This subject paper is intended to be a research paper delving into different views and analyses from various sources. The views and analyses as contained in this paper are intended to stimulate public discussion and input to the planning process of the "HK2030 Study" and do not necessarily represent the views of the HKSARG.

WORKING PAPER No. 40

FINAL REPORT ON THE CASE STUDIES OF THE POSSIBLE CONVERSION OF SELECTED INDUSTRIAL BUILDINGS FOR LOFT APARTMENTS IN MA TAU KOK AND YAU TONG

Working Party on the Possible Conversion of Selected Industrial Buildings for Loft Apartments

September 2002
Acknowledgement

This Report represents the efforts and contributions of the members of the ‘Working Party on the Possible Conversion of Selected Industrial Buildings for Loft Apartments’. The members comprise representatives of the professional institutions (including Hong Kong Institute of Planners, Hong Kong Institutes of Surveyors, and the Hong Kong Institute of Architects) and concerned Government departments (such as the Buildings Department, the Architectural Services Department and the Lands Department). Their hard work and innovative ideas have provided the foundation for taking forward the ‘loft concept” which, if implemented, would provide new opportunities in transforming the old industrial areas in Hong Kong.
1. INTRODUCTION

1.1 Purpose of the Study
1.2 Background
1.3 Study Approach
1.4 The Local Context
1.5 What are Lofts?
1.6 International Experience

2. KEY ISSUES

2.1 Overview
2.2 Planning
2.3 Plot Ratio and Site Coverage
2.4 Lighting and Ventilation
2.5 Other Design Requirements
2.6 Financial Viability and Land Premium
2.7 Land Administration and Management Issues
2.8 Environmental Considerations and Contamination
2.9 Planning-led or Market-driven

3. CASE STUDY ON MA TAU KOK

3.1 Selection of Study Area
3.2 Selected Building
3.3 Existing Building

4. MAJOR FINDINGS

4.1 Building Design
4.2 Density Issue
4.3 Plot Ratio
4.4 Site Coverage
4.5 Open Space
4.6 Lighting and Ventilation
4.7 Kitchen and Sanitary Fitments
4.8 Fire and Building Safety
4.9 Car Parking and Loading/Unloading Facilities
4.10 Sewerage
4.11 Summary

5. TRAFFIC

6. ENVIRONMENTAL CONSIDERATIONS AND CONTAMINATION
6.1 Air Quality
6.2 Industrial Noise
6.3 Contamination

7. FINANCIAL VIABILITY

8. CASE STUDY ON YAU TONG
8.1 Selection of Study Area
8.2 Selected Buildings

9. BUILDING ONE – SHUNG SHUN STREET

10. PROPOSED SCHEME A – LOFT WITH THEATRE
10.1 General Building Design
10.2 Loft Units
10.3 Atrium
10.4 Retailing and Vehicular Access
10.5 Theatre and Arts Facilities
11. MAJOR FINDINGS

11.1 Density Issue
11.2 Plot Ratio
11.3 Site Coverage
11.4 Open Space
11.5 Lighting and Ventilation
11.6 Kitchen and Sanitary Fitments
11.7 Building Circulation
11.8 Fire and Building Safety
11.9 Car Parking and Loading/Unloading Facilities
11.10 Sewerage
11.11 Summary

12. TRAFFIC

13. ENVIRONMENTAL CONSIDERATIONS AND CONTAMINATION

13.1 Noise Level and Air Quality
13.2 Contamination

14. FINANCIAL VIABILITY

15. PROPOSED SCHEME B – LOFT WITHOUT THEATRE

15.1 Design of Alternative Scheme
15.2 Major Findings
15.3 Traffic
15.4 Environmental Considerations
15.5 Financial Viability

16. BUILDING TWO – TUNG YUEN STREET

17. THE PROPOSED SCHEME – BUILDING TWO
17.1 General Building Design
17.2 Loft Units
17.3 Office/Production Spaces
17.4 Housing for the Elderly

18. MAJOR FINDINGS – BUILDING TWO
18.1 Density Issue
18.2 Plot Ratio
18.3 Site Coverage
18.4 Open Space
18.5 Lighting and Ventilation
18.6 Kitchen and Sanitary Fitments
18.7 Fire and Building Safety
18.8 Car Parking and Loading/Unloading Facilities
18.9 Sewerage
18.10 Summary

19. TRAFFIC

20. ENVIRONMENTAL CONSIDERATIONS AND CONTAMINATION
20.1 Interface Problem
20.2 Air Pollution
20.3 Industrial Noise
20.4 Contamination

21. FINANCIAL VIABILITY

22. PUBLIC VIEWS

23. CONCLUSION
Attachments

Annex A  Overseas Examples of Loft Development
Annex B  Financial Viability of Conversion of Industrial Buildings for Lofts (Residential and Studio)
Annex C  Ma Tau Kok Case Study
Annex D  Yau Tong Case Studies
1. **Introduction**

1.1 **Purpose of the Study**

1.1.1 The purpose of this study is outlined as follows:

(a) to examine the concept of “loft” and review the relevance of international experience;

(b) to explore what planning, building and land administration measures should be introduced to facilitate the conversion of industrial buildings into lofts; and

(c) to undertake case studies of selected industrial buildings (using conceptual schemes with varying degrees of complexities) to illustrate the feasibility of converting the existing industrial buildings for loft development. These are hypothetical cases to provide a broad indication of the cost implications of loft development and the identification of the areas and sites for case study has no implication on that they would be selected for action nor the owners have agreed to any conversion proposal. The selection for case study would also have no implication on any development/redevelopment proposals initiated by the respective owners. The application is subject to further policy endorsement and is by no means a committal for future consideration. It should be noted that the financial estimates and valuation cost are purely for study purpose.

1.1.2 The following report summarizes the research results on international experience, examination of key issues and the findings of the case studies.

1.2 **Background**

1.2.1 Planning Department is undertaking a strategic planning study, namely, “Hong Kong 2030: Planning Vision and Strategy Study” (‘HK 2030 Study’) for a long-term landuse-transportation-environment planning framework for Hong Kong. During the Stage One Public Consultation of the Study, some members of the public suggested that existing obsolete industrial building could be re-used for other more useful (particularly residential) uses. Such conversion of industrial buildings for “loft” apartments is common in overseas-
cities and has resulted in more sustainable use of land and building resources.

1.2.2 In the Stage Two Study, the issue of “Re-use of obsolete industrial buildings for non-industrial purposes” has been highlighted as one of the nine planning issues having important bearing on the formulation of development options in the next stage of the HK 2030 Study. We have studied the overseas experience and considered that the ‘loft’ concept could provide alternative choice for owners and developers to better utilise the vacant industrial buildings as well as to achieve a more sustainable use of land resources. In this regard, we decide that we should carry out a more detailed examination on the feasibility of such kind of conversion.

1.2.3 In mid October 2001, the Planning Department convened the first meeting of the ‘Working Party on the Possible Conversion of Selected Industrial Buildings for Loft Apartments’ (the ‘Working Party’) with the representatives of the professional institutions and relevant Government departments. In the following months, the Working Party held numerous meetings, working sessions and site visits. The results of the case study on Ma Tau Kok were also presented for public discussion at the Focus Group Meeting held on 16 March 2002.

1.3 Study Approach

1.3.1 To explore the practicability of the loft concept, we recognise the importance of engaging the stakeholders hence professional institutions at an early stage. With valuable inputs from the professional bodies, the Working Party has adopted a two-stage approach for the subject study. Stage one involved background research and issues identification. A review of overseas experience has also been undertaken to examine the applicability of the “loft” concept to the local context. Major issues in relation to loft conversion have been identified. For example, the building design aspect (e.g. excessive plot ratio and site coverage problem, lighting and ventilation etc.), the land administration aspect (e.g. lease modification and the premium calculation which is related to the financial viability aspect) and the implementation aspect (e.g. enforcement of any special requirements through Deeds of Mutual Covenant and building management) which need to be addressed to facilitate the loft conversion.
1.3.2 Stage Two of the Study comprised case studies of selected industrial buildings in Ma Tau Kok and Yau Tong industrial areas. Based on the characteristics of the existing industrial buildings, possible solutions to address the technical issues (in particular, the building design aspect) have been proposed to illustrate the feasibility of loft development. To indicate the complexities of the issues involved, two case studies, one (Ma Tau Kok) involved a more straightforward example and another (Yau Tong), with two more complex examples, have been conducted.

1.3.3 The results of the case studies of Ma Tau Kok and Yau Tong are highlighted in paragraphs 3 to 21 below. The public views collected in the HK 2030 Study Stage 2 public consultation are also summarised in paragraph 22.

1.4 The Local Context

Surplus Industrial Land

1.4.1 Since the late 1970s when China adopted the Open Door Policy, Hong Kong’s economy has experienced economic transformation from manufacture-based industries to service-based activities. Many manufacturing establishments had moved to the Pearl River Delta area to look for cheaper land and labour. In the new decade, with further restructuring of the service industries into knowledge based enterprises, more back office functions have relocated to the Mainland. According to the 2001 Property Review, some 1,484,100m² of floorspace of private flatted factories in the territory are vacant at the end of 2000.

1.4.2 At present, there are some 1,700 industrial buildings in the whole territory. Among these, some 640 industrial buildings are found in the industrial zones, 140 in the industrial estates and 670 in business zones. Among the 1,700 industrial buildings, 1,380 buildings are pre-1990 (the so-called old industrial buildings) and 320 buildings are post 1990. There are opportunities for loft development in the older industrial buildings.

1.4.3 Of the 1,700 number of existing industrial buildings in the territory, some 540 are under single ownership of which some 380 are in the Metro area and about 160 in the New Territories. Should domestic use be allowed, the risk for incompatible uses in these single-owner buildings, for example the possibility of mixing domestic with existing industrial uses, is less and easier to manage. For industrial buildings with multi-ownership, the managing of
such risk is much more difficult.

**Relaxation of Use**

1.4.4 Since 1991, the Town Planning Board has rezoned a large amount of surplus industrial land for other uses (165 hectares have been rezoned to “Other Specified Uses (Business)” at the end of 2001). In addition, the “Business” zone provides much more flexibility in land use in that three types of economic activities i.e. clean industrial, general offices and commercial uses can co-locate in the same building without the need for planning application. Recently, the use of IT and tele-communications industries, public entertainment and educational institution in industrial buildings are also permitted as of right or by way of planning permission. In sum, there is a large degree of flexibility to convert industrial buildings for commercial and other non-residential uses. Under the present statutory plans, however, the use of industrial building for domestic purpose is not allowed. The conversion of industrial buildings for loft apartments (partly domestic and partly non-domestic) would be a new category of use, which has yet to be tested in the property market.

**Sustainability - Reduce of Construction Waste**

1.4.5 In 2000, about 37,500 tonnes of construction and demolition materials were produced everyday. Although about 80% of the materials were transported to public filling areas for reclamation use, the remaining 20% accounted for about 42% of the solid waste disposed in the landfills. In this regard, as reclamation in the future years will likely be less extensive than the past years, more construction waste may be diverted to the landfills. However, based on recent projections, the landfills would be full within about 15 years even if there is no additional construction waste diverted to the landfills. In this regard, more sustainable use of obsolete industrial building, such as loft conversion, could help defer depletion of the capacity of the landfills as, compared with typical redevelopment, it would generate less construction waste.
1.5 **What are Lofts?**

1.5.1 “Lofts” are units used for both domestic and studio purposes in buildings originally constructed for industrial use. Their key features are “home-cum-studio” style with large, free, open-plan living space. Such development provides the maximum flexibility for the occupants to create their own living spaces, i.e. “having the freedom to make your home whatever you want it to be”. In overseas cities, lofts are usually occupied by special class of people including students, artists, designers, writers or academics. Overseas examples of loft development are at Annex A.

1.5.2 In examining the feasibility of introducing such concept into Hong Kong, it is proposed that lofts should also be developed to suit local context, say, for one or two persons, rather than family occupants. The occupants could work and live in the lofts. No separate rooms or cubicles would be allowed. To create vibrant developments, lofts could mix with other uses to establish their own attraction as ‘Yuppies Hub’(such as studio flats, home-offices, mini-cinema, cyber-café, art galleries, gymnasium and specialty shops) and “Artists Village” (such as studio flats, art performance centre/ workshops, photographic studios, museum and mini-library.) Examples of creative design of the internal space of this new urban living lifestyle with the emphasis on flexibility and individuality to be incorporated.

1.6 **International Experience**

1.6.1 ‘Loft living’ first started in New York City in the 1950’s, with artists, writers and students attracted by the cheap and sizeable space offered by lofts. Many small manufacturers abandoned the obsolete Victorian cast-iron frame buildings and moved out for more modern premises. The landlords in Soho area were keen to rent out the empty buildings for revenue.

1.6.2 With the artists moving in, the district began to show signs of regeneration. The then New York City Planning Commission recognised ‘loft-living’, rather than ‘demolition and redevelopment’ offered opportunity to revive the district. The loft idea soon flourished in other major cities, such as London, Berlin, Paris, Munich, etc.

1.6.3 The obsolete industrial areas usually occupy the strategic locations in inner city. These areas are close to the city centre, accessible and well served by infrastructure. Conversion of obsolete buildings makes good use of valuable
land resource and the under-utilised infrastructure. The residents and new activities brought in by the converted buildings also add vitality to these areas. This approach is proved to be successful in regenerating the run-down districts in many overseas cities.

1.6.4 The space and flexibility unique to loft offer creative lifestyle and individuality. It now becomes one of the most diverse international building types. Loft not only provides an alternative to the mainstream residential living, its style in turn provides influences on the domestic taste. Another attraction of lofts lies in their convenient locations, which enable the occupiers to access the facilities in the city, such as library, art gallery, museum, cultural centre, parks, shopping mall, entertainment, etc. Many run-down industrial buildings in overseas cities are now considered as profitable assets, they are converted to shell units for sale in the market.

1.6.5 This process of regeneration takes place in many world cities. In spite of its gritty origin, loft now enjoys wide acceptability. It is popular even in the higher end of the property market. In some cities, the loft movement helps to ‘gentrify’ the old and run-down districts. Fine examples can be found along the bank of Chicago River in Chicago City, Annandale and Surry Hills in Sydney, Spadina in Toronto, etc.

1.6.6 Conversion of industrial buildings to apartments used to be illegal in many jurisdictions. Now, many planning authorities and local governments have formulated policies to encourage conversion and taken initiatives to make the concept work. Measures employed include changing of zoning, relaxing building rules, waiving or relaxing parking requirements, providing incentives such as waiving fees, rates, land tax, etc. Guidelines and technical notes are also issued to help the developers. These planning measures are usually complemented by provision of municipal services and enhancement of streetscape to make the overall environment conducive to loft development.
2. Key Issues

2.1 Overview

2.1.1 The present planning, building and land administration framework would require modification/relaxation to facilitate the possible conversion of redundant industrial buildings for loft apartments.

2.2 Planning

Permitted Uses and Zoning

2.2.1 At present, there is no particular zone to cater for conversion of industrial building for loft apartments. We consider it desirable to maintain flexibility in the planning system to allow ‘loft apartments’ and other compatible uses to co-exist in the same building in an integrated manner to increase the diversity of uses and vibrancy of the area. Subject to the deliberation by the Town Planning Board, this mixed-used type of loft conversion could be achieved either by way of planning permission or by rezoning (if considered appropriate).

2.2.2 In order to promote more ‘vibrant’ developments, the Working Party further considered that a wide range of non-industrial uses such as retailing, restaurants, cultural, institutional and educational facilities including art galleries and cinemas etc. should also be permitted alongside with loft apartments. Details of the user schedule could be worked out in due course.

2.2.3 Guidelines should also be promulgated to stimulate and guide market response and private initiatives.

GIC Facilities and Open Space

2.2.4 Due to the lack of space, there is limited, if any, scope for providing GIC facilities and open space in existing industrial areas to cater for any additional population. The Working Party is concerned that if there were no restrictions on the type or number of occupants of loft apartments, there is a high chance that loft apartments would be occupied like any residential buildings, in which case there are no satisfactory ways to address the demand for GIC facilities (such as schools) and open space. To minimise the demand for such facilities, the Working Party recommends that loft apartments should mainly target at non-family occupants and that the number of occupants for each loft
unit should be restricted to no more than 2 persons.

**Infrastructure**

2.2.5 As mentioned above, due to the composition of the occupants and the nature of this type of property, the demands in terms of traffic, sewage and demand on open space and community facilities are unlikely to be insurmountable. Moreover, no loft development should overtax the infrastructural system and result in unacceptable burden to the government and community facilities in the area. The impact of these requirements would be considered through the submission of planning applications.

2.3 **Plot Ratio and Site Coverage**

2.3.1 One of the key obstacles to loft conversion is that restrictions on the density of domestic buildings are generally more stringent than those imposed on non-domestic buildings for health and safety concerns. This is reflected in the restrictions on the plot ratio, i.e. the ratio of the gross floor area (GFA) of the subject building to the site area, and site coverage, i.e. the percentage area of the site covered by the building.

2.3.2 Currently, the regulation specifying restrictions on plot ratio and site coverage is the Building (Planning) Regulations [B(P)R], a subsidiary legislation under the Buildings Ordinance. Under the B(P)R, higher plot ratio and site coverage are allowed for non-domestic developments, such as industrial buildings. For example, if only the Regulations are taken into account, industrial buildings can be developed up to plot ratio 15. However, except for special conditions specified in the B(P)R, no pure domestic building shall exceed plot ratio 8 to 10, depending on the classification of the site under the Regulations.

2.3.3 There is no provision in the B(P)R for premises for dual domestic/non-domestic purposes like lofts. Under the current practice, the Buildings Authority will likely consider loft conversion as a change of use from non-domestic to domestic use. Therefore, if an industrial building with plot ratio 15 is converted for lofts, the gross floor area (GFA) of the building will have to be reduced by at least 33% so as to ensure compliance with the B(P)R. We have considered allowing lofts to use existing plot ratio of the industrial buildings but decided to retain a lower plot ratio (as permitted for a residential development). There is a grave concern on the possible abuse of
“subsequent alteration” of converted lofts to conventional residential units to gain the maximum GFA if the existing industrial bulk (with a higher plot ratio) is permitted. Hence, a residential plot ratio with a lower plot ratio is adopted to minimise possible abuse. Moreover, a lower density could provide a more spacious and pleasant living environment for the loft dwellers.

2.3.4 Furthermore, loft conversion would likely have to involve substantial demolition to reduce the building bulk and volume if full compliance with the B(P)R is required. However, this probably would involve substantial conversion cost which could only make loft conversion less financially attractive. In addition, it would create significant amount of demolition waste for the landfills which is in contradiction with the spirit behind loft i.e. sustainable use of resource. As an alternative solution, consideration may be given to relaxing of some of the provisions the B(P)R to facilitate the loft apartment concept.

2.3.5 Using a creative building design approach, we have considered many ways to reduce the excessive GFA such as by creating atrium, providing club houses, balconies, covered podium gardens, courtyards (retaining void areas) which are exempted from GFA calculation; and converting the excessive floor space for A/C platforms, refuse sorting and mechanical/electrical spaces which are not GFA accountable. Illustrations are provided in the case studies.

2.3.6 The case studies reveal there is no way that the existing industrial buildings could be modified to suit the site coverage requirements without involving major demolition which would then be inconsistent with the objective of allowing and encouraging conversion. In this regard the Buildings Department advised that they are prepared to be flexible in applying the BO requirement on site coverage, the Working Party recommends that in allowing conversion to loft apartments, the site coverage of existing industrial buildings could be retained.
2.4 Lighting and Ventilation

2.4.1 Secondly, the conversion of industrial buildings for lofts (domestic use) may also give rise to problems in complying with the requirements of the Buildings Ordinance in respect of prescribed windows, lighting and ventilation, as the requirements for domestic use are much more stringent than industrial uses.

2.4.2 While there are virtually no related requirements for industrial uses, the B(P)R has imposed stringent lighting and ventilation requirements for domestic uses. According to the B(P)R, every room used for habitation or as a kitchen shall be provided with natural lighting and ventilation. In addition, the provision has to comply with the following requirements:

(a) the aggregate superficial area of glass in the window(s) facing directly into the external air shall not be less than one-tenth of the area of the floor of the room/kitchen;

(b) the total area of openable windows shall not be less than one-sixteenth of the total floor area of the subject room/kitchen; and

(c) no part of any room used for habitation shall be more than 9m, measured within the room, from a window prescribed in the B(P)R.

2.4.3 Therefore, loft conversion will likely require addition of windows so as to enhance natural lighting and ventilation (unless special design of atrium or open areas are provided which would reduce its saleable area). All deficiencies in lighting and ventilation due to design constraints would be carefully evaluated. The Buildings Department has indicated that, where circumstances warrant, they are prepared to relax application of the BO requirements on lighting and ventilation by employing a performance assessment approach. The Working Party recommends that as a condition of conversion, no internal partition should be allowed in the loft apartment unit each of which should have at least one face of windows (i.e. each loft apartment unit should adopt an ‘open-plan’ design), which is also the practice in overseas cities.
2.5 Other Design Requirements

2.5.1 The design of loft development also needs to comply with other design requirements, such as fire escape, provision of sanitation and kitchen facilities and parking provision. A more detailed account is given in the case studies.

2.6 Financial Viability and Land Premium

2.6.1 Loft development likely requires lease modification as the Government leases of many industrial buildings are only for industrial use. This will usually require premium payment as the land value of residential use is generally higher than that of industrial uses. However, there is a view that if the current policy in respect of land premium is applied, the financial viability of the loft concept could be in doubt. Therefore, we need to ascertain whether or not this is indeed the case, and if the concept is financial non-viable under prevailing premium policy, the extent of non-viability.

2.6.2 In January 2002, the Working Party on Loft Conversion worked out some broad financial estimates on a hypothetical case of loft. In hypothetical general assessment, the permissible GFA for loft use is assumed to be same as that of the existing industrial building and reduction in GFA after conversion is not catered. The financial viability assessment in scenario one (nil land premium) illustrated that the returns on cost and Gross Development Value (GDV) for hypothetical general case were about 33% and 25% respectively. In scenario two (with land premium), the financial viability assessment demonstrates that the returns on cost and GDV for hypothetical general case were about 29% and 22% respectively. It is considered that the project should be financially viable in both scenarios if the permissible GFA for loft use would be retained as that of the existing industrial building.

2.6.3 If about 20% of GFA were discounted after conversion and the conversion cost will be increased by 5%, the returns on cost and GDV in scenario one will decline significantly to 19% and 16% respectively. In scenario two, the returns on cost and GDV also drop to 15% and 13% respectively. The project could be financially unattractive or not viable in both scenarios taking into account the above assumptions. The detailed estimates and assumptions are provided at Annex B.
2.6.4 The Working Party noted that any reduction in gross floor space could affect the financial viability but eventually decided not to pursue this option due to the high risk of abuse and to avoid possible claims for similar treatment by owners of commercial buildings. Therefore the hypothetical case serves as an initial reference only.

2.6.5 Discounting the example of Building Two in Yau Tong (which is financially unviable due to severe interface problems and site constraints), the result of the case studies reveals that the level of premium chargeable is the most critical issue in the “make or break” of a successful conversion. The financial assessments of the case studies indicate that both the return on costs and the gross development value of the converted properties were marginally acceptable to developers only if a nil premium is assumed. However, the financial returns would not be attractive at all if a premium is charged in accordance with prevailing policy.

2.6.6 The financial assessments of the Ma Tau Kok and Yau Tong (Scheme B of Building One-without theatre) case studies indicate that, under a nil premium scenario, the return on costs and the gross development value for the former case could be about 24% and 19% respectively, while the latter case (lofts without theatre proposal) could be about 22% and 18% respectively. These levels of returns are considered only marginally acceptable to developers. (The representatives of the Hong Kong Institute of Surveyors have advised that for a development project of this type to be attractive to developers, the level of return on costs should be in the range of about 20%.)

2.6.7 The financial assessments reveal that if a full premium were charged, the return on costs and the gross development value could be very low and unattractive at all, for the Ma Tau Kok scheme only about 2% and for the Yau Tong case about 13%. The low return would not commensurate with the associated risk and the projects would unlikely be viable in financial terms. For details of the financial assessments and their assumptions, please refer to Annexes C and D.

2.6.8 The Working Party had considered various ways to enhance the financial viability including the charging of a waiver fee (instead of paying a premium), payment of premium by instalments and nil premium. The former two methods are, however, considered unpracticable. The amount of fees payable for a waiver covering a long period of time (i.e. not temporary
conversion) is found to be higher than the payment of a premium, and that a waiver would not allow the sale of individual loft units and would create uncertainty for the developers (due to the need for annual renewal) thus making the conversion totally unattractive. On the other hand, payment of premium by instalments will put the risk of property investment almost entirely on the Government, which is highly undesirable.

2.6.9 The Working Party noted that the “Nil Premium Policy” would be a significant departure from current land policy (although it is noted that urban renewal projects of the URA already enjoy nil premium), and there could be concerns about revenue implications. However, since the dis-used space will unlikely be brought to any uses if a full premium is charged, any possible revenue could be theoretical and insignificant. On the other hand, a nil premium policy could help re-use some of the vacant buildings and hence generate rates. The Working Party recommends that the Government should seek to modify the current premium policy to facilitate the conversion of industrial buildings for loft apartments.

2.7 Land Administration and Management Issues

Lease Modification or Waiver

2.7.1 Most, if not all, of the existing industrial buildings are on leases restricted to industrial use. In order to make conversion to loft apartments possible, the leases need to be changed. The Working Party had considered whether the change should be by way of a modification of the lease, or simply through a waiver. Since it would only make sense to convert structurally sound buildings (i.e. buildings which still have a long life span), the Working Party recommends that, as a general rule, conversion should be subject to lease modification.

Terms of Lease Modification

2.7.2 The Working Party had further considered whether it is more appropriate for the lease modification to cover just the life-time of the industrial building (such that upon redevelopment the new building should fully comply with prevailing legislative requirements on building design), or the full term of the lease. The Working Party considered that if Government accepts loft apartment as a new use that should be allowed and facilitated, there is no reason why a lease modification should cover only the life-time of the existing building and not the
full term. The point is that even if an existing industrial building is redeveloped, the owner can choose to re-develop it for loft apartments.

Assignments and User Clause

2.7.3 If modification is for the full term of the lease, the Working Party considered that there is also no reason why assignment of titles for the sale of loft apartments should not be allowed. (Our research reveals that elsewhere loft apartments are all saleable.) As for the user clause, for the same reasons as stated in paragraphs 2.2.1 and 2.2.2 above, it should be worded in such a way as to allow loft apartments and other non-industrial uses.

Implementation of Requirements

2.7.4 Another equally critical issue is whether or not the requirements of open plan design (i.e. no internal partitioning) and non-family occupation (i.e. no more than two occupants) can effectively be implemented and, if necessary, enforced under the lease conditions as there is no direct power of enforcement under the Town Planning Ordinance. Based on the experience elsewhere, the Working Party considered that the only possible means is to rest the responsibility with the Building Management and the detailed requirements could be stipulated as part of the Deeds of Mutual Covenant (DMC). The Building Management would be responsible for monitoring the implementation of these requirements. If there is no DMC in case that a building remains in single ownership with rented units, such requirements should be stipulated in the tenancy agreement as a form of management control binding on the tenants and the owner should be responsible for compliance with the requirements specified in the lease or waiver. For exceptional case, if internal partitioning involves a structural concern and reduction in lighting and ventilation, the Buildings Department may consider taking enforcement action under the Buildings Ordinance.

2.7.5 The Working Party noted Lands Department’s concern on the enforcement aspect as the latter advised that the lease is not a practical vehicle for enforcement of these requirements as the sanction would involve re-entry. Even if specific requirements were incorporated in the lease, Lands Department doubted on the ability to enforce the breach of non-partitioning and number of occupants under the DMC as it would not lead to any right of re-entry. The specific provisions relating to the implementation and enforcement of the planning and design requirements for use in the lease and
2.8 Environmental Considerations and Contamination

2.8.1 Depending on the location of the industrial building, loft conversion will also have to address potential environmental interface problems. If industrial activities are found in the adjacent surroundings, the lofts may be affected by industrial noise and air pollution problems like plume impingement. Moreover, to avoid hazard to the health of future occupants, it is necessary to demonstrate that the building has not been contaminated due to industrial process and/or storage of offensive materials.

2.8.2 In this report, the potential and ways to resolve these issues will be examined in the case studies. There are essentially two environmental concerns, namely:

(a) building contamination due to past industrial processes and/or storage of toxic materials; and
(b) plume impingement and noise impacts from adjoining industrial uses.

Possible Contamination

2.8.3 The Working Party had not been able to ascertain any internal contamination of the industrial buildings under the case studies. There are also no records of the industrial processes that had been carried out in the subject buildings. In the Working Party’s view, since most of the industrial buildings are in private ownership, the onus of proof that an industrial building had not be subject to contamination and is fit for human habitation should rest with the owner, and should be submitted as part of the planning application.

Noise and Air Impacts

2.8.4 In terms of possible noise and air impacts from adjoining industrial uses, the case studies demonstrate that noise is likely to be more easily mitigated, for example by way of non-noise sensitive uses or noise resistant design such as the proposed theatre in the Yau Tong (Building One - Lofts with theatre option) case study.

2.8.5 Plume impingement from adjoining industrial uses, such as the existing concrete batching plant in the Yau Tong (Building Two) case, is more problematic because there is no effective solution. The Working Party had
considered whether an ‘area-wide’ approach (i.e. buying-out polluting uses) should be adopted. Due to likely institutional and resource constraints, it had not been taken as a feasible approach at least for the short to medium term.

2.8.6 In view of the difficulties in redressing interface air problems, the Working Party considered that ‘suitable location’ should be a key consideration in the processing of planning applications for conversion. To begin with, there may not be too many such locations. However, the Working Party remained optimistic because the catalytic effect of a successful conversion could be significant, and could help transform some existing industrial uses thereby gradually rendering more locations suitable for loft apartments.

2.9 Planning-led or Market-driven

2.9.1 The Working Party envisaged that this type of new property should be market driven and would take place at a moderate scale and in suitable locations. The Working Party considered that any conversion should involve the whole building and partial conversion is not supported to avoid environmental and fire hazard problems.

2.9.2 The process of conversion should be market driven as the free market is more efficient in determining when, where and how the conversion should take place. The Government will take up the role of a proactive facilitator, removing the institutional barriers and providing an attractive environment that is conducive for such changes. It is up to the owners and the developers who have acquired the buildings to submit their planning proposals for lofts. Private developers and owners must be left to make up their minds on the choice of uses and method of implementation (redevelopment or conversion) based on their understanding of the market condition. In this connection, planning application, rather than rezoning, is a more appropriate procedure. In brief, an incremental approach is therefore recommended so that the market could respond in its own pace.

2.9.3 Hence, the objective of this exercise is to identify the institutional hurdles and to resolve the major issues. Separate guidelines should be formulated to set out the basic principles for considering the planning proposals for lofts.
3. Case Study on Ma Tau Kok

3.1 Selection of Study Area

3.1.1 Ma Tau Kok industrial area is located on the eastern side of Kowloon Peninsula. Most of its industrial buildings are mixed with residential developments.

3.1.2 The major reasons for selecting the Ma Tau Kok area are as follows:

(a) the area is centrally located in the main urban area. According to the international experience, many lofts are established in the central downtown area; this will facilitate loft occupants to develop their business links as the premises are also used as their studios/offices;

(d) the Shatin-Central Link is being planned to serve the area. Upon completion of this railway project, the accessibility of the area will be significantly improved; and

(e) according to the Ma Tau Kok Outline Zoning Plan No. S/K10/14, many industrial sites in Ma Tau Kok have been rezoned to “Residential (Group E)” [R(E)]. This indicates a clear planning intention of discontinuing the existing industrial activities and encouraging residential development in the areas.

3.1.3 However, it should be noted that the site selection of these cases is mainly to illustrate the issues involved in loft conversion. It does not reflect nor indicate any future planning intention to rezone certain areas in specific districts nor that permission, if required, would be granted for converting certain buildings for such uses.

3.2 Selected Building

3.2.1 A building situated at the intersection of Lok Shan Road and Yuk Yat Street, i.e. 108 Lok Shan Road which is zoned under R(E) has been selected (Figures 1 and 3 of Annex C). The major reason for selecting this building is that the layout and design of the building represent a typical design of the industrial building constructed during the 70s (i.e. key design features such as rectangular block with a central service core and fire escape on both sides of the building). Also, the floor plate of the building was sufficiently large such the
converted building design could have wide implications. Being a corner site, it is permitted to be developed for a higher domestic plot ratio under the B(P)R. Moreover, the building will likely maintain a sea view as it would be facing an open space strip extending to the future waterfront (Figure 2 of Annex C).

3.2.2 The subject site is restricted for industrial and godown uses under the lease, lease modification is therefore required. Also, the site is owned by two owners.

3.3 Existing Building

3.3.1 The subject industrial building is Gee Chang Industrial Building, completed in 1969. Probably due to the previous Airport Height Restrictions, the building is only 12 storeys high and its height is 43 metres. Correspondingly, the plot ratio of the building is only 9.55 and its total Gross Floor Area (GFA) is about 22,000 m$^2$. The site coverage is 75% above podium.

3.3.2 Currently, the subject building has three entrances from Yuk Yat Street, Lok Shan Road and the service lane between the building and the residential development to its immediate west. There is no car park within the building but a loading/unloading area is provided at the northern corner of the building. The service lane is also used for loading and unloading purposes.
4. Major Findings

4.1 Building Design

4.1.1 An indicative conceptual scheme has been prepared for the subject building. In the scheme, the 12-storey building will be divided into two zones. The upper 8 floors would provide a total of 86 loft units and duplexes, with flat size ranging from 70m$^2$ to 120m$^2$ (see Figures 4 – 11 of Annex C). Part of the fourth and fifth floors would be converted for clubhouse use.

4.1.2 The lower 4 floors would be used for retail, office, place of recreation, sports or culture, place of public entertainment, ancillary car park, etc. The provision is intended to create a vibrant mixed working and living environment.

4.2 Density Issue

4.2.1 Under the B(P)R, as an initial working definition lofts are assumed as largely ‘domestic’ (excluding the non-commercial elements at the lower floors) in order to achieve loft development. Three design issues have to be resolved, namely, differentials in plot ratio, site coverage and open space requirement.

4.3 Plot Ratio

4.3.1 Regarding the plot ratio restriction, the maximum plot ratio for domestic use on the site is 6.1 as the building height is 43m and the site is classified as “Class B” under the B(P)R. In this indicative scheme, as the lower 4 storeys would be used for non-domestic purposes (about 5,760 m$^2$ GFA in total), the maximum GFA of the loft (domestic) component would be 10,801 m$^2$. As such, the existing total GFA above the lower 4 floors, which is about 13,821 m$^2$, is excessive. It should be reduced by about 3,020 m$^2$.

4.3.2 In this regard, the required GFA reduction would be achieved through earmarking some floorspace for purposes, such as clubhouse, balconies, courtyards and covered garden, so that these floorspaces can be excluded from GFA calculation under the B(P)R. Other provisions such as A/C platforms, refuse sorting and mechanical/electrical spaces are not accountable for GFA calculation. Details of the possible GFA reduction are provided in Table A.
Table A: Possible GFA Reduction

<table>
<thead>
<tr>
<th>Items</th>
<th>GFA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Clubhouse</td>
<td>400m²</td>
</tr>
<tr>
<td>2 Cutaway for Balconies</td>
<td>400m²</td>
</tr>
<tr>
<td>3 Cutaway for Courtyards</td>
<td>450m²</td>
</tr>
<tr>
<td>4 Cutaway for Gardens on L4</td>
<td>500m²</td>
</tr>
<tr>
<td>5 Mechanical/Electrical Spaces (60m² per floor)</td>
<td>480m²</td>
</tr>
<tr>
<td>6 Cutaway for Penthouse</td>
<td>450m²</td>
</tr>
<tr>
<td>7 Cutaway for A/C Platforms</td>
<td>200m²</td>
</tr>
<tr>
<td>8 Refuse Sorting (20m² per floor)</td>
<td>140m²</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,020m²</strong></td>
</tr>
</tbody>
</table>

*(Required reduction in GFA)*

*Note* Items 1-4 are exempted from GFA calculation. Items 5-8 are not accountable for GFA calculation.

4.3.3 As such, the case study shows that excessive gross floor area could be addressed by design solution and could be complied with the plot ratio requirement specified in the B(P)R.

4.4 Site Coverage

4.4.1 The B(P)R has also specified site coverage restriction on domestic buildings based on their building height. For the subject building, the maximum site coverage would be 44% as its building height is 43m. The site coverage for the proposed scheme is 75% (excluding the commercial portion a the lower three floors). Even though the proposed alterations for GFA reduction have reduced the site coverage, the site converge still exceeds the 44% limit. If the site coverage of the proposed building design has to comply with the specified site coverage, substantial demolition work would be involved and the large conversion cost would affect its financial viability. Therefore, restriction on the site coverage of the proposed scheme would need to be relaxed.
4.5 Open Space

4.5.1 The B(P)R also requires that every domestic building must provide an open space at the rear, or partly at the rear and partly at the side. For the subject building design, podium garden is provided at the roof level and the landscaping area at the fourth level. As the design would not be able to meet the requirements, relaxation of the B(P)R is required. In this regard, the proposed scheme is considered agreeable as suitable open space has been provided within the building.

4.6 Lighting and Ventilation

4.6.1 The indicative scheme has incorporated a sensitive design to enhance the natural lighting and ventilation. Extending from openings on the roof, voids in form of shaft would connect all loft floors to enhance natural lighting and ventilation. In addition, a large void would be created on the fourth and fifth floors on the façade facing Yuk Yat Street. The opening on Yuk Yat Street would facilitate cross ventilation within the building.

4.6.2 Notwithstanding this special design, the scheme does not fully comply with the B(P)R as the Regulations impose more stringent lighting and ventilation requirements on domestic premises than industrial buildings. These requirements include distance from a prescribed window, aggregate superficial area of class, openable window, etc. A detailed comparison between the provision and the standards is given in Table B.

Table B: Lighting and Ventilation – Standard and Design

<table>
<thead>
<tr>
<th>Items</th>
<th>Standard</th>
<th>Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance from a Prescribed Window</td>
<td>Not exceeding 9m</td>
<td>13.5m max.</td>
</tr>
<tr>
<td>Aggregate Superficial Area of Glass</td>
<td>1/10 of floor area of room</td>
<td>1/15 of floor area of room</td>
</tr>
<tr>
<td>Openable Window</td>
<td>1/16 of floor area of room</td>
<td>1/24 of floor area of room</td>
</tr>
</tbody>
</table>

4.6.3 Accordingly, a 50% relaxation of related requirements would be required. In this regard, the proposed scheme is considered agreeable as the proposed design could demonstrate that the level of natural and lighting is not inferior to what is required under the B(P)R.
4.7 **Kitchen and Sanitary Fitments**

4.7.1 To allow greater flexibility for the user to design its loft, only outlets for the toilets are provided. The provision will meet the requirements specified in the Buildings (Sanitary Fitments, Plumbing, Drainage, Water) Regulations. However, as there is no fixed area for the kitchen, the loft may not be able to meet the requirement of the B(P)R to provide kitchen with natural lighting and ventilation. The Buildings Department considered the proposed scheme agreeable and workable. Therefore, relaxation of related requirements would be needed and feasible.

4.8 **Fire and Building Safety**

4.8.1 Generally, fire and building safety is not a major concern as fire safety requirements of industrial buildings under the Buildings Ordinance are more stringent. The existing design provision should meet the requirements for the loft conversion in respect of fire resistance period, floor loading and means of escape (see Table C).

4.8.2 The exception would be the provision of fireman’s lift. Currently, there is no such provision. For each domestic floor, one fireman lift should be provided within 60m of any part of the floor. As such, upgrading to the existing facilities is necessary and feasible.

<table>
<thead>
<tr>
<th>Items</th>
<th>Standard</th>
<th>Existing Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Resistance Period</td>
<td>1 hr.</td>
<td>2 hr.</td>
</tr>
<tr>
<td>Floor Loading</td>
<td>2.0 kPa</td>
<td>5.0 kPa</td>
</tr>
<tr>
<td>Fireman’s Lift</td>
<td>1 no. within 60m of any part of floor</td>
<td>nil</td>
</tr>
<tr>
<td>Means of Escape</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity per floor</td>
<td>156</td>
<td>464</td>
</tr>
<tr>
<td>No. of stairs</td>
<td>2 (1,050mm)</td>
<td>5 (1,676mm)</td>
</tr>
</tbody>
</table>
4.9 Car Parking and Loading/Unloading Facilities

4.9.1 Provision standards for parking and loading facilities are specified in the Hong Kong Planning Standards and Guidelines (HKPSG). However, there is no category for loft. If loft is taken as a residential use and the non-domestic floors are used for retail, at least 33 car parking spaces and 6 loading/unloading bays should be provided.

4.9.2 However, as indicated earlier in this report, loft is a “living-cum-working” space. Commuter trips generated from the facilities should be less than typical residential units. In addition, the subject building is well served by public transport as it is in proximity to To Kwa Wan Road, on which many bus routes are running, and will be close to the Ma Tau Kok Station of the planned Shatin-Central Link. Therefore, parking provision for the loft occupants could be provided on a discounted basis subject to agreement of the Transport Department. If so, the indicative scheme, which provides 20 car parking spaces on the ground floor, is considered acceptable.

4.9.3 For the provision of loading and unloading facilities, the initial study indicates that it is infeasible to provide on-site facilities. The major constraint is the layout of the existing structural columns which were built in a grid form, with only a 5 to 6-metre separation from the nearest column. (Figure 4 of Annex C refers). In addition, the building core is right at the centre of the building. It further restrains manoeuvring of vehicles within the building.

4.9.4 Therefore, the occupants of the building can use the existing lay-by at Yuk Yat Street, which can allow stopping of four medium/heavy goods vehicles at the same time. As such, the shortfall is reduced to 2 loading/unloading bays. In this regard, it is necessary to consult Transport Department on the possibility of relaxing the requirements.

4.10 Sewerage

4.10.1 Given the same amount of floorspace, residential use generally generates less sewage than industrial use. Therefore, compared with the existing development, the proposal should not result in unacceptable impact on the sewage and sewerage system.
4.11 Summary

4.11.1 In summary, the indicative scheme can meet the Buildings Ordinance in terms of plot ratio, loading and sanitary fitments. Nevertheless, relaxation of the following restrictions under the Ordinance will be required:

(f) site coverage;

(g) open space;

(h) prescribed window; and

(i) lighting and ventilation of kitchens.

4.11.2 In addition, subject to consultation with Transport Department, the HKPSG requirements on the provision of car parking and loading/unloading facilities should be relaxed.
5. Traffic

5.1 The loft conversion is intended for “living-cum-studio” uses. Compared to typical residential development, the need for commuting should be significantly smaller.

5.2 Moreover, as the scheme proposes only a small number of loft units for a limited number of occupiers, the scheme would be more acceptable in terms of traffic in comparison with typical residential redevelopments in R(E) zones. The scheme would unlikely generate many commuter trips and result in inadequate traffic impacts. Table D compares the potential traffic impact of the indicative scheme with a hypothetical residential redevelopment on the site. As a broad indication, it is estimated that there would be about 86 persons commuting to work in the proposed loft scheme while the number of commuting workers would be about 400 persons if the site is redeveloped into residential development.

Table D: Traffic Generation Comparison Between Loft Apartments and Typical Residential Redevelopment on the Site

Mau Tau kok

<table>
<thead>
<tr>
<th></th>
<th>Loft</th>
<th>Residential Redevelopment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Plot Ratio</td>
<td>4.69</td>
<td>6.5&lt;sup&gt;(1)&lt;/sup&gt;</td>
</tr>
<tr>
<td>No. of Residential/Loft Units</td>
<td>86</td>
<td>272&lt;sup&gt;(2)&lt;/sup&gt;</td>
</tr>
<tr>
<td>No. of Occupants</td>
<td>172&lt;sup&gt;(3)&lt;/sup&gt;</td>
<td>680&lt;sup&gt;(4)&lt;/sup&gt;</td>
</tr>
<tr>
<td>No. of Commuters</td>
<td>86&lt;sup&gt;(5)&lt;/sup&gt;</td>
<td>408&lt;sup&gt;(6)&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Notes:
(1) According the B(P)R and the existing Ma Tau Kok Outline Zoning Plan, the domestic plot ratio of the redevelopment cannot exceed 6.5, assuming non-domestic plot ratio of the redevelopment is same as that of the loft building, i.e. 2.5.
(2) Assuming the average flat size is 55m<sup>2</sup> which is already on the high side in the district.
(3) Assuming the average number of persons per flat (PPF) is 2 because of
restrictions on the number of occupants in each unit.

(4) Assuming the average PPF is 2.5.

(5) Assuming the average number of commuters per unit is 1 as many occupants may work at home.

(6) Assuming the average number of commuters per unit is 1.5 as most of the resident workers have to commute.

6. Environmental Consideration and Contamination

6.1 Air Quality

6.1.1 The air pollution does not seem to be a concern to the subject site. Recent site visits recorded no industrial chimneys and cooling towers in the immediate surroundings. Subject to consultation with Environment Protection Department, the loft conversion appears to be acceptable from the environmental point of view.

6.2 Industrial Noise

6.2.1 Similarly, it also appears that there is no critical industrial noise problem. Nevertheless, clarification with Environmental Protection Department should be sought.

6.3 Contamination

6.3.1 Since the existing industrial buildings are under private ownership, to ensure the health of occupants of the lofts, it is necessary for the owner(s) (applicant) to prove or demonstrate that there is no contamination remained in the subject building and it is considered suitable for human habitation.
7. **Financial Viability**

7.1 Financial viability assessment examines whether the implementation of loft conversion is viable in financial terms to private developers under existing policy. The financial viability of a project is assessed by deducting the total cost incurred for development from the Gross Development Value (GDV) generated from the sales of property.

7.2 In assessing the financial viability of loft conversion, the GDV is estimated based on the sales prices of lofts and ancillary accommodation. Lofts are a new property product in Hong Kong. It is not sure how the market will respond to such product. However, it is possible that its unit rate will be lower than that of typical residential and office unit due to the following reasons:

   a. there would be restrictions on the number of occupants on a loft unit;
   b. there would be restrictions on the partition of a loft unit;
   c. limited fittings and facilities would be provided in a loft unit;
   d. owning to less window provision and poor configuration of deep units, more artificial lighting and ventilation would be required for a loft unit;
   e. building age of loft is old;
   f. location of loft is probably poor and near industrial buildings; and
   g. the marketability of loft is uncertain.

7.3 In the Ma Tau Kok Scheme (taking into account the specific location with convenient transport, good view facing the park and changing character of the neighbourhood), the GDV is estimated as about $267 million. As compared with the property market rate, about 20% downward adjustment is assumed for the loft units due to the possible restrictions imposed on the loft.

7.4 The development cost for loft conversion comprises the Existing Use Value (EUV) of the existing industrial building, land premium (where appropriate), conversion cost, professional fee, legal and marketing fee and finance cost. The cost for conversion and alterations is estimated to be approximately $111 million in this case.

7.5 The financial viability assessment in scenario one (nil land premium) illustrated that the returns on cost and GDV for this case could be about 24% and 19%
respectively. It is considered that the return are marginally acceptable to private developers to implement this project. In scenario two (with land premium), the financial viability assessment demonstrated that the returns on cost and GDV for this case both could be only about 2%. It is realised that such low return could not commensurate with the associated risk for loft conversion. The project could be unviable in financial terms when premium payment is required. As such, the loft conversion would likely be financially viable if no premium is charged. For details of the estimation and its assumptions, please refer to Tables C-1 and C-2 of Annex C.

8. Case Study on Yau Tong

8.1 Selection of Study Area

8.1.1 Yau Tong industrial area is located to the northwest of Lei Yue Mun village, bounded by Ko Fai Road, Cha Kwo Ling Road and Shun Shan Street. The area is subject to the Draft Cha Kwo Ling, Yau Tong, Lei Yue Mun Outline Zoning Plan No. S/K15/13. Yau Tong industrial area is an obsolete industrial area being occupied by old industrial buildings, majority of which have an average building age more than 20 years. It is one of the major industrial areas identified by Planning Department to be transformed for residential redevelopment. This planning intention is reflected by the zoning: the area is largely zoned as “R(E)”, “CDA” and “C”.

8.1.2 Yau Tong Industrial Area has the following positive attributes for possible conversion:

a) proximity to the new Yau Tong MTR station; the building is only 400 metres distant from the new Yau Tong station, which gives high accessibility to the urban area;

b) Sam Ka Tsuen Recreation Ground and Library Building overlooking Sam
Ka Tsuen; and

c) excellent southern views looking out over Lei Yue Mun channel and Hong Kong Island. The future West Coast trunk road (to Tsung Kwan O) and reclamation will introduce further changes to the area. The ‘Study on Village Improvement and Upgrading of Lei Yue Mun Area’ commissioned by the Planning Department aims to turn Lei Yue Mun to a visitor attraction. The vision of the said study is to offer a range of leisure and recreational activities, which are compatible to the existing village character and contrast with the dense urban setting of Hong Kong. The area will be developed as an attractive environment for both visitors/tourists and the loft dwellers.

8.2 Selected Buildings

8.2.1 Both of the buildings selected are zoned “R(E)”. The two case-study buildings display different constraints and opportunities for loft conversion. The “Safer Industrial Building” (Building One) faces onto Shung Shun Street and overlooks Sam Ka Tsuen typhoon shelter, and the “China Resources Textiles Industrial Building” (Building Two) faces onto Tung Yuen Street. The location of Buildings One and Two are shown on Figures 1 and 2 of Annex D.

8.2.2 Similar to the Ma Yau Kok case study, it should be noted that the site selection of these cases is mainly to illustrate the issues involved in loft conversion. It does not reflect nor indicate any future planning intention to rezone certain areas in specific districts nor that permission, if required, would be granted for converting certain buildings for such uses.

8.2.3 Both of the selected buildings are under single ownership. The two sites are restricted for industrial and godown uses under the land lease; lease modification is therefore required for conversion to loft apartments.
9 Building One - Shung Shun Street

9.1 “Safer Industrial Building” has 7 floors above ground floor, and the floor-to-floor height is approx 3.2m. (Figure 3 of Annex D) The building is 50m long by 42m wide and has a concrete structural frame with columns that are set out on a rectilinear grid at centres. The building is built up to the back of the pavement on all of three sides, and the third side is a gable wall that abuts the neighbour site. The south-west elevation overlooks an open site and the north-eastern elevation also overlooks a potential development site.

9.2 This building is chosen mainly because it is a typical industrial building, on the other hand, it offers open view out over the Sam Ka Tsuen typhoon shelter. It also has a clear view of the Museum of Coastal Defence on Hong Kong Island. (Figure 4 of Annex E)

10. Proposed Scheme A - Loft with Theatre

10.1 General Building Design

10.1.1 Different from Ma Tau Kok case, the proposed design is featured with mixed uses which serves as a means of assessing alternative uses within the ‘Loft’ complex. The proposals with 100% of floor space allocated to ‘Loft’ units has only been prepared as an alternative scheme (Scheme B) for financial viability assessment.

10.1.2 The scheme is comprised of loft units, theatre/arts facilities and food and beverage retailing outlets. An atrium is proposed at the centre of the building to allow penetration of natural lighting and ventilation. The proposed scheme is illustrated at Figures 5-10 of Annex D.

10.1.3 The idea of assigning a portion (the northwest elevation) of the building as compatible non-domestic use can offer a solution to alleviate the potential interface problems. The non-sensitive uses (the cultural facilities occupying the north-west elevation of 2nd to 4th level in Building One) can serve as a buffer between the loft and the neighbouring industrial operations. This idea can be applied to other buildings.
10.2 Loft Units

10.2.1 The scheme will provide a total of 48 loft units, of which 18 are two storey loft units. The building overlooks Sam Ka Tsuen typhoon shelter to the south east, and has an unobstructed view of Sam Ka Tsuen and Lei Yue Mun villages, and the slopes of Pau Toi Shan. More than 90% of the dwellings within the conversion proposal occupy the southeast elevation to maximise the best view.

10.2.2 All residential units are narrow-frontage types, accessed from two galleries at 2nd and 5th floor levels. Each gallery gives access to single-aspect studio apartments at the access gallery level, and to two-storey dual-aspect residential units that take up the two floors above.

10.2.3 All dwellings will have external balconies and the dwelling plans provide galleried rooms and double height spaces in the apartment units. The fifth, sixth and seventh floor levels above the Theatre and Arts Centre are converted into ‘Loft’ dwellings. Each unit enjoys increased floor area and the provision of roof garden space.

10.3 Atrium

10.3.1 An eight-bay open atrium space is formed at the core of the building by the removal of floor plates within the structural frame. The Atrium is an open and naturally lit and ventilated space, but is partially covered by an open louver roof to control storm rainwater, to select and channel the prevailing wind during the summer heat, and to filter direct sunlight. The atrium has a sealed and glazed roof at first floor level to seal out vehicle noise and fume pollution from the open area above.

10.4 Retailing and Vehicular access

10.4.1 The Shung Shun Street frontage (overlooking the Typhoon Shelter) at ground and first floor will be retained for retail food and beverage outlets. Most of the ground floor area is already used for vehicular access and circulation, and no major change is proposed.

10.5 Theatre Space and Arts Facilities

10.5.1 It is now recognised by specialists in performing arts, the re-use of old buildings for ‘theatre’ is often preferable to the building of new facilities. The proposed Theatre venue occupies the second, third and fourth floors of the building.
10.5.2 The second floor provides for audience access from the atrium gallery, together with ticketing, refreshments area, and management offices. The auditorium is at the third floor level, with seating for an audience of 110 people. Also at this level are back-stage and performers facilities. The fourth floor provides a gallery seating area for a further 40 audience members, and this together with flexible seating in the back-stage area brings the total audience size to about 200 people.

10.5.2 The rehearsal facilities for the theatre are given a separate entrance access. The rehearsal facilities are glazed where they overlook the atrium, so that performance and rehearsal enlivens the space, and can be seen by residents of the new 'loft' premises.

11. Major Findings

11.1 Density Issue

11.1.1 The building currently occupying a site of about 2,060 m². The building is 25.3m high, with eight storeys and a total GFA of 14,555 m². The site is classified as ‘Class C’ Site under the Building (Planning) Regulations (B(P)R). The building has been used for industrial uses, while the proposed scheme has suggested part of the building be converted as lofts units and B(P)R has specified the plot ratio and site coverage for domestic and non-domestic uses. The scheme would convert part of the building to domestic uses, while converting the non-domestic GFA to community facilities with minor retail provisions. It is necessary to ensure that the scheme, with uses modified, still meet the density requirements.

11.2 Plot Ratio

11.2.1 The plot ratio and maximum GFA allowable under B(P)R and the OZP for the site are as follows:-
### Table: Domestic vs. Non-Domestic

<table>
<thead>
<tr>
<th></th>
<th>Domestic</th>
<th>Non-Domestic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plot Ratio (B(P)R)</td>
<td>5.3</td>
<td>8.1</td>
</tr>
<tr>
<td>Plot Ratio (OZP)</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Maximum GFA B(P)R</td>
<td>11,421m²</td>
<td>17,455m²</td>
</tr>
<tr>
<td>Maximum GFA OZP</td>
<td>10,775m²</td>
<td>2,155m²</td>
</tr>
</tbody>
</table>

11.2.2 The existing building is of a total GFA of 14,555m², 87.2% of the permissible non-domestic GFA. The scheme has proposed mixed domestic and non-domestic use. Assuming the plot ratio of non-domestic use is 1.5 and that of domestic use is 4.25, the maximum domestic GFA will be 8,755m².

11.2.3 The domestic GFA of Scheme A is 4,172m² (about 48% of the maximum domestic GFA allowed under the B(P)R). The 'surplus' space has been proposed for communal space so to enhance the living environment of the building, or it can be reserve for income-generating uses if needs arise.

11.2.4 The scheme complies with the domestic plot ratio, but exceeds the non-domestic plot ratio restrictions under the OZP by 50%. Rezoning will be necessary to allow higher plot ratio for non-domestic uses. It is noted that the OZP restricts the non-domestic plot ratio to 1 so as to restrain traffic growth. In Building One, almost 70% of the non-domestic uses is dedicated for theatre and arts facilities, of which the traffic generation will mainly be in the off-peak hours, and therefore will not overburden the transport network.

### 11.3 Site Coverage

11.3.1 For the subject building, the maximum domestic site coverage would be 59%. As the scheme has not proposed external demolition, the site coverage of the existing building would remain unchanged as 100% and will exceed the allowable 59%. If the site coverage of the proposed building design has to comply with the specified site coverage, substantial demolition work would be involved and the large conversion cost would affect its financial viability. Therefore, restriction on the site coverage of the proposed scheme would need to be relaxed.
11.4 **Open Space**

11.4.1 The B(P)R requires that every domestic building must provide open space at the rear, or partly at the rear and partly at the side. The proposed scheme does not provide communal open space on site; however, each individual ‘Loft’ unit has balcony space, and the roof can be made available for improved landscape use. Moreover, the building is sited next to both the Sam Ka Tsuen recreation ground and the promenade of the Sam Ka Tsuen recreation ground. The open space provision would need to be considered on its individual merits and relaxation of the B(P)R is required. In this regard, the Buildings Department considered the proposed scheme agreeable as suitable open space has been provided within the building.

11.5 **Lighting and Ventilation**

11.5.1 With the exception of internal bathrooms, which require mechanical ventilation, all spaces within these dwellings comply with current HK standards for lighting, daylighting and ventilation. The indicative scheme has incorporated a sensitive design to enhance the natural lighting and ventilation as well. Extending from openings on the roof, the atrium would enhance natural lighting and ventilation. The lighting and ventilation is considered satisfactory.

11.6 **Kitchen and Sanitary Fitments**

11.6.1 Unlike conventional domestic units, fixed bathrooms installations may not be an essential feature for loft units. In the Ma Tau kok case, we provide outlet only to allow greater flexibility for the occupants to make their own arrangement. In this scheme, the design for bathrooms has been included as design option to meet different market expectation.

11.6.2 Fitted gallery kitchens would be provided that are integral with living spaces, borrowing light and ventilation from these spaces, as is usual in overseas ‘loft’ and modern house examples. This may mean a preference for electric cooking, rather than gas – these are issues that would be taken up in detailed design.

11.6.3 New refuse chutes are provided at the access galleries for all ‘Lofts’, and these discharge into proper new refuse rooms in the vehicular area at ground floor.

11.7 **Building Circulation**

11.7.1 Two existing refurbished stairways serve the ‘Loft’ accommodation, and two new stairways (planned into the existing stair/escape routes on the gable wall)
provide separate escape for the Theatre and Arts Centre. Two new lifts in one existing lift shaft will serve the ‘Loft’ accommodation, and a new service lift in the second existing lift shaft will provide service access for the Theatre and Arts Centre.

11.8 Fire and Building Safety

11.8.1 Generally, fire and building safety is not a major concern as fire safety requirements of industrial buildings under the Buildings Ordinance are more stringent. The existing design provision should meet the requirements for the loft conversion in respect of fire resistance period, and floor loading.

11.8.2 In terms of means of escape, new lifts can easily be graded as ‘Fireman’s Lifts’, and the external balcony will provide access to Fire Tender ladders. Means of escape requirements are generally satisfied.

11.8.3 The conversion proposal, which depends upon the extensive modification of the structure by the removal of areas of floor and stair from the frame, will require engineering design to confirm the stability of the structure. The initial loading design will be well capable of satisfying new loading requirements.

11.9 Car Parking and Loading/Unloading Facilities

11.9.1 Provision standards for parking and loading facilities are specified in the Hong Kong Planning Standards and Guidelines (HKPSG). However, there is no category for loft. Similar to the case in Mau Tau Kok, loft is taken as a residential use. The loft, together with the non-domestic uses of retail and theatre, requires at least 23 car parking spaces and 3 loading/unloading bays for good vehicle and 1 lay-by bay.

11.9.2 The scheme will provide 16 parking spaces, 1 lorry space and 1 light good vehicle space. Compared with the standards, there will be a shortage of 7 parking spaces, 2 loading spaces and 1 lay-by bay. It should note that under the HKPSG, the parking requirement does not apply to cinema in metro area due to its proximity to public transport. As the theatre will be close to the MTR Station, waiving of the 10 parking spaces for the theatre would be justified. In addition, the subject building is well served by public transport, including the MTR, the parking provision for the loft occupants could be provided on a discounted basis subject to agreement of the Transport Department. If so, the indicative scheme
is considered acceptable.

11.10 Sewerage

11.10.1 Given the same amount of floorspace, residential use generally generates less sewage than industrial use. Therefore, compared with the existing development, the proposal should not result in unacceptable impact on the sewage and sewerage system.

11.11 Summary

11.11.1 In summary, the indicative scheme can meet the OZP in terms of domestic plot ratio and the Buildings Ordinance in terms of plot ratio, lighting and ventilation, and sanitary fitments. Nevertheless, relaxation of non-domestic plot ratio under the OZP, and relaxation of site coverage, open space and means of escape under the Buildings Ordinance will be required.

11.10.2 Subject to agreement of the Transport Department, the requirements on the provision of car parking and loading/unloading facilities could be relaxed.

12 Traffic

12.1 Traffic

12.1.1 The loft conversion is intended for “living-cum-studio” uses. Compared with typical residential development, the need for commuting should be significantly smaller.

12.1.2 Moreover, as the scheme proposes only 48 loft units for a limited number of occupiers, the scheme would be more acceptable in terms of traffic in comparison with typical residential redevelopments in R(E) zones. The scheme would unlikely generate many commuter trips and result in inadequate traffic impacts. Table E compares the potential traffic impact of the indicative scheme with a hypothetical residential redevelopment on the site. As a broad indication, it is estimated that there would be about 48 persons commuting to work in the proposed loft scheme while the number of commuting workers would be about 226 persons if the site is redeveloped into residential development.
## Table E: Traffic Generation Comparison Between Loft Apartments and Typical Residential Redevelopment on the Site – Building One

**Building One – Shun Shung Street**

<table>
<thead>
<tr>
<th></th>
<th>Loft</th>
<th>Residential Redevelopment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Plot Ratio</td>
<td>4.34</td>
<td>5&lt;sup&gt;(7)&lt;/sup&gt;</td>
</tr>
<tr>
<td>No. of Residential/Loft Units</td>
<td>48</td>
<td>151&lt;sup&gt;(8)&lt;/sup&gt;</td>
</tr>
<tr>
<td>No. of Occupants</td>
<td>96&lt;sup&gt;(9)&lt;/sup&gt;</td>
<td>377&lt;sup&gt;(10)&lt;/sup&gt;</td>
</tr>
<tr>
<td>No. of Commuters</td>
<td>48&lt;sup&gt;(11)&lt;/sup&gt;</td>
<td>226&lt;sup&gt;(12)&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

**Notes:**

1. According the B(P)R and the existing Draft Cha Kwo Ling, Yau Tong, Lei Yue Mun Outline Zoning Plan Outline Zoning Plan, the domestic plot ratio of the redevelopment cannot exceed 5.
2. Assuming the average flat size is 55m².
3. Assuming the average number of persons per flat (PPF) is 2 because of restrictions on the number of occupants in each unit.
4. Assuming the average PPF is 2.5.
5. Assuming the average number of commuters per unit is 1 as many occupants may work at home.
6. Assuming the average number of commuters per unit is 1.5 as most of the resident workers have to commute.

### 13 Environmental Consideration and Contamination

#### 13.1 Noise Level and Air Quality

13.1.1 The proposal is subject to potential I/R interface issues. While air pollution does not seem to be a major concern, there is potential noise nuisance from the cooling towers at the neighbouring industrial buildings.

13.1.2 Building design has addressed the interface issue by assigning the non-sensitive uses, i.e. the theatre and arts facilities to the north west elevation (abutting to the source of noise pollution) which serve as a buffer to most of the
loft units. Noise mitigation measures can be installed to further alleviate the noise impacts.

13.2 Contamination

13.2.1 To ensure the health of occupants of the lofts, it is necessary for the owner (applicant) to prove or demonstrate that there is no contamination remained in the subject building and it is considered suitable for human habitation.

14 Financial Viability

14.1 The financial viability of a project is assessed by deducting the total cost incurred for development from the Gross Development Value (GDV) generated from the sales of property.

14.2 In assessing the financial viability of loft conversion, the GDV is estimated based on the sales prices of lofts, theatre and arts centre as well as the food and beverage outlet. Similar to the case in Ma Tau Kok, the unit rates of loft, a new property product, is assumed to be lower than that of typical residential and office unit. In the case of Building One (Scheme A), the GDV is estimated at approximately $99.6 million.

14.3 The development cost for loft conversion comprises the Existing Use Value (EUV) of the existing industrial building, conversion cost, professional fee, legal and marketing fee, finance cost, and land premium (where appropriate). The EUV of Building One (Scheme A) is estimated to be about $38 million. The cost for conversion is estimated to be about $62 million and the related fees/costs are estimated to be about $23 million. With the conversion and related costs deducted from the GDV, the value of loft use is only about $11 million, which is significantly lower than the EUV. As the value of the conversion will be lower than the EUV, no premium will be charged for lease modification.

14.4 Since a major portion of the GFA has been proposed for the theatre and art centre, the saleable space is much reduced. The financial viability assessment illustrates that there would be negative returns on cost and GDV (–9.8% and –10.8% respectively). (see Table D-1 of Annex D). The scheme will not
be viable in financial terms for the private sector. Scheme A, with its special design of combining loft units with theatre and arts facilities, would serve as some kind of ‘community project requiring public subsidy.

15 Proposed Scheme B - Loft without Theatre

15.1 Design of Alternative Scheme

15.1.1 To test the financial viability, an alternative scheme ‘without theatre’ (Scheme B) has been proposed. The north-western part of the building has been designed as 21 loft units instead of the theatre and arts facilities, while other parts of the original scheme remain largely unchanged. (Figures 11-14 of Annex D)

15.1.2 The total area of the additional 21 loft units is 2,232m$^2$. The sizes of these loft units range from 64m$^2$ to 152m$^2$. Internal bathroom and gallery kitchens are provided. With additional loft units, more circulation space has been proposed by slightly reducing the void area on 2$^{nd}$ to 4$^{th}$ floors.

15.2 Major Findings

15.2.1 The key findings of Scheme B are summarised as follows:-

**Plot Ratio**

15.2.2 As the proposed theatre component is converted to loft units, the non-domestic component is significantly reduced. With the non-domestic plot ratio assumed to be 0.7, the domestic plot ratio is 4.84 and the maximum domestic GFA would be about 9,970m$^2$. The total GFA for domestic uses is approximately 11,742m$^2$, and would exceed the maximum residential GFA by 1,772m$^2$. The exceedance can be rectified by assigning void to form atrium, which is exempted from GFA calculation. The total void area is 1,890m$^2$, leaving a domestic GFA of 9,852m$^2$, which complies with the plot ratio requirement. As such, Scheme B would still meet the domestic plot ratio requirement of 5.3 as stipulated in the B(P)R.

15.2.3 With reduced non-domestic component (ie. only the food and beverage retail outlet), the alternative scheme also complies with the non-domestic plot ratio
requirement of 1 as stipulated in the OZP.

**Lighting and Ventilation**

15.2.4 The alternative scheme has 21 loft units at the north-western part of the building and has reduced the void area. Seventeen loft units are with a depth of more than 9m from the prescribed window. Relaxation of the lighting and ventilation requirements as stipulated in the B(P)R is thus required. It will need to demonstrate that the lighting and ventilation as proposed by the scheme will not be inferior to those required under the B(P)R.

**Car Parking and Loading/Unloading**

15.2.5 This alternative scheme requires less parking space: only 11 parking space and 2 loading/unloading bays. The car parking arrangement of the Scheme A remains unchanged and there is sufficient provision for parking and loading/unloading.

**Summary**

15.2.6 In summary, the alternative scheme can meet plot ratio requirements under the B(P)R and the OZP. The building requirements in relation to sanitary fitments, safety and means of escape under the Building Ordinance are satisfied. The scheme also meets the parking and loading/unloading requirements. However, relaxation of site coverage, open space, lighting and ventilation under the Building Ordinance will be required.

**15.3 Traffic**

15.3.1 Traffic generation of the alternative scheme is slightly higher than the original scheme - the number of commuter increases by 21 (69 as compared with 48 of the original scheme); but is still considerably lower than 226 of the typical residential development.

**15.4 Environmental Considerations**

15.4.1 The building is subject to potential Industrial/Residential interface issue. As compared with the original scheme, the buffer (i.e. the theatre and arts facilities) at the north-western part of the building is changed to loft units, which will be subject to greater noise impacts. Noise mitigation measures might need to be installed to alleviate the possible noise nuisance.
15.5 Financial Viability

15.5.1 The assumptions of unit rates and conversion costs adopted in the financial viability assessment of Scheme A has been adopted for Scheme B.

15.5.2 With the theatre and arts facilities changed to loft units, the GDV is estimated as about $135 million. With the conversion and related costs deducted from the GDV, the value of loft will be about $44 million, which is higher than the EUV (about $38 million). A land premium is assumed to be charged in approving the lease modification.

15.5.3 In scenario one (nil premium), the financial viability assessment demonstrated that the returns on cost and GDV for this case both could be 21.6% and 17.8% respectively, which is acceptable to the developers and render the project financially more attractive. However, if land premium payment is made, the returns on cost and GDV would only be about 14.9% and 13% respectively. It is considered that the return might not be acceptable to private developers to implement this project. As such, the loft conversion is more likely to be financially viable if no premium is charged. For details of the estimation and its assumptions, please refer to Tables D2-D3 of Annex D.

16 Building Two - Tung Yuen Street

Existing Building

16.1 “China Resources Textiles Industrial Building” (Building Two) was constructed in 1973. It has six floors above ground floor and the floor-to-floor height is approx. 3.7m. The building is 25.6m from ground to roof level. (Figure 15 of Annex D) The building is 45m long by 35m wide and has a concrete structural frame with columns. The building is built up to the back of the pavement on two sides, to a gable wall adjoining the neighbour site on the south-east side, and to a slope on the north-east side.

16.2 The building is chosen not only because it represents a typical industrial building, it also reflects the typical limitations imposed by the I/R interface problems to loft conversion. In the subject case, the environmental problems, particularly that of fugitive dust generated by the nearby concrete batching plant, cannot be easily alleviated/resolved by building design solutions. It may require other administrative means to resolve/remove the pollution at source. (Figure 16 of...
Annex D)

17 Proposed Scheme - Building Two

17.1 General Building Design

17.1.1 The proposed scheme is intended to illustrate the variety of uses that are compatible with loft apartments from the building design perspective. It comprises of 14 loft dwellings and office/production space on 1st to 4th Floor, and 48 elderly housing units with a roof courtyard on the 5th and 6th floors. The proposed scheme is illustrated at figures 17-22 at Annex D.

17.1.2 The design of the proposed scheme has capitalised the unique feature of the site. Due to the lacking of open aspect at the northeast and southeast elevations, the residential units in the building are designed to be ‘inward-looking’. The design has capitalised the level difference between Shung Wu Street and the building and provided a level access connecting to Shung Wai Street on the 5th floor for the elderly housing at the upper floors.

17.1.3 The co-location of loft/production space and elderly housing in the same building is considered appropriate. The elderly housing will be provided with its own separate access so as to minimise disturbance from dwellers and workers of the loft/production space (and vice versa). The generous space of the existing industrial building, which allows room for wider corridors, balconies, installation of aged person fittings, wheelchair access etc, provides an appropriate environment for aged person.

17.2 Loft Units

17.2.1 The scheme has proposed 14 loft units. The only potential aspect for ‘Loft’ dwellings is the north-west elevation that overlooks Shun Tak Wai. One storey and two storey wide-frontage units are proposed, with generous inset balcony spaces that can become a personalized landscaped open space. This can serve to improve the aspect of each unit, and becomes a ‘de facto’ frontage.

17.2.2 Bathrooms and water closet rooms are internal and mechanically ventilated. Kitchens may be internal, but are within 9m of the external wall, therefore could be treated as galley kitchens as part of the living space subject to detailed design.
17.3 Office/Production Spaces

17.3.1 The remainder depth of the plan on the 1st to 4th floors has no building frontage available, and is therefore proposed to be commercial office/production space, which may relate directly to the ‘Loft’ units on their particular floors. The scheme would provide 8 two storey office/production space units.

17.3.2 Technical devices are proposed to enliven these spaces. Some floor structure will be taken out of the structural grid to allow greater ceiling height and a sense of space. Large light/vent chimneys are to be inserted, which will channel light and air down from the courtyard space at floor (new roof) level 5. These produce lighting and ventilation ‘walls’ within the office/production spaces. Internal environments of high quality can be provided.

17.4 Housing for the Elderly

17.4.1 Taking into account the public views and exploring the different types of mixed uses, the scheme has proposed 48 units of elderly housing, with internal courtyard. The existing structural frame at roof level will be cleared away to produce an internal courtyard, which is surrounded by two-storeys of elderly person’s residences. There are two types of residence proposed, 32 single person units, and 16 two-person units. The units are similar: the single person unit is a bed/sitting room, with attached small cooking and W/C suite facilities, while the two-person unit has a separate bedroom. The single person units are single-aspect, and have balcony access overlooking the courtyard and the two-person units are dual-aspect and overlook a small roof-garden area as well as the communal courtyard. There is a two-storey dual aspect residence provided for a Warden to look after the old people, and special bathroom and laundry facilities would also be provided.

17.4.2 A new footbridge link (connecting the 5th floor and Shung Wu Street) allows the aged persons to walk directly from Shung Wu Street into the roof courtyard of their complex.
18. **Major Findings**

18.1 **Density Issue**

18.1.1 The building currently occupying a site of about 2,939 m$^2$. The building is 25.6 m high, with seven storeys and a total GFA of 14,263 m$^2$. The site is classified as ‘Class B’ Site under the Building (Planning) Regulations (B(P)R). The building has been used for industrial uses, while the proposed scheme has suggested part of the building be converted as lofts units and B(P)R has specified the plot ratio and site coverage requirements for domestic and non-domestic uses. It is necessary to ensure that the scheme, with uses modified, still meet the density requirements.

18.2 **Plot Ratio**

18.2.1 The plot ratio and maximum GFA permissible under the B(P)R for the site is as follows:

<table>
<thead>
<tr>
<th></th>
<th>Domestic</th>
<th>Non-Domestic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plot Ratio B(P)R</td>
<td>4.9</td>
<td>8.1</td>
</tr>
<tr>
<td>Plot Ratio OZP</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Maximum GFA B(P)R</td>
<td>14,410 m$^2$</td>
<td>12,822 m$^2$</td>
</tr>
<tr>
<td>Maximum GFA OZP</td>
<td>14,705 m$^2$</td>
<td>2,941 m$^2$</td>
</tr>
</tbody>
</table>

18.2.2 The existing building has a GFA of about 14,263 m$^2$ (98.9% of the allowable GFA). The scheme has proposed mixed domestic and non-domestic uses. Domestic Floor area is proposed to be 4,128 m$^2$ while those for non-domestic is 2,930 m$^2$. Assuming the plot ratio of non-domestic use is 0.99, and that of the domestic uses is 4.3, the maximum domestic GFA will be 12,641 m$^2$.

18.2.3 However, the domestic GFA of the proposed scheme is 4,128 m$^2$, only about 32.6% of the permissible domestic GFA under B(P)R. The ‘remaining’ space can be used either for communal space, eg. common room, gallery, etc. or be reserved for other revenue-generating uses when needs arise.

18.2.4 The scheme complies with the non-domestic plot ratio restrictions under the OZP.
18.3 Site Coverage

18.3.1 For Building Two, the maximum domestic site coverage would be 55% under the B(P)R. As the scheme has not proposed external demolition, the site coverage would remain unchanged as 74% and will exceed the allowable 55%. If the site coverage of the proposed building design has to comply with the specified site coverage, substantial demolition work would be involved and the large conversion cost would affect its financial viability. Therefore, restriction on the site coverage of the proposed scheme would need to be relaxed.

18.4 Open Space

18.4.1 Open space for the elderly is generous in the sunlit rooftop courtyard. Although open space for the other loft units is not provided, spacious personalized balconies is available. With courtyard and roof garden provided on the 5th floor, the open space requirement is satisfied.

18.5 Lighting and Ventilation

18.5.1 The indicative scheme has incorporated a sensitive design to enhance the natural lighting and ventilation as well. The roof garden proposed on 5th floor allow sunlight and air to penetrate down to the office/production spaces below, which will be fitted with large light/vent chimneys to channel light and air down from the courtyard space. The lighting and ventilation is largely considered satisfactory.

18.6 Kitchens and Sanitary Fitments

18.6.1 Internal bathroom (with mechanical ventilation) and kitchens are provided. Kitchens are within 9m of the external wall, therefore could be treated as galley kitchens. The requirements will be met.

18.7 Fire and Building Safety

18.7.1 Generally, fire and building safety is not a major concern as fire safety requirements of industrial buildings under the Buildings Ordinance are more stringent. The existing design provision should meet the requirements for the loft conversion in respect of fire resistance period and floor loading.

18.7.2 The existing lifts and escape stairs on the Tung Yuen Street frontage will be kept. In additional, the existing back part of the building will be converted to provide
new stairs and lifts, and level access connecting to Shung Yiu Street will be provided on the 5th level. Means of escape requirements should be met.

18.7.3 No particular structural problems would be envisaged as result of the material modifications that are proposed. The insertion of the lifts and the stairway in the north-east sector of the building is subject to detailed design.

18.8 Car Parking and Loading/Unloading Facilities

18.8.1 Similar to the case in Building One, loft is taken as a residential use. The loft, together with the office/production space, requires at least 14 car parking spaces and 2 loading/unloading bays for good vehicle. The scheme will provide 26 parking spaces for car, 1 space for lorry, 1 for light goods vehicle, and one special space for Minibus/Community Bus/Ambulance to serve the Elderly person's hostel. Compared with the standards under the HKPSG, there will be a ‘surplus’ of 12 parking spaces and shortage of 1 loading/unloading bay. The shortage can be met by the making use of the ‘surplus’ space. Moreover, as the office/production space is intended for the use of loft dwellers, the parking could be provided on a discounted basis subject to agreement of the Transport Department. The scheme is considered acceptable.

18.8.2 As the parking requirement for elderly housing is not included in the HKPSG, it is necessary to consult with the Transport Department. Generally speaking, the aged person units housing is not considered as a traffic generating use as most of the occupants are retired. Parking provision should be made for the workers/carers, visitors, as well as Minibus/Community bus/Ambulance. The provision has already been provided in the proposed scheme.

18.9 Sewerage

18.9.1 Given the same amount of floorspace, residential use generally generates less sewage than industrial use. Therefore, compared with the existing development or to a typical residential development, the proposal should not result in unacceptable impact on the sewage and sewerage system.

18.10 Summary

18.10.1 In summary, the indicative scheme can meet the OZP and the Buildings Ordinance in terms of plot ratio, the requirements in relation to lighting and ventilation, and sanitary fitments under the Buildings Ordinance. Nevertheless, relaxation of site coverage provision under the Buildings Ordinance will be
18.10.2 Subject to the agreement of the Transport Department, the provision of car parking and loading/unloading facilities is considered adequate and can meet the requirements.

19 Traffic

19.1 The scheme proposes only 48 loft units for a limited number of occupiers, the scheme would be more acceptable in terms of traffic in comparison with typical residential redevelopments in R(E) zones. The scheme would unlikely generate many commuter trips and result in inadequate traffic impacts. Table F compares the potential traffic impact of the indicative scheme with a hypothetical residential redevelopment on the site. As a broad indication, it is estimated that there would be about 48 persons commuting to work in the proposed loft scheme while the number of commuting workers would be about 226 persons if the site is redeveloped into residential development.

Table F: Traffic Generation Comparison Between Loft Apartments and Typical Residential Redevelopment on the Site – Building Two

<table>
<thead>
<tr>
<th>Building Two – Tung Yuen Street</th>
<th>Loft</th>
<th>Residential Redevelopment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Plot Ratio</td>
<td>3.94</td>
<td>5 (13)</td>
</tr>
<tr>
<td>No. of Residential/Loft Units*</td>
<td>14</td>
<td>136 (14)</td>
</tr>
<tr>
<td>No. of Occupants</td>
<td>28 (15)</td>
<td>340 (16)</td>
</tr>
<tr>
<td>No. of Commuters</td>
<td>14 (17)</td>
<td>204 (18)</td>
</tr>
</tbody>
</table>

* Elderly housing is not included as loft unit for the purpose of traffic assessment.

Notes:
(13) According the B(P)R and the existing Draft Cha Kwo Ling, Yau Tong, Lei Yue Mun Outline Zoning Plan Outline Zoning Plan, the domestic plot ratio of the redevelopment cannot exceed 5.
(14) Assuming the average flat size is 55m².
(15) Assuming the average number of persons per flat (PPF) is 2 because of
restrictions on the number of occupants in each unit.

(16) Assuming the average PPF is 2.5.
(17) Assuming the average number of commuters per unit is 1 as many occupants may work at home.
(18) Assuming the average number of commuters per unit is 1.5 as most of the resident workers have to commute.

20. Environmental Consideration and Contamination

20.1 Interface Problem

20.1.1 The proposal is subject to potential I/R interface issues, particularly air and noise pollution. The site is surrounded by many existing industrial uses, including the concrete batching plant and cement depot located at about 20m to the west, a Wholesale Fish market located at about 30m to the southwest. EPD has expressed concern to the co-existence of the existing polluting industrial uses with the proposed uses for habitation. As discussed in paragraph 15.1.2, the environmental nuisance cannot be readily addressed by design solutions. To make the area suitable for loft conversion, it may require buying out the nearby private lots where the source of pollution locates.

20.2 Air Pollution

20.2.1 The concrete batching plants along Tung Yuen Street are major causes of air pollution. The fugitive dust resulted from operation and transportation will exceed the acceptable standards and will not be easily resolved by design solutions of the loft conversion. The emission of concrete trucks and good vehicles is another concern. The southeastern elevation of the scheme will have the greatest exposure to the dust and emission.

20.3 Industrial Noise

20.3.1 The building is surrounded by industrial establishments. Noise from both industrial operation and trucks is likely to exceed the standards. Noise mitigation measures will need to be installed.
20.4 Contamination

20.4.1 Since the existing industrial buildings are under private ownership, to ensure the health of occupants of the lofts, it is necessary for the owner (applicant) to prove or demonstrate that there is no contamination remained in the subject building.

21. Financial Viability

21.1 Similar to the previous cases, the unit rates of loft is assumed to be lower than that of typical residential and office unit. In Building Two, the GDV is estimated at about $85 million.

21.2 The cost for conversion is estimated to be about $64 million and the related fees/costs are estimated to be about $24 million. The GDV is so low that it cannot even cover the conversion and related costs, leaving a deficit of about $6 million. Besides conversion costs, development cost also includes EUV, which is estimated to be about $33 million. This brings the total deficit to $39 million. No premium will be charged for lease modification.

21.3 The financial viability assessment illustrates that there would be negative returns on costs and GDV at –20.8 % and –26.3 % respectively. Proximity to incompatible uses and site constraints are considered as the main reasons that render the project financially unviable. (see Table D-4 of Annex D).

22. Public Views

22.1 The views gathered from Hong Kong 2030 Stage 2 public consultation exercise show that there is a wide support of more sustainable use of the surplus industrial buildings. The concept of converting industrial buildings to loft apartments is generally well received among the community. More specific comments are highlighted as follows:

a. Many pointed out that conversion should be carried out for the entire building, and preferably for the whole area so as to avoid interfacing problems, like fire safety and environmental issues. Piecemeal or partial conversion would be undesirable. However, multiple ownership
remains a major obstacle to conversion of the entire building.

b. The quality of the environment, like air quality, noise level, traffic condition and character of the area is considered critical to the success of loft living. Areas like Aberdeen, Chai Wan, San Po Kong are suggested as sites suitable for pilot scheme. Some suggested that the industrial areas adjoining to the urban renewal projects also have potentials for conversion.

c. Many, in particular people in the development field commented that land premium could be a major issue in the financial viability of the concept. Also, premium calculation should be more transparent so as to assist the developer in estimating the cost and risk at the early stage. Moreover, to make conversion possible, the current technical requirements such as site-coverage and plot ratio restrictions, building regulations and stringent environmental requirements should be reviewed and relaxed. The Government should co-ordinate the efforts of different departments to resolve technical problems.

d. If the price of loft is similar to the residential buildings, some of the target occupants may not be able to afford the price. Whilst some developers have reservation on how the property market could absorb more residential units, some factory owners and workers were concerned that the conversion might push up the rent of individual premises and worsen the business environment.

e. Other uses, such as housing for the elderly, cultural facilities, library, community college, etc are considered appropriate and compatible with loft apartments.

23 Conclusion

23.1 The above case studies have demonstrated that loft conversion is potentially feasible provided that the relevant regulations are modified to take into account the issues mentioned in Section 2. Since the buildings selected have various degrees of complexities and perform different functions to the community, the
conceptual schemes indicate that there is a potential for loft conversion in Hong Kong.

23.2 The Building design issues such as the difference in permissible plot ratios between the domestic and non-domestic buildings, building and fire safety requirements, etc could be resolved and the solutions are considered agreeable by the Buildings Department. From the planning aspect, no adverse impacts is envisaged and the follow-up actions are only technical and procedural in nature. Depending on the suitability of the site and its compatibility with the neighbouring uses, there is no major problem from the Environmental Protection Department. However, the financial viability and implementation issues remain critical. The Administration could consider alternative criteria in calculating the premium, devise mechanism to ensure compliance of its requirements and consider creative solutions to induce favourable environment for its implementation and enforcement.

Working Party on the Possible Conversion of Selected Industrial Buildings for Loft Apartments

September 2002
Annex A

Overseas Examples of Loft Development
Overseas Examples of Loft Development

Shoreditch, London  Studio/Home

Kreuzberg, Berlin  Art Workshop & Community Co-op

Extracted from 'Lofts' by Marcus Field & Mark Irving, 1999
Lower Broadway, New York  Roof Garden

Spring Street, New York  Home & Studio

New York  Studio/Home

New Jersey  Studio/Home

Extracted from 'Lofts' by Marcus Field & Mark Irving, 1999
Annex B

Financial Viability of Conversion of Industrial Buildings for Lofts (Residential & Studio)
### Table B-1

**Financial Viability of the Conversion of Industrial Buildings for Lofts (Residential & Workshop)**

**Scenario One: Nil Land Premium**

**Date of Valuation:** Jan-02

**Gross Development Value:**

- **GFA (sq ft):** 100,000
- **Land:**
  - **100,000**

**Loss: Development Value**

- **LOUV of Existing Building (a):** 100,000
- **Land Premium (b):** 0
- **Conversion Cost (c):** 100,000
- **Professional Fee (d):** 7% on (c)
- **Legal and Marketing Fee (e):** 2% on GDV
- **Finance Cost (f):**
  - **EUU & Land Premium:** 1 year, 5.125% on (a) & (b)
  - **Conversion Cost & Professional F:** 6.5 years, 5.125% on (c) & (d)

<table>
<thead>
<tr>
<th>GFA: 100,000 sq ft</th>
<th>Total Return (a)</th>
<th>Return on Cost</th>
<th>Return on GDV</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,200</td>
<td>$3.8</td>
<td>31%</td>
<td>34%</td>
</tr>
<tr>
<td>$1,400</td>
<td>$5.4</td>
<td>42%</td>
<td>30%</td>
</tr>
<tr>
<td>$1,600</td>
<td>$7.1</td>
<td>53%</td>
<td>24%</td>
</tr>
<tr>
<td>$1,800</td>
<td>$8.8</td>
<td>64%</td>
<td>18%</td>
</tr>
<tr>
<td>$1,000</td>
<td>$5.6</td>
<td>5%</td>
<td>-5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GFA: 90,000 sq ft (60% of Total GFA after conversion)</th>
<th>Total Return (a)</th>
<th>Return on Cost</th>
<th>Return on GDV</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,400</td>
<td>$4.2</td>
<td>41%</td>
<td>25%</td>
</tr>
<tr>
<td>$1,600</td>
<td>$5.3</td>
<td>53%</td>
<td>25%</td>
</tr>
<tr>
<td>$1,800</td>
<td>$6.4</td>
<td>65%</td>
<td>25%</td>
</tr>
<tr>
<td>$1,000</td>
<td>$3.4</td>
<td>35%</td>
<td>-55%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GFA: 80,000 sq ft (80% of Total GFA after conversion)</th>
<th>Total Return (a)</th>
<th>Return on Cost</th>
<th>Return on GDV</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,200</td>
<td>$3.8</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>$1,400</td>
<td>$4.7</td>
<td>27%</td>
<td>25%</td>
</tr>
<tr>
<td>$1,600</td>
<td>$5.6</td>
<td>29%</td>
<td>25%</td>
</tr>
<tr>
<td>$1,800</td>
<td>$6.5</td>
<td>31%</td>
<td>25%</td>
</tr>
<tr>
<td>$1,000</td>
<td>$3.5</td>
<td>25%</td>
<td>-25%</td>
</tr>
</tbody>
</table>

**Notes:**

1. For simplicity, the size of the property for conversion is assumed to be about 100,000 sq ft (GFA).
2. It is assumed that the completion date of the hypothetical industrial building was in 1970s.
3. Certain area is allowed for lighting, etc after conversion.
4. The conversion cost is only a preliminary figure.
5. The conversion cost is assumed to be 7% of conversion cost, taking into account the relatively high complexity of the project.
6. The conversion cost is assumed to be 2% of Gross Development Value (GDV), taking into account the nature and marketability of Loft.
7. Conversion period of about 1 year is allowed for this project. Hence, the financing period for existing use value (EUU) and land premium (which is nil in this case) is 1 year.
8. The financing period for conversion cost and professional fee is half of conversion period, i.e. 0.5 year.
9. Considering the scale and nature of the development and assuming an average developer, a discounting rate of 5.125% (i.e. Prime Rate) is adopted.
## Table B-2

### Financial Viability of the Conversion of Industrial Buildings for Lofts (Residential & Workshop)

#### Scenario Type: Land Premium

**Date of Valuation:** Jan-01

**Gross Development Value**

<table>
<thead>
<tr>
<th>Type</th>
<th>GFA (sq.ft.)</th>
<th>Value ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loft</td>
<td>100,000</td>
<td>$140,000,000</td>
</tr>
</tbody>
</table>

**Land & Development Value**

<table>
<thead>
<tr>
<th>Item</th>
<th>Calculation</th>
<th>Value ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>ECU of Existing Building</td>
<td>100,000</td>
</tr>
<tr>
<td>b)</td>
<td>Land Premium</td>
<td>100,000</td>
</tr>
<tr>
<td>c)</td>
<td>Conversion Cost</td>
<td>7% on (c)</td>
</tr>
<tr>
<td>d)</td>
<td>Professional Fee</td>
<td>2% on GDV</td>
</tr>
<tr>
<td>e)</td>
<td>Legal and Marketing Fee</td>
<td>5.115% on (a) &amp; (b)</td>
</tr>
<tr>
<td>f)</td>
<td>Finance Cost</td>
<td>5.115% on (a) &amp; (d)</td>
</tr>
</tbody>
</table>

**Total Return**

<table>
<thead>
<tr>
<th>Item</th>
<th>Calculation</th>
<th>Value ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Return</td>
<td>$106,572,070</td>
</tr>
<tr>
<td></td>
<td>Say</td>
<td>$106,572,070</td>
</tr>
<tr>
<td></td>
<td>Return on Cost</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td>Return on GDV</td>
<td>22%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GFA: 100,000 sq.ft. (100%)</th>
<th>Total Return (%)</th>
<th>Return on Cost (%)</th>
<th>Return on GDV (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit Rate</strong> ($sq ft)</td>
<td><strong>Total Return ($m)</strong></td>
<td><strong>Return on Cost</strong></td>
<td><strong>Return on GDV</strong></td>
</tr>
<tr>
<td>$1,600</td>
<td>$51.0</td>
<td>33%</td>
<td>33%</td>
</tr>
<tr>
<td>$1,500</td>
<td>$41.2</td>
<td>27%</td>
<td>27%</td>
</tr>
<tr>
<td>$1,400</td>
<td>$31.4</td>
<td>22%</td>
<td>22%</td>
</tr>
<tr>
<td>$1,300</td>
<td>$21.6</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td>$1,200</td>
<td>$11.8</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>$1,100</td>
<td>$2.0</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>$1,000</td>
<td>$1.0</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GFA: 90,000 sq.ft. (90% of Total GFA after conversion)</th>
<th>Total Return (%)</th>
<th>Return on Cost (%)</th>
<th>Return on GDV (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conversion Cost: $500 (including demolition cost)</strong></td>
<td>**Unit Rate ($sq ft)</td>
<td><strong>Total Return ($m)</strong></td>
<td><strong>Return on Cost</strong></td>
</tr>
<tr>
<td>$1,600</td>
<td>$30.0</td>
<td>27%</td>
<td>27%</td>
</tr>
<tr>
<td>$1,500</td>
<td>$20.1</td>
<td>22%</td>
<td>22%</td>
</tr>
<tr>
<td>$1,400</td>
<td>$11.3</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td>$1,300</td>
<td>$7.5</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>$1,200</td>
<td>$3.7</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>$1,100</td>
<td>$2.1</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>$1,000</td>
<td>$1.0</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GFA: 80,000 sq.ft. (80% of Total GFA after conversion)</th>
<th>Total Return (%)</th>
<th>Return on Cost (%)</th>
<th>Return on GDV (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conversion Cost: $650 (including demolition cost)</strong></td>
<td>**Unit Rate ($sq ft)</td>
<td><strong>Total Return ($m)</strong></td>
<td><strong>Return on Cost</strong></td>
</tr>
<tr>
<td>$1,600</td>
<td>$20.2</td>
<td>24%</td>
<td>24%</td>
</tr>
<tr>
<td>$1,500</td>
<td>$12.4</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td>$1,400</td>
<td>$8.5</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>$1,300</td>
<td>$6.7</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>$1,200</td>
<td>$3.2</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>$1,100</td>
<td>$0.9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>$1,000</td>
<td>$0.4</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Notes:**

1. For simplicity, the size of the property for conversion is assumed to be about 100,000 sq.ft. (GFA).
2. It is assumed that the completion date of the hypothetical industrial building was in 1979.
3. Certain areas are allowed for lightwell, etc. after conversion.
4. The conversion cost is only a preliminary figure.
5. The conversion cost is assumed to be 7% of the conversion cost, taking into account the relatively high complexity of this project.
6. Legal and marketing fee is assumed to be 2% of Gross Development Value (GDV), taking into account the nature and marketability of loft.
7. Conversion period of about 1 year is allowed for this project. Hence, the financing period for existing use value (EUV) and land premium (which is all in this case) is 1 year.
8. The financing period for conversion cost and professional fee is half of conversion period, i.e. 0.5 year.
9. Regarding the scale and nature of the development and assuming an average developer, a discount rate of 5.115% (i.e. Prime Rate) is adopted.

---

P:\Loft\financial-viability\general\Premium
Annex C

Ma Tau Kok Case Study
Figure 3

Photo of Industrial Buildings along Yuk Yat Street

The Selected Site

Yuk Yat Street
Ground Floor Plan
Non-Domestic = 510m²
1st and 3rd Floors
Non-Domestic = 1,750m²/flr x 3
Fourth Floor
Loft = 950m²
Clubhouse = 508m²
Fifth Floor
Loft = 1,250m²
Sixth to Ninth Floors
(Typical Floors)
Loft = 1,400m²/Flr.x4=5,600 m²
Tenth Floor
(Lower Penthouse)
Loft = 1400m²
Eleventh Floor
(Upper Penthouse)
Loft = 950m²
Figure 11

Cross Section
TABLE C-1

Financial Viability of Loft Conversion for Gee Chang Industrial Building, Ma Tau Kok

Scenario One: Nil Land Premium

Date of Valuation: 29-Apr-02

<table>
<thead>
<tr>
<th>Gross Development Value</th>
<th>sq.m./sq.ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail on GF</td>
<td>319</td>
</tr>
<tr>
<td>Retail / Office Units on 1/F-3/F</td>
<td>3,250</td>
</tr>
<tr>
<td>Loft on 4/F-11/F</td>
<td>10,150</td>
</tr>
<tr>
<td>Car Parking Space on GF</td>
<td>20 no.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15,910</strong></td>
</tr>
</tbody>
</table>

Less: Development Cost

a) EUV of Existing Building
   Industrial Units on GF-1/F **1)** 22,003

b) Conversion Cost **(1)** 15,910

c) Professional Fee **(2)** 7% on (c)
d) Legal and Marketing Fee **(2)** 2% on GDV

e) Finance Cost
   EUV & Land Premium 1 year **(4)** 5.125% **(5)** on (a)
   Conversion Cost & Professional Fee 0.5 years **(4)** 5.125% **(5)** on (b) & (c)
   Total Return $215,400,000

Return on Cost: 24%
Return on GDV: 19%

Notes:
1/ The G/F GFA of new building is arrived at by subtracting the 1/F-3/F GFA from the total non-domestic GFA provided.
2/ The GFA of existing building is estimated based on its site area and plot ratio provided.
3/ The conversion cost, which is only a preliminary figure, comprises mainly demolition and replacement of all building services, wall finishing, and structural strengthening. The unit rate for conversion cost is based on the GFA of new building.
4/ Professional fee is assumed to be 7% of conversion cost, taking into account the relatively high complexity of this project.
5/ Legal and marketing fee is assumed to be 2% of Gross Development Value (GDV), taking into account the nature and marketability of Loft.
6/ Conversion period of about 1 year is allowed for this project. Hence, the financing period for existing use value (EUV) and land premium (which is nil in this case) is 1 year.
7/ The financing period for conversion cost and professional fee is half of conversion period, i.e. 0.5 year.
8/ Regarding the scale and nature of this project and assuming an average developer, a discounting rate of 5.125% (i.e. Prime Rate) is adopted.

Annex D

Yau Tong Case Studies
Industrial Building at Yau Tong

PLANNING DEPARTMENT 計劃署

Plan No. 地圖編號: TSP 2070
Date 日期: 10.5.2002

Scale 1: 2500

Figure 1
Yau Tong Building One
Figure 3

Building 1
Seaview - Fronting Safer Industrial Building (Building 1)

Figure 4
Yau Tong Building One

SCHEME A
Figure 7

Figure 8

Scheme A  Building 1
Shung Shun Street
Scheme A  Building 1
Shung Shun Street
**TABLE 3.1**

Financial Viability of Loft Conversion for Building One, Safer Industrial Building, Vue Tong
Scheme A - with Theatre

<table>
<thead>
<tr>
<th>Date of Valuation:</th>
<th>May-02</th>
</tr>
</thead>
</table>

**Gross Development Value**

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GF Food and Beverage Outlet</td>
<td>670</td>
</tr>
<tr>
<td>1/F Food and Beverage Outlet</td>
<td>335</td>
</tr>
<tr>
<td>UF Theatre</td>
<td>150 seats</td>
</tr>
<tr>
<td>Loft</td>
<td>4082</td>
</tr>
<tr>
<td>Private CPS</td>
<td>16 no.</td>
</tr>
<tr>
<td>Lorry Parking Spaces</td>
<td>1 no.</td>
</tr>
<tr>
<td>LGV Spaces</td>
<td>1 no.</td>
</tr>
</tbody>
</table>

**Less: Development Cost**

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) EUV of Existing Building</td>
<td></td>
</tr>
<tr>
<td>(i) Workshop</td>
<td>12,454</td>
</tr>
<tr>
<td>(ii) Private CPS</td>
<td>17 no.</td>
</tr>
<tr>
<td>(iii) Lorry Parking Spaces</td>
<td>9 no.</td>
</tr>
<tr>
<td>(iv) LGV spaces</td>
<td>9 no.</td>
</tr>
<tr>
<td>(v) Container Vehicle Spaces</td>
<td>1 no.</td>
</tr>
<tr>
<td>b) Land Premium</td>
<td></td>
</tr>
<tr>
<td>c) Conversion Cost for the whole building</td>
<td>6% on (c)</td>
</tr>
<tr>
<td>d) Professional Fee*</td>
<td>2% on GDV</td>
</tr>
<tr>
<td>e) Legal and Marketing Fee*</td>
<td></td>
</tr>
<tr>
<td>f) Finance Cost</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUV &amp; Land Premium</td>
<td></td>
</tr>
<tr>
<td>Conversion Cost &amp; Professional Fee</td>
<td></td>
</tr>
<tr>
<td>1.33 years @ 0.665% years @</td>
<td></td>
</tr>
<tr>
<td>5.15%* on (a) &amp; (b)</td>
<td></td>
</tr>
<tr>
<td>5.15%* on (c) &amp; (d)</td>
<td></td>
</tr>
<tr>
<td>Total Return</td>
<td>$16,068,000</td>
</tr>
</tbody>
</table>

**Note:**

1. Area and number of car parks are advised by Arch. SD
2. Conversion cost is advised by Arch SD
3. Professional fee is assumed to be 5% of conversion cost.
4. Legal and Marketing Fee is assumed to be 2% of GDV as per consultant's report.
5. Conversion Period of 1.33 years as advised by Arch SD. Hence, the financing period for existing one-value (EUV) and land premium is 1.33 years.
6. The cost of capital for a developer is assumed to be 5.12% (6).
7. The financing period for conversion cost and professional fee is half of conversion period, i.e., 0.665 years.
8. Some developers with high ambition will tend to adopt $3,500/m² as the EUL of the existing building for the viability analysis.
Yau Tong Building One

SCHEME B
Scheme B (Without Theatre)
Building 1 Shung Shun Street
Scheme B (Without Theatre)
Building 1 Shung Shun Street
TABLE 9-2

Financial Viability Assessment of Conversion for Building One, Safer Industrial Building, Yau Tong
Scheme B - Without Theatre
Scenario One: Nil Premium

Date of Valuation: May-02

<table>
<thead>
<tr>
<th>Gross Development Value</th>
<th>$M mn (no.)(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G/F Food and Beverage Outlet</td>
<td>679</td>
</tr>
<tr>
<td>L/F Food and Beverage Outlet</td>
<td>238</td>
</tr>
<tr>
<td>U/F Theatre</td>
<td>9 seats</td>
</tr>
<tr>
<td>Loft converted from U/F Theatre</td>
<td>2,232</td>
</tr>
<tr>
<td>Loft</td>
<td>4,085</td>
</tr>
<tr>
<td>Private CPS</td>
<td>16 no.</td>
</tr>
<tr>
<td>Lorry Parking Spaces</td>
<td>1 no.</td>
</tr>
<tr>
<td>LCV Spaces</td>
<td>1 no.</td>
</tr>
</tbody>
</table>

$115,200,000

Less: Development Cost

a) EUV of Existing Building
   (i) Workshop | 12,451 |
   (ii) Private CPS | 17 no. |
   (iii) Lorry Parking Spaces | 9 no. |
   (iv) LCV spaces | 9 no. |
   (v) Container Vehicle Spaces | 1 no. |

b) Conversion Cost for the whole building(2)
c) Professional Fee(3)
d) Legal and Marketing Fee(5)
e) Finance Cost

<table>
<thead>
<tr>
<th>E.U.V. &amp; Land Premium</th>
<th>1.33 years(6)(9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion Cost &amp; Professional Fee</td>
<td>0.665(7)(8) years</td>
</tr>
<tr>
<td>5.123% (8) on (6)</td>
<td></td>
</tr>
<tr>
<td>5.151% (9) on (8) &amp; (9)</td>
<td></td>
</tr>
</tbody>
</table>

Total Return | $111,300,000

Return on Cost | 21.59%
Return on GDV | 17.75%

Notes:

* The approach adopted in the assessment based on the viability study of the Consultant's report.
* Conversion cost as advised by Arch 3D and Plan 3D respectively.
* Professional fee is assumed to be 6% of conversion cost.
* Legal and Marketing Fee is assumed to be 2% of GDV as per consultant's report.
* Conversion Period of 1.33 years as advised by Arch/SD. Hence, the financing period for existing use value (EUV) and land premium is 1.33 years.
* The financing period for conversion cost and professional fee is half of conversion period, i.e., 0.665 years.
* Some developers with little ambition will tend to adopt 12,300m² as the EUV of the existing building for the viability analysis.
### TABLE 9.2

**Financial Viability Assessment of Conversion for Building One, Safer Industrial Building, Yau Tong**

**Scheme B - Without Theatre**

**Scenario One: Nil Premium**

<table>
<thead>
<tr>
<th>Date of Valuation:</th>
<th>May-02</th>
</tr>
</thead>
</table>

**Gross Development Value**

<table>
<thead>
<tr>
<th>Item</th>
<th>NL m./no. (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G/F Food and Beverage Outlet</td>
<td>679</td>
</tr>
<tr>
<td>1/F Food and Beverage Outlet</td>
<td>238</td>
</tr>
<tr>
<td>U/F Theatre</td>
<td>9 seats</td>
</tr>
<tr>
<td>Loft converted from U/F Theatre</td>
<td>2,233</td>
</tr>
<tr>
<td>Loft</td>
<td>4,085</td>
</tr>
<tr>
<td>Private CPS</td>
<td>16 no.</td>
</tr>
<tr>
<td>Lorry Parking Spaces</td>
<td>1 no.</td>
</tr>
<tr>
<td>LCV Spaces</td>
<td>1 no.</td>
</tr>
</tbody>
</table>

Less: Development Cost

- a) EUV of Existing Building
  - (i) Workshop: 12,421
  - (ii) Private CPS: 17 no.
  - (iii) Lorry Parking Spaces: 9 no.
  - (iv) LGV spaces: 9 no.
  - (v) Container Vehicle Spaces: 1 no.

- b) Conversion Cost for the whole building (2)

- c) Professional Fee (3)
  - 6% on (i)

- d) Legal and Marketing Fee (4)
  - 2% on GDV

- e) Finance Cost

<table>
<thead>
<tr>
<th>Description</th>
<th>Recap breaks down into</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUV &amp; Land Premium</td>
<td>1.33 years (6) @ 5.13% (6)</td>
<td>$111,303,000</td>
</tr>
<tr>
<td>Conversion Cost &amp; Professional Fee</td>
<td>0.665 years (6) @ 5.15% (6)</td>
<td>$111,303,000</td>
</tr>
</tbody>
</table>

| Total Return | $114,833,000 |

**Notes:**

- *The approach adopted in the assessment based on the viability study of the Consultant's report.*
- Conv. cost is as advised by Arch. SD
- Professional fee is assumed to be 6% of conversion cost.
- Legal and Marketing Fee is assumed to be 2% of GDV as per consultant's report
- Conversion Period of 14 months (1.33 years) as advised by Arch. SD. Hence, the financing period for existing use value (EUV) and land premium is 1.33 years.
- The cost of capital for a developer is assumed to be 7.325% (P=2).
- The financing period for conversion cost and professional fee is half of conversion period, i.e., 0.665 years
- Some developers with little ambition will tend to adopt $2,000/m² as the EUV of the existing building for the viability analysis.
Yau Tong Building Two
Concrete Batching Plants

Kwun Tong Wholesale Fisher Market

Sites Opposite to Building No. 2
Building 2
Tung Yuen Street
Building 2
Tung Yuen Street
Figure 21

Figure 22

Building 2
Tung Yuen Street
TABLE D-4

Financial Viability Assessment of Left Conversion for Building Two,
China Resources Textiles Industrial Building, Yau Tong

<table>
<thead>
<tr>
<th>Gross Development Value</th>
<th>HK$ (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loft</td>
<td>1,800</td>
</tr>
<tr>
<td>Housing for the Elderly</td>
<td>1,318</td>
</tr>
<tr>
<td>Office/Production Floor Area</td>
<td>2,400</td>
</tr>
<tr>
<td>CP</td>
<td>36 sq m</td>
</tr>
<tr>
<td>Lorry Parking Spaces</td>
<td>1 sq m</td>
</tr>
<tr>
<td>LGV Spaces</td>
<td>1 sq m</td>
</tr>
<tr>
<td>Special Vehicle Spaces</td>
<td>1 sq m</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$54,700,000</strong></td>
</tr>
</tbody>
</table>

**Loss: Development Cost**

a) EUV of Existing Building
   (i) Workshop 16,600
   (ii) Private CPS 15 sq m
   (iii) Lorry Parking Spaces 8 sq m
   (iv) LOV spaces 8 sq m
   (v) Container Vehicle spaces 1 sq m

b) Conversion Cost for the whole building 6% of (i)
c) Professional Fee 2% of GDV
d) Legal and Marketing Fee 2% of GDV
e) Finance Cost

<table>
<thead>
<tr>
<th>EUV &amp; Land Premium</th>
<th>1.33 years @ 5.12% on 4%</th>
<th>5.12% on 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion Cost &amp; Professional Fee</td>
<td>0.665 years @ 5.12% on 5%</td>
<td>5.12% on 6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$117,000,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Return on Cost** 20.84%
**Return on GDV** 26.33%

---

*The approach adopted is the assessment based on the viability study of the Consultant's report.
1/ Area and number of applications are advised by Arch. SD.
2/ Conversion cost as advised by Arch. SD.
3/ Professional fee is assumed to be 6% of conversion cost.
4/ Legal and Marketing Fee is assumed to be 2% of GDV as per consultant's report.
5/ Conversion Period of 16 months (1.33 years) as advised by Arch. SD. Hence, the financing period for existing use value (EUV) and land premium is 1.33 years.
6/ The cost of capital for a developer is assumed to be 5.12% (P).
7/ The financing period for conversion cost and professional fee is half of conversion period, i.e., 0.665 years.

# Some developers with little ambition will tend to adopt $2,500/m² as the EUV of the existing building for the viability analysis.