

TASK FORCE ON LAND SUPPLY

Brownfield Sites

PURPOSE

This paper provides Members with (a) an overview of the Government's ongoing studies into the utilisation and rationalisation of brownfield sites in the New Territories (NT); (b) the current approach in utilising these sites as a source of land supply for development; and (c) the challenges in taking forward this land supply option.

BACKGROUND

What is a "brownfield site"?

2. "Brownfield" is an imported term. In the United Kingdom (UK) and the United States (US) for example, brownfield sites are former industrial land which are abandoned and left idle and where the land are usually contaminated by previous industrial uses. In Hong Kong, they generally refer to pieces of agricultural land in the NT which are converted to uses such as open-air and low-cost storage and port back-up facilities following the decline of agricultural activities several decades ago.

3. The bulk of the agricultural land is under private ownership and occupies the relatively flat areas in the NT. The vast majority are of irregular shape and small in size, rendering economy of scale in development difficult to achieve. They emerge without comprehensive planning and proper infrastructure, and are often intermingled with villages, squatter structures, active or fallow farmland, or fish ponds, resulting in land use incompatibility, environmental degradation, traffic and safety problems.

4. The proliferation of brownfield sites in the NT since 1980s has been a combination of factors, including the increasing demand for cheap and relatively flat sites as port back-up uses following the opening

of the Kwai Tsing Container Terminals and expansion of cross-boundary trade; the Melhado case in 1983¹ in which the court ruled that the land lease for agricultural land does not preclude open storage uses; and the higher rentals received by landowners in converting agricultural land to such uses. Following the Melhado case, the Government amended the Town Planning Ordinance (TPO) (Cap. 131) in 1991 to provide the Planning Authority with enforcement power against unauthorised developments in areas covered by the Development Permission Area (DPA) Plans, unless the development is an “existing use”, permitted under statutory town plans, or covered by valid planning permissions. Land uses (including brownfield operations) that were in existence immediately before the first publication of the draft plan for the DPA are regarded as an “existing use” under the TPO and do not constitute unauthorised development. Hence, under the current planning and lease regimes, many existing brownfield operations such as those that are an “existing use” and do not involve any structures can exist legally notwithstanding their haphazard distribution and incompatibility with the rural environment.

Size

5. The lack of a universally-agreed definition of brownfield sites, coupled with the difficulties in ascertaining precise land uses through aerial photo interpretation, and the transient nature of land uses in the NT, makes it difficult to arrive at accurate statistics about the total area and uses of brownfield sites. To address this, the Planning Department (PlanD) is conducting a study (including on-the-ground survey and questionnaire interviews) to establish a comprehensive profile of the overall distribution, characteristics, and economic uses of brownfield sites in the NT².

6. According to the preliminary desktop review conducted so far by the study consultant engaged by the PlanD, it is estimated that

¹ Most of the private land in the NT is held under “Old Schedule” lots contained within the Block Government Leases (BGL, formerly known as “Block Crown Leases”) and is described as “agricultural land”. The BGL reflected the state of farming when executed in 1905. In 1983, the High Court ruled in *Attorney General v Melhado Investment Ltd* that lots granted under the BGLs were subject to no restriction on the use of land, other than the prohibition of “Noisome or Offensive Trades” and structures. Accordingly, so long as “development” does not include any structures, the lot owner may use the land for purposes not restricted to agriculture, for example open storage of goods, under the existing lease terms.

² The Study on Existing Profile and Operations of Brownfield Sites in the NT, commissioned by the PlanD, is targeted for completion within 2018.

around **1 300** hectares (ha) of land in the NT may be regarded as “brownfield sites”³. This is a ballpark estimate to facilitate the current discussion, and is subject to confirmation by the eventual findings of the on-going survey.

Distribution

7. According to the consultant’s preliminary desktop review, large clusters of brownfield sites are concentrated in North and Northwestern NT, such as Hung Shui Kiu (HSK)/Ha Tsuen, Wang Chau, Yuen Long South, Kam Tin, Pat Heung, Shek Kong, Ngau Tam Mei, San Tin, Lok Ma Chau, Ping Che, Hung Lung Hang, and Ta Kwu Ling areas. Other than these, smaller clusters of brownfields are scattered in different parts of the rural NT. **Annex A** shows the broad distribution.

Current uses

8. Many brownfield sites are accommodating operations that are drawn by the large space available at cheaper rents. These operations evolve in tandem with urban expansion and Hong Kong’s economic transformation over the years. We now see port back-up uses (including container lorry parks and container yards), open storage, logistics operations, vehicle parking, vehicle repair workshops, recycling yards, rural workshops, construction machinery and materials storage, etc. They are supporting the development of local industries such as construction, logistics and recycling and are providing employment opportunities for our workers. **Annex B** shows a snapshot result of recent surveys of the operations identified in brownfield sites in HSK New Development Area (NDA) and Yuen Long South.

CURRENT APPROACH IN USING BROWNFIELD SITES AS LAND SUPPLY OPTION

9. Unleashing the development potential of brownfield sites is one of the main directions of the Government’s multi-pronged land supply strategy. We have various objectives in mind –

³ While the definition of brownfield sites is subject to the findings of PlanD’s study, the consultant has included at this stage land uses that are more commonly regarded as brownfield operations (e.g. container storage, open storage of goods, vehicle-related workshops, goods vehicle parking, warehouse/workshop), as well as other land uses that are akin to “disturbed agricultural land” (e.g. vacant, ancillary carpark, recreational uses, etc.) in the estimation. Whether these uses would eventually be included in the definition of brownfield uses would depend on the result of the detailed survey and further deliberation.

- (a) optimise land utilisation, and release degraded areas and spoilt land with development potential to support housing and other developments making more intensive use of the land;
- (b) address land use incompatibilities in the rural NT; and
- (c) provide land and space to support sustainable development of relevant sectors or industries that are still needed in Hong Kong.

“Brownfields first”?

10. There is a body of opinions suggesting that the Government should develop brownfield sites first before contemplating other land supply options. The Government does not find it practical to rely on brownfield sites alone to resolve our land shortage. Taking HSK NDA as an example, the 714 ha of land including 190 ha of affected brownfield sites can only accommodate 61 000 additional public and private housing units (versus projected demand for additional one million housing units in the next 30 years). Also, it is unrealistic to assume that each and every piece of brownfield site could be utilised for development. Moreover, given the scattered distribution of brownfield sites and their irregular shape, the development of individual brownfield sites may involve huge costs of supporting infrastructure. Even if a few adjoining brownfield sites could be consolidated for development, together they may not give an optimal planning layout accommodating a full range of housing, economic and public facilities for a self-sufficient community.

Prioritising large-clusters of brownfield sites for comprehensive development under NDAs

11. As a matter of fact, the Government is not leaving brownfield sites untouched. We are instead taking a more viable approach, which is to prioritise areas with a larger cluster of brownfield sites and better development potential for development with adjoining land into a large-scale development area under the NDA approach. This can optimise the development potential of brownfield sites and their surrounding land and better meet the housing, social and other needs of people moving into the NDA through comprehensive planning and provision of enhanced infrastructure.

12. In this connection, the Government is actively planning and pursuing the following NDA projects, which cover around **540 ha** of brownfield sites –

Large-scale development project	Total area (Developable area)	Estimated area of affected brownfield sites	Estimated flat production / population of the whole project	Estimated population intake (Year)
Kwu Tung North / Fanling North NDA	612 ha (320 ha)	50 ha	60 000 units	2023 - 2031
HSK NDA	714 ha (441 ha)	190 ha	61 000 units	2024 - 2038
Yuen Long South development	224 ha (183 ha)	100 ha	28 500 units	2027 - 2038
Potential development areas in NT North	(Developable area : around 720 ha)	200 ha	Population: 255 000 / 350 000	Beyond 2030
Total	Around 2 000 ha	540 ha	149 500 units <u>PLUS</u> Population : around 255 000 / 350 000	

13. Take the **HSK NDA** as an example. The HSK NDA, which covers a total area of 714 ha (including **190** ha of affected brownfield sites), will be developed into a well-connected and vibrant community to provide homes for about 218 000 residents (including 176 000 new population), as well as commercial and special industrial developments generating employment opportunities for 150 000 people⁴. The planning layout seeks to utilise land in the area more efficiently by reconfiguring the land parcels in HSK to create residential, industrial and commercial developments, provide Government, Institution and Community (GIC) facilities and infrastructure, and enhance natural and landscape resources.

14. **Annex C** shows the 190 ha of brownfield sites affected by the HSK NDA (involving more than 300 operators), currently

⁴ Subject to the statutory procedure and funding approval, the Government expects that advance works may begin in 2019, with a view to accommodating the first population intake by 2024, and completing the whole development by 2037/38 the earliest. Detail of the development is set out in <http://www.hsknda.gov.hk>

intermingled with squatters, abandoned farmlands, shrublands, etc. resulting in a degraded and unsightly rural landscape. As part of the HSK NDA project, the Government is exploring, and will engage the trades on, suitable measures for accommodating and consolidating in a land-efficient manner brownfield operations that are still needed in Hong Kong. We have reserved about 24 ha of land in the northern fringe of the HSK NDA for accommodating some of the affected brownfield operations in multi-storey buildings (MSBs) and open-air sites⁵, and another 37 ha of land for modern logistics facilities. Another site of around 3.8 ha in the vicinity of Yuen Long Industrial Estate is also being explored. We may explore other potential sites in nearby areas, depending on the demands and justifications for such operating space by relevant industries.

Development potential of brownfield sites in other areas

15. With the NDA approach taking care of the 540 ha brownfield sites, there remains some 760 ha to be tackled. We will take into account the outcome of PlanD's study referred to in paragraph 5 above in considering how best to deal with them.

16. Initially, we consider that for smaller-scale clusters of brownfield sites close to existing developed areas and with infrastructural facilities that can be upgraded to support new population, there is good potential in utilising the sites to support housing development. The new **Yan Tin Estate** (providing 4 600 housing units) in Tuen Mun Area 54 is a case in point. That development involved the clearance of about 4 ha of land, mostly previous brownfield sites. Along this direction, the Government is assessing the feasibility of similar public housing projects involving brownfield sites at such locations as Wang Chau and Fanling Area 48. Where appropriate, we will continue to rezone some brownfield sites for residential use or more gainful development uses led by the private sector, and leave it to lot owners to capitalise on the rezoning and pursue the intended development. The residential-cum-commercial development at the southern part of the Yuen Long New Town is an example of such market-led initiative⁶.

⁵ The Civil Engineering and Development Department (CEDD) has commissioned consultants to study the technical feasibility and financial viability of accommodating brownfield operations in MSBs. The relevant studies are expected to be completed within 2018. Also, the provision of suitable open-air sites with proper infrastructure and segregation from sensitive receivers will be explored to accommodate operations practically not feasible for moving into MSBs.

⁶ However, as shown in the current situation of the southern part of Yuen Long New Town, private developments may leave behind pockets of intervening private lots with limited prospect of development, which will either stay as unattended vacant land or squatters, or remain as brownfield

17. Meanwhile, **Annex A** shows that a proportion of the remaining brownfield sites are pockets of private land in relatively remote locations situated in a predominantly rural environment with village settlements, agricultural uses, and natural woodlands abutting ecologically sensitive areas or mountainous areas. An example is the cluster of brownfield sites in San Tin close to the Wetland Buffer Area. In addition, brownfields in the areas of Kam Tin, Shek Kong and Pat Heung may have relatively limited development potential, due to the lack of comprehensive infrastructure and existing airfield height restriction.

CHALLENGES

Resumption and clearance

18. Unlike land supply options such as reclamation whereby the formed land is government land ready for development without the need for land resumption, land ownership is a challenge in developing brownfield sites. The bulk of brownfield sites is privately owned (including the Tso/Tong land under collective ownership) – for instance, about 90% of the 190 ha brownfield sites affected by the HSK NDA development are in private ownership. While the Government can exercise the authority under the Land Resumption Ordinance (Cap. 124) and other laws to resume the private land for public development and that arrangements are in place to provide ex-gratia payment to eligible operators⁷, resumption and clearance are by nature unwelcomed by those to be displaced and time-consuming. As compared with the Yan Tin Estate in Tuen Mun Area 54 in paragraph 16 above (the clearance of which involved about 4 ha of land and some 30 operators), the HSK NDA for example affects some 190 ha brownfield sites involving over 300 operators and some 3 000 workers⁸. In addition, brownfield operations often exist alongside farming activities, village houses, squatters, etc. The development of brownfield sites would necessitate rehousing and clearance arrangements for these non-brownfield uses as well.

sites. In some other cases, the lack of infrastructure support could limit the development potential of the land, and restrain the yield from the sites.

⁷ The Government has reviewed the current ex-gratia allowance arrangements applicable to business undertakings affected by land resumption and clearance and announced in April 2017 that, subject to the approval of the Finance Committee of the Legislative Council, business operators that operate on open-air sites who are not themselves landowners may be eligible for ex-gratia allowances on land resumption and clearance. The possible eligibility of these operators for ex-gratia allowances under the newly announced arrangements is likely to facilitate their removal in land resumption and clearance.

⁸ The brownfield survey in HSK NDA boundary in 2015 successfully interviewed 250 brownfield operators. They employed a total of around 3 900 employees, including around 3 500 full-time and 400 part-time workers.

Current brownfield operations

19. Unlike brownfield sites in the UK and USA which are either unused or underused, there are current operations on the vast majority of our brownfield sites. The ongoing study commissioned by PlanD⁹ may shed light on whether these activities contribute to the economy of Hong Kong. Where warranted, we may have to look for sites to facilitate the relocation of the displaced brownfield operations, lest such operators would re-establish their business elsewhere in a manner as chaotic as they currently are or would be phased out to the disadvantage of our economy. We need to address at least two pertinent questions: which are the displaced operations warranting assisted relocation to other areas; and how. The ongoing studies commissioned by PlanD and CEDD are expected to provide some inputs for addressing these questions.

20. In the HSK NDA, for example, the Government has reserved designated sites for some of the affected brownfield operations, taking into account the need for such industries in the local economy and their overall land requirements. The accommodation arrangements have to be more land-efficient than now, as most of the current brownfield operations are not using land resources in an optimal manner. The feasibility of consolidating some brownfield operations (such as logistics and warehouse operations) into MSBs is proven by various private developments of this sort in Hong Kong, while that for other brownfield operations the case has to be studied in further detail. There are also operations which have special technical requirements that genuinely require open-air sites. A relevant question to raise is whether Hong Kong could afford open-air economic operations in the long run. In this connection, we need to consider the technical options, mode of implementation, business viability, and level of Government's involvement¹⁰, in accommodating brownfield operations in other parts of Hong Kong¹¹ in a land-efficient manner. We are also mindful that these

⁹ One of the objectives of PlanD's study is to understand the business linkages and economic chain of brownfield operations.

¹⁰ For example, if there is some consensus that MSBs are to be built to address the land requirement of displaced industrial operations arising from brownfield development, we have to examine whether the Government can leave it to private initiative by disposing relevant sites at market rate, or whether the Government should subsidise or participate in the management of these proposed buildings in a manner that justifies the use of public resources.

¹¹ Potential sites include areas already with a relatively high concentration of brownfield sites at present which have basically lost their rural characters and yet have limited development potential. In addition, new land supply projects, such as Lam Tei Quarry and Lung Kwu Tan reclamation, can be explored to meet the land demand for, among others, brownfield operations including open-air sites.

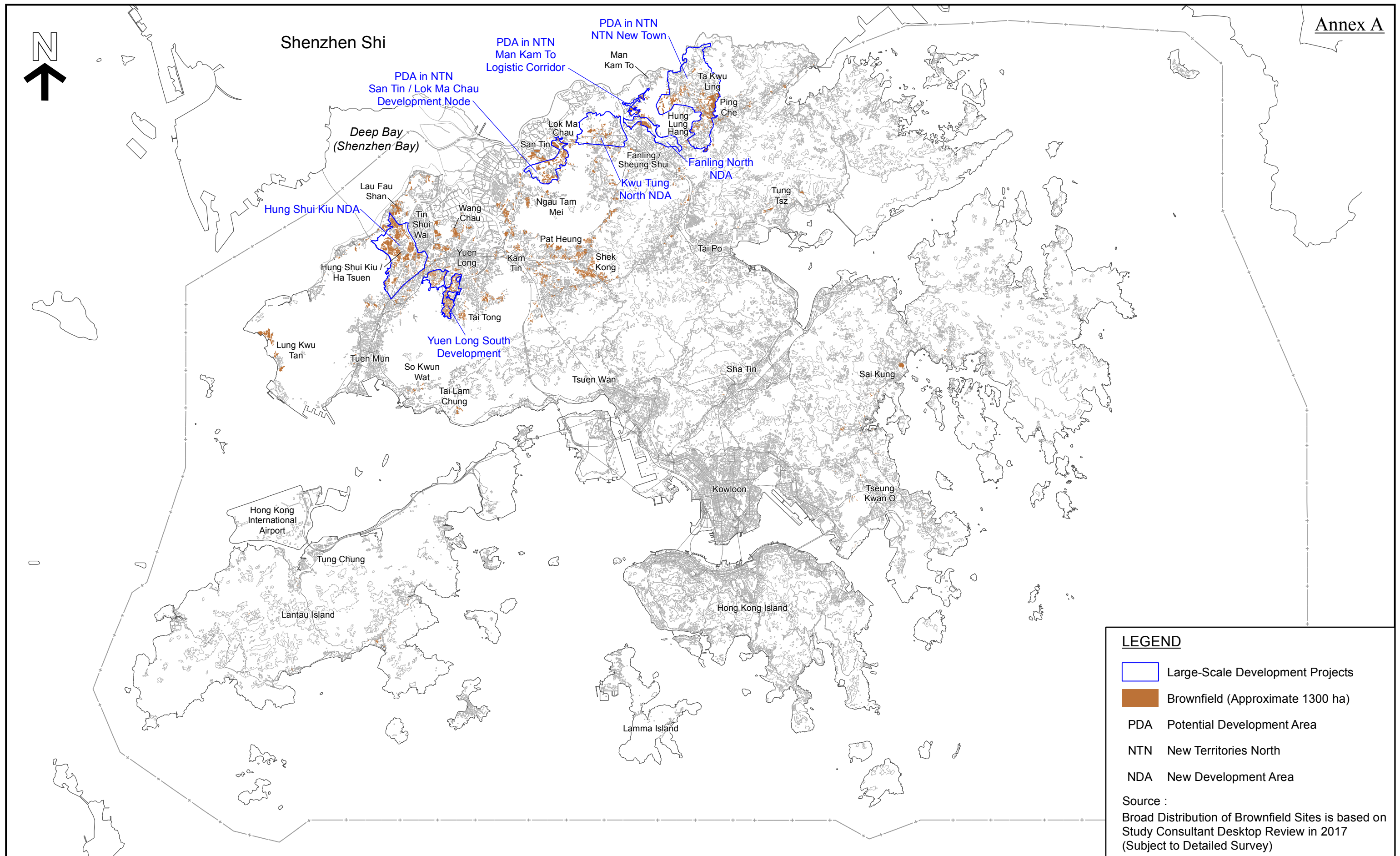
replacement sites should not give rise to land use incompatibilities and environmental problems. The local community may have strong views on the establishment of such operations around their neighbourhood.

21. We should not underestimate the impact of this paradigm shift of the business ecosystems on those industries (say, construction, logistics, recycling, vehicle-related workshops) which have been relying heavily on brownfield sites as their operating grounds. The consolidation of current operations to MSBs might drive up business costs of these industries which have been taking advantage of cheap rents of brownfield sites in the past few decades, prompt these industries to move up the value chain and generate competition which could be unsettling for the more traditional operations. Apart from the economic implications for the industries concerned, this shift may have an indirect bearing on the costs for end-users which include the general public.

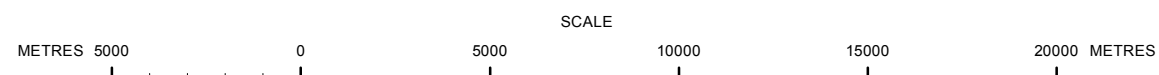
ADVICE SOUGHT

22. Members are invited to comment on the Government's current efforts in pursuing the use of brownfield sites as a source of land supply, note the two ongoing studies and, pending the completion of these studies, give initial advice on the challenges mentioned.

Development Bureau
6 October 2017



Broad Distribution of Brownfield Sites in the New Territories



PLAN No. : M/SR/BF/17/034d

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Summary of the Situation of Brownfield Operations in Hung Shui Kiu New Development Area and Yuen Long South

Hung Shui Kiu New Development Area (HSK NDA)

In 2015, a consultant engaged by the Civil Engineering and Development Department (CEDD) conducted a survey within the HSK NDA boundary that covers some 200 ha¹ of brownfield sites. The key survey findings are tabulated below -

Type of brownfield operations	Area (% of total)	No. of sites / Average site size	Rental range (R) / Median (M) (Based on responded cases)
Container storage	52 ha (26%)	24 / 2.17 ha	R: \$0.20/ ft ² – \$29.46/ ft ² M: \$1.61/ ft ²
Warehouses ^{Note 2}	46 ha (23%)	105 / 0.44 ha	R: \$0.08/ ft ² – \$33.53/ ft ² M: \$1.90/ ft ²
Logistics operations	30 ha (15%)	43 / 0.70 ha	R: \$0.0012/ ft ² – \$25.25/ ft ² M: \$4.68/ ft ²
Open storage (excluding container storage) ^{Note 1}	29 ha (14%)	49 / 0.59 ha	R: \$0.19/ ft ² – \$9.32/ ft ² M: \$2.37/ ft ²
Vehicle repair workshops	18 ha (9%)	62 / 0.29 ha	R: \$0.07/ ft ² – \$9.98/ ft ² M: \$1.51/ ft ²
Vehicle parking	7 ha (3%)	12 / 0.58 ha	R: \$0.09/ ft ² – \$5.48/ ft ² M: \$0.55/ ft ²
Vehicle body building workshops	2 ha (1%)	10 / 0.20 ha	R: \$1.29/ ft ² – \$9.29/ ft ² M: \$3.75/ ft ²
Other workshops (excluding vehicle repair workshops and vehicle body building workshops) ^{Note 3}	13 ha (7%)	39 / 0.33 ha	R: \$0.10/ ft ² – \$17.41/ ft ² M: \$1.95/ ft ²
Other operations	4 ha (2%)	24 / 0.17 ha	R: \$0.36/ ft ² – \$45.12/ ft ² M: \$1.55/ ft ²
Overall ^{Note 4}	202 ha	368 / 0.55 ha	R: \$0.0012/ ft² – \$45.12/ ft² M: \$1.91/ ft²

Note 1: Including storage of construction materials, construction plant/equipment, vehicles/vehicle parts and recycling materials.

Note 2: Including warehouse for construction materials, construction plant/equipment, vehicles/vehicle parts, recycling materials, dangerous goods and other goods.

Note 3: Including recycling industry, construction industry, food processing, vehicle scrapping and other workshops.

Note 4: The areas as shown in the table above may not add up to the total due to rounding up.

¹ Among the 200 ha of brownfield sites within the HSK NDA boundary, about 190 ha would be affected by the works of the HSK NDA project.

2. The survey showed that brownfield operations were scattered, and the types of industries and nature of operations on brownfield sites varied widely. There were open storages of containers, vehicles, machinery, construction materials etc., as well as active industrial operations of various kinds (e.g. logistics, vehicle repairing, recycling and scraping, wood-cutting). The average site size was about 0.55 ha, and the median rent was about \$1.91 per square foot. The brownfield sites were providing large open-air land at relatively low cost for certain industrial operations.

Yuen Long South (YLS)

3. A similar questionnaire survey was conducted by CEDD's consultant within the YLS Development Area between February and June 2016 to obtain information on the distribution and types of operation of existing brownfield sites. 887 brownfield sites with an estimated total area of 96.6 ha were identified. The key survey findings are tabulated as follows -

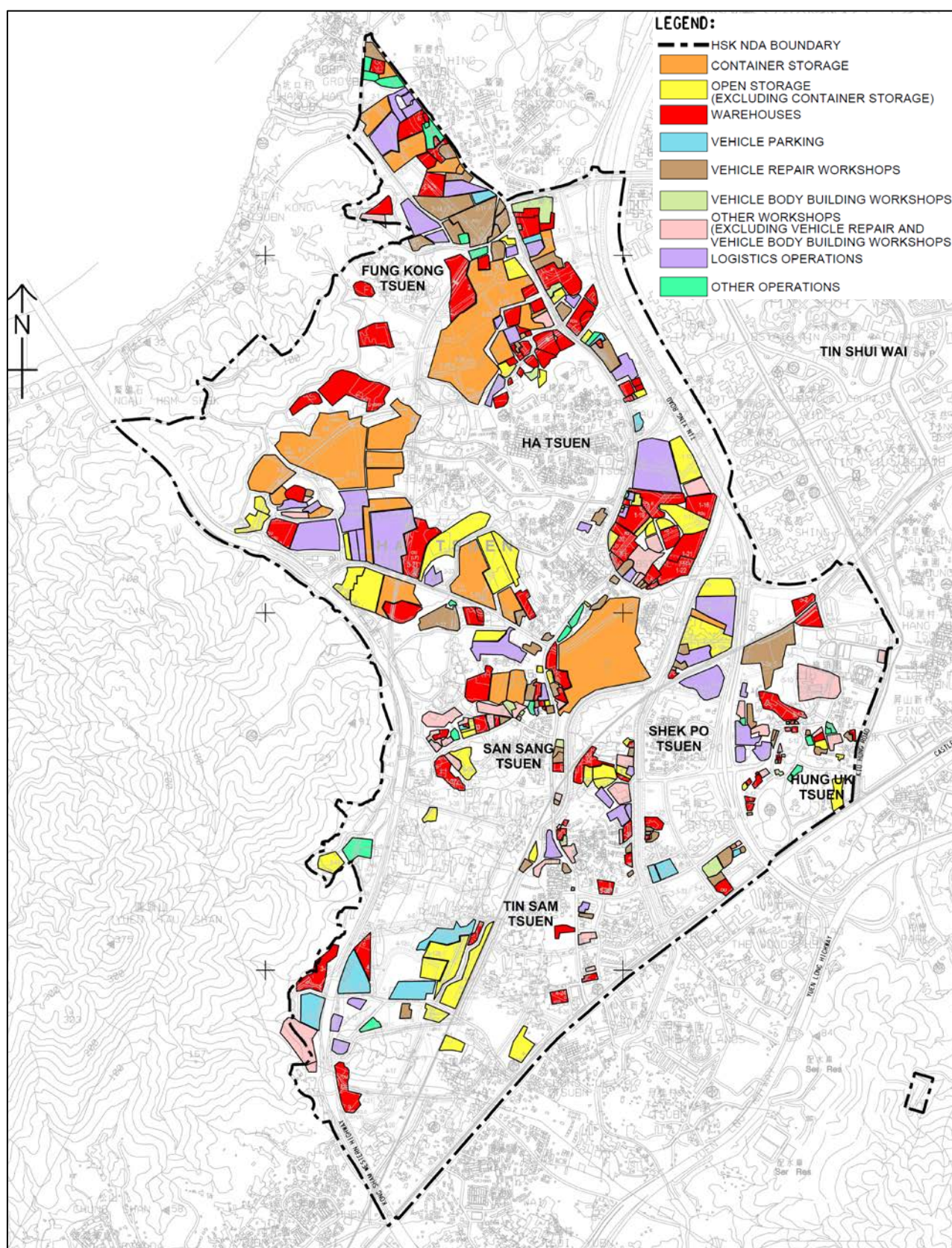
Type of brownfield operations	Area (% of total)	No. of sites / Average site size	Rental range (R) / Median (M) (Based on responded cases)
Warehouses ^{Note 1}	34.4 ha (35.6%)	399 / 0.09 ha	R: \$0.40/ ft ² – \$15.00/ ft ² M: \$3.75/ ft ²
Open storage (excluding container storage) ^{Note 2}	28.0 ha (29.0%)	183 / 0.15 ha	R: \$0.11/ ft ² – \$20.00/ ft ² M: \$2.50/ ft ²
Vehicle repair workshops	6.7 ha (7.0%)	90 / 0.07 ha	R: \$0.21/ ft ² – \$11.50/ ft ² M: \$3.33/ ft ²
Logistics operations	3.9 ha (4.0%)	26 / 0.15 ha	R: \$1.50/ ft ² – \$21.43/ ft ² M: \$6.25/ ft ²
Container storage	1.4 ha (1.5%)	2 / 0.70 ha	R: \$3.00/ ft ² – \$4.00/ ft ² M: \$3.50/ ft ²
Vehicle parking	1.2 ha (1.3%)	6 / 0.20 ha	R: \$1.34/ ft ² – \$1.34/ ft ² M: \$1.34/ ft ²
Vehicle body building workshops	0.5 ha (0.5%)	4 / 0.13 ha	R: \$0.20/ ft ² – \$4.00/ ft ² M: \$3.33/ ft ²
Other workshops (excluding vehicle repair workshops and vehicle body building workshops) ^{Note 3}	7.7 ha (7.9%)	53 / 0.15 ha	R: \$0.15/ ft ² – \$6.67/ ft ² M: \$3.00/ ft ²
Other operations	1.4 ha (1.4%)	17 / 0.08 ha	R: \$3.33/ ft ² – \$6.50/ ft ² M: \$5.00/ ft ²
Unknown ^{Note 4}	11.5 ha (11.9%)	107 / 0.11 ha	N/A
Overall^{Note 5}	96.6 ha	887 / 0.11 ha	R: \$0.11/ ft² – \$21.43/ ft² M: \$3.56/ ft²

- Note 1: Including warehouse for construction materials, construction plant/equipment, decoration supplies, exhibition, food, furniture, vehicles/vehicle parts, recycling materials, dangerous goods and other goods.
- Note 2: Including storage of construction materials, construction plant/equipment, vehicles/vehicle parts and recycling materials.
- Note 3: Including recycling industry, construction industry and other workshops.
- Note 4: Insufficient information or inaccessible sites.
- Note 5: The areas and percentages as shown in the table above may not add up to the total and 100% due to rounding up.

4. The survey showed that the major uses of the brownfield sites in Yuen Long South were warehouse and open storage. The rest of the uses were relatively minor. Compared to brownfield sites in HSK NDA, the average size of the brownfield sites in YLS was smaller at 0.11 ha, with a higher median rent at \$3.56 per square foot.

Development Bureau
Civil Engineering and Development Department
October 2017

Identified Brownfield Sites in Hung Shui Kiu New Development Area (HSK NDA)



Note:

1. Site boundaries of brownfield operations are based on a questionnaire survey conducted by a consultant engaged by the Civil Engineering and Development Department in 2015 and are indicative only.
2. The HSK NDA boundary shown above is based on the Revised Recommended Outline Development Plan promulgated in September 2016.