of ±(2 mm + 2 ppm). For high-accuracy work the high-precision DR Standard EDM provides measurement accuracy of ±(1 mm + 1 ppm).

The DR Standard option incorporates a distinct visible coaxial laser spot, for accurate pointing. The laser pointer is eye safe, even when observed through the telescope. The DR Standard EDM is based on the phase shift method: an optical transmitter transmits a modulated light beam to the target. The optical receiver receives the returning light that is reflected from the target. The DR Standard measures the phase difference between the transmitted and received signal and calculates the distance.

The high precision measurements, the distinct laser spot and the narrow beam of the DR Standard make it an ideal tool for all types of interior measurements and short-range precision engineering tasks.

DR 200+

The long-range DR 200+ option for the Trimble 5600 series allows you to measure up to 600 m (1,968 ft) to a 90% reflective Kodak Gray Card and 200 m (656 ft) to an 18% reflective Kodak Gray Card. That's 3.3 times further than standard reflectorless total stations. And the range using a single prism is 5,500 m (18,040 ft) with an accuracy of ±(3 mm +3 ppm).

DR 300+

The DR 300+* EDM provides superior long-range measurement capability—measuring 300 m (984 ft) to an 18% reflective Kodak Gray Card. The range using a single prism is 5,500 m (18,040 ft) with an accuracy of ±(3 mm +3 ppm).

An optional Laser Pointer is available for both the DR 200+ and the DR 300+ options.

The long-range DR options (DR 200+ and DR 300+) use the "time-of-flight" measurement technique that is based on the pulse measurement principle. The Trimble 5600 instrument measures the time for a very short transmitted pulse to travel to the target and back.

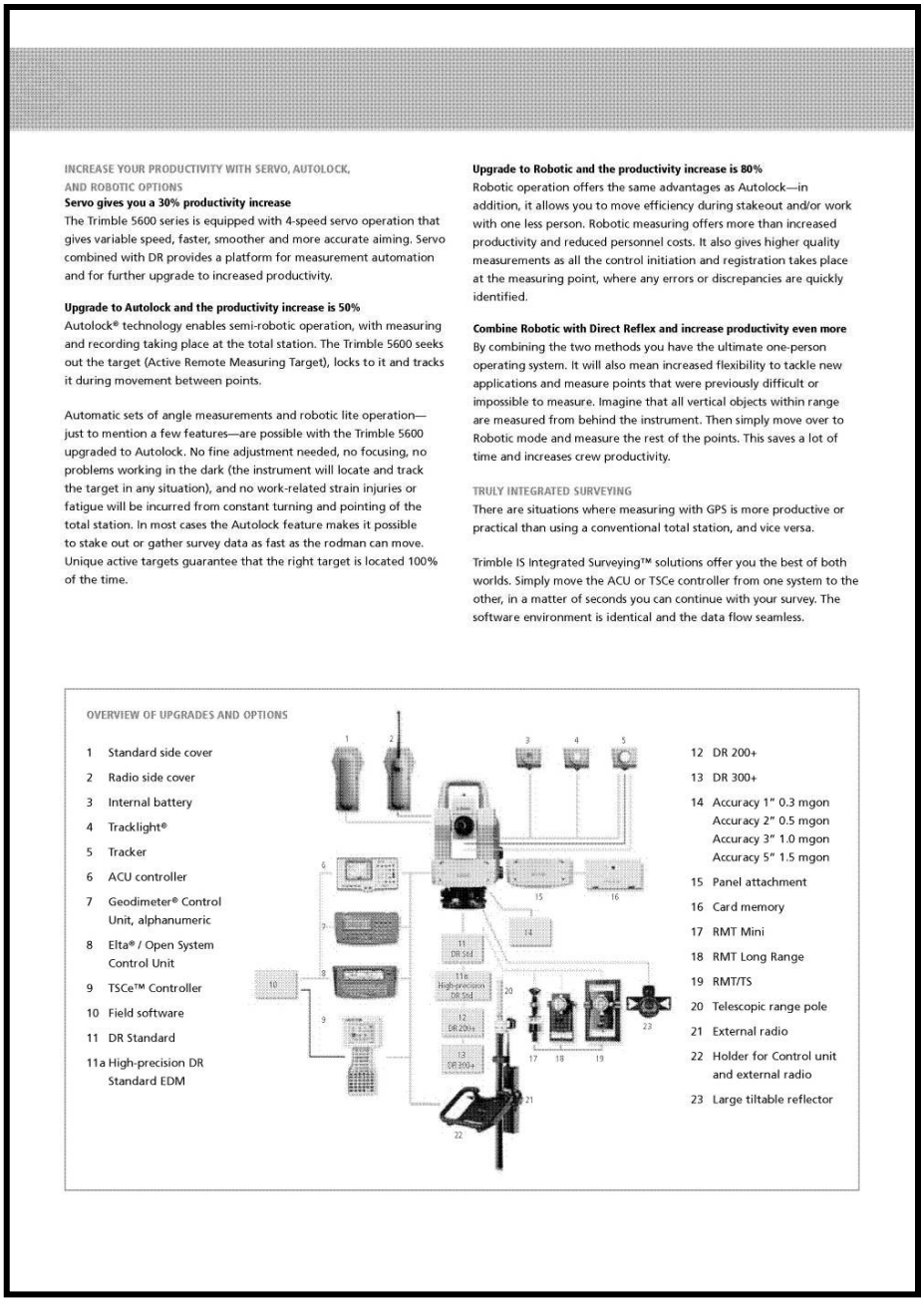
Furthermore, the DR 200+ and DR 300+ options use a unique patented method of taking the average of many pulses and determining the shape of the pulse before the transmit time is calculated. In this way the influence of noise can be reduced to a large extent and both range and accuracy can be increased considerably.

The range and accuracy specification make the DR 200+ option ideal for every day outdoor surveying tasks, and the DR 300+ ideal for when you need extra range.

* *The DR 300+ EDM is only available for the Trimble 5601, 5602, and 5603 Total Stations.*

Trimble

Figure A.1: Tech. Specifications of Geodimeter Trimble 5600 DR200+
Source: Trimble, http\\www.trimble.com, July 2005



INCREASE YOUR PRODUCTIVITY WITH SERVO, AUTOLOCK, AND ROBOTIC OPTIONS

Servo gives you a 30% productivity increase

The Trimble 5600 series is equipped with 4-speed servo operation that gives variable speed, faster, smoother and more accurate aiming. Servo combined with DR provides a platform for measurement automation and for further upgrade to increased productivity.

Upgrade to Autolock and the productivity increase is 50%

Autolock® technology enables semi-robotic operation, with measuring and recording taking place at the total station. The Trimble 5600 seeks out the target (Active Remote Measuring Target), locks to it and tracks it during movement between points.

Automatic sets of angle measurements and robotic lite operation—just to mention a few features—are possible with the Trimble 5600 upgraded to Autolock. No fine adjustment needed, no focusing, no problems working in the dark (the instrument will locate and track the target in any situation), and no work-related strain injuries or fatigue will be incurred from constant turning and pointing of the total station. In most cases the Autolock feature makes it possible to stake out or gather survey data as fast as the rodman can move. Unique active targets guarantee that the right target is located 100% of the time.

Upgrade to Robotic and the productivity increase is 80%

Robotic operation offers the same advantages as Autolock—in addition, it allows you to move efficiency during stakeout and/or work with one less person. Robotic measuring offers more than increased productivity and reduced personnel costs. It also gives higher quality measurements as all the control initiation and registration takes place at the measuring point, where any errors or discrepancies are quickly identified.

Combine Robotic with Direct Reflex and increase productivity even more

By combining the two methods you have the ultimate one-person operating system. It will also mean increased flexibility to tackle new applications and measure points that were previously difficult or impossible to measure. Imagine that all vertical objects within range are measured from behind the instrument. Then simply move over to Robotic mode and measure the rest of the points. This saves a lot of time and increases crew productivity.

TRULY INTEGRATED SURVEYING

There are situations where measuring with GPS is more productive or practical than using a conventional total station, and vice versa.

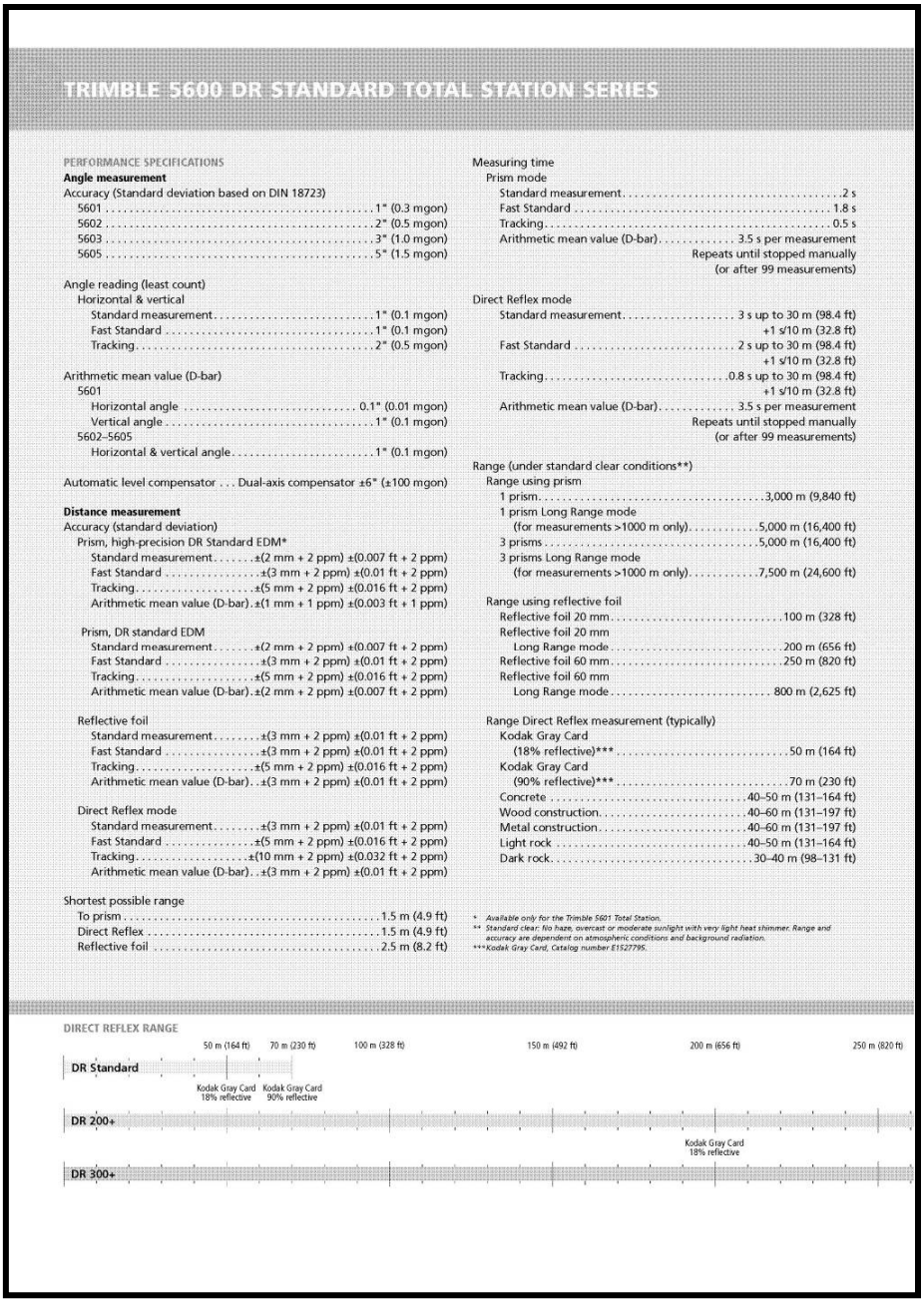
Trimble IS Integrated Surveying™ solutions offer you the best of both worlds. Simply move the ACU or TSCe controller from one system to the other, in a matter of seconds you can continue with your survey. The software environment is identical and the data flow seamless.

OVERVIEW OF UPGRADES AND OPTIONS

1 Standard side cover
2 Radio side cover
3 Internal battery
4 Tracklight®
5 Tracker
6 ACU controller
7 Geodimeter® Control Unit, alphanumeric
8 Elta® / Open System Control Unit
9 TSCe™ Controller
10 Field software
11 DR Standard
11a High-precision DR Standard EDM

12 DR 200+
13 DR 300+
14 Accuracy 1" 0.3 mgon
Accuracy 2" 0.5 mgon
Accuracy 3" 1.0 mgon
Accuracy 5" 1.5 mgon
15 Panel attachment
16 Card memory
17 RMT Mini
18 RMT Long Range
19 RMT/TS
20 Telescopic range pole
21 External radio
22 Holder for Control unit and external radio
23 Large tiltable reflector

Figure A.2: Tech. Specifications of Geodimeter Trimble 5600 DR200+ (Cont'd)
Source: Trimble, http\\www.trimble.com, July 2005



TRIMBLE 5600 DR STANDARD TOTAL STATION SERIES

PERFORMANCE SPECIFICATIONS

Angle measurement

Accuracy (Standard deviation based on DIN 18723)
- 5601 . . . . . 1" (0.3 mgon)
- 5602 . . . . . 2" (0.5 mgon)
- 5603 . . . . . 3" (1.0 mgon)
- 5605 . . . . . 5" (1.5 mgon)

Angle reading (least count)
- Horizontal & vertical
  - Standard measurement . . . . . 1" (0.1 mgon)
  - Fast Standard . . . . . 1" (0.1 mgon)
  - Tracking . . . . . 2" (0.5 mgon)

Arithmetic mean value (D-bar)
- 5601
  - Horizontal angle . . . . . 0.1" (0.01 mgon)
  - Vertical angle . . . . . 1" (0.1 mgon)
- 5602–5605
  - Horizontal & vertical angle . . . . . 1" (0.1 mgon)

Automatic level compensator . . . Dual-axis compensator ±6" (±100 mgon)

Distance measurement

Accuracy (standard deviation)
- Prism, high-precision DR Standard EDM*
  - Standard measurement . . . . . ±(2 mm + 2 ppm) ±(0.007 ft + 2 ppm)
  - Fast Standard . . . . . ±(3 mm + 2 ppm) ±(0.01 ft + 2 ppm)
  - Tracking . . . . . ±(5 mm + 2 ppm) ±(0.016 ft + 2 ppm)
  - Arithmetic mean value (D-bar) . ±(1 mm + 1 ppm) ±(0.003 ft + 1 ppm)
- Prism, DR standard EDM
  - Standard measurement . . . . . ±(2 mm + 2 ppm) ±(0.007 ft + 2 ppm)
  - Fast Standard . . . . . ±(3 mm + 2 ppm) ±(0.01 ft + 2 ppm)
  - Tracking . . . . . ±(5 mm + 2 ppm) ±(0.016 ft + 2 ppm)
  - Arithmetic mean value (D-bar) . ±(2 mm + 2 ppm) ±(0.007 ft + 2 ppm)
- Reflective foil
  - Standard measurement . . . . . ±(3 mm + 2 ppm) ±(0.01 ft + 2 ppm)
  - Fast Standard . . . . . ±(3 mm + 2 ppm) ±(0.01 ft + 2 ppm)
  - Tracking . . . . . ±(5 mm + 2 ppm) ±(0.016 ft + 2 ppm)
  - Arithmetic mean value (D-bar) . . ±(3 mm + 2 ppm) ±(0.01 ft + 2 ppm)
- Direct Reflex mode
  - Standard measurement . . . . . ±(3 mm + 2 ppm) ±(0.01 ft + 2 ppm)
  - Fast Standard . . . . . ±(5 mm + 2 ppm) ±(0.016 ft + 2 ppm)
  - Tracking . . . . . ±(10 mm + 2 ppm) ±(0.032 ft + 2 ppm)
  - Arithmetic mean value (D-bar) . . ±(3 mm + 2 ppm) ±(0.01 ft + 2 ppm)

Shortest possible range
- To prism . . . . . 1.5 m (4.9 ft)
- Direct Reflex . . . . . 1.5 m (4.9 ft)
- Reflective foil . . . . . 2.5 m (8.2 ft)

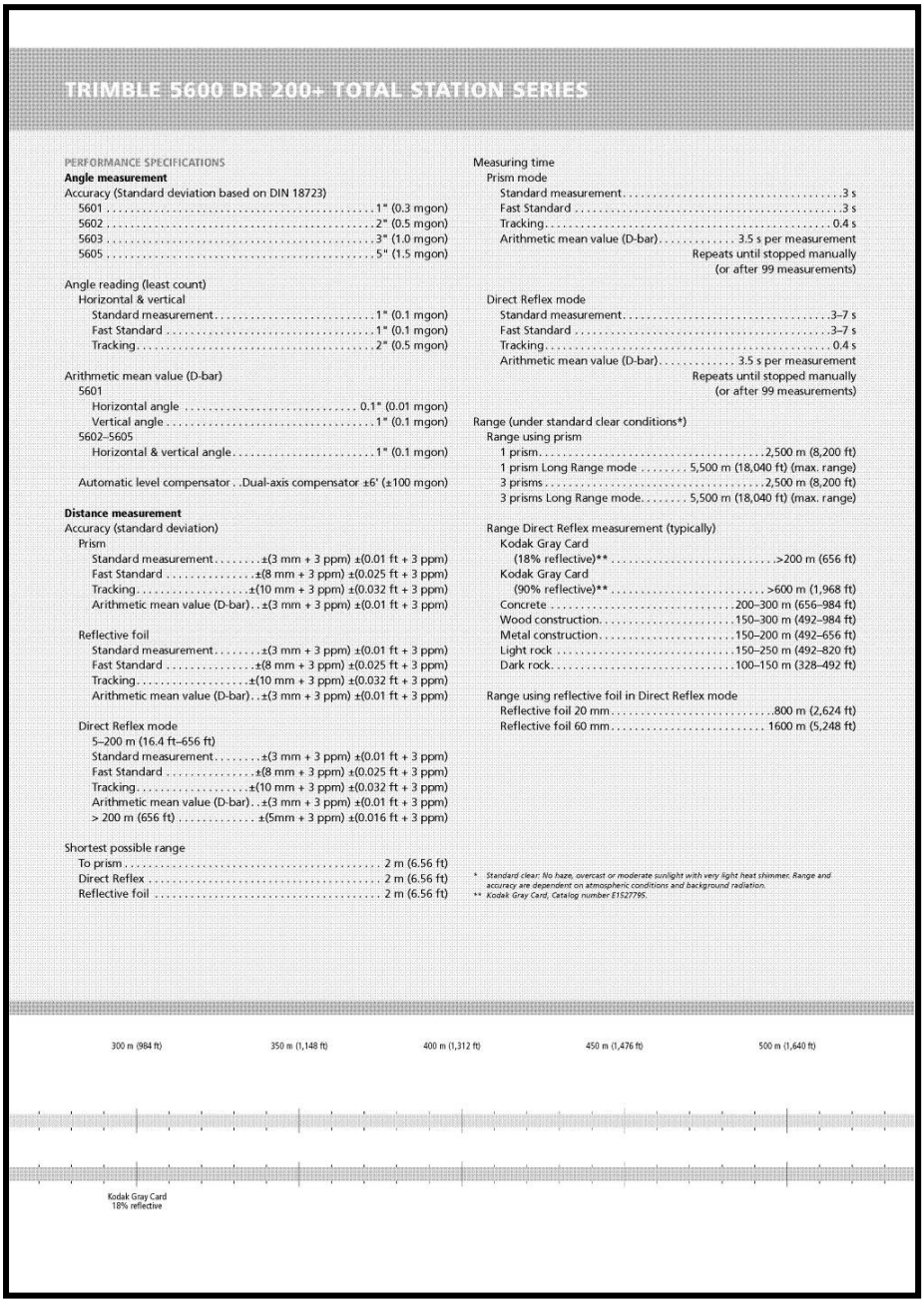
Measuring time
- Prism mode
  - Standard measurement . . . . . 2 s
  - Fast Standard . . . . . 1.8 s
  - Tracking . . . . . 0.5 s
  - Arithmetic mean value (D-bar) . . . . . 3.5 s per measurement
    Repeats until stopped manually
    (or after 99 measurements)
- Direct Reflex mode
  - Standard measurement . . . . . 3 s up to 30 m (98.4 ft)
    +1 s/10 m (32.8 ft)
  - Fast Standard . . . . . 2 s up to 30 m (98.4 ft)
    +1 s/10 m (32.8 ft)
  - Tracking . . . . . 0.8 s up to 30 m (98.4 ft)
    +1 s/10 m (32.8 ft)
  - Arithmetic mean value (D-bar) . . . . . 3.5 s per measurement
    Repeats until stopped manually
    (or after 99 measurements)

Range (under standard clear conditions**)
- Range using prism
  - 1 prism . . . . . 3,000 m (9,840 ft)
  - 1 prism Long Range mode
    (for measurements >1000 m only) . . . . . 5,000 m (16,400 ft)
  - 3 prisms . . . . . 5,000 m (16,400 ft)
  - 3 prisms Long Range mode
    (for measurements >1000 m only) . . . . . 7,500 m (24,600 ft)
- Range using reflective foil
  - Reflective foil 20 mm . . . . . 100 m (328 ft)
  - Reflective foil 20 mm
    Long Range mode . . . . . 200 m (656 ft)
  - Reflective foil 60 mm . . . . . 250 m (820 ft)
  - Reflective foil 60 mm
    Long Range mode . . . . . 800 m (2,625 ft)
- Range Direct Reflex measurement (typically)
  - Kodak Gray Card
    (18% reflective)*** . . . . . 50 m (164 ft)
  - Kodak Gray Card
    (90% reflective)*** . . . . . 70 m (230 ft)
  - Concrete . . . . . 40–50 m (131–164 ft)
  - Wood construction . . . . . 40–60 m (131–197 ft)
  - Metal construction . . . . . 40–60 m (131–197 ft)
  - Light rock . . . . . 40–50 m (131–164 ft)
  - Dark rock . . . . . 30–40 m (98–131 ft)

* *Available only for the Trimble 5601 Total Station.*
** *Standard clear: No haze, overcast or moderate sunlight with very light heat shimmer. Range and accuracy are dependent on atmospheric conditions and background radiation.*
***Kodak Gray Card, Catalog number E152795.

DIRECT REFLEX RANGE

Figure A.3: Tech. Specifications of Geodimeter Trimble 5600 DR200+ (Cont'd)
Source: Trimble, http\\www.trimble.com, July 2005



TRIMBLE 5600 DR 200+ TOTAL STATION SERIES

PERFORMANCE SPECIFICATIONS

Angle measurement

Accuracy (Standard deviation based on DIN 18723)
- 5601 . . . . . 1" (0.3 mgon)
- 5602 . . . . . 2" (0.5 mgon)
- 5603 . . . . . 3" (1.0 mgon)
- 5605 . . . . . 5" (1.5 mgon)

Angle reading (least count)
- Horizontal & vertical
  - Standard measurement . . . . . 1" (0.1 mgon)
  - Fast Standard . . . . . 1" (0.1 mgon)
  - Tracking . . . . . 2" (0.5 mgon)

Arithmetic mean value (D-bar)
- 5601
  - Horizontal angle . . . . . 0.1" (0.01 mgon)
  - Vertical angle . . . . . 1" (0.1 mgon)
- 5602–5605
  - Horizontal & vertical angle . . . . . 1" (0.1 mgon)

Automatic level compensator . . Dual-axis compensator ±6' (±100 mgon)

Distance measurement

Accuracy (standard deviation)
- Prism
  - Standard measurement . . . . . ±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
  - Fast Standard . . . . . ±(8 mm + 3 ppm) ±(0.025 ft + 3 ppm)
  - Tracking . . . . . ±(10 mm + 3 ppm) ±(0.032 ft + 3 ppm)
  - Arithmetic mean value (D-bar) . . ±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
- Reflective foil
  - Standard measurement . . . . . ±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
  - Fast Standard . . . . . ±(8 mm + 3 ppm) ±(0.025 ft + 3 ppm)
  - Tracking . . . . . ±(10 mm + 3 ppm) ±(0.032 ft + 3 ppm)
  - Arithmetic mean value (D-bar) . . ±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
- Direct Reflex mode
  - 5–200 m (16.4 ft–656 ft)
  - Standard measurement . . . . . ±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
  - Fast Standard . . . . . ±(8 mm + 3 ppm) ±(0.025 ft + 3 ppm)
  - Tracking . . . . . ±(10 mm + 3 ppm) ±(0.032 ft + 3 ppm)
  - Arithmetic mean value (D-bar) . . ±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
  - > 200 m (656 ft) . . . . . ±(5mm + 3 ppm) ±(0.016 ft + 3 ppm)

Shortest possible range
- To prism . . . . . 2 m (6.56 ft)
- Direct Reflex . . . . . 2 m (6.56 ft)
- Reflective foil . . . . . 2 m (6.56 ft)

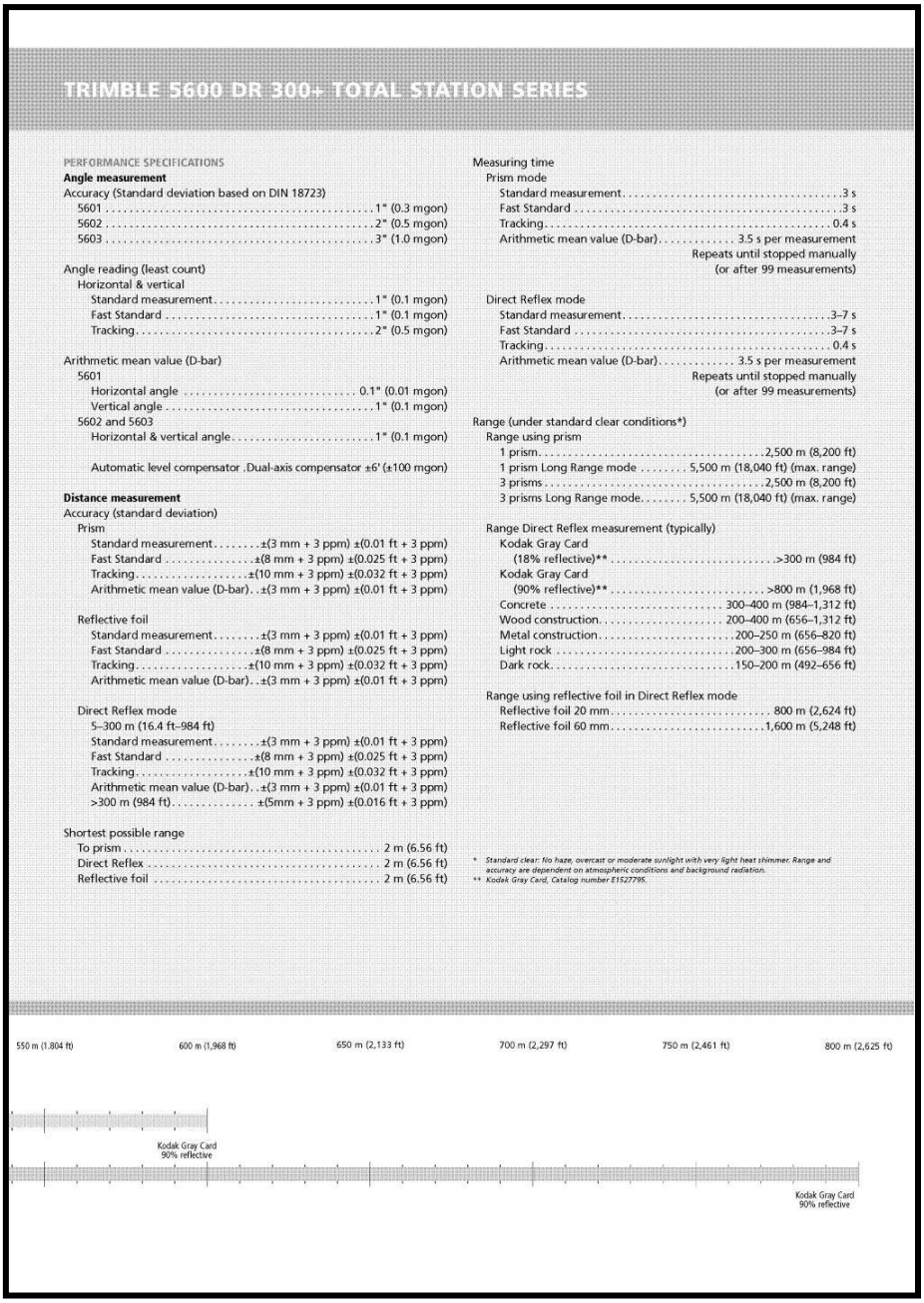
Measuring time
- Prism mode
  - Standard measurement . . . . . 3 s
  - Fast Standard . . . . . 3 s
  - Tracking . . . . . 0.4 s
  - Arithmetic mean value (D-bar) . . . . . 3.5 s per measurement
    Repeats until stopped manually (or after 99 measurements)
- Direct Reflex mode
  - Standard measurement . . . . . 3–7 s
  - Fast Standard . . . . . 3–7 s
  - Tracking . . . . . 0.4 s
  - Arithmetic mean value (D-bar) . . . . . 3.5 s per measurement
    Repeats until stopped manually (or after 99 measurements)

Range (under standard clear conditions*)
- Range using prism
  - 1 prism . . . . . 2,500 m (8,200 ft)
  - 1 prism Long Range mode . . . . . 5,500 m (18,040 ft) (max. range)
  - 3 prisms . . . . . 2,500 m (8,200 ft)
  - 3 prisms Long Range mode . . . . . 5,500 m (18,040 ft) (max. range)
- Range Direct Reflex measurement (typically)
  - Kodak Gray Card (18% reflective)** . . . . . >200 m (656 ft)
  - Kodak Gray Card (90% reflective)** . . . . . >600 m (1,968 ft)
  - Concrete . . . . . 200–300 m (656–984 ft)
  - Wood construction . . . . . 150–300 m (492–984 ft)
  - Metal construction . . . . . 150–200 m (492–656 ft)
  - Light rock . . . . . 150–250 m (492–820 ft)
  - Dark rock . . . . . 100–150 m (328–492 ft)
- Range using reflective foil in Direct Reflex mode
  - Reflective foil 20 mm . . . . . 800 m (2,624 ft)
  - Reflective foil 60 mm . . . . . 1600 m (5,248 ft)

* *Standard clear: No haze, overcast or moderate sunlight with very light heat shimmer. Range and accuracy are dependent on atmospheric conditions and background radiation.*

** *Kodak Gray Card, Catalog number E152795.*

Figure A.4: Tech. Specifications of Geodimeter Trimble 5600 DR200+ (Cont'd)
Source: Trimble, http\\www.trimble.com, July 2005



TRIMBLE 5600 DR 300+ TOTAL STATION SERIES

PERFORMANCE SPECIFICATIONS

Angle measurement

Accuracy (Standard deviation based on DIN 18723)
- 5601 . . . . . 1" (0.3 mgon)
- 5602 . . . . . 2" (0.5 mgon)
- 5603 . . . . . 3" (1.0 mgon)

Angle reading (least count)
- Horizontal & vertical
  - Standard measurement . . . . . 1" (0.1 mgon)
  - Fast Standard . . . . . 1" (0.1 mgon)
  - Tracking . . . . . 2" (0.5 mgon)

Arithmetic mean value (D-bar)
- 5601
  - Horizontal angle . . . . . 0.1" (0.01 mgon)
  - Vertical angle . . . . . 1" (0.1 mgon)
- 5602 and 5603
  - Horizontal & vertical angle . . . . . 1" (0.1 mgon)

Automatic level compensator .Dual-axis compensator ±6' (±100 mgon)

Distance measurement

Accuracy (standard deviation)
- Prism
  - Standard measurement . . . . . ±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
  - Fast Standard . . . . . ±(8 mm + 3 ppm) ±(0.025 ft + 3 ppm)
  - Tracking . . . . . ±(10 mm + 3 ppm) ±(0.032 ft + 3 ppm)
  - Arithmetic mean value (D-bar) . . ±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
- Reflective foil
  - Standard measurement . . . . . ±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
  - Fast Standard . . . . . ±(8 mm + 3 ppm) ±(0.025 ft + 3 ppm)
  - Tracking . . . . . ±(10 mm + 3 ppm) ±(0.032 ft + 3 ppm)
  - Arithmetic mean value (D-bar) . . ±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
- Direct Reflex mode
  - 5–300 m (16.4 ft–984 ft)
  - Standard measurement . . . . . ±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
  - Fast Standard . . . . . ±(8 mm + 3 ppm) ±(0.025 ft + 3 ppm)
  - Tracking . . . . . ±(10 mm + 3 ppm) ±(0.032 ft + 3 ppm)
  - Arithmetic mean value (D-bar) . . ±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
  - >300 m (984 ft) . . . . . ±(5mm + 3 ppm) ±(0.016 ft + 3 ppm)

Shortest possible range
- To prism . . . . . 2 m (6.56 ft)
- Direct Reflex . . . . . 2 m (6.56 ft)
- Reflective foil . . . . . 2 m (6.56 ft)

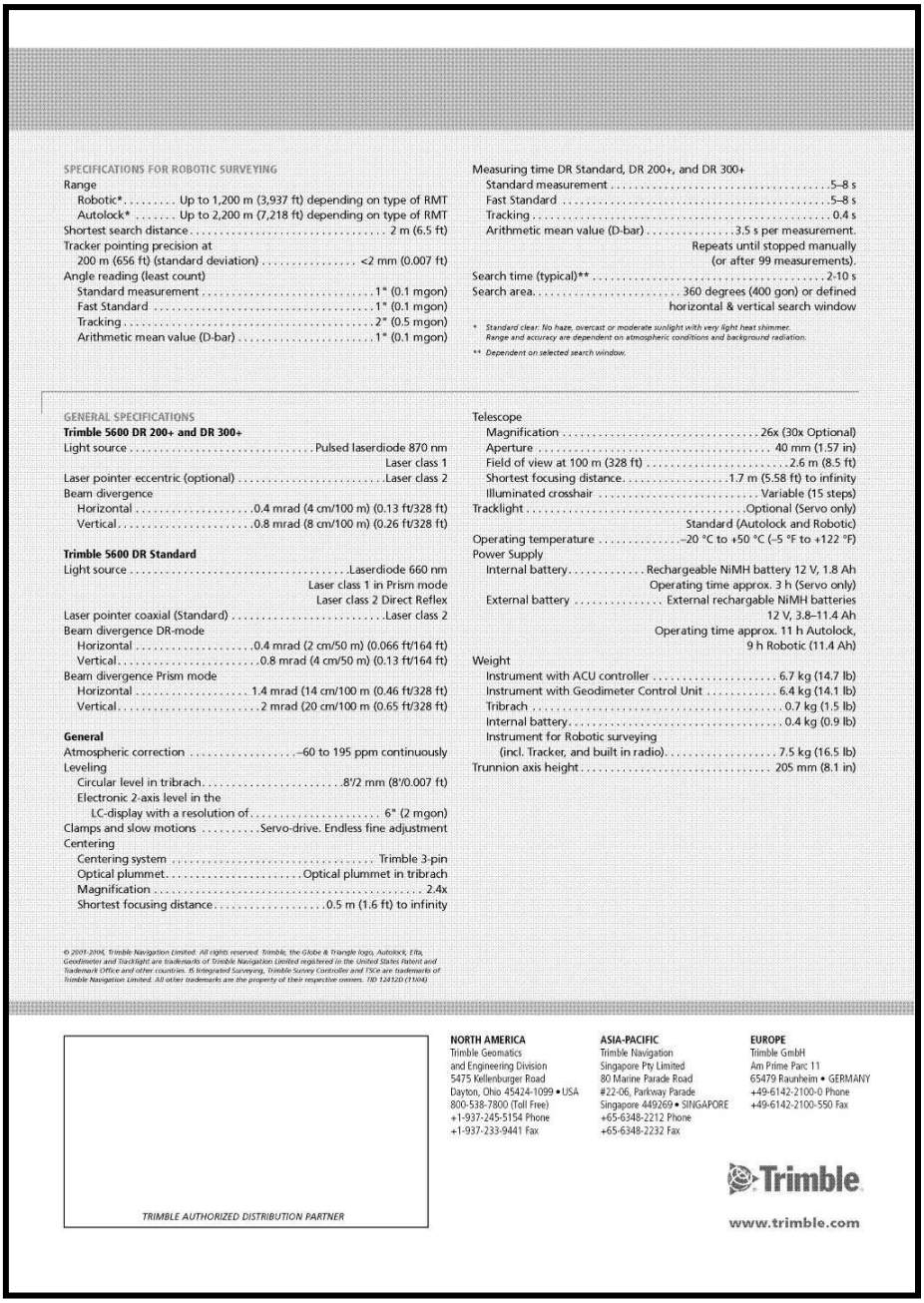
Measuring time
- Prism mode
  - Standard measurement . . . . . 3 s
  - Fast Standard . . . . . 3 s
  - Tracking . . . . . 0.4 s
  - Arithmetic mean value (D-bar) . . . . . 3.5 s per measurement
    Repeats until stopped manually (or after 99 measurements)
- Direct Reflex mode
  - Standard measurement . . . . . 3–7 s
  - Fast Standard . . . . . 3–7 s
  - Tracking . . . . . 0.4 s
  - Arithmetic mean value (D-bar) . . . . . 3.5 s per measurement
    Repeats until stopped manually (or after 99 measurements)

Range (under standard clear conditions*)
- Range using prism
  - 1 prism . . . . . 2,500 m (8,200 ft)
  - 1 prism Long Range mode . . . . . 5,500 m (18,040 ft) (max. range)
  - 3 prisms . . . . . 2,500 m (8,200 ft)
  - 3 prisms Long Range mode . . . . . 5,500 m (18,040 ft) (max. range)
- Range Direct Reflex measurement (typically)
  - Kodak Gray Card (18% reflective)** . . . . . >300 m (984 ft)
  - Kodak Gray Card (90% reflective)** . . . . . >800 m (1,968 ft)
  - Concrete . . . . . 300–400 m (984–1,312 ft)
  - Wood construction . . . . . 200–400 m (656–1,312 ft)
  - Metal construction . . . . . 200–250 m (656–820 ft)
  - Light rock . . . . . 200–300 m (656–984 ft)
  - Dark rock . . . . . 150–200 m (492–656 ft)
- Range using reflective foil in Direct Reflex mode
  - Reflective foil 20 mm . . . . . 800 m (2,624 ft)
  - Reflective foil 60 mm . . . . . 1,600 m (5,248 ft)

* Standard clear: No haze, overcast or moderate sunlight with very light heat shimmer. Range and accuracy are dependent on atmospheric conditions and background radiation.

** Kodak Gray Card, Catalog number E1527795.

Figure A.5: Tech. Specifications of Geodimeter Trimble 5600 DR200+ (Cont'd)
Source: Trimble, http\\www.trimble.com, July 2005



SPECIFICATIONS FOR ROBOTIC SURVEYING

Range
- Robotic*: Up to 1,200 m (3,937 ft) depending on type of RMT
- Autolock*: Up to 2,200 m (7,218 ft) depending on type of RMT

Shortest search distance: 2 m (6.5 ft)
Tracker pointing precision at
- 200 m (656 ft) (standard deviation): <2 mm (0.007 ft)

Angle reading (least count)
- Standard measurement: 1" (0.1 mgon)
- Fast Standard: 1" (0.1 mgon)
- Tracking: 2" (0.5 mgon)
- Arithmetic mean value (D-bar): 1" (0.1 mgon)

Measuring time DR Standard, DR 200+, and DR 300+
- Standard measurement: .5–8 s
- Fast Standard: .5–8 s
- Tracking: 0.4 s
- Arithmetic mean value (D-bar): 3.5 s per measurement. Repeats until stopped manually (or after 99 measurements).

Search time (typical)**: 2-10 s
Search area: 360 degrees (400 gon) or defined horizontal & vertical search window

* Standard clear: No haze, overcast or moderate sunlight with very light heat shimmer. Range and accuracy are dependent on atmospheric conditions and background radiation.

** Dependent on selected search window.

GENERAL SPECIFICATIONS

Trimble 5600 DR 200+ and DR 300+

Light source: Pulsed laserdiode 870 nm, Laser class 1
Laser pointer eccentric (optional): Laser class 2
Beam divergence
- Horizontal: 0.4 mrad (4 cm/100 m) (0.13 ft/328 ft)
- Vertical: 0.8 mrad (8 cm/100 m) (0.26 ft/328 ft)

Trimble 5600 DR Standard

Light source: Laserdiode 660 nm, Laser class 1 in Prism mode, Laser class 2 Direct Reflex
Laser pointer coaxial (Standard): Laser class 2
Beam divergence DR-mode
- Horizontal: 0.4 mrad (2 cm/50 m) (0.066 ft/164 ft)
- Vertical: 0.8 mrad (4 cm/50 m) (0.13 ft/164 ft)

Beam divergence Prism mode
- Horizontal: 1.4 mrad (14 cm/100 m (0.46 ft/328 ft)
- Vertical: 2 mrad (20 cm/100 m (0.65 ft/328 ft)

General

Atmospheric correction: –60 to 195 ppm continuously
Leveling
- Circular level in tribrach: 8'/2 mm (8'/0.007 ft)
- Electronic 2-axis level in the LC-display with a resolution of: 6" (2 mgon)

Clamps and slow motions: Servo-drive. Endless fine adjustment
Centering
- Centering system: Trimble 3-pin
- Optical plummet: Optical plummet in tribrach
- Magnification: 2.4x
- Shortest focusing distance: 0.5 m (1.6 ft) to infinity

Telescope
- Magnification: 26x (30x Optional)
- Aperture: 40 mm (1.57 in)
- Field of view at 100 m (328 ft): 2.6 m (8.5 ft)
- Shortest focusing distance: 1.7 m (5.58 ft) to infinity
- Illuminated crosshair: Variable (15 steps)

Tracklight: Optional (Servo only), Standard (Autolock and Robotic)
Operating temperature: –20 °C to +50 °C (–5 °F to +122 °F)
Power Supply
- Internal battery: Rechargeable NiMH battery 12 V, 1.8 Ah, Operating time approx. 3 h (Servo only)
- External battery: External rechargable NiMH batteries 12 V, 3.8–11.4 Ah, Operating time approx. 11 h Autolock, 9 h Robotic (11.4 Ah)

Weight
- Instrument with ACU controller: 6.7 kg (14.7 lb)
- Instrument with Geodimeter Control Unit: 6.4 kg (14.1 lb)
- Tribrach: 0.7 kg (1.5 lb)
- Internal battery: 0.4 kg (0.9 lb)
- Instrument for Robotic surveying (incl. Tracker, and built in radio): 7.5 kg (16.5 lb)

Trunnion axis height: 205 mm (8.1 in)

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TRIMBLE AUTHORIZED DISTRIBUTION PARTNER

NORTH AMERICA
Trimble Geomatics
and Engineering Division
5475 Kellenburger Road
Dayton, Ohio 45424-1099 • USA
800-538-7800 (Toll Free)
+1-937-245-5154 Phone
+1-937-233-9441 Fax

ASIA-PACIFIC
Trimble Navigation
Singapore Pty Limited
80 Marine Parade Road
#22-06, Parkway Parade
Singapore 449269 • SINGAPORE
+65-6348-2212 Phone
+65-6348-2232 Fax

EUROPE
Trimble GmbH
Am Prime Parc 11
65479 Raunheim • GERMANY
+49-6142-2100-0 Phone
+49-6142-2100-550 Fax

Trimble

www.trimble.com

Figure A.6: Tech. Specifications of Geodimeter Trimble 5600 DR200+ (Cont'd)
Source: Trimble, http\\www.trimble.com, July 2005

APPENDIX B

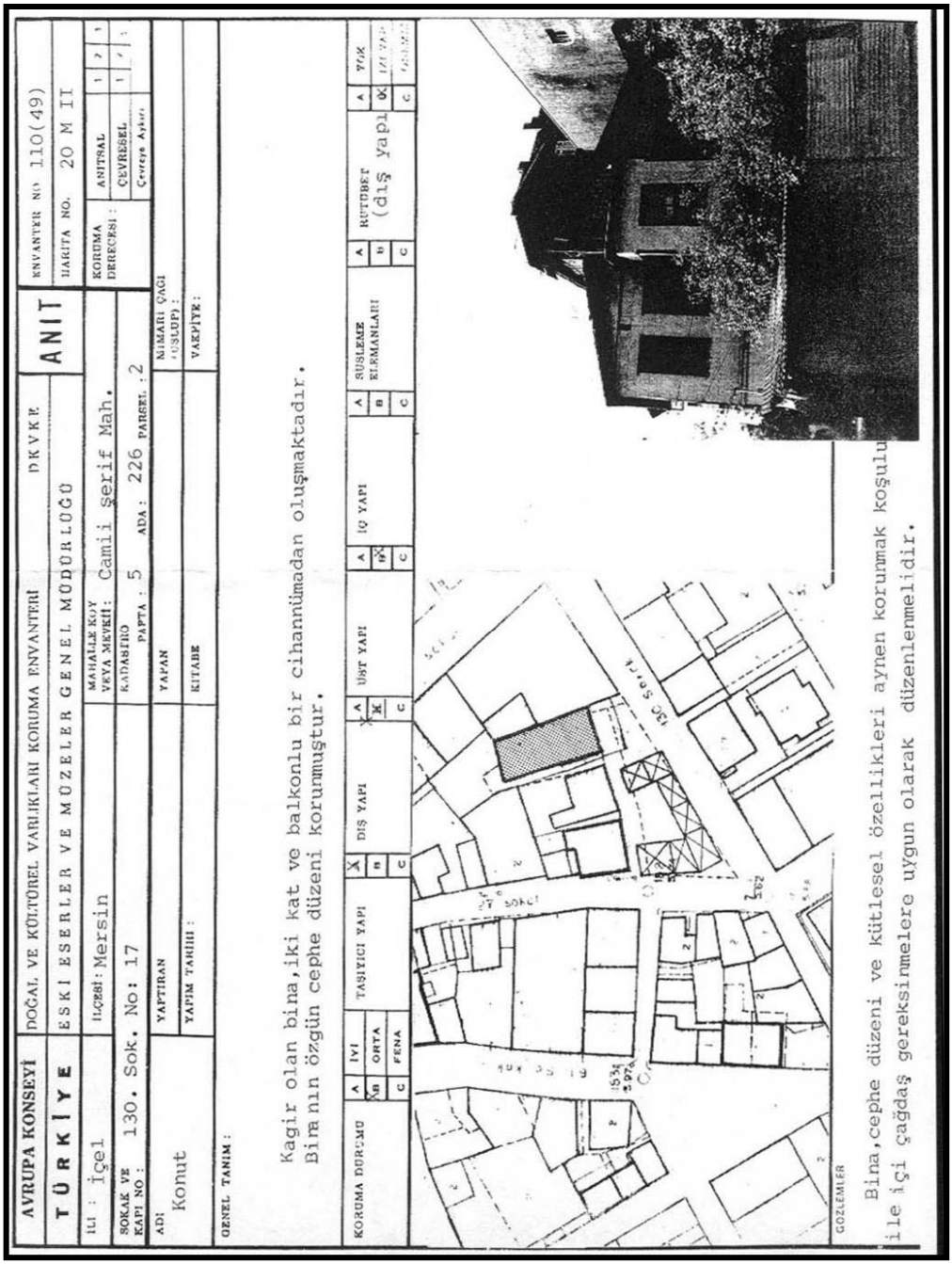

Figure B.1: Registration Form of The Dwelling
Source: Kültür ve Tabiat Varlıklarını Koruma Adana Bölge Kurulu