Methods and Strategies in the Rehabilitation of the Luneta Hotel

Rehabilitation and Adaptive reuse

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Abstract

What is Philippine Architecture? It has been said that unlike our other Asian neighbors, the Philippines has no architecture of its own that it could boast of. Even the bahay na bato is not really Filipino but Mexican in nature. Philippine Architecture has been a mixture of eastern and western culture. Although the question lingers in the air, still the Philippine can be proud of its buildings, specially those built at the turn of the century. One such structure is the Luneta Hotel. A Spanish architect Salvador Farre built it in 1918. Built in the French renaissance architecture, it is considered as the only building in the Philippines with such an architectural type. The building has operated as a hotel since its opening and continued to do so until the late 70's. Unfortunately, due to some financial constraint the hotel has closed and was left to decay. Identified by the National Historical Institute as a heritage building, the owners of the Luneta Hotel's intentions to demolish the building was prevented. Presently, the building is slowing deteriorating due to neglect of the owner, probably due to its lack of economical viability. Through this research it is aim that a conservation plan could be formulated for the Luneta Hotel, identifying the procedures to be used to restore the building, identifying significant, less significant and obtrusive additions to the building, which could be retained or removed. An as-built plan shall also be created in order to come up with a more comprehensive analysis of how to approach the different problems of the building from water leaks, structural defect as well as restoration approaches. An adaptive reuse plan shall also be drafted for the owners to consider, so as to make the structure viable for commercial use. Should the adaptive reuse be impossible due to structural defects the structure might have, another approach shall be considered such as Facade Architecture. In summation, this research shall also serve as a basis for other conservation attempts for other heritage buildings in the Philippines.

Keywords: Conservation, Adaptive Reuse, Demolition by Decay,

Introduction

Architectural landmarks bless the Philippines with its 7,100 islands, dating back from the 1600's. Several of these structures still stand majestically today, boasting of its unique architectural character brought about by stylistic influences ranging from the vernacular tradition, to Euro-American design to Orientalism, to post-colonial influences.

Spain's presence in the Philippines from the 16th century up to the late 1800 has contributed so much, not only in the belief, culture and lifestyle of the Filipino, but also in its architecture. Most of the Catholic churches spread out from the north to south of the Philippines are clear examples of Spain's influence in Filipino Architecture. However, some say that the architecture seen in these churches are not purely Spanish but more of Mexican architecture in nature due to route taken by the Spanish galleons which passed through Mexico before proceeding to the Philippines.

The Filipino's aspiration for independence ignited the Revolution of 1896. This was foiled when the United States "bought" the Philippines from Spain in the 1898 Treaty of Paris. The American military government promised freedom and a better, more civilized way of life through "benevolent assimilation," the establishment of a new socio-political order.[1]

Fig. 1. Arch't.Daniel H. Burnham

With the American Occupation in full swing, urban planning and architecture served the needs of secular education and public services. Upon the invitation of then Commissioner to the Philippines, William Cameron Forbes, prominent American Architect Daniel H. Burnham, assisted by young architect Pierce Anderson, came to the Philippines in 1904 for a six-week visit to survey and prepare a development plan for Manila and the future summer capital of Baguio.[2]

Burnham's recommendation of the establishment of a government center with street radiating from it, the cleaning of canals, the construction of a bay shore boulevard from Manila to Cavite, and the development of parks and open spaces for recreational activities was approved on June 20, 1906. A scholar

[1] Gerard Lico, "The First 50 Years : A century of design in the Philippines." BluPrint The Architecture & Design Sourcebook, vol. 3, 6 2001, pp 77-113.

[2] Ibid.

noted, "If the plan had a chance to be fully executed, Manila would have become the most beautiful city in the East.[3]

Fig. 2 Burnham Plan for Manila

Burnham provided a site for Manila Hotel, Army and Navy Club, the Philippine General Hospital and the Post Office between Jones and Macarthur bridges. While he devised the plan, most of the structures were designed and built by his successors, William Parsons, who served as consulting architect at the Bureau of Public Works from 1905-1914. Other well-known American architects who eventually helped shape the country's urban landscape were George Fenhagen and Ralph Harrington Doane.[4]

The new civilian government in the Philippine thus generated an array of building types that required new architecture. Structures for government programs included public schools, sanitariums, universities, city halls, and municipal hospitals. Neo-classical-inspired government buildings served as an ideal medium for creating convincing metaphors of powers and colonial omnipresence.[5]


Fig. 3 Uy Chaco Building

Some of these American built structures are still standing like monuments for the architects who designed them. To name a few, The Uy-chaco building, the first and only Art Nouveau high rise in the Philippines, which is located at the corner of Quintin Paredez st. and Escolta. In 1902 The Insular Ice Plant and Cold Storage was built. It was considered as the first large building to be erected by the Americans. Its massive brick masonry was fashioned in the Neo-classical style with low relief false arches. William E. Parson famous works were the Normal School (1914), the Women's Dormitory of the Normal School (1914), The Philippine General Hospital (1910), The Manila Hotel (1912), The University Hall of the University of the Philippines in Padre Faura (1913), The Army-Navy Club (1909), the YMCA Building (1909), the Elk's Club (1911), The Manila Club (1908) and the Paco Station (1914). His works was a clear translation of Neoclassicism into a new hybrid of colonial tropical architecture.


Fig. 4 Insular Ice Plant

During the reign of Neoclassicism in Philippine Architecture, a new type of Architecture emerged, brought about by Filipino Architects educated in Europe trained in *Ecole des Beaux Arts* tradition. The Luneta hotel on San Luis st. (now T.M. Kalaw

[3] ibid.
[4] ibid.
[5] ibid.

st.) built in 1910 is the only building in Manila in the French Renaissance Style.[6]

In the 1920, the Art Deco style swept the nation, breaking away from the *Neoclassic Beaux Arts* tradition. The homecoming of second generation Filipino Architects, like Andres Luna de San Pedro, Pablo Antonio and Juan Nakpil – who after benefiting from foreign education and exposure to various trends in Europe and America, initiated a deflection from the *Parisian Beaux Arts* tradition and embraced the Art Deco sensibility. The zenith of this style was embodied in Juan Arellano's Metropolitan Theatre (1931). Architectural details of Filipinized forms such as Philippine flora motifs, bamboo banister railings, carved banana and mango ceiling reliefs and Batik mosaic patterns are found. Complementing Art Deco aesthetics was the Neo-Castillian (or Spanish Mediterranean) style mansion embraced by the upper class. Andres Luna de San Pedro popularized this style among the elite with his design of the Perkin's House, located along Dewey Boulevard.[7]

Fig. 5 Paco Train Station

The residential architecture and interior design of the extant Tomas Mapua house in Taft Avenue, stood out as a proud testament to Tomas Mapua's virtuosity in 1930's Philippine Art Deco.[8]

In the 1930's, streamlined modern architecture in the Philippines was considered the precursor of the International style. Filipino architects adapted their designs accordingly. Examples of such works are, Andres Luna de San Pedro's Lavish Crystal Palace, Pablo Antonio's Far Eastern University, Fernando Ocampo's FEATI University, Juan Nakpil's Manila Jockey Club, The Ziggurat topped Capitol Theatre by Juan Nakpil, The Ideal and Lyric Theatre by Pablo Antonio and the Cebu Custom House by Antonio Toledo. The Jai-Alai Building by Wuderman and Becket's as well as Luis Araneta's Times Theatre reflect the streamlined Art Deco of the 30's.

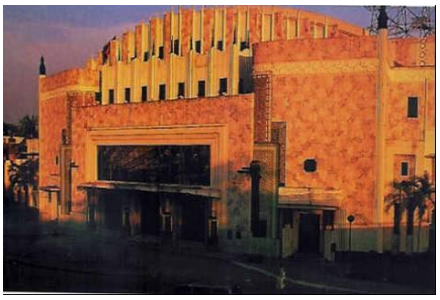

Fig. 6 Metropolitant theatre

The outbreak of World War II spread to the Pacific in December 1941. The battle for liberation, damaged irreplaceable architectural treasures and left Manila in ruins. As reconstruction took place after the Pacific War, a building frenzy took place. Houses and other structures were hastily erected in response to the shortage of shelters. "Fly-by-night" contractors dominated the scene

[6] Encyclopedia of Philippine Art, 1994 Vol. 3 "Philippine Architecture."

[7] Gerard Lico, "The First 50 Years : A century of design in the Philippines." BluPrint The Architecture & Design Sourcebook, vol. 3, 6 2001, pp 77-113.

[8] Ibid.

Fig. 7. National Museum after WWII

and various attempts were taken to resurrect the photographs of old buildings from magazines. This resulted to a hodge-podge of architectural false-fronted makeshifts and a mélange of styles ranging from classic to different interpretations of modern architecture in the early pre-war period.[9]

Background

"Heritage is the light by which we see and appreciate our built and natural environment, our culture and ourselves. Without this light we sentence our selves to the darkness of ignorance and a life less civilized."[10] This words which emulates one's interpretation of heritage is a cry for conservation of fast deteriorating heritage structures, due probably to the callous regard of some person to these national treasures. Here in the Philippines, a battle between conservationist and government bureaucrats has ignited primarily due to the demolition of the Jai-Alai Building in Taft Avenue to give way to the Hall of Justice of Manila. Conservationist lost this battle, but they are not in anyway giving up the fight in stopping this horrific desecration of our National Treasures. The Mehan Gardens, which is threatened by the same personalities, has again been a cause for uproar. It is a good thing that The Heritage Conservation Society was up on its feet in guarding these landmark buildings. The Heritage Conservation Society, a non-profit, private foundation is also lobbying for a National Landmark Law. This Law would, among other things, create or assign an existing agency to pinpoint and preserve historical and heritage landmarks like building places or even districts in the country. Other countries have similar laws and he Philippines should have one as well. Landmark buildings are being demolished and The Heritage Conservation Society can only try to drum up enough public sentiment to try to stop the carnage.

The National Historical Institute, which was created in 1972, was one of the governmental agencies created to implement Section 16 of the Constitution, which specifically states "All the country's artistic and historic wealth constitutes the cultural treasure of the nation and shall be under the protection of the State which may regulate its disposition". The National Historical Institute's Architectural Conservation Division, handles the conservation and restoration of all historic sites and buildings declared either as national shrines, monuments and landmarks. It also handles surveys of historic structures and maintains a National Historic Registry of the Philippines and recommends the declaration of historic sites as

[9] Ibid.

[10] Paolo Alcazaren, Heritage Conservation Society"

national shrines, monuments and landmarks. A technical unit called the Materials Conservation Center is attached to this division and providing cultural conservation services to both the public and private cultural and historical collections. Physical treatment of movable historical objects are also the responsibility of this section.

But despite these organizations and government agency who tries to protect these national landmarks, destruction and deterioration is still a step ahead of them.

Many of these landmark structures are now is a state of disarray and decay, not to mention the vandalism, graffiti and squatting that has desecrated its walls.

One of these landmark is the Luneta Hotel. Situated at the corner of T.M. Kalaw (formerly San Luis) and Alhambra st. in Ermita, Manila. Although the structure is attributed at times to Andres Luna San Pedro's genius or to one of the American architects on William Parson's staff, research has uncovered that it was designed, built and owned by a Spanish architect-engineer, Salvador Farre, who also designed the Montalban Dam.[11]

Fig. 8 Luneta Hotel circa 1920

The hotel may have been built in 1918 or 1920 when the Americans brought in reinforced concrete that allowed the construction of high rises. An early title of the property from Manila City Hall, dated 1915 makes no mention of the building. In 1922 a mortgage was taken out that was eventually paid off in 1931.[12]

It first appeared in Rodenstok's Manila City Directory's list of Manila hotels in 1919. It can be safely deduced that the hotel started its operation during the early American Period. The proprietor was Mr. J. L. Burchfield and the General Manager was Mr. F.M. Lozano . The hotel was then features in the 1920 Yearbook of the Philippine Islands.

The hotel was frequented by merchant marine officers and sailors due to its proximity to Manila Harbor. In 1937, it accommodated participants to the XXXIII International Eucharistic Congress held at Luneta Park. Luneta Hotel continued to function as one until the 1980s.

[11] Bambi L. Harper. "Old Manila Architectural gem in Peril." Philippine Daily Inquirer (May 3, 1998)

[12] Ibid.

Fig. 9 Luneta Hotel circa 1920

Hotel ownership changed several times. After the Second World War, Agustin and Rosalia (nee Farre) was sold to Lednicky in 1953. Ledniscky in turn, sold it to Toribio Teodoro, owner and proprietor of the renowned Ang Tibay shoes. In the Associated Hotels of the Philippines Directory of 1972, the hotel appears under the name of Luneta Park Hotel with Cecilia Dayrit, Tribe Teodoro's daughter, as owner. During the Marcos era, it became the property of the Panlilios and was used briefly as a costume museum. Luneta Hotel was renovated in 1983, in an attempt to recapture its former glory and old world charm. The National Historical Institute included the Luneta Hotel, circa 1983, in "*A Multi-Proposal for the Preservation and Restoration of Historical Structures I the Philippine"s* which was presented to the UNESCO[13] National Commission of the Philippines for possible funding. However such proposal did not merit UNESCO approval.[14]

After the EDSA Revolt, the Presidential Commission of Good Government sequestered the Hotel in the belief that the Hotel was owned by the Former First Lady Imelda R. Marcos. However documents shows that the present ownership of the Luneta Hotel is indeed the Panlilio's.

In 1998, under virtue of the power vested under the National Historical Institute by Presidential Decree No. 260, dated August 1, 1973, the Luneta Hotel was declared as a National Historical Landmark.[15]

The hotel was described as a quietly elegant and attractive family style hotel with a charmingly continental design. It used to boast of 60 rooms with private bath, two suites, telephone in all rooms, a restaurant, coffee shop and spacious lanais. It is the only building in Manila in the French Renaissance style[16]. If you are observant, you will espy the whimsical gargoyles in the form of lions, crocodiles, griffins and other mythical creature as decorative supports of its balconies. The balconies themselves have delicate filigreed railings that add a touch of lightness to the solid concrete façade. The French-style mansard roof, the full length and dormer

[13] UNESCO – United Nations Education, Scientific and Cultural Organization.

[14] National Historical Institute. Historic Preservation Division. Survey and Documentation Section. Luneta Hotel. 1997

[15] National Historical Institute. Board Resolution No. 1, s. 1998 Declaring The Luneta Hotel on T.M. Kalaw Street, Ermita, Manila as a National Historical Landmark. 6th May, 1998.

[16] Encyclopedia of Philippine Art, 1994 Vol. 3 "Philippine Architecture."

windows, the classical ornamentation gives a distinction and elegance sorely lacking in Manila Today[17].

Fig. 10 Luneta Hotel with Universitry Hotel (1930)

The declaration of the Luneta Hotel by the National Historical Institute as a national historical landmark has not lived up to what it should be. Being a national historical landmark, the society should restore and protect the Luneta Hotel. But at present, its condition is a slow shameless deterioration of our heritage.

Upon initial investigation, the location of the Luneta Hotel, gives it an edge to easily generate income as a hotel. Being infront of the Luneta Park, and its history and architecture, makes it an ideal place to billet guests while in Manila. In Europe and in America, hotels with such character and history usually are the most expensive and most billeted hotels. But in the case of the Luneta Hotel, despite these advantages, it is disconcerting, that with all the efforts to revive the glory of the Luneta Hotel, it has resulted instead, to income lost and abandonement of the building by the owners.

Beleaguered by the present situation of the Luneta Hotel and its declaration as a National Historical Landmark, a conservation framework plan has to be created in order to save this National Treasure and at the same time suggest an adaptive reuse plan for the building, in order for it to be useful and generate income for the owner.

Analysis

1.1 STATEMENT OF THE PROBLEM

Heritage structures in the Philippines numbers in the thousand, and in Manila alone there are more than a hundred. In fact just along the banks of the Pasig river, an architect was able to identify 100 possible heritage structure, and it is so distressing to see these structure in a very wretched condition. One of these structures is the Luneta Hotel, found along T.M. Kalaw. It is the only structure in Manila done in the French Renaissance style. It was built around the 1900's and has operated as a hotel since its construction. Presently, it is in a status of disarray. Its operation as a hotel has seized and it stands lifeless as decay slowly creeps in[18].

[17] Bambi L. Harper. "Old Manila Architectural gem in Peril." Philippine Daily Inquirer (May 3, 1998)

[18] Bambi L. Harper. "Old Manila Architectural gem in Peril." Philippine Daily Inquirer (May 3, 1998)

The Luneta Hotel, which is a national landmark is in a worse state of decay. It is for these reason that the researcher would like to create a conservation plan for the said structure using an adaptive reuse approach and at the same time identify which adaptive reuse plan will sustain the structure's commercial viability.

The researcher has identified its objective for the study;

1) To create a conservation plan for the Luneta Hotel by identifying significant and non significant elements as well as obstrusive elements.
2) To identify the different problems within the structure which prevented the continuous operation of its function.
3) To recommend an adaptive reuse for the building considering the following factors;

    a) Intrusion to the building fabric
    b) Economic viability
    c) Sustainability

Fig. 11 Luneta Hotel (1970's)

1.2 SIGNIFICANCE OF THE STUDY

With this conservation plan, it is hoped that the present owners of the Luneta Hotel would take into consideration, this plan so that it could be executed, to be both beneficial to them as well as the preservation of heritage structures. In this way a heritage structure would be saved from either demolition or the slow process of decay. The level of significance of this study is very high. The Luneta Hotel being one of the original buildings in Manila and the only building in Manila with French Renaissance Architecture preserving it and making it again useful would be a good example of how the Filipino value their heritage and how they conserve and preserve not only to show but for future generation to experience.

Although structures do differ from one another, the procedure in this research will serve as a guideline to future conservation work of other heritage structure.

1.3 SCOPE AND LIMITATION

The scope of the study was originally to identify a viable conservation plan for the Luneta Hotel based on the result of the ocular investigation, as well as study of its possible present economic contribution to the community. The study was also to cover the adaptability of the structure to conform to the following suggested adaptive reuse as well as the effects it may create to the building fabric;

- Residential Apartment Condominium
- Office Apartment Building
- Multi-Level Dining Restaurant

and a possible planning design for the most viable adaptive reuse. In cases where the structural integrity of the building was a failure, then the researcher has opted to do a façade architecture, wherein the shell of the building will be saved, while the interior is totally demolished and a new core will be built within the shell.

However, several factors have affected the scope of the research. The owners of Luneta Hotel initially rejected the request of the researcher to gain access to the Luneta Hotel. Despite the formal written request coursed through the Historical Conservation Society, the owners were firmed in their decision. In fact the researcher was issued a remark that, it was not safe to enter the building, because it is structurally unstable.

Fortunately, through repeated request coursed through different person, the owners did allow access to the building but with restrictions. The researcher was allowed to enter the building only for a limited time.

Due to the limited time given inside the Luneta Hotel, the assessment was limited only to ocular inspection, Photo documentation as well as physical measurement.

The data gathering and scope would have been more extensive, if ample time was granted to the researcher. Other test specifically on the structural stability of the building could have been conducted.

However even with such limitation the researcher is convinced that this research is significant enough to start with. The creation of a base plan or an as-built plan was a major finding, not to mention the present condition of the building interiors that are rarely seen.

With the data gathered it is suffice for the researcher to come up with a significant interpretation and approach to the project.

1.4 DEFINITION OF TERMS

1. Acroteria — A pedestal for statues and other ornaments placed on the apex and

		the lower angies of a pediment; or often refers to the ornament itself.
	Adaptability	Refers to how a structure would be able to cope up with the changes of its surrounding in all aspects.
2.	Ancone	A scrolled bracket or console in classical architecture, which supports a cornice or entablature over a dorr of a window
3.	Antepagment	The stone or stucco decorative dressings enriching the jambs and head of a doorway or window.
4.	Adaptive Reuse	An approach in conservation where a building with an original purpose is change completely without necessarily changing the building plans. (ex. A church converted into a library.)
5.	Building fabric	Refers to the parts of a buildings exterior as well an the interior. This also will refer to the materials used to create the building parts.
6.	Chimera	A fantastic assemblage of animal form so combined as to produce a single but unnatural design, a creation of the imagination.
7.	Coffering	Ceiling with deeply recessed panels, often highly ornamented
8.	Crest	An ornament on a roof, a roof screen or wall which is frequently perforated and consist of rhythmic and identical patterns that are highly decorative
9.	Conservation plan	A plan which suggest approaches to preserve a certain structure, place or object with minimal effect on the total composition of the item.
10.	Double window	Two windows, side by side which form a single architectural unit
11.	Dormer	A structure projecting from a sloping roof, usually housing a vertical window that is placed in a small gable, or containing a

		ventilating louver.
12.	Economic viability	Refers to how a certain building would be able to generate income for the owners despite its condition, location and purpose.
13.	Festoon	Hanging clusters of fruit, tied in a bunch with leaves and flowers; used as decoration on pilaster and panels, usually hung between rosettes and skulls of animals.
14.	Floriated	Decorated with floral patterns.
15.	Honeysuckle ornamentation	A type of floral pattern
16.	Heritage Structure	Structures built in the past which serves as a reminder to the cultural richness of a society. This structures are usually selected or identified by a team of experts and historians.
17.	Interlaced Ornament	A band of ornamental figures that are overlapped or intertwined to create resultant forms
18.	Insignificant elements	These are elements which are found in a building which was not original to the building design and maybe discarded due to its non purpose.
19.	Intrusion	These is a process wherein one penetrates the building fabric intentionally.
20.	Obstrusive elements	These are elements of a building which where added to solve a problem but was not design to conform with the architectural style of the building making it an eye sore.
21.	Orb	A plain circular boss used as a decorative accent, where two or more ribs of vault cross each other.
22.	Restoration	A process of bringing back a building, an object or a place back to its original form.
23.	Rosette	A round pattern with a carved or painted conventionalized floral motif

24.	Rustic quoin	A Stone quoin projecting out from the main surface of the wall with rough, split faces and chamfered edges, to give the appearance of rugged strength.
25.	Significant elements	These are elements which are part of the structures which are necessary to complete the structure. It comes in 3 levels namely, highly significant, medium significant, low significant.
26.	Spandrel	A triangular space formed between the sides of adjacent arches and the line across their top
27.	Sustainability	Refers to how a structure could survive the changing trends of lifestyle as well as its changing use.

Above definition of terms were source from Dictionary of Building Preservation by Ward Bucher and Christine Madrid ; Historic Architecture Sourcebook by Cyril M. Harris; and Illustrated Dictionary of Architecture by Ernest Burden.

I. THE FACADE : A glimpse

The Luneta Hotel is a 6-storey structure with a total height of 26 meters from grade, which was built on a 450 sq.m. property along T.M. Kalaw st. cor. Alhambra st., in the Malate district of Manila. It was originally a 4-storey building with 2-level penthouses on top, which formed part of its mansard roof. Later renovations, connected the 2 penthouses, to form 2 additional floors. This made the structure have its present 6-storey appearance.

The structures facade is an architectural marvel due to its rich architectural ornamentations, patterned after French architecture structures which are heavily ornamented. Although comparing the Luneta Hotel to other structures of French Architecture, one may notice the difference and the adaptation in ornamentation.

Most structures of French architecture would have floriated items, festoons, gargoyles, mascarons, bestiary, griffin, marmoset and human figure embellishing the façade of the structures, the Luneta Hotel however is embellished by more grotesque features known as

chimeras (*see figure 16*) which is actually an assemblage of animal forms so combined as to produce a single but unnatural design, such as winged frogs, "Anitos" in squatting positions, dragon head mermaids (*see figure 17*), crocodiles and brackets with lion's head. The structure also has bas-relief of gorgoneion mixed with festoons over its windows found on the sides of the building.

Fig. 13 Anito Type Chimera

Analyzing these modifications one may come to a conclusion that the ornamentation found on the Luneta Hotel were brought about by folkloric belief and mysticism. Most of the ornamentations are considered to ward of evil spirit and bad luck. It is also here that one may assume that the artisans who worked in the construction of the Luneta Hotel expressed their beliefs through the ornamentations and showing their Filipino and Chinese in origin as follows;

Filipino - due to the presence of an Anito like figure found on top of the dormer window serving as a keystone to the arch. Not to mention its location which is the uppermost portion of the structure serving as a guardian. Chinese - due the belief that the frog and the dragon *(see figure 17*) are said to bring good luck and fortune to owners. This explains the presence of these animals as ornamentations to the building. Another Chinese feature is found at the doorjamb of the balcony doors along the facade of the structure. One would notice the overlapping circular pattern similar to a patera serving as antepagment to the balcony doors. (*see figure 19*). The overlapping manner by which patera is done, is the same manner by which Chinese arrange their "Chinese lucky coins" to ornate their windows or doorways, which is believed to ward off bad luck and evil spirit. This strongly suggest the Chinese influence in the ornamentation of the structure.

Fig. 14 Mermaid Chimera

Another interesting feature of the building are the doorways leading to the balconies. Looking closely at these doorways, one will notice the difference in transom windows as well as pediments which tops these doorways. The 2 central balcony doors in the 2nd floor as well as the 3rd floor are topped by triangular pediment with acroterion found at its peek (*see figure 20*). However at the 4rth floor, these pediments are replaced with transom windows lined with flat topped arches. (*see figure 21*) The remaining doorways on both left and right side of the central balcony doorway are transom windows with arches (*see figure 18*). Along the left, right and rear façade of the structure, these transom windows have been removed. Evidence of which is the obvious joint in the plastering where these transoms were previously located.

Fig. 15 Patera on the doorway

Fig. 16 Grillwork for 2nd floor balcony

The balcony grills are also an interesting feature of the building. This too also changes in every floor. The balcony grill is made of cast iron, which by today's standard, would be very expensive. The most ornate of these balcony grills are found in the center balcony of the 2nd floor.(see figure 22) The balcony is a row of twisted bars decorated by diamond shape medallion. The lower part is embellished by daisy shape flowers as well as smaller flowers alternating one after the other. The upper most part of the grill is lined by flordelis shaped design alternating with another smaller 6 petal flower shape. It is then accentuated by 3 shields with a dragon head, evenly distributed within the grills span. This grill design is duplicated in both the left and right balconies but having a shorter span. The third floor balcony however, was subdued in embellishment compared to those found in the 2nd floor. The medallions and shields were removed and an alternating flower shaped design and twisted bars were adapted. (*see figure 23*) The fourth floor grill pattern was subdue in comparison to the other 2 floors but it had a miniature violin like design which was repeated through out this level. (*see figure 24*) These balcony grills are also present in both the left and right side of the building, but have been removed at rear side of the building, and replaced by standard windows. Evidently, the poor workmanship clearly shows where the original doorways used to be.

Fig. 17 Grillwork for 3rd floor balcony

The 5th and 6th levels where the two-level penthouse was previously located was joined together to form 2 additional floor. (see figure 25) The absence in ornamentation of the center addition clearly was a thoughtless decision in renovation. It is also observed that the addition was temporary due to the building materials used. Just like any addition or extension, it brought about positive and negative effects on the building.

Fig. 18 Grillwork for 4th floor balcony

Positive in the sense that, the addition increased the usable floor area of the building and it also protected the lower floors from water damaged as well as exposure to the elements of the two mansard towers.

Negatively, because it covered the very essence of the structure's character, the additional floors covered the two level mansard roof which gave the French Architecture touch to the building.

The fifth and sixth levels however are completely different item in the building. The separation of these 2 floors are emphasized by the ledge with runs around the perimeter of the building. Beneath this ledge is a row of alternating winged bat and crocodile. (*see figure 26*) It is also here that the dragon head mermaid is found on all 4

corners of the building. Above this, is a row of arched tri-window which runs around the entire building wherein the spandrels are also ornamented with tracery. (*see figure 27*) Each tri-window is framed by square piers which seems to carry the upper ledge. The upper ledge is also decorated by hollow square molding. Beyond this ledge are the slanted walls of the 6th floor which form part of the mansard roof. The mansard roof has two types of dormer windows. The dormer windows found on the front of the building is framed by an arch having a winged anito as a keystone (*see figure 28*), and another dormer window with acroterion at its peek, found at the side of the building. (*see figure 29*)

The roof is lined by roof crest and a lantern which adds more character to the building. (*see figure 30*)

Comparison of pictures of the Luneta Hotel taken in 1920, 1930, 1977 and 2003, is similar to doing a "find the difference game" found in most newspapers. This is because the changes are so negligible that you have to have a good eye to notice them. (see *figure 31,32,33 & 34*)

Take for example the added roof along the mansard roof which cover the balcony walkway leading to interior court of the deck roof. This is not present in the 1920 picture. The Luneta Hotel sign was removed in the 1930 picture. Change was also observed on the glass house found on the deck which in the 1920 picture was pointed, but in the 1930 was already round. Looking closely at both photographs, one will notice the new University Hotel on the right of the Luneta Hotel. The University Hotel is not present on the 1920 photograph. Although the adjacent lot is not shown on the 1920 photograph, it could be seen that the sunlight on the right side of the building is not obstructed. Should the University Hotel have been in the 1920 photograph then the right side of the Luneta Hotel would be shaded from the sun.

In comparing the 1930 with the 1977 picture, (see figure a lot of significant changes can be observed.

The paint of the building in the 1930 photograph was a two-toned color and the 1977 photo has an all white paint finish. The wooden windows were also replaced with steel casement doors and windows. The conversion of the left main door, to a window was significant. The removal of the baluster railings at the deck roof and the removal of the painted rustic quoin along the front façade which gave the structure a rugged strength change the building character. The change in elevation of the street and of course the addition of the 2 floors.

Fig. 19 Elevated Lobby Restaurant

Fig. 20 Lobby Restaurant

Fig 21, Basement with stagnant water

These changes however, where not immediate, but were necessary.

Present pictures however which were taken from the right side of the building would clearly show major interior renovations as well. Present pictures when compared with the 1930 picture will show that the windows for the toilets where not present in the 1930 pictures. Not to mention the changes in height of the window which is significantly lower than the 1930 pictures.

It is unfortunate that, no photographs of the building from 1930 to 1976 could not be found. Should there be one present it would complete the timeline of the building.

II. THE INTERIOR

The interior of the building has also gone through several modification and renovations, some of which are necessary due to the change in demands and some for aesthetic.

The ground floor would have gone through several renovation and due to this very minimal existence or traces of original finishes could be detected at this level.

As one enters the lobby, one can't help noticed the difference in floor elevation between the sidewalk and the lobby. This negative change of elevation of the lobby floor was brought about by the several changes in elevation of the T.M. Kalaw st.. (*see figure 35*)

Left of the lobby is a raised enclosed area which served as a restaurant. A section of this restaurant is also elevated. These restaurants were constructed of wood materials and clearly was a poor remedy of elevating these area to avoid flood waters in the lobby, during rainy days. (*see figure 36*)

Inside the 2 level coffee shop an access stair is seen which leads to a semi-basement. (*see figure 37*) Unfortunately the basement has been flooded ever since the take over of the present owner, removal of the flood water was never made or attempted. From the lobby another stair is seen which gives access to the elevator lobby. (*see figure 38*) One can not ignore the changes in floor elevations in these areas. A difference of about .60M in elevation from the lobby floor to the elevator lobby signifies that the elevator was not an original part of the building. The kitchen and the service area are located at the left side of the rear of the building. (*see figure 39*) A driveway found at the rear of the property gave access to both delivery and services of these areas. Opposite of this area is the

administration office. In all these areas, the finishes of the ceiling, walls and floors are already plastered cement, making it impossible to determine the original finishes of these areas. A floor plan of the ground floor is shown to serve as guide on how the areas are situated from each other. *(see figure 40)*

Fig. 22 Elevator Lobby staircase

To access the upper floors one may use the elevator or the staircase which ran around the elevator shaft. (*see figure 41 and 42*) The narrowness and darkness within the stairwell despite the presence of light clearly shows that the elevator in fact was not originally to the building. These strengthen the earlier claim regarding the raising of the elevator lobby to accommodate the elevator. Based on old *Figure 40 As-built plans of the 1st floor of the Luneta Hotel 1910 and 1930 pictures, the building used to have an atrium above the staircase. Should this have been maintained the stairwell without the elevator would have been well lighted. The addition of the elevator also created an obtrusive element on the sixth floor, the elevator machine room.*

From the stairs to the second floor, one can't help noticed the narrowness of the corridor (1.20 meters wide) fronting the elevator and stairs, which leads to the common hallway. There are actually 2 hallways running parallel to each other where one may access the guest rooms. (*see figure 42*) Each floor has 12 rooms all having individual toilets. However, these toilets are later additions based on comparison of past and present pictures. Toilet windows which are seen in the right side elevation of the building are not found in old pictures. (*see figure 31 & 33*) But one raises the question of "how did the hotel guests during the 1920's took a bath or relieved themselves if the toilets where later additions?". It may recalled that the Luneta hotel was originally intended for American servicemen who were in their tour of duty in the Philippines. Based on plans of old hotels in America and Europe, wherein some are still in used, most hotels had a common toilet present in each floor in which guest take turns in using. At this point it is difficult to identify where the original toilets where located.

Fig. 23 Kitchen Area

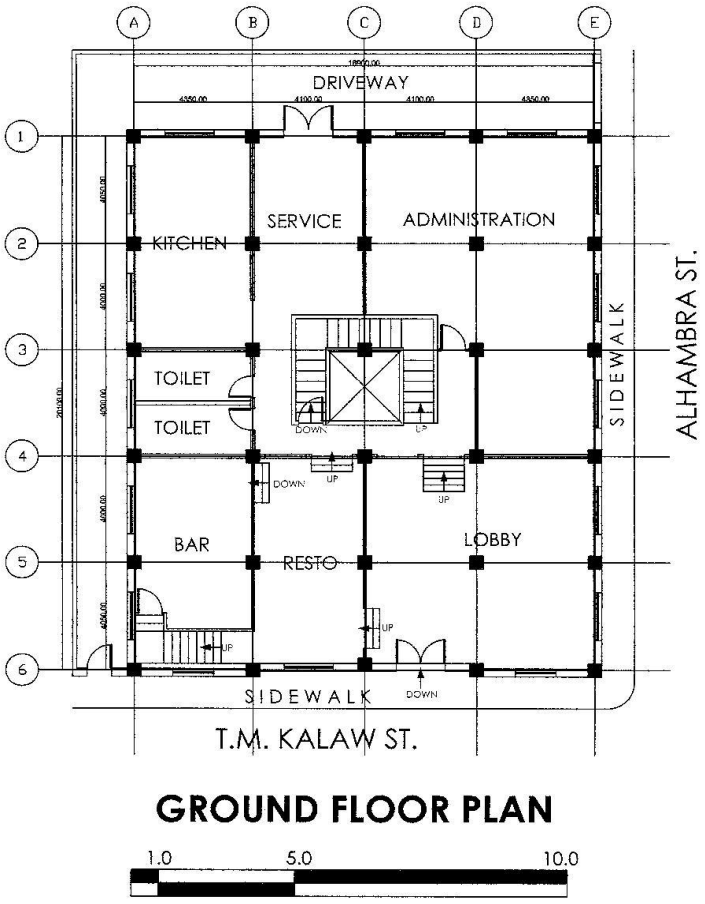

Fig. 23 1st Flr. As-Built Plan

One noticeable feature of the rooms is the ceiling design. (*see figure 44*) Each room has a similar pattern which also grids not only the room but the entire floor. And if one follows the pattern of the ceiling , one can easily detect walls that were not original to the designs due to the interruption of the patterns. This was evident to all the rooms with toilets wherein the patterns are abruptly terminated by a wall of the toilet. Often ceiling medallions are also covered by the additional walls. The termination of the toilet walls inside the rooms in relation to the ceiling patterns also proves that indeed the toilets were not part of the original building and was a later addition. A typical floorplan of the 2nd to the 4rth floor has been provided for easier orientation with in the building. (*see figure 44*)

One conspicuous addition to every floor was the presence of 4 additional rooms found in the front and rear side of the building, refered to as bdrm 7,6,13 and 14 in the 2nd to 4rth floor plan. (*see figure 44*) Based on the ceiling pattern earlier mentioned it could be seen that the four rooms are later additions. (*see figure 45*)

Another obtrusive element found in the ceiling of each room is the presence of soil pipes emanating from the upper floor. This however was covered up by creating a drop ceiling within the lower toilet. Again this proves the assumption that the toilets were later additions to the structure. (*see figure 46*)

One will also be amazed at how each room seemed to be joined by connecting doors. It will be recalled that the building was last used as a costume museum during the time of the late President Marcos. After which the building was never used again.

The flooring which is presently covered with vinyl tiles was also revealed. By peeling off the vinyl tiles along the hallway the original cement tiles or "baldoza" were exposed. (*see figure 47*) The tiles were of geometric patterns having different color of red, yellow and black. Some areas however with missing floor tiles were plastered with cement to level the floor. After which vinyl tiles were applied. These vinyl covering used were of the 60's which are smaller compared to the 70's where vinyl tiles were a lot bigger in dimension.

Fig. 24 Elevator of the Hotel

In some rooms, wall paper are still intact. By slowly peeling away the wall paper, the original paint pattern used before the installation of the wall paper could be seen. (*see figure 48*) Some areas also revealed some new cement plastering in most of the walls. However it is very hard to conclude that these were part of the original wall paint.

These findings are repeatedly found in the 3rd , 4rth and 5th floor. The room layouts are also repeated on all floors except the 6th floor.

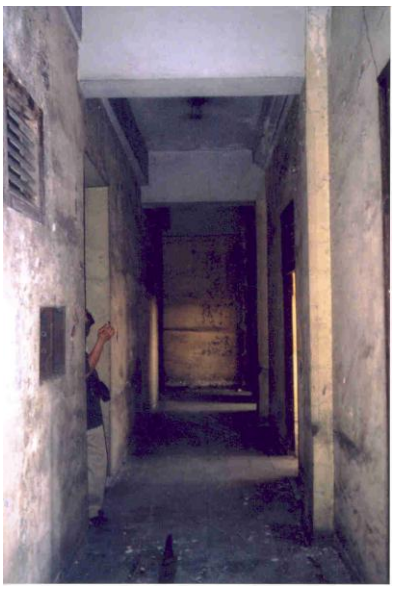

Fig. 25 Hallway along the 2nd Floor

At the 6th floor, a totally different layout can be observed. (*see figure 49*) The 8 rooms found in both sides of the building remains the same but its area is reduced due to the angle of the wall which forms the mansard roof.

Looking at the ceiling of these rooms, one can see the bottom side of the roof made of heavy gauge steel slowly corroding, brought about by the sea breeze of Manila Bay. And as one peer through the windows of these rooms, the famous Manila sunset can be viewed. This must have been the most expensive rooms in the hotel. The central naïve of this floor, however remained opened without any partitions except that of the elevator. These according to the care taker was the ballroom of the hotel. From this nave and looking at the northeast side of the building one will get the breathtaking view of the Manila Hotel, Intramuros and the National Museum, not to mention the entire Luneta Park. At the opposite side however the view of Malate and of taller building blocking the vista of Manila. Looking closely at the walls of the central naïve, its paints peeling away

Fig. 26 Ceiling Pattern

reveals the original material in which the mansard roof was covered with. It had a harlequin pattern of red and green tiles painted over by a dull white paint. (*see figure 48*) Ceramic tiles also covered the threshold of the arched doors.

The bad features however does standout and one can't help notice the planted columns in the middle of the room, which serves as the load bearing column of the additional galvanized corrugated roof.

In the rear room another planted steel column could be seen, which carries the overhead water tank which supplies the entire building. The water tank was cleverly placed just beneath the roof to hide from view. As one looks above the elevator shaft, the machine room is seen and exposed.

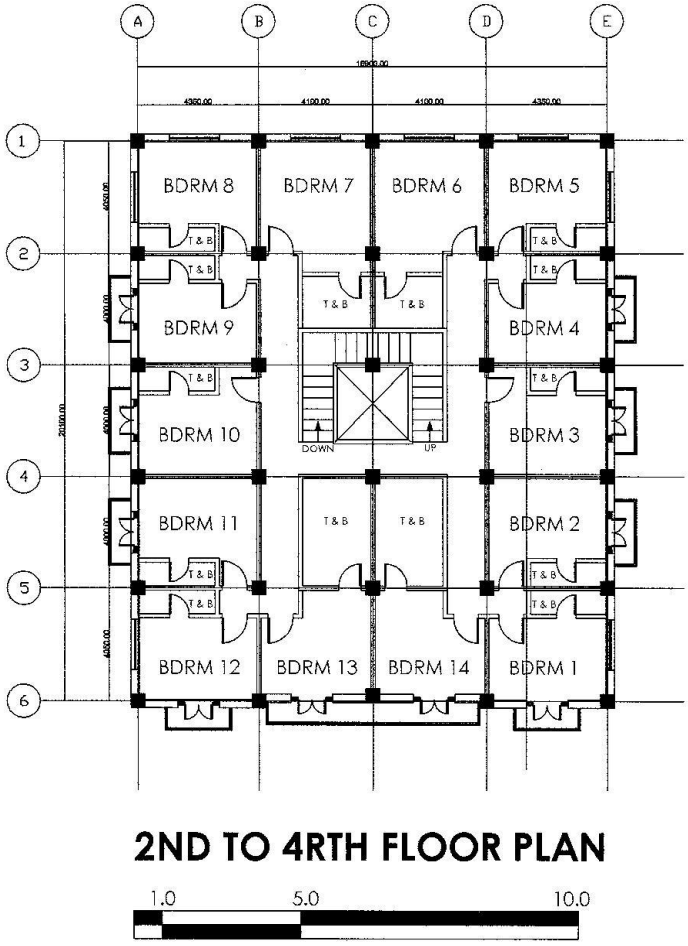

Fig. 27 As-built Plan 2nd – 4th Floor

III. THE PROBLEMS

Just like any old building, deterioration problems are brought about by several factors. The Luneta Hotel present condition can be classified as Deterioration through Natural Process – building may develop leaks and fail because the designer did not know a flashing

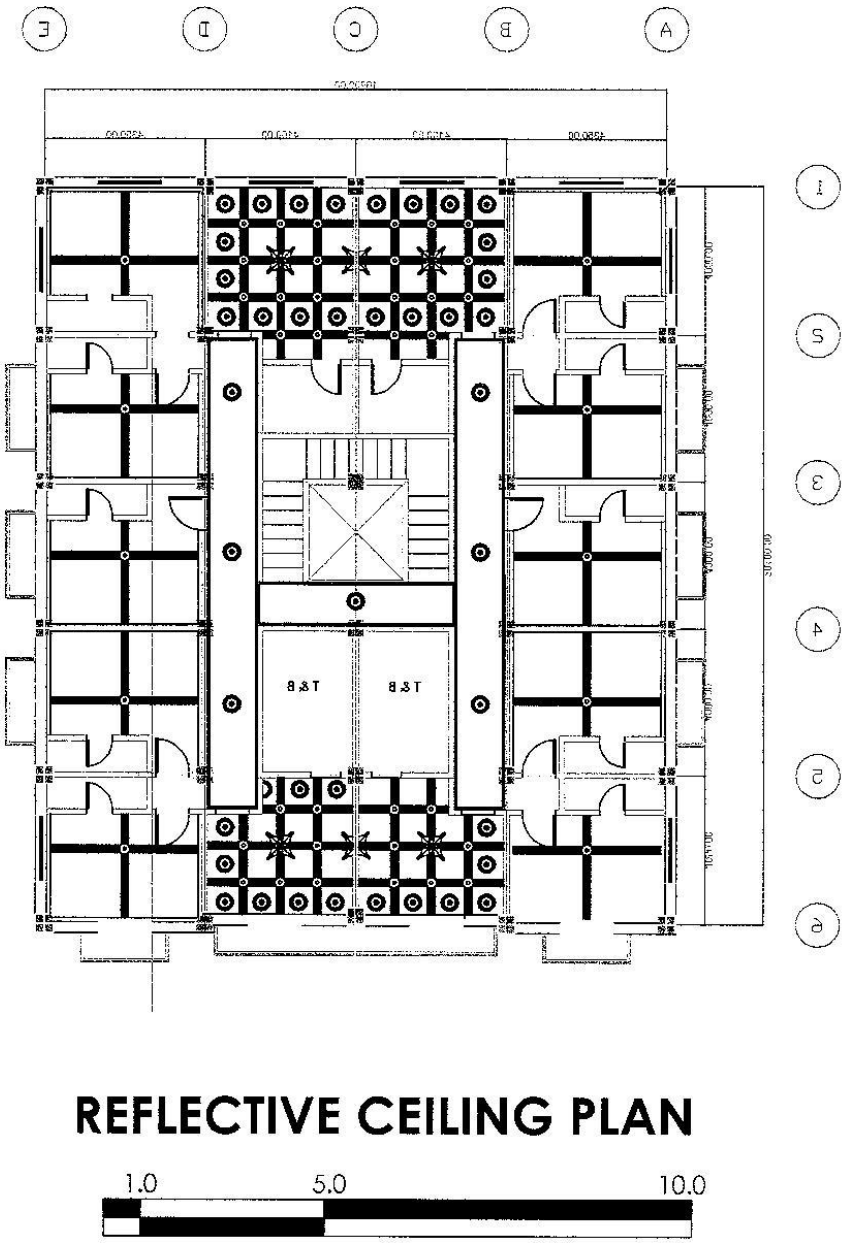

Fig. 28 Reflected Ceiling Plan

from a raincoat, but this does not mean that all the leaks are the result of human error. The best-designed details will eventually fail for the same reason that all materials must deteriorate. Deterioration is not an exception, nor is it synonymous with failure. As we know and discover, there are times and situations where deterioration is preferred, even revered, for example to achieve patina. But, as in the case of most negative human condition, there are always enough insidious aspects to failure to sustain a suspicion that all deterioration is the result of either human error or human frailty. The only human frailty that consistently contributes to or is the cause of deterioration is failure to recognize that it is normal, and will occur given tine and exposure. This failure to recognize leads us to install particularly vulnerable materials and assemblies in hostile environments. Deterioration is an inevitable as the passage of time because the two phenomena are not related. Because the basis processes and not biological, in the sense that the building is not an organism, the

Fig. 29 Drop Ceiling covering plumbing installation.

Fig. 30 Original Cement Tiles at Hallway

Fig. 31 Floral Pattern found in walls

progressive nature of deterioration is always and irreversibly negative. By these we mean simply that buildings cannot heal themselves. Although some of the environmental agents that act on the materials are organisms, and even though some of the deteriorating materials are inorganic, deterioration is not biological in character. As constructor of the built environment have known about deterioration for thousands of years. We accept its simplicity as a condition of habitation of this galaxy; but for reasons beyond reason, we find fault when certain select buildings deteriorate. This phenomenon is what we call the phenomenon of altered impression.

The present condition of the Luneta Hotel was inspected taking note of significant findings on its Vertical Closure as well as the Horizontal Closure system . Its Utility systems specifically its water supply system, and protection system specifically its emergency system was also taken note of and as well as its interior treatments.

A. VERTICAL CLOSURE

Vertical Closure of the Luneta Hotel refers to its exterior walls which provide a selective barrier between the interior and the exterior of the building. The vertical closure system not only provides a selective barrier, it delineates the inside of the building from the outside the building. The vertical closure when combined with the horizontal closure system is synonymous with what is referred to as the building envelope. The vertical closure is differentiated from the horizontal closure system not only by orientation but by function as well. Though both system define volume, the dominant function of the vertical closure system is an exercise of separation.

Deterioration of the vertical closure – After ocular inspection of the Luneta Hotel, the vertical closure seems to be in good condition, although signs of deterioration are present. ;

1. Flaking off paint – this process of deterioration is basically caused by the environment. The build up of substance on the building surface and its exposure to wind, air, temperature and salt water causes paints to slowly flake of from the surface. This process of deterioration however, will eventually stop when all the paints would have flaked off or fade away. However when this happens, the building becomes more susceptible to a process known as Thermal Transmission. (*see figure 51*)

2. Thermal Transmission - This process refers to the conductivity of the material in reference to both heat and cold temperatures. The

vertical closure of the building is exposed to both extremes. However in the case of the Luneta Hotel, the extremes may only range from a difference of 10-15% in a day during normal seasons. But sudden rain do happen thereby exposing the vertical closure of the building to sudden change of temperature. This process leads to the creation of hairline cracks on the building envelope, which later on will lead to seepage of water. (see figure 52)

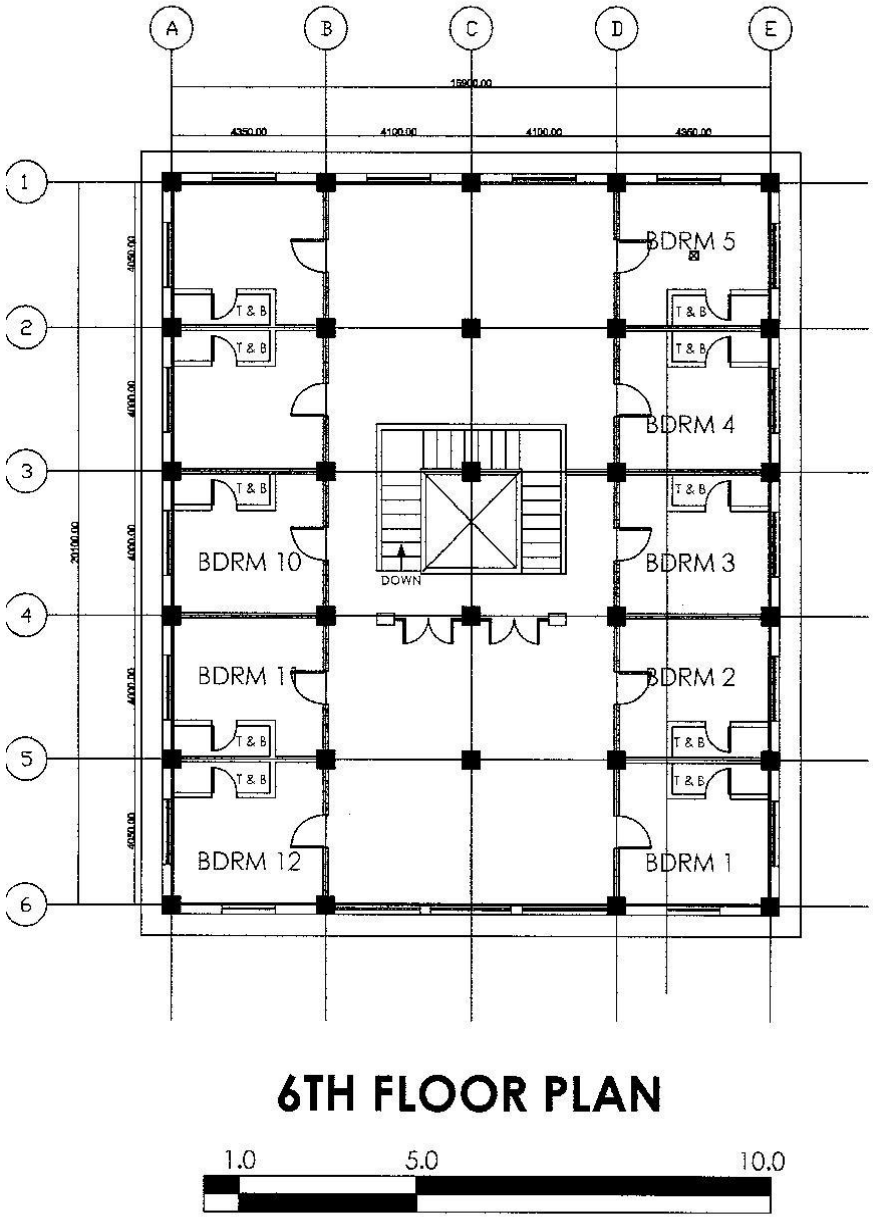

Fig. 32 6th Flr. As-built Plan

The continuous high temperature on the building envelope, also posses a danger to the structure. Such continuous high temperature causes steel members such as reinforcement bars, etc. to expand, thereby pushing concrete plaster to expand causing failure on the cement. This again would create cracks and the falling off cements. (*see figure 53*) And when the steel members are exposed the process of corrosion takes place.

Fig. 33 Planted Column on the 6th Floor

1. Corrosion – as commonly known, is achieve through the exposure of steel to salty water causing a deterioration in the steel which will later develop structural problems.

2. Salt Decay – here we are not referring to the corrosion of steel due to salt, but the decay of concrete brought about by salt properties of hygroscopicity, wherein it absorbs and hold water thereby shifting from both crystal and liquid state. And when there is a cyclic state of this process within the building fabric, salt decay occurs. There is no doubt that these crystal formations resulting from crystallization and hydration cause damage within porous materials in this case the buildings concrete envelope. In the long time the salt crystals migrates deeper and deeper the more moisture the building envelope absorbs. And when these salt crystals are embedded the process of removal becomes very tedious and expensive.

Fig. 34 Dormer Window

5. Rising Damp – refers to the general class of vertical water migration through masonry. The necessary and sufficient conditions for the rising damp condition to occur are:

- Porous, permeable masonry Continuous supply of bulk water at or near the base of the wall
- A vertically continuous network of water-transporting capillaries.

The basic mechanism is that water is absorbed at the base or at least a lower portion of a masonry wall and transported via capillary action to a higher elevation in the wall. Along the way through the wall, salts may, and usually do, collect and deposit in upper portions of the wall through evaporation.

Fig. 35 Cracking of Plaster

The water may also attack building materials directly, as opposed to damage resulting from efflorescence or subflorescence. If the water reaches interior plaster surfaces, the water will dissolve the gypsum, transport the dissolved plaster to the interior evaporative surface, and produce efflorescence on the interior of the wall. This sort of damage is characterized by bubbling and blistering of the interior plaster surface, and normally occurs below the painted surface. Unlike exterior efflorescence, which may well be the relatively harmless precipitation of transient salts, interior deposition of dissolved plaster indicates that the plaster is severely damaged and that the mechanism is still active. The mechanism may be active only during period of rains, tide or other water inundation, and is, therefore, sporadic, but the damage is cumulative, the mechanism is continuous, and the damage is progressive. While the interior plaster may be in jeopardy only during periods of prolonged saturation, the damage that occurs is irreversible.

In fact, many materials are adversely affected by prolonged exposure to water. Gypsum drywall, mortar, calcareous stones of all varieties, cement, metals generally and iron especially, along with timber and plaster, are all inherently vulnerable to water, independent of salt migration in solution in the water. All of which is to say that water movement in porous, permeable solids is associated with a very large class of deterioration mechanism. Rising damp per se, however, is not a deterioration mechanism. It is a method of delivery so commonly associated with the general class of consequential mechanisms that it is often treated as a deterioration mechanism itself. Making the distinction may seem like quibbling, but it is important to keep in mind that water movement in the material is not by itself a deterioration mechanism, because no damage is directly and exclusively attributable to the water alone. No identifiable source of deterioration has the single necessary and sufficient condition of the presence of water.

Fig. 36 Spalling of Cement

As discussed earlier the entire basement of the building is flooded since the present owner had occupied the building. And due to this, there is a great possibility that salt migration is caused by this process.

Fig. 37 Basement flooded with water

3. Acid Rain and Pollutants – Generally, air pollution which contains acid rain and other pollutants in the form of particulates and aerosols, is transported be numerous vehicles, all of which fall into two broad categories: man-made and naturals. Common to both are primary particles that are emitted directly, and include, for example, fly ash, soot and dust. Secondary particles are those created by gas-to-particle transformations, such as oxides of sulfur, nitrates formed of oxides of nitrogen, and hydrocarbon vapors that generate secondary organic compounds. The extent of air pollution is influenced by meteorological factors, as well as the amounts and levels of pollutants actually produced. The determinants of pollution concentrations include, but are not limited to: temperature, precipitation rates, fog and condensation rates, wind speed, population density, industrial productivity, and urban and rural settings. Because there are so many variables, pollution cannot be understood comprehensively, regardless of all the attention paid to it. We do know however, that pollutants will degrade all building materials.

In the case of Luneta Hotel the accumulative dirt and acid rain from the day it was built is compounded by the process of painting over of the vertical enclosure. Often, the vertical enclosure of the structure is repainted without the removal of the old paint and cleaning of the surface. If this was a lady it is similar to putting a makeup on a dirty face which when the make-up fades, a next coat is applied. This process traps the dirt with in the vertical enclosure and causes additional problems in the long run. This is also a good

prerequisite for the formation of biological elements such as plant emerging from the concrete wall. (see figure 55)

B. HORIZONTAL CLOSURE

As for the horizontal closure which is defined as a system collects, channel and divert water from any source from the time the water comes in contact with a given property until it is properly and appropriately discharged from the same property. Basically, for Luneta Hotel the vertical closure refers to the roof. Initial ocular inspection made on the horizontal closure of the Luneta Hotel was limited to its underside. Based on visual inspection the original roof of the two mansard roof penthouse was still intact. Both roofs are actually made of steel. Except for the build up of carbon deposit which causes the discoloration of the steel roof, the roof is still in good condition. (*see figure 56*) No visual evidence of leaking roof was evident. However, the mid section of the 6th floor which was the later addition to the building is already collapsing due to the deterioration of the wood trusses. The corrugated roofing used in this area also exhibit corrosion due to its exposure to the elements.

Fig. 38 Vegetation outgrowth

Proposal

- CONSERVATION AND ADAPTIVE REUSE

Fig. 39 Dark roof cause by fire.

The Luneta Hotel's survival depends on the conservation approach and adaptive reuse plan that will be adapted on the building. In order to come up with a good conservation plan the profundity of intervention must be identified.

In the case of Luneta Hotel the profundity of intervention will be;

1. Conservation / Maintenance - refers to arresting the decay of the structure.
2. Consolidation – refers to structure stabilization
3. Restoration – to bring back the structure to its original state
4. Replication – construction of previous portions of the structure that were demolished previously.
5. Rehabilitation – adaptive reuse to make possible a compatible use while preserving significant feature of a structure.

The sequencing of the above profundity of intervention is non-obligatory. It maybe interchanged as seen fit by the conservationist implementing the job. Care must be taken in programming the works

to avoid redoing completed works damaged by ongoing works. This will not only reduce time but as well as cost.

1 Conservation and Consolidation –

Based on the previous discussion on problems of the hotel's vertical, horizontal closure, as well as it's interiors and building systems, solutions to this present state of decay of the Luneta Hotel could be effected accordingly. Listed herein are the problems identified in the structure, as discussed in the previous chapter, and its possible approach on how such problems can be solved or deterred.

1.1 Flooding of the basement - Since one of the major problems of the hotel is basement flooding, the expulsion or evacuation of stagnant water should be the first in order of thing. Once water has been evacuated from this part of the building, aeration of the basement should be done. This is to dry all moisture that has been stored in the basement wall due to the prolonged soaking in water. Determining the source of the flood water in the basement, will also alleviate the present condition. Possible sources of water in this case might be an open drain or some crack or fissure in the basement enclosure causing water to seep in. Once the source of flooding is determined and corrected, the area is allowed to dry for a period of time before waterproofing materials are installed. Since one source of flooding of the basement is the accumulated rain water from the road it will significantly prevent basement flooding if the ground floor is to be designed to serve as a coffer dam. An alternative method would be to completely fill in the basement so as to avoid further flooding. However in the later procedure, significant elements that maybe found in the basement of the hotel, will be completely wiped out.

Fig. 40 Rustic quoine

1.2 Rising Damp – As earlier discussed the cause of the rising damp is the submersion of part of the building in water. Basically, the removal of flood water from the basement, which is the source of the rising damp, would eliminate this problem. It would also be of great improvement if the areas exposed to moisture be allowed to dry thoroughly before applying waterproofing coating to avoid a repetition of the rising damp.

1.3 Salt Decay – This problem can be resolve through several process of cleaning methods. However since salt is a major contributor to this decay, a process of desalination should be considered as an initial step to stop the salt decay process on the building. This desalination process may be done through the process of repeatedly flushing the walls with water. In this process a fine mist is sprayed onto the surface then allowed to dry thoroughly. The use of deionized water could increase the solvent action of water. This process might be too wasteful so to reduce the cost of this treatment, water is collected, filtered and recirculated through a mixed bed of ion-exchange resin to deionize the water again. This procedure is repeated until the presence of efflorescence is minimal. The risk of

this process is that the water pressure may increase salt mobility, thereby forcing salt further into the wall. Moreover, the evaporation rate may be too slow, trapping the salts into the wall, which may cause further damage to the fabric in the form of subflorescence.

Another process of desalination is to apply a sacrificial coating on a masonry surface. This technique is called poulticing. In this treatment a slow-drying material, such as an expansive clay or a paper poultice, is applied to a dampened wall. Because the poultice dries at a slower rate than the salt solution, the salts move towards the surface and crystallize in or on the poultice. After the poultice dries, it is removed, or it crumbles away from the building, along with leached salts. This process may need to be repeated several times to achieve the desired result. This procedure, too, carries a risk. Similar to the first method here, using water to dampen the wall may force the salts deeper into the material, which may stimulate further salt decay. To minimize the potential of mobilization of salts caused by the poulticing method, an alternative, called injection poulticing, can be used. In this treatment, pressure transport is used to desalinate porous materials. Holes are drilled into mortar, and water is injected into its center to provide a constant source of water. By forcing the water out through the mortar's face, a pressure gradient is created. As in the poultice method, a clay or paper poultice is applied to the surface. The rate of transportation by capillary movement to the poultice is greater than the rate of evaporation from the poultice. Subsequently, the salts crystallize within the poultice and are leached with its removal. This process has been claimed to desalinate a building in one to four weeks. A more sophisticated process of desalination used by architectural conservationist, is electromigration, also called electroosmosis. In this process, electrodes with an electric potential are inserted, or otherwise connected to the masonry. Depending on the electric potential applied and the specific characteristics of the materials, the rate of desalination will vary. Studies shows that it may take a long time to completely desalinate a building, in some instances, up to 25 years. In the case of the Luneta Hotel the injected poulticing should be applied to remove the slat deposit encrusted in its building fabric which is the main cause of corrosion of steel in reinforced concrete. This technique should also be done to the basement level. This area has been the most submerged portion of the building in water.

1.4 Acid Rain and Pollutants – These are commonly found on the exterior of the vertical enclosure of the building. Most often, building owners tend to repaint their building in the belief that they are actually preserving the structure. If compacted pollutants are to be removed in a structure as well as remnants of acid rains, a simple washing of the building could be employed. However, before taking

on a cleaning project, consideration must be given to the masonry substrate and its condition , the effects of cleaning at a microscopic level and in relation to future weathering of the building, and the effects of the processes on the environment. It is vital to conduct a small test on a small area of the building on locations throughout the building. This is to avoid mistakes that might be detrimental to the building. There are three methods of cleaning that are typically used;

- Water in the form of spray, steam, high pressure vacuum and soft brushing
- Abrasive either by blasting or mechanical means or without water.
- Chemical process, involving acids, alkalines and solvents.

Of these three water cleaning is the least expensive and simplest method. It can be broken down into three submethods;

- Low-pressure water over an extended period of time
- Moderate to high pressure wash
- Steam

Of the three methods most conservationists prefer to use the steam method. This is due to the negative aspects that the other two processes have. For low-pressure water over extended time is considered wasteful due to the exorbitant amount of water to be used as well as the time spent to complete a cleaning job. The high pressure wash on the other hand is fast and efficient but conservationist disagrees on what psi the water pressure should be at. Eventually, a wrong selection of the waters psi would lead to a damaging outcome. The main problem in using pressure related cleaning methods stems from the difference in objectives. Each cleaning method should be adapted specifically to each and every building. Steam in the other hand has proven to be a viable choice for cleaning highly carved surfaces without mechanical damage. It is also a useful method for removing greasy or tarry deposits, chewing gum, wax and crayons and for killing mold and algae on damp surfaces. Steam cleaning is not harmful to stone, unless stone is particularly soft . Overall, water cleaning is the simplest and least harmful to the building fabric, but large quantities of water could damage or instigate further deterioration to the whole building. With that in mind, before instituting a water cleaning program, all joints, including mortars and sealants, must be determined to be sound to minimize water ingress to the interior.

1.5 Corrosion – unless the corrosion has already caused structurally significant loss of cross sectional area of reinforcement, the main aims of repairs is to prevent further

deterioration. If significant reinforcement loss has taken place, strengthening may become necessary. To prevent further deterioration, the reinforcement has to be given adequate corrosion protection. This is usually provided by a combination of a protective coating on the bars and a reinstated, more effective cementitious cover to the reinforcement. Sometimes an impermeable coating is applied to face of the reinstated cover in order to provide additional protection. For corrosion caused by inadequate cover the following procedures will normally suffice to give a life of the repair of 20 years or more.

- All loose concrete is removed by manual hacking, pneumatic hammering and/or grit blasting.
- All rust is cleaned off the reinforcement, exposed by the earlier procedure, down to the bare metal, preferably by grit blasting.
- Within an hour of the previous procedure, the reinforcement is given a rust protective coating. This may be followed with a second coating, dusted with sand while wet, to improve adhesion of new cover.
- A bonding agent is brushed on to the concrete, followed by the application of a Portland Cement mortar, usually modified by an admixture of waterproofing latex emulsion. This new cover may be applied by trowelling or as sprayed mortar.
- The repair mortar is then carefully cured

The above repair procedure does not stop any corrosion that may be going on in adjacent areas but has not yet caused spalling of cover. Although there are procedures or technique for detecting corrosion that has not yet caused spalling, however these methods are not exact but they can assist in determining the extent of the potential problems and help to indicate when repairs will have to be undertaken.

1.6 Thermal Transmission – This problem is actually an indirect process of spalling, wherein the reinforcement steel encased in cements expands due to high temperature. Although this is a natural factor specially in the location of the Luneta Hotel, treatment to such process are often ignored.

1.7 Flaking off paint – Paints in time, eventually fades or flakes off. A fresh coat of paint on an entire building is good for building appearance and its upkeep. Surfaces must be prepared by removing old paint. This will also help maintain the detail of the moldings and brackets of the building. Presently, there are several paint remover which are chemically based to do the job. But testing should be conducted to avoid damaging the substrates of the material. Color scheme should also be carefully considered. While a single color does provide a unified appearance it can also obscure the

moldings, brackets and cornices. A better solution is to paint these details in contrasting, complementary colors, similar to the original color on the hotel in the 1920 photo. It would also be imposing if the painted quoin is restored. (*see figure no. 69*)

2 RESTORATION and REPLICATION

These two processes will be employed in some areas of the building in order to complete the conservation plan for the Luneta Hotel.

A. Exterior - The restoration approach to the Luneta Hotel will involve primarily the removal of the two additional floors which connects the two-level penthouses. The clearing of this obtrusive element will pave the way to bringing back the true character of the hotel. The 5th and 6th levels of the present Luneta Hotel is basically constructed of wood materials which makes it easier to detach from the original building. The baluster railings which fence the deck roof of the original building will have to be restored as well as the balconies attached to the dormer windows of the mansard roof.

The tile veneer covering the mansard roof of the two penthouses will also have to be striped off of its paint, to reveal the original colors of the veneer. Care in stripping the tiles of the paint must be considered in order to avoid damaging further the veneer.

The removal of the planted columns at level 5 and 6 will eventually take place when these levels are cleared. The roof crests have to be duplicated in order to complete the ornamentation on the roof. Many of the ornamentations of the Luneta Hotel have fallen off due to spalling. Replicas can be fabricated from the original material such as metal and concrete, or modern materials can be substituted. Simple details can be fabricated in vacuum-formed plastic and painted to match the original. More elaborate ornaments can be made from fiberglass or precast. Iron and steel ornaments such as grill works and railings maybe replaced with aluminum if rust is a problem. If the cost of replicating a detail is too high for the renovation budget, a simplified design based on the original forms can be devised.

It would also be appropriate to restore the original sizes of the balcony's doorways which were reduced previously, to lessen the penetration of radiant heat from the sun. This would involve the replacement of the balcony doors as well. Aluminum glass doors designed like French doors with transom would be an appropriate replacement.

Restoration of the balconies at the rear part of the building is also recommended. Although the rear of the building has been considered the service side, the replication of the balconies at the rear may later serve as areas to place condensing units of air-conditioners. The entrance doorway at the ground floor which was converted into a fixed window is also recommended for restoration. By having these two doorways functioning as means of egress and ingress, stateliness of the building is achieved. The present door of the main entrance could be duplicated in order to achieve a more authentic replacement. The old Luneta Hotel used to have an alternative entrance along Alhambra st.. The restoration of this door opening would give the building a secondary access. The redesigning of the fire stair at the left side of the building has to be considered or better yet removal would be a better solution. Nevertheless, the removal of the fire stair would mean adding a fire stair within the structure. The setback area on the left side of the property could also be rehabilitated by converting it into a pocket garden and using reflective mirrors to divert sunlight, this area can be well lit by reflective light.

The replication of the glass gazebo like structure on the deck roof located just above the stairwell should also be installed. This will serve as an atrium for the stairwell.

B. INTERIOR – In the previous chapter, it was shown that the interior of the Luneta Hotel has gone through several renovations, some of which are evident due to the inept addition of toilets in the guest's rooms as well as the addition of the other 4 rooms. Since the ceiling is the best and most significant record of original partition between each spaces, it is then appropriate to utilize this as the footprint of how to layout the rooms. Initially the patterns found in the ceiling should be mapped out before restoration and replication, in order to identify walls that are original and those which are not which eventually can be removed. The restoration of the ceiling patterns can be initiated upon effecting the stabilization procedures of the structural system, as well as both the electrical and water system. Once these systems are in place and completed then restoration of the ceiling can commence. In earlier discussion, it was pointed out that one major threat to the ceiling is the spalling and cracking off moldings from the beam. Similar to replication procedures done on the exterior of the hotel, the same process of creating a mold, of the ornamentation of the ceiling, such as medallions, cornice and moldings, could be utilized. Once the replication is completed and cleaning has been done, then paint could be applied on the ceiling. Again careful consideration should be done in selecting the type of paint as well as the color. Since the ceiling is ornamented it is suggested that a white color base be used for the flat areas and a complimentary color be applied to the ornaments.

Depending on the budget for restoration, gold leafing would be an alternative treatment to the moldings. This procedure would entail a more laborious procedure, but the end product is definitely gratifying. In order to maintain the applied gold leaf, it is suggested that upon complete drying of the adhesive used in the process, a coat of lacquer or polyurethane paint be given to the treated area. This will eventually make the gold leafing process permanent on the ornament. It is also suggested that if new walls are to be added, based on the approved adaptive reuse plan, consideration should be made in the layouts of the room to avoid covering the ornamentation and relief on the ceiling.

The interior walls, as earlier shown, had a honeysuckle border running at mid level of the walls. This pattern may be revived and applied in the common areas of the building so as to relieve the ambience of the old Luneta Hotel. Other rooms however, may prefer to paint the walls accordingly. Another method would be to leave a section of a wall with this pattern unrestored and covered with an acrylic shield, while the rest of the walls are painted in a contrasting manner. With this solution visitors to the building could be shown the original state of the walls before restoration.

The floor of the Luneta Hotel as previously presented, still had traces of the original baldoza tiles. One approach in the restoration of the flooring is to have the tile replicated and applied to floor. However customizing floor tiles would be an expensive approach. Another methodology would be to select an area where the floor tiles are intact and bring the tiles to its original condition. This then could be cordon off from regular traffic of people in the building and landmarked as another original feature of the building. The floor in other areas may then be treated as specified by the approved adaptive re-use plan.

The ground floor having the least of the original treatments would have to be treated differently. Since most of its architectural treatments have been changed, any interior treatment may be applied to this area. However, it would be appropriate if the ornamentations found in the upper floors be replicated at this area. This would be embellishing the ceiling with replicas of reliefs and medallion. One concern at the ground floor is the preservation of the red and black granolithic floor finish. In previous chapters, it was stated that the lobby is flooded during rainy season as water rises from the basement. In-filling would occasionally be the solution in order to raise the floor of the lobby. However, in doing so, the original finish of the floor would be completely concealed by the infill thereby covering a part of the buildings history. In order to preserve the floor, and solve the

problem of flooding, raising or elevating the floor to a safe height would be an appropriate solution. At the same time, an inside pond could be created using the original floor as its base will leave a portion of the original floor visible

C. Building Utilities – Water supply pipes, electrical raceways, fire supression systems and mechanical devices are basic requirements of a living structures. Although the building have these systems, its working status have not been explored. Therefore very limited approach on how, where and what to install could be discussed.

The water supply of the building based on the ocular inspection done, has shown that the building uses gravity feed as a method water distribution the source of which comes from an overhead tank located inside the mansard roof. This obviously has created an obtrusive elements in the interior of the building, as well as the exterior of the buildings, in the form of exposed water pipes and drains along side the wall of the structure. Clearly these waterlines and drains are needed, but careful layouting of this system should be done to make the impact of installing this system less significant. The overhead tank should be removed from the mansard roof, and in place, the building should be provided with a pressure pump which could direct water even at the highest water fixture of the building. Location of such pump should be at the rear of the building.

As for its electrical system, the same electrical raceways could be tapped to lessen the impact of the new electrical wirings to be installed.

The mechanical system of the building specifically the elevators has to replaced with a hydraulic type elevator. This would eliminate the need for a mechanical room at the top floor. This would also contribute in the restoration of the deck roof.

Air conditioning will be a basic necessity, regardless of whatever adaptive reuse plan is employed in the building. It is suggested that instead of a centralized air-conditioning system, which will utilize airducts, split type airconditioner would be a better alternative. As mentioned earlier the restored balconies at the rear may serve as location for the condensing unit of the airconditioners.

D. Fire supression system - Installation of fire preventive devices will be dependent on the occupant loading of the building, basis of which will be on the adapted reuse plan selected and a minimal requirement should be considered. This would mean an occupant loading for residential apartment building. Under the Fire Code of the Philippines

this classification falls under division 10. This will dictate the necessary fixtures necessary to comply with the Fire Code.

With these guidelines and strategies enumerated, a conservationist may use it to an adaptive reuse plan for the Luneta Hotel.

I. Rehabilitation - Adaptive reuse plan

The rehabilitation of the Luneta Hotel will be dependent on the proposed 3 types of adaptive reuse. These 3 adaptive reuse plans are

a. Multi-Level Restaurant
b. Office Building
c. Mixed Used Residential Apartment

All three proposals are economically viable, however, considerations must be taken into the following aspects;

a. Impact on the building fabric
b. Occupant Loading (no. of users)
c. Building utilities requirement
d. Additional building requirement required
e. Fire Code requirements based on design
f. Socio-Economic Impact
g. Environmental Impact

Plans for each adaptive reused are presented and analyzed based on the above aspects. The plan with least impact on the above aspect is the most likely to be adapted. Please take note that the plans presented herein are just suggestion and may have some flaws. Its presentation is to determine the effects and requirement of each proposed used.

A. Multi-level restaurant – In this proposed used, the building will be converted into a restaurant serving different types of cuisine. Each level will be rented out to different restaurateur wherein a floor will be for Japanese dining, the next floor Filipino dining and the next Chinese. The penthouse may be rented out to any of these restaurants for special functions or for those wanting to have an open air dining. The ground floor will have an administration office and the area along side Alhambra st., may be rented out to coffeeshops like Starbucks. A lobby is provided for guest waiting. The concierge will coordinate the queing of guest to the restaurants. The elevator will be the main connection between the lobby and the restaurants. A service elevator and staircase is added inorder to bring deliveries of goods to the upper floors. Toilets are consolidated into one area thereby making plumbing a minimal problem. Since open planning is employed, minimal impact on the ceiling relief will be done. However, most of the walls will be

removed. Kitchen vents are to be tapped at the rear of the building since this is the service side of the building. This may later start a different problem of staining the rear façade due to the smoke emanated by these vents. Due to the big volume of space to be cooled, several air-conditioning units have to be installed. This will eventually lead to unnecessary boring of holes through walls as well as ceiling. The classification under the Fire Code will be Division 12 Business Occupancies. Under this occupancy alternative exit fire staircase will be required. In this case this will be the service staircase. Additional fire suppression system such as sprinkler systems and stand pipes will also be required. (see figure 70,71, & 72)One major problem for this type of use will be the parking. Presently, no provisions for parking is available within the building's property. Except for the service area located at the rear. One solution to this problem would be for the owner of Luneta Hotel to either buy or rent the property beside it to accommodate the large parking requirement for such building use or provide valet parking for their guest. Based on the floor plan presented the building will have a maximum of 500 guest at one time.

B. Office Building - As an office building, the Luneta hotel would be a prestigious business address, due to its being identified by the National Historical Institute as a Historical Building. Inviting potential lessors to occupy the building will be an easy task. In the proposed plan presented for an office building, the ground floor will be similar to that of the restaurant layout. A coffeeshop shall be provided along side Alhambra st.. An Administration office, lounge and a lobby shall be provided. In the upper floors open planning shall also be adapted where offices are to use low partitions to avoid damaging the ceiling reliefs. Public Toilets are also provided for as well as an alternative exit to serve as a fire exit. The ceiling above the lobby is removed to give a more grand feeling as one enters the lobby. Since there are no ornamentations present in the ceiling of the first floor, there would me no significant element lost in the process. In the second floor layout the corridors are merge with office space inorder to increase revenue. It's a fact that presently, rentals of units are based on floor area occupied by the unit. The location of the public toilets, will however affect the ceiling reliefs. The reinstated deck roof however, will become a common place, thereby reducing a viable revenue earner to a public area. Each floor shall be occupied by only two offices. Following this concept a maximum of 200 users may be in the building at one time. Similar to the restaurant proposal, these huge number of occupant load would greatly affect the building fabric. Parking will also be a problem due to number of tenants as well as visitors. Cooling requirement would be the same as the restaurant due to the open planning design used in the offices. (*see figure 73,74,75 & 76*)

C. Residential Apartment – Among the three proposals the residential layout will be classified under Division 10 Residential Occupancies. The ground floor is layed out similar to

the other 2 proposals except for the laundry area. This has been provided for to lessen the additional repiping in the upper floors. The upper floors are divided into 2 units, each unit having 3 bedrooms. The sleeping areas are placed at the rear of the building to lessen the impact of noise from the street. The kitchen is modular where partitions are at a minimum. The dining and living area are situated at the front in order to maximize the vista seen along T.M. Kalaw. The Penthouse will however be the expensive units due to access given to the deck roofs which can be converted into rooftop garden. The penthouse is separated vertically wherein the right side along Alhambra st. is one unit and the left side is another unit. The unit will occupy the lower and upper spaces of the mansard roof creating an elegant layout. A staircase will be added to access the upper level. Each unit will be 2-storey with 3 bedrooms. In this proposal the maximum number of users will be 50 tenants. This significant low number of users is definitely will reduce impact on the building fabric. Cooling the rooms will be at a minimal since this will be necessary only in the bedrooms. It may be noted that the layout of the toilets and bedrooms are also the same as in the as-built plan, thereby lessening the required removal of walls to accommodate the proposal. (see figure 77,78,79 & 80).

In order to compare all three proposal a table has been created to easily visualize the effects of each proposal to the structure. (see table 1) Based on this tabulation, clearly it shows that using the residential adaptive reuse plan for the Luneta Hotel would be the best approach to the rehabilitation of the structure. Its minimal impact on all aspect presented signifies that in this adaptive reuse plan, the structure would be functional, economically viable and maintenance will be at a minimum.

Method

The research involved several modes or types of research methodology in order to come up with a viable conservation plan for the Luneta Hotel. The following methods that was used was ;

(1) Historical Method – The archival work on the background of the Luneta Hotel was a very arduous task. The researcher have visited several libraries to get some historical information about the Luneta Hotel, however most of these libraries had very minimal information on the topic and if it did, at most times, only a mention of the hotel. The UST Central Library did not have anything about the Luneta Hotel. The researcher however was lucky enough to get some historical information from the library of the National Historical Institute. Here some news clippings as well as a copy of the declaration of the Luneta Hotel into a National Historical building were found. Other information came from articles in architectural magazines. Thanks to the present awareness on conservation of heritage structure many of these architectural magazines have done series on the country's

heritage structure. Through archival work the researcher was able to trace the ownership of the Luneta Hotel which led him to the Panlilio Family who presently own the Luneta Hotel. Eventually it was through this that the researcher was able to get clearance to enter the interior of the Luneta Hotel. Attempts were made to interview the present owner but the owners preferred to be tacit. With archival data present, the researcher attempted to trace the keens of the former owner Toribio Teodoro but to no avail. This would have been the link on the numerous renovation done on the hotel.

As for archival photographs of the building, the researcher went to several museums and was able to get copies of photographs of the Luneta Hotel in the early 1900's. It was through the Lopez Museum that the earliest dated picture was found. Other photographs from the San Miguel Corporation Museum and locally published architectural magazines were also found.

The City Hall of Manila was also tapped by the researcher in order to acquire a copy of the plans of the Luneta Hotel. This was based on an assumption that the hotel underwent renovation when the connection of the two mansard roof was done. The fact that a renovation job was undertaken in the 70's building permits must have been filed together with architectural plans. So from this premise the researcher went to the City building official to acquire a copy of the plans submitted for the renovation of the hotel. It was hoped that through with this plan, a conservation plan could be derived. The researcher went to the archives of the City Hall of Manila which was located in Paco. Unfortunately, storage conditions where very bad and the researcher was told that many plans dating in the 70's were thrown away due to a flood several years ago which destroyed a great amount of files that was stored there. Due to this the researcher opted to come up with his own as-built plan of the Luneta Hotel based on a survey of the building. In retrospect, the researcher was able to gather 3 rare pictures of the Luneta Hotel dating from the 1910, 1930, 1977. Pictures of the interior were not available.

(2) Descriptive Method – In the descriptive method the researcher attempted to interview the present and past owners of the hotel, but to no avail. He instead was able to interview the present care taker of the building known as Mang Jingoy. He has been the caretaker of the building since the EDSA 1 revolution which was in 1986. The caretaker who has been in the building for many years, could only give information about the condition of the hotel from the date he got in up to the present.

(a) Correlational Studies – With the photographs acquired by the researcher, a comparative analysis on the photographs where

done, which revealed changes on the structure has gone through for the past century. The 3 suggested reuse proposal where compared inorder to come up with the most practical and effective reuse for the building.

(b) Survey and On-site Analysis – The survey method has made it possible for the researcher to create an as-built plan of the Luneta Hotel. This was done by taking measurement of each floor and each room to come up with an accurate plan. For the elevation of the building, the researcher used a transit and geometric computation to determine the height of the hotel. However due to the limited time an on-site analysis was impossible. So instead a photo documentation was used by the researcher in which every detail of the hotel's interior and exterior was photographed. However there were still some areas which where beyond reach that was not documented such as the roof and the left side of the building.

Results/Current Status of the Work

Presently, the property has been acquired by ETON Corporation which has expressed their intention of protecting the structure . However it was announced a few weeks ago in the newspaper that the sale of the building is bogus and now the ownership is being question and all works have been stopped.

Discussion & Conclusions

The objectives of this research as stated in Chapter 1 are;

1) To create a conservation plan for the Luneta Hotel by identifying significant and non significant elements as well as obstrusive elements.

Based on the data presented in Chapter 4, the author showed in details the different architectural elements of the Luneta Hotel, from the exterior, to the interior including building systems. It was noted in the discussion the identification of elements that are significant for restoration and those that could be removed from the structure due to its obtrusive element.

2) To identify the different problems within the structure which prevented the continuous operation of its function.

The presentation of the different problems of the structure was discussed in chapter 4 and the relative solution to each problem was presented in Chapter 5. The solutions are specific to the conditions of the Luneta Hotel. But these solutions are based only on the data gather. Limitations on the studies such as time within the building must be considered. The solutions may also differ once the actual process of restoration commence. It is also clear the main cause of the

non-operation of the hotel is due to structures problems enumerated earlier.

3) To recommend an adaptive reuse for the building considering the following factors;
   a) Intrusion to the building fabric
   b) Economic viability
   c) Sustainability

Clearly in the data presented, creating an adaptive reuse plan for the Luneta Hotel with a design leaning towards a residential apartment would be the most effective and less intrusive solution.

In conclusion, the researcher was able to attain the set objectives of this study and was able to come up with effective, practical, methods and strategies in the rehabilitation of the Luneta Hotel.

II. RECOMMENDATION

The result of this research presented herewith, is based on data gathered by the author. Although limitations such as time, accessibility to the structure and cooperation of the present owners has limited the researcher study, further investigation may strengthen the claims presented in this research. Much of this research has been spent on creating a rehabilitation plan without the confirmation that the building is structurally sound. Further studies on the structural integrity of the Luneta Hotel should be done. Studies on its building systems such as plumbing, electrical, mechanical, and fire suppression should also be conducted.

Studies on façade architecture using the Luneta Hotel should also be done. This is in case further studies declare that the building is structurally unstable.

It is also recommended that a law should be passed compelling owners of heritage structures to initiate a rehabilitation or conservation plan for such structures in their possession. In return, the government may assist in funding and maintaining such structure, or apply the cost of the restoration as tax credits to owners and owners who uses time to demolish heritage structure through decay be penalized.
People should always remember that historical landmarks lost through what ever process is a loss of its people's history.

In closing a quotation from Bernald Fielden , "The best way of preserving buildings as opposed to objects, is to keep them in use –

a practice which may involve what the French call 'mise en valeur', or modernization with or without adaptive alteration."

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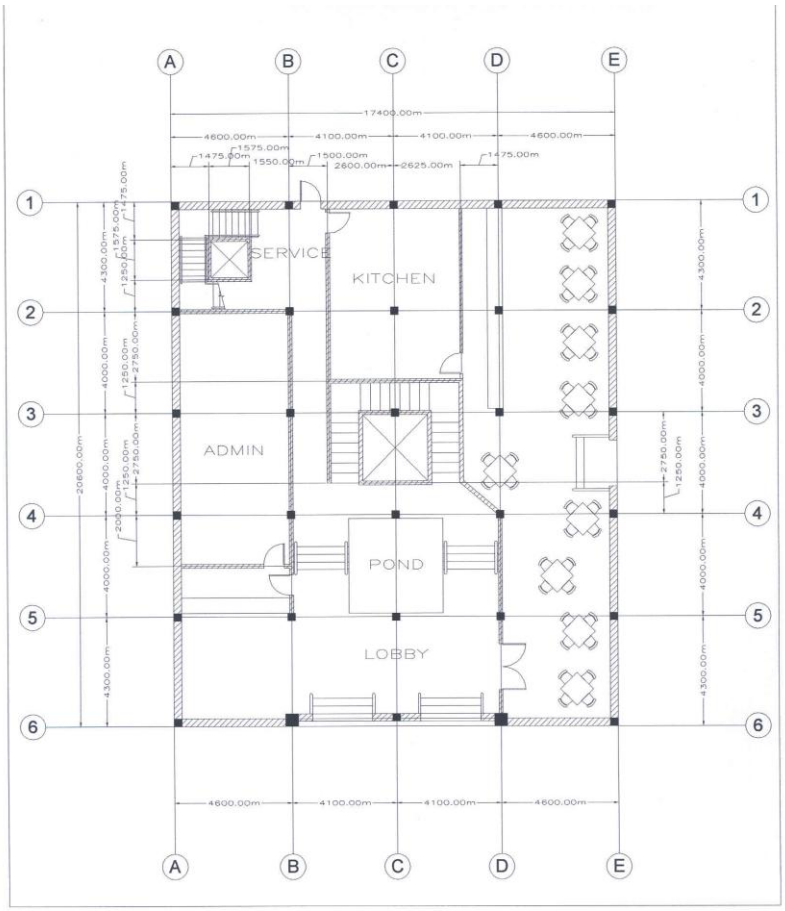
Proposed Multi-Level Restaurant Plans



GROUND FLOOR PLAN
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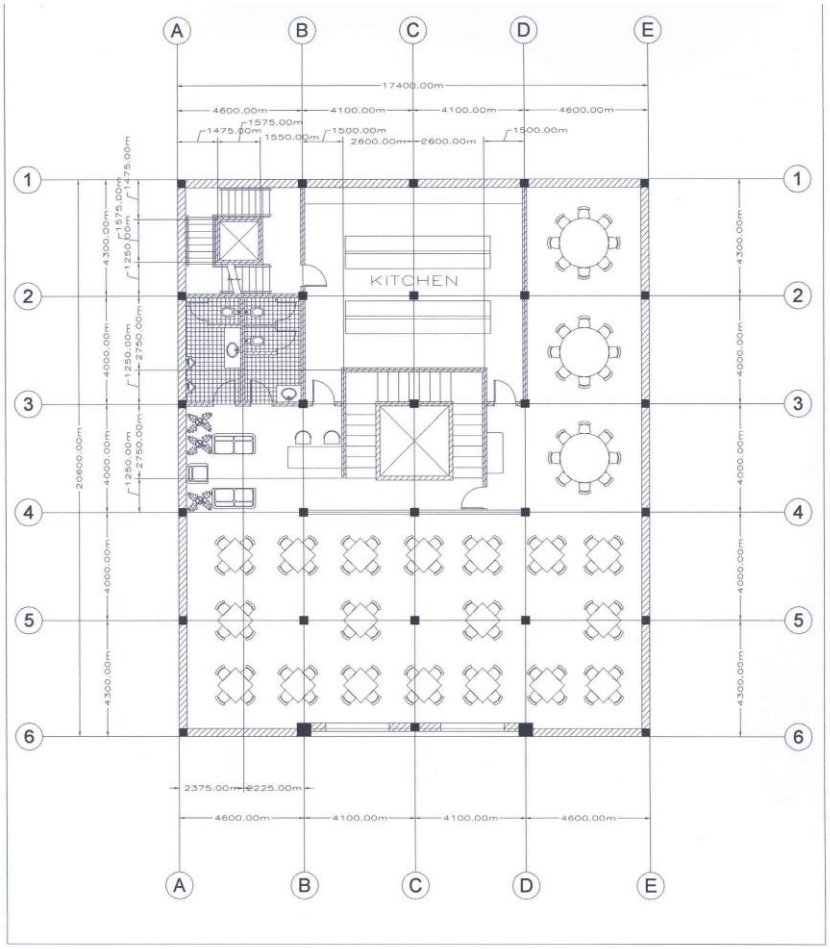

SECOND FLOOR PLAN

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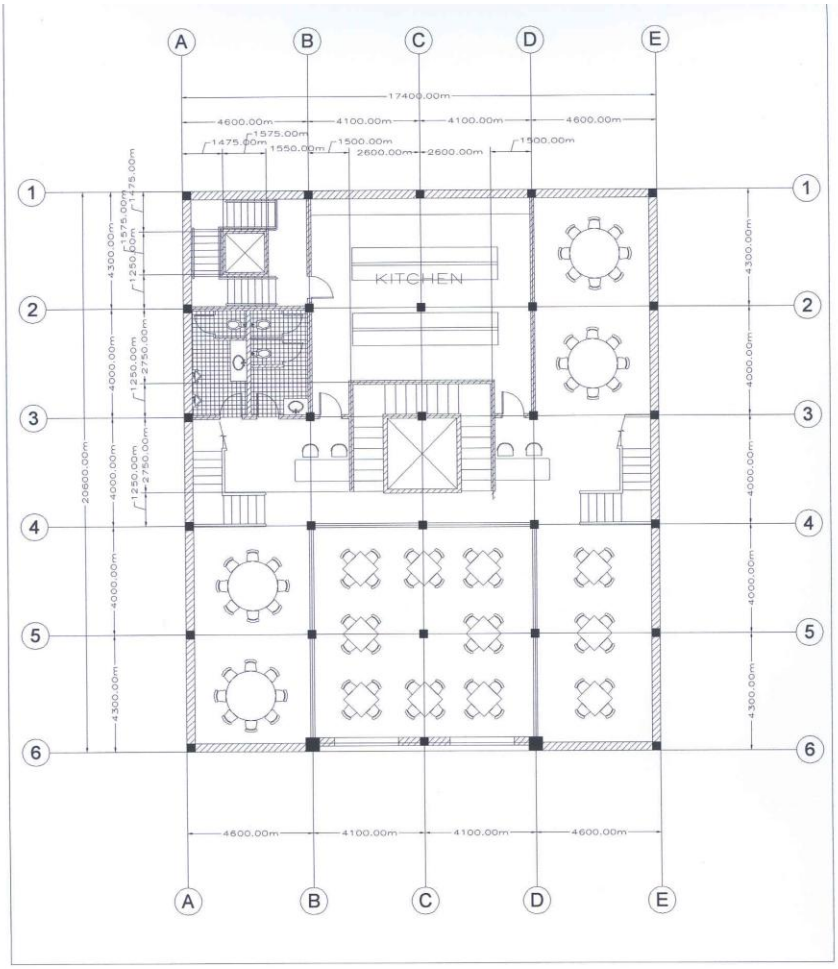

5THFLOOR PLAN

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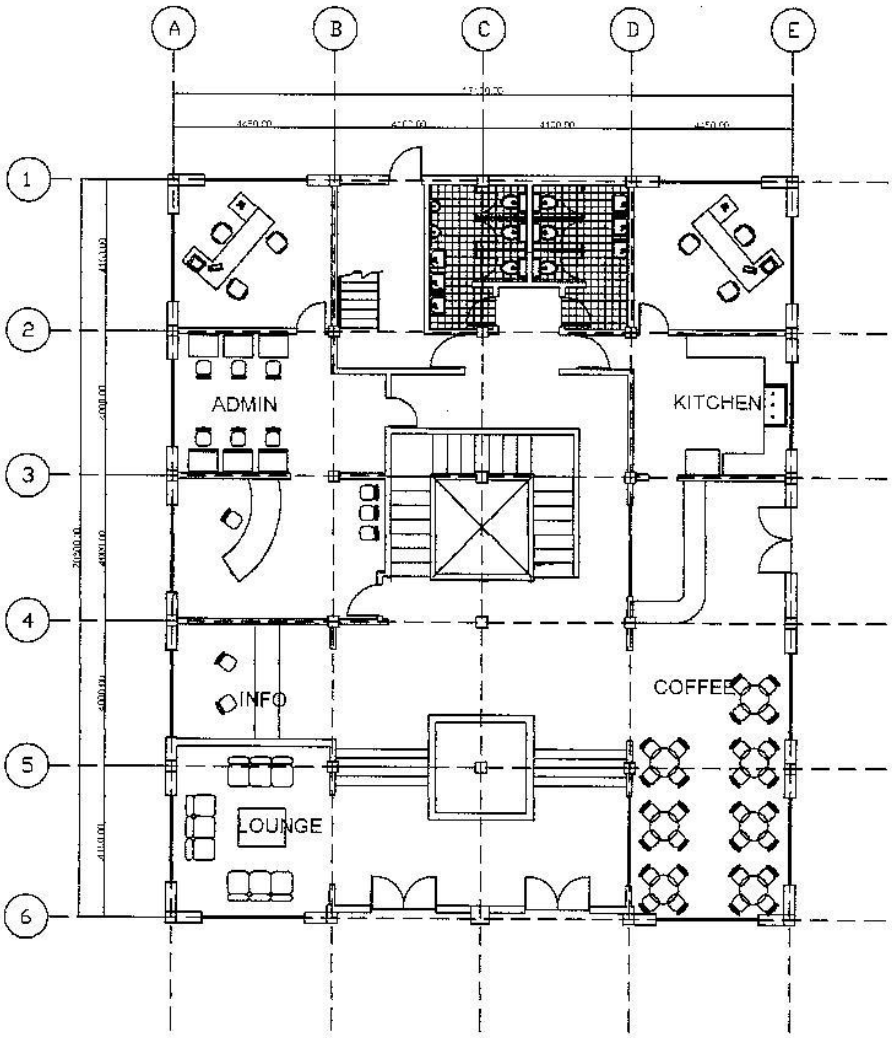

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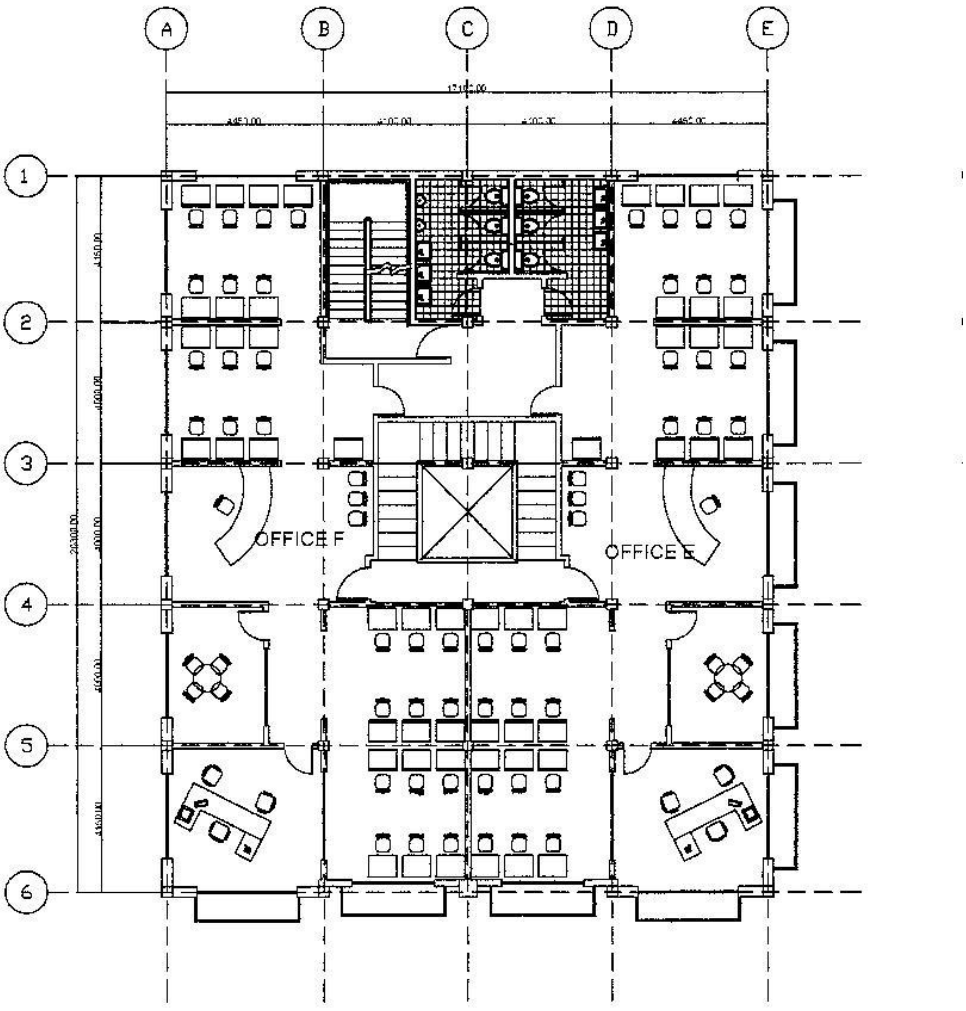
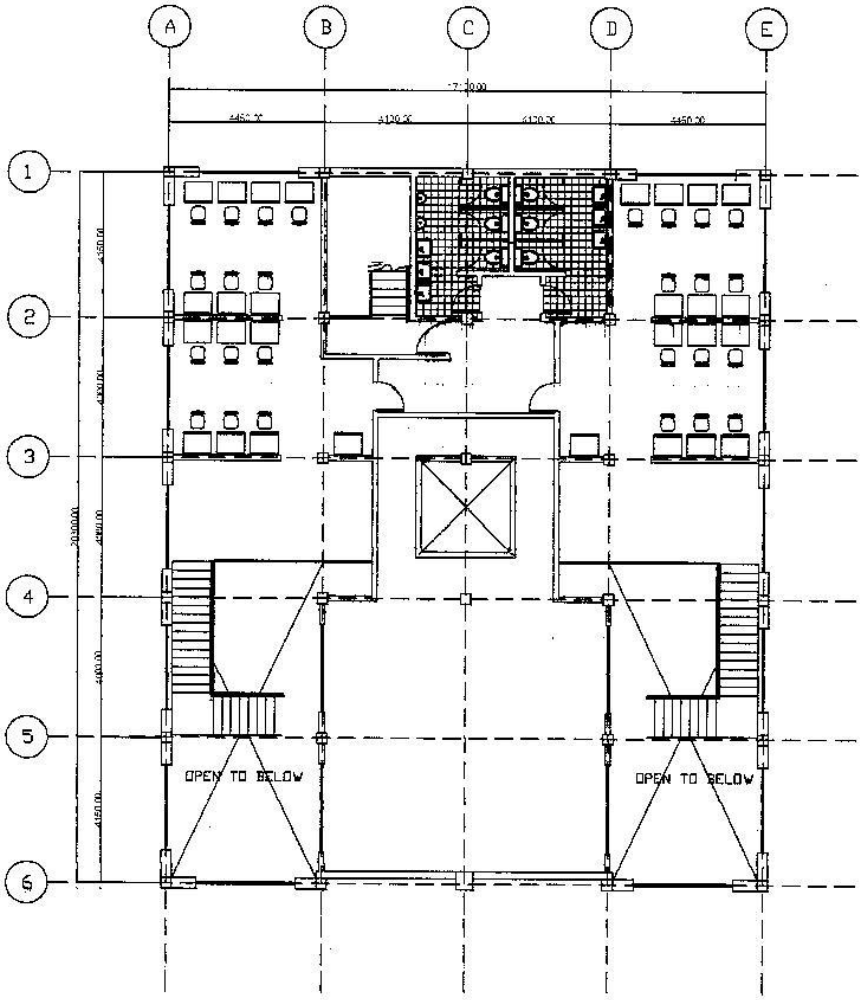


3RD-4TH FLOOR PLAN



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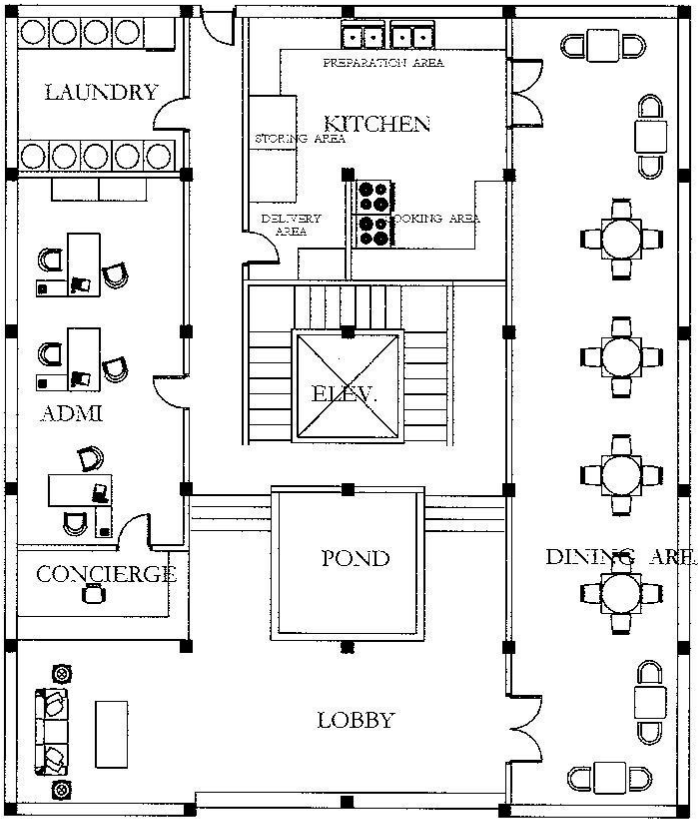
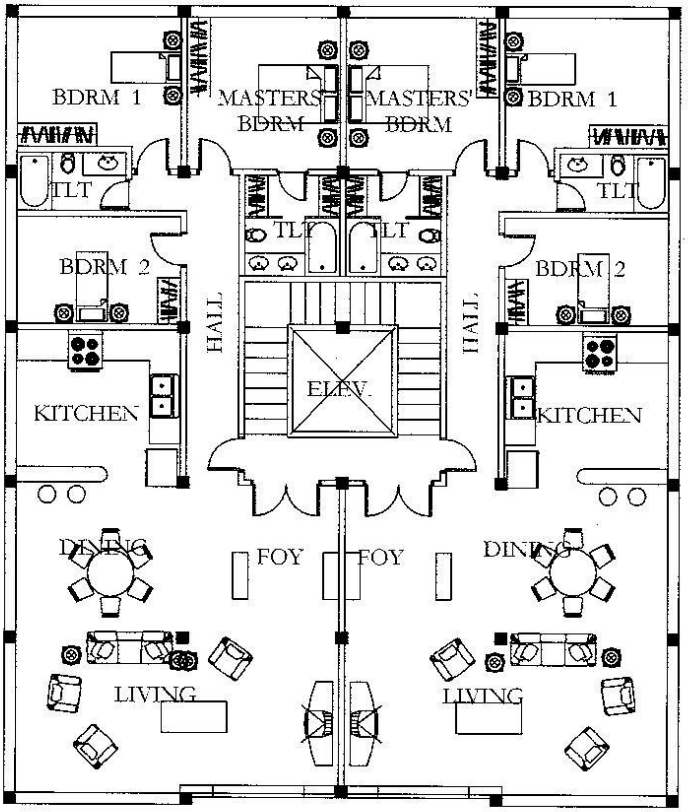


GROUND FLOOR PLAN

SCALE



2ND TO 4RTH FLOOR PLAN

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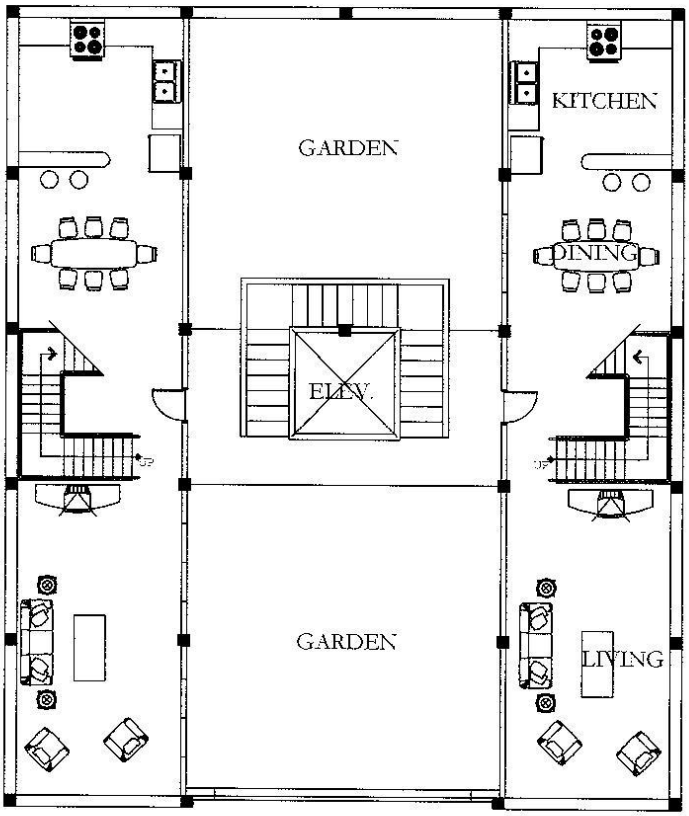

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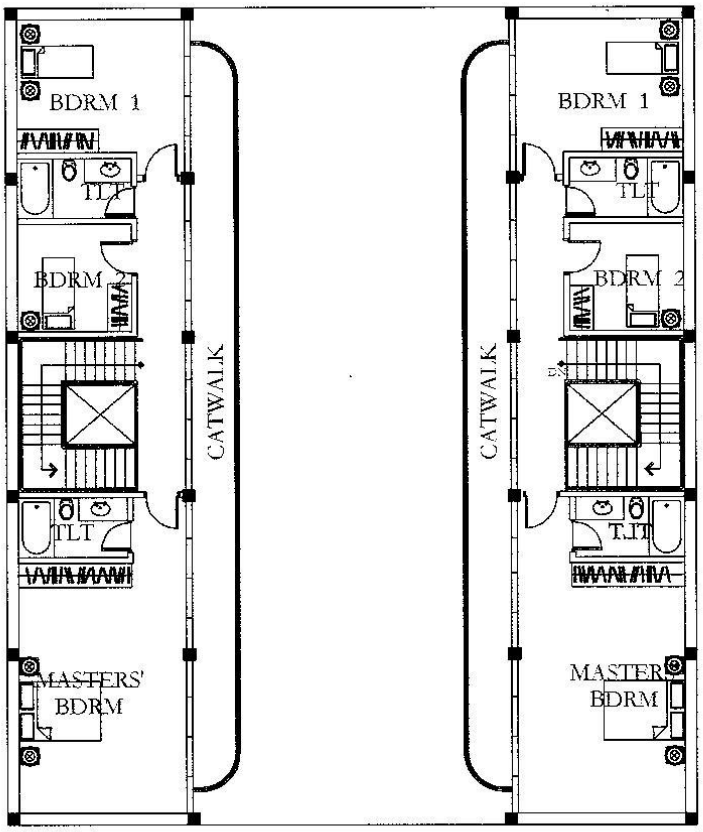

6TH FLOOR PLAN

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