

DOI: [10.38027/N262020ICCAUA316381](https://doi.org/10.38027/N262020ICCAUA316381)

Typo- Morphological Analysis as a Method for Physical Revitalization: The Case of Famagusta's Residential District

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Abstract

Spatial configuration of residential districts of several cities due to changes in social structure and subsequently social needs, become incompatible with the new lifestyle. Subsequently these districts became abounded due to its function or redevelop in order to satisfying the needs. In case of being abounded, the building fall into not only functional but also physical deterioration and in case of redevelopment in most cases the entire district lose its characteristic. Professional practices on revitalizing these districts significantly needs an integrated approach for typo- morphological analysis as a diagnostic tool to interpret the evolutionary process of physical changes. This research aims to analyse a declined residential area in city of Famagusta city based on typo- morphological approaches on Conzen who is the pioneer of English morphological analysis and Caniggia who is the pioneer of Italian typo-morphological analysis in urban context. This area faced with both decline and in some part inappropriate development, which influenced the transformation of urban fabric and eventually lead to fragmented urban landscape. Accordingly, this research firstly, tries to highlight the importance of typo-morphological analysis in these particular areas. In addition, attempts to represent the methods of interpretation based on typo-morphological analysis. Although the research tries to propose new design in homogeneous with existing morphology in undeveloped lands in the area, it mostly ensure a clear analysis which is necessary for technical functioning and visual legibility for developing the residential district of Fmagusta.

Keywords: Physical Revitalization; Typo- Morphological Analysis; Residential district; Famagusta.

1. Introduction

Since the city of Famagusta, has experienced widespread and dramatic constructions from 1970s, the physical structure of the city has been changed (Onal et al. 1999) and the historic characteristic of some areas in the city due to these unconsidered development fade away and declined. Probably this issue is due to lack of any method or concreted approach to analyze the urban form and building typology, which leads to create a unique language for any further development. One of these washed-up historic areas is a residential part in Namik-Kemal neighborhoods in Famagusta (See figure 1). Initially, this area was developed after 1960 along with the foundation of Republic of Cyprus and become settlements for Cypriot upper classes.



Figure 1. Selected area for case study.

However in 1974 war onward, with the separation of the island into two parts, the rate of development remained at a very limited level until 1981. After that due to the variety of the composition of families and population, the demands for housing stock raised and brownfields filled with high-rise apartment with high density to get more benefit of the land, which impair the spatial morphology and exposed a different image to the area and the city (Onal et al. 1999). As Whitehand (2007) state: if the aims is to manage change or conserve, awareness of the existence of historic features in planning is not enough. The critical issue is how they fit together. Therefore, it need a sense of how these relate to one another and are part of a process of change. Since urban morphology over time tends to change in response to the

context of city development (Vance, 1990), the morphological studies can examine the physical fabric of the buildings and help to manage changes over the course of history (Cömert 2013).

This paper based on the dramatic construction and changes, which the district face, with assessing the morphological characteristics of the mentioned residential area and its process of change, aims to raise awareness of deterioration and loss of identity in the district. In addition, the paper aims to raise awareness of the necessity of physical revitalization, design solution, legislation and design control for buildings and lands in the district. Accordingly, typomorphological analysis of the area would apply on geography at planning level through Conzenian method and mostly on architecture at typological level through Caniggian method, which forms the basis of morphological studies. In this paper, the analysis shown as maps of the area, combine with photographs, drawings and inventory form about each plot/unit with written explanation about those wishing to conserve or make changes with an important part of the context for preparing management plans.

Physical Revitalization

Revitalization entails reconciling a mismatch, which might be due to the physical fabric or in the economic activities within the fabric. The fabric may be adapted to contemporary requirements through various modes of renewal: refurbishment, conversion or by demolition and redevelopment (Tiesdell, et al. 1996). Since place familiarity is valuable in maintaining the individual's psychological stability and an over change in the physical environment must be modified by conservational policies (Ashworth and Tunbridge 1990, p.28), the excitement of the future should be attached in the security of the past (Lynch, 1960). Although a physical revitalization results in an attractive and well-maintained physical public realm, this may be un-sustained and short-lived. Thus, the revitalization of areas involves both the renewal of the physical fabric and the active economic use of those buildings and spaces.

There are several interrelated dimensions of obsolescence with an area. Some of these are attributes of the buildings and their functions while others relate to the area as a whole. The area analysed in this report has involved with some types of obsolescence:

Physical/structural obsolescence: Some residential buildings belong to the period of Republic of Cyprus deteriorated through the effects of being leftover, time, the weather, traffic vibration and through poor maintenance.

Functional obsolescence: Some of residential buildings, which faced with physical obsolescence, left over. This may arise because of the functional qualities of the building or the area. The building's fabric may no longer be suited for the function for which was designed or may use illegally for another function, which is not appropriate with the physical of the building (Figure 2).



Figure 24. Physical and functional *obsolescence in the area*

Image obsolescence: Image obsolescence is a product of the perception of the building's or area's image. As over time, the human, social, economic or natural environment changes, the fixed historic fabric becomes less suitable in contemporary eyes for the needs it serves. This perception is a value judgment and may lack an underlying substance.

2. Methodology

The methodology of this study is based on Conzenian and Caniggia approach. Here the paper will discuss these approaches on typological and morphological level.

Caniggian approach at typological level

Caniggia developed the dynamics of urban form, shaped by its component types and their evolution, throughout its historical development (Caniggia, 2001). He called the dynamics of evolution a "typological process". As Levy (1997) states, Caniggia's basic concerns were the historical formations and transformations of these types, as well as the urban fabrics that resulted on one hand. The Caniggian approach comprise building (material, material and building type), Urban tissue (lot, pertinent strip, block, base and infill tissue, nodes and poles) and settlement and urban organism to both individual buildings and district.

Conzenian approach at planning level

Conzenian Approach is related with the geographical and urban attitude of Conzen on urban morphology, under three titles: Town plan (Street-System, Plot Pattern and Building Pattern), Townscape (land utilization, building type and plan unit) and Fringe belt (Kropf, 1993).

3. Case Study

Due to the aim of the study, the analysis applied in the residential district of Famagusta taken from Conzen and Cannegian approach are limited to:

Period of construction: This analysis used to detect the historic value of the buildings and the further changes to the buildings. In the district, almost more than half of the residential buildings were built during Republic of Cyprus with historic values (Figure 3).

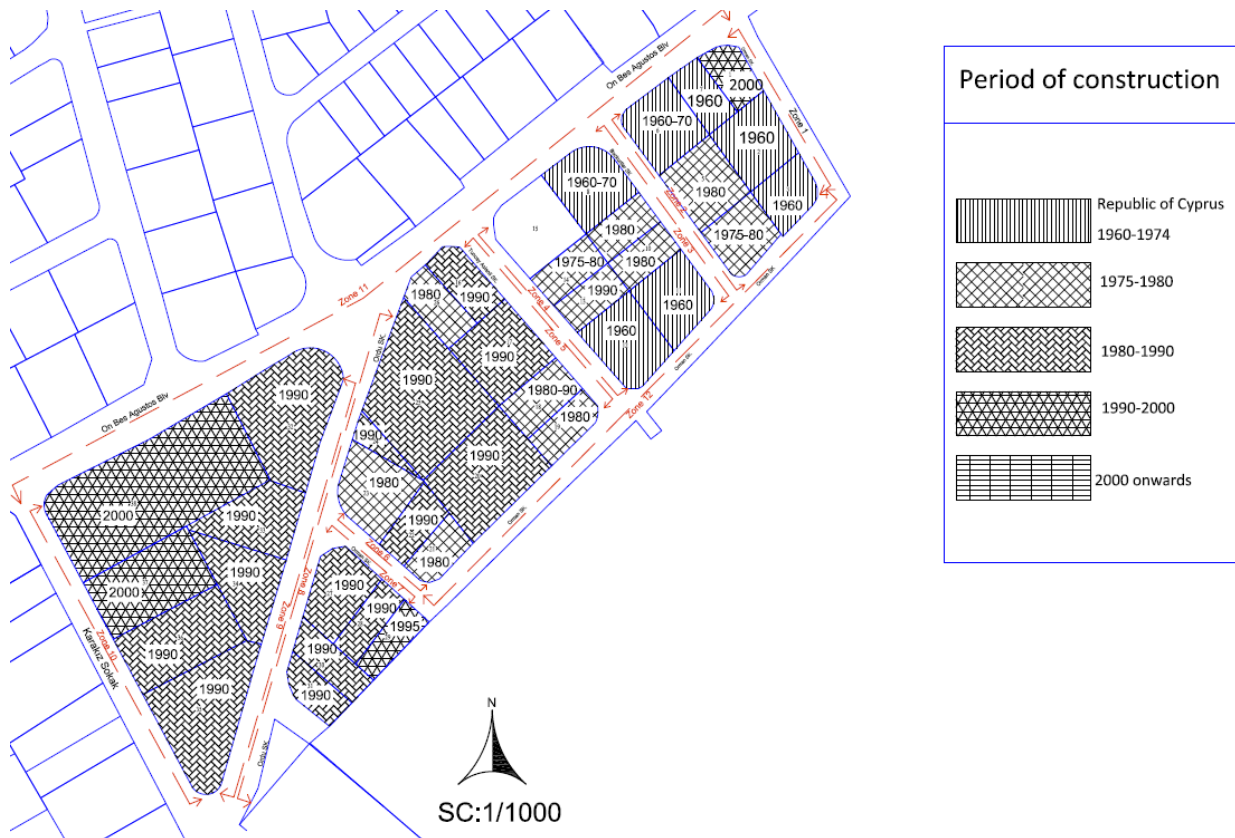


Figure 3. Period of construction of the case study

Figure ground analysis: this analysis together with density analysis used to understand the spatial organization, the built form of the district in contemporary era and footprint density of the district. Figure 4 and 5 shows the relationship between buildings and open space. In addition, from these analyses one can reveal the scale and pattern of development in the district. As it is shown in figure ground analysis, the morphological structure of the quarter has changed in two important ways: From buildings (1960-1980) as constituent elements in urban blocks defining streets, to buildings (1990 onward) as separate freestanding building in 'space'.



Figure 4. Figure ground analysis.

Density analysis: In this analysis, the focus will be on height of the buildings, which also represent where the building form meets, the sky. This analysis can be achieved through looking for sky framing and skylines, silhouettes and details.

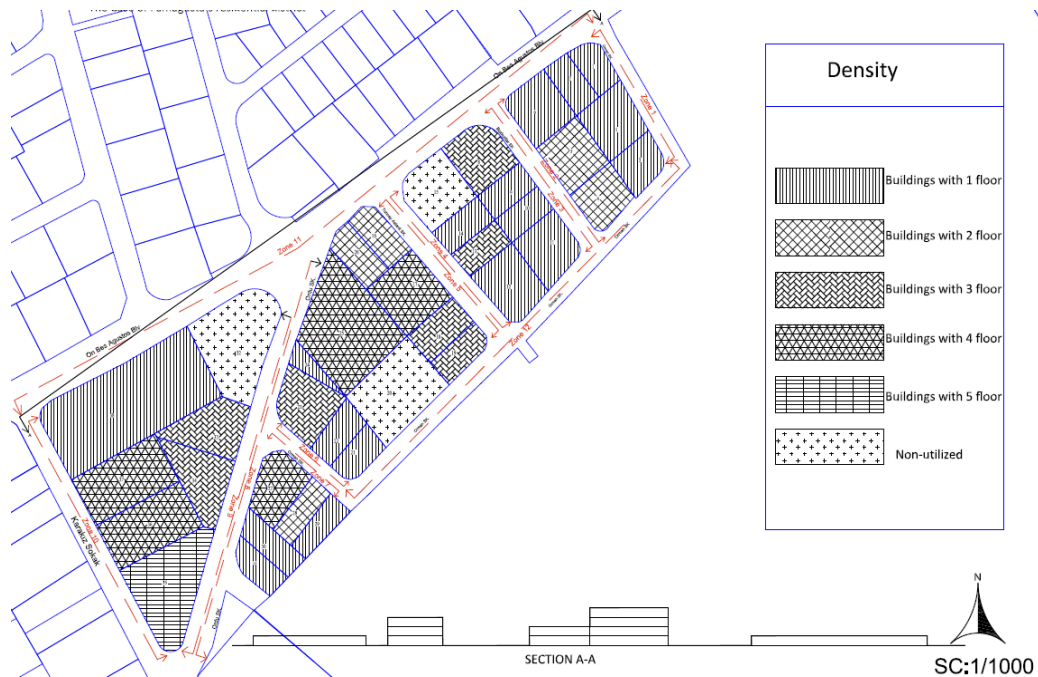


Figure 5. Density analysis.



Figure 6. View of building form where meet the sky.

Plot typology: Over time, as plots are bought and sold, the typology can change. Although in the district union of plot and block removes most of the evidence of earlier forms, the evidence of earlier plot patterns persists from earlier period, which was in square. This analysis together with buildings pattern and street system are the integral part of the town plan, which transform in the process of urban evolution. In this district it is clearly visible that the plot which belongs to the Republic of Cyprus was more in square shape. Some of plots were re-divided during the time and some were considered as irregular plot without any specific regulation 1990s onward.

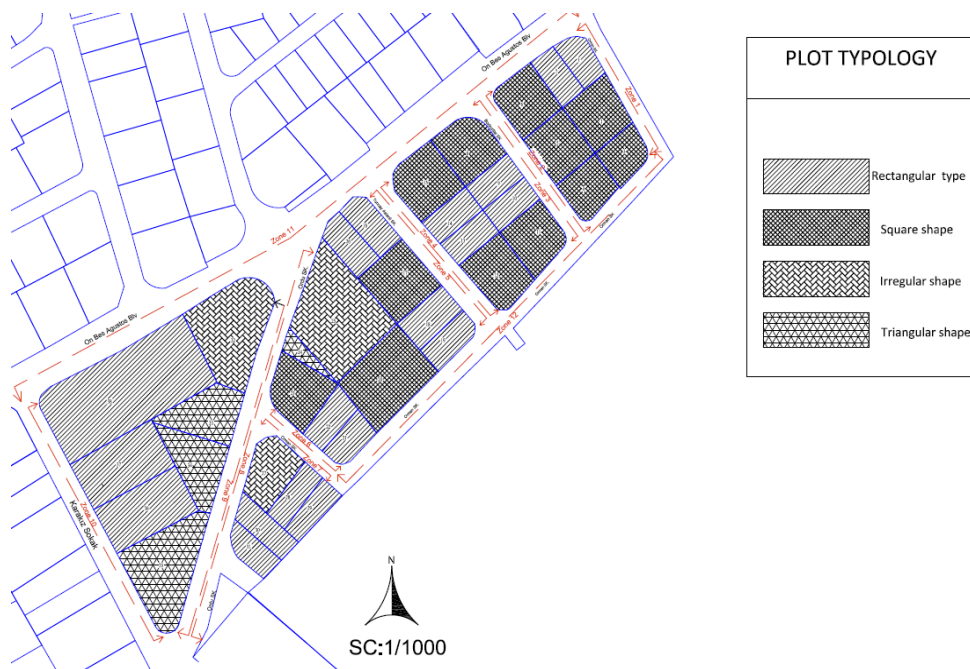


Figure 7. Plot typology .

Street typology: The cadastral pattern establishing an important urban design giving a measure of the opportunity for movement. Patterns of streets and spaces have often developed over hundreds of years, from different eras, which seen in the ground plans and considered as the most enduring element. In this analysis the focus will be on the relation of the building form with the street: the way it rises or descend from the street level, ascending and descending levels, or being attached to the street line i.e. thresholds, entrance, canopies, podiums, pilots, planting, signs and other symbols. In this district, a variety of street patterns can be seen with the building attached to street, detached and elevated or depressed from street. This typology indicate the limitation of the district regarding the permeability, the extent to which an environment allows a choice of routes both through and within it at the local scale.

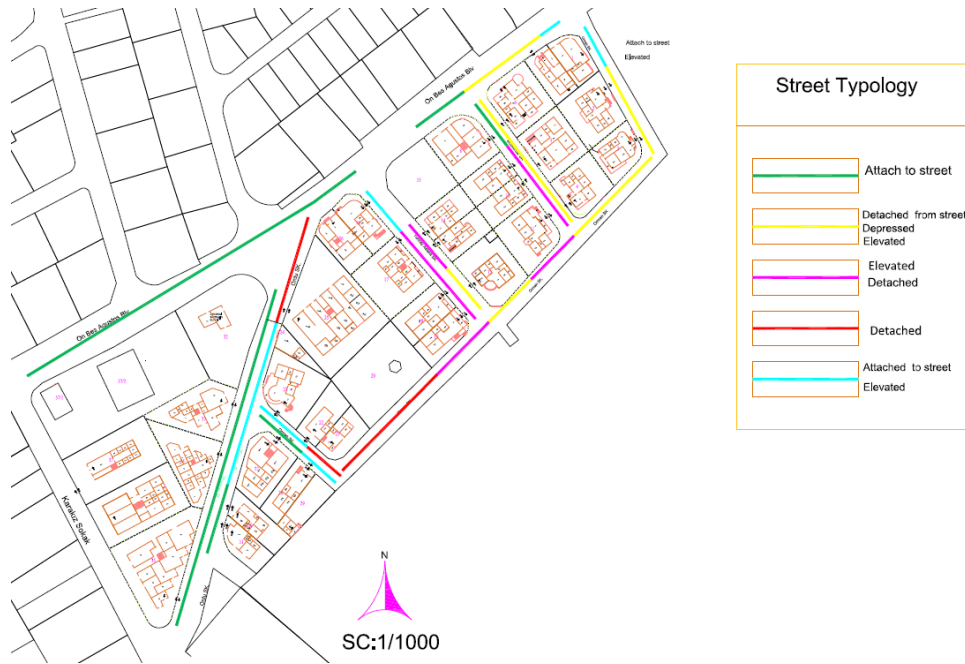


Figure 8. Street typology

Land uses analysis: Buildings and land uses are usually the least resilient elements. Some buildings like public buildings will last longer than private buildings. The reason is the greater financial and symbolic investment in their design, construction and ornamentation. In the absence of conservation controls, other buildings survive only if they are able to adapt to new or changing uses. The case of residential buildings in the district, which were constructed during 1960-1974 are facing with physical and functional obsolescence.

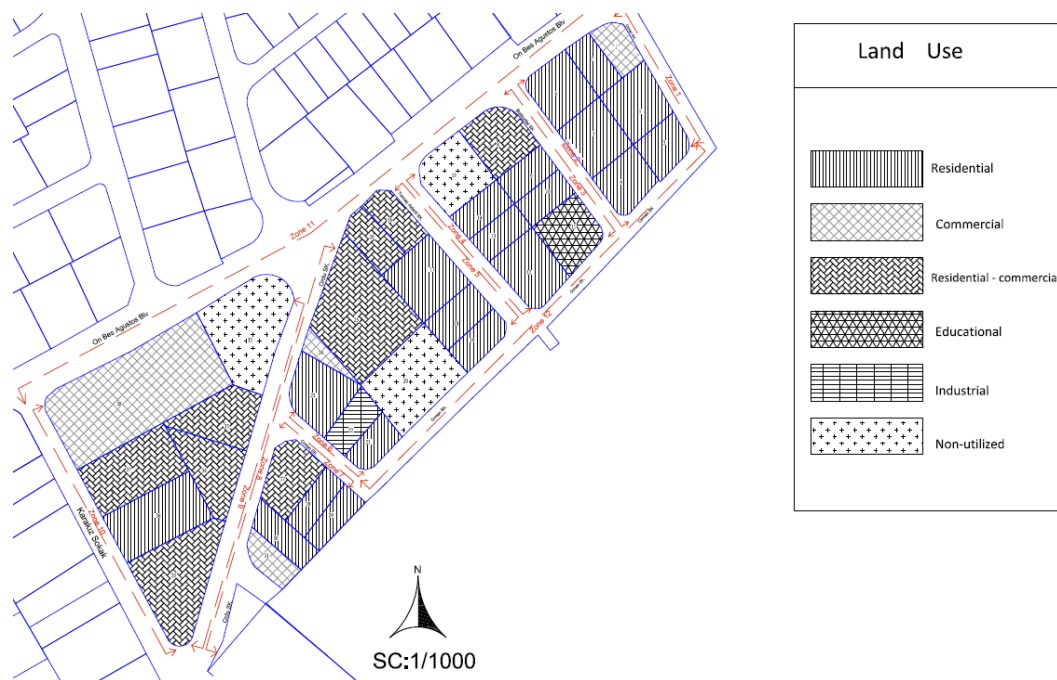


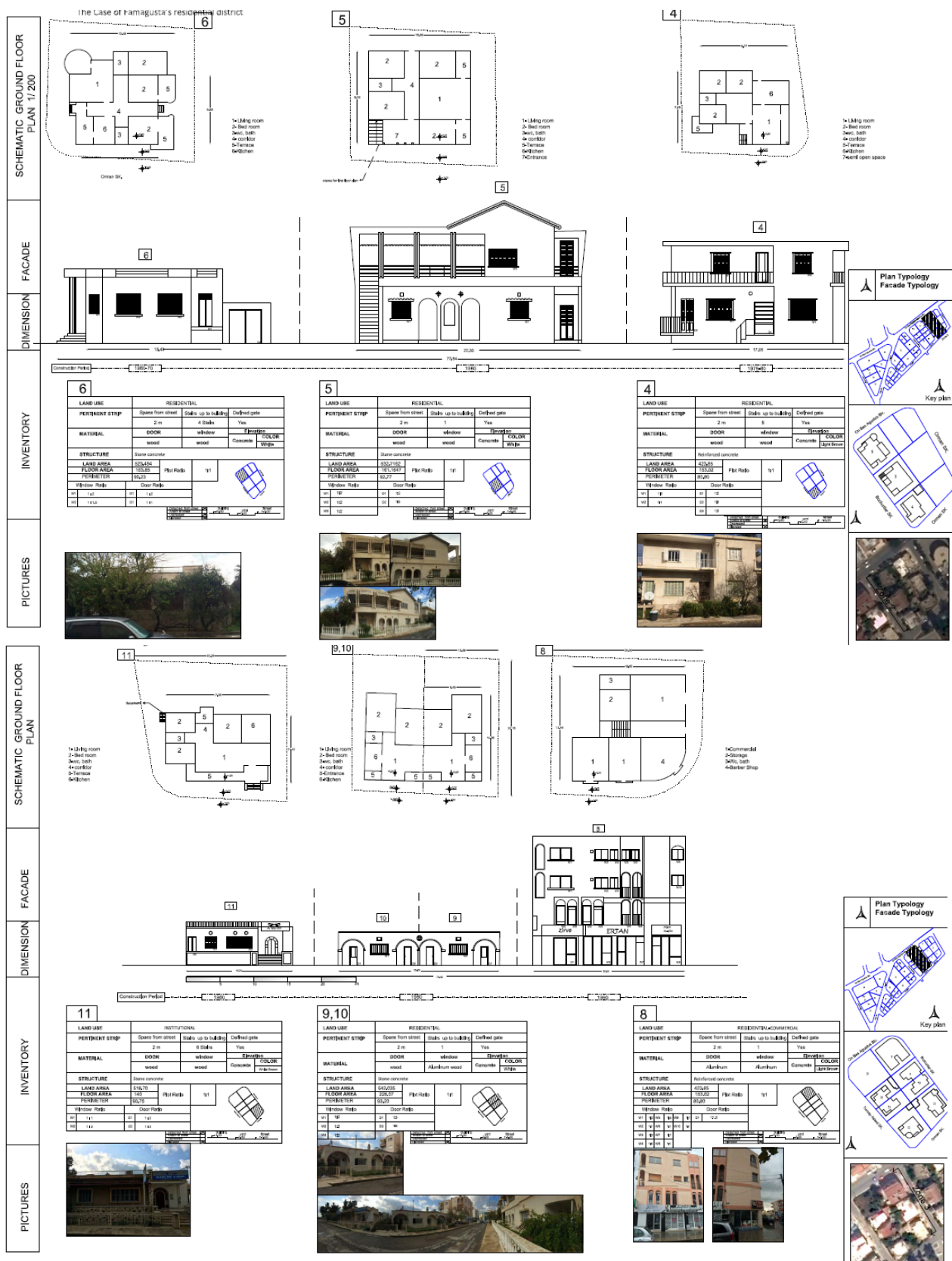
Figure 9. Land use analysis.

Building and façade typology: This analysis is characterized by details of the buildings as part of urban element. For individual buildings, these analyses comprise the elements represent, the building materials, the structures of elements correspond to the walls, the organism of the entire buildings and the building type. Caniggia (2001) refers building type to usage in the past and still today, which show any group of buildings with a series of characteristics in common. Building types of Caniggia, are analysed into four orders comprise 1.Base type 2.Leading type 3.Synchronic variants of position, 4.Transformation and substitution (Kropf, 1993). This analysis was done in order to understand formation of the building. Also gives information regarding its relevant time by considering physical form and use. In this analysis,

the area was divided into 12 zone and represented the schematic plan, façade, inventory form and relation between building and street.

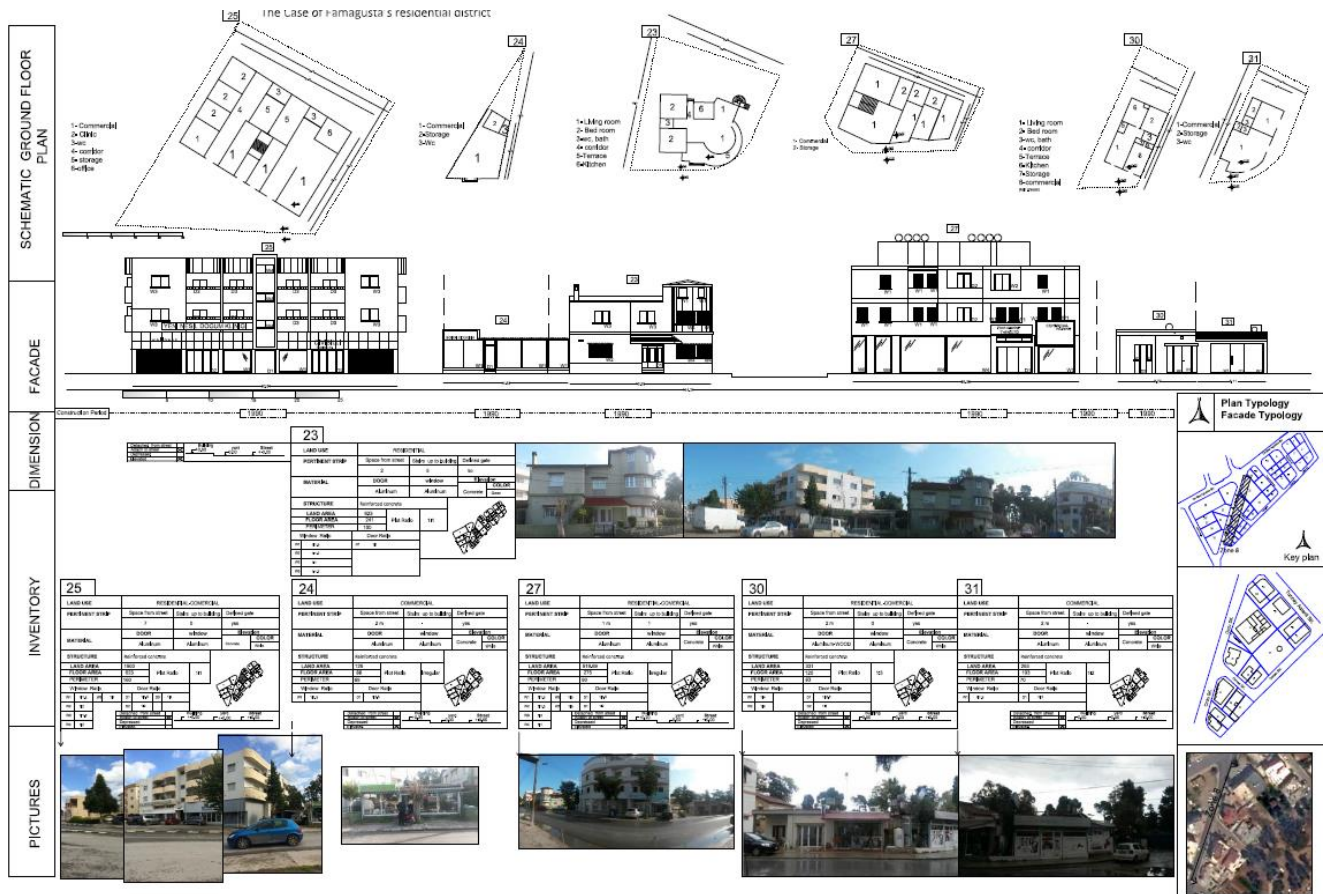
In this analysis certain dramatic changes is shown which characterized by sharp dissimilarities in details i.e. material, colour, textures etc. The analysis revealed that some residential buildings constructed in the period of Republic of Cyprus were abandoned and some of the building were faced with changes in order to adapt to their contemporary needs. These change comprise covering part of the terrace and balcony and adding to the interior part of the unit or changing in the material usage of the building. These changes mostly applied in 1980s. The second period leading up to the 1990 onward was a transformation and substitution phase, when apartment blocks were introduced. In the district it was revealed some residential building were adapted to new function and subsequently changes in the plan and façade were obvious.

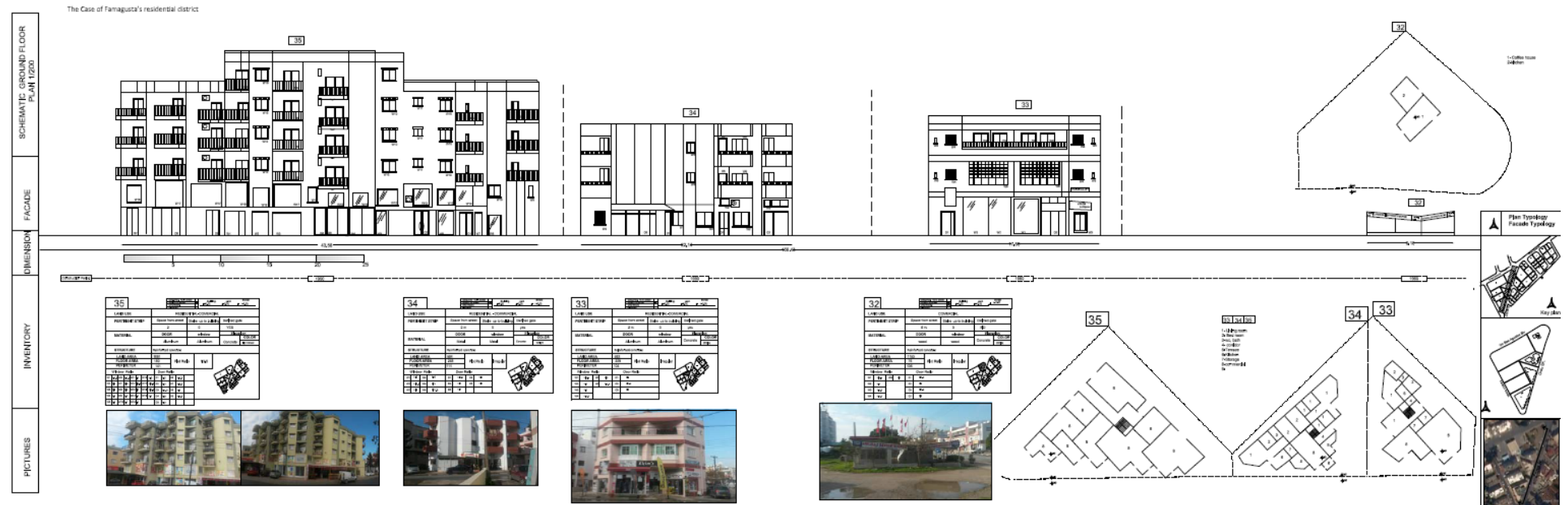


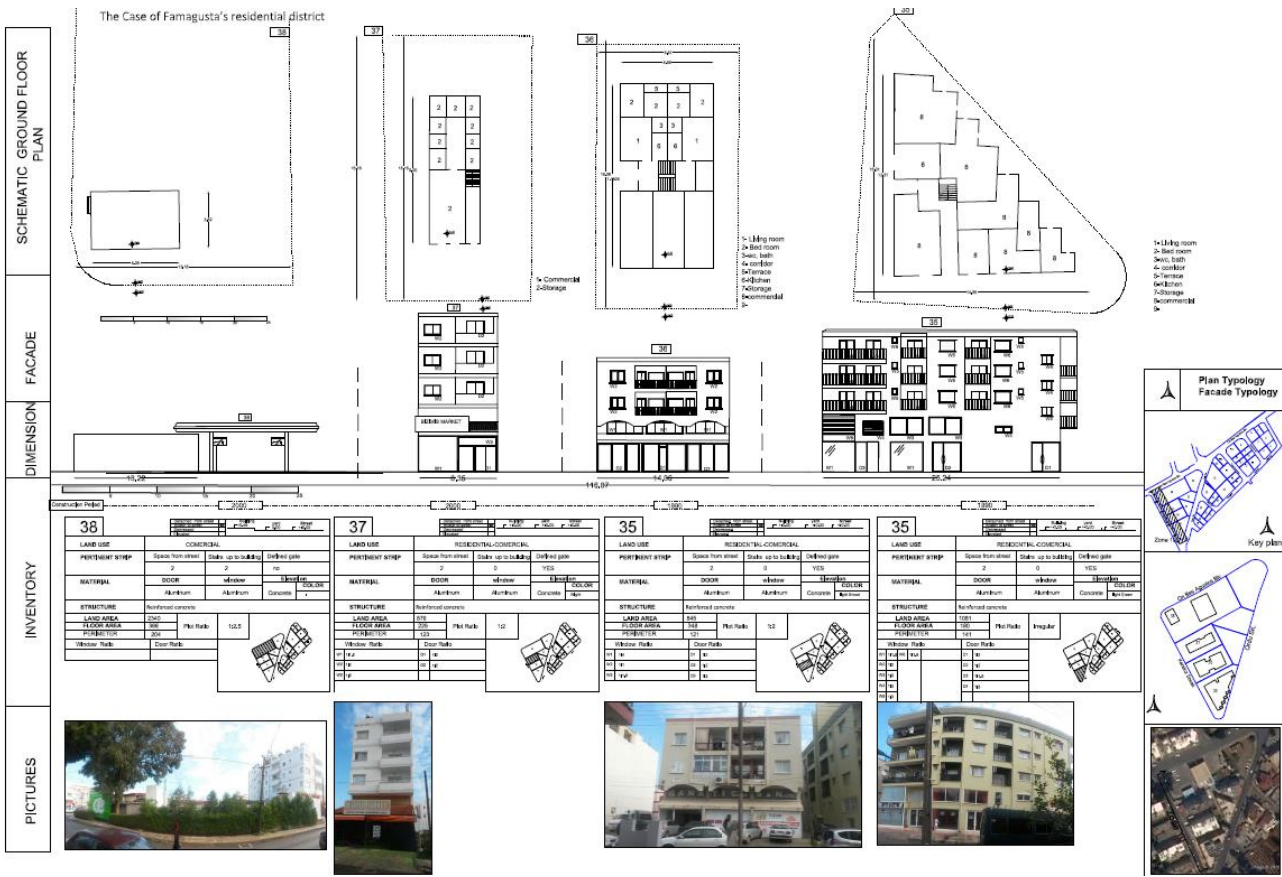


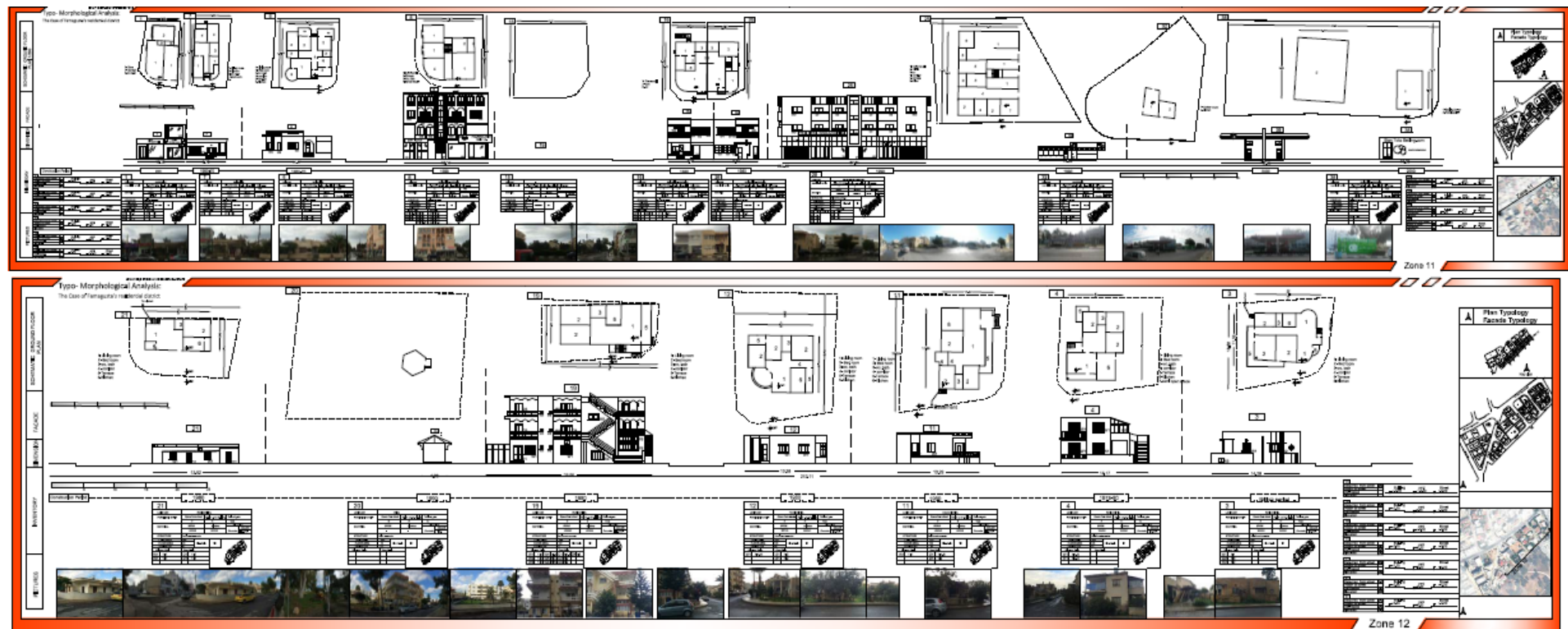












4. Discussion and Conclusions

In this paper, the assessments were directed to: Street system, Plot typology and ratio, building typology (plan typology and Façade typology) and land utilization (see table 3).

Table 5. The criteria for analysis of the area

Analysis of the area based on Conzen and Caniggian approach					
Variables	Building	Plot	Street	Urban tissue	Townscape
	plan typology façade typology	plot typology plot ratio	building and plot ratio	street typology	land utilization
Tools	Drawing	Inventory form	Maps	Photograph	Illustration

These analyses had some outcomes for current buildings and undeveloped lands:

Although the image of the area in some part due to physical deterioration may makes them unattractive for the occupation of dwellings built, the demolition of the residential buildings in the area in not an appropriate way, the building which faced with physical obsolescence needs repair and maintenance over and above that offered by regular, ongoing maintenance. Without such actions, the physical condition of the buildings would become worse. The plot division for undeveloped lands needs be based on its surrounded plots.

For the buildings faced with functional obsolescence, new proposed function can be used regard the contemporary standards or requirements of the occupier, which is the most appropriate reuse for the buildings. For instance: conversion of residential building to institutional.

The building changes required effective controls. In fact, alteration and addition to existing buildings in order to adapt it to contemporary needs should not discouraged. Certainly, changes, which may destroy significant historical, architectural or cultural material, should be avoided. Alteration need to be compatible with the scale, size, material, colour and character of the property, district or environment. The access of the buildings within the area should be considered regarding to its location to the main street/ alley along with the other buildings to give a high quality of visual perception.

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