

# Technical Report No.1A on Baseline Update and Review of Key Issues Executive Summary

## INTRODUCTION

### Purposes of this Technical Report

The purposes of this Technical Report are to provide an overall understanding of the Study Area, to form an inventory of baseline conditions of the Study Area, to stock-take the key changes in circumstances since the completion of the previous Planning and Development Study on North East New Territories (NENT Study) that may have implications on the New Development Areas (NDAs) developments, to identify the key issues relating to the NDA proposals and to broadly review the issues identified in the NENT Study so as to facilitate the subsequent planning and engineering tasks of the current Study.

The baseline profile of the Study Area will be updated in respect of the current land use, planning, urban design, social economic, transport, infrastructure, environment, ecology, geotechnical, cultural heritage, landscape and land holding aspects.

## PREVIOUS PLANNING AND DEVELOPMENT STUDY ON NORTH EAST NEW TERRITORIES AND THE CHANGING CIRCUMSTANCES

### Previous Recommendations

Under the previous NENT Study, the following parameters were proposed for each NDA:

	Kwu Tung North	Fanling North	Ping Che/ Ta Kwu Ling
Population	Approx. 100,000	Approx. 80,000	N/A (no residential development proposed)
Employment	Approx. 16,000	Approx. 2,500	2,300
Max. Plot Ratio	6.5	6.5	-
Max. Building Height	46-storey and above	46-storey and above	-
No. of Flats	Approx. 40,900	Approx. 30,800	-

### Changing Planning Circumstances

The current Study will take into account changes in the planning context since the NENT Study. These include:

- Changing regional dynamic
- Changes in housing policy
- New land use requirements
- New Nature Conservation Policy
- Slower population growth
- Introduction of urban design guidelines and air ventilation assessment requirements

## Technical Report No.1A on Baseline Update and Review of Key Issues Executive Summary

---

### Changing Public Aspirations

---

- People-oriented planning
- Quality living environment
- Environmentally friendly development
- Lower development density
- Increased public engagement

### LAND USE AND PLANNING

#### Existing Land Uses

---

The majority of the NDA areas involve mixed land uses: small scale residential developments, scattered village settlements, agricultural lands, wetlands, open storages and rural industries.

#### Strategic Location – Increased Cross-Boundary Activities

---

The Kwu Tung North (KTN), Fanling North (FLN) and Ping Che/Ta Kwu Ling (PC/TKL) NDAs are situated at the northeastern part of the New Territories and to the south of the Frontier Closed Area. Given the strategic location of the NDAs nearing the boundary-crossing facilities, there is opportunity for the development of NDAs to capitalise on increasing economic interactions between Hong Kong and the Mainland.

#### Strategic Guide from the Hong Kong 2030 Study

---

The Hong Kong 2030 Study recommends that the NDAs should be developed for a mixture of uses, emphasising the creation of a quality living and working environment to meet the long-term needs of the population. The HK2030 Study also provides the following strategic planning guidance - *other than providing housing land, NDAs could also serve to meet other land use requirements such as value added, special, non-polluting industries and higher educational uses, which will also provide employment.*

#### Major Infrastructure Developments

---

There are a number of major infrastructure developments in the northern New Territories, which may have implications on the NDAs. They are:

- Opening up of a large part of the Closed Area
- Future development in Lok Ma Chau Loop
- Boundary-crossing control point at Liantang/Heung Yuen Wai

There is potential for integrated planning of the NDAs with the Closed Area to be released as well as with the Lok Ma Chau Loop. The development of NDAs could also capitalise on the opportunities provided by the new cross-boundary control point at Liantang/Heung Yuen Wai since it would greatly enhance the movement of people in the region.

## Technical Report No.1A on Baseline Update and Review of Key Issues Executive Summary

---

### **URBAN DESIGN**

#### **Urban Design Considerations for the NDAs**

---

- Creating a green and sustainable urban environment that is appealing to the community, fosters social interaction and encourages prosperity
- Creating land use layouts that are functional, responsive to market demand and encourage high pedestrian activity
- Facilitating integrated public transport systems and easy access between different land use types and allowing a mix of land uses where necessary to reduce car dependency
- Promoting walking and cycling as alternative transport mode to travel throughout the new towns – walkable neighbourhoods
- Creating appropriate development scale and form to respond to population growth and community aspirations
- Formulating appropriate scale and density to respect the natural, cultural and urban characteristics of the locality

### **SOCIO-ECONOMIC CONDITIONS**

#### **Demographic and Household Characteristics**

---

- KTN was the most populous area among the three NDAs.
- There was a higher proportion of the population in the NDAs aged 65 and over, as compared with the proportion in the New Territories.
- The average household size in the NDAs was higher than that in the New Territories and the whole territory.
- All occupied quarters in the three NDAs were private housing.

#### **Economic Characteristics**

---

- KTN had the highest working population among the three NDAs.
- Higher proportion of working population in KTN and PC/TKL were found working in the “wholesale, retail & import/export trades, restaurant & hotels” sector, while higher proportion of working population in FLN were found working in the “community, social & personal services” sector.
- Higher proportion of working population in KTN and FLN were working as service workers and shop sales workers, while higher proportion of working population in PC/TKL were working as workers in elementary occupations.
- The “Community, Social & Personal Services” industrial sector offered the highest job places in the NDAs.

## Technical Report No.1A on Baseline Update and Review of Key Issues Executive Summary

---

### TRAFFIC AND TRANSPORT

#### Existing Highway and Railway Networks

---

##### Road

- Fanling Highway and San Tin Highway - serve as the trunk roads connecting the North District with the urban areas
- Jockey Club Road and Sha Tau Kok Road Lung Yuk Tau Section - primary distributors forming the major road network of the Sheung Shui and Fanling new town
- Lok Ma Chau Road, Man Kam To Road and Sha Tau Kok Road Ma Mei Ha / Wo Hang Sections - local rural roads providing highway accessibility to cross-boundary traffic
- Castle Peak Road Kwu Tung Section – district distributor

##### Rail

- East Rail - provides both commuter and boundary train services
- Lok Ma Chau Spur Line - provides another way for passengers to cross the boundary

#### Planned/Possible Road and Rail Networks near NDA

---

- Linkages to Lok Ma Chau Loop Area
- Linkages to the Liantang/Heung Yuen Wai Boundary-Crossing Control Point and the associated connecting road
- Northern Link
- Guangzhou-Shenzhen-Hong Kong Express Rail Link (Hong Kong Section)
- Proposed Fanling Bypass

#### Key Traffic and Transport Issues

---

- Provision of railway stations shall be investigated
- Provision of sufficient strategic highway capacity for the Study Area in the future. Although Fanling Highway is being widened from dual-3 to dual-4 carriageway, it is anticipated that additional development traffic from NDA, Closed Area, LMC Loop and the increasing cross-boundary traffic will introduce greater traffic demands.
- Other possible transport measures shall be examined:
  - Reducing reliance of road-based transport and minimizing construction of major roads
  - Building major roads at the periphery of the NDAs
  - Providing sunken roads

## Technical Report No.1A on Baseline Update and Review of Key Issues Executive Summary

---

- Interface with other concurrent planning and engineering projects in the vicinity of Study Area:
  - Agreement No. CE 22/2006 (HY) Cycle Tracks Connecting North West New Territories with North East New Territories – Investigation, Design and Construction
  - Agreement No. CE 60/2005 (TP) Land Use Planning for the Closed Area – Feasibility Study
  - Widening of Tolo Highway / Fanling Highway between Island House Interchange and Fanling
  - Agreement No. CE 42/2006 (TP) Planning Study on Liantang/Heung Yuen Wai Cross-boundary Control Point and its Associated Connecting Road in Hong Kong (LT/HYW BCP Study)
  - Agreement No. CE 53/2008 (CE) Planning and Engineering Study on Development of Lok Ma Chau Loop – Investigation
  - Agreement No. CE 45/2008 Liantang/ Heung Yuen Wai Boundary Control Point and Associated Works – Investigation

### **INFRASTRUCTURE**

#### **Major Existing Services Infrastructure near NDAs**

---

- Shek Wu Hui Sewage Treatment Works
- Sheung Shui Water Treatment Works
- Dongjiang and Other Major Water Mains Networks
- 400kV Overhead Power Supply Line and Pylons

#### **Key Infrastructural Issues**

---

- The proposed NDAs shall take into consideration the planning and design of proposed drainage improvement works under Drainage Master Plan Study. The effectiveness of drainage improvement works will be assessed as part of the Drainage Impact Assessment and mitigation measures will be proposed if required.
- As the capacity of Shek Wu Hui Sewage Treatment Works is not designed to cater for any additional sewage flows from the proposed NDAs, expansion/upgrade of treatment works will be required to cater for additional flows and also to meet zero discharge requirements in Deep Bay.
- The proposed NDAs fall within the supply zone of Sheung Shui Water Treatment Works. In order to meet the water demand from proposed NDAs, the expansion of water treatment works will be required.
- Dongjiang watermains and 400kV overhead power supply lines which are running through the study area will pose a significant planning constraint.

## Technical Report No.1A on Baseline Update and Review of Key Issues Executive Summary

### GEOTECHNICAL CONDITIONS

#### Kwu Tung North NDA

- An initial review of recorded natural terrain landslide incidents indicates that the majority of past failures have occurred in the far northern portion of the KTN NDA, with few landslides in close proximity to existing developments
- The possibility of adverse ground conditions relating to “San Tin Fault and associated metamorphic features” and alluvial deposits.
- The hilly regions will present constraints on development due to extensive formation works required, general natural slope instability associated with predominately colluvial terrains in some areas, and instability problems created by man-made activities.

#### Fanling North NDA

- An initial review of recorded natural terrain landslide incidents indicates that no previous failure has occurred within any of the natural terrain hillsides within the FLN NDA
- The possibility of adverse ground conditions relating to “San Tin Fault and associated metamorphic features” within the north-western portion of the site and alluvial deposits
- The hilly regions will present constraints on development due to extensive formation works required, general natural slope instability associated with predominately colluvial terrains in some areas, and instability problems created by man-made activities

#### Ping Che / Ta Kwu Ling NDA

- An initial review of recorded natural terrain landslide incidents reveals that a single natural terrain failure has occurred within the PC/TKL NDA. This failure was located close to the southern boundary of the study area.
- The possibility of adverse ground conditions relating to “Metamorphic fabrics within the tuffaceous bedrock and its weathered deposits” and alluvial deposits

### LAND MATTERS

#### Landholding Status

		Kwu Tung North NDA	Fanling North NDA	Ping Che/ Ta Kwu Ling NDA	Total
Total Land Area (ha)		500	260	240	1,000
Total Developable	Government Land (a)	170	95	65	330

## Technical Report No.1A on Baseline Update and Review of Key Issues Executive Summary

		Kwu Tung North NDA	Fanling North NDA	Ping Che/ Ta Kwu Ling NDA	Total
Area (ha) (Excluding Hills and Rivers)	Private Land (b)	180	105	160	445
	Total (c) = (a)+(b)	350	200	225	775
Private Land (ha) (% of Total Developable Area)		51%	53%	71%	57%

### Key Land Issues

- High proportion of private land within the total developable area
- Fragmented ownership of private lots
- Resumption of problematic land
- Indigenous villagers' small house demand
- Re-housing and compensation arrangements
- Landowners' aspirations for participation

## ENVIRONMENT

### Noise Impact

- Operational road traffic noise from existing road networks and industrial noise from existing industries have impacts on the neighbouring areas.
- Noise associated with firing ranges and helipads has impacts on the existing developments.
- Proper planning of the future development should be carried out to minimise the possible noise impact.

### Air Quality

- Vehicular emissions from major road networks have potential impacts on some neighbouring areas. Other air emission sources include chimney emissions from various industrial sources within the Study Area. Odour generated from existing Shek Wu Hui Sewage Treatment Works, Sha Ling Livestock Waste Centre, and NENT Landfill and Extension would also have impacts on the nearby developments.
- Proper planning of the future development should be carried out to minimise the possible air quality impact.

## Technical Report No.1A on Baseline Update and Review of Key Issues Executive Summary

---

### Water Quality

---

- The Study Areas fall within the catchment areas of River Beas, River Indus (Ng Tung River) and River Ganges. The water quality of rivers within the Study Areas is generally better in the upstream of the river system. Discharges from villages, livestock farms and storage areas have impacts on the nearby areas. New sewerage systems will be proposed in planning of the future development to minimise any adverse water quality impacts.

### Hazardous Installation/Landfill Gas Risk

---

- Sheung Shui Water Treatment Works (WTWs) is the only Potentially Hazardous Installation (PHI) identified within the Study Areas. Potential risk from the hazardous facilities at WTWs may have some impacts on the nearby areas. Proper planning of the future development is required to minimise the potential risk of the hazardous installations.
- As part of the future development is near to the Ma Tso Lung Landfill, a landfill gas risk assessment will be required. Proper planning of the future development is required to minimise the potential risk of landfill gas.

### Solid Waste

---

- The existing waste generated from the residential, agricultural and industrial areas within Study Areas consists mainly of domestic waste, chemical waste and livestock waste, which has impacts on the environment. A waste management plan shall be implemented in the planning of the future development to minimise any adverse waste impacts.

### Land Contamination

---

- Some of the areas are in the close vicinity of small industries and storage sites within the Study Areas may have been contaminated. Proper planning of the future development is required to minimise any adverse land contamination impacts. The contamination sites may need to be cleaned up before the development to minimise the potential impacts.

### Ecology

---

- There is increased recognition of the conservation importance of Long Valley and Ho Sheung Heung which are recognized locally as a Priority Site for Enhanced Conservation under the New Nature Conservation Policy and internationally as an Important Bird Area by Bird Life International. Consideration must be made on the potential impacts on areas with high ecological values in the planning of the future development and a balance must be struck between nature conservation and development.



## Technical Report No.1A on Baseline Update and Review of Key Issues Executive Summary

---

### **Cultural Heritage**

---

- The Study Areas consists of high cultural values, which includes one declared monument, one Grade I, four Grade II and one Grade III historic buildings and three archaeological sites. Considerations shall be made on the potential impacts on areas with high cultural values in the planning of the future development. Balance must be struck between conservation of the cultural resources and development.

### **Landscape and Visual**

---

- Visual intrusion on the natural landscape should be minimised through the preservation of ridgelines (e.g. Tai Shek Mo), visual corridors, water bodies, etc. The existing visual context and topography of the NDAs, including background ridgelines, areas with high visual quality and view corridors to important landscape features, will be integrated into the overall planning of the NDAs to enable retention of existing unique locational attributes.