

可發展公營房屋用地所需的技術研究

Technical Studies for Potential Public Housing Sites in the Planning Process

立法會
房屋事務委員會
2013年5月9日

Legislative Council
Panel on Housing
9 May 2013



背景

政府和房屋委員會的宗旨

- 為未能負擔私人租住房屋的低收入家庭提供公共租住房屋（下稱「公屋」）。
- 按居者有其屋計劃（下稱「居屋」）提供資助出售單位，以滿足中低收入家庭自置居所的訴求。

Background

Objective of Government & HA

- To provide public rental housing (PRH) to low-income families who cannot afford private rental accommodation.
- To provide subsidized sale flats under the Home Ownership Scheme (HOS) to meet the aspirations of low and middle-income families for home ownership.



背景

所需的技術研究

- 每幅具備潛力的公營房屋用地，均須進行一系列的技術研究，以確定該用地作公營房屋發展的合適及可行性。
- 這是公營房屋發展的規劃及設計過程中的重要一環。
- 草擬的規劃大綱會徵求政府相關政策局和部門同意，並諮詢地方組織和區議會。
- 規劃大綱會由規劃署的地區規劃會議批核。

Background

Technical Studies Required

- A wide range of technical studies have to be undertaken to ascertain the suitability and feasibility of each site for public housing development.
- They are an essential part of the integrated planning and design process for public housing developments.
- The resulting draft planning briefs are used to seek agreement from Government bureaux and departments, and for consultation with local communities and District Councils.
- The planning briefs are approved by the Planning Department's District Planning Conference in the respective districts.



具潛力公營房屋用地所需的技術研究

Technical Studies Required for Potential Public Housing Sites

- 一般而言，我們須為具潛力的公營房屋用地進行以下約15項研究

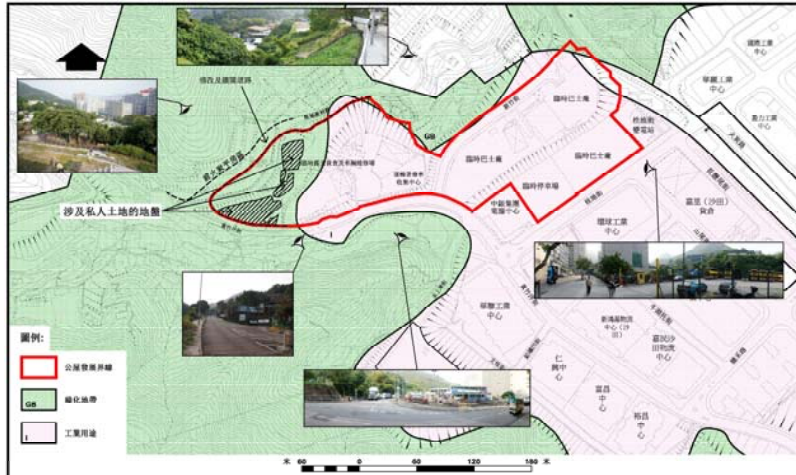
1. 地盤發展潛力研究
2. 建築設計可行性研究
3. 交通運輸影響評估
4. 排水影響評估
5. 排污影響評估
6. 噪音影響評估
7. 空氣質素評估
8. 供水及公用設施影響評估
9. 地質及土力評估
10. 土地勘探
11. 微氣候研究
12. 空氣流通評估
13. 樹木調查及影響評估
14. 視覺評估
15. 土地測量

- Generally some 15 studies are required for potential public housing sites

1. Site Potential Study
2. Architectural Feasibility Study
3. Traffic and Transport Impact Assessment
4. Drainage Impact Assessment
5. Sewerage Impact Assessment
6. Noise Impact Assessment
7. Air Quality Assessment
8. Water Supply and Utilities Impact Assessment
9. Geological and Geotechnical Appraisal
10. Ground Investigation
11. Microclimate Studies
12. Air Ventilation Assessment
13. Tree Survey and Impact Assessment
14. Visual Appraisal
15. Land Surveying

1. 地盤發展潛力研究

Site Potential Study



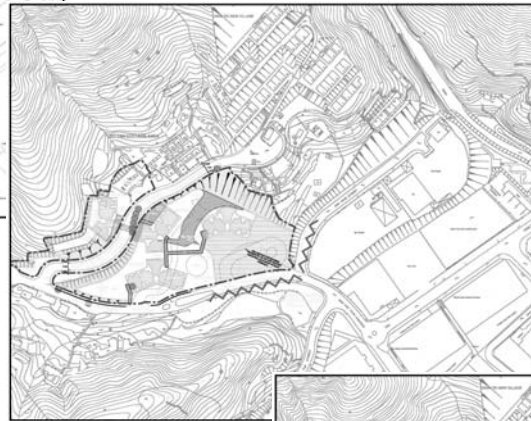
- 火炭公屋項目
- Fo Tan PRH project.

- 從規劃、設計、環境、交通運輸、以及有關社區設施等各方面，探討公營房屋用地的發展潛力及建議合適的發展密度。
- Explore development potential of a site, having regard to various aspects like planning, design, environmental, traffic and transport, provision of community facilities, etc. and recommend optimal development intensity.

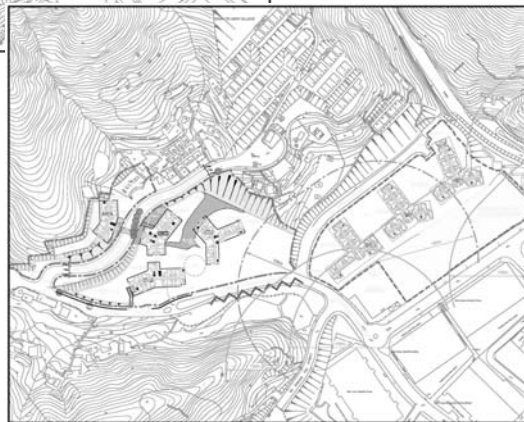
2. 建築設計可行性研究 Architectural Feasibility Study



方案 1
Scheme 1



方案 2
Scheme 2



方案 3
Scheme 3

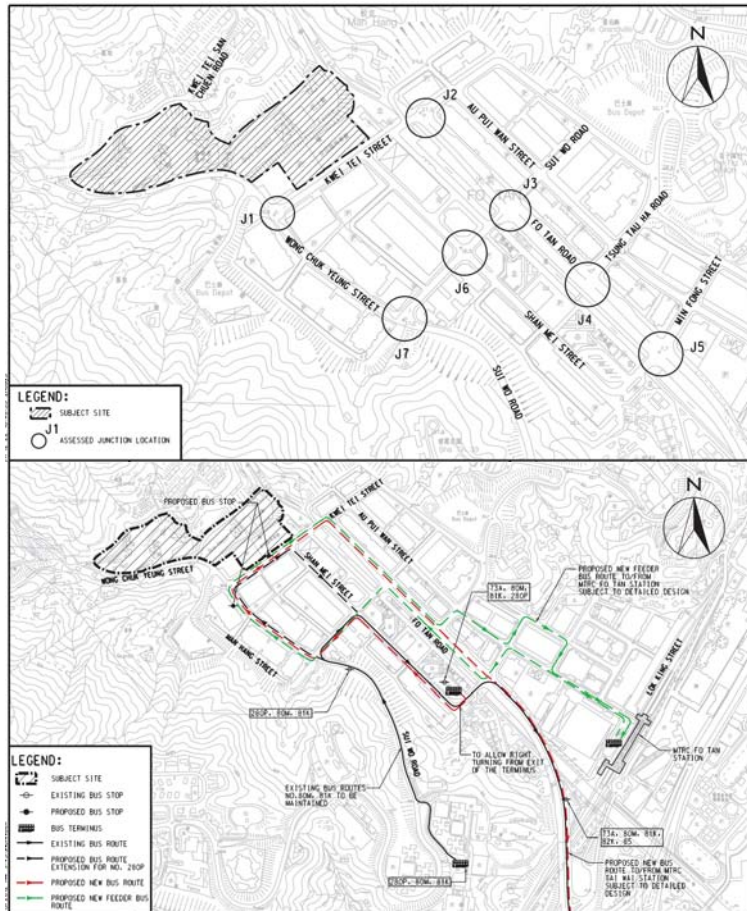
現在
Current



- 擬備概念規劃圖，以確立有關用地的發展潛力，以及進行初步的工程評估和微氣候研究。
- Prepare conceptual layouts as a basis for establishing development potential and conducting preliminary engineering assessments and micro-climate studies.

3. 交通運輸影響評估

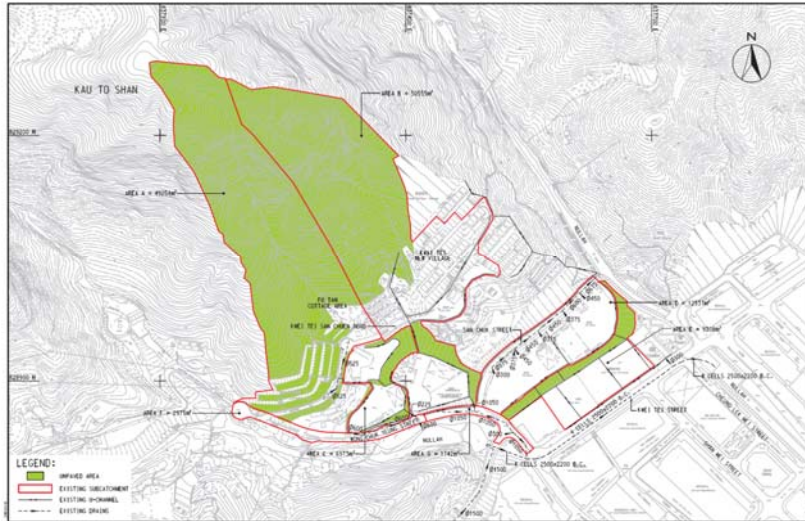
Traffic and Transport Impact Assessment



- 火炭公屋項目：建議改善路口及道路擴闊工程，並提供巴士/小巴停車處。
- Fo Tan PRH project : Recommend junction improvement & road widening works and layby for bus/public light bus.

- 探討有關地區的交通情況，並確定在有關屋邨或屋苑入伙前須進行的道路 / 交通路口改善工程。
- 研究有關發展對公共運輸服務和額外公共運輸設施的需求。
- 進行人流量評估，在合適的情況下建議提供地面分隔行人設施。
- Investigate district traffic conditions and identify road / junction improvement works required prior to population intake.
- Examine demand for public transport services and additional public transport facilities.
- Assess pedestrian connectivity, grade separated pedestrian facilities may be recommended.

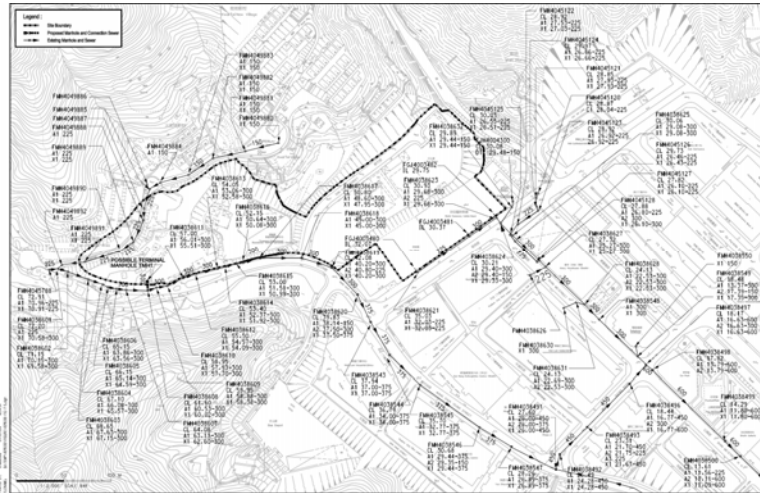
4. 排水影響評估 Drainage Impact Assessment



- 火炭公屋項目：無重大水浸問題，但建議加建雨水排水渠。
- Fo Tan PRH project : No major flooding issue, but recommend construction of additional storm drains.

- 估算水浸風險及建議採取適當的緩解措施或進行改善工程。
- Assess the risk of flooding and recommend proper mitigation measures or upgrading works if required.

5. 排污影響評估 Sewerage Impact Assessment



- 火炭公屋項目：無重大排污問題，但建議加建排污渠。
- Fo Tan PRH project : No major sewerage issue, but recommend construction of additional foul sewers.

- 確定有否足夠的區域排污和污水處理設施。
- 如發現主要污水處理基礎設施不足，或須建議工程解決方案，例如改善主幹污水渠和興建臨時污水泵站等。
- Confirm the adequacy of district sewage disposal and treatment facilities.
- Recommend engineering solutions such as upgrading of trunk sewers and provision of temporary sewage pumping stations etc, if inadequacy in the major sewerage infrastructure is identified.

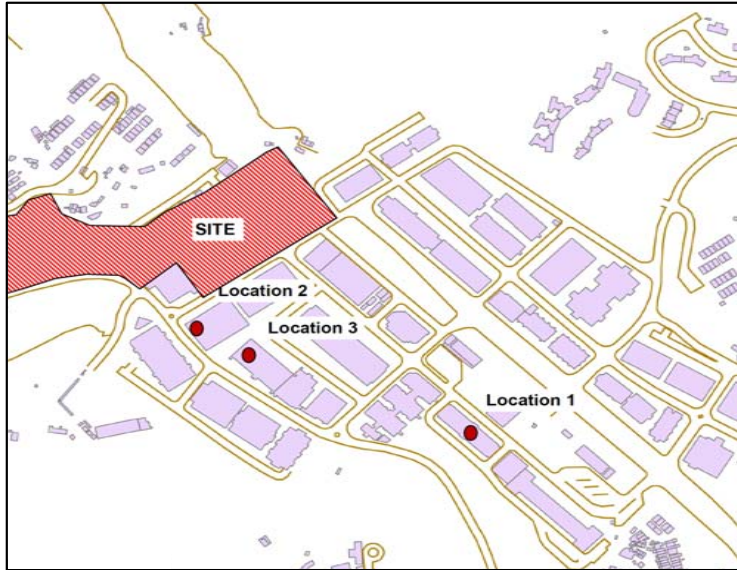
6. 噪音影響評估 Noise Impact Assessment



- 火炭公屋項目：建議樓宇佈局和噪音緩解措施。
- Fo Tan PRH project : Recommend building deposition and noise mitigation measures.

- 找出噪音影響的源頭，並建議採取可行的緩解措施，例如在主要道路 / 鐵路軌道設置隔音屏障。
- 在具備公營房屋發展潛力的用地範圍內，按情況在噪音源頭、傳播路徑或受影響區域採取緩解措施。
- Identify the source of noise impact and propose possible mitigation measures such as erection of noise barriers along major roads/railway tracks.
- Explore noise mitigation measures at source, at path of propagation, and/or at receiving end within public housing sites as appropriate.

7. 空氣質素評估 Air Quality Assessment

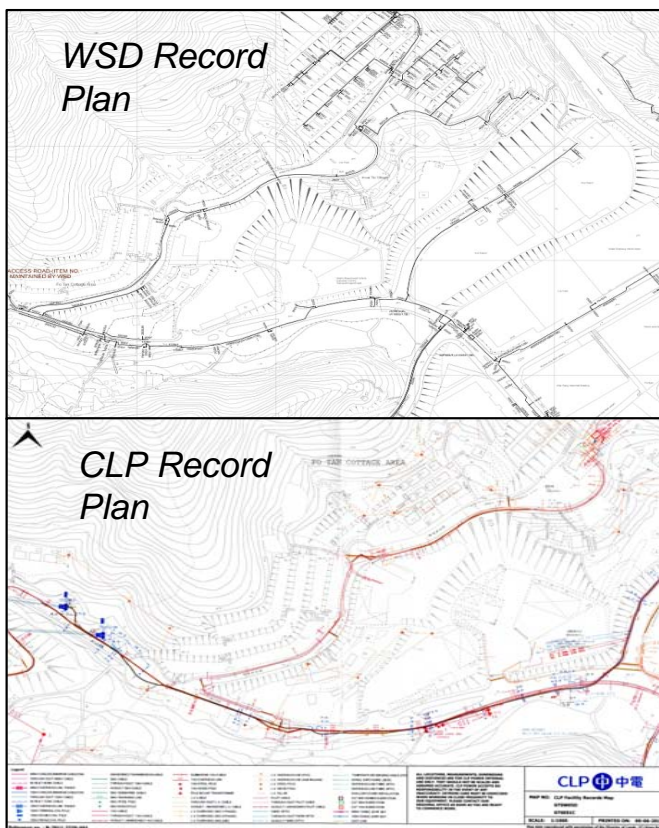


- 火炭公屋項目 :於500米範圍內確認有3枚煙囪，但經評估後，證明達到空氣質素指標及對公屋發展並無影響。
- Fo Tan PRH project : 3 chimneys identified within 500m. The assessment confirmed compliance with air quality standards and no impact on public housing development.

- 進行車輛排放和 / 或煙囪排放的量化空氣質素評估及如有需要，建議採取緩解措施，以確保符合《空氣污染管制條例》訂明的空氣質素標準。
- 為鄰近污水處理等污染源而受到氣味影響的地盤進行氣味研究。
- Assess vehicular emissions and/or chimney emissions and propose mitigation measures, if required, to meet Air Quality Objectives.
- Conduct odour study for sites subject to odour impact from nearby pollution sources like sewage treatment works.

8. 供水及公用設施影響評估

Water Supply and Utilities Impact Assessment

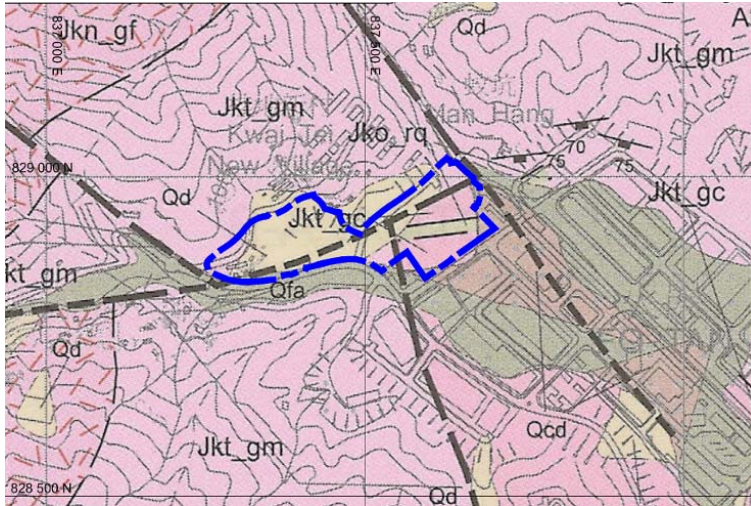


- 火炭公屋項目：有足夠的供水及公用設施於樓宇落成時提供。
- Fo Tan PRH project : Sufficient water supply and utilities will be provided at building occupation.

- 就食水和沖廁水的供應進行評估。
- 與其他公用事業機構共同研究，以確保有關公用設施能滿足新需求。
- 為附近有高壓架空電纜的地盤進行安全評估。
- Assess the demand for fresh and flushing water supply.
- Explore with other utilities undertakers to meet the demand arising from the new developments.
- Assess site safety for sites in close proximity to high voltage overhead transmission lines.

9. 地質及土力評估

Geological and Geotechnical Appraisal



- 火炭公屋項目：發現有斷層，但情況並不嚴重，可以利用建築及工程設計克服。
- Fo Tan PRH project : Faults identified within the site, but not serious and can be addressed by architectural and engineering design.

- 找出地盤有否任何不良的地質及土力特徵。
- 不良的地質及土力特徵，如斷層、多變和深層的風化剖面，以及高地下水位，亦會對有關公營房屋發展項目構成嚴重的設計和建築限制。
- Identify adverse geological and geotechnical features etc. if any.
- Sites with adverse geological and geotechnical features such as faults, highly variable and deep weathering profiles, high groundwater table may impose significant design and construction constraints to public housing developments.

10. 土地勘探 Ground Investigation (GI)

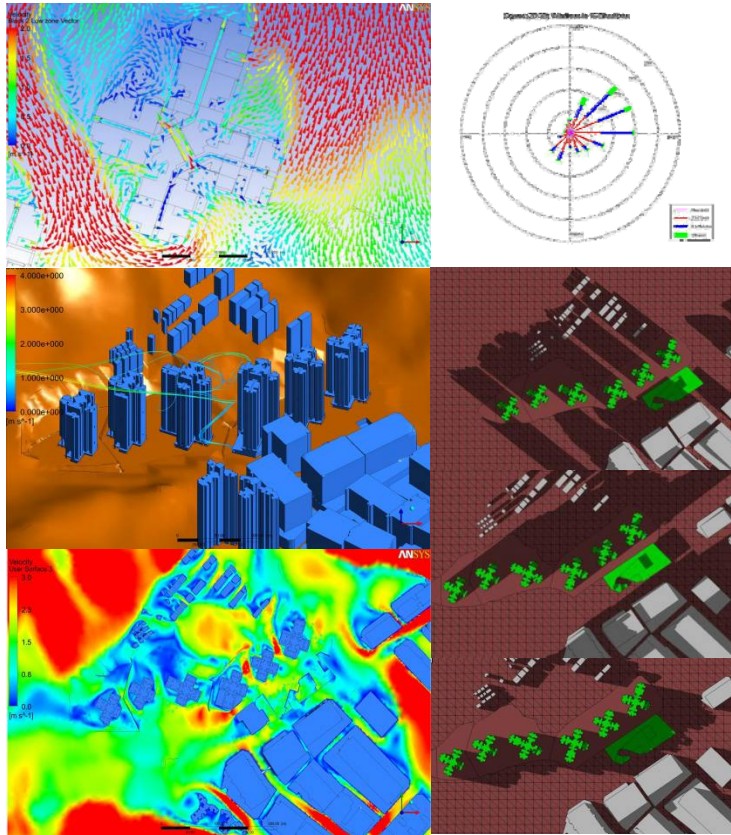


- 火炭公屋項目：已進行土地勘探。
- Fo Tan PRH project : GI has been undertaken.

- 透過土地勘探，為擬備發展藍圖和地基設計提供所需資料。
- 於土力限制最少的位置，興建高層房屋。
- Conduct GI to provide data for layout planning and foundation design.
- Position high rise domestic buildings in locations with the least geotechnical constraints as far as practicable.

11. 微氣候研究

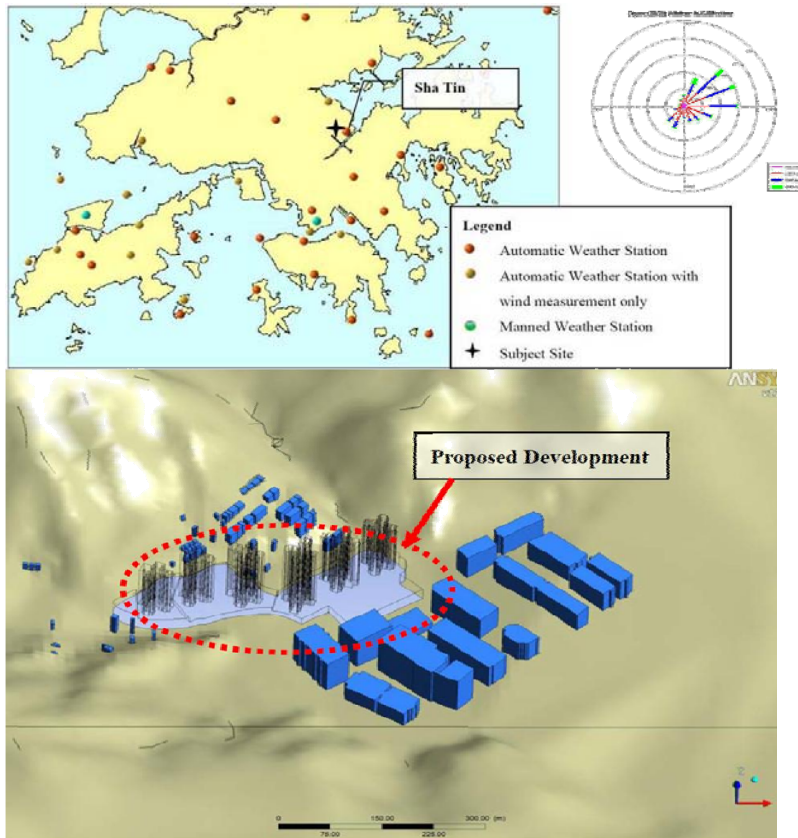
Microclimate Studies



- 火炭公屋項目：在發展項目的整體布局方面，各樓宇將迎主導風向，樓宇之間保持足夠間距並設置通風廊有助通風，各單位亦會提供足夠日照。
- Fo Tan PRH project : Domestic blocks are oriented to capture the prevailing winds and sufficient building separation are provided to allow wind penetration. Domestic units will enjoy adequate daylight.

- 比較不同的設計方案，並優化建築佈局、樓宇配置和詳細設計特點。
- 設計層面包括風環境、自然通風、日照和遮陽，以及為發展項目而提供的太陽熱能吸收緩解措施。
- Compare different design options and help fine-tune the architectural layout, disposition of buildings and detail design features.
- Study design aspects including wind environment, natural ventilation, daylight and sun-shading and mitigation of solar heat gain for the entire development.

12. 空氣流通評估 Air Ventilation Assessment

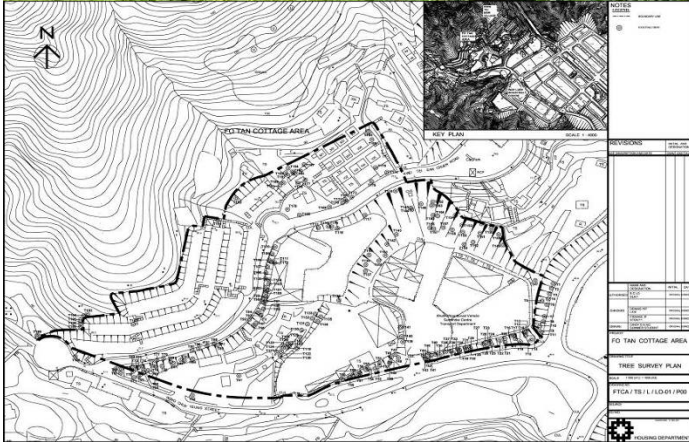


- 為可能會影響整體環境通風狀況的發展項目，進行空氣流通評估。
- 評估有關發展項目對地面行人通道風環境所構成的影響。
- Required for developments which may have impacts on macro wind environment.
- Assess the impact of a development on the pedestrian wind environment.

- 火炭公屋項目：樓宇佈局已考慮主導風為偏東風，夏季季候風為西南風。
- Fo Tan PRH project : Disposition of blocks has taken into account the average wind speed of easterly winds at winter and south-westerly winds at summer.

13. 樹木調查及影響評估

Tree Survey and Impact Assessment



- 火炭公屋項目：就所有受影響並須移除的樹木，建議進行補植計劃。
- Fo Tan PRH project : Recommend tree compensation plan for all trees affected and required to be removed.

- 就房屋對樹木的影響發展進行評估。當中可能涉及保育、移植或砍伐樹木。
- 就所有受影響並須移除的樹木，建議進行補植計劃。
- Conduct survey of existing trees and assess impact of the housing development on trees that may require preservation, transplanting, or removal.
- Propose tree compensation plan for all trees affected and required to be removed.

14. 視覺評估

Visual Appraisal

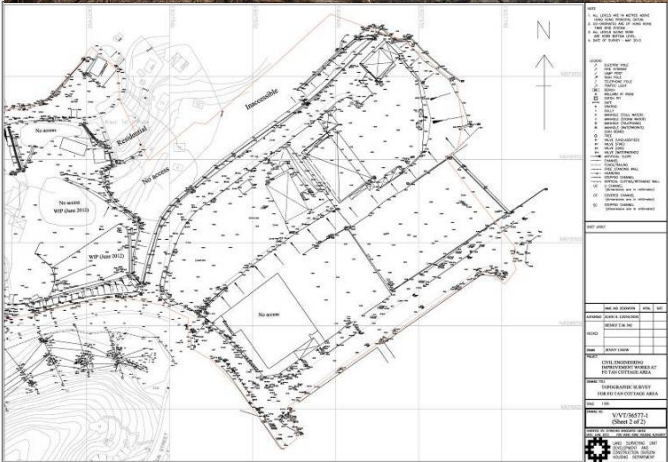


- 火炭公屋項目：可接受的視覺影響。
- Fo Tan PRH project : Acceptable visual impact.

- 評估該等用地在主要公眾觀景點上造成的任何視覺影響。
- 為需要規劃申請的土地，進行詳細的視覺影響評估。
- Demonstrate the visual change of the site from key public viewing points.
- Conduct a more detailed assessment in the form of a Visual Impact Assessment for sites requiring planning application.

15. 土地測量

Land Surveying



- 火炭公屋項目：已進行土地測量。
- Fo Tan PRH project : Land survey has been undertaken.

- 測量有關用地及其周圍環境的現有地形、公用設施和樹木，以便進行各技術研究。
- 當中亦包括進行土地界線記錄研究，以確定該用地的土地類別。
- Study existing topography, utilities and trees to facilitate various technical studies; including site formation, drainage, sewerage, etc.
- A study of land boundary record is also required for identifying the land status of the potential site.

具潛力公營房屋用地所需的特定的研究

Additional Specific Studies Required for Potential Public Housing Sites

- 因應個別地盤的特色和限制，我們亦可能需要進行特定的研究，包括但不限於以下 10 項 –

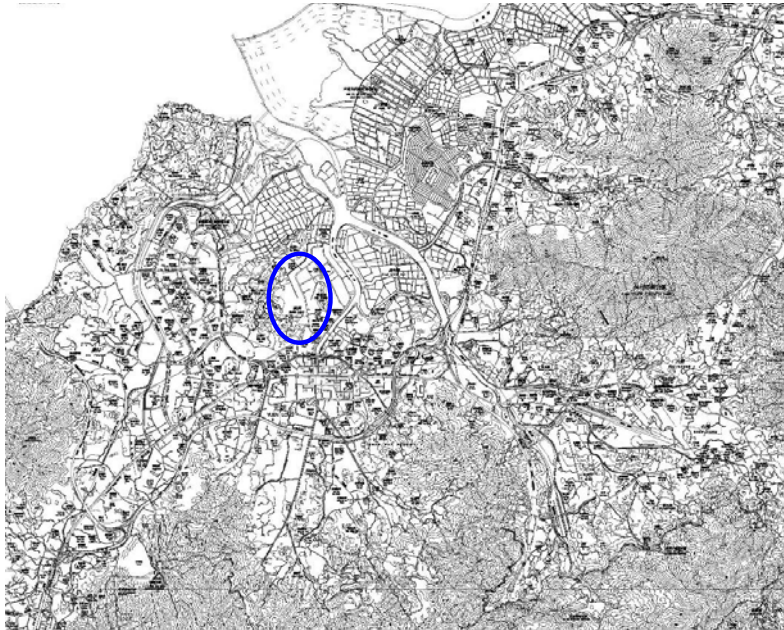
16. 規劃及工程研究
17. 土地用途評估
18. 土地污染評估
19. 量化風險及潛在危險裝置評估
20. 地盤平整工程評估
21. 天然山坡風險研究
22. 現存人造斜坡評估
23. 生態評估
24. 文物影響評估
25. 零售業務經營可行性研究

- Additional specific studies may also be undertaken based on the characteristics and constraints of individual sites. These 10 studies may include but not limited to the following –

16. Planning and Engineering Studies
17. Land Use Assessment
18. Land Contamination Assessment
19. Quantitative Risk and Potentially Hazardous Installations Assessment
20. Site Formation Assessment
21. Natural Terrain Hazard Study
22. Existing Slope Features Assessment
23. Ecological Assessment
24. Heritage Impact Assessment
25. Retail Viability Study

16. 規劃及工程研究

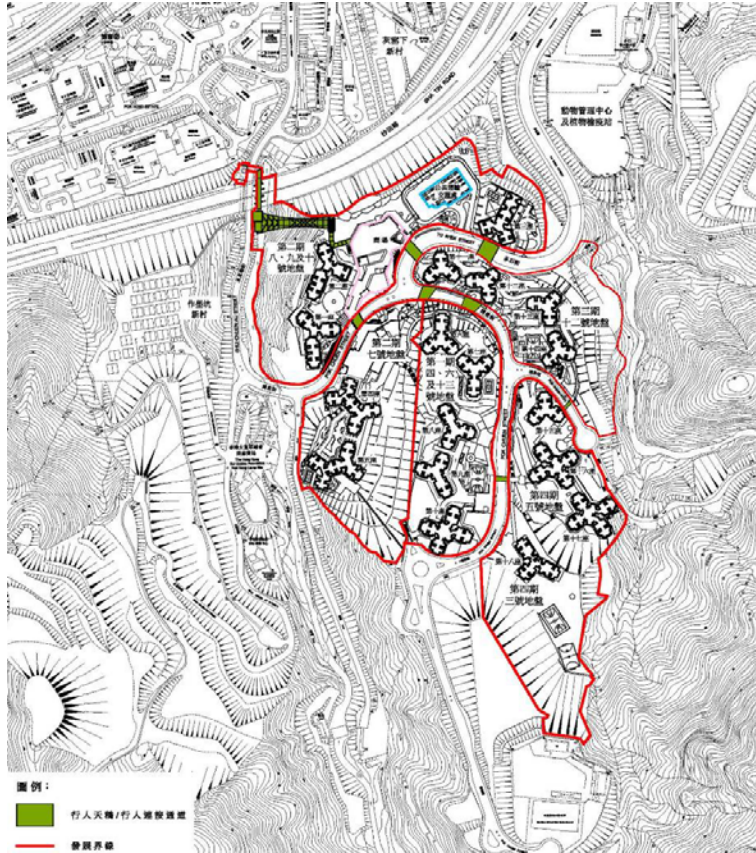
Planning and Engineering Studies



- 就大型而複雜的用地進行，以確定用地是否適合作公營房屋及其它土地用途發展。
- 制定合適的發展參數及為日後的地盤平整和基建設計提出工程可行方案。
- Conduct for large and complex sites to confirm the suitability of sites for public housing developments and other land uses where appropriate.
- Formulate optimal development parameters and recommend engineering measures for the subsequent site formation and infrastructure design.

17. 土地用途評估

Land Use Assessment



- 檢討具備房屋發展潛力用地鄰近的土地用途。
- 有機會涉及換地、遷移或重置現有及 / 或已規劃設施。
- Review land uses in the vicinity of the potential housing sites.
- May involve swapping with, relocation and reprovisioning of existing and/or planned facilities where appropriate.

18. 土地污染評估

Land Contamination Assessment



- 曾用作工業或與工業相關用途（例如汽車維修工場及工廠）的用地必須進行研究。
- 研究污染範圍，並制訂整治方案，亦會將進行地勘探及抽取泥土樣本化驗。
- 在平整用地前，根據評估結果決定是否進行土地淨化工程。
- Required for sites which have previously been used for industrial or related purposes, e.g., car repair workshops and factories.
- Study the extent of contamination, formulate remediation proposals and include ground investigation and laboratory test of soil samples.
- Pending the outcome of the assessment, might require land decontamination works before formation of sites.

19. 量化風險及潛在危險裝置評估

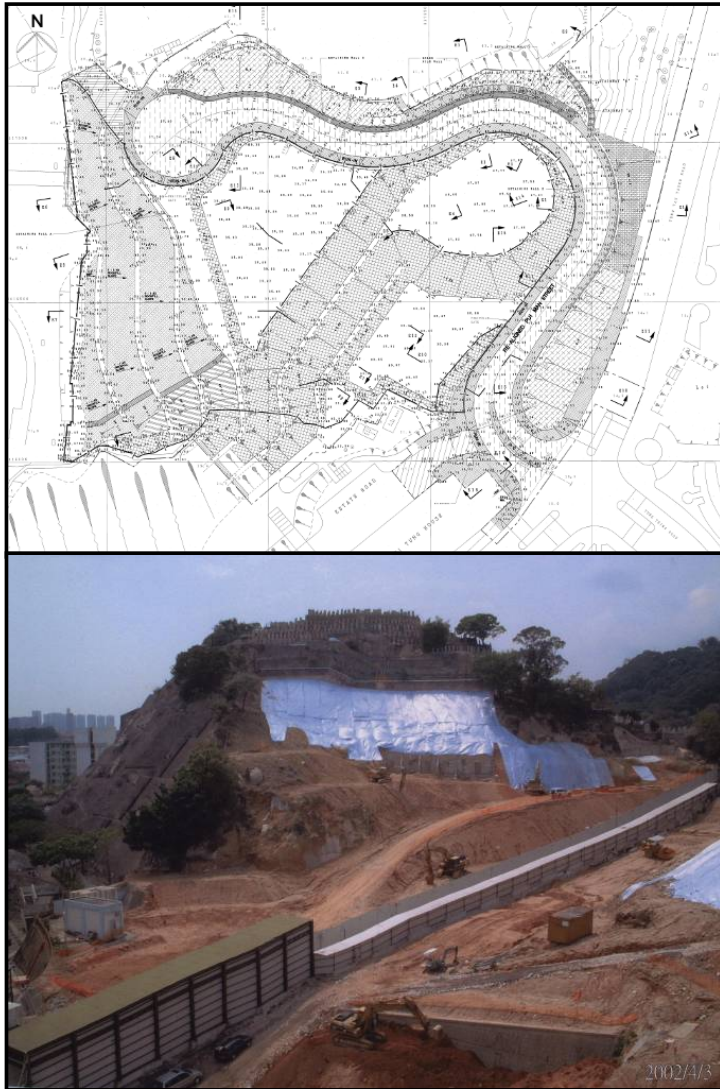
Quantitative Risk and Potentially Hazardous Installations Assessment



- 潛在危險裝置如貯存氯氣及工業氣體的設施。
- 限制諮詢區內的土地用途及人口增長，以確保對公眾構成的風險限於可接受水平。
- Potential hazardous installations (PHI) such as chlorine storage and industrial gas facilities.
- Control the risk within an acceptable level by controlling land use and population increase within the consultation zone.

20. 地盤平整工程評估

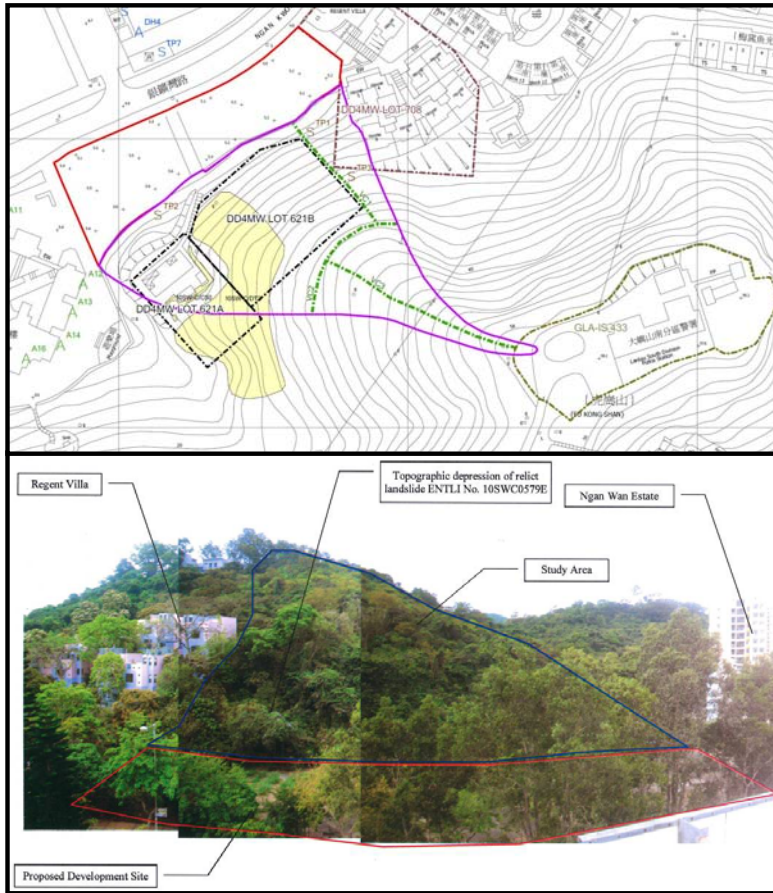
Site Formation Assessment



- 於地勢不平的地盤進行。
- 識別土方挖掘的範圍，以確定平整地盤所需的時間。
- 確定土方挖掘棄土場地及填土來源。
- 就建築工程所造成的噪音及交通影響及挖石方法進行研究。
- Required for sites located in hilly terrain.
- Identify the extent of earthworks to determine the site formation period required.
- Identify earthworks disposal sites and source of import fill (in the case of filling).
- Examine noise and traffic impact arising from the construction activities and method of rock excavation.

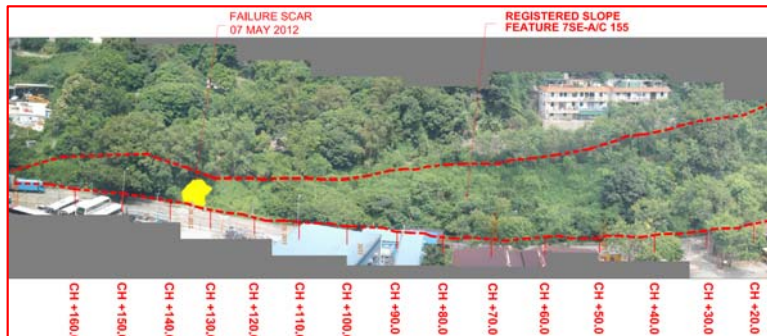
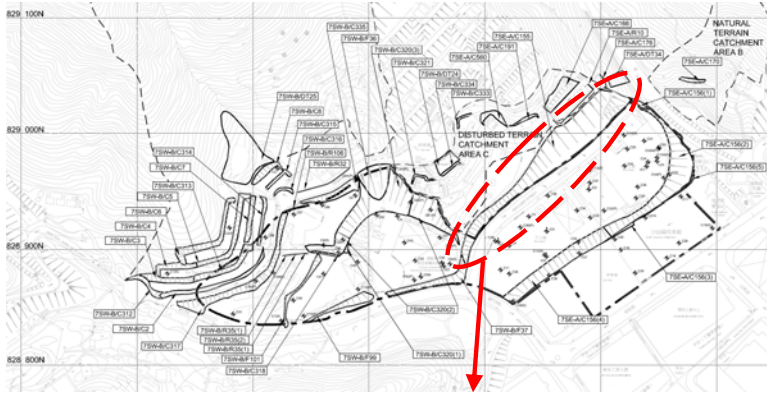
21. 天然山坡風險研究

Natural Terrain Hazard Study



- 毗連大型天然山坡的地盤。
- 極端天氣（例如暴雨）和人類活動造成的干擾，可能會令天然山坡結構容易變得不穩。
- 以天然山坡風險研究，確定其潛在風險及建議採取適當的緩解措施，例如提供非建築緩衝區和建造隔泥石屏障等。
- Required for sites close to large steep natural slopes.
- Slopes may become unstable due to abnormal weather conditions such as exceptionally heavy rainfall or due to disturbances caused by human activities.
- Conduct natural terrain hazard study to identify potential hazards posed by the natural terrain and propose appropriate mitigation measures such as provision of non-building buffer zones, construction of debris-resisting barriers etc.

22. 現存人造斜坡評估 Existing Slope Features Assessment



- 為所有人造斜坡進行評估及須詳細搜尋並檢討現時的設計和建築記錄。
- 如有關公營房屋發展項目建議修改現存斜坡的剖面，便須進行穩定性評估。
- Appraise critically all existing man-made slopes and conduct a detailed search on the existing design and construction records.
- Carry out stability assessments if modifications to the profiles of existing slopes are proposed.

23. 生態評估 Ecological Assessment



- 在生態上有重要性和具重要保育價值的地方附近，便須進行評估。
- 檢討生態基線資料及全面勘測，以估算有關用地及其四周環境的生態價值。
- 評估工程對生態的潛在影響，並提出必需的緩解方案。
- Required for sites situated in the vicinity of areas with ecological and conservation importance.
- Review of ecological baseline information and comprehensive survey are required to ascertain the ecological value.
- Assess potential ecological impact and propose necessary mitigation.

24. 文物影響評估

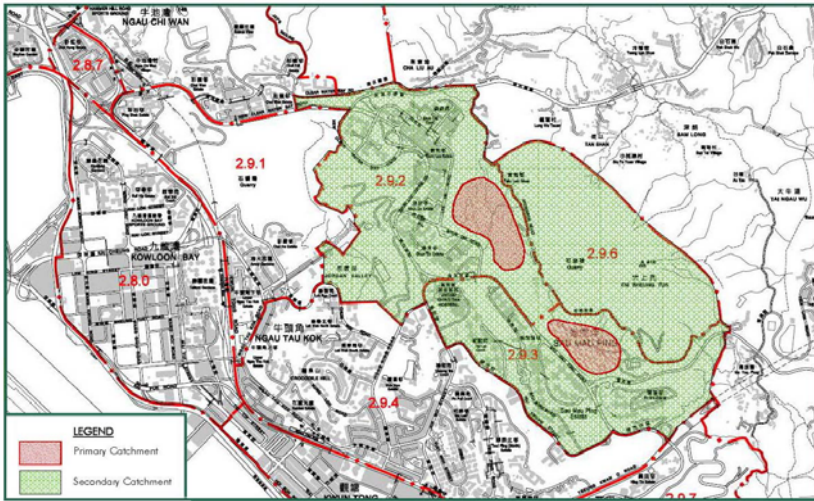
Heritage Impact Assessment



- 具備公營房屋發展潛力的用地，如其坐落於考古遺址，或鄰近具考古或歷史價值的地點，均須進行評估。
- 可能需要在地盤平整工程和建造工程開展前，進行考古勘測。
- Required for sites that fall within an archaeological zone or are located in close vicinity to sites of archaeological or historical interests/values.
- May require archaeological survey before site formation and construction works.

25. 零售業務經營可行性研究

Retail Viability Study



- 決定所需零售設施的種類和規模。
- 考慮該發展項目的人口、毗鄰地區的現有 / 已規劃的零售設施，以及該幅用地的發展限制。
- Determine the type and the size of the required retail facilities.
- Consider the population of the development, the existing/planned retail facilities in the adjacent areas and the development constraints of the site.

總結

- 鑑於具潛力公營房屋用地，往往涉及複雜的技術問題，及公眾對改善居住環境的訴求愈趨強烈，房委會將持續進行各項技術評估，以確定我們所物色的土地，用作公營房屋發展的合適和可行性，並善用其發展潛力。

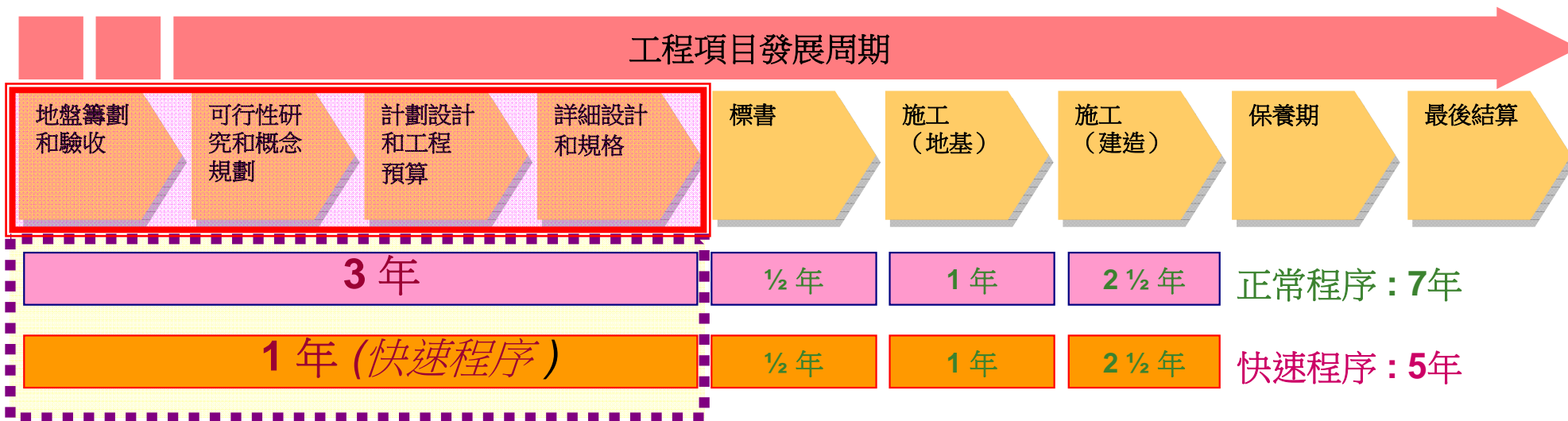
Conclusion

- Due to the complexity of the potential public housing sites and the increasing aspiration from the public for a better living environment, HA will continue to conduct various technical assessments to ascertain the suitability and feasibility and to optimize the development potential of the sites identified for public housing use.

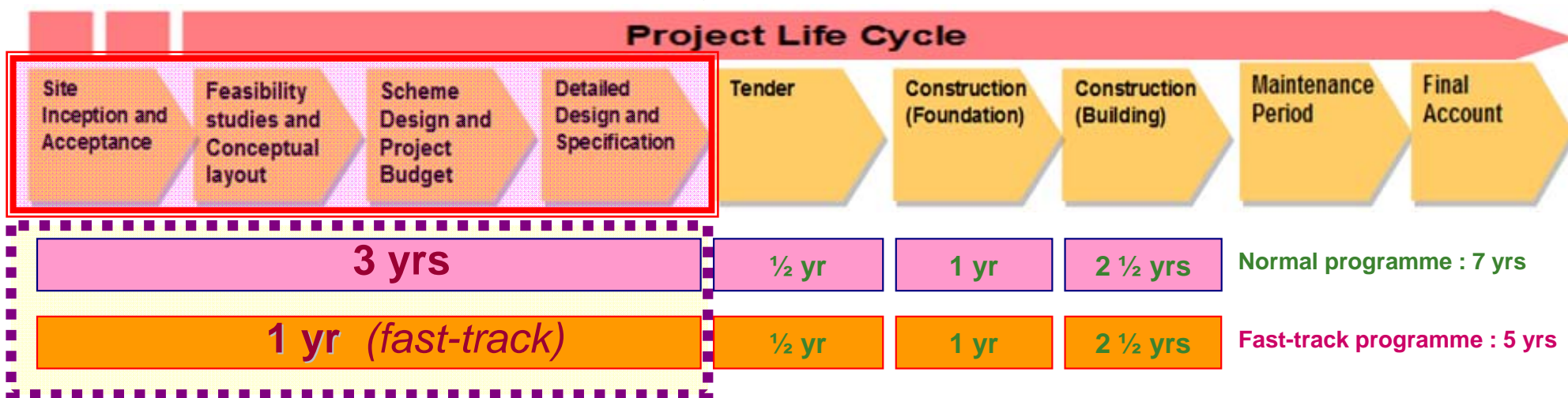
提前完成公屋項目

Advance Completion of PRH Projects

- 繼續就各項公屋工程尋求加快流程的空間



- Continue to explore feasible ways to expedite construction of public housing



謝謝
Thank You

