Urban Renewal Authority
Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

Response to 2nd Round Public Comments and Revised Draft Development Scheme Plan (2022)

November 2022

Part 1

Information Summary on the Dissolution, Acquisition and Resumption Arrangements for Urban Renewal Authority's Civil Servants' Co-operative Building Society ("CBS") Development Scheme at Kau Pui Lung Road/Chi Kiang Street

市區重建局
URBAN RENEWAL AUTHORITY

本函檔號：ACD/CBS-2:KC/A/xxx/URA221007962

郵遞

貴業主／貴社員：

市區重建局
靠背壟道／浙江街發展計劃

市區重建局（本局）就公務員建屋合作社樓宇開展試點項目—靠背壟道／浙江街發展計劃（簡稱 CBS-2:KC）。本局透過不同渠道，例如會議會面及居民意見調查，得悉部份居民希望了解更多關於如項目落實進行後收購物業及政府收回土地的安排。本局向相關部門（包括發展局、公務員事務局、地政總署及漁農自然護理署等）諮詢後，編制了「市區重建局靠背壟道／浙江街發展計劃解散公務員建屋合作社(「合作社」)、收購物業及收回土地安排資料摘要」，現隨函附上相關資料。居民亦可透過掃描下方之二維碼或登入網址 www.ura.org.hk 取得該資料摘要。

中文版本　　英文版本

如有任何疑問，歡迎與本局職員聯絡，詳情可查看夾附的專責職員名片。

市區重建局

2022 年 10 月 14 日

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市區重建局
URBAN RENEWAL AUTHORITY

Our Ref：ACD/CBS-2:KC/A/xxx/URA221007962

By Post

14 October 2022

Dear Owners／CBS members：

Urban Renewal Authority
Kau Pui Lung Road／Chi Kiang Street Development Scheme

The Urban Renewal Authority (the "Authority") commenced the pilot project to redevelop buildings under the Civil Servants' Co-operative Building Society ("CBS") Scheme at Kau Pui Lung Road/Chi Kiang Street (CBS-2:KC) ("the Project").

We understand through various channels such as individual meetings and opinion survey that some of the owners/ CBS members want to know more about the arrangement of property acquisition and land resumption by the Government if the Project is to be implemented. After consulting the relevant departments including the Development Bureau, the Civil Service Bureau, the Lands Department and the Agriculture, Fisheries and Conservation Department, the Authority has prepared an "Information Summary on the Dissolution, Acquisition and Resumption Arrangements for Urban Renewal Authority's Civil Servants' Co-operative Building Society ("CBS") Development Scheme at Kau Pui Lung Road/Chi Kiang Street" ("Information Summary") for your reference as shown attached. You may also retrieve the Information Summary by scanning the following QR codes or visiting our website: www.ura.org.hk.

English version

Chinese version

For any enquiries, please feel free to contact the subject officer of the attached name cards.

Urban Renewal Authority

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Information Summary on the Dissolution, Acquisition and Resumption Arrangements for Urban Renewal Authority's Civil Servants' Co-operative Building Society ("CBS") Development Scheme at Kau Pui Lung Road/Chi Kiang Street

This summary provides an outline on the arrangement of the dissolution of CBSs and the acquisition and resumption of property interests in the Urban Renewal Authority ("URA")'s Development Scheme at Kau Pui Lung Road/Chi Kiang Street ("the Project") [note 1].

Dissolution of a CBS

1. The "Guidelines to be Followed to Achieve the Transfer of Title to Flats and Land from Civil Servants' Co-operative Building Societies to their Individual Members under the Modification of Lease Approach" issued by the Government in 1993 ("the MLA Guidelines") aims at facilitating members of a CBS to obtain the title of the flats they are occupying. Dissolution mainly comprises, inter alia, the following two stages -

   (i) the first stage involves passing relevant resolutions (including but not limited to the dissolution of the CBS) in a special general meeting in accordance with the provisions in the Co-operative Societies Ordinance (Cap. 33) ("the Ordinance") and Co-operative Societies Rules (Cap. 33A) ("the Rules"). Section 21 of the Rules stipulated that voting in general meetings must be exercised in person and not by proxy. Before convening a special general meeting, the CBS should resolve all outstanding membership issues including to trace the missing members and to complete the beneficial succession formalities.

   According to Sections 26 of the Rules, one-half of the total number of members of a CBS in the Project is already sufficient to form a quorum. According to the MLA Guidelines, the resolution on CBS dissolution shall only be decided by a simple majority in the special general meeting (i.e. more than 50% of members presenting at the meeting); and

   (ii) the second stage requires an application made by at least 75% of the members to the Registrar of Co-operative Societies for dissolution. The application only needs to be made by way of written consent. The signatures in the written consent should be verified by the Chairman and Secretary of the CBS concerned.

2. To facilitate URA to proceed with redevelopment of the Project, the current workflow for processing dissolution of CBS has been substantially streamlined and

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Note 1 : Subject to approval from the Chief Executive in Council to proceed with the Project.

compressed. URA will offer assistance to help dissolve CBSs if their members so wish.

Acquisition of Property Interests by URA

3. URA will only acquire the flats with the respective legal titles already transferred to ex-CBS members after dissolution of the relevant CBSs. If the flats are still subject to alienation restriction under the Government leases after dissolution, acquisition by URA can only be completed after the owners have settled the land premium required to remove the alienation restriction ("Premium"). Upon owners' request, URA would arrange settlement of the Premium with the Government by deducting the Premium from the amounts payable to the owners for acquisition of their flats.

4. For the members of the CBSs that have not been dissolved ("undissolved CBSs") and non-consenting members of dissolved CBSs ("non-consenting members") who have not taken up the legal titles of their properties, acquisition of their properties will only be processed after they have become the registered owners of their properties.

Land Resumption

5. If the Project is implemented, URA will make an application to the Secretary for Development requesting him to recommend to the Chief Executive in Council the resumption of land in the Project under the Lands Resumption Ordinance (Cap. 124) ("LRO") pursuant to section 29 of Urban Renewal Authority Ordinance (Cap. 563), including those flats held under undissolved CBSs or Owners' Corporations ("OCs"), and flats of those owners who refuse to sell or cannot sell their flats to URA because of various reasons.

6. According to LRO, the Director of Lands shall, within 28 days from the date of reversion,

   (i) under s.6(1)(a), write to the former owner and to any person having an estate or interest in the land immediately before the reversion under an instrument registered in the Land Registry, making an offer of compensation in respect of the resumption of the land; or

   (ii) under s.6(1)(b), serve on any of the persons referred to in s. 6(1)(a) a notice in such form as the Director of Lands may specify, requiring him to submit his claim for compensation within the time stipulated in such notice.

Basis of Compensation upon Land Resumption

(A) Ex-member of Dissolved CBSs

7. Compensation for ex-members of dissolved CBSs who have already paid the Premium will comprise open market value ("OMV") of a freely assignable property with no restriction on alienation (hereinafter referred to as "Normal OMV") and a Home Purchase Allowance ("HPA")/Supplementary Allowance ("SA") which shall be derived by basing on the value of a 7-year notional replacement flat. For ex-members of dissolved CBSs who have not yet paid the Premium, the Government will pay the Normal OMV and HPA/SA to them upon land resumption on the condition that they have agreed to pay the Premium in respect of the flats concerned. The compensation amount in this case will reflect the impact of the alienation restriction on the value of the resumed CBS flats. Such arrangement also aligns with URA's acquisition offers which are offered on the condition that ex-members of dissolved CBSs with outstanding Premium have agreed to pay the Premium in respect of the concerned CBS flats. However, the "levelling adjustment" [note 2] introduced by URA to help owners settle the Premium during the acquisition stage will not be applicable (please see para. 15 below also).

(B) Members of Undissolved CBSs and OCs Holding Flats of Non-consenting Members

8. The undissolved CBSs and the OCs are the paper owners of the flats occupied by members of undissolved CBSs or non-consenting members respectively as shown in the instruments registered in the Land Registry. In other words, members of undissolved CBSs and non-consenting members do not hold legal title to the flats, but are only given a right to occupy the flats pursuant to underleases (with undissolved CBSs/OCs). However, it is noted that such underleases are not registered in the Land Registry. Hence, members of undissolved CBSs and non-consenting members are not entitled to be offered compensation by or invited to submit claims for compensation under s.(6)(1) of LRO.

Note 2 : URA has introduced a levelling adjustment policy to align the unit rates of the Premium per square foot to be paid by CBS owners for removing alienation restriction in URA's acquisition stage for Shing Tak Street/Ma Tau Chung Road Development Project (CBS-1:KC). To this end, the lowest unit rate of the Premium assessed by the Lands Department amongst all the flats with outstanding Premium in a CBS project will be adopted as the reference rate. Any amount of Premium payable to the Government in excess of the amount calculated by multiplying the reference rate by the area of the flat will be borne by URA.

9. However, members of undissolved CBSs and non-consenting members may, under s.8(l) of LRO, submit claims in writing to the Director of Lands stating the nature of their estate or interest in the land and the amount of compensation they seek to recover.

10. The Government will consider the claims submitted under paragraph 9 above and may consider to offer compensation to the claimants on the same basis as the compensation offered for CBS flats owned by ex-members of dissolved CBSs as described in paragraph 7 above. As the flats occupied by members of undissolved CBSs and non-consenting members are still subject to alienation restriction, the Director of Lands will consider paying the Normal OMV and HPA/SA to them upon land resumption subject to the condition that they have agreed to pay the Premium in respect of the flats concerned.

11. The Director of Lands may serve a notice under s.6(1)(b) of LRO to the undissolved CBSs and OCs after land reversion, inviting their submissions of claim for compensation. Lands Department will determine the amount of compensation for undissolved CBSs and OCs upon receipt of their claims.

12. Paragraph 16 of Appendix to Section 3 of Chapter 1 of the MLA Guidelines stipulates that "*[a]s with any property in the private sector, the consent of all owners will be required before any redevelopment can take place*". Hence, if claims are received for any redevelopment value ("RDV") under s.6(1)(b) of LRO, Lands Department will assess the claims based on the RDV only if it has been provided with documentary proof which can demonstrate that before the date of reversion, there has been —

    (i) unanimous agreement from all owners of the dissolved CBS or all members of the undissolved CBS concerned for redevelopment; and

    (ii) joint and genuine actions from all owners of the dissolved CBS or all members of the undissolved CBS concerned for redevelopment.

    In the absence of any documentary proof, the compensation assessment will be made on existing use value basis.

13. Even with documentary proof as listed in paragraph 12(i) and (ii) above, the assessment on RDV basis according to LRO will be made on the basis that the land concerned would be redeveloped pursuant to the lease conditions and other applicable development controls such as building and town planning control. It should be noted that where statutory compensation for the land resumed is assessed on RDV basis, an owner (including an undissolved CBS or its members or OCs) is <u>not</u> entitled to claim HPA/SA and compensation for removal costs and expenses.

(C) <u>Settlement of Outstanding Premium</u>

14. The assessment of the Premium payable by individual owners of CBS flats (applicable to both dissolved CBSs and undissolved CBSs) should, with effect from 1 June 2020,

be based on existing use land value for all cases, unless the lot is subject to a Notice of Application to the Lands Tribunal for compulsory sale order under the Land (Compulsory Sale for Redevelopment) Ordinance (Cap. 545).

15. In assessing the Premium to be deducted from the compensation for the purpose of land resumption involving CBS flats, Lands Department will adhere to the established principles of premium assessment for usual CBS cases. In other words, the "levelling adjustment" policy applied by URA will not be adopted in the land resumption stage.

(D) Housing Benefit of the Civil Servants in CBS Scheme

16. CBS scheme is an old form of civil service housing benefit for providing accommodation to eligible civil servants on a discretionary basis instead of a condition of service. For ex-CBS members who are serving civil servants (other than those who became members through beneficial succession), they will not be eligible to receive any other civil service housing benefits if they have acquired the legal title of the CBS flats concerned.

17. For members of undissolved CBSs and non-consenting members who are serving civil servants and have chosen not to accept Government's compensation offers for land resumption, they may still be eligible to receive other prevailing housing benefits subject to their meeting of the eligibility criteria of the housing schemes applicable to them after they have ceased their memberships from the undissolved CBSs or dissolved CBSs concerned. As civil service housing benefits are provided for serving officers only, retired members of undissolved CBSs and retired non-consenting members would not be eligible to apply for other housing benefits upon their cessation of service in the Government.

18. Whether a CBS member / ex-member is still eligible for enjoying housing benefits does not have any implication on the assessment of the amount of compensation offered for land resumption.

19. This note is prepared in consultation with the relevant government departments, namely Development Bureau, Civil Service Bureau, Lands Department as well as Agriculture, Fisheries and Conservation Department.

Issued by Urban Renewal Authority
October 2022

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市區重建局靠背壠道／浙江街發展計劃
解散公務員建屋合作社(「合作社」)、收購物業及
收回土地安排資料摘要

本資料摘要所載，乃市區重建局（「市建局」）就靠背壠道／浙江街發展計劃（「該項目」）[註1]解散合作社、收購物業及收回土地安排的概要。

解散公務員建屋合作社

1. 政府於 1993 年推出《公務員建屋合作社單位的土地業權轉讓予個別社員指引》（「《修訂官地租契辦法指引》」）的目的，是讓個別合作社社員透過解散合作社程序取得其居住單位的業權。解散合作社的程序主要分為兩個階段進行 –

   （i） 第一階段包括合作社根據《合作社條例》（第 33 章）（「該條例」）及《合作社規則》（第 33A 章）（「該規則」）召開特別大會，審議和通過相關決議（其中包括但不限於解散合作社）。該規則第 21 條規定社員須親自表決，不能委託代表表決。在召開特別大會前，合作社須解決所有未完成處理的社員問題，包括尋找失蹤的社員及完成繼承手續。

   根據該規則第 26 條，該項目合作社半數社員出席即構成周年大會或特別大會的法定人數。按照《修訂官地租契辦法指引》，解散合作社的決議以簡單多數票決定（即超過出席特別大會社員人數的 50%）；以及

   （ii） 第二階段為合作社需要得到最少 75% 的社員同意，方可向合作社註冊官提交解散合作社申請。該申請只需以書面同意方式遞交。書面同意上的簽署需由該合作社的主席和秘書核實。

2. 政府現時已將解散合作社的流程簡化及壓縮，以協助市建局推行該項目。市建局亦會為有意解散合作社的社員提供協助。

註 1：該項目需獲行政長官會同行政會議授權進行。

市建局收購有關物業

3. 市建局只會向已解散合作社並取得合法業權的前社員收購有關單位。如有關單位在解散合作社後仍受地契條款的轉讓限制所規限，市建局只能在業主繳付撤銷轉讓限制所需的土地補價 (「土地補價」)後，才可完成相關收購手續。如有業主要求，市建局可從支付給業主的收購金額中扣除土地補價金額，以作繳付土地補價予政府的安排。

4. 至於尚未解散合作社（「未解散合作社」）的社員及在已解散合作社內但未有同意解散合作社而並未取得其物業的合法業權的前社員(「未同意解散前社員」)，市建局只會在他們成為註冊業主後才會收購其物業。

收回土地

5. 如該項目已落實進行，市建局將根據《市區重建局條例》(第 563 章)第 29 條向發展局局長提出收地申請，要求他向行政長官會同行政會議作出建議，引用《收回土地條例》(第 124 章)收回該項目範圍內的任何土地，包括由未解散合作社或業主立案法團持有的單位，以及個別業主拒絕出售或因不同的理由而未能出售予市建局的單位。

6. 根據《收回土地條例》，地政總署署長須於土地歸還政府日起計 28 日內：-

(i) 按照第 6(1)(a)條致函前業主，以及致函緊接土地歸還政府之前根據在土地註冊處註冊的文書而對該土地擁有產業權或權益的任何人，就收回該土地而提出補償要約；或

(ii) 按照第 6(1)(b)條向第 6(1)(a)條所提述的任何人，送達由地政總署署長指明格式的通知書，要求該人在該通知書所指定的時間內，呈交其補償申索。

收回土地的補償基準

(甲) 已解散合作社的前社員

7. 假如已解散合作社的前社員已繳付土地補價，政府給予前社員的補償，將包括根據沒有轉讓限制及可自由出售物業的公開市值(「公開市值」)，另加假設重置單位(即在同一地區與收回單位面積相若的七年樓齡單位)價值計算的自置居所津貼／額外津貼。如已解散合作社的前社員尚未繳付土地補價，政

府將於收回土地後給予他們相關單位的公開市值及自置居所津貼／額外津貼，但條件是他們須同意繳付相關單位的土地補價。在這情況下，收回單位的補償金額會反映轉讓限制對相關單位價值的影響。上述安排與市建局的收購建議，要求已解散合作社的前社員繳付相關單位的土地補價的做法一致。然而，市建局於收購物業階段旨在協助業主繳付土地補價的「劃一補地價單價」[註2]政策並不適用(請同時參閱下文第 15 段)。

(乙) 未解散合作社的社員(「未散社社員」)及持有未同意解散前社員單位的業主立案法團(「持有前社員單位法團」)

8. 未解散合作社及持有前社員單位法團乃是未散社社員或未同意解散前社員所居住單位在土地註冊處註冊的文書所記錄的物業擁有人。換言之，未散社社員或未同意解散前社員沒有該等單位的法定擁有權，他們只是以分租租契(適用於未解散合作社／持有前社員單位法團)而獲得准許佔用該等單位的權利。然而，該等分租租契並沒有在土地註冊處註冊。因此，未散社社員和未同意解散前社員，均不符合資格按照《收回土地條例》第(6)(1)條獲得發放補償建議或呈交補償申索。

9. 然而，未散社社員及未同意解散前社員可按照《收回土地條例》第(8)(1)條，向地政總署署長呈交書面申索，說明其就該土地擁有的產業權或權益性質，以及他們尋求追討的款額。

10. 政府會考慮上文第 9 段所指的申索，並或會考慮按照上文第 7 段所述，採用適用於已解散合作社的前社員的相同補償基準，向申索人提出補償建議。由於未散社社員或未同意解散前社員所居住的單位仍有轉讓限制，地政總署署長將會考慮給予公開市值及自置居所津貼／額外津貼，而條件為他們須同意繳付相關單位的土地補價。

11. 地政總署署長或會於土地歸還政府後，按照《收回土地條例》第(6)(1)(b)條，向未解散合作社及持有前社員單位法團發出通知書，邀請他們呈交補償申索。地政總署在收到申索後，將評估未解散合作社及持有前社員單位法團可得的補償金額。

註2：市建局於盛德街／馬頭涌道發展項目(CBS-1:KC 項目)引入了「劃一補地價單價」安排，合作社業主可繳付相同的土地補價單價以撤銷轉讓限制。地政總署會評估合作社重建項目內所有未繳付土地補價的住宅物業的土地補價，當中最低的土地補價單價將作為劃一補地價單價。如須繳付給政府的土地補價金額高於以劃一補地價單價乘以單位面積計算所得的金額，市建局將支付該差額。

12. 《修訂官地租契辦法指引》第 1 章第 3 部分附錄第 16 段，指出「*正如在私人物業市場，進行重新發展須要獲得所有業主的同意*」。因此，地政總署倘若收到按照《收回土地條例》第(6)(1)(b)條提出，任何以重新發展價值為基準的申索，將會依據重新發展價值評估補償金額，但只限於申索人能提供證明文件證明於土地歸還政府前：-

（i） 已解散合作社的所有業主或未解散合作社的所有社員，已達成一致協議，同意重新發展；以及

（ii） 已解散合作社的所有業主或未解散合作社的所有社員，已聯合及真正地進行重新發展工作。

假如沒有任何證明文件，補償將按照現有用途價值作為評估基準。

13. 儘管申索人可提供上述第 12 段(i)及(ii)列出的證明文件，但是根據《收回土地條例》，重新發展價值將按照有關土地的地契條款及其他適用的發展管制而評估，例如建築物及城市規劃管制等。如歸還政府的土地的法定補償以重新發展價值基準評估，業主(包括未解散合作社或其社員或持有前社員單位法團)將無權申索自置居所津貼／額外津貼及搬遷開支和費用的補償。

（丙） <u>繳付未償土地補價</u>

14. 由 2020 年 6 月 1 日起，評估個別合作社單位業主所須繳付的土地補價金額(適用於已解散及未解散合作社)，將以「現有用途土地價值」作基礎，除非該地段受到根據《土地(為重新發展而強制售賣)條例》(第 545 章)，向土地審裁處申請作出售賣令的通知書所規限，則另當別論。

15. 在評估從收回合作社單位補償金額中扣除的土地補價時，地政總署將沿用一貫合作社單位的土地補價評估準則。換言之，在政府收回土地之後，市建局提出的「劃一補地價單價」安排將並不適用。

（丁） 參加公務員建屋合作社計劃的公務員的房屋福利

16. 公務員建屋合作社計劃是一項舊有的公務員房屋福利，目的是為合資格公務員提供居所。該計劃是按資源酌情提供的房屋福利，並非服務條件。前合作社社員如為現職公務員(通過繼承實益而成為社員則除外)，在取得有關合作社單位的法定業權後，則沒有資格享用任何其他公務員房屋福利。

17. 未散社社員或未同意解散前社員如為現職公務員，選擇不接受政府於土地歸還政府後發出的補償建議，他們在終止社員身分後，如符合適用於他們的房屋福利的資格，仍可享用其他現有的房屋福利。由於公務員房屋福利只提供予現職公務員，退休的未散社社員或未同意解散前社員皆沒有資格享用其他房屋福利。

18. 無論合作社社員／前社員是否仍合資格享用房屋福利，對於評估土地歸還政府後的補償金額，皆不會有任何影響。

19. 本資料摘要的編訂已經諮詢相關政府部門，包括發展局、公務員事務局、地政總署及漁農自然護理署。

市區重建局

2022 年 10 月

-完-

Part 2

Responses to 2nd Round Public Comments (R to C)

Urban Renewal Authority 市區重建局

Kau Pui Lung Road / Chi Kiang Street Development Scheme

靠背壟道 / 浙江街發展計劃 (CBS-2:KC)

Responses to Public Comments 回應公眾意見

(Reference Nos. 參考編號 1-880)

Consultation Period 諮詢期：

Stage 2 第二階段：17/07/2020 – 31/07/2020

Types of Comments 意見類別：

A) Support 支持 = 134
B) Object 反對 = 662
C) General Comments 一般意見 = 28

Notes 註：

1. Comments submitted in English are responded in English.
   市建局會以中文回應以中文提交之意見。
2. A total of 880 comments were submitted within the consultation period. As all comments submitted by the same person would be treated as one according to Town Planning Board (TPB), the total number of comments received by the URA is considered as 824, including a total of 134 support comments, 662 objecting comments and 28 general comments.
   公眾人士於諮詢期內共提交了 880 份意見。根據城市規劃委員會 (城規會)，同一名人士提交的所有意見將被視作為一份意見，因此經計算後市建局共收到 134 份支持意見，662 份反對意見，28 份一般意見，合計為 824 份意見。
3. The URA has categorized the received comments for easy reference and organized response to similar comments. Comments are not categorized by commenters.

為了更清晰回應相類似之意見，市建局將意見分類回應。此回應中的分類僅供參考，並不代表提意見人所作之分類。

Ref Nos. 參考編號	Consolidated / Extracted Comments 綜合意見 / 意見節錄	URA's Responses 市建局之回應
A) 支持意見 Support Comments (134 comments in total)		
***意見類別一：有關收購、租戶特惠津貼及安置政策**		
6, 7, 129, 323, 324, 433, 516, 521-526.	● 支持重建但對補地價一事有疑慮，希望市建局能提供多種方法給予業主補地價寬減或津貼，或由市建局作為買方補地價 ● 應盡快公佈補地價金額 ● 減去補地價後所得到的金額，不能在市面上購買同樣大小面積的單位	備悉意見。根據地政總署的資料，政府早年以十足市值的三分之一地價批出合作社樓宇用地，隨後合作社成員在取得相關單位業權的時候，其轉讓契約設有轉讓限制條款，合作社樓宇業主必須先向政府繳付三分之二土地補價才可出售單位。有關補價是業主在取得業權時與政府之間的條款。任何減免均偏離一貫的政府政策和做法，亦對已完成補價的業主不公平。 政府已檢視其土地補價的評估基礎，認為對於個別單位的業權人而言，除非所有業權人均同意重建，他並不擁有該土地的控制權而有重建的選擇，因此自 2020 年 6 月 1 日，若個別公務員合作社單位業主申請撤銷轉讓限制，除非有證據證明該建築物由單一業權人擁有，否則會以「現有用途土地價值」的基礎評估土地補價。此基礎亦適用於該計劃。 「現有用途土地價值」的補地價為樓面地價的三分之二，並加上合作社現樓及新樓市值的折讓比例。請參照以下假設例子的計算方法：

Ref Nos. 參考編號	Consolidated / Extracted Comments 綜合意見 / 意見節錄	URA's Responses 市建局之回應
A) 支持意見 Support Comments (134 comments in total)		
		(甲) 以「重建價值」基礎計算作簡單說明 $\frac{2}{3}$ x 樓面地價($10,000/平方呎) = $6,666/平方呎 (按樓面面積計) (乙) 以「現有用途土地價值」基礎計算作簡單說明 $\frac{2}{3}$ x 樓面地價($10,000/平方呎) x $\frac{\text{合作社現樓呎價 \$9,000/平方呎}}{\text{新樓呎價 \$18,000/平方呎}}$ = $3,333/平方呎 (按樓面面積計) 在上述假設例子中，土地補價 (乙) 約為土地補價 (甲) 的百分之五十。按現時市況的初步估算，該計劃的單位補地價金額約為每平方呎 3,000 至 3,500 元。由於每宗個案不同 (例如會因應地區及地段、單位座向、樓層及面積及可用地積比等因素不盡相同)，上述假設例子及每平方呎補價只用作參考。

Ref Nos. 參考編號	Consolidated / Extracted Comments 綜合意見 / 意見節錄	URA's Responses 市建局之回應
A) 支持意見 Support Comments (134 comments in total)		
		另外，政府減免處理土地補價的行政費，約五萬六千多元以減輕未補地價業主在單位業權轉售所涉及的經濟負擔。政府同時減免因散社而需進行的業權轉讓，所涉及的額外印花稅及從價印花稅。 基於同一項目內每個物業的補地價金額呎價(「補地價單價」)都不相同，若將收購金額扣除補地價金額後，不同物業業主所得餘款的呎價亦將各異。因此，市建局提供劃一補地價單價安排，使所有前合作社社員在同一項目內繳付相同的補地價單價。重建項目內所有未補地價的住宅物業於首次收購建議時最低的補地價單價作為「劃一補地價單價」。 如尚未繳付補地價金額的業主接受市建局發出的收購建議，只須支付以劃一補地價單價乘以單位實用面積計算的補地價金額(「劃一單價補地價金額」)，市建局將支付地政總署發出的補地價金額與「劃一單價補地價金額」之差額。至於已繳付補地價金額的前社員，如已繳付的補地價金額高於「劃一單價補地價金額」，可獲發還一筆等同兩者差額之金額。

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A) 支持意見 Support Comments (134 comments in total)		
		此外，前合作社社員可向地政總署遞交申請評估補地價的金額作參考。 根據合作社樓宇的土地契約條款，前合作社社員須向政府繳付土地補價，才可以轉讓其單位。業主作為業權人，有履行地契的責任。政府亦為合資格的合作社單位自住業主作出特別安排，讓其可購買由香港房屋協會(「房協」)在啟德發展區興建和管理的專用安置屋邨的資助出售單位。此外，市建局及地政總署會協調簡化業主繳交補地價的手續。當該計劃獲批准後，市建局會向業主發出收購建議。在同一時間地政總署會提供補地價金額給業主考慮。
62, 236, 291, 317-324, 433, 516, 521-526, 721.	● 支持重建但希望市建局提供公平、合理的收購賠償，足夠購買面積相若的市區單位 ● 希望市建局 / 政府 / 房協能提供相等面積的自置居所供居民認購或每戶可購買兩個位於啟德的資助房屋單位 ● 支持重建但希望能獲得原區安置及原址樓換樓，使居民不用重新適應新環境	備悉意見。靠背壟道 / 浙江街發展計劃 (該計劃) 是根據《市區重建局條例》公布，將按照市建局沿用的收購及安置政策。市建局現行的物業收購準則是根據 2001 年 3 月立法會財務委員會通過的物業收購政策原用至今，作為計算補償的準則釐定，做法行之有效。 市建局在獲得行政長官會同行政會議核准進行該計劃後，將會向受影響業主提出收購建議，自住住宅

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A) 支持意見 Support Comments (134 comments in total)		
		物業的收購價為住宅物業市值交吉價，加上一筆特惠津貼 (即自置居所津貼)。 自置居所津貼的計算，是指被收購單位市值與假設重置單位價值的差額。假設重置單位為同一地區內與收回單位面積相若的七年樓齡單位，並將假定位於質素與收回樓宇可資比較的假設樓宇內，按收購程序開始時，在特點及交通方便程度方面屬類似地區。假設重置單位位於假設樓宇中層，座向一般和並不享有海景。 合作社樓宇自住業主，可以獲得百分百的自置居所津貼金額，相信受影響的自住業主可靈活運用該津貼，在同區或其他地區的私人市場，選擇購買面積相約的重置單位。 另外，市建局為未補地價的業主提供劃一補地價單價安排，以協助他們補地價。如業主接受市建局發出的收購建議，只須支付以該計劃內最低的補地價單價作為「劃一補地價單價」乘以單位實用面積計算的補地價金額 (「劃一單價補地價金額」)。市建

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A) 支持意見 Support Comments (134 comments in total)		
		局將支付地政總署發出的補地價金額與「劃一單價補地價金額」之差額。 而未補地價合作社樓宇業主繳付補地價所需金額後，所得的收購建議金額餘款會較其他無須補地價的業主為少，因此政府為合資格的合作社單位自住業主作出特別安排，讓其可購買由房協在啟德發展區興建和管理的專用安置屋邨的資助出售單位。專用安置屋邨單位初步預計在2026年左右落成，房協會負責日後之營運及單位分配，以及適時公佈預售計劃。 如獲得行政長官會同行政會議核准進行該計劃，市建局亦會為受影響合資格的住宅自住業主提供「樓換樓」選擇 (在其重新發展項目原址或同區或適當地盤)，作為給住宅自住業主的收購建議金額以外的選擇。選擇「樓換樓」的住宅自住業主必須先接受市建局的首次收購建議金額，才可選擇「樓換樓」。 市建局明白在目前私人樓宇市場，單位普遍以中、小型為主；在重建項目內居住的大型家庭，難以在

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A) 支持意見 Support Comments (134 comments in total)		
		市場上尋找較大的單位一同居住。故此，市建局與政府磋商後，為項目推出更具彈性的單位重置方案。合資格的前社員自住業主家庭，如涉及「分支家庭」，在接受市建局的首次收購建議後，可以購買最多兩個專用安置屋邨的資助出售單位或「樓換樓」計劃單位等不同組合，減低重建對需要「分戶」及大型家庭的影響。
516.	公務員建屋合作社計劃是一種長俸公務員房屋福利，當時所簽訂的土地契約上並無提及合作社社員日後須就撤銷轉讓限制繳付土地補價，為何如今要剝奪社員的房屋福利	備悉意見。根據公務員事務局的資料，合作社計劃始於 1952 年，是按資源酌情提供的公務員房屋福利。舊有的公務員房屋福利中包括有作為服務條件提供予合資格人員的公務員房屋福利計劃，例如高級公務員宿舍、自行租屋津貼等。政府一貫的政策是為在職公務員提供公務員房屋福利。 公務員房屋福利是根據個別公務員的聘用條款，以及有關房屋福利計劃的條款及條件提供予合資格的在職人員。合作社計劃是按資源酌情提供的房屋福利，並非公務員的服務條件，因此合作社計劃不能被視為合作社社員的終身福利。

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A) 支持意見 Support Comments (134 comments in total)		
		根據合作社計劃，政府以優惠價批出土地，並提供貸款，讓合資格的公務員可透過成立合作社興建住宅樓宇。計劃的目的是為合作社社員及其家屬提供居所，當時的政策並沒有計劃讓合作社社員取得法定業權。合資格的公務員在成為合作社社員時已被視為享用了公務員的房屋福利。 為回應合作社社員希望取得業權的訴求，政府在1987 年推出指引，容許合作社在取得所有社員同意下解散，將單位及土地業權轉讓予個別社員，相關單位的轉讓契約設有轉讓限制條款，有關業主必須先向政府繳付土地補價才可出售其單位。隨後政府在1993年發出現行的指引取代舊指引，讓合作社在取得 75%社員同意後可申請解散繼而進行分契手續，讓個別社員取得其單位和土地業權成為業主，並於繳付由地政總署根據地契釐定的土地補價後把單位自由轉售。合作社計劃的條款和條件，以及相關標準(包括合作社社籍的申請資格)，一直沿用至今。

Ref Nos. 參考編號	Consolidated / Extracted Comments 綜合意見 / 意見節錄	URA's Responses 市建局之回應
A) 支持意見 Support Comments (134 comments in total)		
		容許合作社解散並讓社員由其所屬合作社取得其單位和土地業權成為業主，並於補地價後自由買賣其單位，是政府提供予社員的一項選擇。至於是否需要申請散社乃合作社的內部事宜。前社員於成為業主後可按自身情況考慮何時向政府補回地價。 此外，該計劃是根據《市區重建局條例》公布，將按照市建局沿用的收購及安置政策。市建局在獲得行政長官會同行政會議核准進行該計劃後，將會向受影響業主提出收購建議，自住住宅物業的收購價為住宅物業市值交吉價，加上一筆特惠津貼 (即自置居所津貼)。因此並非強奪居民的權益。
516.	● 過渡期給予社員一個面積相若的居住單位或繼續在現址單位免租居住，直至樓換樓計劃或安置屋邨單位入伙後始收回舊單位 ● 過渡期或提供租金津貼，以便租住一個面積相若的居住單位	備悉意見。根據2018年《施政報告》指示，該計劃須按照市建局沿用的推展項目方式進行，包括市建局沿用的收購、租戶特惠津貼及安置政策，而租金津貼並不符合上述政策，市建局亦不會為受影響的業主提供過渡性房屋。 市建局明白業主需時尋找重置單位，因此，自住的業主可在物業完成買賣時與市建局簽訂准用協議並

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A) 支持意見 Support Comments (134 comments in total)		
		繼續於受影響單位居住一段指定時間，讓業主能夠有足夠時間尋找重置單位作搬遷安排。
521-526.	賠償計算天井面積	備悉意見。根據市建局現行政策，物業的收購價是根據物業的實用面積計算。市建局會委聘顧問公司，以計算該計劃內所有受影響業權的實用面積及附屬面積。實用面積的定義，是根據香港測量師學會於 1999 年 3 月制定的「量度作業守則」及於 2014 年 7 月所發出的「量度作業增補守則」之定義作為標準。在物業內的任何違法構築物 (如有)，不會計算其面積及相應的收購金額。 顧問公司在計算該等業權的面積時，一般會參考於田土廳已登記的文件及圖則(如轉讓契約、買賣合約及大廈公契等)，及屋宇署最後批核的相關建築圖則(如有) ， 計算業權範圍內擁有的面積。業主必須確保擁有其物業或相關附屬面積的妥善業權。
***意見類別二：有關社區更新方面**		
16, 18, 41, 43, 46, 58, 64, 65, 100, 118, 120, 125, 204, 380, 409, 449, 480, 553, 593, 594, 621, 625,	● 支持重建。地盤鄰近土瓜灣站，交通方便同時可善用剩餘地積比興建高密度樓宇，增加大量房屋單位	備悉意見。該計劃旨在落實《施政報告》的目標，透過充分利用合作社地段的發展潛力，房屋供應將增加約 5 倍，由現時約 460 個增加至約 2,300 個房屋單位。因應《施政報告》的最新政策指引，該計

Ref Nos. 參考編號	Consolidated / Extracted Comments 綜合意見 / 意見節錄	URA's Responses 市建局之回應
A) 支持意見 Support Comments (134 comments in total)		
627, 633, 687, 689, 716, 731.	● 重建能騰出更多珍貴的市區土地，同時增加公營房屋供應，縮短公屋輪候時間，改善房屋問題	劃若獲得批准，市建局會預留部分土地興建「首置」房屋，以協助收入較高但仍未能購買私樓的家庭置業。
17, 24, 98, 101, 105, 119, 121, 177, 235, 292, 368, 379, 480, 508, 593, 623, 648, 714, 717, 721.	● 支持重建。重建後能增添新式樓宇、新建購物街及商場，以及提供公眾休憩空間及社區設施，改善市貌，活化社區，為舊區帶來新景象 ● 希望規劃設計時能平衡商場及特色小店，保留舊區特色	備悉意見。該計劃是回應 2018 年及 2019 年政府《施政報告》的邀請，沿用市建局推展項目的方式，物色一至兩個適合的合作社地段作為重建試點。就《施政報告》中提及，該計劃除了以重建合作社樓宇釋放土地發展潛力，增加房屋供應外，亦藉著重建的機會，透過重整及重新規劃，將地面街道納入發展，以增加可用樓面面積及地盤的規劃裨益。 按初步計劃，該計劃的地盤除一般私營房屋外，南面約三分之一的面積，會作首置房屋單位惠及社會。透過重新規劃，該計劃亦會為社區帶來更大社會裨益，惠及區內居民。當中擬建的地下購物街將連接毗鄰項目的土瓜灣站兩個出入口，並融合地面步行街的設計，串連成為一個多層行人道網絡，改善地區的連接性及暢達性，並透過合適的園林景觀和城市設計，為居民提供更佳的步行環境。除地下購物街， 該計劃初步設計提供一層地面商鋪，希望

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A) 支持意見 Support Comments (134 comments in total)		
		地面步行道兩旁提供沿街小鋪，維持街道活力及小街小鋪的地區環境。 此外，該計劃亦會提供政府、機構或社區設施，為社區提供多元活動空間，以滿足社區需要。
66, 122.	為長者及下一代的利益著想，支持重建	備悉意見，並感謝支持。
127, 627.	● 支持重建，可啟動樂民新村重建 ● 希望將來可擴展至其他地區	備悉意見。樂民新村的重建計劃將由政府和房協商討決定。 該計劃將可與市建局早前在土瓜灣區以小區發展模式來開啟的重建項目發揮更大的協同效應，促進九龍城的地區更新。
***Comment Category 2: Urban Renewal**		
21, 23, 178, 475, 719.	● Redeveloping old buildings can bring about a new image for To Kwa Wan and improvements on the urban environment by addressing the lack of services and facilities such as shops and parks. ● Redevelopment can bring benefits to residents of To Kwa Wan.	Noted. Through the redevelopment of the Scheme, residential buildings with better modern standard GIC/ retail facilities as well as open space will be provided within the Scheme to improve the living environment in the district.
39.	Support redevelopment for the sake of future generations.	Noted and thank you.

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A) 支持意見 Support Comments (134 comments in total)		
410.	Redevelopment can increase housing supply.	Noted. The Scheme aims to fulfill the objectives of the Policy Address 2018 and 2019 (PAs), to increase housing supply by full utilisation of the development potential of the cluster of Civil Servants' Co-operative Building Society (CBS) Scheme sites. In addition, in response to the latest directive under the PAs, about 950 flats will be allocated to Starter Home units within the Scheme to increase different types of housing supply in the district.
***意見類別三：有關居住環境方面**		
19, 32, 49, 55, 63, 65, 99, 100, 103, 116, 117, 203, 234, 318, 321, 322, 345, 381, 411, 477, 521-526, 591, 641, 688, 718.	● 支持重建，現時樓宇太舊缺乏維修，漏水問題嚴重，石屎剝落，亦有倒塌風險 ● 需要恆常保養工作但維修費昂貴且成效甚微，居民沒有固定收入，難以長期承擔高昂的維修費	備悉意見。透過該計劃的重建，將提供設有現代化設施的樓宇，改善該區的居住環境。
20, 29-33, 44, 47-49, 57, 62, 104, 105, 116, 117, 199, 233, 293, 321-324, 409, 479, 506, 508, 554, 592, 686, 712, 713, 721.	支持重建，現時樓宇沒有電梯，長者、傷殘人士、孕婦上落樓梯比較困難。沒有電梯對訪客探訪或搬運重物時也構成不便，影響居民日常社交及生活便利。期望重建後好搬入有電梯的新式樓宇	備悉意見。根據核准一般建築圖則，該計劃內的所有樓宇均沒有電梯或其他無障礙設施，而該計劃的重建樓宇將設有現代化設施包括電梯及無障礙設施，改善該區的居住環境。

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A) 支持意見 Support Comments (134 comments in total)		
51.	現時樓宇設計只有一條走火通道，若發生火警會造成慘劇，只能透過重建解決問題	備悉意見。透過該計劃的重建，將提供設有現代化設施的樓宇，改善該區的居住環境。
55, 56, 343, 641.	● 公務員合作社沒有管理處或保安員看守，陌生人能隨意進出，構成治安問題 ● 衛生環境不理想，鼠患問題嚴重，重建能改善治安及衞生問題	備悉意見。該計劃的重建樓宇將設有現代化設施，可改善該區的居住環境和治安問題。
***Comment Category 3: Living Environment**		
22, 25, 28, 126, 180, 294, 410.	The buildings are old and have no elevators which caused inconvenience for visitors and wheelchair users. Users find it difficult to carry heavy suitcase or large objects upstairs.	Noted. According to the approved GBP, none of the buildings within the Scheme is served by lift or barrier-free access. Subject to the approval by the CE in C to implement the Scheme, the URA will offer an owner-occupier of domestic property the market value, plus an ex-gratia allowance (namely home purchase allowance, HPA). As an additional option to cash offer, 'Flat-for-Flat' (FFF) option (in-situ or in the same district or at available sites) will also be offered by the URA for affected eligible owner-occupiers. The cash offer and FFF option allow the owner-occupiers to rehouse in a suitable unit improving their living environment.

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A) 支持意見 Support Comments (134 comments in total)		
27, 50, 475.	The buildings conditions are poor. There is an urgency to redevelop the old flats.	Noted.
622.	The buildings are deteriorated with structural problems and fire safety concern. There is only one fire escape route with inadequate fire hydrants and building services equipment.	Noted. Through the redevelopment of the Scheme, residential buildings with better modern standards will be provided to improve the safety of buildings.
***意見類別四：有關市建局項目程序 / 重建方面**		
26, 43, 44, 46, 47, 57, 63, 103, 106, 117, 118, 125, 128, 177, 203, 233, 234, 506, 625, 641, 687, 688, 731.	市建局應盡快推行，啟動重建	備悉意見，並感謝支持。
104, 128, 175, 236, 291, 590.	支持重建但希望市建局能盡快解答居民對收購、安置等的疑問，及公佈更多相關資料，有居民因資訊混亂感困惑	備悉意見。受新型冠狀病毒疫情影響下，為避免人群聚集，減低居民及工作人員受感染的風險，市建局於 2020 年 5 月 22 日開展該計劃時，向受影響人士提供預先錄製的項目簡介影片以取代過往舉辦的公眾簡報會。該影片使居民能夠在疫情期間安全了解該計劃的內容，包括該計劃的規劃程序、該計劃若得到批准實施後的市建局物業收購及遷置安排，以及協助解散合作社安排。

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A) 支持意見 Support Comments (134 comments in total)		
		由於疫情和政府為預防及控制疾病而制定的人群管制於 2020 年 6 月及 7 月初逐步放寬，市建局聯同政府代表於 2020 年 7 月 6 日及 7 日，為該計劃的受影響的人士舉行了三場簡報會，作額外的平台並收集意見。在會上市建局及相關政府代表向參加者講解凍結人口調查、規劃、收購、租戶特惠津貼及安置、解散合作社及補地價等問題。 市建局於 2021 年 11 月 22 至 24 日為該計劃的受影響居民舉行了 9 場居民會，發放規劃、最新收購物業之準則及安排並收集他們的意見。 此外，市建局於 2022 年 10 月 14 日向該計劃的受影響居民發放有關解散合作社、收購物業及收回土地補償安排的最新資訊。 市建局已開始進行「夥伴同行」探訪計劃，深入解釋政策及項目的最新進展、補償及遷置安排，以及時間表等等，而且透過不同途徑與居民保持溝通及交流，以釋除居民的疑慮。

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B) 反對意見 Object Comments (662 comments in total)		
***意見類別一：有關規劃設計及對周邊環境的影響**		
74-76, 87, 88, 92-96, 110, 111, 130-144, 147-157, 159, 160, 181, 182, 184-187, 194-198, 206, 213-215, 224, 238-265, 269-278, 281, 295-309, 311, 312, 314-316, 325-329, 337, 338, 349-352, 376, 377, 439, 503, 507, 512, 543, 552, 575-589, 599-616, 628-631, 634-640, 642-646, 649-658, 660-667, 669-671, 673-682, 690-695, 707, 708, 710, 715, 723-730, 733-738, 768, 773, 776, 782, 784, 801, 816, 824, 832, 834, 835, 838, 873.	● 重建計劃興建高層大廈形成屏風效應，空氣流通定必比現在情況差劣，空氣質素定會變差 ● 高樓會形成熱島效應及阻擋光線，亦阻礙其他樓宇景觀	視覺影響評估報告已提交規劃署審批，評估指出現時建議的初步建築佈局和樓宇高度，與周邊的高密度發展如樂民新村、晨樂大廈、都會 151 和翰畋等相容。相比較現有發展，該計劃擬議的步行街將會貫通落山道至浙江街，步行街在陽光照射和兩旁綠化下締造舒適的步行環境；相比較規劃大綱圖所容許的發展規模，擬議設計的最高建築物高度在主水平基準以上 140 米能創造出較大的建築物間距，減少屏風樓效應和遮擋光線的情況，比起主水平基準以上 120 米更擴大視覺空間。 融入以人為本的城市設計概念，為改善行人暢達性和步行環境質素，該計劃包括重新規劃美善同道及江蘇街的一部分，用作興建步行街 / 廣場，該步行街同時亦作為通風廊，促進地面步行環境的空氣流通。 環境顧問已完成空氣流通評估報告及將有關報告提交規劃署審批，評估指出現時建議的初步規劃佈局以及步行街 / 廣場的城市設計，比較規劃大綱圖所

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B) 反對意見 Object Comments (662 comments in total)		
		容許的發展規模，能提昇江蘇街及靠背壟道一帶地面的空氣流通。
74-76, 87, 88, 92-96, 110, 111, 130-144, 147-157, 159, 160, 181, 182, 184-187, 194-198, 206, 210, 238-265, 269-278, 295-309, 311, 312, 314-316, 325-330, 332-336, 349-352, 376, 377, 401-403, 407, 408, 439, 512, 548, 551, 552, 575-589, 600-616, 628-631, 634-640, 642-646, 649-658, 660-667, 669-671, 673-682, 690-695, 707, 708, 710, 715, 723-730, 732-738, 751, 773, 776, 782, 784, 816, 824, 832, 834, 835, 838, 871, 873.	● 反對規劃的步行街及商場，土瓜灣的傳統購物區集中在馬頭圍道以東，規劃中設立步行街不恰當， 令整個土瓜灣區人流混雜 ● 土瓜灣已有大量做內地遊客生意而非售賣民生用品的藥房，金鋪，假冒貨店等，增設商店街只會增加更多此類影響民生的商店 ● 美善同道已長期有旅遊巴停泊，購物街會吸引更多遊客滋擾民居，打擾居民作息時間影響民生，計劃步行街是多此一舉，摧毀內街寧靜	該計劃建議的非住用地積比為 1，低於九龍區住宅(甲類)的非住用地積比 1.5，因此商業零售部份的樓面面積是少於一般規劃大綱圖規定的發展。 此外，該計劃內商業零售設施的設計將配合步行街，主要提供小街小鋪作零售及服務予當區居民。規劃報告中亦有提及，擬議的步行街只會在合理的時間內對外開放，以避免在對居民造成滋擾。
130-144, 147-157, 159, 160, 181-187, 194-198, 206, 238-265, 269-278, 295-309, 311, 312, 314-	規劃擾亂原有街道，窒礙疏導交通，增加大量人口，令社區更擠迫，空氣污濁，認為在交通未妥善下不宜增加更多人口	交通顧問已把增加泊車位的交通影響評估報告提交運輸署審批。該計劃範圍內現有路邊泊車位約 100 個，重建建議提供地下公眾停車場，提供約 164 個公共停車位供區內居民使用，及將原有作行車車道

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B) 反對意見 Object Comments (662 comments in total)		
316, 325-329, 349-352, 376, 377, 439, 507, 512, 575-589, 600-616, 628-631, 634-640, 642-646, 649-658, 660-667, 669-671, 673-682, 690-695, 707, 708, 710, 715, 768, 776, 782, 784, 801, 816, 824, 832, 834, 835, 838, 873.		的美善同道及江蘇街改為行人街 / 廣場，創造更多無車綠化空間。這些建議有助減少在路面泊車或違例泊車情況，預計可以令附近路面更加暢通及改善路邊空氣質數。 此外，該計劃重新規劃現有美善同道的掘頭路，將減少車輛窄路調頭而產生對行人的危險。
130-144, 147-164, 167, 168, 172-174, 181, 182, 184-187, 194-198, 206, 211, 212, 215, 216, 220-223, 226-232, 238-265, 269-278, 284-290, 295-309, 311, 312, 314-316, 325-329, 349-352, 439, 503, 507, 512, 575-589, 600-616, 628-631, 634-640, 642-646, 649-658, 660-667, 669-671, 673-682, 690-695, 707, 708, 710, 715, 723-730, 733-738, 751, 753, 768, 776,	● 沙中線地盤已長期滋擾重建選址附近居民及老人院長者的生活及健康，不希望繼續被工程滋擾 ● 若重建開始地鐵出入口將變成地盤，令居民不能享用地鐵的便利 ● 重建選址附近不少樓宇已出現裂縫有結構危機，重建工程會令危機加劇 ● 建造地下街工程產生噪音沙塵，連同其他工程會增加蟲患及鼠患，影響環境衞生	透過該計劃的重建，可釋放土地發展潛力。除增加房屋供應外，將提供設有現代化設施的樓宇，改善該區的居住環境，亦會提供更多社區設施，為社區帶來更大社會裨益，惠及區內居民。 然而，市建局理解重建會在施工期間可能對鄰近居民造成噪音滋擾及其他環境問題。市建局的環境顧問已將環境評估報告提交環境保護署 (環保署) 審批，評估了該計劃在建築過程中對空氣的潛在影響，並提出相應的緩減措施。 此外，市建局會要求承建商盡量減低工程期間的環境影響，包括必須符合環保署對工程噪音的時間管

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B) 反對意見 Object Comments (662 comments in total)		
782, 784, 816, 824, 832, 834, 835, 838, 871, 873.		制，注意隔音及衛生等問題，並且進行密切的監察，以確保施工時對周邊樓宇的結構不會造成影響。
171, 282, 283, 397, 398, 404-406, 545, 546, 549, 551, 732.	興建公營房屋只會吸引更多新移民來港享用福利，香港人不能受益，重建並非為香港人提供單位，反對更多內地新移民遷入社區	根據 2020 及 2021 年《施政報告》，政府委託市建局為市場提供更多首置單位。固市建局會在該計劃內提供私人樓宇及「首置」房屋，以增加私樓的房屋供應及協助收入較高但仍未能購買私樓的家庭置業。 因應以上的修定設計，市建局將會向城規會提交規劃報告書的補充資料以供城規會審議.
822.	新公共休憩空間於合理時間給公眾使用，此舉限制居民自由使用	該計劃建議位於地面層的休憩用地只會於合理時間內供公眾使用，以避免在深夜對居民造成滋擾。 該計劃仍處於規劃階段，如該計劃獲得行政長官會同行政會議的核准，休憩用地供公眾使用的開放時間將以其後實施及營運計劃階段為準。
***Comment Category 1: Planning and Design and Impact on Surrounding Environment**		
386, 448, 762, 845, 848, 878.	• The redevelopment would block the view of my home. • Higher urban density would cause noise pollution, air pollution and security issue.	Visual Impact Assessment (VIA) has been conducted and submitted for the approval of Planning Department. According to the assessment, the proposed building layout and

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	● Redevelopment will destroy the tranquility of the neighbourhood.	building height is compatible to the high density developments including Lok Man Sun Chuen, Morning Joy Building, City 151 and 80 Maidstone Road in the surrounding environment. Comparing the existing development, the pedestrianised avenue / plaza of the Scheme linking Lok Shan Road and Chi Kiang Street will provide a better view from short viewpoints at the existing Maidstone Road to the south. Comparing the proposed Scheme to the development parameters under the prevailing Outline Zoning Plan, the building separation will be larger under 140mPD building height restriction. The blockage of views will be reduced. Environmental Assessment (EA) has been conducted by the consultant and submitted for the approval of Environment Protection Department (EPD). The potential air pollution during construction period of the Scheme is assessed with mitigation measures proposed to minimize adverse effect to the surroundings. The URA would closely monitor and request the contractor to minimise the noise generated during

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B) 反對意見 Object Comments (662 comments in total)		
		the construction of the Scheme and to follow and fulfill the noise mitigation measures as stipulated by EPD for construction site.
762, 845, 848, 878.	The no. of parking spaces should be much higher, about 4 times or 7 times of the proposed no. of parking spaces.	TIA has been conducted by the consultant and submitted for the approval of Transport Department. There is no ancillary parking spaces for the existing CBS buildings within the Scheme. The existing number of on-street parking spaces is about 100 within the Scheme. Under the DSP, apart from the ancillary car park for the proposed development, the Scheme proposes to provide a Public Vehicle Park (PVP) to provide about 164 public car parking spaces. The increased number of public car parking space provision will help to alleviate the parking demand and illegal parking condition in the district.
763.	Objection that the total area for GIC facilities and Local Open Space (LOS) be limited to 30% of the total non-domestic GFA. The shortfall for both GIC and LOS was discussed in the meeting for the draft Ma Tau Kok OZP on 3 Jun 2020, which identified a 77% (573) shortfall of subsidized community care places for the elderlies and a 50% shortfall in LOS.	Under the revised design (2022), not less than 2,500m^2 GFA will be reserved to provide appropriate GIC facilities in the Scheme to meet the community needs. A Public Open Space (POS) of not less than 400m^2 will be provided with the Scheme. In addition, the existing Kiang Su Street and Maidstone Road, including its dead-end, will be

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	The proposed 400 sq.m. of LOS in the site makes little difference to address the 6.61 ha. shortfall in the OZP area. The URA redevelopment would add more population bringing more burden on these amenities. Why the shortfalls in community services are not being resolved via the URA developments in the district?	restructured and replanned into a pedestrianised avenue / plaza to provide a car-free environment for public enjoyment. The redevelopment will bring an improvement of the built environment and provide community facilities as well as public space to benefit the community. On the LOS provision, the LOS requirement of 1m^2 per person in accordance with the Hong Kong Planning Standards and Guidelines (HKPSG) will be developed at detailed design stage / GBP stage should the Scheme be approved by CE in C. As stated above, an appropriate portion of GIC and open space provision has been reserved and proposed in the Scheme in order to improve the living environment of the district. However, the shortfalls in community services of the district should be resolved by various means/ parties/ stakeholders in the district, and cannot solely by the URA projects.
*意見類別二：有關收購、租戶特惠津貼及安置政策		

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B) 反對意見 Object Comments (662 comments in total)		
2, 4, 5, 8, 205, 207, 238-265, 269-278, 295-309, 311, 312, 314-316, 325-329, 344, 347, 349-367, 369-371, 373-378, 382, 384, 385, 387-396, 412-424, 429, 430, 434, 435, 437-443, 445, 446, 450, 452, 453, 455-462, 464-474, 482-492, 494-505, 507, 509-512, 528-538, 540-542, 556-567, 569, 570, 572-589, 596, 600-616, 619, 620, 624, 626, 628-632, 634-640, 642-646, 649-658, 660-667, 669-671, 673-684, 690-695, 701-706, 715, 723-730, 733-745, 750, 752-754, 757, 759-761, 764, 766-769, 776, 778, 780-785, 788, 789, 797, 799, 801, 803, 814-816, 821-824, 830-838, 843, 844,	• 市建局未有提出具體收購價，收購條件及賠償方案欠缺透明 • 因未知道賠償方案及地價的詳情，故反對重建項目	該計劃是根據《市區重建局條例》公布，將按照市建局沿用的收購、租戶特惠津貼及安置政策。相關政策已附夾於 2020 年 5 月呈交予地規會的規劃報告書中附錄 11 和 12 內供公眾查閱。 市建局在獲得行政長官會同行政會議核准進行該計劃後，將會向受影響業主提出收購建議，屆時將會提供進一步的資料。

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B) 反對意見 Object Comments (662 comments in total)		
850, 854, 860, 868-870, 872, 873, 876, 877, 880.		
3-5, 8, 78-80, 83-86, 130-144, 146-157, 159, 160, 176, 181, 182, 184-190, 192-198, 200-202, 205-207, 237-265, 269-278, 295-309, 311-316, 325-329, 342, 347, 349-367, 369-378, 382, 384, 385, 387-396, 412-424, 429, 430, 432, 434, 435, 437-447, 452-474, 482-492, 494-503, 505, 507, 509, 510, 512, 513, 515, 517, 528-538, 540-542, 556-567, 569, 570, 572-589, 596, 597, 599-616, 628-632, 634-640, 642-647, 649-658, 660-667, 669-671, 673-682, 690-708, 710, 715, 723-730, 733-745, 750-753, 758-761, 764, 766-769, 771, 776, 778, 780-785, 788-793,	● 補地價安排不公。未散社的舊契上並無補地價條文，只有已散社的分契上有註明，舊契是顯示合作社房屋是政府房屋政策一次性優惠價批地予公務員建屋，而且當年批出的優惠地價已經付清，沒有任何欠款，社員沒有必要補地價 ● 市建局是主導買家，業主並無意圖出售而是被市建局收購物業，不屬市場買賣，所以現時收購要求居民在被收購前補地價的要求並不合理 ● 現時並未有補地價及賠償價的實際金額，導致居民最後能獲得的淨賠償額不明確。居民憂慮扣除補地價後的最終賠償額不足夠在市場重新購入相若面積及質素的安置單位	根據地政總署的資料，政府早年以十足市值的三分之一地價批出合作社樓宇用地，隨後合作社成員在取得相關單位業權的時候，其轉讓契約設有轉讓限制條款，合作社樓宇業主必須先向政府繳付三分之二土地補價才可出售單位。有關補價是業主在取得業權時與政府之間的條款。任何減免均偏離一貫的政府政策和做法，亦對已完成補價的業主不公平。 政府已檢視其土地補價的評估基礎，認為對於個別單位的業權人而言，除非所有業權人均同意重建，他並不擁有該土地的控制權而有重建的選擇，因此自 2020 年 6 月 1 日，若個別公務員合作社單位業主申請撤銷轉讓限制，除非有證據證明該建築物由單一業權人擁有，否則會以「現有用途土地價值」的基礎評估土地補價。此基礎適用於該計劃。 「現有用途土地價值」的補地價為樓面地價的三分之二，並加上合作社現樓及新樓市值的折讓比例。請參照以下假設例子的計算方法：

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B) 反對意見 Object Comments (662 comments in total)		
798, 800, 804, 806, 810, 811, 814-816, 822-824, 829-838, 842-844, 847, 850, 860, 864, 865, 868-870, 872, 873, 876, 877, 880.		(甲) 以「重建價值」基礎計算作簡單說明 $\frac{2}{3}$ x 樓面地價($10,000/平方呎) = $6,666/平方呎 (按樓面面積計) (乙) 以「現有用途土地價值」基礎計算作簡單說明 $\frac{2}{3}$ x 樓面地價($10,000/平方呎) x $\frac{\text{合作社現樓呎價 \$9,000/平方呎}}{\text{新樓呎價 \$18,000/平方呎}}$ = $3,333/平方呎 (按樓面面積計) 在上述假設例子中，土地補價 (乙) 約為土地補價 (甲) 的百分之五十。按現時市況的初步估算，該計劃的單位補地價金額約為每平方呎 3,000 至 3,500 元。由於每宗個案不同 (例如會因應地區及地段、單位座向、樓層及面積及可用地積比等因素不盡相同)，上述假設例子及每平方呎補價只用作參考。 另外，政府減免處理土地補價的行政費，約五萬六千多元以減輕未補地價業主在單位業權轉售所涉及

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		的經濟負擔。政府同時減免因散社而需進行的業權轉讓，所涉及的額外印花稅及從價印花稅。 基於同一項目內每個物業的補地價金額呎價(「補地價單價」)都不相同，若將收購金額扣除補地價金額後，不同物業業主所得餘款的呎價亦將各異。因此，市建局提供劃一補地價單價安排，使所有前合作社社員在同一項目內繳付相同的補地價單價。重建項目內所有未補地價的住宅物業於首次收購建議時最低的補地價單價作為「劃一補地價單價」。 如尚未繳付補地價金額的業主接受市建局發出的收購建議，只須支付以劃一補地價單價乘以單位實用面積計算的補地價金額(「劃一單價補地價金額」)，市建局將支付地政總署發出的補地價金額與「劃一單價補地價金額」之差額。至於已繳付補地價金額的前社員，如已繳付的補地價金額高於「劃一單價補地價金額」，可獲發還一筆等同兩者差額之金額。 此外，前合作社社員可向地政總署遞交申請評估補地價的金額作參考。

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		根據合作社樓宇的土地契約條款，前合作社社員須向政府繳付土地補價，才可以轉讓其單位。業主作為業權人，有履行地契的責任。政府亦為合資格的合作社單位自住業主作出特別安排，讓其可購買由房協在啟德發展區興建和管理的專用安置屋邨的資助出售單位。此外，市建局及地政總署會協調簡化業主繳交補地價的手續。當該計劃獲批准後，市建局會向業主發出收購建議。在同一時間地政總署會提供補地價金額給業主考慮。
3, 5, 8, 78, 84, 130-144, 147-157, 159, 160, 176, 181, 182, 184-190, 192-198, 200-202, 205-207, 237-265, 269-278, 295-309, 311, 312, 314-316, 325-329, 349-367, 369-371, 373-378, 382, 384, 385, 387-396, 412-423, 429, 430, 434, 435, 437-447, 452-474, 482-492, 494-503, 505, 507, 509,	公務員合作社是房屋福利，當時合作社成員需放棄其他房屋津貼以換取合作社地權，現時安排形同剝削原有房屋福利，有違基本法第 100 及 102 條保障公務員待遇不變的條文，居民有權因被剝削福利要求賠償	根據公務員事務局的資料，合作社計劃始於 1952 年，是按資源酌情提供的公務員房屋福利。舊有的公務員房屋福利中包括有作為服務條件提供予合資格人員的公務員房屋福利計劃，例如高級公務員宿舍、自行租屋津貼等。政府一貫的政策是為在職公務員提供公務員房屋福利。 公務員房屋福利是根據個別公務員的聘用條款，以及有關房屋福利計劃的條款及條件提供予合資格的在職人員。合作社計劃是按資源酌情提供的房屋福

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B) 反對意見 Object Comments (662 comments in total)		
510, 512, 513, 515, 517, 528-538, 540-542, 556-567, 569, 570, 572-589, 596, 599-616, 628-632, 634-640, 642-646, 649-658, 660-667, 669-682, 690-708, 710, 715, 720, 723-730, 733-745, 750, 752, 754, 759-761, 764, 767-769, 776, 782-785, 798-800, 803, 804, 806, 810, 811, 814-816, 823, 824, 829-838, 842, 847, 850, 860, 864, 865, 869, 870, 872, 873, 875-877, 880.		利，並非公務員的服務條件，因此合作社計劃不能被視為合作社社員的終身福利。 根據合作社計劃，政府以優惠價批出土地，並提供貸款，讓合資格的公務員可透過成立合作社興建住宅樓宇。計劃的目的是為合作社社員及其家屬提供居所，當時的政策並沒有計劃讓合作社社員取得法定業權。合資格的公務員在成為合作社社員時已被視為享用了公務員的房屋福利。 為回應合作社社員希望取得業權的訴求，政府在1987 年推出指引，容許合作社在取得所有社員同意下解散，將單位及土地業權轉讓予個別社員，相關單位的轉讓契約設有轉讓限制條款，有關業主必須先向政府繳付土地補價才可出售其單位。隨後政府在1993年發出現行的指引取代舊指引，讓合作社在取得 75%社員同意後可申請解散繼而進行分契手續，讓個別社員取得其單位和土地業權成為業主，並於繳付由地政總署根據地契釐定的土地補價後把單位自由轉售。合作社計劃的條款和條件，以及相關標準(包括合作社社籍的申請資格)，一直沿用至今。

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B) 反對意見 Object Comments (662 comments in total)		
		容許合作社解散並讓社員由其所屬合作社取得其單位和土地業權成為業主，並於補地價後自由買賣其單位，是政府提供予社員的一項選擇。至於是否需要申請散社乃合作社的內部事宜。前社員於成為業主後可按自身情況考慮何時向政府補回地價。 此外，該計劃是根據《市區重建局條例》公布，將按照市建局沿用的收購及安置政策。市建局在獲得行政長官會同行政會議核准進行該計劃後，將會向受影響業主提出收購建議，自住住宅物業的收購價為住宅物業市值交吉價，加上一筆特惠津貼 (即自置居所津貼)。因此並非強奪居民的權益。
8, 78-80, 83-86, 176, 194-198, 205-207, 237-265, 269-278, 295-309, 311, 312, 314-316, 325-329, 349-367, 369-374, 376-378, 382, 384, 385, 387-396, 412-423, 429, 432, 434, 435, 437-442, 444-447, 452-456, 458-462, 464-473, 482-492,	市建局應賠償或資助業主因搬遷及裝修衍生出的費用，在過渡期提供無縫無償的住屋安排，津貼過渡單位租金，亦應賠償因遷離後管理費增加的開支	根據市建局現行政策，除自置居所津貼或補助津貼外，住宅物業的業主亦可獲相關費用津貼，以資助業主因購買替代住宅物業而引致的開支，如因出售受影響物業予市建局而支付的律師費及搬遷的相關費用；實際金額將於個別項目進行收購時作實及公佈。 如住宅物業的業主於因出售受影響物業予市建局及購買替代住宅物業時的合理及必須實際開支（即因

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B) 反對意見 Object Comments (662 comments in total)		
494-503, 505, 507, 509, 512, 513, 517, 528-538, 540-542, 556-567, 569, 570, 572-589, 597, 599-616, 628-631, 634-640, 642-647, 649-658, 660-667, 669-671, 673-682, 690-695, 701-708, 710, 715, 723-730, 733-745, 750, 752, 753, 758-761, 767-769, 771, 776, 782, 784-787, 790-793, 814, 816, 822-824, 830-838, 842, 850, 860, 864, 865, 869, 872, 873, 876, 877, 880.		解除受影響物業轉讓限制的法定押記而須向地政總署繳付的行政費用、出售受影響物業予市建局的律師費及購買替代住宅物業的搬遷費、印花稅、地產代理佣金及律師費），多於市建局給予的相關費用津貼，業主可向市建局提出申請發還超出相關費用津貼之開支，惟業主只可就其出售予市建局的每個住宅物業提交一份申請，並必須符合相關資格準則。 根據2018年《施政報告》指示，該計劃須按照市建局沿用的推展項目方式進行，包括市建局沿用的收購、租戶特惠津貼及安置政策，而租金津貼並不符合上述政策，市建局亦不會為受影響的業主提供過渡性房屋。 市建局明白業主需時尋找搬遷單位，因此，自住的業主可在物業完成買賣後，與市建局簽訂准用協議並繼續於受影響單位居住，讓業主能夠有足夠時間購買新單位作搬遷安排。
78, 80, 84, 86, 176, 205-207, 347, 353-367, 369-371, 373-375, 377, 382,	● 合作社房屋鄰近地鐵站出口，樓宇狀況良好，樓價不能與一般假設同區七年樓齡單位或其他	該計劃是根據《市區重建局條例》公布，將按照市建局沿用的收購及安置政策。市建局現行的物業收

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384, 385, 387-396, 412-424, 429, 434, 435, 437, 438, 440-447, 452, 453, 455, 456, 458-473, 482-492, 494-502, 505, 507, 509-511, 513, 528-538, 540-542, 556-567, 569, 570, 572-574, 596, 597, 599, 632, 701-706, 739-745, 750, 752, 759-761, 764, 766-769, 776, 782-785, 789, 798, 800, 801, 804, 806, 810, 811, 816, 822-824, 830-838, 842, 847, 850, 860, 864, 869, 870, 872, 873, 876, 877, 880.	舊樓相比。市建局應以現實相若環境因素的市場樓宇作賠償估價 ● 市建局是購買合作社地段的剩餘發展權，現時估價低估地段應有的價值 ● 質疑測量師行估價時不能於同區找到有高樓底及後園的特色戶作估價比較因而壓低呎價 ● 計算實用面積定義不清楚，質疑賠償估價時何不計算天井及公眾地方面積，以及現時估價方法是否適用於公務員合作社	購準則是根據 2001 年 3 月立法會財務委員會通過的物業收購政策原用至今，作為計算補償的準則釐定，做法行之有效。 市建局在獲得行政長官會同行政會議核准進行該計劃後，將會向受影響業主提出收購建議，自住住宅物業的收購價為住宅物業市值交吉價，加上一筆特惠津貼 (即自置居所津貼)。 自置居所津貼的計算，是指被收購單位市值與假設重置單位價值的差額。假設重置單位為同一地區內與收回單位面積相若的七年樓齡單位，並將假定位於質素與收回樓宇可資比較的假設樓宇內，按收購程序開始時，在特點及交通方便程度方面屬類似地區。假設重置單位位於假設樓宇中層，座向一般和並不享有海景。 獨立測量師進行評估時，會考慮當時在市場上新近成交的買賣及可資比較的個案，並以上述的指引作出評估（包括交通方便程度、面積大小、樓齡、座向等因素作出調整）。估值日期亦盡量貼近發出收

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		購建議的時間，希望收購價能反映市場的最新情況。 按市建局沿用行之有效的方式，將以公開抽籤方式，委託七間獨立顧問公司評估該假設重置單位的呎價，在去除最高和最低價值後，以五個評估價值的平均數作為該假設單位的呎價。而該假設重置單位的呎價，會在整個項目內劃一採用。 根據市建局現行政策，物業的收購價是根據物業的實用面積計算。市建局會委聘顧問公司，以量度該計劃內所有受影響物業的實用面積及附屬面積。實用面積的定義，是根據香港測量師學會於 1999 年 3 月制定的「量度作業守則」及於 2014 年 7 月所發出的「量度作業增補守則」之定義作為標準。在物業內的任何違法構築物 (如有)，不會計算其面積及相應的收購金額。 顧問公司在計算該等業權的面積時，一般會參考於田土廳已登記的文件及圖則 (如轉讓契約, 買賣合約及大廈公契等) ，及屋宇署最後批核的相關建築圖

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		則 (如有)， 計算業權範圍內擁有的面積。業主必須確保擁有其物業或相關附屬面積的妥善業權。
78-80, 83-86, 176, 313, 347, 353-367, 369-371, 373, 374, 382, 384, 385, 387-396, 412-423, 429, 432, 434, 435, 437, 438, 440-442, 444-447, 452, 453, 455-462, 464-473, 482-492, 494-502, 505, 507, 509, 513, 528-538, 540-542, 556-567, 569, 570, 572-574, 599, 701-706, 720, 739-745, 750, 752, 753, 758-761, 767-769, 771, 772, 776, 781, 782, 784, 785, 798, 800, 804, 806, 810, 811, 814-816, 822-827, 830-838, 842, 847, 850, 855, 860, 864, 865, 869, 872, 873, 876, 877, 880.	● 業主及承繼人應有原址安置的選擇和安排 ● 提供原地同等面積新單位安置 / 樓換樓	市建局在獲得行政長官會同行政會議核准進行該計劃後，將會向受影響業主提出收購其物業，自住住宅物業的收購價為住宅物業市值交吉價，加上一筆特惠津貼 (即自置居所津貼)。另外，市建局亦會為受影響合資格的住宅自住業主提供「樓換樓」選擇（在其重新發展項目原址或同區或適當地盤），作為給住宅自住業主的收購建議金額以外的選擇。此外，政府亦決定將一幅位於啟德的用地給房協興建專用安置屋邨，為合資格的合作社單位自住業主作出特別安排，讓其可購買該專用安置屋邨的資助出售單位。專用安置屋邨單位初步預計在 2026 年左右落成，房協會負責日後之營運及單位分配，以及適時公佈預售計劃。
130-144, 147-157, 159, 160, 181, 182, 184-187,	基於大部分居民不願意離開已長居數十年有感情的社區，當中不乏長者擔憂難以適應搬遷後新環境，	「原址原大」方案內提議市建局提供四項現金津貼給合作社業主（即租金津貼、搬遷、新屋裝修及添

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194-198, 205-207, 238-265, 269-278, 295-309, 311, 312, 314-316, 325-329, 342, 344, 349-367, 369-374, 376-378, 382, 384, 385, 387-396, 412-423, 429, 434, 435, 437-443, 445, 446, 452-456, 458-474, 482-492, 494-503, 505, 509, 510, 512, 517, 520, 528-538, 540-542, 556-567, 569, 570, 572-589, 596, 597, 599-616, 628-632, 634-640, 642-647, 649-658, 660-667, 669-671, 673-684, 690-695, 701-708, 710, 715, 723-730, 733-746, 750, 752, 758-761, 764, 765, 767-769, 773, 776, 782-787, 790-793, 802, 816, 817, 824, 830-838, 850, 852, 854, 857, 860, 861, 869, 870, 872-877, 880.	希望在原址終老，故建議市建局以新思維去推行計劃，在原址重建面積相若的單位，安置受影響原居民。市建局應認真正視及考慮部分合作社社員提出的「原址原大安置方案」，讓原居民能獲安置於重建原址裡跟原單位面積相當的獨立安置單位及享用土瓜灣站的便利，分享重建後的成果。原址原大方案亦可以大幅省卻市建局收購成本，維護原居民的應有權益，同時彰顯市建局的創局精神及宗旨	置相關物品津貼、將來35年管理費津貼、業主需支付的補地價津貼）；另外，方案亦要求一間原址原大、不設轉讓限制的新屋及新建的停車場歸合作社業主擁有及使用。 市建局經仔細分析和評估後，認為「原址原大」方案的三個建議均存在執行問題，及會為市建局造成沉重的財政負擔。 ● 原址原大方案提議市建局將地盤南面三份之一的部份改作合作社安置房屋。在市建局提交的修訂設計(2022 年)，該地段在市建局的建議內將會用作提供約 950 個「首置」房屋，以回應《施政報告》的政策指引。因此於地盤南面三份之一的部份提供合作社安置房屋並不可行。 ● 合作社業主要求的四項現金津貼，合共約每平方呎 11,140 元，及一個重建後實用面積平均 1,000 平方呎的新單位。假設新樓呎價約為 22,500 元；合作社業主實際收到的，包括現金津貼加上物業價值，總計約為每平方呎 33,640 元，此金額尚未計算業主要求擁有新建成停車場的價值。此方案下，業主實際收到的遠遠超

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		出根據市建局現行收購及遷置政策所計算的收購價。 ● 此外，按照該「原址原大」方案，以提供 462 個實用面積約 1,000 呎的單位計算，粗略估計，總建築樓面面積將超過 500,000 呎，換言之，市建局往後發展的項目將會減少 500,000 呎，可收回的投標地價或銷售價相應會減少，對市建局構成一定程度的財務負擔。 作為公營機構，市建局必須確保資源用得其所，並秉持審慎理財的原則，確保足夠資源履行市區更新的任務，「原址原大」方案已超出此項原則，亦會影響市建局履行市區更新工作的可用資源，故此，市建局不會考慮「原址原大」方案。
751, 790-793, 844, 868.	市建局網誌中提及到居民可選擇啟德安置房屋是令人反感的；為何居民要放棄 4 房私樓搬至面積只有現今一半的資助房屋，而至今亦無提供安置房屋的單位大小	有關位於啟德的專用安置屋邨將提供足夠資助出售單位，供受合作社試點項目影響的合資格前合作社社員自住業主購買。根據現有資料，按照初步設計概念，有關單位主要為兩房單位，其餘為三房單位。具體之單位面積、間隔和數目均以日後獲批圖則作準，預計有關準則將參考資助出售房屋的規格。政府及房協將會適時公佈預售計劃。

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		另外，如獲得行政長官會同行政會議核准進行該計劃，市建局將會向受影響業主提供收購建議以協助購買重置單位。市建局為合資格的住宅自住業主提供「樓換樓」計劃選擇 (在其重新發展項目原址或同區或適當地盤)，作為給住宅自住業主的收購建議金額以外的選擇。相信業主可根據個別需要以現金補償及「樓換樓」計劃選擇合適的重置單位改善居住環境及生活。
***Comments Category 2: Acquisition, Tenant's Ex-gratia Allowance and Rehousing Policies**		
10-15, 35-38, 40, 52-54, 59-61, 67-72, 77, 89-91, 97, 102, 107-109, 112, 113, 115, 348, 425-428, 431, 746, 762, 794, 841, 845, 848, 850, 853, 858, 878.	● Unfair procedure of asking residents to agree to the plan without informing them the amount of acquisition offer and the outstanding land premium. ● The calculation of land premium by the Lands Department is very non-transparent. ● The URA should be responsible for settling the land premium as the project was not initiated by the residents many of who have no intention to sell.	According to the Lands Department, under the CBS Scheme, land was granted at a concessionary premium of one-third of the full market value of the land concerned and the outstanding land premium was two-thirds of the full market value. The Government has reviewed the basis for land premium assessment. An owner of an individual unit does not possess the land title while redevelopment needs the agreement of all owners. Thus, starting from 1 June 2020, "Existing Use Land Value (EULV)" will be adopted as the basis for assessment when an individual owner of CBS unit

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		applies for the removal of the alienation restriction unless there is proof of single ownership of the building. This basis is applicable to the Scheme. The outstanding land premium on the basis of EULV is equal to 2/3 of the accommodation value times the ratio of the price of the existing CBS building and a new building, assuming the old and new buildings are of similar GFA in the same district. A hypothetic example is shown below: (A) On the basis of "Redevelopment Value (RDV)" $\frac{2}{3}$ x Accommodation Value ($10,000/ft^2) = $6,666/ft^2 (based on GFA) (B) On the basis of EULV $\frac{2}{3}$ x Accommodation Value ($10,000/ft^2) x $\frac{\text{Unit Price of CBS existing flat } \$9,000/ft^2}{\text{Unit Price of New flat } \$18,000/ft^2}$

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		= $3,333/ft^2 (based on GFA) From the above hypothetic example, the outstanding land premium of (B) is 50% of that of (A). Based on preliminary estimates of the prevailing market situation, the land premium for the units within the Scheme is about $3,000-$3,500/ft^2. The above hypothetic example and premium per square foot are only for reference as individual case is different due to different factors including location, orientation, floor, unit size and permissible PR, etc. Moreover, the administrative fee for the removal of the alienation restrictions at about more than $56,000 chargeable by the Lands Department was waived. The ad valorem stamp duty and additional stamp duty regarding the property transaction after the dissolution of Co-operative Building Society were also exempted by the Government. In view of different unit rates of Premium for different properties within the same project, the net amount per square foot received by owners would be different after deducting the Premium from the

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		acquisition amount. Therefore, URA adopts levelling adjustments by making reference to the lowest unit rate of the Premium at the time of URA's initial acquisition offers for all the residential properties of which Premium have not yet paid, so as to ensure that all the ex-members of the CBSs in the same project would pay the same unit rate of Premium. Besides, (ex) CBS members can submit application to the Lands Department for the assessment of the outstanding land premium for their information. Subject to the approval by the CE in C to implement the Scheme, the URA will offer an owner-occupier of domestic property the market value, plus an ex-gratia allowance (namely HPA). The amount of HPA payable to individual owners is the difference between the value of a notional replacement flat and the market value of the property being acquired. The notional replacement flat, based on a seven-year-old flat of a size similar to the flat being acquired and in the same locality, is assumed to be in a comparable quality building,

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		situated in a similar locality in terms of characteristics and accessibility at the beginning of the acquisition process. The notional replacement flat will be situated at the middle floor of a notional building with average orientation, i.e. not facing south or west, and without sea view.
191, 426-428, 431, 436, 598, 746, 762, 841, 845, 848, 853, 858, 878.	The plan is ill-founded and takes away the rights and benefits of the civil servants and violate the Basic Law.	According to the Civil Service Bureau, the CBS Scheme was launched in 1952. It is a discretionary housing benefit where the provision is subject to resource availability. Among the old forms of civil service housing benefits, there are civil service housing benefit schemes provided to eligible officers as a condition of service, e.g. Non-departmental Quarters, Private Tenancy Allowance, etc. It has been the Government's policy all along that civil service housing benefits are provided for serving officers. The provision of civil service housing benefits is governed by the terms of appointment of individual officers and the eligibility criteria and terms and conditions of the respective housing benefit

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		schemes. The CBS Scheme is a discretionary housing benefit where the provision is subject to availability of resources. The CBS Scheme is not a condition of service and hence cannot be regarded as a life-long housing benefit of CBS members. According to the CBS Scheme, the Government provided grant of land at concessionary price and low-interest loans to groups of eligible civil servants who formed CBSs for building blocks of flats for the occupation of CBS members and their family members. The CBS Scheme did not aim to allow CBS members to possess the relevant legal title. An eligible civil servant is considered to have enjoyed the civil service housing benefit when he/she became a CBS member. To address the demands of CBS members to acquire legal titles of their flats, the Government introduced guidelines in 1987 to permit the transfer of the titles to the respective flats and land to individual members upon the dissolution of CBSs with the consent of all members. The flats concerned are subject to alienation restrictions. The owners of flats have to pay the land premium

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		to the Government before selling their flats. The Government then issued the existing guidelines in 1993 to replace the old ones, under which a CBS may, upon obtaining the consent of 75% of its members, apply for dissolution. Individual members may then acquire titles to their flats and land by deed of assignment to become owners, and transfer their flats as they wish upon payment of a land premium as determined by LandsD according to the lease conditions. The terms and conditions of the CBS Scheme, and the relevant criteria (including eligibility criteria for CBS membership) have been adopted up till now. It is an optional arrangement for CBS members to decide whether to dissolve their CBS and acquire the legal titles to the flats and land to become owners, and transfer their flats as they wish upon payment of a land premium. Whether to apply for dissolution is the internal matter of the CBS concerned. Upon becoming the owners of flats, former CBS members may consider when to pay the land premium to the Government according to their own situation.

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B) 反對意見 Object Comments (662 comments in total)		
346, 493, 746, 794.	● URA should provide rental subsidy during the transition period before the new properties are available for the affected residents to move back in. ● There should be better interim arrangements such as providing relocation expenses as many residents are retirees who cannot rent apartments.	The Scheme is commenced in accordance with the URAO and the usual project implementation approach, including prevailing acquisition and rehousing policies, adopted by the URA. The prevailing acquisition principle of URA is based on the property acquisition policy approved by the Finance Committee of the Legislative Council in March 2001 as the principle of compensation calculation. The amount of HPA payable to individual owners is the difference between the value of a notional replacement flat and the market value of the property being acquired. The notional replacement flat, based on a seven-year-old flat of a size similar to the flat being acquired and in the same locality, is assumed to be in a comparable quality building, situated in a similar locality in terms of characteristics and accessibility at the beginning of the acquisition process. The notional replacement flat will be situated at the middle floor of a notional building with average orientation, i.e. not facing south or west, and without sea view.

Ref Nos. 參考編號	Consolidated / Extracted Comments 綜合意見 / 意見節錄	URA's Responses 市建局之回應
B) 反對意見 Object Comments (662 comments in total)		
		Following the prevailing practice, the URA will appoint 7 independent consultants by open ballot to assess the value per saleable area of the notional replacement flat. The average of the 5 assessed values after removing the highest and lowest values will be adopted for the whole Scheme. In addition to HPA or Supplementary Allowance (SA), the URA will offer an Incidental Cost Allowance (ICA) to owners of domestic properties to assist payment of removal expenses and expenditure relating to the purchase of a domestic replacement flat. If the amount of necessary and reasonable expenses actually incurred by the owner of a domestic property in selling the affected property to URA (i.e. legal cost) and purchasing a domestic replacement flat (i.e. removal cost, stamp duty, agency fee and legal cost) exceeds the amount of ICA offered by URA, the owner may be reimbursed with the difference subject to certain eligibility criterion. As stated in PA 2018, the Scheme is commenced in accordance with the usual project

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B) 反對意見 Object Comments (662 comments in total)		
		implementation approach, including prevailing acquisition and rehousing policies, adopted by the URA and the interim rental subsidies deviates from the above policies.
346, 348, 746, 784, 794, 830, 845, 850, 876.	● The residents should be allowed to resettle in a FFF unit in the same location with similar gross floor area as their previous homes. ● The location of the unit in the new development for rehousing affected residents should as far as possible be the same as the location of the properties they live.	According to the new URS 2011, and as far as relevant legislation allows, the URA will offer FFF arrangement (in-situ or in the same district or at available sites) to affected eligible owner-occupiers of domestic properties. Under such arrangement, new flats will be made available in a URA new development in-situ or URA development(s) in the same district or available sites at market value, as an additional choice to cash offer to such owner-occupiers. The size of units offered for FFF is subject to further study and decision of the URA.
348, 386, 426-428, 436, 481, 493, 668, 685, 746, 748, 762, 830, 845, 846, 848, 850, 876, 878.	● There is a lack of clear resettlement strategy for elderly residents. The compensation after deducting the land premium is not sufficient to buy a unit of similar size in the same district. ● It is unfair for the residents and elderlies to be resettled in inferior quality public housing in a new district which lack basic amenities.	If the proposed Scheme is implemented, the URA will offer FFF option (in-situ or in the same district or at available sites) while the Government will offer an alternative option of the DRE at KTDA in Kowloon City District for those eligible domestic owner-occupiers, especially the elderly, as additional choices to cash offer. These choices provide an option for the owner-occupiers to rehouse in the same district.

Ref Nos. 參考編號	Consolidated / Extracted Comments 綜合意見 / 意見節錄	URA's Responses 市建局之回應
B) 反對意見 Object Comments (662 comments in total)		
425-428, 746, 794, 845.	● The existing valuation method is not transparent and it is unfair especially for the one who is living on the ground floor with the yard. ● The valuation method should also consider common area in calculating compensation.	Calculation of the acquisition offer of a property is based on the saleable area of the property. The definition of saleable area shall follow the Code of Measuring Practice issued in March 1999 and the Supplement to the Code of Measuring Practice issued in July 2014 by the Hong Kong Institute of Surveyors. According to the Code of Measuring Practice, the saleable area of a unit comprises the floor area exclusively allocated to that unit including balconies and other similar features. The URA will appoint independent consultant to calculate the area of the property, including the saleable area and the area of its ancillary accommodation (if any). Subject to the owner having good title to the property or any part thereof, the area calculation of a property will normally base on the plans and documents (such as Assignment, Agreement for Sale and Purchase or Deed of Mutual Covenant etc.) registered in the Land Registry in addition to the latest approved general building plans available in the Buildings Department (if any).
762, 830, 845, 848, 876, 878.	The URA should provide multiple compensations to residents, including: a special one-off land	Subject to the approval by the CE in C to implement the Scheme, the URA will offer an owner-occupier

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B) 反對意見 Object Comments (662 comments in total)		
	premium discount, monetary compensation to cover future homes before the final satisfactory settlement, compensation for all relocation expense, compensation for the deprivation of rights to rebuild the cooperative in the same land later, compensation for the purchase private residential units if owners prefer not to worry about future land premium debt, transparent information of land premium calculation and enough time for consideration, option to resettle with units of similar sizes in the same site, chance for residents to present their ideas for resettlement units, share the future return of redevelopment. The acquisition terms should be similar to that of Belcher's ex-western district CBS redevelopment.	of domestic property the market value, plus an ex-gratia allowance (namely HPA). The amount of HPA payable to individual owners is the difference between the value of a notional replacement flat and the market value of the property being acquired. The notional replacement flat, based on a seven-year-old flat of a size similar to the flat being acquired and in the same locality, is assumed to be in a comparable quality building, situated in a similar locality in terms of characteristics and accessibility at the beginning of the acquisition process. The notional replacement flat will be situated at the middle floor of a notional building with average orientation, i.e. not facing south or west, and without sea view. As an additional option to cash offer, FFF option (in-situ or in the same district or at available sites) will also be offered by the URA for affected eligible owner-occupiers. Besides, the Dedicated Rehousing Estate (DRE) near Muk Chun Street in Kai Tak Development Area (KTDA) developed and managed by the Hong Kong Housing Society (HKHS) is another option offered at a discount

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B) 反對意見 Object Comments (662 comments in total)		
		market price similar to subsidized housing by the Government as mentioned in PA in 2018.
794.	It would be very unfair and unreasonable if my brother is not regarded as owner-occupier for the purpose of determining whether he is eligible for Home Purchase Allowance, participation in "Flat-for-Flat" Scheme and purchase of subsidized sale flat of dedicated housing estates developed and managed by the Hong Kong Housing Society, as he is the successor of the CBS membership but has already got married and moved to a separate residence.	Individual case of ownership or owner-occupier status of the unit will be reviewed and considered with reference to the actual situation and the prevailing policies after CE in C approval of the Scheme when the offer is made.
794.	For the option of buying subsidized sale flats of dedicated rehousing estate to be developed and managed by the Hong Kong Housing Society, is the size of the flats similar to the size of the CBS accommodation affected by the Scheme each with saleable area of over or close to 1,000 square feet and with high ceiling? If not, is it that each affected household may purchase 3 to 5 units such that the total saleable area of the units bought is no less than the saleable area of existing CBS property including the verandah?	According to the Development Bureau, other than those eligible CBS owner-occupiers who do not join FFF arrangement (in-situ or in the same district or at available sites) under URA's prevailing compensation package, the subsidised sale flats (SSFs) of the DRE near Muk Chun Street in KTDA is an alternative option offered at a discounted price based on a mechanism similar to that for other subsidised housing provided by the Government. According to the current information, mainly 2-bedrooms and 3-bedrooms units will be provided in accordance with the preliminary design concept of the DRE. Actual unit sizes, layout and number of

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		the SSFs, which would make reference to the specifications of subsidised housing flats, are subject to the approved building plans. Details of the DRE will be provided by the Government and HKHS in due course.
***意見類別三：有關對社區網絡 / 社區設施的影響**		
2, 78, 84, 130-144, 146-157, 159, 160, 176, 181, 130-144, 147-157, 159, 160, 181, 182, 184-187, 194-198, 205-207, 237-265, 269-278, 295-309, 311, 312, 314-316, 325-329, 347, 349-367, 369-371, 373-378, 382, 384, 385, 387-396, 412-423, 434, 435, 437-443, 445, 446, 450, 452-456, 458-462, 464-474, 478, 482-492, 494-503, 505, 507, 509-512, 520, 528-538, 540-542, 556-567, 569, 570, 572-589, 595, 596,	● 珍惜現時社區的人脈，對社區有歸屬感，重建會破壞居民與街坊數十年的關係及生活圈習慣 ● 該計劃內長者比例高，已習慣區內的生活模式、多年建立的人際網絡及醫療網絡，重建將迫使長者重新適應新環境；社區服務隊無法取代原有社區網絡 ● 社會影響評估報告（第二階段）亦指出居民收入偏低，其中不少已退休，重建後住屋支出將會增加，遷離後亦恐生活費貴重。重建將會降低居民的生活水平，加上疫情造成經濟及民生損害，大幅增加居民負擔 ● 合作社單位實用面積大，容納同一家庭多代同堂，遷離後難以在市場找到相若單位。如不能原址安置，重建計劃令居民遷離將會製造社會問題，包括長者精神健康、長者難以適應新居	如獲得行政長官會同行政會議核准進行該計劃，市建局亦會為受影響及合資格的住宅自住業主提供「樓換樓」選擇 (在其重新發展計劃原址或同區或適當地盤)，作為建議收購金額以外的額外選擇。此外，政府為合資格的合作社單位自住業主作出特別安排，讓其可購買由房協在啟德發展區興建和管理的專用安置屋邨的資助出售單位，以緩解遷置可能構成的不便。 市建局及社區服務隊會盡量透過向長者提供安置事宜安排上及提供日後要遷往屋邨附近環境的資料，以紓緩長者有關的焦慮。社區服務隊會跟進已遷往新居所的長者個案，亦會舉辦活動協助長者認識社區設施、探訪新社區的社會服務單位及協助轉介至新社區的醫療服務。市建局的「夥伴同行」探訪計

Ref Nos. 參考編號	Consolidated / Extracted Comments 綜合意見 / 意見節錄	URA's Responses 市建局之回應
B) 反對意見 Object Comments (662 comments in total)		
600-619, 624, 626, 628-632, 634-640, 642-646, 649-658, 660-667, 669-684, 690-695, 701-711, 715, 723-730, 733-746, 750-752, 755, 759-761, 764, 767-769, 772, 776, 782-788, 798-800, 802-804, 806, 810, 811, 815-817, 820-822, 824, 826, 827, 830-840, 842-844, 847, 850, 852, 854, 855, 857, 860, 861, 863, 864, 866, 867, 869, 870, 872-874, 876, 877, 880.	住環境、影響家中孩子原區升學、多代家庭離散不能互相照顧等問題。重建消息加劇長者在肺炎疫情、經濟不景下已面臨的巨大精神及心理壓力。有居民指出當年正是為了能和家人同住才放棄其他房屋福利選擇合作社房屋	劃和社區服務隊將會特別關注獨居和二人住戶的長者，採取積極主動的探訪及提供適時的協助。 市建局明白在目前私人樓宇市場，單位普遍以中、小型為主；在重建項目內居住的大型家庭」，難以在市場上尋找較大的單位一同居住。故此，市建局與政府磋商後，為項目推出更具彈性的單位重置方案。合資格的前社員自住業主家庭，如涉及「分支家庭」，在接受市建局的首次收購建議後，可以購買最多兩個專用安置屋邨的資助出售單位。或「樓換樓」計劃單位等不同組合，減低重建對需要「分戶」及大型家庭的影響。
***Comments Category 3: Impact on Social Network / Community Facilities**		
451, 481, 493, 685, 748, 749, 762, 784, 830, 845, 846, 848, 850, 876, 878.	• Redevelopment would be a traumatic experience for the elderlies. The health and well-being of elderlies will be at risk if they are relocated to a new environment and their social network is destroyed. • The project would create financial and emotional problems for families.	If the proposed Scheme is implemented, the URA will offer FFF option (in-situ or in the same district or at available sites) while the Government will offer an alternative option of the DRE at KTDA in Kowloon City District for those eligible domestic owner-occupiers that may contribute to minimize the impacts due to relocation to different district.

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B) 反對意見 Object Comments (662 comments in total)		
		The URA and the Social Service Team (SST) will make an effort to alleviate their anxiety by providing information on the arrangement of rehousing and the new environment surrounding the estate. After their relocation to a new accommodation, the SST will follow up and provide assistance to the elderly. The SST will conduct programs on getting to know the local community facilities, visits to the social service providers, and provide assistance on referral to medical centers in the new neighbourhood. The URA "Project Engagement" team and the SST will follow up the singleton and doubleton elderly households and adopt a proactive approach to deliver prompt assistance to the elderly through home visits.
***意見類別四：有關市建局項目程序 / 重建方面**		
3, 8, 73, 80, 86, 130-144, 147-157, 159, 160, 165, 169, 170, 176, 181, 182, 184-187, 194-198, 206, 237-265, 269-278, 280, 295-309, 311, 312, 314-316, 325-329, 331, 340, 341, 347, 349-367, 369-	● 大部分樓宇並非嚴重失修，狀況尚可及保養良好，樓齡雖大但不是危樓，社會影響評估報告（第一階段）中亦有提及大部分樓宇狀況尚可，因此沒有重建急切需要 ● 重建計劃選址是有違市建局於市區重建局條例及市區重建策略中提及優先處理日久失修樓宇	市建局為回應政府在 2018 及 2019 年《施政報告》中的邀請，根據《施政報告》中所列出適合重建合作社樓宇的特點，考慮不同地盤選址的可用剩餘地積比率、所涵蓋的合作社數目，以及鄰近現有公共屋邨等多項因素，物色一至兩個適合作高密度發展的合作社地段作為重建試點，該計劃是重建試點項目之一。

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B) 反對意見 Object Comments (662 comments in total)		
371, 373, 374, 376, 377, 382, 384, 385, 387-396, 412-423, 434, 435, 437-442, 445, 446, 452-456, 458-462, 464-473, 482-492, 494-505, 507, 509, 512, 528-538, 540-542, 556-567, 569, 570, 572-589, 595, 599-616, 618, 619, 624, 626, 628-631, 634-640, 642-646, 649-658, 660-667, 669-682, 690-695, 701-708, 711, 715, 723-730, 733-740, 745, 750-752, 761, 767-769, 776, 782, 784, 785, 798, 800, 804, 806, 810, 811, 816, 822, 824, 826, 829-838, 842-844, 847, 850, 854, 860, 863, 864, 866, 869, 871, 873, 876, 877, 880.	的宗旨。市建局未能說服居民為何要重建保養良好、管理完善的樓宇 ● 社區與其他舊區相比光鮮整齊，治安良好，晚間清靜，沒有重建需要 ● 計劃應是改善居住環境而不是拆樓	根據核准一般建築圖則，該計劃內的所有樓宇樓齡均為 50 年以上，沒有電梯或其他無障礙設施，對住客和長者出入造成不便，宜居性較差。 該計劃地盤現時被美善同道和江蘇街分割，而道路兩側均有路邊泊車位，行人路約為 2-3 米闊。在土瓜灣港鐵站啟用後，現時有更多的行人途經該計劃內的行人路段，人流相對增加。車輛於現有美善同道的掘頭路窄路調頭會產生對行人的危險。 該計劃內並沒有任何休憩空間供公眾使用，離該計劃最近的公共空間為邊界外的高山道公園。 因此，該計劃旨在落實《施政報告》的目標，透過充分利用地段的發展潛力，增加房屋供應外，市建局亦為該計劃的土地透過重整及重新規劃，提供設有現代化設施的樓宇、休憩空間供公眾使用、人車分隔的地面步行街 / 廣場，並設有園景裝置及種植花木、商業 / 零售用途，以及提供地下街連接港鐵站出口，改善整體居住環境、地區的連接性及暢達

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		性，並透過合適的城市設計，營造更宜居的社區，達致更廣泛的社區裨益，惠及更多有需要的市民。
74-76, 87, 88, 92-96, 110, 111, 130-144, 147-157, 159, 160, 162, 163, 166, 181, 182, 184-187, 194-198, 205-207, 238-265, 269-278, 295-309, 311, 312, 314-316, 325-329, 339, 349-367, 369-371, 373, 374, 382, 384, 385, 387-396, 412-423, 434, 435, 437-442, 445, 446, 452, 453, 455, 456, 458-462, 464-473, 482-492, 494-505, 509, 512, 528-538, 540-542, 556-567, 569, 570, 572-589, 599-616, 618, 628-631, 634-640, 642-646, 649-658, 660-667, 669-671, 673-682, 690-695, 701-711, 715, 723-730, 732-	● 市建局沒有把落山道與美善同里一段的合作社房屋納入計劃中，是為了避免「半山壹號」居民的強烈反對，相反受重建影響較深的樂民新村居民的反對聲音不容易受重視 ● 公務員樓宇狀況良好，重建令現時社區烏煙瘴氣，同一地段而未被納入重建範圍的公務員樓宇及土瓜灣其他舊樓狀況更差，劏房問題惡劣，應先重建其他舊區例如十三街、順寧道 ● 有美善同道 46 號居民質疑市建局何不一拼收回樓宇重建 ● 應先考慮重建其他更殘舊樓宇或低密度住宅區，例如九龍塘、加多利山、跑馬地及銅鑼灣白沙道一帶，更能善用市區土地	市建局為回應政府在 2018 及 2019 年《施政報告》中的邀請，根據《施政報告》中所列出適合重建合作社樓宇的特點，考慮不同地盤選址的可用剩餘地積比率、所涵蓋的合作社數目，以及鄰近現有公共屋邨等多項因素，物色一至兩個適合作高密度發展的合作社地段作為重建試點，該計劃是重建試點項目之一。 該計劃與一小段由落山道至美善同里的合作社樓宇之間，摻雜其他非合作社樓宇，該計劃旨在落實並達到合作社重建試點項目的目標，因此挑選合作社較集中的地段，故該計劃作為重建合作社的試點項目, 不會包含其他周邊非合作社樓宇。

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B) 反對意見 Object Comments (662 comments in total)		
745, 750-752, 759-761, 767-769, 776, 782, 784, 785, 816, 824, 829-838, 850, 860, 869, 871-873, 876, 877, 880.		
123, 130-144, 147-157, 159, 160, 181, 182, 184-187, 194-198, 206, 238-265, 269-278, 295-309, 311, 312, 314-316, 325-329, 349-352, 375, 439, 443, 503, 510, 512, 575-589, 596, 600-616, 628-632, 634-640, 642-646, 649-658, 660-667, 669-671, 673-682, 690-695, 707, 708, 710, 715, 723-730, 733-738, 764, 776, 782-784, 816, 824, 832, 834-838, 844, 850, 860, 869, 870, 873, 877.	社會影響評估報告（第二階段）的結果斷章取義，凍結人口調查突如其來，居民在不清楚細節及賠償安排下回覆，所以報告並不反映現時居民意願	根據《市區重建策略》第 31 及 32 段，公布項目的開始實施日期的目的，是讓市建局可參照這個日期，根據其政策決定受影響人士領取特惠津貼和獲得安置的資格。 市建局會在項目的開始實施日期進行凍結人口調查，以核實受影響人士領取特惠津貼和獲得安置的資格。這項調查應於當日或最多數日內完成，並必須全面而準確，以免有「假冒居民」魚目混珠，入住重建區，濫用補償安排或安置資源及避免有租戶被不公平逼走。 此外，市建局亦會在政府憲報公布建議項目後，進行第二階段社會影響評估及向受影響人士派發社會影響評估問卷，以收集居民對重建計劃的意見，而當中受訪人士的回應並不代表受影響業主已接受市建局的收購建議。

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B) 反對意見 Object Comments (662 comments in total)		
130-144, 147-157, 159, 160, 181, 182, 184-190, 192-198, 200-202, 206, 238-265, 269-278, 295-309, 311, 312, 314-316, 325-329, 349-367, 369-371, 373, 374, 377, 382, 384, 385, 387-396, 412-423, 430, 434, 435, 437-442, 445, 446, 452, 453, 455, 456, 458-462, 464-473, 482-492, 494-502, 505, 507, 509, 512, 513, 515, 528-538, 540-542, 556-567, 569, 570, 572-589, 595, 600-616, 628-631, 634-640, 642-646, 649-658, 660-667, 669-671, 673-682, 690-708, 710, 715, 723-730, 733-740, 745, 750, 752, 758, 761, 767, 769, 776, 782, 784, 785, 816, 824, 830-838, 850, 860, 869, 873, 876, 877, 880.	重建前沒有與公務員事務局溝通處理受影響公務員	基於執行合作社樓宇重建的複雜性和獨特性，在過去兩年多的時間，市建局曾與多個政府部門，在散社、補回地價、支付印花稅、補償方案及公務員房屋福利等事宜召開了多次的跨部門會議，探討不同務實的方案。市建局亦一直與公務員合作社樓宇重建試點項目的居民及業主保持溝通，舉行居民簡報會，與及和相關立法會議員、區議員及業主會面。 就合作社的特別情況，市建局會為社員提供協助及處理，而市建局亦於 2021 年 11 月 22 日至 24 日一共舉行了 9 場意見居民會，以了解相關業主及社員對市建局推行 CBS-2:KC 的想法及意見，收集的意見將協助市建局進一步了解居民對重建的意願。市建局亦會透過「夥伴同行」探訪計劃，主動接觸試點項目內的每個家庭及住戶，詳細解釋項目政策及其他相關資訊。

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280, 751, 768, 822, 843.	● 項目範圍一帶的建築保留了香港舊代的面貌，就保育甚至旅遊來說亦有價值 ● 合作社樓宇有特別建築風格，不能與一般危樓相比。曾經多次有電視劇及電影於社區內取景，重建將會損害文化產業，應保留這個特色小區	合作社樓宇建於 1959 至 1970 年期間，屬於當時政府以優惠價批出土地，並提供貸款，讓合資格的公務員透過成立合作社興建的典型純住宅樓宇，為合作社社員及其家屬提供居所。是次重建計劃並非保育項目，旨在落實《施政報告》對重建合作社樓宇的目標，透過充分利用合作社地段的發展潛力，增加房屋供應。於項目開展時，根據古物古蹟辦事處的記錄，該計劃內的建築群並未有被列入為歷史建築或法定古蹟，亦沒有被列入新增項目名單內等待進行評級。
347, 353-367, 369-371, 373, 374, 382, 384, 385, 387-396, 412-423, 434, 435, 437, 438, 440-442, 445, 446, 452, 453, 455, 456, 458-462, 464-473, 482-492, 494-503, 505, 509, 511, 556-567, 569, 570, 572-574, 595, 701-706, 739, 740, 745, 750, 752, 755, 758, 761, 767-769, 780, 781, 784, 785, 801, 816, 824, 830-837,	市建局公眾簡介會的回答內容不清不楚，沒有嘗試解答居民的疑問亦沒有提供實質有關賠償的資料	市建局聯同政府發展局、公務員事務局及地政總署的代表於 2020 年 7 月 6 日及 7 日，為該計劃的受影響的人士舉行了三場簡報會，並收集意見。在會上市建局及相關政府代表向參加者講解凍結人口調查、規劃、收購、租戶特惠津貼及安置、解散合作社及補地價等問題。市建局並會進行「夥伴同行」探訪計劃，深入解釋政策及項目的最新進展、補償及遷置安排，以及時間表等等，而且透過不同途徑與居民保持溝通及交流，以釋除居民的疑慮。 就合作社的特別情況，市建局亦於 2021 年 11 月 22 日至 24 日一共舉行了 9 場意見居民會，以嘗試解答

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850, 854, 860, 869, 873, 876, 877, 880.		居民的疑問，及了解相關業主及社員對市建局推行 CBS-2:KC 的想法及意見，收集的意見將協助市建局進一步了解居民對重建的意願。
539, 544, 546, 547, 550-552.	反對有區議員提議重建樂民新村，現時生活舒適不希望被重置	市建局的主要職能是進行舊區更新，與香港房屋委員會（房委會）及房協在房屋政策有不同的角色及分工，而公營房屋主要由房委會和房協負責供應和管理。然而，樂民新村的重建計劃將由政府和房協商討決定，不屬於市建局範疇。
617, 801.	土瓜灣區不斷重建，但只是豪宅林立，沒有保育本區特色，居民生活未有改善；政府不應為發展而發展；新增單位有三分之二多為私樓，並非真正惠及普羅市民	該計劃是回應 2018 年及 2019 年政府《施政報告》的邀請，沿用市建局推展項目的方式，物色一至兩個適合的合作社地段作為重建試點。就《施政報告》中提及，該計劃除了以重建合作社樓宇釋放土地發展潛力，增加房屋供應外，亦藉著重建的機會，透過重整及重新規劃，將地面街道納入發展，以增加可用樓面面積及地盤的規劃裨益。 在修訂的設計 (2022 年)，初步設計是將該計劃的地盤除一般私營房屋外，南面約三分之一的面積，將按施政報告方向， 提供約 950 個首置單位供應市場需要。透過重新規劃，該計劃亦會為社區帶來更大

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		社會裨益，惠及區內居民。當中擬建的地下購物街將連接毗鄰項目的土瓜灣站兩個出入口，並融合地面步行街的設計，串連成為一個多層行人道網絡，改善地區的連接性及暢達性，並透過合適的園林景觀和城市設計，為居民提供更佳的步行環境。此外，該計劃亦會提供政府、機構或社區設施，為社區提供多元活動空間，以滿足社區需要。
756, 801, 842, 864.	● 市建局尚未回應第一階段公眾意見，如賠償金等問題便開展第二階段 ● 疫情當前市建局會否延長諮詢期，諮詢過程倉促	在諮詢公眾意見方面，該計劃根據刊憲公告，於 2020 年 5 月 25 日將該計劃的發展計劃草圖，包括第一階段社會影響評估報告呈交予城規會，並於 2020 年 5 月 29 日至 6 月 19 日的三星期時間內收集公眾意見；於 2020 年 7 月 8 日將第二階段社會影響評估報告呈交予城規會，並於 2020 年 7 月 17 日至 7 月 31 日的兩星期時間內收集公眾意見. 市建局已於 2020 年 12 月 30 日向城規會提交對第一階段公眾意見的回應. 然而，鑑於在計劃開展後的諮詢期內，市建局收集了不同意見，當中包括大部份與合作社的土地業權相關問題. 市建局與政府政策局及部門商討後，已於

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		2022 年 10 月 14 日向該計劃的受影響居民發放「有關解散合作社、收購物業及收回土地補償安排的最新資訊」。同時，市建局亦修訂了發展計劃草圖及初步設計，以回應施政報告方向指引， 於計劃內提供約 950 個首置單位，並同時改善設計，以進一步增加建議計劃對地區帶來的規劃裨益。 市建局現連同上述的合作社最新資訊，修訂草圖 (2022 年) 連同這份對第二階段公眾意見的回應提交城規會考慮。 如城規會在考慮草圖後認為該草圖適宜公布，須當作是由城規會為施行《城市規劃條例》(第 131 章) 而擬備的草圖，屆時將按《城市規劃條例》第 5 條展示兩個月以供公眾查閱及收集公眾意見，有關諮詢時間是根據《城市規劃條例》第 5 條訂定，並非由市建局決定。
***Comments Category 4: URA's Planning Procedure and Redevelopment Process**		
9-15, 35-38, 40, 52-54, 59-61, 67-72, 77, 89-91, 97, 102, 107-109, 112,	Misleading information of views of the residents on the Scheme in SIA2 report as the data was	URA has to keep confidentiality of all redevelopment projects (including the pilot projects) and will only disclose the details of the

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124, 346, 425-428, 431, 598.	collected shortly after the project commencement when the residents were ill-informed.	projects when the projects are commenced and published in the Gazette. Commencement of the projects must be kept confidential to prevent any person abusing the compensation system or the rehousing arrangement.
9-15, 35-38, 40, 52-54, 59-61, 67-72, 77, 89-91, 97, 102, 107-109, 112.	URA did nothing to let the residents know about the opportunity to express their comments.	As mentioned in the Gazette, two public consultation periods are provided. After the submission of the DSP to the TPB on 25 May 2020, submission of the public comment was allowed in a period of 3 weeks from 29 May 2020 to 19 June 2020. After the submission of stage 2 Social Impact Assessment (SIA 2) to the TPB on 8 July 2020, submission of the public comment on SIA 2 was allowed in a period of 2 weeks from 17 July 2020 to 31 July 2020. If the TPB deems the DSP as suitable for publication, it will be deemed to be a draft plan prepared by the TPB for the purposes of the Town Planning Ordinance (TPO) (Cap. 131). It will be published under Section 5 of TPO and submission of public comments will be further allowed in a period of 2 months.

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11-15, 35-38, 40, 52-54, 59-61, 67-72, 77, 89-91, 97, 102, 107-109, 112, 436.	URA had no intention of answering questions from the residents in the public briefings and addressing the concerns of the residents.	During the briefing sessions, questions on Freezing Survey, planning, acquisition, tenant's exgratia allowance and rehousing, and CBS dissolution and outstanding land premium issues were addressed at the meeting. 9 briefing sessions were organized by URA on 22-24 November 2021 for members/owners of CBS-2 Development scheme to update and explain the latest planning, acquisition policy, CBS dissolution and outstanding land premium arrangement, to collect their views for implementation of the project. The URA also implemented "Project Engagement" Programme to visit residents to update about the project progress, explain the compensation and rehousing arrangement to ease their concerns.
11-15, 35-38, 40, 52-54, 59-61, 67-72, 77, 89-91, 97, 102, 107-109, 112.	SIA2 report did not mention the cases of emotional distress filed by the residents.	As mentioned in the SIA 2, the URA understands that the affected residents are likely to experience doubts and worries during the long waiting period from scheme commencement to commencing acquisition and rehousing arrangement. The URA has therefore implemented a "Project Engagement" Programme to provide direct contact services (e.g. site visits) in order to alleviate their anxiety by provide corresponding assistance, such as

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		explanation of the project details and referral of residents' special needs to SST or the relevant departments.
81, 145, 346, 348, 436, 448, 493, 748, 749, 794, 830, 846, 850, 876.	● There were insufficient information and communication for the residents. ● The time is inappropriate to launch the project due to the pandemic and social instability. ● The redevelopment timetable is unrealistic due to the impact of the pandemic and that there are too many elderlies who need longer time to digest the information.	Project briefing videos instead of the public briefing in past practice are provided to the affected persons by URA when the Scheme is commenced to avoid gatherings and to minimize the risk of infection for residents and staffs under COVID-19 pandemic. The videos explain the Scheme such that residents can safely understand the content of the Scheme and include information on planning procedures, the URA's acquisition, tenant's ex-gratia allowance and rehousing policies, and assistance in the dissolution of CBS. As the situation of pandemic and the government prohibition on group gathering for prevention and control of disease has gradually relieved in June and July 2020, 3 public briefing sessions were organized by URA with government representatives from Civil Service Bureau, Development Bureau and Lands Department on 6 and 7 July 2020 to inform all the affected persons, the details of the Scheme and to obtain public views on the Scheme.

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		Questions on Freezing Survey, planning, acquisition, tenant's exgratia allowance and rehousing, and CBS dissolution and outstanding land premium issues were addressed at the meeting. 9 briefing sessions were organized by URA on 22-24 November 2021 for members/owners of CBS-2 Development scheme to update and explain the latest planning, acquisition policy, CBS dissolution and outstanding land premium arrangement, to collect their views for implementation of the project. The URA also implemented "Project Engagement" Programme to visit residents to update about the project progress, explain the compensation and rehousing arrangement to ease their concerns.
114, 267, 268, 279, 310, 386, 448, 451, 571.	The plan should be stopped due to strong opposition. The URA should respect those who wish to stay especially the elderlies.	The URA values the comments from the affected residents. An opinion survey has been conducted in November 2021 by the URA in order to better understand the views of the residents. According to the survey, 69% of them in favour of the Scheme. In view that most of the comments received were mainly related to CBS issues, especially on the land matters of the undissolved CBSs, the URA consulted Government Bureaux/Departments and

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		addressed the related comments and concerns. In this connection, the URA has taken the opportunity to revise the draft DSP to respond to the policy directives of providing more Starter Home (SH) units and to review the Scheme in order to achieve wider planning gains for the community. With the above considerations and changes, the URA revised the design of the Scheme to include provision of about 950 SH units and to revise the development proposals to further enhance the planning gains of the Scheme to the environment. The revised design (2022) is submitted to TPB for consideration. If the proposed Scheme is implemented, the URA will offer FFF option (in-situ or in the same district or at available sites) while the Government will offer an alternative option of the DRE at KTDA in Kowloon City District for those eligible domestic owner-occupiers, especially the elderly, as additional choices to cash offer. These choices provide an option for the owner-occupiers to rehouse in the same district.

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266, 386, 481, 598, 668, 722. 746, 762, 794, 830, 845, 850, 848, 858, 876, 878.	● The buildings are in good condition and the people wish to stay there. There is no urgency nor reason to redevelop the area. Hence, the project does not align with the URS. ● The URA should redevelop other areas first or areas where the residents wish for redevelopment or where the buildings are severely dilapidated. For example, there are other old buildings in To Kwa Wan which require redevelopment.	In response to the PAs by the Chief Executive, the URA was invited to identify one or two clusters of CBS Scheme sites suitable for high-density development as pilot sites. The Scheme has been selected according to the prescribed multiple factors including but not limited to the following: cluster of CBS sites in high-density development areas (i.e. R(A) zone under the Outline Zoning Plan) in the urban districts, numbers of CBS involved, proximity to existing public rental housing and other ancillary facilities, building age and its existing development density. The Scheme also seeks to improve the overall environment through redevelopment in accordance with the URS 2011. The concerned urban area is replanned to utilise the development potential and increase the housing supply. Part of the site will be allocated to Starter Home (SH) units for the planning gain of general public. The connectivity and walkability is also improved through restructuring and urban design to create a livable community.

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746.	It is unfair that the TPB does not consider compensation arrangements in a redevelopment project.	The Scheme is commenced in accordance with the URAO and the usual project implementation approach, including prevailing acquisition and rehousing policies, adopted by the URA. The prevailing acquisition principle of URA is based on the property acquisition policy approved by the Finance Committee of the Legislative Council in March 2001 as the principle of compensation calculation. Subject to the approval by the CE in C to implement the Scheme, the URA will offer an owner-occupier of domestic property the market value, plus an ex-gratia allowance (namely HPA). As an additional option to cash offer, FFF option (in-situ or in the same district or at available sites) will also be offered by the URA for affected eligible owner-occupiers. Besides, the Dedicated Rehousing Estate (DRE) near Muk Chun Street in Kai Tak Development Area (KTDA) developed and managed by the Hong Kong Housing Society (HKHS) is another option offered at a discount market price similar to subsidized housing by the Government as mentioned in PA in 2018.

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762, 845, 848, 850, 878.	The site is a scenic area with cultural value as it is frequently used as settings for TV drama and movies. Hence, it should be preserved.	The CBS buildings within the Scheme were built in 1959 to 1970 and are typical types of CBS residential buildings. The Scheme is not a preservation project. It aims to fulfill the objectives of the PAs, to increase housing supply by full utilisation of the development potential of the cluster of CBS sites. When the Scheme is commenced, according to the record of the Antiquities and Monuments Office (AMO), the buildings within the Scheme are not on the lists of historic buildings or declared monuments or included in the list of new items for grading assessment.
794.	Unclear on the reason why the time for people to comment different for CBS-1 and CBS-2 projects.	The Scheme, CBS-2: KC is implemented as a Development Scheme under section 25 of the URAO, which involves amendment to the Outline Zoning Plan (OZP) and will be submitted to Town Planning Board (TPB) for consideration; While for CBS-1: KC, which is implemented as a Development Project under section 26 of the URAO, which conforms to the zonings of the OZP for redevelopment. Given the two CBS projects are commenced under different Ordinances, the public

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		consultation procedures are different. Nevertheless, for CBS-2:KC, two public consultation periods are provided as mentioned in the Gazette, with the duration of 3 weeks in the 1st round and 2 weeks in the 2nd round of consultation. In addition, if the TPB deems the DSP as suitable for publication, it will be deemed to be a draft plan prepared by the TPB for the purposes of the TPO (Cap. 131). It will then be published under Section 5 of TPO and submission of public comments will be further allowed in a period of 2 months. Based on the above statutory procedures, the public consultation period allowed for CBS-2:KC would not be less than CBS-1:KC, which is implemented as a development project with 2 months public consultation period.
794.	Why people affected by the Scheme are deprived of the right to object to the implementation of the Scheme and have their objection entertained and considered? Is this in accordance with Article 6 of the Basic Law?	People affected by the Scheme have the right to object to the Scheme under the public consultation mechanism in the Town Planning Ordinance (TPO) (Cap. 131). As mentioned in the Gazette, two public consultation periods are provided. After the

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B) 反對意見 Object Comments (662 comments in total)		
		submission of the DSP to the TPB on 25 May 2020, submission of the public comment was allowed in a period of 3 weeks from 29 May 2020 to 19 June 2020. After the submission of stage 2 Social Impact Assessment (SIA 2) to the TPB on 8 July 2020, submission of the public comment on SIA 2 was allowed in a period of 2 weeks from 17 July 2020 to 31 July 2020. If the TPB deems the DSP as suitable for publication, it will be deemed to be a draft plan prepared by the TPB for the purposes of the TPO. It will be published under Section 5 of TPO and submission of public comments will be further allowed in a period of 2 months.
795.	Enquiry made to URA on missing SIA Stage 2 Report on the website.	The Stage 2 of the Social Impact Assessment ("Stage 2 SIA") report has been submitted on 8 July 2020 to the Town Planning Board (TPB) in accordance to the Notice of Commencement published in the Gazette (G.N. 2565) on 22 May 2020. Upon the submission of the report to the TPB, the URA prepared the printed copies of such report as well as the electronic version for public inspection at the URA's Headquarters, the URA's

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		Kowloon City Neighbourhood Centre and the URA's website. Due to the time required for delivery and logistic arrangement, Stage 2 SIA report of the Scheme was available on the 2nd day after submission, i.e. 9 July 2020, for public viewing at the URA's Headquarters and Kowloon City Neighbourhood Centre. As there was a technical problem that affected the online display of the Stage 2 SIA report on URA's website, the URA has immediately looked into the matter and fixed the technical problem. The online display of the Stage 2 SIA report resumed normal on 9 July 2020 and it is currently available for public inspection at the URA's website.
828.	URA should improve the life of residents by overhauling and beautifying the old buildings, instead of breaking them down and move the residents to low quality subsidized housing in Kai Tak.	The Scheme aims to fulfill the objectives of the PAs, to increase housing supply by full utilisation of the development potential of the cluster of CBS Scheme sites. The Scheme seeks to improve the overall environment through redevelopment in accordance

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		with the URS 2011. Through the redevelopment of the Scheme, residential buildings with better modern standard facilities will be provided to improve the living environment in the district. The connectivity and walkability is also improved through restructuring and urban design to create a livable community. Apart from the option of the DRE at KTDA in Kowloon City District, the URA will provide cash offer or FFF option (in-situ or in the same district or at available sites) to those eligible domestic owner-occupiers.

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C) 一般意見 General Comments (28 comments in total)		
***意見類別一：有關收購、租戶特惠津貼及安置政策**		
1, 209, 383, 519, 555, 568, 659, 770, 774, 777,	● 由市建局補地價 / 要求豁免補地價 / 減低補地價金額	根據地政總署的資料，政府早年以十足市值的三分之一地價批出合作社樓宇用地，隨後合作社成員在

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779, 796, 805, 807-809, 812, 856, 859, 879.	● 在扣除補地價款項後，業主所得到的實際淨收購補償，不足以購買與原本面積相約的居所	取得相關單位業權的時候，其轉讓契約設有轉讓限制條款，合作社樓宇業主必須先向政府繳付三分之二土地補價才可出售單位。有關補價是業主在取得業權時與政府之間的條款。任何減免均偏離一貫的政府政策和做法，亦對已完成補價的業主不公平。 政府已檢視其土地補價的評估基礎，認為對於個別單位的業權人而言，除非所有業權人均同意重建，他並不擁有該土地的控制權而有重建的選擇，因此自 2020 年 6 月 1 日，若個別公務員合作社單位業主申請撤銷轉讓限制，除非有證據證明該建築物由單一業權人擁有，否則會以「現有用途土地價值」的基礎評估土地補價。此基礎適用於該計劃。 「現有用途土地價值」的補地價為樓面地價的三分之二，並加上合作社現樓及新樓市值的折讓比例。請參照以下假設例子的計算方法： (甲) 以「重建價值」基礎計算作簡單說明 $\frac{2}{3}$ x 樓面地價($10,000/平方呎) = $6,666/平方呎 (按樓面面積計)

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		(乙) 以「現有用途土地價值」基礎計算作簡單說明 $\frac{2}{3}$ x 樓面地價($10,000/平方呎) x $\frac{\text{合作社現樓呎價 \$9,000/平方呎}}{\text{新樓呎價 \$18,000/平方呎}}$ = $3,333/平方呎 (按樓面面積計) 在上述假設例子中，土地補價 (乙) 約為土地補價 (甲) 的百分之五十。按現時市況的初步估算，該計劃的單位補地價金額約為每平方呎 3,000 至 3,500 元。由於每宗個案不同 (例如會因應地區及地段、單位座向、樓層及面積及可用地積比等因素不盡相同)，上述假設例子及每平方呎補價只用作參考。 另外，政府減免處理土地補價的行政費，約五萬六千多元以減輕未補地價業主在單位業權轉售所涉及的經濟負擔。政府同時減免因散社而需進行的業權轉讓，所涉及的額外印花稅及從價印花稅。 基於同一項目內每個物業的補地價金額呎價(「補地價單價」)都不相同，若將收購金額扣除補地價金額

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		後，不同物業業主所得餘款的呎價亦將各異。因此，市建局提供劃一補地價單價安排，使所有前合作社社員在同一項目內繳付相同的補地價單價。重建項目內所有未補地價的住宅物業於首次收購建議時最低的補地價單價作為「劃一補地價單價」。 如尚未繳付補地價金額的業主接受市建局發出的收購建議，只須支付以劃一補地價單價乘以單位實用面積計算的補地價金額(「劃一單價補地價金額」)，市建局將支付地政總署發出的補地價金額與「劃一單價補地價金額」之差額。至於已繳付補地價金額的前社員，如已繳付的補地價金額高於「劃一單價補地價金額」，可獲發還一筆等同兩者差額之金額。 此外，前合作社社員可向地政總署遞交申請評估補地價的金額作參考。 根據合作社樓宇的土地契約條款，前合作社社員須向政府繳付土地補價，才可以轉讓其單位。業主作為業權人，有履行地契的責任。政府亦為合資格的合作社單位自住業主作出特別安排，讓其可購買由

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		房協在啟德發展區興建和管理的專用安置屋邨的資助出售單位。此外，市建局及地政總署會協調簡化業主繳交補地價的手續。當該計劃獲批准後，市建局會向業主發出收購建議。在同一時間地政總署會提供補地價金額給業主考慮。
1, 209, 383, 555, 568, 796, 818.	● 希望作出公平、合理既收購賠償 ● 賠償足夠業主在同區購買面積和質素相約的重置單位，或提供資助房屋作為重置居所，附加轉讓限制 ● 市建局應提供多個補償方案，回應不同戶主需要，除金錢賠償外，建議在啟德 1E1 區原有安置計劃之中，讓戶主以市價兩折購入不多於 2 個單位；為戶主編配月租公屋單位而不需接受資產審查及不受富戶政策規管	該計劃是根據《市區重建局條例》公布，將按照市建局沿用的收購及安置政策。市建局現行的物業收購準則是根據 2001 年 3 月立法會財務委員會通過的物業收購政策原用至今，作為計算補償的準則釐定，做法行之有效。 市建局在獲得行政長官會同行政會議核准進行該計劃後，將會向受影響業主提出收購建議，自住住宅物業的收購價為住宅物業市值交吉價，加上一筆特惠津貼 (即自置居所津貼)。 自置居所津貼的計算，是指被收購單位市值與假設重置單位價值的差額。假設重置單位為同一地區內與收回單位面積相若的七年樓齡單位，並將假定位於質素與收回樓宇可資比較的假設樓宇內，按收購程序開始時，在特點及交通方便程度方面屬類似地

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		區。假設重置單位位於假設樓宇中層，座向一般和並不享有海景。 合作社樓宇自住業主，可以獲得百分百的自置居所津貼金額，相信受影響的自住業主可靈活運用該津貼，在同區或其他地區的私人市場，選擇購買面積相約的重置單位。 另外，市建局為未補地價的業主提供劃一補地價單價安排，以協助他們補地價。如業主接受市建局發出的收購建議，只須支付以該計劃內最低的補地價單價作為「劃一補地價單價」乘以單位實用面積計算的補地價金額 (「劃一單價補地價金額」)。市建局將支付地政總署發出的補地價金額與「劃一單價補地價金額」之差額。 而未補地價合作社樓宇業主繳付補地價所需金額後，所得的收購建議金額餘款會較其他無須補地價的業主為少，因此政府為合資格的合作社單位自住業主作出特別安排，讓其可購買由房協在啟德發展區興建和管理的專用安置屋邨的資助出售單位。專用安置屋邨單位初步預計在2026年左右落成，房協

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		會負責日後之營運及單位分配，以及適時公佈預售計劃。 如獲得行政長官會同行政會議核准進行該計劃，市建局亦會為受影響合資格的住宅自住業主提供「樓換樓」選擇 (在其重新發展項目原址或同區或適當地盤)，作為給住宅自住業主的收購建議金額以外的選擇。選擇「樓換樓」的住宅自住業主必須先接受市建局首次收購建議金額，才可選擇「樓換樓」計劃。 市建局明白在目前私人樓宇市場，單位普遍以中、小型為主；在重建項目內居住的大型家庭」，難以在市場上尋找較大的單位一同居住。故此，市建局與政府磋商後，為項目推出更具彈性的單位重置方案。合資格的前社員自住業主家庭，如涉及「分支家庭」，在接受市建局的首次收購建議後，可以購買最多兩個專用安置屋邨的資助出售單位或「樓換樓」計劃單位等不同組合，減低重建對需要「分戶」及大型家庭的影響。
1, 383, 519, 555, 568, 659.	● 奪去原有公務員房屋福利 ● 應賠償業主因收購已被剝削的公務員房屋福利	根據公務員事務局的資料，合作社計劃始於 1952 年，是按資源酌情提供的公務員房屋福利。舊有的

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		公務員房屋福利中包括有作為服務條件提供予合資格人員的公務員房屋福利計劃，例如高級公務員宿舍、自行租屋津貼等。政府一貫的政策是為在職公務員提供公務員房屋福利。 公務員房屋福利是根據個別公務員的聘用條款，以及有關房屋福利計劃的條款及條件提供予合資格的在職人員。合作社計劃是按資源酌情提供的房屋福利，並非公務員的服務條件，因此合作社計劃不能被視為合作社社員的終身福利。 根據合作社計劃，政府以優惠價批出土地，並提供貸款，讓合資格的公務員可透過成立合作社興建住宅樓宇。計劃的目的是為合作社社員及其家屬提供居所，當時的政策並沒有計劃讓合作社社員取得法定業權。合資格的公務員在成為合作社社員時已被視為享用了公務員的房屋福利。 為回應合作社社員希望取得業權的訴求，政府在1987 年推出指引，容許合作社在取得所有社員同意下解散，將單位及土地業權轉讓予個別社員，相關單位的轉讓契約設有轉讓限制條款，有關業主必須

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		先向政府繳付土地補價才可出售其單位。隨後政府在1993年發出現行的指引取代舊指引，讓合作社在取得 75%社員同意後可申請解散繼而進行分契手續，讓個別社員取得其單位和土地業權成為業主，並於繳付由地政總署根據地契釐定的土地補價後把單位自由轉售。合作社計劃的條款和條件，以及相關標準(包括合作社社籍的申請資格)，一直沿用至今。 容許合作社解散並讓社員由其所屬合作社取得其單位和土地業權成為業主，並於補地價後自由買賣其單位，是政府提供予社員的一項選擇。至於是否需要申請散社乃合作社的內部事宜。前社員於成為業主後可按自身情況考慮何時向政府補回地價。 此外，該計劃是根據《市區重建局條例》公布，將按照市建局沿用的收購及安置政策。市建局在獲得行政長官會同行政會議核准進行該計劃後，將會向受影響業主提出收購建議，自住住宅物業的收購價為住宅物業市值交吉價，加上一筆特惠津貼 (即自置居所津貼)。因此並非強奪居民的權益。

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218, 219, 383, 514, 519, 555, 568, 659, 770, 774, 777, 779, 856, 859.	● 建議市建局以新思維去推行計劃，積極考慮和接納街坊的建議方案，在原址重建面積相若的單位，安置受影響原居民 ● 提供原址或同區安置之「樓換樓」計劃，或以『呎換呎』方式不用補差價直接購買市建局在原區興建的單位，安置新單位面積必須與現住單位大小相若 ● 支持原址原大安置方案 ● 重建地段鄰近地鐵站出入口，發展潛力很大。原居民應有權分享重建成果，所以原址原大安置也是很合情合理的要求	市建局在獲得行政長官會同行政會議核准進行該計劃後，將會向受影響業主提出收購其物業，自住住宅物業的收購價為住宅物業市值交吉價，加上一筆特惠津貼 (即自置居所津貼)。另外，市建局亦會為受影響合資格的住宅自住業主提供「樓換樓」選擇（在其重新發展項目原址或同區或適當地盤），作為給住宅自住業主的收購建議金額以外的選擇。此外，政府亦決定將一幅位於啟德的用地給房協興建專用安置屋邨，為合資格的合作社單位自住業主作出特別安排，讓其可購買該專用安置屋邨的資助出售單位。專用安置屋邨單位初步預計在2026年左右落成，房協會負責日後之營運及單位分配，以及適時公佈預售計劃。 至於「原址原大」方案，方案提議市建局提供四項現金津貼給合作社業主（即租金津貼、搬遷、新屋裝修及添置相關物品津貼、將來35年管理費津貼、業主需支付的補地價津貼）；另外，方案亦要求一間原址原大；不設轉讓限制的新屋及新建的停車場歸合作社業主擁有及使用。

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		市建局經仔細分析和評估後，認為「原址原大」方案的三個建議均存在執行問題，及會為市建局造成沉重的財政負擔。 ● 「原址原大」方案提議市建局將地盤南面三份之一的部份改作合作社安置房屋，在市建局提交的修訂設計(2022 年)，該地段在市建局的建議內將會用作提供約 950 個「首置」房屋，以回應《施政報告》的政策指引。因此於地盤南面三份之一的部份提供合作社安置房屋並不可行。 ● 合作社業主要求的四項現金津貼，合共約每平方呎 11,140 元，及一個重建後實用面積平均 1,000 平方呎的新單位。假設新樓呎價約為 22,500 元；因此合作社業主實際收到的，包括現金津貼加上物業價值，總計約為每平方呎 33,640 元，此金額尚未計算業主要求擁有新建成停車場的價值。此方案下，業主實際收到的遠遠超出根據市建局現行收購及遷置政策所計算的收購價。

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		● 此外，按照該「原址原大」方案，以提供 462 個實用面積約 1,000 呎的單位計算，粗略估計，總建築樓面面積將超過 500,000 呎，換言之，市建局往後發展的項目將會減少 500,000 呎，可收回的投標地價或銷售價相應會減少，對市建局構成一定程度的財務負擔。 作為公營機構，市建局必須確保資源用得其所，並秉持審慎理財的原則，確保足夠資源履行市區更新的任務，「原址原大」方案已超出此項原則，亦會影響市建局履行市區更新工作的可用資源，故此，市建局不會考慮「原址原大」方案。
519, 555, 568, 659, 774, 856, 859.	● 搬遷費用和過渡期住所租金，應該全部由市建局負責 ● 過渡期租金及搬遷津貼 ● 新居裝修津貼	根據市建局現行政策，除自置居所津貼或補助津貼外，住宅物業的業主亦可獲相關費用津貼，以資助業主因購買替代住宅物業而引致的開支及搬遷的相關費用及因出售會受影響物業予市建局而支付的律師費。實際金額將於個別項目進行收購時作實及公佈。 如住宅物業的業主於出售受影響物業予市建局及購買替代住宅物業時的合理及必須實際開支（即因解除受影響物業轉讓限制的法定押記而須向地政總署

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		繳付的行政費用出售受影響物業予市建局的律師費及購買替代住宅物業的搬遷費、印花稅、地產代理佣金及律師費），多於市建局給予的相關費用津貼，業主可向市建局提出申請發還超出相關費用津貼之開支，惟業主只可就其出售予市建局的每個住宅物業提交一份申請，並必須符合相關資格準則。 根據2018年《施政報告》指示，該計劃須按照市建局沿用的推展項目方式進行，包括市建局沿用的收購、租戶特惠津貼及安置政策，而租金津貼並不符合上述政策。
555, 568, 659, 779, 796.	● 計算樓價估價賠償，應參考原址地段附近不超過七年樓齡樓宇，而不是同區距離較遠樓宇 ● 同區私人市場沒有與合作社單位相等呎數的單位，應以原區安置或相應賠償作參考 ● 賠償計算天井面積	該計劃是根據《市區重建局條例》公布，將按照市建局沿用的收購及安置政策。市建局現行的物業收購準則是根據2001年3月立法會財務委員會通過的物業收購政策原用至今，作為計算補償的準則釐定，做法行之有效。 市建局在獲得行政長官會同行政會議核准進行該計劃後，將會向受影響業主提出收購建議，自住住宅物業的收購價為住宅物業市值交吉價，加上一筆特惠津貼 (即自置居所津貼)。

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		自置居所津貼的計算，是指被收購單位市值與假設重置單位價值的差額。假設重置單位為同一地區內與收回單位面積相若的七年樓齡單位，並將假定位於質素與收回樓宇可資比較的假設樓宇內，按收購程序開始時，在特點及交通方便程度方面屬類似地區。假設重置單位位於假設樓宇中層，座向一般和並不享有海景。 獨立測量師進行評估時，會考慮當時在市場上新近成交的買賣及可資比較的個案，並以上述的指引作出評估（包括交通方便程度、面積大小、樓齡、座向等因素作出調整）。估值日期亦盡量貼近發出收購建議的時間，希望收購價能反映市場的最新情況。 按市建局沿用行之有效的方式，將以公開抽籤方式，委託七間獨立顧問公司評估該假設重置單位的呎價，在去除最高和最低價值後，以五個評估價值的平均數作為該假設單位的呎價。而該假設重置單位的呎價，會在整個項目內劃一採用。

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		根據市建局現行政策，物業的收購價是根據物業的實用面積計算。市建局會委聘顧問公司，以量度該計劃內所有受影響物業的實用面積及附屬面積。實用面積的定義，是根據香港測量師學會於 1999 年 3 月制定的「量度作業守則」及於 2014 年 7 月所發出的「量度作業增補守則」之定義作為標準。在物業內的任何違法構築物 (如有)，不會計算其面積及相應的收購金額。 顧問公司在計算該等業權的面積時，一般會參考於田土廳已登記的文件及圖則 (如轉讓契約, 買賣合約及大廈公契等) ，及屋宇署最後批核的相關建築圖則 (若有) ， 計算業權範圍內擁有的面積。業主必須確保擁有其物業或相關附屬面積的妥善業權。
805, 807-809, 879.	考慮現時高山劇場對面房協地盤或未來樂民新邨重建作原區安置	根據發展局的資料，政府目前的計劃，是房協把位於啟德發展區 1E1 號地盤 (近沐縉街) 部分用作興建專用安置屋邨，以便為受影響的前公務員合作社社員自住業主提供多一項在私人市場以外購置重置單位的選擇，即購買該專用安置屋邨內的資助出售單位作居所。據了解，除此以外並沒有其他公營房屋的選項。

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812.	不應一貫沿用市區重建局條例收購合作社業主之單位，因為不同地區有不同的發展條件，重建後所得利益的差別很大	該計劃是根據《市區重建局條例》公布，將按照市建局沿用的收購及安置政策。市建局現行的物業收購準則是根據 2001 年 3 月立法會財務委員會通過的物業收購政策原用至今，作為計算補償的準則釐定，做法行之有效。 市建局在獲得行政長官會同行政會議核准進行該計劃後，將會向受影響業主提出收購建議，自住住宅物業的收購價為住宅物業市值交吉價，加上一筆特惠津貼 (即自置居所津貼)。 自置居所津貼的計算，是指被收購單位市值與假設重置單位價值的差額。假設重置單位為同一地區內與收回單位面積相若的七年樓齡單位，並將假定位於質素與收回樓宇可資比較的假設樓宇內，按收購程序開始時，在特點及交通方便程度方面屬類似地區。假設重置單位位於假設樓宇中層，座向一般和並不享有海景。 獨立測量師進行評估時，會考慮當時在市場上新近成交的買賣及可資比較的個案，並以上述的指引作出評估（包括交通方便程度、面積大小、樓齡、座

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		向等因素作出調整）。估值日期亦盡量貼近發出收購建議的時間，希望收購價能反映市場的最新情況。 按市建局沿用行之有效的方式，將以公開抽籤方式，委託七間獨立顧問公司評估該假設重置單位的呎價，在去除最高和最低價值後，以五個評估價值的平均數作為該假設單位的呎價。而該假設重置單位的呎價，會在整個項目內劃一採用。
856, 859.	位於啟德 1E1 地盤的專用安置屋邨的資助出售單位，等候入住時間大約為多少? 希望房協能提供更優惠的地價及售價給我們，我們亦可以優先選擇任何樓層及方向之單位	根據政府目前的計劃，有關的專用安置屋邨位於啟德 1E1 地盤，由房協興建並負責日後之營運及單位分配。按照初步設計概念，有關單位主要為兩房單位，其餘為三房單位。具體之單位面積、間隔和數目均以日後相關圖則作準，預計有關準則將參考資助出售房屋的規格。 有關資助出售單位的售價將會根據當時適用的居屋定價政策，以評定市值減折扣率。以目前的政策來說，折扣率將會參考房委會當時最新公布的「居者有其屋」計劃的折扣率。

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		專用安置屋邨單位初步預計在2026年左右落成，房協會適時公佈預售計劃。
***Comment Category 1: Acquisition, Tenant's Ex-gratia Allowance and Rehousing Policies**		
813.	Are we going to get back the same size of living area which we are now staying at present address? After redevelopment, we are looking forward to returning to existing location and continue living there.	If the proposed Scheme is implemented, the URA will offer FFF option (in-situ or in the same district or at available sites) while the Government will offer an alternative option of the DRE at KTDA in Kowloon City District for those eligible domestic owner-occupiers as additional choices to cash offer. These choices provide an option for the owner-occupiers to rehouse in the same district.
***意見類別二：有關居住環境及對社區網絡 / 社區設施的影響**		
45, 856, 859, 862.	● 樓齡高，樓宇老化，有些單位缺乏保養，石屎剝落和漏水情況嚴重 ● 維修費用龐大，居民難以負擔，只可等待重建 ● 沙中線工程危害大廈結構安全，早日重建免生意外，改善居住環境	透過該計劃的重建，將提供設有現代化設施的樓宇，改善該區的居住環境。
383, 476, 514, 518, 774.	● 重建計劃未有顧及居民意願 ● 滿意目前居住環境、樓宇質素及本區設施 ● 對社區有感情和歸屬感 ● 居民及長者難以適應新環境	如獲得行政長官會同行政會議核准進行該計劃，市建局亦會為受影響及合資格的住宅自住業主提供「樓換樓」選擇 (在其重新發展計劃原址或同區或適當地盤)，作為建議收購金額以外的額外選擇。此外，政府為合資格的合作社單位自住業主作出特別

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		安排，讓其可購買由房協在啟德發展區興建和管理的專用安置屋邨的資助出售單位。上述的安置選擇均讓受影響的自住業主住戶有機會維持在原有的社區網絡。 市建局及社區服務隊會盡量透過向長者提供安置事宜安排上及提供日後要遷往屋邨附近環境的資料，以紓緩長者有關的焦慮。社區服務隊會跟進已遷往新居所的長者個案，亦會舉辦活動協助長者認識社區設施、探訪新社區的社會服務單位及協助轉介至新社區的醫療服務。市建局的「夥伴同行」探訪計劃和社區服務隊將會特別關注獨居和二人住戶的長者，採取積極主動的探訪及提供適時的協助。
***Comment Category 2: Living Environment and Impact on Social Network / Community Facilities**		
34, 42.	The buildings do not have elevators which caused inconvenience for wheelchair users and injuries for visitors.	According to the approved GBP, none of the buildings within the Scheme is served by lift or barrier-free access. Subject to the approval by the CE in C to implement the Scheme, the URA will offer an owner-occupier of domestic property the market value, plus an ex-gratia allowance (namely home purchase allowance, HPA). As an additional option to cash

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		offer, 'Flat-for-Flat' (FFF) option (in-situ or in the same district or at available sites) will also be offered by the URA for affected eligible owner-occupiers. The cash offer and FFF option allow the owner-occupiers to rehouse in a suitable unit improving their living environment.
***意見類別三：有關市建局項目程序 / 重建方面**		
82.	重建地盤鄰近沙中綫，重建價值好高。但地契十多年後到期，將來重建價值會更高，建議暫時擱置項目	市建局為回應政府在 2018 及 2019 年《施政報告》中的邀請，根據《施政報告》中所列出適合重建合作社樓宇的特點，考慮不同地盤選址的可用剩餘地積比率、所涵蓋的合作社數目，以及鄰近現有公共屋邨等多項因素，選出該計劃作為重建的試點項目之一。 市建局將繼續遵循《施政報告》的指示推行該計劃，透過充分利用合作社地段的發展潛力，增加房屋供應，從而達致更廣泛的社區裨益，惠及更多有需要的市民。
805, 807-809, 879.	長者時日無多，希望項目加速進行	備悉意見。

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812.	建議先安置後發展的方式重建	根據2018年《施政報告》指示，該計劃須按照市建局沿用的推展項目方式進行，包括市建局沿用的收購及安置政策。 市建局在獲得行政長官會同行政會議核准進行該計劃後，將會向受影響業主提出收購其物業，自住住宅物業的收購價為住宅物業市值交吉價，加上一筆特惠津貼 (即自置居所津貼)。另外，市建局亦會為受影響合資格的住宅自住業主提供「樓換樓」選擇（在其重新發展項目原址或同區或適當地盤），作為給住宅自住業主的收購建議金額以外的選擇。此外，政府亦決定將一幅位於啟德的用地給房協興建專用安置屋邨，為合資格的合作社單位自住業主作出特別安排，讓其可購買該專用安置屋邨的資助出售單位。專用安置屋邨單位初步預計在2026年左右落成，房協會負責日後之營運及單位分配，以及適時公佈預售計劃。
849, 856, 859.	● 市建局尚未回應及處理第一階段公眾意見而隨即開展第二階段諮詢，諮詢純屬空談，形同虛設，應延長諮詢期讓居民充分理解重建計劃及探討其他可行方案，不要迫遷	在諮詢公眾意見方面，該計劃根據刊憲公告，於2020年5月25日將該計劃的發展計劃草圖，包括第一階段社會影響評估報告呈交予城規會，並於2020年5月29日至6月19日的三星期時間內收集公眾意見；於2020年7月8日將第二階段社會影響

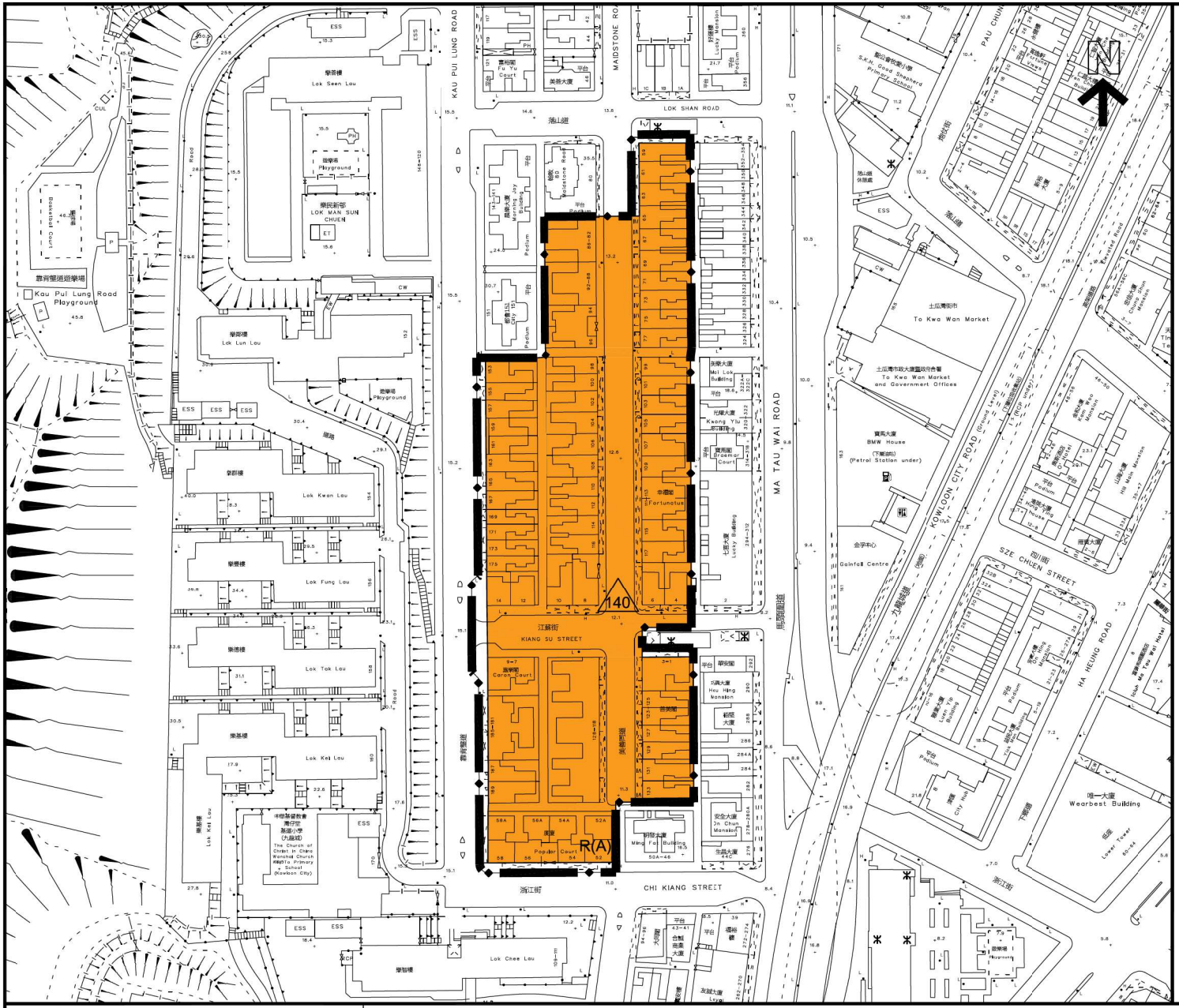
Ref Nos. 參考編號	Consolidated / Extracted Comments 綜合意見 / 意見節錄	URA's Responses 市建局之回應
C) 一般意見 General Comments (28 comments in total)		
	● 希望政府及市建局可以在 2022 年之前與受影響者磋商補償安排，讓業主清楚瞭解及達成共識	評估報告呈交予城規會，並於 2020 年 7 月 17 日至 7 月 31 日的兩星期時間內收集公眾意見；如城規會認為該草圖適宜公布，須當作是由城規會為施行《城市規劃條例》(第 131 章) 而擬備的草圖，屆時將按《城市規劃條例》第 5 條展示兩個月以供公眾查閱及收集公眾意見。 市建局一直與受重建項目影響的居民及業主保持溝通，舉行居民簡報會，與及和相關立法會議員、區議員及業主會面。另外，市建局會透過「夥伴同行」探訪計劃，主動接觸試點項目內的每個家庭及業戶，詳細解釋項目政策及其他相關資訊。因就合作社的特別情況，市建局也為社員提供特別的協助及處理，而市建局亦於 2021 年 11 月 22 日至 24 日一共舉行了 9 場意見居民會，以了解相關業主及社員對市建局推行 CBS-2:KC 的想法及意見，收集的意見協助市建局進一步了解居民對重建的意願。 市建局已於 2020 年 12 月 30 日向城規會提交對第一階段公眾意見的回應.

Ref Nos. 參考編號	Consolidated / Extracted Comments 綜合意見 / 意見節錄	URA's Responses 市建局之回應
C) 一般意見 General Comments (28 comments in total)		
		然而，鑑於在計劃開展後的諮詢期內，市建局收集了不同意見，當中包括大部份與合作社的土地業權相關問題. 市建局與政府政策局及部門商討後，已於 2022 年 10 月 14 日向該計劃的受影響居民發放「有關解散合作社、收購物業及收回土地補償安排的最新資訊」。同時，市建局亦修訂了發展計劃草圖及初步設計，以回應施政報告方向指引， 於計劃內提供約 950 個首置單位，並同時改善設計，以進一步增加建議計劃對地區帶來的規劃裨益。 市建局現連同上述的合作社最新資訊，修訂草圖 (2022 年) 連同這份對第二階段公眾意見的回應提交城規會考慮。
***Comment Category 4: Planning and Design and Impact on Surrounding Environment**		
179.	The streets are symbolic and characteristic with historical meaning to future generations, which could be used for city tours.	The Scheme also aims to fulfill the objectives of the PAs, to increase housing supply by full utilisation of the development potential of the cluster of CBS sites. Thus, part of the Maidstone Road and Kiang Su Street are restructured for planning as part of the project to provide other uses including open space

Ref Nos. 參考編號	Consolidated / Extracted Comments 綜合意見 / 意見節錄	URA's Responses 市建局之回應
C) 一般意見 General Comments (28 comments in total)		
		& pedestrianised avenue for public use and GIC facilities. The existing Kiang Su Street and Maidstone Road, including its dead-end, will be restructured and replanned into a pedestrianised avenue / plaza as the existing alignment of the Maidstone Road. Instead of being a traffic carriageway with narrow pavement in the existing situation, it will be converted to a pedestrianized avenue / plaza connected with the shops alongside and become a car-free environment for the enjoyment of the nearby residents.

Part 3

Revised Draft DSP with Draft Notes and Explanatory Statement



圖例
NOTATION

BOUNDARY OF DEVELOPMENT SCHEME ..... 發展計劃範圍界線

RESIDENTIAL (GROUP A) ..... R(A) ..... 住宅(甲類)

MAXIMUM BUILDING HEIGHT (IN METRES ABOVE PRINCIPAL DATUM) ..... 140 ..... 最高建築物高度(在主水平基準上若干米)

DRAFT

CONFIDENTIAL

夾附的<<註釋>>屬這份圖則的一部分

THE ATTACHED NOTES ALSO FORM PART OF THIS PLAN

2022年 月 日城市規劃委員會根據市區重建局條例第25(6)(a)條認為圖則適宜公布，並於2022年 月 日按照城市規劃條例第5條展示。

PLAN DEEMED SUITABLE BY THE TOWN PLANNING BOARD FOR PUBLICATION UNDER SECTION 25(6)(a) OF THE URBAN RENEWAL AUTHORITY ORDINANCE ON 2022 AND EXHIBITED UNDER SECTION 5 OF THE TOWN PLANNING ORDINANCE ON 2022.

SECRETARY, TOWN PLANNING BOARD 城市規劃委員會秘書

香港城市規劃委員會依據城市規劃條例擬備的市區重建局靠背壟道/浙江街發展計劃圖則
TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD URBAN RENEWAL AUTHORITY KAU PUI LUNG ROAD / CHI KIANG STREET DEVELOPMENT SCHEME PLAN

SCALE 1 : 1500 比例尺

米METRES 10 0 10 20 30 40 50 METRES米

依據市區重建局條例第25(3)(a)條擬備
PREPARED UNDER SECTION 25(3)(a) OF THE URBAN RENEWAL AUTHORITY ORDINANCE

圖則編號 PLAN No. S/K10/URA2/A

DRAFT URBAN RENEWAL AUTHORITY
KAU PUI LUNG ROAD / CHI KIANG STREET
DEVELOPMENT SCHEME PLAN NO. S/K10/URA2/A

(Being a Draft Plan for the Purposes of the Town Planning Ordinance prepared by the Urban Renewal Authority under section 25 of the Urban Renewal Authority Ordinance)

NOTES

(N.B. These form part of the Plan)

(1) These Notes show the uses or developments on land falling within the boundaries of the Plan which are always permitted and which may be permitted by the Town Planning Board, with or without conditions, on application. Where permission from the Town Planning Board for a use or development is required, the application for such permission should be made in a prescribed form. The application shall be addressed to the Secretary of the Town Planning Board, from whom the prescribed application form may be obtained.

(2) Any use or development which is always permitted or may be permitted in accordance with these Notes must also conform to any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, as may be applicable.

(3) (a) No action is required to make the existing use of any land or building conform to this Plan until there is a material change of use or the building is redeveloped.

(b) Any material change of use or any other development (except minor alteration and/or modification to the development of the land or building in respect of the existing use which is always permitted) or redevelopment must be always permitted in terms of the Plan or, if permission is required, in accordance with the permission granted by the Town Planning Board.

(c) For the purposes of subparagraph (a) above, "existing use of any land or building" means –

(i) before the publication in the Gazette of the notice of the first statutory plan covering the land or building (hereafter referred as 'the first plan'),

- a use in existence before the publication of the first plan which has continued since it came into existence; or

- a use or a change of use approved under the Buildings Ordinance which relates to an existing building; and

(ii) after the publication of the first plan,

- a use permitted under a plan which was effected during the effective period of that plan and has continued since it was effected; or

- a use or a change of use approved under the Buildings Ordinance which relates to an existing building and permitted under a plan prevailing at the time when the use or change of use was approved.

(4) Except as otherwise specified by the Town Planning Board, when a use or material change of use is effected or a development or redevelopment is undertaken, as always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board, all permissions granted by the Town Planning Board in respect of the site of the use or material change of use or development or redevelopment shall lapse.

(5) Road widths, road junctions and alignments of roads may be subject to minor adjustments as detailed planning proceeds.

(6) Temporary uses (expected to be 5 years or less) of any land or building are always permitted as long as they comply with any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, and there is no need for these to conform to the zoned use or these Notes. For temporary uses expected to be over 5 years, the uses must conform to the zoned use or these Notes.

(7) The following uses or developments are always permitted on land falling within the boundaries of the Plan except where the uses or developments are specified in Column 2 of the Schedule of Uses:

(a) provision, maintenance or repair of plant nursery, amenity planting, open space, rain shelter, refreshment kiosk, road, bus/public light bus stop or lay-by, cycle track, Mass Transit Railway station entrance, Mass Transit Railway structure below ground level, taxi rank, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, telecommunications radio base station, automatic teller machine and shrine; and

(b) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government.

(8) Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted uses and

developments within the same zone are always permitted and no separate permission is required.

(9) In these Notes, "existing building" means a building, including a structure, which is physically existing and is in compliance with any relevant legislation and the conditions of the Government lease concerned.

(10) Any development not compatible with the Urban Renewal Authority's Development Scheme for the area is prohibited by virtue of section 25(4) of the Urban Renewal Authority Ordinance.

DRAFT URBAN RENEWAL AUTHORITY
KAU PUI LUNG ROAD / CHI KIANG STREET
DEVELOPMENT SCHEME PLAN NO. S/K10/URA2/A

Schedule of Uses

	Page
RESIDENTIAL (GROUP A)	1

RESIDENTIAL (GROUP A)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot Flat Government Use (not elsewhere specified) House Library Market Place of Recreation, Sports or Culture Public Clinic Public Transport Terminus or Station (excluding open-air terminus or station) Public Vehicle Park (excluding container vehicle) Residential Institution School (in free-standing purpose-designed building only) Social Welfare Facility Utility Installation for Private Project	Commercial Bathhouse/ Massage Establishment Eating Place Educational Institution Exhibition or Convention Hall Government Refuse Collection Point Hospital Hotel Institutional Use (not elsewhere specified) Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Office Petrol Filling Station Place of Entertainment Private Club Public Convenience Public Transport Terminus or Station (not elsewhere specified) Public Utility Installation Religious Institution School (not elsewhere specified) Shop and Services (not elsewhere specified) Training Centre

(Please see next page)

RESIDENTIAL (GROUP A) (Cont'd)

In addition, the following uses are always permitted (a) on the lowest three floors of a building, taken to include basements; or (b) in the purpose-designed non-residential portion of an existing building, both excluding floors containing wholly or mainly car parking, loading / unloading bay and / or plant room:

Eating Place
Educational Institution
Institutional Use (not elsewhere specified)
Off-course Betting Centre
Office
Place of Entertainment
Private Club
Public Convenience
Recyclable Collection Centre
School
Shop and Services
Training Centre

Planning Intention

This zone is intended primarily for high-density residential developments with the provision of underground public vehicle park, Government, institution or community (GIC) facilities, and at-grade open space for public use. Commercial uses are always permitted on the lowest three floors of a building or in the purpose-designed non-residential portion of an existing building.

(Please see next page)

RESIDENTIAL (GROUP A) (Cont'd)

Remarks

(1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in the plot ratio for the building upon development and/or redevelopment in excess of 8.0 for a domestic building or 9.0 for a building that is partly domestic and partly non-domestic, or the plot ratio of the existing building, whichever is the greater. Except where the plot ratio is permitted to be exceeded under paragraphs (7) and/or (8) hereof, under no circumstances shall the plot ratio for the domestic part of any building, to which this paragraph applies, exceed 8.0.

(2) For a non-domestic building to be erected on the site, the maximum plot ratio shall not exceed 9.0 except where the plot ratio is permitted to be exceeded under paragraphs (7) and/or (8) hereof.

(3) For the purposes of paragraph (1) above, no addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the relevant maximum domestic and/or non-domestic plot ratio(s), or the domestic and/or non-domestic plot ratio(s) of the existing building, whichever is the greater, subject to, as applicable –

(i) the plot ratio(s) of the existing building shall apply only if any addition, alteration and/or modification to or redevelopment of an existing building is for the same type of building as the existing building, i.e. domestic, non-domestic, or partly domestic and partly non-domestic building; or

(ii) the maximum domestic and/or non-domestic plot ratio(s) stated in paragraph (1) above shall apply if any addition, alteration and/or modification to or redevelopment of an existing building is not for the same type of building as the existing building, i.e. domestic, non-domestic, or partly domestic and partly non-domestic building.

(4) An underground public vehicle park as required by the Government shall be provided. Any floor space that is constructed or intended for use solely as public vehicle park as required by the Government, may be disregarded.

(5) In determining the relevant maximum plot ratio for the purposes of paragraphs (1) and (2) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded. Any floor space that is constructed or intended for use solely as Government, institution or community

facilities, as required by the Government, may also be disregarded.

(6) No new development, or addition, alteration and / or modification to or redevelopment of an existing building shall result in a total development and / or redevelopment in excess of the maximum building height in terms of metres above Principal Datum (mPD) as stipulated on the Plan, or the height of the existing building, whichever is the greater.

(7) Where the permitted plot ratio as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the plot ratio for the building on land to which paragraphs (1) and (2) applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio specified in the paragraphs (1) and (2) above may thereby be exceeded.

(8) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio and building height restrictions as stated in paragraphs (1), (2) and (6) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

DRAFT URBAN RENEWAL AUTHORITY
KAU PUI LUNG ROAD / CHI KIANG STREET
DEVELOPMENT SCHEME PLAN NO. S/K10/URA2/A

EXPLANATORY STATEMENT

DRAFT URBAN RENEWAL AUTHORITY
KAU PUI LUNG ROAD / CHI KIANG STREET
DEVELOPMENT SCHEME PLAN NO. S/K10/URA2/A

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DRAFT URBAN RENEWAL AUTHORITY
KAU PUI LUNG ROAD / CHI KIANG STREET
DEVELOPMENT SCHEME PLAN NO. S/K10/URA2/A

(Being a Draft Plan for the Purposes of the Town Planning Ordinance prepared by the Urban Renewal Authority under section 25 of the Urban Renewal Authority Ordinance)

EXPLANATORY STATEMENT

Note: For the purposes of the Town Planning Ordinance (the Ordinance), this statement shall not be deemed to constitute a part of the Plan.

1. INTRODUCTION

This Explanatory Statement is intended to assist an understanding of the draft Urban Renewal Authority (URA) Kau Pui Lung Road / Chi Kiang Street Development Scheme Plan (DSP) No. S/K10/URA2/A. It reflects the planning intention and objectives of the Town Planning Board (the Board) for the area covered by the Plan.

2. AUTHORITY FOR THE PLAN AND PROCEDURES

2.1 In response to the Policy Address 2018 and 2019 (PAs) by the Chief Executive (CE), the URA is invited to identify one or two clusters of Civil Servants' Co-operative Building Society (CBS) Scheme sites suitable for high-density development as pilot sites (pilot CBS redevelopment project), and explore the redevelopment mode in accordance with the usual project implementation approach adopted by the URA. The Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC) is one of the pilot CBS redevelopment projects.

2.2 On 11 May 2020, Kau Pui Lung Road / Chi Kiang Street Development Scheme was approved by the Financial Secretary to be commenced in 2020/21. The Development Scheme was proposed to be processed under section 25 of the URA Ordinance (URAO).

2.3 On 22 May 2020, pursuant to section 23(1) of the URAO, the URA notified in the Government Gazette the commencement of implementation of the Kau Pui Lung Road / Chi Kiang Street Development Scheme.

2.4 On the same day of commencement (i.e. 22 May 2020), the URA submitted the draft URA Kau Pui Lung Road / Chi Kiang Street DSP (the DSP) to the Board under section 25(5) of the URAO.

2.5 During the public consultation period of the Scheme, most of the comments and concerns were related to CBS issues, especially on the land matters of the undissolved CBS. The URA, after consultation with different Government Bureaux/ Departments, has addressed the related comments and concerns. In this connection, the URA has taken the opportunity to review the draft DSP to respond to the new policy directives entrusting the URA to provide more Starter Home (SH) units. Opportunity is also sought to enhance the Development Scheme to achieve wider planning gains to the community. On 4 November 2022, the URA has submitted a revised draft DSP to the Board for consideration.

2.5 On XXXX, the Board, under section 25(6)(a) of the URAO, deemed the draft URA Kau Pui Lung Road / Chi Kiang Street DSP as being suitable for publication. Under section 25(7) of the URAO, the draft DSP, which the Board has deemed suitable for publication, is deemed to be a draft plan prepared by the Board for the purposes of the Ordinance.

2.6 On XXXX, the draft Kau Pui Lung Road / Chi Kiang Street DSP No. S/K10/URA2/1 (the Plan) was exhibited under section 5 of the Ordinance. By virtue of section 25(9) of the URAO, the Plan has from the date replaced the Ma Tau Kok Outline Zoning Plan (OZP) in respect of the area delineated and described herein.

3. OBJECT OF THE PLAN

The Plan illustrates that the Development Scheme Area (the Area) is designated as "Residential (Group A)" ("R(A)"). It is planned to be developed by means of the Development Scheme prepared under section 25 of the URAO. The Development Scheme intends to be primarily for high-density residential developments with the provision of an underground public vehicle park, Government, institution or community (GIC) facilities, and open space for public use. Commercial uses are always permitted on the lowest three floors of a building or in the purpose-designed non-residential portion of an existing building. The Development Scheme will be developed for private housing and Starter Home (SH), providing not less than 950 SH units, subject to liaison and agreement with Government Bureaux/Departments at implementation stage.

4. NOTES OF THE PLAN

4.1 Attached to the Plan is a set of Notes which shows the types of uses or developments which are always permitted within the Area in this zone and which may be permitted by the Board, with or without conditions, on application. The provision for application for planning permission under section 16 of the Ordinance allows greater flexibility in land use planning and control of development to meet changing needs.

4.2 For the guidance of the general public, a set of definitions that explains some of the terms used in the Notes may be obtained from the Technical Services Division of the Planning Department and can be downloaded from the Board's website at http://www.info.gov.hk/tpb.

5. AREA COVERED BY THE PLAN

5.1 The Development Scheme boundary which is shown in heavy broken line on the Plan, covers a total area of about 16,473m^2 (subject to site survey). The Development Scheme involves a cluster of 30 CBS sites which is broadly bounded by a row of buildings at Ma Tau Wai Road to

the east, Chi Kiang Street to the south, Kau Pui Lung Road to the west and Lok Shan Road to the north.

5.2 The net site area is about 15,475m^2, subject to site survey, includes all private lots, the government lanes, the portion of Maidstone Road and Kiang Su Street, but excludes public pavement at the periphery where affected buildings overhang within the Area.

5.3 On the previous approved Ma Tau Kok OZP No. S/K10/28, the Area is zoned "R(A)" and an area shown as 'Road' before the exhibition of the Plan.

6. EXISTING CONDITIONS

6.1 The Development Scheme consists of buildings of 5 to 6 storeys high and they were built between 1959 and 1970 (i.e. all aged 50 or above). The buildings are all residential in nature and there is no retail shop within the Area. Most of the buildings are in "Acceptable" conditions. However, none of the buildings is served by lift or barrier-free access and the livability is poor.

6.2 The existing southern portion of Maidstone Road is a dead-end road, which is included in the Area for redevelopment.

7. PLANNING AND LAND USE PROPOSALS

7.1 On the Plan, the Area is zoned "R(A)" and the Notes of the Plan indicated broadly the intended land uses within the Area. The area covered by the "R(A)" zone is about 15,475m^2, subject to site survey.

Uses

7.2 The "R(A)" zone is intended primarily for high-density residential developments with the provision of underground public vehicle park, GIC facilities, and open space for public use. Commercial uses are

always permitted on the lowest three floors of a building or in the purpose-designed non-residential portion of an existing building.

7.3 The maximum plot ratio within the "R(A)" zone is 9.0, or the plot ratio of the existing building(s), whichever is the greater. Except where the plot ratio is permitted to be exceeded under the Notes of the Plan or under Building (Planning) Regulations 22(1) or (2), under no circumstances shall the plot ratio for the domestic part of any development exceed 8.0. The "R(A)" zone is also subject to a maximum building height restriction of 140 metres above Principal Datum (mPD).

7.4 To provide design flexibility, minor relaxation of the plot ratio and building height restrictions may be considered by the Board on application under section 16 of the Ordinance taking into account its individual planning and design merits.

Urban Design Concept

7.5 The design of the Development Scheme will adopt an integrated approach. The tower disposition, podium massing and open space are considered as one development to maximise the benefits of replanning and restructuring and to allow the provision of pedestrianised avenue / plaza.

7.6 The massing of podia is minimised to create a pedestrian-friendly environment through urban design including utilisation of the underground space. The footprint of the podia is limited in order to provide a ventilation corridor and for a pedestrianised avenue / plaza and open space. Not less than 400m^2 of public open space (POS) and not less than 2,400m^2 of covered and uncovered area of the pedestrianised avenue / plaza for public use at reasonable hours would be provided.

Pedestrianised Avenue / Plaza

7.7 To remove the existing dead-end condition for a better pedestrian environment, portions of Maidstone Road and Kiang Su Street have been included as part of the Area for the creation of a pedestrianised avenue / plaza within the Area. The pedestrianised avenue / plaza will connect

Lok Shan Road at the north and Chi Kiang Street at the south. It will also link to the two entrances of the Mass Transit Railway (MTR) To Kwa Wan Station at Lok Shan Road and Kiang Su Street respectively.

7.8 The pedestrianised avenue / plaza will include uncovered and covered area with hard and soft landscape, commercial / retail components, event space and sitting area for public enjoyment. The pedestrianised avenue / plaza will be maintained and managed by the URA or its assignee.

7.9 The pedestrianised avenue / plaza will also integrate with an underground pedestrian passageway with retail to connect to the two entrances of the MTR To Kwa Wan Station at Lok Shan Road and Kiang Su Street at basement level, subject to technical feasibility and agreement with relevant government departments and the MTRC. The re-planned pedestrian network will enhance connectivity, walkability and provide a car-free environment.

Underground Public Vehicle Park

7.10 An underground public vehicle park will be provided to re-provision the original on-street parking spaces to cater for the demand for parking in the district. The number of public car parking spaces to be provided in the underground car park shall be not less than 164 public car parking spaces as required by the Government. Management of the underground public vehicle park will be arranged at the development stage.

Government, Institution or Community (GIC) Facilities

7.11 To meet the need for community facilities in the vicinity and the increased population after redevelopment, GIC uses are proposed in the Development Scheme. Not less than 2,500m^2 non-domestic gross floor area would be proposed for GIC use within the non-domestic portion, subject to confirmation of usage and funding from relevant government departments. In order to facilitate provision of GIC facilities, in determining the relevant maximum plot ratio of the development and / or redevelopment, any floor space that is constructed or intended for use solely as GIC facilities, as required by the Government, may be disregarded.

Landscaping and Greening

7.12 A cohesive landscaping, tree planting and greening will be provided in the pedestrianised avenue / plaza and open space to meet the Sustainable Building Design (SBD) Guidelines to enhance the local streetscape and walking environment. According to SBD Guidelines, minimum site coverage of greening of 20% of the net site area will be provided.

Air Ventilation

7.13 According to the air ventilation assessment report (AVA 2022) for the proposed development, the proposed building height reduces the bulkiness of the buildings and the number of building blocks to create a ventilation corridor in north-south mainly along Maidstone Road and another one in east-west near Kiang Su Street. Besides, wide building separations are proposed between residential towers within the Development Scheme to enhance air flow in east-west directions. The proposed development can enhance the air ventilation, especially on the pedestrian level.

8. IMPLEMENTATION OF THE DEVELOPMENT SCHEME

8.1 The proposals set out in the Plan form an integral part of the Development Scheme for the Area.

8.2 The URA does not own or lease any land within the boundaries of the Development Scheme and intends to acquire the properties within the Area of the Development Scheme. With respect to any of such properties which cannot be acquired by purchase, the Secretary for Development would consider, upon the application of the URA, recommending to the CE in Council the resumption of properties under the Lands Resumption Ordinance, if necessary.

8.3 All eligible tenants will be offered an ex-gratia payment package in accordance with the URA's policy. The URA has already entered into agreement with the Hong Kong Housing Society (HKHS) and the Hong

Kong Housing Authority (HKHA) for the purpose of making available rehousing units by HKHS or HKHA to rehouse affected tenants who satisfy the eligibility criteria of HKHS or HKHA.

8.4 Non-domestic tenants (if any) of properties acquired by the URA whose tenancies are terminated by the URA due to implementation of the Development Scheme may be offered an ex-gratia allowance to assist in their business relocation.

8.5 Details of the acquisition, compensation and rehousing policies are subject to the URA's prevailing policies at the time of acquisition. The URA may implement the Development Scheme on its own or in association with one or more partners.

TOWN PLANNING BOARD
November 2022

Part 4

Planning Proposal
(Revised Design 2022)

PART 4

Planning Proposal
(Revised Design 2022)

1. PLANNING PROPOSAL (REVISED DESIGN 2022)

1.1. This section provides a brief description of the notional design and planning proposal of the proposed development in the Scheme.

Key Development Parameters and Development Intensity

1.2. Under the draft DSP (refer to Part 3), the Scheme area in orange colour is proposed to be zoned "R(A)", which is primarily intended for high-density residential developments with the provision of Government, institution or community (GIC) facilities and commercial/retail uses at the podia, at-grade open space for public use and underground public vehicle park.

1.3. In response to the new policy directives of provide more Starter Homes (SH), the Scheme is proposed to provide private housing and provision of about 950 SH units. The Scheme will be considered as one site to be developed by the URA or its joint venture partner(s).

1.4. A maximum total Plot Ratio (PR) of 9 is adopted in the Scheme to optimise the site potential. New planning tool of PR interchangeability, with domestic PR = 8 and non-domestic PR = 1, is proposed in the Scheme to allow more flexibility on proposed development for better urban design and massing to echo with the local environment. The flat supply of the Scheme will be about five (5) times of the existing flat number, according to the approved GBP as of October 2022, increasing from about 460 to about 2,300 units.

1.5. Residential towers are proposed on top of podia. Retail will be provided on the ground floor and the basement floor, which is proposed to be connected with the MTR To Kwa Wan Station directly to enhance pedestrian connectivity and convenience.

1.6. Not less than 2,500sq.m. GFA of GIC facilities will be provided in the podia, subject to confirmation of usage and funding from relevant government departments. It is proposed a clause to be included in the "Remarks" of the proposed Notes of "R(A)" that "any floor space that is constructed or intended for use solely as GIC facilities, as required by the Government, may be disregarded from GFA/PR calculation".

1.7. To optimise underground space and to address the district parking needs, an underground public car park will be provided to reprovision the affected on-street parking spaces by the Scheme and additional parking spaces for public use. In determining the relevant maximum GFA of the redevelopment, any floor space that is constructed or intended for use solely as public vehicle park as required by the Government, may be disregarded.

1.8. With the re-structuring of land parcels to optimise massing and layout and to create both north-south and east-west ventilation corridors, a 20m height relaxation, i.e. from 120mPD to 140mPD, is proposed in the

Scheme.

Table 1.1 Proposed Development Parameters of the Scheme

Parameters	**Details**	
	Northern Site *	**Southern Site ***
Scheme Area*	16,473m^2	
Net Site Area**	15,475m^2	
Proposed Domestic GFA (PR)^	Around 123,800m^2 (8)	
Proposed Non-domestic GFA (PR)^	Around 15,475m^2 (1)	
GIC Provision (exempted from GFA calculation under planning regime)	Not less than 2,500m^2	
Total GFA (PR) (Excluded GIC GFA)	Around 139,275m^2 (9)	
No. of Flats@	About 1,374	About 950
Average Flat Size@	About 50m^2	About 58m^2
Proposed Maximum Building Height	Not more than 140mPD	
Public Car Parking Spaces in Public Vehicle Park (PVP)+	164	
Ancillary Private Car Parking Spaces%	611	
Ancillary Loading / Unloading Bays%	28 (15 LGV and 13 M/HGV bays)	

Remarks:

* The boundary between the Northern Site and the Southern Site is indicative and subject to site survey and changes.

** Net Site Area includes all private lots, the government lanes, the portion of Maidstone Road and Kiang Su Street within the Scheme.

^ The exact GFA and PR are subject to TPB approval, detailed design and prevailing Schedule 1 of the Building (Planning) Regulations.

@ Indicative only, subject to detailed design at project implementation stage.

\+ Include re-provision of 100 on-street private car parking spaces affected by the Scheme and subject to agreement with TD.

% Number of provision subject to detailed design and agreement with Transport Department (TD).

Conceptual Layout

1.9. Based on the proposed development parameters for the Scheme, **Part 5** shows the indicative block plan and section plan of the Scheme. The indicative block plan reflects only the general disposition of the towers and the design concept of the Scheme, while the landscape proposal and local open space provision will be ascertained in the detailed design stage. The proposed development parameters are set out in **Table 2.1** which is subject to adjustments in the detailed design stage.

Holistic replanning of land uses to optimise site potential

1.10. A holistic replanning of the uses within the Scheme to rationalise and optimise the land uses. The portions of Maidstone Road and Kiang Su Street within the Scheme are proposed to be permanently closed to achieve the following goals:

- Convert the dead-end condition of Maidstone Road to provide more space for pedestrianised avenues for safer traffic and car-free pedestrian environment;
- Integrated design of the proposed development to group all traffic servicing area, such that more area can be opened up for pedestrian flow;
- Create a roundabout for Maidstone Road near Lok Shan Road to enhance safer traffic; and
- Facilitate a more flexible building disposition and layout.

1.11. With the proposed closure of the two roads, the land parcels are re-configured to enable a more efficient block layout and disposition. Under the notional design of the Scheme, there will be 7 residential towers on top of podia, distributed in a north-south alignment along two sides of the Scheme area, with a wide at-grade pedestrianised avenue/ plaza provided in the middle part along the existing Maidstone Road. Building separation is created between towers to create two major east-west corridors within the Scheme.

1.12. Under the notional design, the Scheme is divided into two portions, namely the Northern Site and the Southern Site. The two residential towers at the southern portion of the Scheme area will be allocated for provision of SH units. The site boundary between the Northern Site and the Southern Site is indicative as shown in Figure 1.1 of Part 3, with the site boundary and the locations of the SH units subject to detailed design and change.

1.13. With the adoption of a higher domestic PR (8) for flat supply, a lower non-domestic PR (1) is adopted to maintain the development intensity to a total PR of 9 for the Scheme. Low-rise retail podia are created to accommodate the retail uses at ground level and 1 basement level only. The more human-scale retail podia will provide small-scale street front shops for daily necessities and shopping needs. This will create a more comfortable environment at street level and echo with the tranquil atmosphere of the locality.

Restructuring of Traffic and Pedestrian Network to enhance walkability and accessibility

1.14. With the closure of the portion of Maidstone Road and Kiang Su Street, a pedestrianised avenue integrated with event plaza, where appropriate, will be provided within the Scheme. The pedestrianised avenue will provide a north-south throughway within the Scheme area to provide a car-free walking environment connecting from Lok Shan Road to the north towards Chi Kiang Street to the south. It will also directly arrive to the at-grade MTR To Kwa Wan Station exits at Lok Shan Road and Kiang Su Street respectively. It will provide a convenient and safe pedestrian network for the neighbourhood.

1.15. Ground floor retail shops of the proposed development will be provided along both sides of the pedestrianised avenue to enrich passerby experience and enhance street vibrancy. The pedestrianised avenue/ event plaza will include uncovered and covered area with hard and soft landscape, commercial / retail components, event space and sitting area for public enjoyment. Cohesive landscaping, tree planting and vertical greening will be explored to improve the pedestrian friendly environment and create a sense of place.

1.16. The pedestrianised avenue/ event plaza will form part of the proposed development and will be maintained and managed by the URA or its assignee for place-making. Some place-making activities and commercial components such as musical playing, selling light refreshments can be organized at the pedestrianised avenues / event plazas in future to enhance the street vibrancy and provide quality open space for public enjoyment. The pedestrianised avenue/ event plaza will be opened for public use at reasonable hours to benefit the local community.

1.17. To further enhance connectivity, multi-level pedestrian network is proposed. Apart from the at-grade pedestrianised avenue, an underground shopping street will be provided with possible connection to the MTR To Kwa Wan Station at basement level. In addition, possible elevated bridge/deck linkages to connect between the podia within the Scheme will be explored at detailed design stage to not only serve the residents of the proposed development, but also providing rain cover for the pedestrianised avenue / plaza on the ground level.

1.18. With the restructuring of land uses and redevelopment, integrated design of the proposed development, some of the back lanes serving the existing buildings will no longer be required upon redevelopment. Integrated design of the proposed development will facilitate the grouping of internal transport facilities, including ingress/egress for ancillary carpark and public vehicle park and loading/unloading facilities of the proposed development, for more efficient use of land.

Building separation and building height relaxation for better urban design and environment

1.19. Under the notional design, careful building separation and disposition is considered to create wide openness as visual corridors. Two visual corridors are created within the Scheme, along the existing Maidstone Road and Kiang Su Street respectively. The massing of the proposed development will be carefully designed to minimise site coverage to allow a considerable width of the visual corridors, as well as comfortable pedestrian movement at-grade with possible on-street activities.

1.20. With the careful massing design and visual corridors provided, it helps to create two ventilation corridors in north-south (N-S) and east-west (E-W) directions to enhance comfort for these pedestrian friendly environment and event spaces. The revised Air Ventilation Assessment (AVA) demonstrates that the air breezeway along these two areas is enlarged and thus improve the air ventilation, especially on the pedestrian level. The results indicated that the proposed development in the Scheme could slightly enhance the wind flow in the Scheme Area and its nearby area.

1.21. To facilitate the above urban design consideration and to optimize the land potential, a relaxation of the maximum building height from 120mPD to 140mPD is proposed within the Scheme. The proposed 140mPD is still compatible to the building height restriction of the adjoining Lok Man Sun Chuen opposite to the Scheme.

1.22. A revised Visual Impact Assessment (VIA) is carried out to demonstrate that the proposed building height of 140mPD is compatible with the surrounding developments as viewed from main street angles in the vicinity and also without jeopardising the urban design principles of maintaining a stepping height profile towards the waterfront and without obstructing the ridgeline. The gap between the proposed building towers is much larger under the scenario of 140mPD, which results in a wider and better visual corridor in a medium distance. The two corridors in N-S and E-W directions will also serve for visual corridors at the pedestrian level, which will invite people to the car-free and environmental-friendly pedestrianised avenue / plaza.

1.23. If the maximum building height of 120mPD is kept for the proposed development as of the current OZP, bulkier building forms and one extra residential tower (i.e. total of 8 towers), comparing with the scenario of 140mPD, would be required. Under such scenario, although the layout on two sides of the N-S corridor could be kept to maintain the major N-S corridor, the E-W corridor is unavoidably interrupted under the Sustainable Building Design (SBD) Guidelines including the requirements on building façade length and building separation. Building separation will be much narrowed due to the increase of tower numbers and the limited site area. The planning gain of the Scheme will be diminished as it will jeopardise the opportunity to create a wider ventilation and visual corridor and reduced at-grade space for public use

and place-making.

1.24. The design will aim to meet the design guidelines stipulated in the SBD Guidelines by providing the requisite building separation, building permeability and greenery in the Scheme to enhance the environmental sustainability.

GIC provision and Open Space to benefit the community

1.25. To align with the "Single Site, Multiple Uses" initiatives as promoted by the Government, it is proposed to reserve not less than 2,500m^2 GFA for appropriate GIC facilities within the Scheme to meet the needs of the community, subject to confirmation from relevant government departments on the usage and funding availability to take up and operate the facilities.

1.26. A public open space (POS) of about 400m^2 is provided within the Scheme. The POS will be designed in conjunction or close to the pedestrianised avenue/ plaza in order to create a continuation of public space for more integrated design and use. Together with the provision of the pedestrianised avenue/ plaza, the Scheme will bring a considerable size of at-grade open space for the enjoyment of the community.

1.27. Local open space provision within the Scheme will follow the HKPSG and to be ascertained at detailed design.

Provision of Public Vehicle Park and Internal Transport Facilities

1.28. An underground public vehicle park (PVP) is proposed within the Scheme to provide about 164 parking spaces for the community. The PVP can facilitate the removal of the on-street parking spaces due to the proposed closure of Maidstone Road and Kiang Su Street for redevelopment. It will also provide opportunities for optimising the surrounding pedestrian environment and further improves walkability.

1.29. Ancillary basement car park will be provided for the proposed development. Vehicular ingress / egress will be provided at Kau Pui Lung Road for both the PVP and the ancillary car park of the proposed development. Proper management measures will be designed at implementation stage to meet the operation needs of the two car parks.

2. PLANNING AND DESIGN MERITS

2.1. The Revised Design 2022 will provide the following planning and environmental benefits:-

- Full utilisation of development potential of the site for high density development in the urban district to increase flat supply to about five time more than the exiting flat number;

- About 950 units of SH units will be provided within the Scheme to meet different market needs;

- More efficient use of land by including a dead-end road in the Scheme, forming a comparatively consolidated land parcel;

- Provision of GIC facilities and open space for public use and enjoyment;

- Provision of public parking spaces for community use and provide opportunities to remove on-street parking spaces to optimise pedestrian environment;

- Creation of pedestrianised avenue / plaza to provide car-free environment and event space for safe and pedestrian friendly walking environment;

- Creation of both at-grade and underground pedestrian networks connected with the MTR Station to enhance walkability and accessibility; and

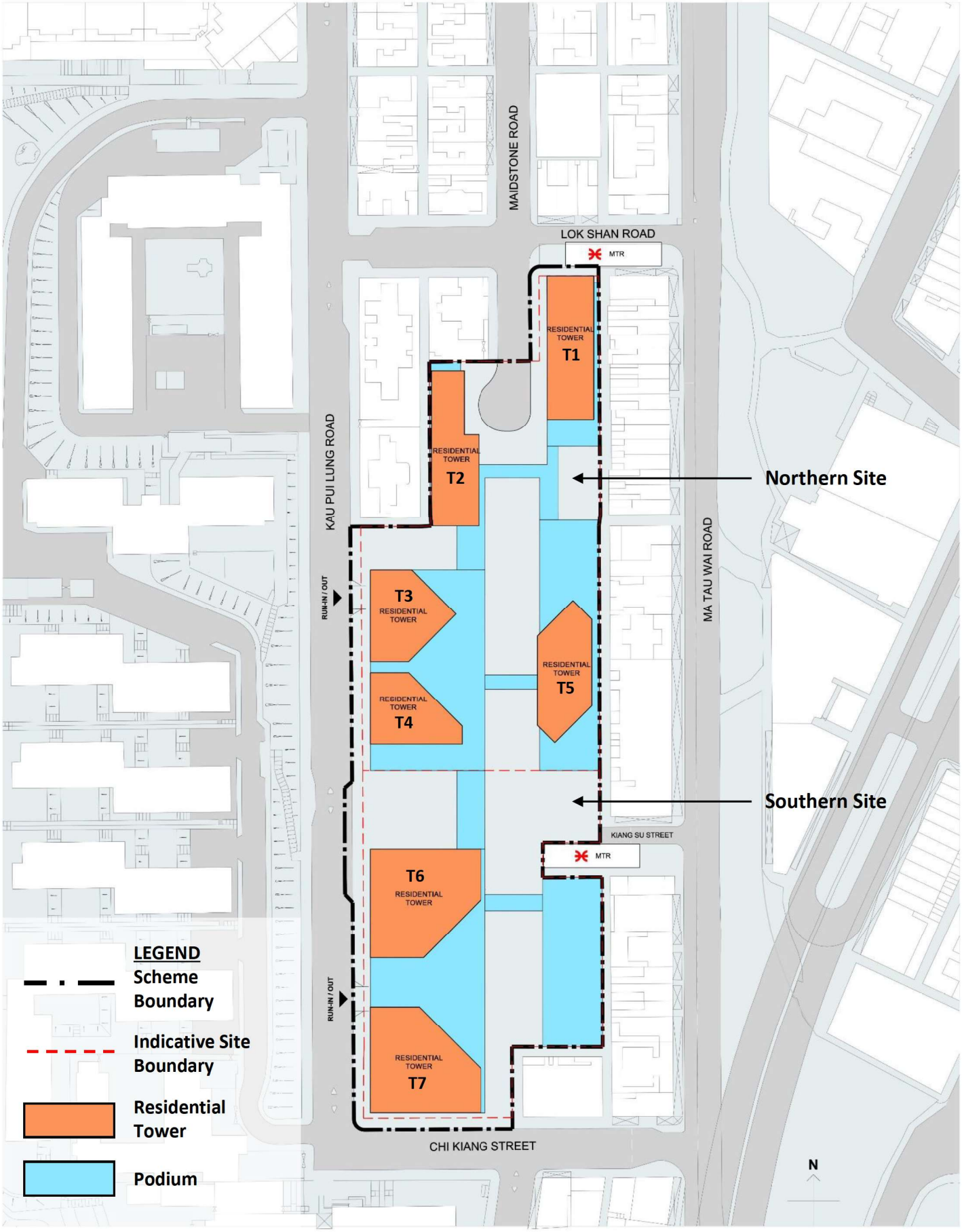
- Better urban design to enhance air ventilation and landscaping of urban area.

URBAN RENEWAL AUTHORITY

November 2022

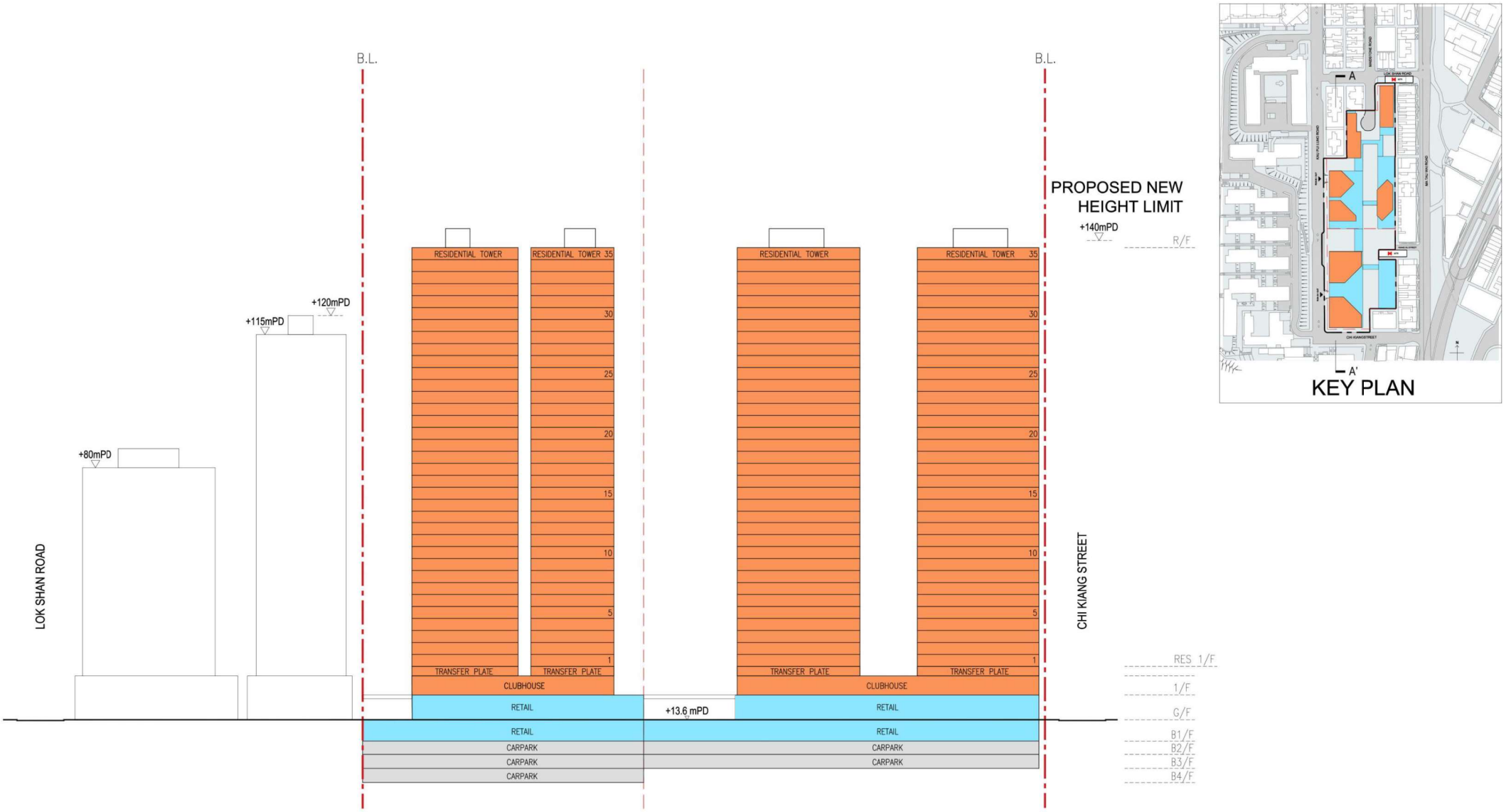
Part 5

Preliminary Design



(Remarks: For indicative purpose only. Notional layout subject to detailed design upon DSP approval.)

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Notional Design – Indicative Block Plan	**Figure 1.1**



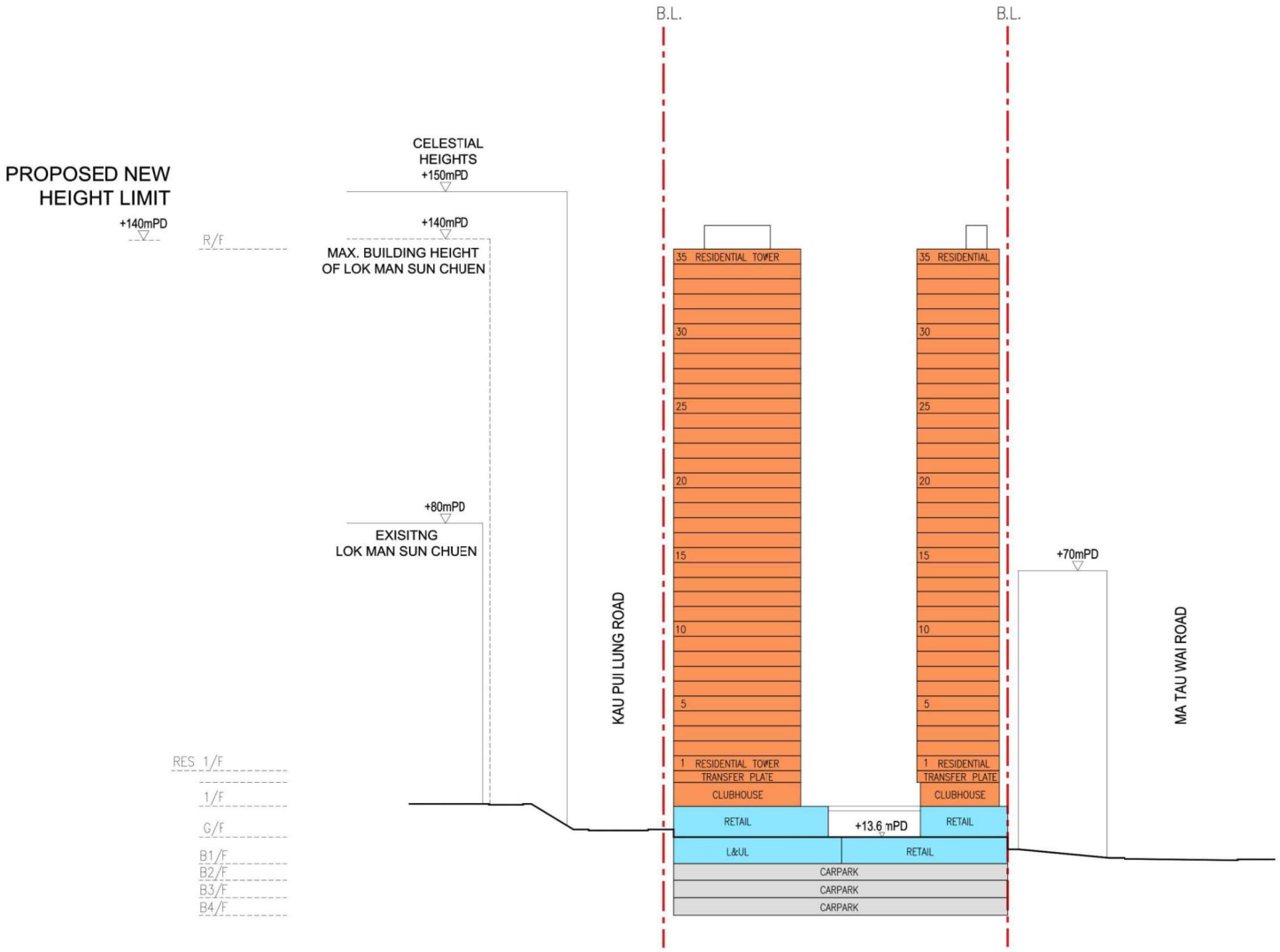
(Remarks: For indicative purpose only. Notional layout subject to detailed design upon DSP approval.)

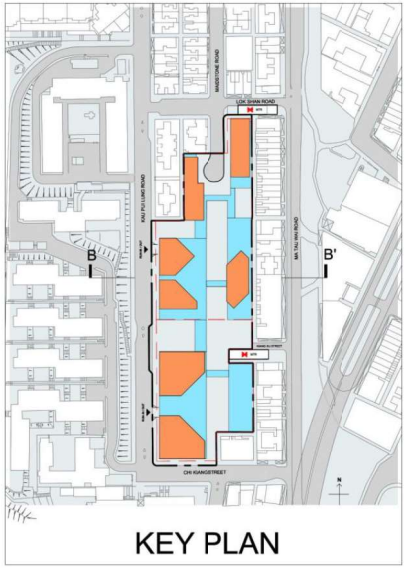
URBAN RENEWAL AUTHORITY 市區重建局

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

Notional Design – Schematic Section AA'

Figure 1.2





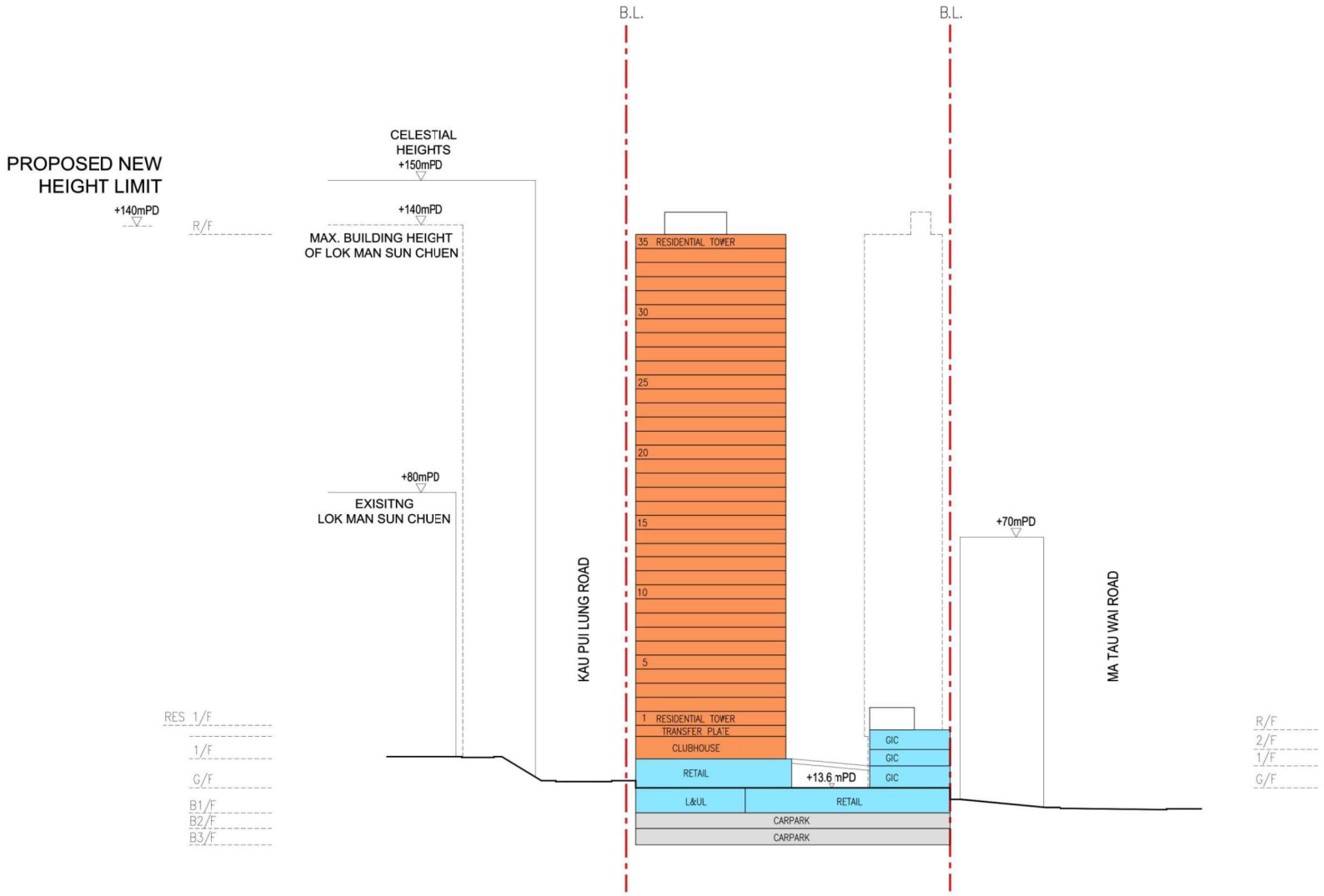
(Remarks: For indicative purpose only. Notional layout subject to detailed design upon DSP approval.)

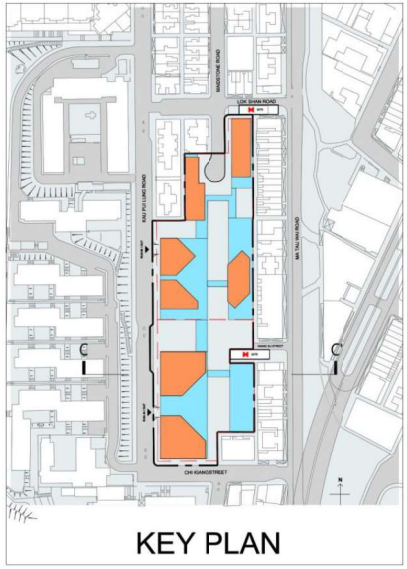
URBAN RENEWAL AUTHORITY 市區重建局

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

Notional Design – Schematic Section BB'

Figure 1.3





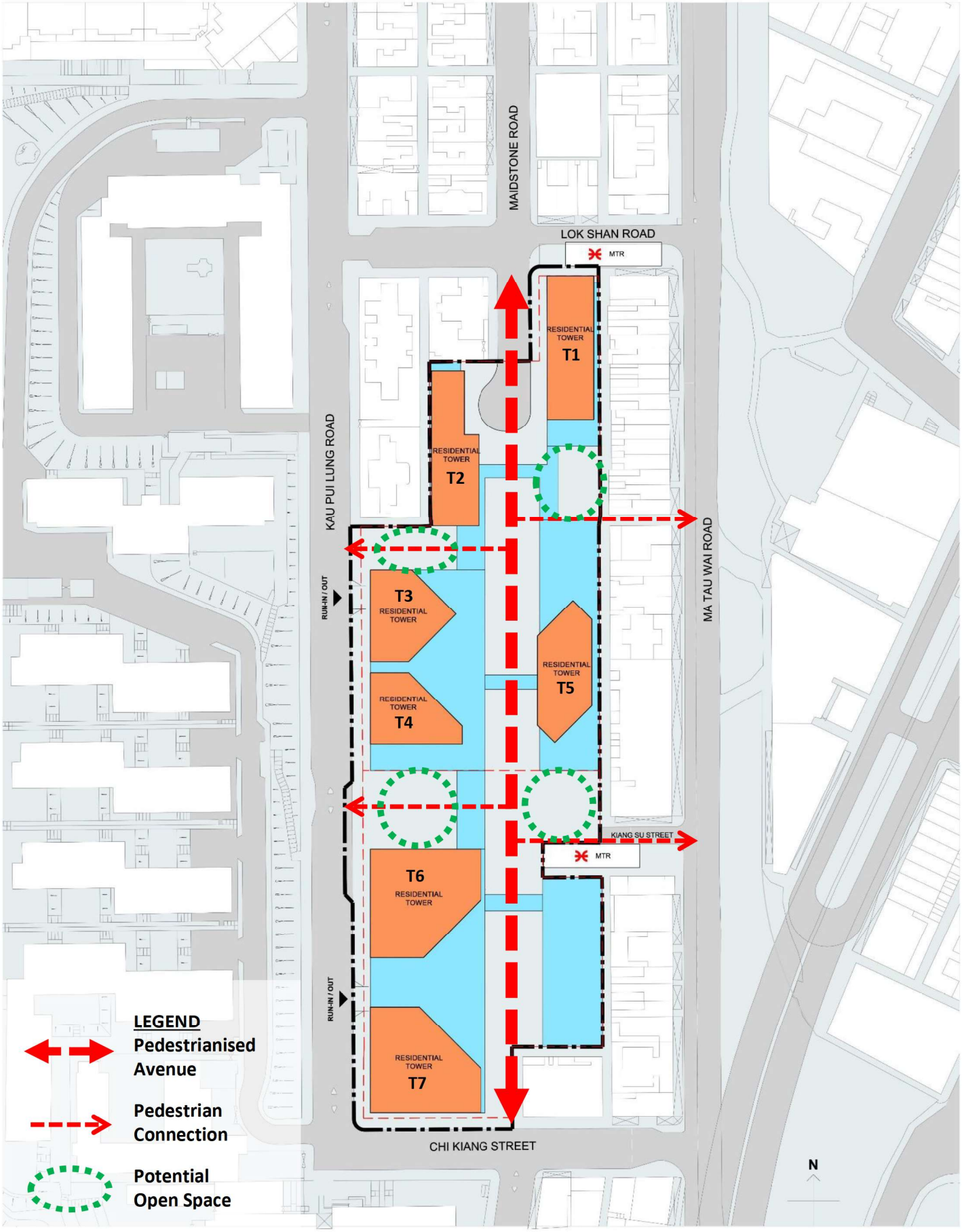
(Remarks: For indicative purpose only. Notional layout subject to detailed design upon DSP approval.)

URBAN RENEWAL AUTHORITY 市區重建局

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

Notional Design – Schematic Section CC'

Figure 1.4



(Remarks: For indicative purpose only. Notional layout subject to detailed design upon DSP approval.)

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Notional Design – Pedestrian Connection and Potential Open Space	**Figure 1.5**

Part 6

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3.	Sewage Impact Assessment (SIA)
4.	Air Ventilation Assessment (AVA)
5.	Visual Impact Assessment (VIA)
6.	Drainage Impact Assessment (DIA)
	COMPARISON TABLES
7.	Comparison Tables of Water Supply Impact Assessment (WSIA)
8.	Comparison Tables of Quantitative Risk Assessment (QRA)

Traffic Impact Assessment
(TIA)

Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

Traffic Impact Assessment

(October 2022)

CTA Consultants Limited
志達顧問有限公司

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1. INTRODUCTION

1.1 Background

1.1.1 The Urban Renewal Authority (URA) commenced the Kau Pui Lung Road / Chi Kiang Street Development Scheme (the Scheme) (CBS-2:KC) on 22 May 2020, as a development scheme under section 25 of the Urban Renewal Authority Ordinance (URAO). A Traffic Impact Assessment (TIA) is required to be prepared to support the submission of the draft Development Scheme Plan (DSP) of the Scheme to the Town Planning Board (TPB) for consideration.

1.1.2 CTA Consultants Limited (CTA) has been commissioned by URA as the traffic consultant to prepare the TIA and to provide technical justifications in supporting the application from a traffic engineering point of view.

1.1.3 A draft DSP together with planning proposal and technical assessments were submitted to the TPB at commencement of the Scheme in May 2020. During public consultation, most of the comments and concerns were related to CBS issues, especially on the land matters of the undissolved CBS. The URA, after consultation with different Government Bureaux / Departments, has addressed the related comments and concerns. In this connection, the URA has taken the opportunity to review the draft DSP to respond to the new policy directives of entrusting the URA to provide more Starter Home (SH) units. Opportunity is also sought to enhance the Scheme to achieve wider planning gains to the community.

1.1.4 With the above consideration and changes, a revised Draft DSP, with revised notional design of providing private housing units and about 950 SH units (the "Revised Design 2022") are prepared and its necessary TAs are updated for TPB consideration.

1.2 The Site

1.2.1 The site is bounded by Ma Tau Wai Road to the east, Chi Kiang Street to the south, Kau Pui Lung Road to the west and Lok Shan Road to the north.

1.2.2 The Scheme area remains unchanged as commenced in May 2020 and will be considered as one site to be developed by the URA or its joint venture partner(s) (**Figure 1.1**). Under the current notional design, the Scheme area will be divided into two sites, i.e. the Northern Site and the Southern Site, for private housing development

and provision of SH units respectively. The site boundary between the Northern Site and the Southern Site is indicative and the location of the SH units are subject to change.

1.3 Proposed Development

1.3.1 To address the above changes in the draft DSP, it is considered necessary to revise the TIA to support the re-submission to TPB for consideration.

1.4 Objectives

1.4.1 The site will be redeveloped for high-density residential development with the provision of commercial use, Government, Institution or Community (GIC) facilities, open space for public use, and underground public vehicle park.

1.4.2 Main objectives of this study are listed below:

- To assess the existing and proposed traffic arrangements & provision of internal transport facilities at the subject site;
- To assess the existing traffic condition in the vicinity of the proposed development;
- To estimate traffic trips related to the proposed development;
- To carry out forecasts about traffic demand of the adjacent road network in the design year 2036;
- To appraise any possible traffic impact induced by the proposed development on the adjacent road network;
- To recommend traffic improvement measures to alleviate any foreseeable traffic problem to the surrounding road network, if any.

1.5 Structure of the Report

1.5.1 Following this introductory chapter, there are FIVE further chapters:

- **Chapter 2 – THE PROPOSED DEVELOPMENT**, which presents the site

location and operation information of the proposed development;

- **Chapter 3 – EXISTING TRAFFIC CONDITION**, which describes the existing local road network and vehicular traffic conditions in the vicinity of the subject site;
- **Chapter 4 – FUTURE TRAFFIC CONDITION & TRAFFIC IMPACT ASSESSMENT**, which estimates future vehicular traffic on the surrounding road network, and presents findings of the traffic impact assessment for the design year 2036;
- **Chapter 5 – PEDESTRIAN ASSESSMENT**, which describes the existing pedestrian network in the vicinity of the subject site and estimates the future condition for design year 2036; and
- **Chapter 6 – SUMMARY AND CONCLUSION**, which summarizes the study findings and presents the conclusion regarding the proposed development.

1.6 Major Changes from Previous TIA (February 2022)

1.6.1 A TIA for the same site was submitted to Transport Department (TD) in February 2022. The major changes in this TIA from the previous TIA (February 2022) are listed below:

- Development parameters were updated.
- Target completion year was changed from 2030 to 2033.
- New surveys were carried on September 2022.
- Assessment on critical road links was added.
- Growth rate was reviewed based on new 2019-based TPEDM
- New adjacent developments were considered.

2. THE PROPOSED DEVELOPMENT

2.1 Site Location

2.1.1 The application site is located in To Kwa Wan, Kowloon as shown in **Figure 1.1**.

2.2 Development Proposal

2.2.1 At present, there are existing CBS residential buildings within the proposed development Site.

2.2.2 The proposed development will comprise of 2 sites, i.e. "Northern Site" and "Southern Site" **(Figure 2.1)**. Development Parameters of the proposed development are listed in **Table 2.1**.

Table 2.1 Development Parameters of the Proposed Development

	Northern Site	Southern Site	Whole Project
Net Site Area*	Around 8,587 m^2	Around 6,888 m^2	15,475 m^2
Proposed Domestic GFA	Around 68,700 m^2 (PR 8)	Around 55,100 m^2 (PR 8)	Around 123,800 m^2 (PR 8)
Proposed Non-Domestic GFA	Around 8,587 m^2 (PR 1)	Around 6,888 m^2 (PR 1)	Around 15,475 m^2 (PR 1)
	GIC: 500 m^2	GIC: 2,000 m^2	GIC: 2,500 m^2
Total GFA	Around 77,287 m^2 (PR 9)	Around 61,988m^2 (PR 9)	Around 139,275 m^2 (PR 9)
Total Number of Residential Flats	About 1,374 units	About 950 units	About 2,324 units
No. of Blocks	5	2	7

**Subject to site survey, Net Site Area includes all private lots, the existing sections of Maidstone Road and Kiang Su Street, and Government lanes, but excludes public pavement at the periphery where affected buildings overhang within the Project. The site boundaries between Northern Site and Southern Site is indicative and subject to change.*

2.2.3 It is anticipated that the proposed development will be completed in year 2033. Therefore, design year 2036 (i.e. 3 years after the planned commencement year of the proposed development) is adopted for the TIA.

2.3 Road Closure

2.3.1 Under the proposed scheme, sections of Kiang Su Street and Maidstone Road will be permanently closed and become part of the Site. The existing traffic flow along these roads are relatively low and mainly serve for the pick-up / drop-off of existing residential buildings and on-street parking. As a public vehicle car park will be re-provided within the Site, the closure of these roads would not give significant impact to the traffic network.

2.3.2 The section of Kiang Su Street between Maidstone Road and Ma Tau Wai Road would be converted from 2-way to 1-way due to the entrance/exit of the SCL: To Kwa Wan MTR Station. As Maidstone Road and the remaining section of Kiang Su Street would be closed due to this project, it is proposed to convert the remaining section of Kiang Su Street as a footpath.

2.3.3 Besides, due to the closure of Kiang Su Street, vehicles from Kau Pui Lung Road cannot access Ma Tau Wai Road northbound via Kiang Su Street. To maintain the traffic circulation, it is proposed to convert the section of Chi Kiang Street between Ko Shan Road and Ma Tau Wai Road from westbound to eastbound. Hence, vehicles from Kau Pui Lung Road can access Ma Tau Wai Road northbound via this section of Chi Kiang Street. For details, please refer to **Section 4.8**.

2.4 Provision of Internal Transport Facilities

2.4.1 **Table 2.2** summarizes the internal transport facilities provisions for the proposed development required as stipulated in the latest Hong Kong Planning Standards and Guidelines (HKPSG) requirements.

Table 2.2 Required Internal Transport Facilities Provision under the Latest HKPSG Requirements

Proposed Development				Parking Requirement					Loading/Unloading Requirement
				Private Car Parking Space				Motorcycle Parking Space	Loading / Unloading Bay for Goods Vehicles
Northern Site	Private Housing	GFA	No. of Flat	GPS: 1 space per 4-7 flats			GPS x R1 x R2 x R3	1 space per 100-150 flats	Provision of minimum 1 L/UL bay for goods vehicles within the site for every 800 flats or part thereof, subject to a minimum of 1 bay for each housing block or as determined by the Authority
				R1	*R2*	*R3*			
		40 <FS≤ 70	1,374	1.2	0.75	0.9	159 to 279		
		Nos. of Block		5 visitor spaces per block					
		5		25				10 to 14	HGV: 5
	Retail	GFA		1 space per 150-300 m^2 GFA				5 to 10% of total provision of retail car parking spaces	1 bay for every 800 to 1,200 m^2
		8,587 m^2		29 to 58				2 to 6	8 (LGV:5, HGV:3) to 11 (LGV:7, HGV:4)
	GIC	500 m^2		1[4]				N/A[4]	N/A[4]
	Sub Total			**214[2] to 363[3]**				**12 to 20**	**13 (LGV:5, HGV:8) to 16 (LGV:7, HGV:9)**
Southern Site	Private Housing	GFA	No. of Flat	GPS: 1 space per 4-7 flats			GPS x R1 x R2 x R3	1 space per 100-150 flats	Provision of minimum 1 L/UL bay for goods vehicles within the site for every 800 flats or part thereof, subject to a minimum of 1 bay for each housing block or as determined by the Authority
				R1	R2	R3			
		40 <FS≤ 70	950	1.2	0.75	0.9	110 to 193		
		Nos. of Block		5 visitor spaces per block					
		2		10				7 to 10	HGV: 2
	Retail	GFA		1 space per 150-300 m^2 GFA				5 to 10% of total provision of retail car parking spaces	1 bay for every 800 to 1,200 m^2
		6,888 m^2		23 to 46				2 to 5	6 (LGV:4, HGV:2) to 9 (LGV:6, HGV:3)
	GIC	2,000 m^2		2[5]				N/A[5]	N/A[5]
	Sub Total			**145[1] to 251[1]**				**9 to 15**	**8 (LGV:4, HGV:4) to 11 (LGV:6, HGV:5)**

(1) Including 2 accessible car parking spaces for total 51-150 number of parking spaces

(2) Including 3 accessible car parking spaces for total 151-250 number of parking spaces

(3) Including 4 accessible car parking spaces for total 251-350 number of parking spaces

(4) No Standard requirement under HKPSG, 1 car parking space is proposed to be provided for ancillary use

(5) No Standard requirement under HKPSG, 2 car parking spaces are proposed to be provided for ancillary use

Proposed Internal Transport Facilities Provision

2.4.2 The upper limit of the internal transport facilities provision is proposed in the proposed development. The proposed internal transport facilities provision is summarized as **Table 2.3** below:

Table 2.3 Proposed Provisions of Internal Transport Facilities

Site	Type		Proposed Number of Spaces	
Northern Site	Private Housing	Private Cars (Ancillary)	279	304[4]
		Private Cars (Visitor)	25	
		Motorcycles	14	
		L/UL for HGV	5	
	Retail	Private Cars	58[2]	
		Motorcycles	6	
		L/UL for LGV	7	
		L/UL for HGV	4	
	GIC	Private Cars	1	
Southern Site	Private Housing	Private Cars (Ancillary)	193	203[3]
		Private Cars (Visitor)	10	
		Motorcycles	10	
		L/UL for HGV	2	
	Retail	Private Cars	46[1]	
		Motorcycles	5	
		L/UL for LGV	6	
		L/UL for HGV	3	
	GIC	Private Cars	2	

Notes: (1) Including 1 accessible car parking space for total 1-50 number of parking spaces

(2) Including 2 accessible car parking spaces for total 51-150 number of parking spaces

(3) Including 3 accessible car parking spaces for total 151-250 number of parking spaces

(4) Including 4 accessible car parking spaces for total 251-350 number of parking spaces

2.4.3 The basement floor and ground floor layout plans of the proposed development are shown in **Figures 2.1** and **2.4** respectively.

2.4.4 One hundred (100) on-street parking spaces along the eastern kerbside of Kau Pui Lung Road, Maidstone Road and Kiang Su Street will be re-provided within the Site due to the road closure. A public vehicle car park with a total of 164 nos. of private car parking spaces will be re-provided at Northern Site to address the local demand.

2.5 Provision Access Arrangement

2.5.1 The vehicular accesses of the Northern Site and Southern Site will be located at Kau Pui Lung Road respectively. The locations of vehicular access are shown in **Figure 2.2**.

2.5.2 To facilitate the pick-up/drop-off activities for the Site, a cul-de-sac to serve cars and LGVs is proposed to be provided at the remaining section of Maidstone Road at the north of the Site. It will be managed and maintained by the project proponent or its agent and it will be opened for 24 hours without vehicular gate to the public. The preliminary design of the cul-de-sac will cater for short time car/taxi pick-up/drop-off, loading/unloading and U-turning of vehicles of those who mistakenly turn into this section of Maidstone Road.

3. EXISTING TRAFFIC CONDITION

3.1 Existing Road Network

3.1.1 The existing road network in the vicinity of the subject site is shown in **Figure 3.1**.

3.1.2 The proposed accesses of the Application Site are located at Kau Pui Lung Road which is a local distributor. The egress traffic can be via Lok Shan Road to Ma Tau Wai Road southbound or Tin Kwong Road to other places.

3.1.3 Tin Kwong Road is a district distributor which connects Ma Tau Wai Road, Sheung Shing Street and Argyle Street. Tin Kwong Road leads traffic to Ho Man Tin and Mong Kok areas.

3.1.4 Ma Tau Wai Road is a primary distributor which connects Ma Tau Chung Road and Chatham Road North to allow access to Hong Kong or Kowloon East areas.

3.2 Critical Junctions

3.2.1 24 junctions are identified to be critical for the Traffic Impact Assessment due to the proposed development. Relevant details are listed in **Table 3.1** and shown in **Figure 3.1**. Existing junction layouts are tabulated in **Figures 3.2** to **3.25** respectively.

3.2.2 In order to study the existing traffic condition of the above junctions, traffic survey in the form of manual-classified count was conducted for the 24 junctions during the weekday AM and PM peak periods on a typical weekday in September 2022. The survey provides most up-to-date details of the traffic condition within the study area under normal operation. Based on the observed traffic flows, it revealed that weekday AM and PM peak hour occurred from 07:45AM to 08:45AM, 05:45PM to 06:45PM respectively. The observed traffic flows are presented in **Figure 3.26**.

3.2.3 Existing operational performance of the critical junctions and road links are listed in **Tables 3.2** and **3.3** below.

Table 3.1 Identified Critical Junctions

Ref.	Junction	Type	Figure No.
A	Tin Kwong Road / Sheung Shing Street	Signalized	3.2
B	Tin Kwong Road / Kau Pui Lung Road	Signalized	3.3
C	Ma Tau Wai Road / Tin Kwong Road / Ma Hang Chung Road	Signalized	3.4
D	Kau Pui Lung Road / Lok Shan Road	Priority	3.5
E	Ma Tau Wai Road / Lok Shan Road	Signalized	3.6
F	Chi Kiang Street / Ko Shan Road	Priority	3.7
G	Ma Tau Wai Road / Chi Kiang Street	Signalized	3.8
H	Argyle Street / Waterloo Road / Princess Margaret Road	Signalized	3.9
I	Argyle Street / Tin Kwong Road	Signalized	3.10
J	Fat Kwong Street / Sheung Shing Street	Signalized	3.11
K	Sheung Shing Street / Shek Ku Street / Sheung Shing Lane	Signalized	3.12
L	Sheung Shing Street / Sheung Lok Street	Priority	3.13
M	Tin Kwong Road / Farm Road	Signalized	3.14
N	Ma Tau Chung Road/ Sung Wong Toi Road / Fu Ning Street	Signalized	3.15
O	Ma Tau Chung Road / Ma Tau Kok Road	Signalized	3.16
P	Ma Tau Wai Road / Farm Road / Tam Kung Road	Signalized	3.17
Q	Sung Wong Toi Road / To Kwa Wan Road / Shing Kai Road	Signalized	3.18
R	Mok Cheong Street / To Kwa Wan Road	Signalized	3.19
S	Ma Tau Kok Road / To Kwa Wan Road	Signalized	3.20
T	San Shan Road / To Kwa Wan Road	Signalized	3.21
U	To Kwa Wan Road / Sheung Heung Road / Kwei Chow Street	Signalized	3.22
V	Chatham Road North / San Lau Street	Signalized	3.23
W	Fat Kwong Street / Shun Tung Street / Yan Fung Street	Signalized	3.24
X	Hung Hom Road / Fat Kwong Street Flyover / Tai Wan Road East	Signalized	3.25

Table 3.2 Operational Performance of Critical Junctions in Year 2022

Ref.	Junction	Method of Control	Year 2022 DFC/RC (1)	
			Weekday AM Peak	Weekday PM Peak
A	Tin Kwong Road / Sheung Shing Street	Signalized	+65%	>+100%
B	Tin Kwong Road / Kau Pui Lung Road	Signalized	>+100%	>+100%
C	Tin Kwong Road / Ma Tau Wai Road	Signalized	+28%	+25%
D	Kau Pui Lung Road / Lok Shan Road	Priority	0.11	0.11
E	Ma Tau Wai Road / Lok Shan Road	Signalized	>+100%	>+100%
F	Chi Kiang Street / Ko Shan Road	Priority	0.31	0.23
G	Ma Tau Wai Road / Chi Kiang Street	Signalized	+72%	+97%
H	Argyle Street / Waterloo Road / Princess Margaret Road	Signalized	>+100%	>+100%
I	Argyle Street / Tin Kwong Road	Signalized	+66%	+71%
J	Fat Kwong Street / Sheung Shing Street	Signalized	+93%	>+100%
K	Sheung Shing Street / Shek Ku Street / Sheung Shing Lane	Signalized	+83%	+60%
L	Sheung Shing Street / Sheung Lok Street	Priority	0.33	0.25
M	Tin Kwong Road / Farm Road	Signalized	+84%	>+100%
N	Ma Tau Chung Road / Sung Wong Toi Road / Fu Ning Street	Signalized	+62%	+56%
O	Ma Tau Chung Road / Ma Tau Kok Road	Signalized	+82%	>+100%
P	Ma Tau Wai Road / Farm Road / Tam Kung Road	Signalized	>+100%	>+100%
Q	Sung Wong Toi Road / To Kwa Wan Road / Shing Kai Road	Signalized	+98%	>+100%
R	Mok Cheong Street / To Kwa Wan Road	Signalized	>+100%	>+100%
S	Ma Tau Kok Road / To Kwa Wan Road	Signalized	>+100%	>+100%
T	San Shan Road / To Kwa Wan Road	Signalized	+42%	+44%
U	To Kwa Wan Road / Sheung Heung Road / Kwei Chow Street	Signalized	>+100%	>+100%
V	Chatham Road North / San Lau Street	Signalized	+93%	>+100%
W	Fat Kwong Street / Shun Tung Street / Yan Fung Street	Signalized	+65%	>+100%
X	Hung Hom Road / Fat Kwong Street Flyover / Tai Wan Road East	Signalized	+18%	+27%

Notes: (1) RC = Reserve Capacity for Signal Junction;
DFC = Design Ratio of Flow to Capacity for Priority Junction/Roundabout

Table 3.3 V/C Ratio of Critical Road Link in Year 2022

Index	Direction	Cap. (veh/hr) (C)	Observed Case			
			Flow (veh/hr) (V)		V/C	
			AM Peak	PM Peak	AM Peak	PM Peak
L1	Two-way	1700	920	710	0.54	0.42
L2	NB	4200	995	1040	0.24	0.25
L2	SB	4200	1300	905	0.31	0.22
L3	Two-way	1700	1140	705	0.67	0.41
L4	Two-way	1700	345	280	0.2	0.16
L5	NB	4200	675	770	0.16	0.18
L5	SB	4200	1465	1160	0.35	0.28
L6	Two-way	1700	160	135	0.09	0.08
L7	NB	4200	610	675	0.15	0.16
L7	SB	4200	1225	1040	0.29	0.25
L8	NB	4200	1020	1060	0.24	0.25
L8	SB	4200	1015	1025	0.24	0.24
L9	NB	4200	1450	1490	0.35	0.35
L9	SB	4200	1940	1745	0.46	0.42

Notes: (1) Index please refer to Figure 3.1

3.2.4 The assessment results in **Tables 3.2 and 3.3** indicate that all critical junctions and road link are at present operating with positive capacities during the peak hours.

3.3 Public Transport Services in the Vicinity

3.3.1 Numerous road-based public transport services, for instance, franchised buses and GMB are also provided in vicinity of the proposed development. Details of the current services of franchised buses and GMB routes within the catchment area of 500 meters are listed in **Table 3.4**.

Table 3.4 Public Transport Services in the Vicinity of the Proposed Development

Service	Route	Origin - Destination	Frequency (min)
Franchised Bus	2E	Kowloon City Ferry Pier – Pak Tin Estate	15-25
	3B	Tsz Wan Shan (Central) – Hung Hom (Hung Luen Road)	15-25
	5	Fu Shan – Star Ferry Pier	8-20
	5A[1]	Kowloon City (Shing Tak Street) – Star Ferry Pier	12-30
	5C	Tsz Wan Shan (Central) – Star Ferry Pier	6-12
	5D	Telford Gardens – Hung Hom	15-35
	5P[1]	Tsz Wan Shan (Central) – Star Ferry Pier	15
	6C	Kowloon City Ferry Pier – Mei Foo	9-12
	6F	Kowloon City Ferry – Lai Kok Estate	20-30

Service	Route	Origin - Destination	Frequency (min)
	6X[1]	Mei Foo – Kowloon City Ferry Pier	30
	11	Diamond Hill Station – Kowloon Station	10-20
	11K	Chuk Yuen Estate – Hung Hom Station	15-20
	11X	Sau Mau Ping (Upper) – Hung Hom Station	10-20
	12A	Whampoa Garden – Cheung Sha Wan (Sham Mong Road)	8-20
	14	Lei Yue Mun Estate – China Ferry Pier Terminal	12-25
	15	Ping Tin – Hung Hom (Hung Luen Road)	12-20
	15X[1]	Lam Tin (Kwong Tin Estate) – Hung Hom Station	20
	17	Kwun Tong (Yue Man Square) – Oi Man	5-20
	21	Choi Wan – Hung Hom Station	15-25
	26	Shun Tin – Tsim Sha Tsui East	7-20
	28	Lok Wah – Star Ferry Pier	8-15
	41	Tsing Yi (Cheung Ching Estate) – Kowloon City Ferry Pier	25-35
	45	Kowloon City Ferry Pier – Lai Yiu Estate	20-30
	75X	Fu Shin Estate – Kowloon City Ferry Pier	8-15
	85	Fo Tan (Shan Mei Street) – Kowloon City Ferry Pier	13-25
	85B	Chun Shek – Kowloon City Ferry Pier	20-30
	85S[1]	Yiu On – Hung Hom (Hung Luen Road)	15
	85X	Man On Shan Town Centre – Hung Hom (Hung Luen Road)	10-20
	93K	Po Lam – Mong Kok East Station	15-25
	101	Kwun Tong (Yue Man Square) – Kennedy Town	3-14
	106	Wong Tai Sin – Siu Sai Wan Island Resort	4-12
	106A[1]	Wong Tai Sin – Tai Koo Kornhill Plaza	10
	106P[1]	Wong Tai Sin – Siu Sai Wan Island Resort	20
	107	Kowloon Bay – Wah Kwai	7-20
	108	Kai Yip – Braemar Hill	10-25
	111	Ping Shek – Macau Ferry Pier	3-14
	111P[1]	Choi Fook – Macau Ferry Pier	10-23
	115	Kowloon City Ferry Pier – Macau Ferry Pier	6-20
	116	Tsz Wan Shan (Central) – Quarry Bay (Yau Man Street)	4-12
	297	Hang Hau (North) – Hung Hom (Hung Luen Road)	12-25
	297P[1]	Hang Hau (North) – Hung Hom (Hung Luen Road)	15
	608	Grand Promenade – Kowloon City (Shing Tak Street)	15-30
	796X	Tseung Kwan O Industrial Estate – Tsim Sha Tsui (East)	12-20
	A22	Airport – Lam Tin Station	15-20
	E23	Airport – Tsz Wan Shan (North)	15-20
	E23A	Airport – Tsz Wan Shan (North)	15-20
	N23[2]	Tung Chung Station – Tsz Wan Shan (North)	30-60
	N121[2]	Macau Ferry Pier – Ngau Tau Kok	15
GMB	2	Whampoa Garden – Festival Walk	10-15
	2A	Whampoa Garden – Festival Walk	10-15
	8	Tsim Sha Tsui (Hankow Road) – Ho Man Tin Estate	4-10
	8M	Ho Man Tin Station – Ho Man Tin Estate	8-10
	8P[1]	Tsim Sha Tsui East – Ho Man Tin Estate	20-30
	13	Kowloon Tong (Broadcast Drive) – Hung Hom (Hung Luen Road)	15-20
	26	To Kwa Wan (Chi Kiang Street) – Kowloon Station	8-12
	27M	Lok Man Sun Chuen – Mok Kok Station	7-15
	28M	Wyler Gardens – Mong Kok Station	7-15
	28MS	Wyler Gardens – Ho Man Tin Station	10-15
	105	Tseung Kwan O (Hong Sing Garden) – To Kwa Wan (Ko Shan Theatre)	5-9
	105S[2]	Tseung Kwan O (Hong Sing Garden) – To Kwa Wan (Ko Shan Theatre)	15

Note: [1] Morning or Evening Peak Service only; [2] Night Service Only

3.3.2 Two MTR entrances/exits of To Kwa Wan Station are located at Lok Shan Road and Kiang Su Street respectively adjacent to the development. Passageways are proposed to be constructed at B/F which connects between the MTR Station and the proposed development directly.

3.3.3 In view of the comprehensive coverage of the public transport services and the availability of different choices on transport modes, the Application Site is considered to have very good accessibility via the public transport.

4. FUTURE TRAFFIC CONDITION & TRAFFIC IMPACT ASSESSMENT

4.1 Design Year

4.1.1 It is anticipated that the proposed development would be completed in 2033. In order to assess the possible traffic impacts to the local road network due to the proposed development, year 2036 (i.e. 3 years after completion) has been adopted as the design year for this study.

4.2 Traffic Forecast

4.2.1 To estimate the reference traffic flow in year 2036 (without the proposed development) in the local road network, an appropriate growth factor has to be identified for the area in the first instance. The following approaches have been adopted to derive the growth factor for the Area of Influence.

Historical Trend

4.2.2 Numerous traffic-count stations are located in the vicinity of the proposed development. The traffic counts reported in the Annual Traffic Census (ATC), which is published by Transport Department, over a period of five years, i.e. 2014 to 2019 are summarized in **Table 4.1**.

Table 4.1 Historical Traffic Data from Annual Traffic Census (ATC)

ATC Stn	Road Name	Annual Average Daily Traffic (AADT)						Avg. Annual Growth Rate
		2014	2015	2016	2017	2018	2019	
3014	Ma Tau Wai Road and To Kwa Wan Road	26,640	23,980	24,170	23,660	23,940	23,670	-2.34%
3818	Ma Tau Wai Road	38,200*	38,970*	34,190	34,990	34,530 *	34,050*	-2.27%
4077	San Lau Street	6,500*	6,410*	6,440*	6,930	7,010*	6,860*	1.08%
4212	Chatham Road North and Ma Tau Wai Road	34,900	35,130	32,660	32,560	32,260	30,920	-2.39%
4213	East Kowloon Corridor <Flyover>	77,910	74,070	74,250	74,220	78,030	73,310	-1.21%
Total		**184,150**	**178,560**	**171,710**	**172,360**	**175,770**	**168,810**	**-1.72%**

*Note: *AADT estimated by Growth factor*
***Due to the COVID-19 in 2020, the traffic flow will not be reliable and hence the Growth Rate will only take into account from 2014 to 2019*

Planning Data

4.2.3 Reference has also been made to the latest 2019-Based Territorial Population Employment Data Matrices (TPEDM) planning data published by the Planning Department. The average annual growth rates in terms of population and employment are tabulated in **Table 4.2**.

Table 4.2 2019-based TPEDM Population and Employment Planning Data

Kowloon City District				
Data	**Year**			**Average Annual Growth Rate**
	2019	**2026**	**2031**	
Population	429,300	451,100	420,050	-0.18%
Employment	212,000	237,900	227,850	+0.60%
Total	**641,300**	**689,000**	**647,900**	**+0.09%**

Adopted Growth Rate

4.2.4 A.A.D.T. of ATC indicates that the traffic flow of the local road network has an average annual growth rate of -1.72% from year 2014 to year 2019.

4.2.5 Whilst, the planning data indicates that the population and employment of the study area are expected to grow with an average annual growth rate of +0.09% from 2019 to 2031.

4.2.6 As a conservative approach, annual growth rate **+1.0%** p.a. is adopted. It is deemed sufficient to allow for any unexpected future growth as a result of some changes in land use or development in the study area. The year 2036 reference traffic flows (without the proposed development) are presented in **Figure 4.1**.

4.3 Traffic Generations of Planned Adjacent Developments

4.3.1 To fully reflect the growth traffic, trip generation of the future planned adjacent developments have been taken into consideration. The planned development is detailed in **Table 4.3**.

Table 4.3 Major Planned/ Committed Developments in the Vicinity

URA Project No. / Planning Application No. / Site Location	Proposed Use	Development Parameters
URA Project KC-008(A) (1) (3)	Residential & Commercial	No. of Flats = 217 (<40 m^2) = 93 (40 m^2<Flat Size≤70 m^2) Commercial GFA = 2,454 m^2
URA Project KC-009(2) (3)	Residential & Commercial	No. of Flats = 1,152 Average Flat Size = 48.2 m^2 Commercial GFA = 11,105 m^2
URA Project KC-010(2) (3)	Residential & Commercial	No. of Flats = 750 Average Flat Size = 45.6 m^2 Commercial GFA = 6,843 m^2
URA Project KC-011(2)(3)	Residential & Commercial	No. of Flats = 400 Average Flat Size = 45.8 m^2 Commercial GFA = 3,660 m^2
URA Project KC-012 & KC-013(2)	Residential & Commercial	No. of Flats = 414 Average Flat Size = 44.9 m^2 Commercial GFA = 3,721 m^2
URA Project KC-014(2)	Residential & Commercial	No. of Flats = 550 Average Flat Size = 39.0 m^2 Commercial GFA = 4,286 m^2
URA Project KC-016(2)	Residential & Commercial	No. of Flats = 900 Average Flat Size = 46 m^2 Commercial GFA = 8,322 m^2
URA Project DL-8(2)	Residential & Commercial	No. of Flats = 72 Average Flat Size = 52.6 m^2 Commercial GFA = 758 m^2
13 Hok Yuen Street(1)	Office & Retail	Office GFA= 47,007.307 m^2 Retail GFA= 269.993 m^2
A/K10/259(1)	Residential & Commercial	No. of Flats = 48 (Portion 1) + 777 (Portion 2) Average Flat Size = 140 m^2 (Portion 1), 60 m^2 (Portion 2) Commercial GFA = 722 m^2 (Portion 1), 6,111 m^2 (Portion 2)
A/K10/265(1)	Residential & Commercial	No. of Flats = 746 Average Flat Size = 84 m^2 Commercial GFA = 9,261 m^2
A/K10/266(1)	Residential & Commercial	No. of Flats = 208 Average Flat Size < 40 m^2 Commercial GFA = 971.25 m^2
A/K10/267(1)	Residential & Commercial	No. of Flats = 201 Average Flat Size = 32 m^2 Commercial GFA = 1,150 m^2
A/K10/269(1)	Residential & Commercial	No. of Flats = 110 Average Flat Size = 36 m^2 Commercial GFA = 808.95 m^2
Ma Tau Wai Estate Re-development	Public Housing	About 4,000 flats (About net increase 2,000 flats)

(1) According to its TIA or Planning Gist

(2) According to the information of TIA of KC-014

(3) Already considered in BDTM

4.3.2 The trip generations and attractions of the adjacent developments are summarized in **Table 4.4**.

Table 4.4 Traffic Generations and Attractions of Adjacent Development

URA Project No. / Site Location	Trip Generation (pcu/hr)			
	AM Peak		PM Peak	
	Generation	Attraction	Generation	Attraction
KC-012 & KC-013[2]	39	28	24	30
KC-014[2]	49	34	29	36
KC-016[2]	84	58	52	63
DL-8[2]	9	7	5	6
13 Hok Yuen Street[1]	81	116	75	56
A/K10/259[1]	88	60	53	65
A/K10/265[1]	143	91	87	109
A/K10/266[1]	18	12	10	12
A/K10/267[1]	18	12	10	13
A/K10/269	10	7	6	7
Ma Tau Wai Estate Re-development	86	65	47	60

(1) According to its TIA

(2) According to the information of TIA of KC-014

4.4 Reference Traffic Flow in Year 2036

4.4.1 It is noted that Central Kowloon Route is under construction right now, the traffic condition in this area will be very different from now. Therefore, it is not suitable to use existing traffic flow to derive future traffic flow.

4.4.2 Thus, the year 2036 reference traffic flow is estimated by applying the adopted growth rate to the year 2026 Base District Traffic Models (BDTM) traffic model flow.

4.4.3 The 2036 reference traffic flows are presented in **Figure 4.1**.

2036 Reference Flows (without proposed development) = **2026 BDTM Traffic Model Flows** x **Adoptcd Growth Factor i.e. +1.0% p.a. for 10 years** + **Traffic Trips of Adjacent Development**

4.5 Traffic Trips of the Proposed Development

4.5.1 In order to estimate the traffic generation and attraction of the proposed development, reference has been made to the trip generation rates as stipulated in Volume 1 Chapter 3 Appendix D Table 1 of the latest T.P.D.M. published by Transport Department. The adopted trip rates are summarized in below **Table 4.5**.

Table 4.5 Adopted Traffic Trips Rate of Proposed Development

Use	Units	Trip Rate			
		Weekday AM Peak		Weekday PM Peak	
		Gen.	Att.	Gen.	Att.
Retail	pcu/hr/100 sqm GFA	0.2296	0.2434	0.3100	0.3563
Private Housing (Average Flat Size 60m^2)	pcu/hr/flat	0.0718	0.0425	0.0286	0.0370
Public Vehicle Carpark(1)	pcu/hr /parking space	0.0771	0.0907	0.0493	0.0811

(1) Based on survey on Hung Hom Station Carpark

4.5.2 Based on the adopted trip rate listed in the above **Table 4.5** and the development parameters in **Table 2.1**, the trip generated and attracted by the proposed development are estimated and summarized in **Table 4.6**.

Table 4.6 Estimated Traffic Trips of the Proposed Development

Site	Use	Weekday AM Peak (pcu/hr)		Weekday PM Peak (pcu/hr)	
		Gen.	Att.	Gen.	Att.
Northern Site	Residential	99	58	39	51
	Non-Domestic	20	21	27	31
	Public Vehicle Carpark (Net Increase 64 Nos.)	5	6	3	5
	Sub Total	***124***	***86***	***71***	***90***
Southern Site	Residential	68	40	27	35
	Non-Domestic	16	17	21	25
	Sub Total	***84***	***57***	***48***	***60***
Total		**208**	**143**	**119**	**150**

4.5.3 There are about 100 nos. of on-street private parking spaces would be affected due to this proposed development. A PVP with total 164 nos. of private car parking spaces will be re-provided within the Scheme area to address the local demand. Based on the observation, there are illegally parking along Maidstone lane at present, these illegal parking would be absorbed by these additional number of spaces in the proposed PVP. Therefore, it is believed that the proposed PVP will mainly serve for the local parking demand and would not significantly attract additional trips.

4.6 Traffic Forccast for Dcsign Ycar 2036

4.6.1 The traffic trips of the proposed development are then superimposed onto the year 2036 reference traffic flow (without the proposed development) as shown in **Figure 4.1** to derive the year 2036 design traffic flow (with the proposed development).

Year 2036 Design Flow (with the Proposed Development) = **Year 2036 Reference Flow (without the Proposed Development)** + **Traffic Trips of the Proposed Development**

4.6.2 The traffic flow during AM and PM peak periods in the design year 2036 (with the proposed development) are shown in **Figure 4.2**.

4.7 Operational Assessment

4.7.1 To assess traffic impacts due to the proposed development, operational assessment of the critical junctions and road links identified in Chapter 3 are carried out for both reference (without the proposed development) and design (with the proposed development) scenarios in year 2036. The results are summarized in **Tables 4.7** and **4.8**.

Table 4.7 Operational Performance of Critical Junctions in Year 2036

Ref.	Junction	Method of Control	Year 2036 DFC/RC [1]			
			Reference Scenario (Without the Proposed Development)		Design Scenario (With the Proposed Development)	
			Weekday AM Peak	Weekday PM Peak	Weekday AM Peak	Weekday PM Peak
A	Tin Kwong Road / Sheung Shing Street	Signalized	+44%	+88%	+42%	+86%
B	**Tin Kwong Road / Kau Pui Lung Road**	**Signalized**	**+6%**	**+8%**	**+4%**	**+6%**
C	**Ma Tau Wai Road / Tin Kwong Road / Ma Hang Chung Road**	**Signalized**	**-7%**	**+5%**	**-7%**	**+5%**
D	Kau Pui Lung Road / Lok Shan Road	Priority	0.28	0.25	0.44	0.35
E	Ma Tau Wai Road / Lok Shan Road	Signalized	+94%	+90%	+82%	+83%
F	Chi Kiang Street / Ko Shan Rd	Priority	0.42	0.52	0.42	0.52
G	Ma Tau Wai Road / Chi Kiang Street	Signalized	+28%	+57%	+25%	+57%
H	Argyle Street / Waterloo Road / Princess Margaret Road	Signalized	+93%	>+100%	+90%	>+100%
I	Argyle Street / Tin Kwong Rd	Signalized	+30%	+27%	+27%	+25%
J	Fat Kwong Street / Sheung Shing Street	Signalized	+44%	>+100%	+42%	>+100%

K	Sheung Shing Street / Shek Ku Street / Sheung Shing Lane	Signalized	+38%	+80%	+37%	+77%
L	Sheung Shing Street / Sheung Lok Street	Priority	0.61	0.28	0.61	0.28
M	Tin Kwong Road / Farm Road	Signalized	+64%	>+100%	+64%	>+100%
N	Ma Tau Chung Road/ Sung Wong Toi Road / Fu Ning Street	Signalized	+18%	+18%	+18%	+18%
O	Ma Tau Chung Road / Ma Tau Kok Road	Signalized	+55%	+82%	+55%	+82%
P	Ma Tau Wai Road / Farm Road / Tam Kung Road	Signalized	>+100%	>+100%	>+100%	>+100%
Q	Sung Wong Toi Road / To Kwa Wan Road / Shing Kai Rd	Signalized	+42%	+47%	+41%	+47%
R	Mok Cheong Street / To Kwa Wan Road	Signalized	>+100%	>+100%	>+100%	>+100%
S	Ma Tau Kok Road / To Kwa Wan Road	Signalized	>+100%	>+100%	>+100%	>+100%
T	San Shan Road / To Kwa Wan Road	Signalized	+19%	+28%	+19%	+28%
U	To Kwa Wan Road / Sheung Heung Road / Kwei Chow St	Signalized	>+100%	>+100%	>+100%	>+100%
V	Chatham Road North / San Lau Street	Signalized	>+100%	>+100%	>+100%	>+100%
W	Fat Kwong Street / Shun Tung Street / Yan Fung Street	Signalized	+57%	+65%	+50%	+61%
X	Hung Hom Road / Fat Kwong Street Flyover / Tai Wan Road East	Signalized	+16%	+27%	+16%	+27%

Notes: (1) RC = Reserve Capacity for Signal Junction;
DFC = Design Ratio of Flow to Capacity for Priority Junction/Roundabout

Table 4.8 V/C Ratio of Critical Road Link in Year 2036

Index	Direction	Cap. (veh/hr) (C)	Reference Case				Design Case			
			Flow (veh/hr) (V)		V/C		Flow (veh/hr) (V)		V/C	
			AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
L1	Two-way	1700	1125	835	0.66	0.49	920	710	0.54	0.42
L2	NB	4200	1175	1225	0.28	0.29	995	1040	0.24	0.25
L2	SB	4200	1690	1425	0.4	0.34	1300	905	0.31	0.22
L3	Two-way	1700	1325	920	0.78	0.54	1140	705	0.67	0.41
L4	Two-way	1700	585	540	0.34	0.32	345	280	0.2	0.16
L5	NB	4200	705	695	0.17	0.17	675	770	0.16	0.18
L5	SB	4200	1765	1500	0.42	0.36	1465	1160	0.35	0.28
L6	Two-way	1700	215	160	0.13	0.09	160	135	0.09	0.08
L7	NB	4200	805	785	0.19	0.19	610	675	0.15	0.16
L7	SB	4200	1085	980	0.26	0.23	1225	1040	0.29	0.25
L8	NB	4200	585	535	0.14	0.13	1020	1060	0.24	0.25
L8	SB	4200	705	555	0.17	0.13	1015	1025	0.24	0.24
L9	NB	4200	2165	2080	0.52	0.5	2170	2095	0.52	0.5
L9	SB	4200	2520	2000	0.6	0.48	2540	2010	0.6	0.48

Notes: (1) Index please refer to Figure 3.1

4.7.2 The assessment result in **Tables 4.7 and 4.8** reveals that all junctions and road links would operate with ample capacities in both reference and design scenarios in year 2036, except Junctions B and C.

4.7.3 The proposed improvement scheme will be discussed in the upcoming **Section 4.8**.

4.8 Proposed Improvement Scheme

4.8.1 Improvement scheme of Junction B (Tin Kwong Road / Kau Pui Lung Road) – By revising the MOC, the RC of the junction could be improved. The proposed layout is presented in **Figure 4.4**.

4.8.2 Improvement scheme of Junction C (Tin Kwong Road / Ma Tau Wai Road / Ma Hang Chung Road) – By amending the road marking at Ma Hang Chung Road to improve the junction performance. The proposed layout is presented in **Figure 4.5**.

4.8.3 Improvement scheme of Junction F (Chi Kiang Street / Ko Shan Road) - As section of Kiang Su Street will be closed and became part of the Site, vehicles from Kau Pui Lung Road can no longer access to Ma Tau Wai Road Northbound via Kiang Su Street. In order to maintain the traffic circulation, it is proposed to convert the section of Chi Kiang Street between Ko Shan Road and Ma Tau Wai Road from westbound to eastbound. Hence, vehicles from Kau Pui Lung Road can access Ma Tau Wai Road northbound via this section of Chi Kiang Street. The proposed layout is presented in **Figure 4.6**.

4.8.4 Upon the commencement of the proposed reverting road scheme, vehicles would make use of Anhui Street / San Lau Street / Pak Kung Street to left turn from Ma Tau Wai Road northbound to Ko Shan Road and Chi Kiang Street for its original destination. All junctions will perform with sufficient junction reserved capacity under the proposed road reversing scheme. Should the DSP be approved, further liaison with Transport Department (TD) could be explored at road scheme preparation / detailed design stage to explore any alternative proposal (e.g. converting the section to a two-way carriageway), e.g. to maintain the existing left turn movement from Ma Tau Wai Road to minimise the traffic diversion/ impact as far as possible and subject to local traffic condition at the implementation stage.

4.8.5 Due to the above improvement schemes, the traffic flows pattern will be revised and are shown in **Figure 4.3**. The details of improvement schemes and operational performance of the Junctions with improvement in Year 2036 are summarized in **Table 4.9**.

Table 4.9 Operational Performance of Junctions with Improvement in Year 2036

Ref.	Improvement Details	Method of Control	Year 2036 DFC/RC (1)			
			Design Scenario (Without the Proposed Improvement)		Design Scenario (With the Proposed Improvement)	
			Weekday AM Peak	Weekday PM Peak	Weekday AM Peak	Weekday PM Peak
B	Revising the MOC	Signalized	**+4%**	**+6%**	+85%	+53%
C	i. Road Marking Amendment at Ma Hang Chung Road	Signalized	**-7%**	**+5%**	+16%	+35%
F	Change Chi Kiang Street from westbound to eastbound traffic	Priority	0.78	0.70	0.55	0.61

Notes: (1) RC = Reserve Capacity for Signal Junction;
DFC = Design Ratio of Flow to Capacity for Priority Junction/Roundabout

4.8.6 It is revealed that the above Junctions will operate with positive capacity in 2036 after the proposed improvement works. It is therefore acceptable from the perspective of traffic engineering.

5. PEDESTRIAN ASSESSMENT

5.1 Existing Pedestrian Condition

5.1.1 In order to acquire the existing pedestrian condition around the proposed development, a pedestrian headcount survey was conducted at concerned footpath sections during the survey mention in the **Section 3.2.2** above. The layout of the critical sections of footpath is shown in **Figure 5.1**.

5.1.2 The concept of Minimum Width of Footways and Level-of-service (LOS) in accordance with T.P.D.M. Volume 2 Chapter 3.4.11 and Volume 6 Chapter 10 have been applied for assessing the concerned walkways. The Minimum Width of Footways refers to the desirable minimum effective widths of footways according to pedestrian volume and type of land use. LOS directly relates to the pedestrian comfort and ease with which pedestrians queued and proceed at the walkway.

5.1.3 Besides, to determine the V/C ratio at crossing points, the following empirical formula is used for checking whether the light signal crossing facilities provided are adequate for the pedestrian volumes wishing to cross :.

PC = K x GTP x W
PC = Pedestrian crossing capacity in pedestrians per hour
GTP = Green time proportion i.e. (Pedestrian green + flashing green time)/Cycle time
W = Lateral width of pedestrian crossing
K = A constant equivalent to saturation flow for pedestrians, may be taken as 1900 ped/metre/hours

5.1.4 The 2022 peak hour pedestrian flows at the concerned footpaths are shown in **Figure 5.2** and summarized in **Tables 5.1** and **5.2**. As most of the pedestrian will use the mechanized trips for their journey, and there are public transport stops and 2 MTR entrances/exits are located adjacent the Site and there will be underground passageways directly connected to the 2 MTR entrances/exits at B/F. Thus the studied sections are considered reasonable and acceptable to capture the anticipated increase in pedestrian flow generated by the proposed development.

Table 5.1 LOS Assessment of the Critical Sections of Footpath in Observed Year 2022

Critical Sections	Effective Width (m)	Observed Scenario (Year 2022)					
		AM Peak			PM Peak		
		Two-way Pedestrian Flow (ped/hr)	Two-way Pedestrian Flow Rate (ped/min/m)	LOS	Two-way Pedestrian Flow (ped/hr)	Two-way Pedestrian Flow Rate (ped/min/m)	LOS
A	3.19	1190	6.22	A	1120	5.85	A
B	2.66	990	6.20	A	720	4.51	A
E	2.17	1760	13.52	A	1655	12.71	A
F	1.84	1010	9.15	A	905	8.20	A
G	1.51	520	5.74	A	500	5.52	A
H	3.52	325	1.54	A	605	2.86	A
I	2.24	1295	9.64	A	580	4.32	A
J	1.50	705	7.83	A	690	7.67	A
K	1.51	240	2.65	A	155	1.71	A
L	1.74	380	3.64	A	145	1.39	A
M	2.17	265	2.04	A	110	0.84	A
N	2.60	545	3.49	A	590	3.78	A
P	1.91	880	7.68	A	940	8.20	A
Q	3.56	705	3.30	A	500	2.34	A
R	2.22	600	4.50	A	565	4.24	A

Table 5.2 Capacity Assessment of the Critical Sections of Crossing in Observed Year 2022

Critical Sections	Crossing Width (m)	Observed Scenario (Year 2019)							
		AM Peak				PM Peak			
		Green Time Proportion	Two-way Pedestrian Flow (ped/hr)	Capacity (ped/hr	V/C Ratio	Green Time Proportion	Two-way Pedestrian Flow (ped/hr)	Capacity (ped/hr	V/C Ratio
C	6.00	0.72	1815	8233	0.22	0.69	1425	7917	0.18
D	4.34	0.18	760	1451	0.52	0.20	845	1680	0.50
O	4.60	0.33	850	2913	0.29	0.25	630	2185	0.29
S	4.60	0.42	850	3642	0.23	0.53	630	4613	0.14

5.1.5 The pedestrian assessment results have revealed the section of footpath and crossing have LOS A and V/C Ratio below 1.0 at the observed situation.

5.2 Pedestrian Traffic Forecast

5.2.1 To assess the future conflict due to the proposed development, based on the survey flow and the adopted growth rate of +1.0%, future reference pedestrian flows (without the proposed development) and at the critical sections are estimated and summarized in **Figure 5.3**. The LOS and V/C ratio are also assessed and summarized in **Tables 5.3** and **5.4** below:

Table 5.3 LOS Assessment of the Critical Sections of Footpath in Reference Year 2036

Critical Sections	Effective Width (m)	Reference Scenario (Year 2036)					
		AM Peak			PM Peak		
		Two-way Pedestrian Flow (ped/hr)	Two-way Pedestrian Flow Rate (ped/min/m)	LOS	Two-way Pedestrian Flow (ped/hr)	Two-way Pedestrian Flow Rate (ped/min/m)	LOS
A	3.19	1,370	7.16	A	1,290	6.74	A
B	2.66	1,140	7.14	A	830	5.20	A
E	2.17	2,020	15.51	A	1,900	14.59	A
F	1.84	1,160	10.51	A	1,040	9.42	A
G	1.51	600	6.62	A	575	6.35	A
H	3.52	370	1.75	A	695	3.29	A
I	2.24	1,490	11.09	A	665	4.95	A
J	1.50	810	9.00	A	795	8.83	A
K	1.51	275	3.04	A	180	1.99	A
L	1.74	435	4.17	A	170	1.63	A
M	2.17	300	2.30	A	130	1.00	A
N	2.60	625	4.01	A	680	4.36	A
P	1.91	1,015	8.86	A	1,080	9.42	A
Q	3.56	810	3.79	A	575	2.69	A
R	2.22	690	5.18	A	650	4.88	A

Table 5.4 Capacity Assessment of the Critical Sections of Crossing in Reference Year 2036

Critical Sections	Crossing Width (m)	Reference Scenario (Year 2036)							
		AM Peak				PM Peak			
		Green Time Proportion	Two-way Pedestrian Flow (ped/hr)	Capacity (ped/hr	V/C Ratio	Green Time Proportion	Two-way Pedestrian Flow (ped/hr)	Capacity (ped/hr	V/C Ratio
C	6.00	0.72	2085	8233	0.25	0.69	1640	7917	0.21
D	4.34	0.18	875	1451	0.60	0.20	975	1680	0.58
O	4.60	0.33	975	2913	0.33	0.25	725	2185	0.33
S	4.60	0.42	975	3642	0.27	0.53	725	4613	0.16

5.2.2 To estimate the pedestrian trips related to the proposed development, survey on similar existing developments has been carried out and summarized in the **Table 5.5**.

Table 5.5 Pedestrian Trip Rates of Surveyed Developments

Use	Type	Units	Weekday AM Peak		Weekday PM Peak	
			Gen.	Att.	Gen.	Att.
Heya Delight, Cheung Sha Wan (Flat Size 40 to 70 sqm)	Private Housing	(ped/hr/flat)	0.6231	0.1385	0.1462	0.3077
	Retail	(ped/hr/GFA)	0.0631	0.0179	0.0419	0.0405

5.2.3 Based on the trip rate surveyed and the development parameters in **Table 2.1**, the future pedestrian trips related to the proposed development are estimated and summarized in the **Table 5.6**.

Table 5.6 Pedestrian Trips of Proposed Developments

Sites	Type	Units	Weekday AM Peak		Weekday PM Peak	
			Gen.	Att.	Gen.	Att.
Northern Site	Residential	(ped/hr)	855	190	200	425
	Retail	(ped/hr)	540	155	360	350
	GIC*	(ped/hr)	50	50	50	50
	Sub-total	***(ped/hr)***	***1,445***	***395***	***610***	***825***
Southern Site	Residential	(ped/hr)	590	130	140	290
	Retail	(ped/hr)	435	125	290	280
	GIC*	(ped/hr)	50	50	50	50
	Sub-total	***(ped/hr)***	***1,075***	***305***	***480***	***620***
Total		**(ped/hr)**	**2,520**	**700**	**1,090**	**1,445**

*Nominal Trips

5.2.4 Moreover, a survey has been conducted to estimate the modal split of the proposed development and summarized in **Table 5.7** below:

Table 5.7 Surveyed Modal Split

Transport Mode	Modal Split (%)	Modal Split (Excludcd Walk) (%)
Rail	21%	29%
Franchised Bus	22%	30%
PLB	9%	13%
Private Vehicle	18%	26%
Special Purpose Bus	1%	1%
Taxi	1%	1%
Ferry	0%	0%
Walk	28%	-
Total	**100%**	**100%**

5.2.5 From the survey, about 70% of pedestrian will be using mechanised trips for their journey. It is noted that there are public transport stops along Ma Tau Wai Road near the Site. Moreover, 2 MTR entrances/exits are located adjacent to the Site, and there will be also underground passageways directly connected to the 2 MTR entrances/exits at B/F. Thus the impact by pedestrian will mainly on the footpath nearby and will not be high.

5.2.6 Based on the **Tables 5.6** and **5.7**, the estimated trips are superimposed to the network, the future pedestrian design flow could be estimated summarized in **Figure 5.4**. The assessment of the design scenario is summarized in **Tables 5.8** and **5.9**.

Table 5.8 LOS Assessment of the Critical Sections of Footpath in Design Year 2036

Critical Sections	Effective Width (m)	Design Scenario (Year 2036)					
		AM Peak			PM Peak		
		Two-way Pedestrian Flow (ped/hr)	Two-way Pedestrian Flow Rate (ped/min/m)	LOS	Two-way Pedestrian Flow (ped/hr)	Two-way Pedestrian Flow Rate (ped/min/m)	LOS
A	3.19	1,530	7.99	A	1,415	7.39	A
B	2.66	1,300	8.15	A	955	5.98	A
E	2.17	2,205	16.94	B	2,045	15.71	A
F	1.84	1,230	11.14	A	1,095	9.92	A
G	1.51	760	8.39	A	700	7.73	A
H	3.52	535	2.53	A	820	3.88	A
I	2.24	1,490	11.09	A	665	4.95	A
J	1.50	950	10.56	A	895	9.94	A
K(1)	3.66	385	1.75	A	270	1.23	A
L(1)	3.76	545	2.42	A	260	1.15	A
M	2.17	505	3.88	A	295	2.27	A
N	2.60	1,015	6.51	A	990	6.35	A
P	1.91	1,155	10.08	A	1,190	10.38	A
Q	3.56	880	4.12	A	630	2.95	A
R	2.22	955	7.17	A	925	6.94	A

Notes: (1) Set back in future

Table 5.9 Capacity Assessment of the Critical Sections of Crossing in Design Year 2036

Critical Sections	Crossing Width (m)	Design Scenario (Year 2036)							
		AM Peak				PM Peak			
		Green Time Proportion	Two-way Pedestrian Flow (ped/hr)	Capacity (ped/hr	V/C Ratio	Green Time Proportion	Two-way Pedestrian Flow (ped/hr)	Capacity (ped/hr	V/C Ratio
C	6.00	0.72	2245	8233	0.27	0.69	1765	7917	0.22
D	4.34	0.18	1010	1451	0.70	0.20	1115	1680	0.66
O	4.60	0.33	1505	2913	0.52	0.25	1145	2185	0.52
S	4.60	0.42	1505	3642	0.41	0.53	1145	4613	0.25

5.2.7 It is revealed from the assessment results in **Tables 5.8** and **5.9** that the concerned sections of footpaths and crossing would all operate with have LOS A and the V/C ratio below 1.0 in peak periods, having adequate capacity to cater for the design year 2036 pedestrian flows.

6. SUMMARY AND CONCLUSION

6.1 Summary

6.1.1 The application site is currently mainly occupied by a number of existing CBS residential buildings. Under the current planning, the existing structure will be demolished for redevelopment. To support the proposed redevelopment, a traffic impact assessment is required to review and appraise any possible traffic impact induced by the proposed development on the adjacent road network.

6.1.2 CTA Consultants Limited (CTA) has been commissioned by URA as the traffic consultant to prepare the Traffic Impact Assessment (TIA) and to provide technical justifications in supporting the application from a traffic engineering point of view.

6.1.3 It is anticipated that the proposed development would be completed in 2033. In order to assess the possible traffic impacts to the local road network due to the proposed development, year 2036 (i.e. 3 years after completion) has been adopted as the design year for this study.

6.1.4 Year 2036 traffic forecasts have been derived from the 2026 Base District Traffic Models (BDTM) traffic model flows and traffic generation by population growth. Besides, future traffic growth in Kowloon City District has also been considered based on the Territory Population and Employment Data Matrices (TPEDM) by Planning Department and Annual Traffic Census (ATC) by Transport Department. A conservative growth rate of 1.0% p.a. was adopted.

6.1.5 Junctions operational performance analysis has been carried out in both reference and design scenarios in year 2036. Most of the junctions would operate with ample capacities in both reference and design scenarios in year 2036, except Junctions B and C.

6.1.6 Junctions B and C will operate with positive capacity in 2036 after the proposed improvement works. It is therefore acceptable from the perspective of traffic engineering.

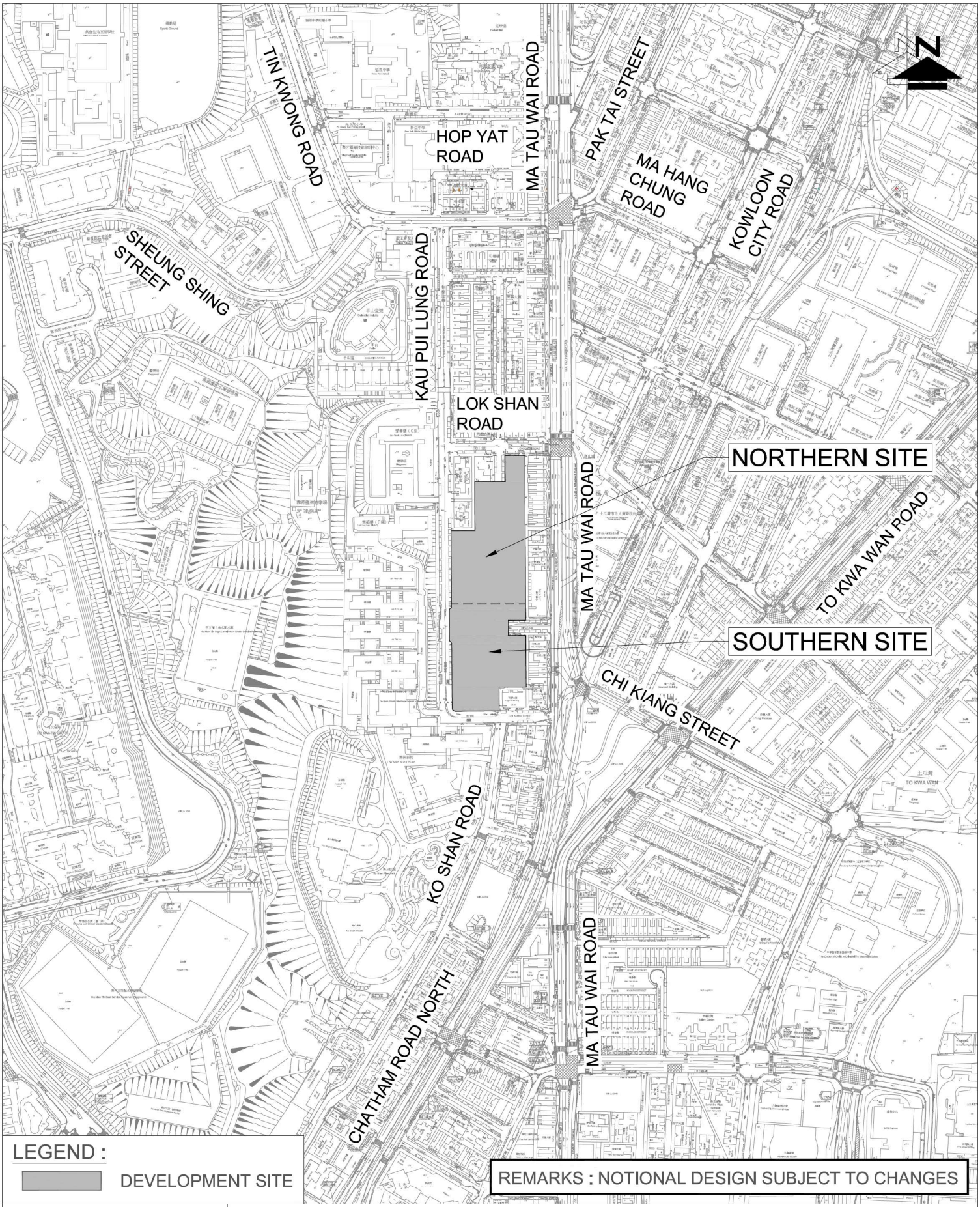
6.1.7 Pedestrian assessment in term of LOS on footpaths and V/C ratio on crossing points has been carried out. It is found out that all concerns footpaths and crossing points would be operated with ample LOS or capacity in both reference and design scenarios in year 2036.

6.1.8 Based on the above assessments, the application is supported from the traffic points of view.

6.2 Conclusion

6.2.1 In conclusion, this Traffic Impact Assessment (TIA) study demonstrated that the related traffic trips related to the proposed development can be absorbed by the nearby road network and no significant traffic impact will be induced.

6.2.2 Therefore, the proposed residential development in To Kwa Wan is reckoned feasible from traffic engineering point of view.



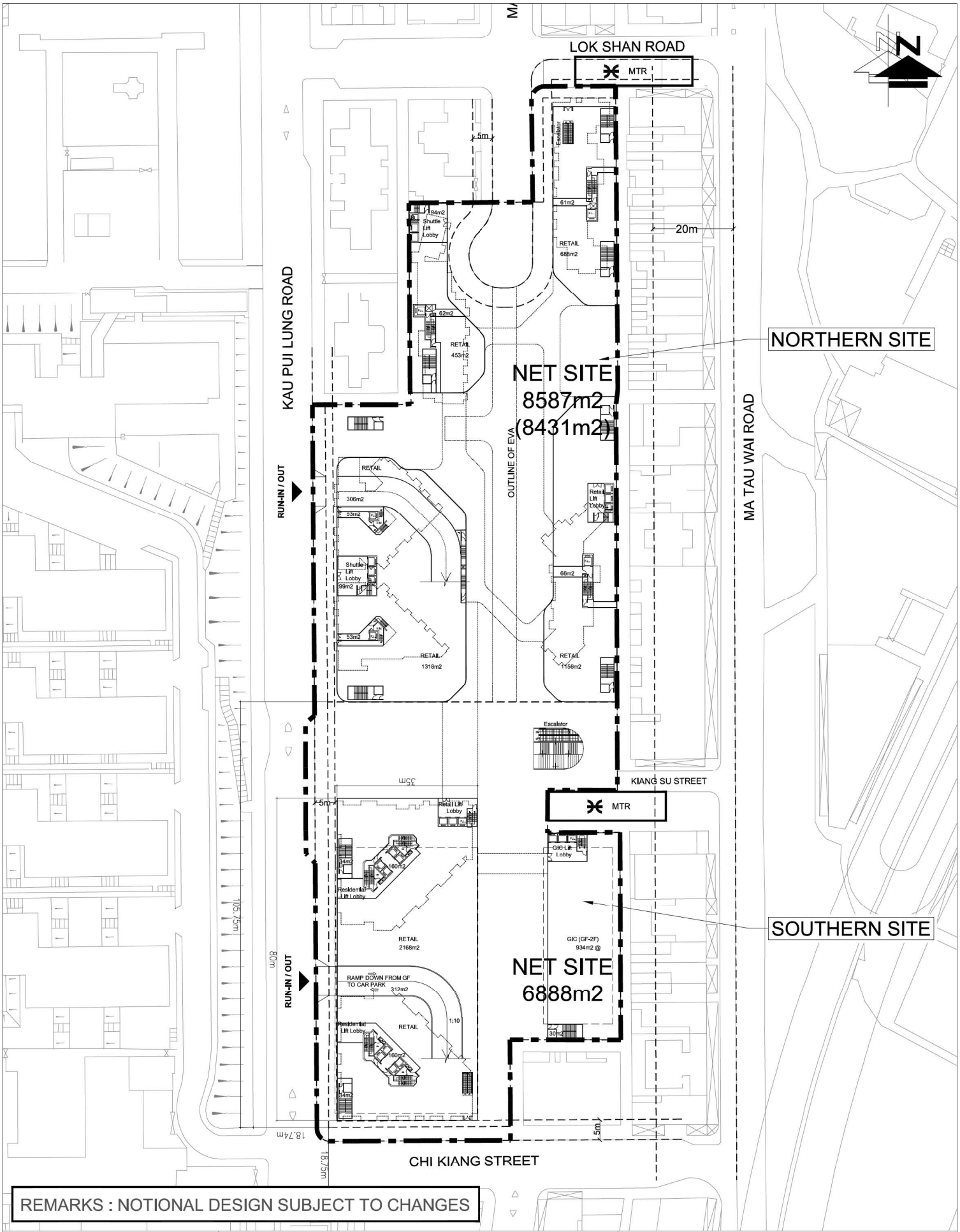
LEGEND :

DEVELOPMENT SITE

REMARKS : NOTIONAL DESIGN SUBJECT TO CHANGES

FIGURE NO.: 1.1	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: SITE LOCATION PLAN
SCALE: 1 : 5000 @ A4	DATE: 28 OCT 2022

CTA Consultants Limited
志達顧問有限公司



REMARKS : NOTIONAL DESIGN SUBJECT TO CHANGES

FIGURE NO.: 2.1	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: INDICATIVE G/F PLAN
SCALE: 1 : 1200 @A4	DATE: 26 OCT 2022

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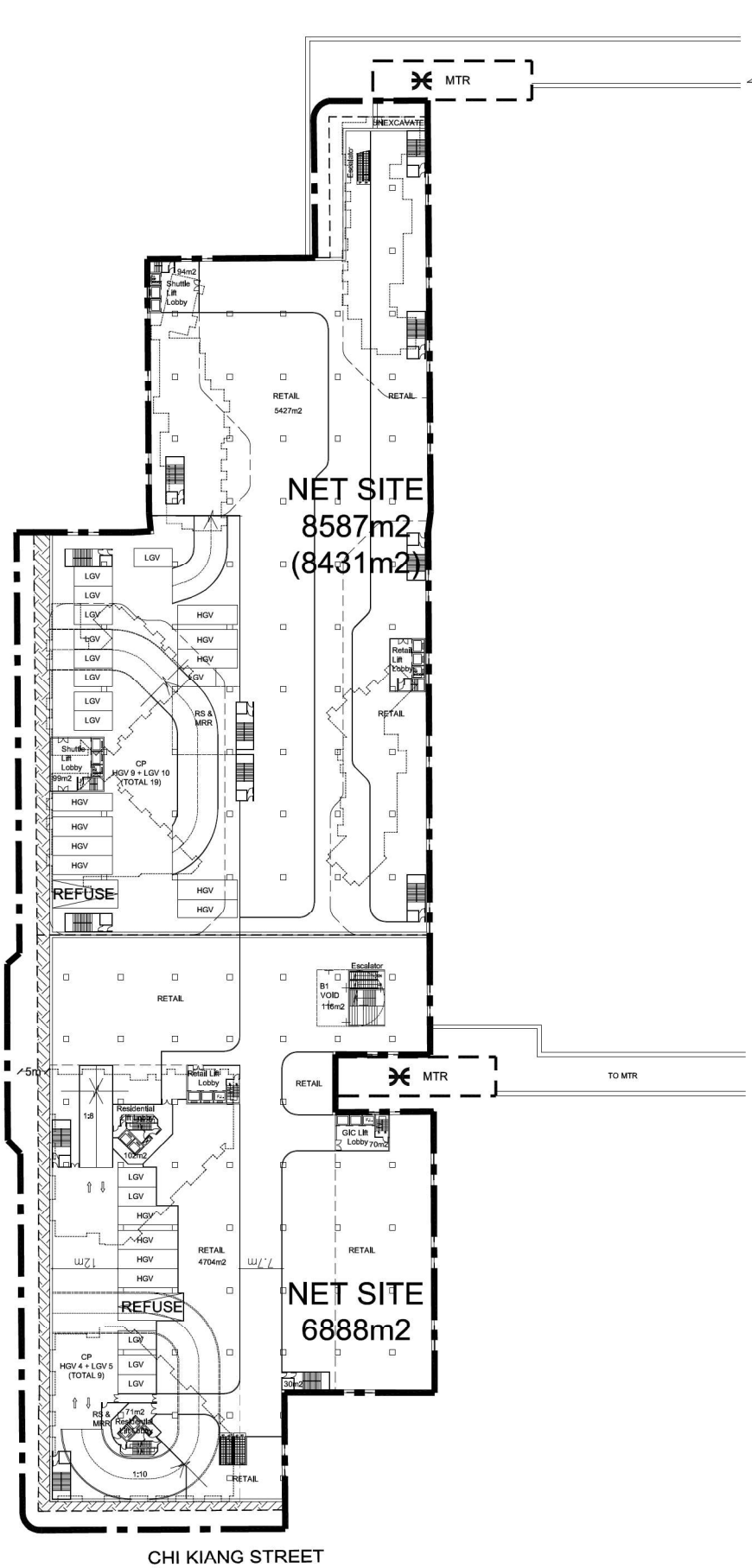
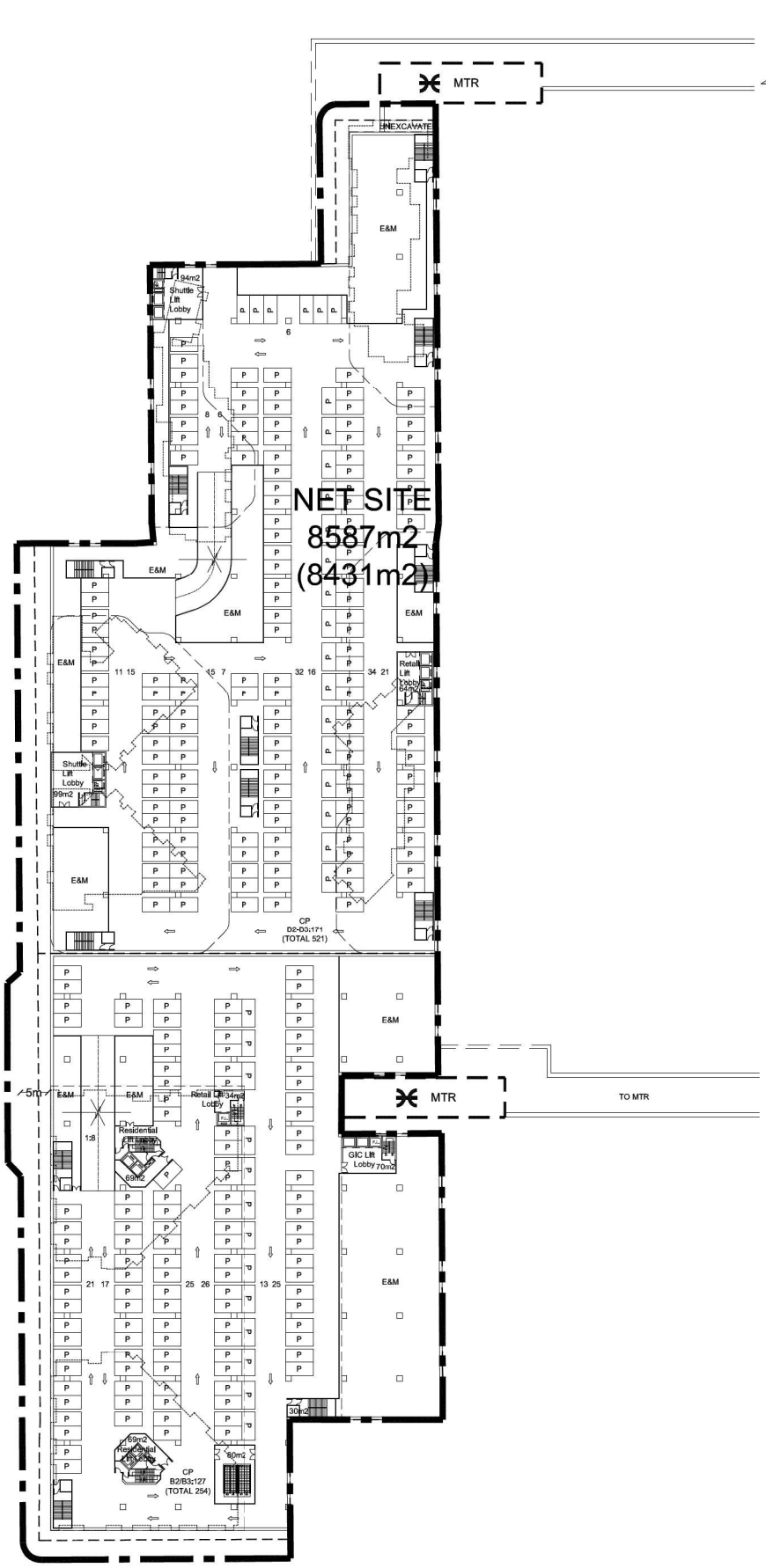


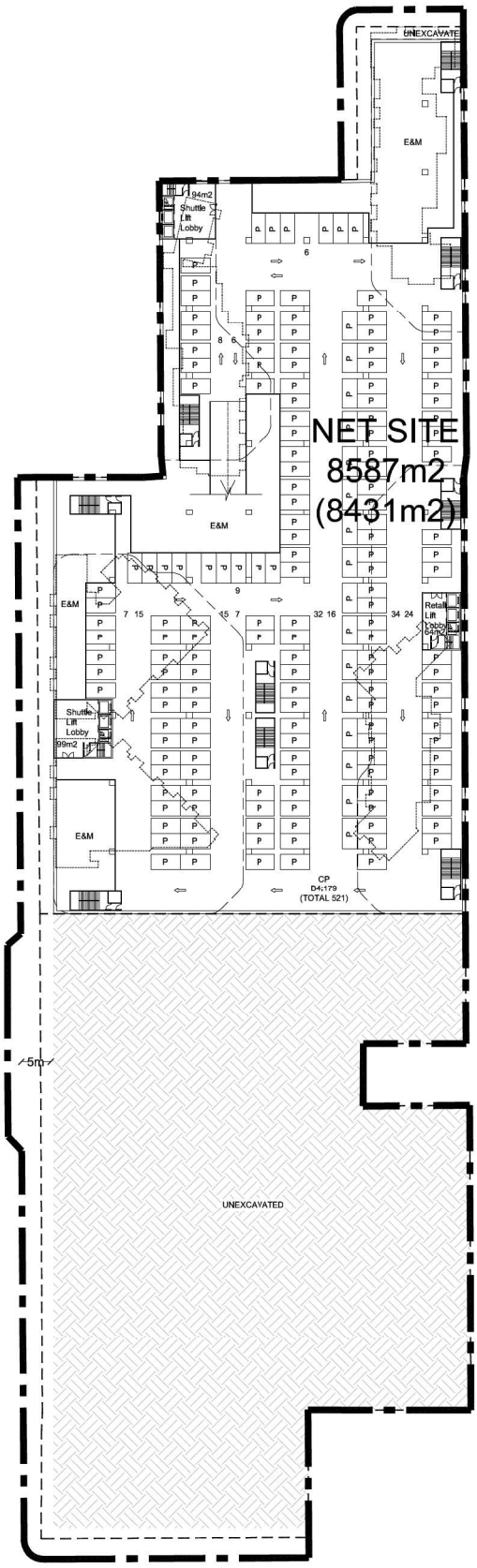
REMARKS : NOTIONAL DESIGN SUBJECT TO CHANGES

FIGURE NO.: 2.2		PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 22101HK		DRAWING TITLE: INDICATIVE B1/F PLAN	
SCALE: 1 : 1200 @A4	DATE: 26 OCT 2022		



REMARKS : NOTIONAL DESIGN SUBJECT TO CHANGES

FIGURE NO.: 2.3		PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 22101HK		DRAWING TITLE: INDICATIVE B2/B3/F PLAN	
SCALE: 1 : 1200 @A4	DATE: 26 OCT 2022		



REMARKS : NOTIONAL DESIGN SUBJECT TO CHANGES

FIGURE NO.: 2.4		PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK		DRAWING TITLE: INDICATIVE B4/F PLAN
SCALE: 1 : 1200 @A4	DATE: 26 OCT 2022	

CTA Consultants Limited
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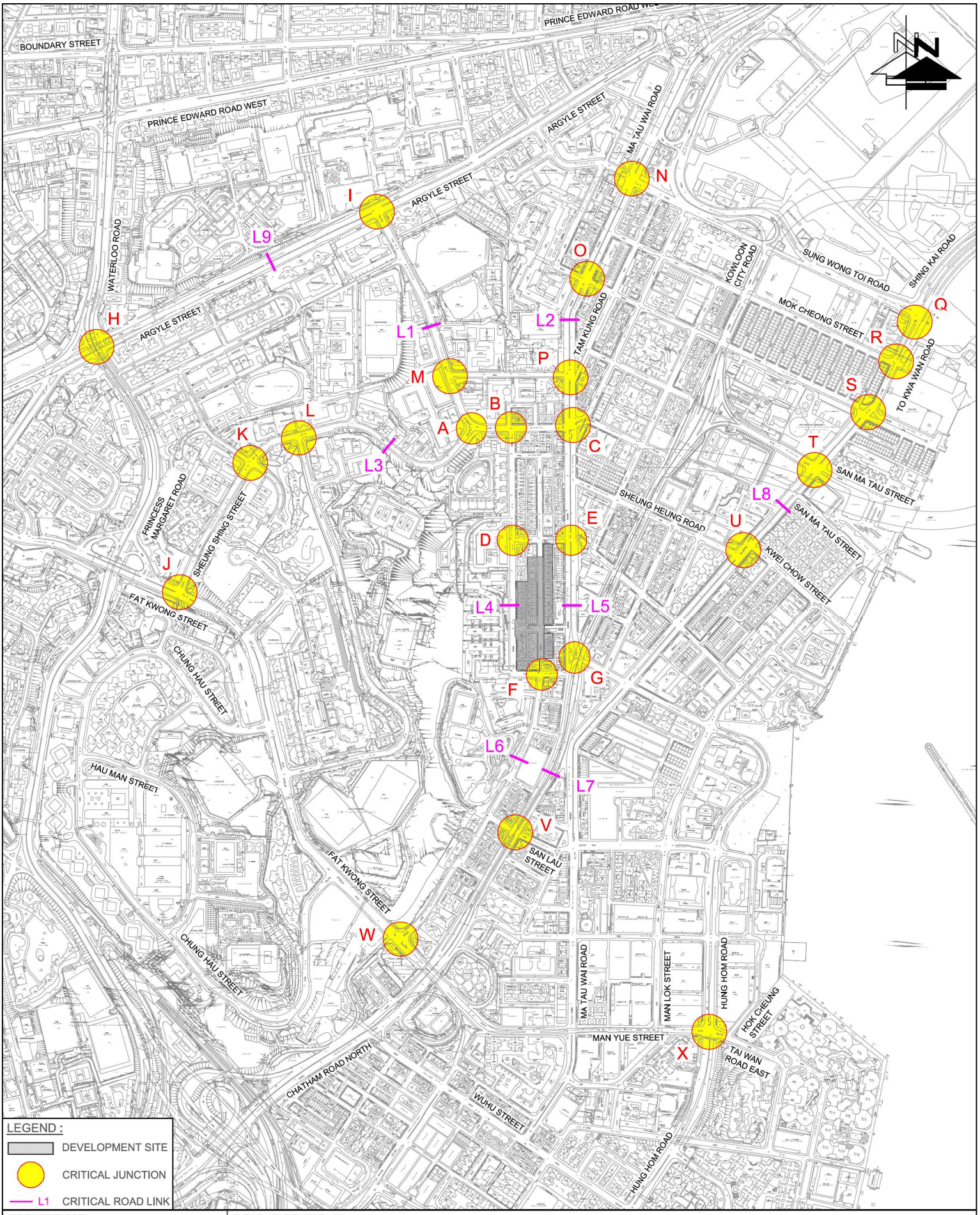

FIGURE NO.: 3.1	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: KEY JUNCTIONS
SCALE: 1 : 7000 @A3	DATE: 18 OCT 2022

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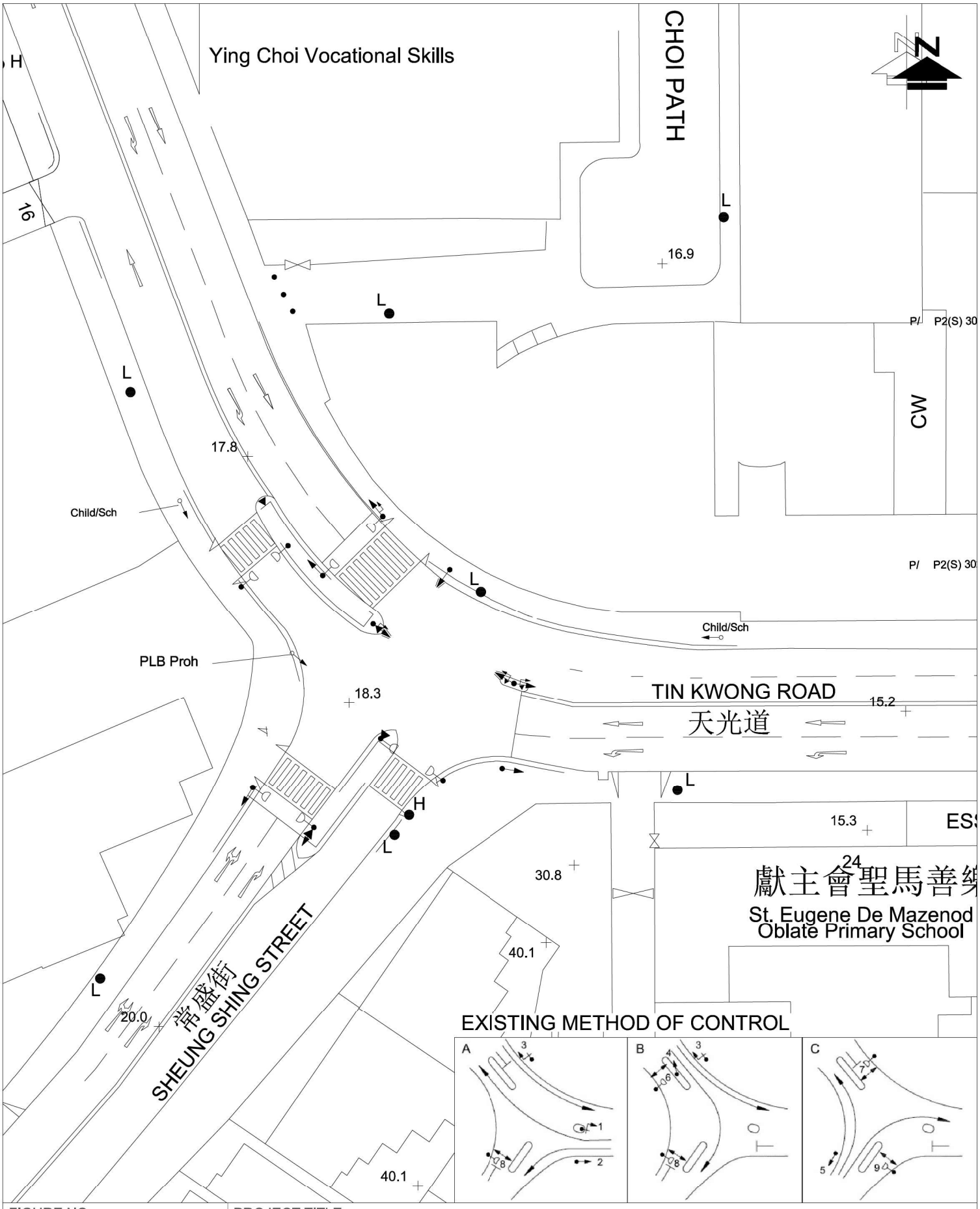

FIGURE NO.: 3.2	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TIN KWONG ROAD / SHEUNG SHING STREET (A)
SCALE: 1 : 500 @ A4 / DATE: 18 AUG 2022	CTA Consultants Limited 志達顧問有限公司

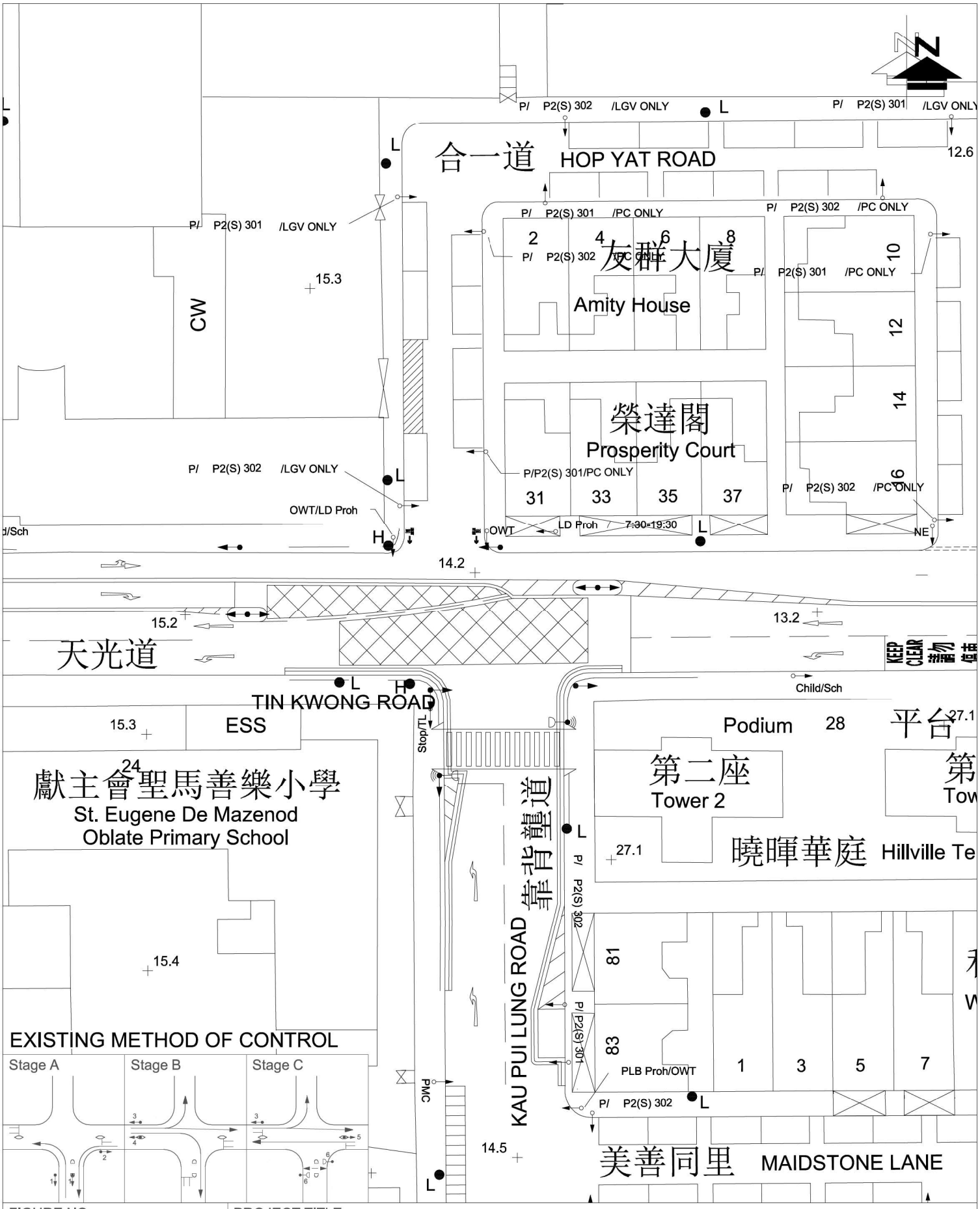

FIGURE NO.: 3.3	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TIN KWONG ROAD / KAU PUI LUNG ROAD / HOP YAT ROAD (B)
SCALE: 1 : 500 @ A4 / DATE: 18 AUG 2022	CTA Consultants Limited 志達顧問有限公司

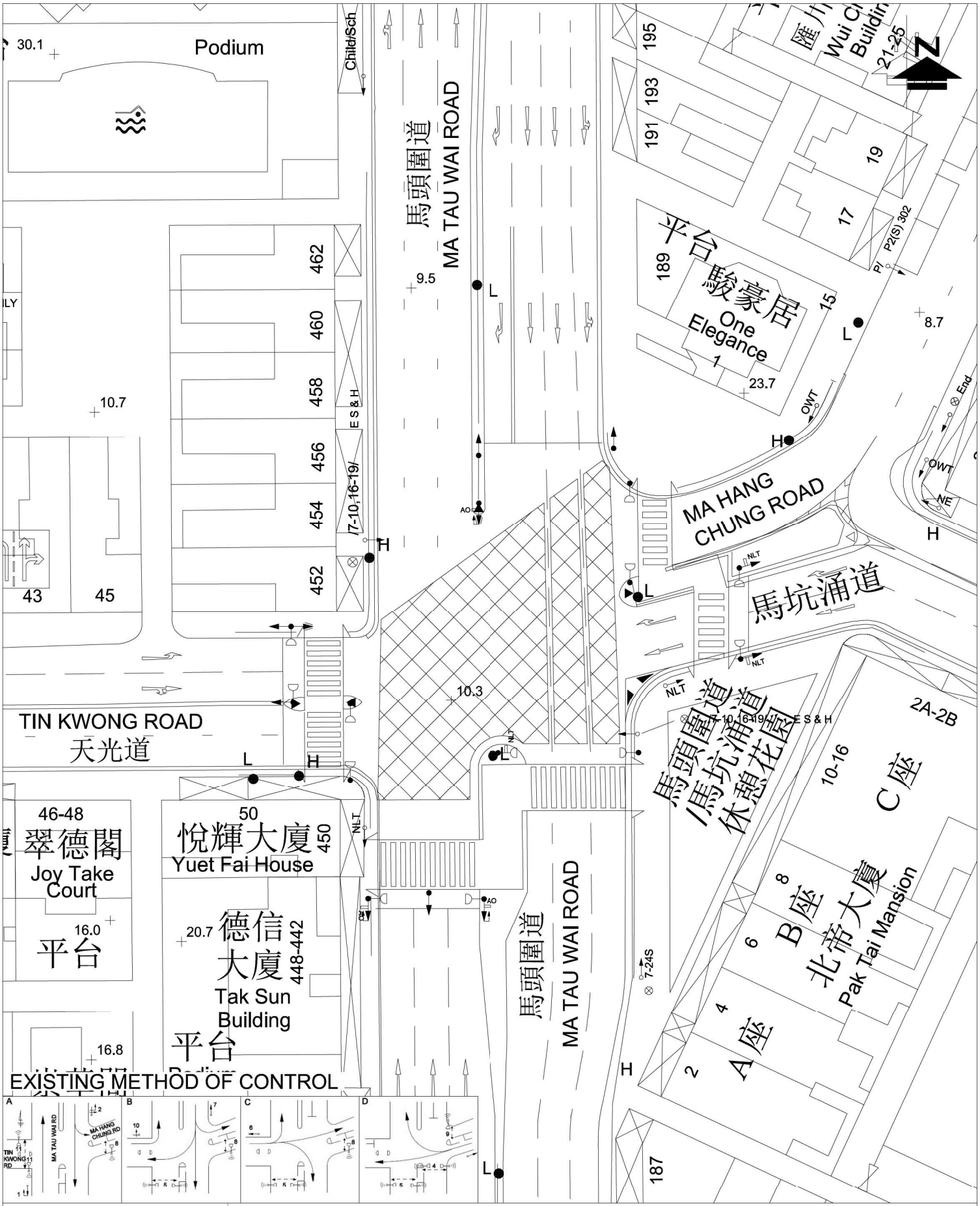

FIGURE NO.: 3.4	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF MA TAU WAI ROAD / TIN KWONG ROAD / MA HANG CHUNG ROAD (C)
SCALE: 1 : 500 @ A4	DATE: 18 AUG 2022

CTA Consultants Limited
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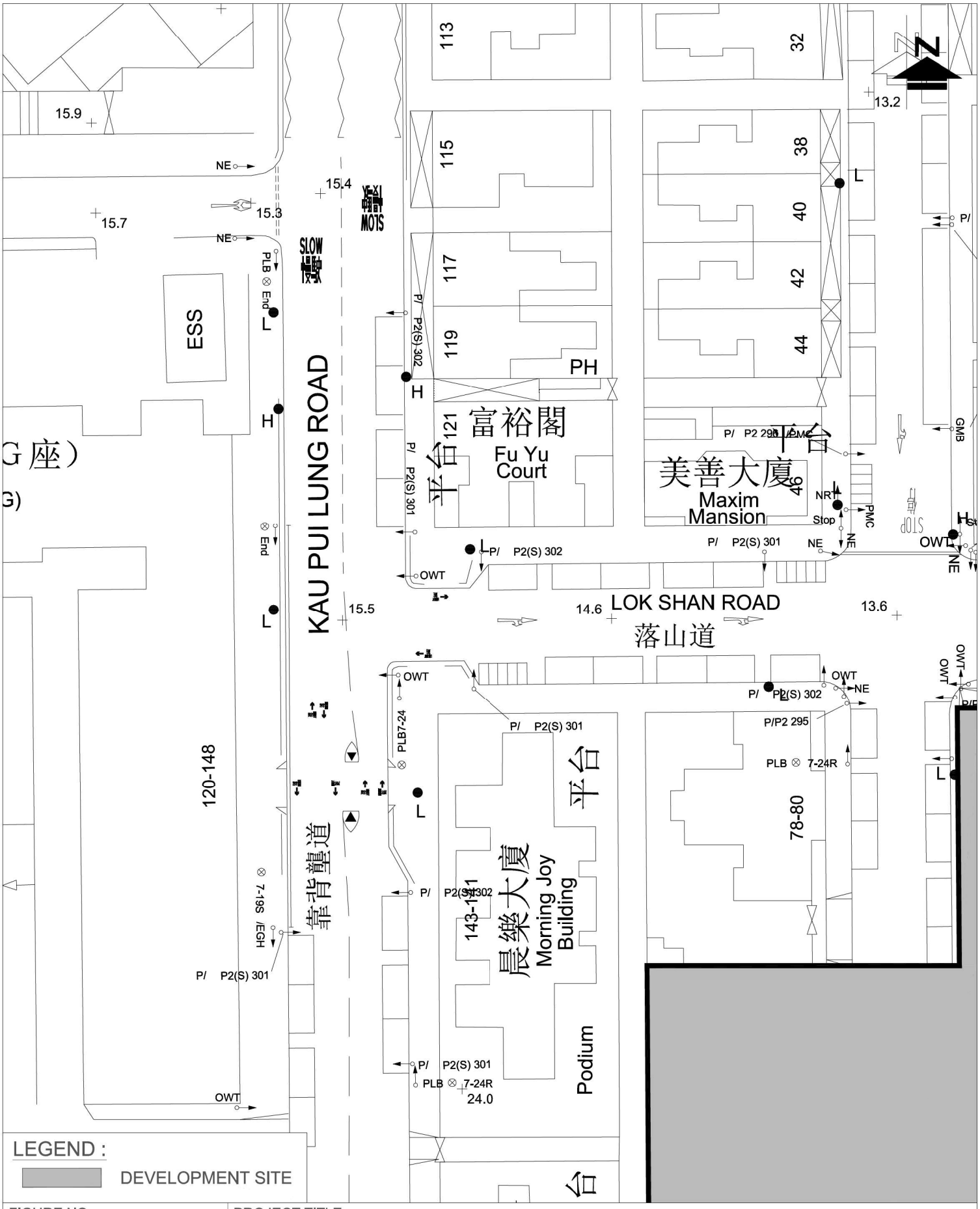

LEGEND :

DEVELOPMENT SITE

FIGURE NO.: 3.5	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF KAU PUI LUNG ROAD / LOK SHAN ROAD (D)
SCALE: 1 : 500 @ A4 / DATE: 18 AUG 2022	CTA Consultants Limited 志達顧問有限公司

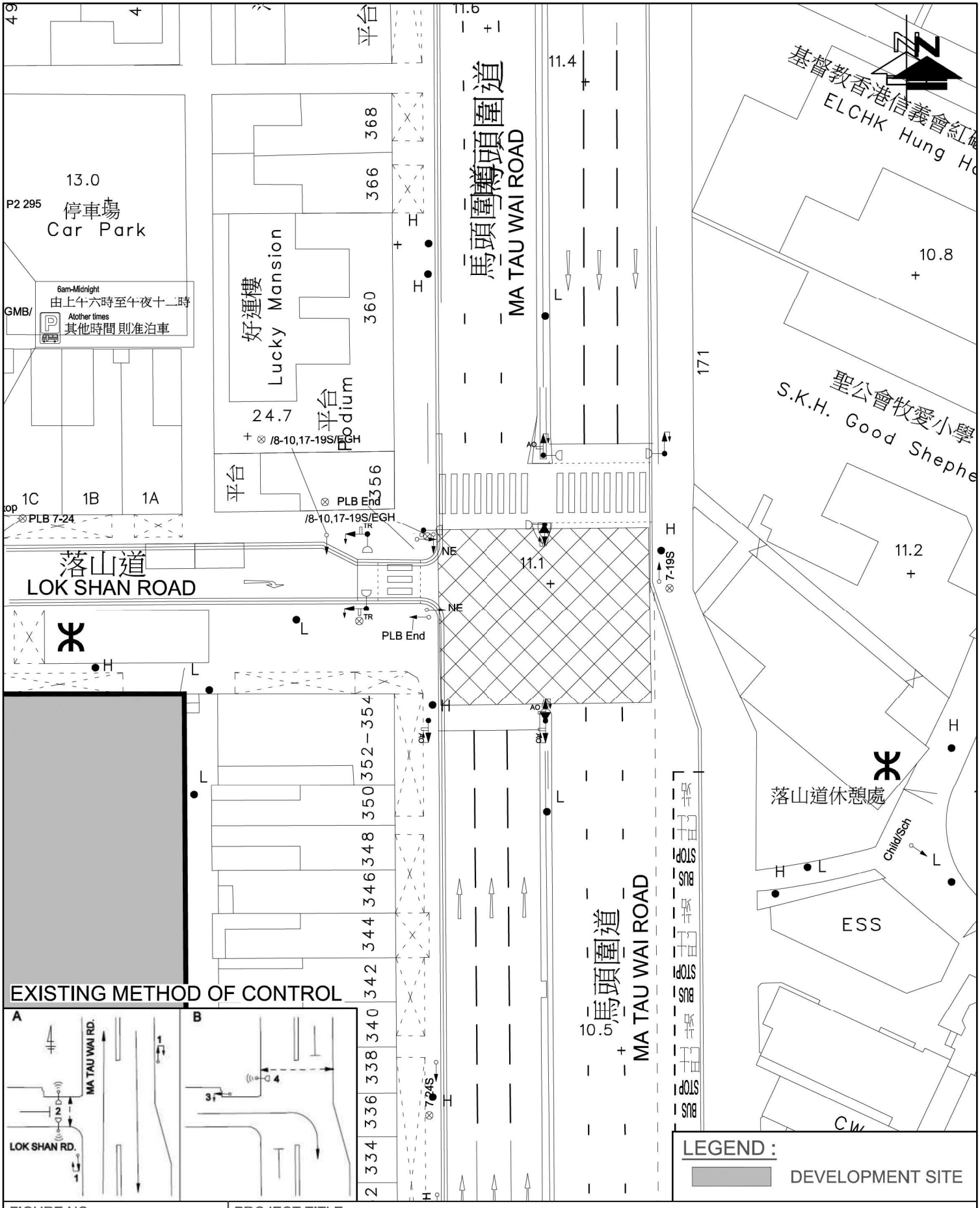

FIGURE NO.: 3.6	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF MA TAU WAI ROAD / LOK SHAN ROAD (E)
SCALE: 1 : 500 @A4	DATE: 19 AUG 2022

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FIGURE NO.: 3.7	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF CHI KIANG STREET / KO SHAN ROAD (F)
SCALE: 1 : 500 @ A4	DATE: 18 AUG 2022

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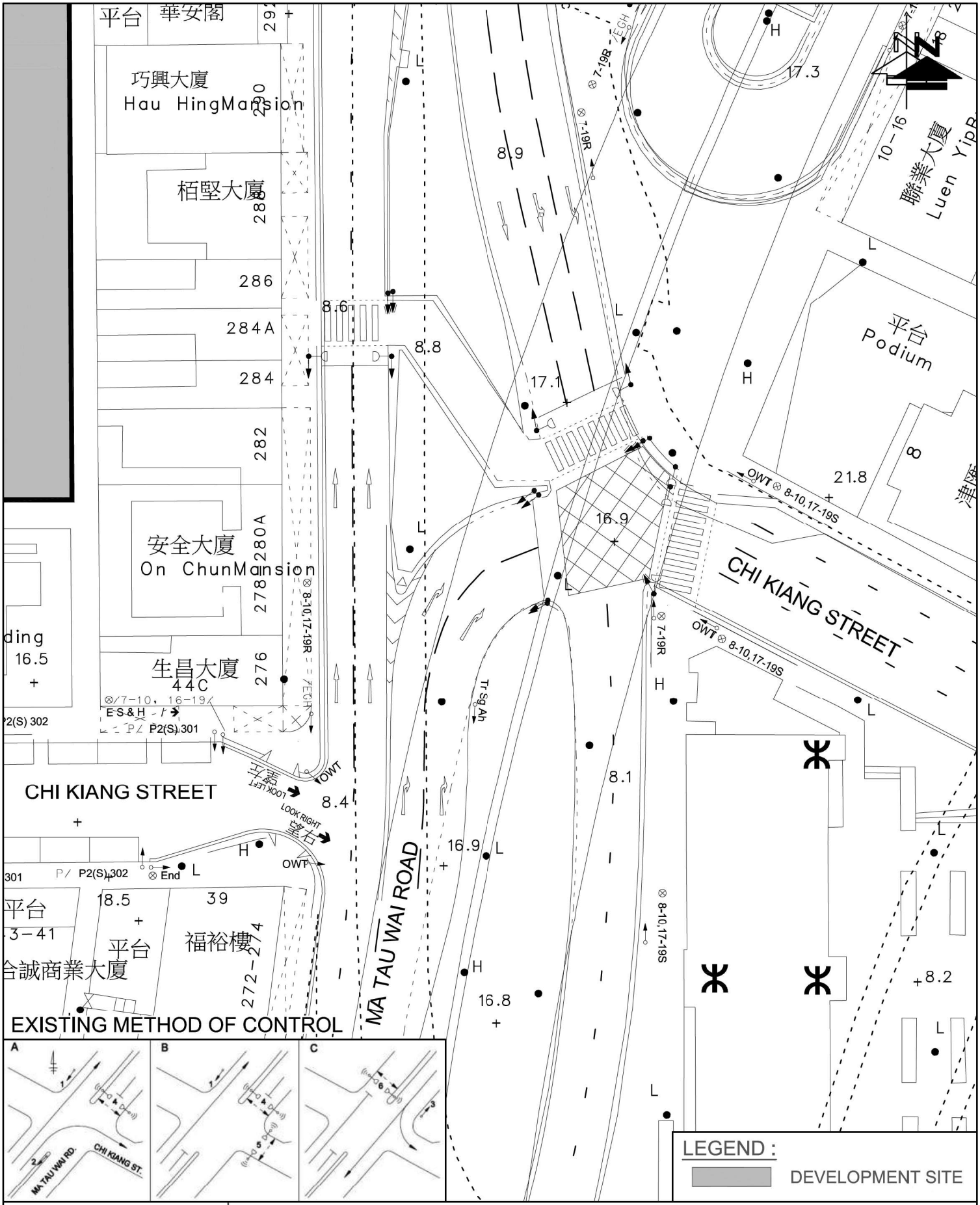

FIGURE NO.: 3.8	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF MA TAU WAI ROAD / CHI KIANG STREET (G)
SCALE: 1 : 500 @A4 / DATE: 19 AUG 2022	CTA Consultants Limited 志達顧問有限公司

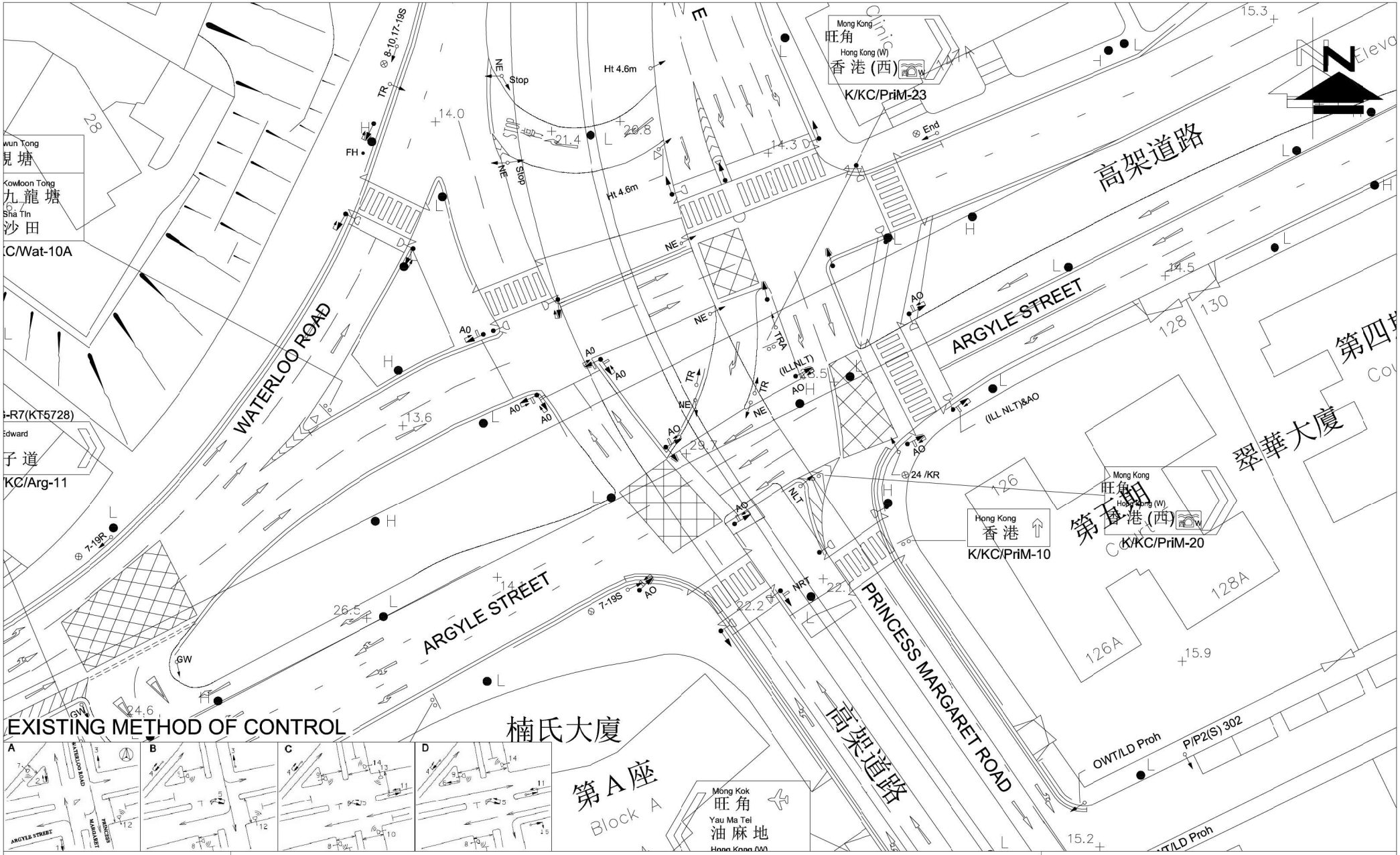

FIGURE NO.: 3.9	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF ARGYLE STREET / WATERLOO ROAD PRINCESS MARGARET ROAD (H)
SCALE: 1 : 600@A4	DATE: 18 AUG 2022

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EXISTING METHOD OF CONTROL

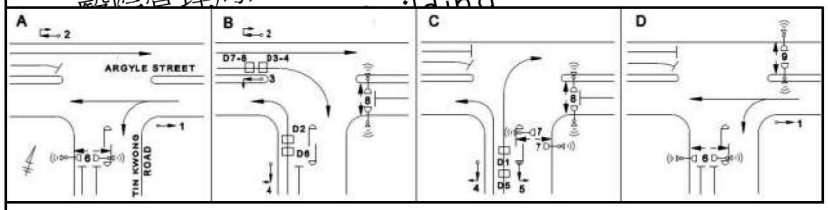

FIGURE NO.: 3.10	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF ARGYLE STREET / TIN KWONG ROAD (I)	
SCALE: 1 : 500@A4 / DATE: 22 AUG 2022		

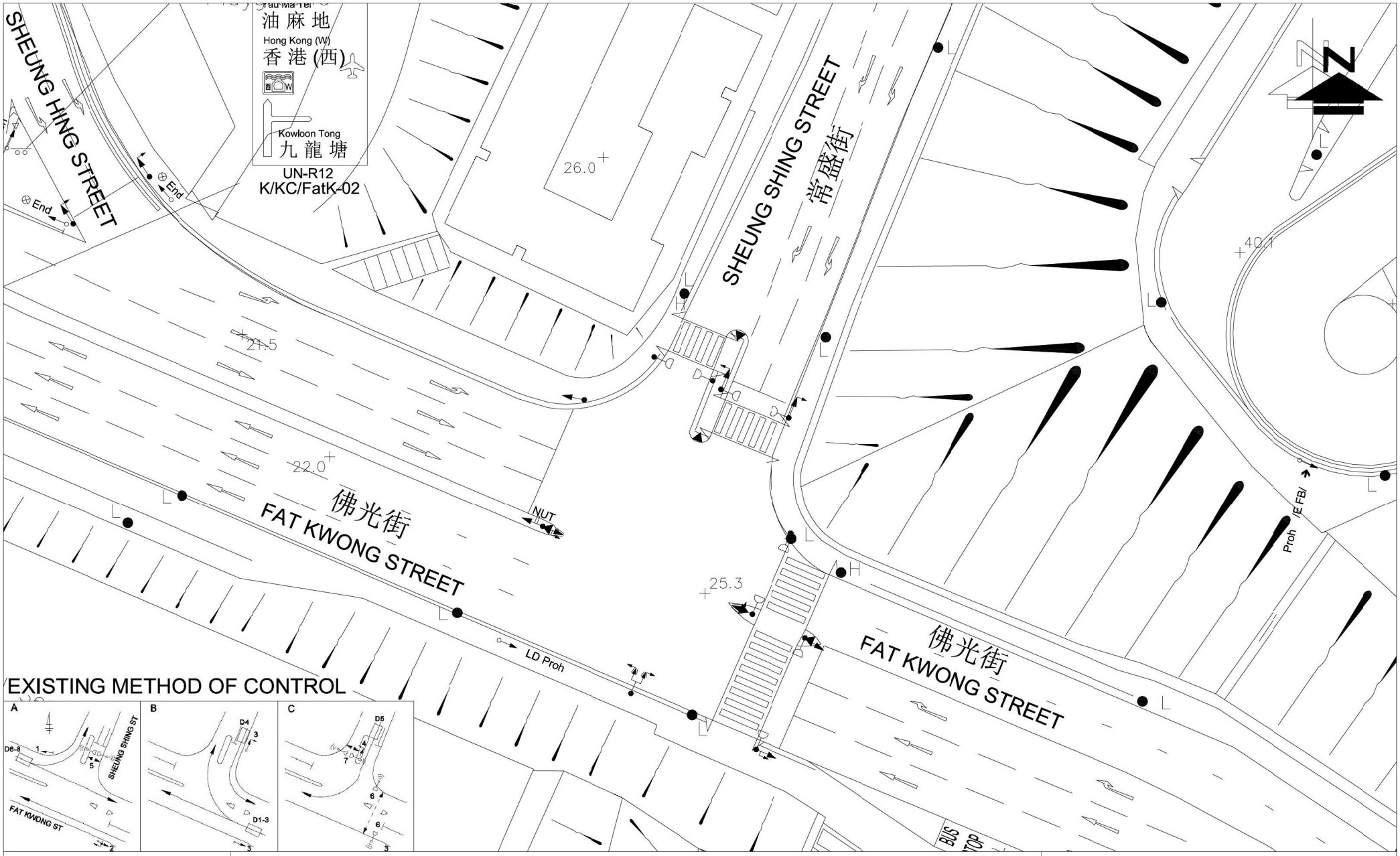

FIGURE NO.: 3.11	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)	
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF FAT KWONG STREET / SHEUNG SHING STREET (J)	CTA Consultants Limited 志達顧問有限公司
SCALE: 1 : 500@A4 / DATE: 18 AUG 2022		

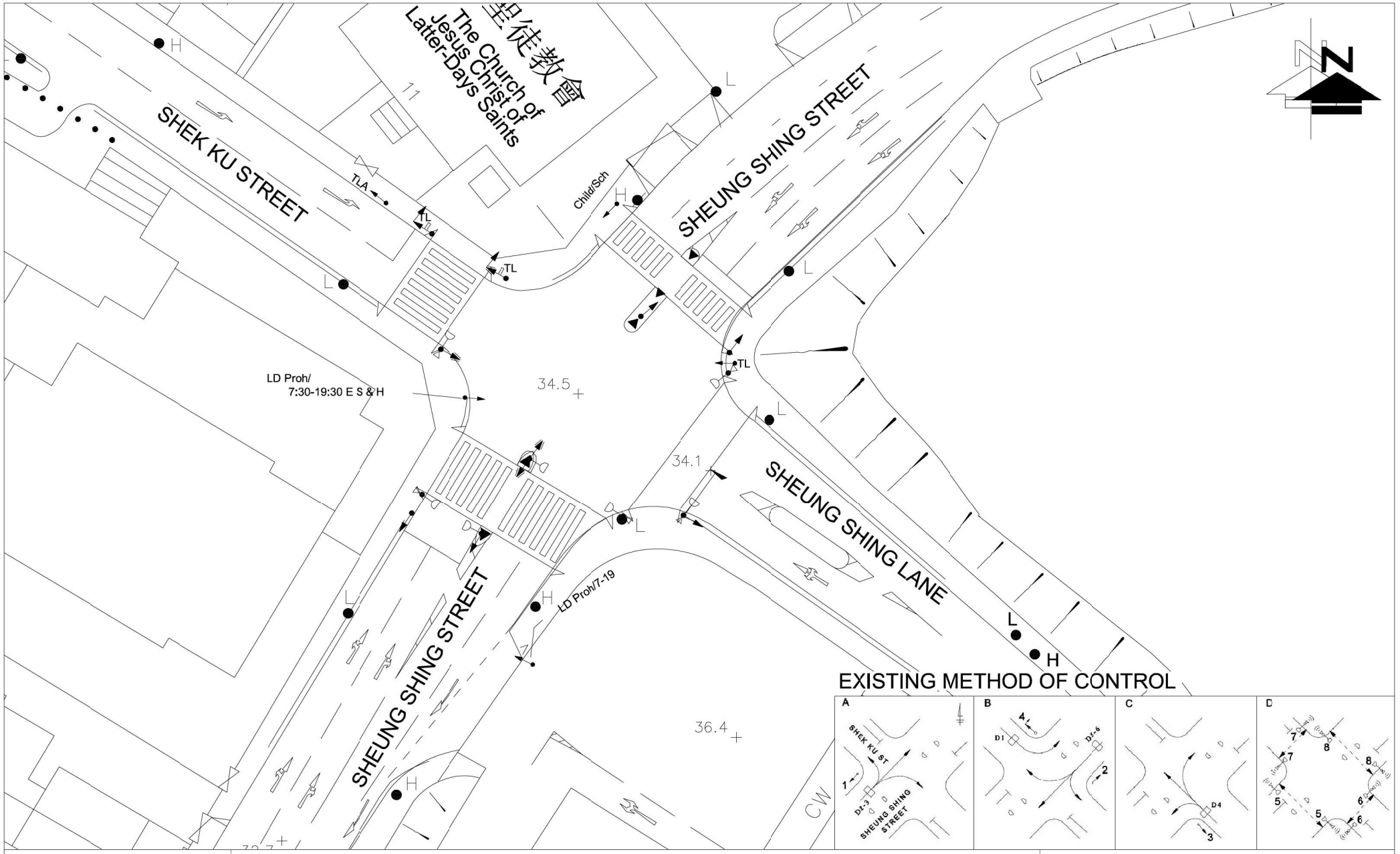

FIGURE NO.: 3.12	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)	
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF SHEUNG SHING STREET / SHEK KU STREET / SHEUNG SHING LANE (K)	CTA Consultants Limited 志達顧問有限公司
SCALE: 1 : 500@A4	DATE: 18 AUG 2022	

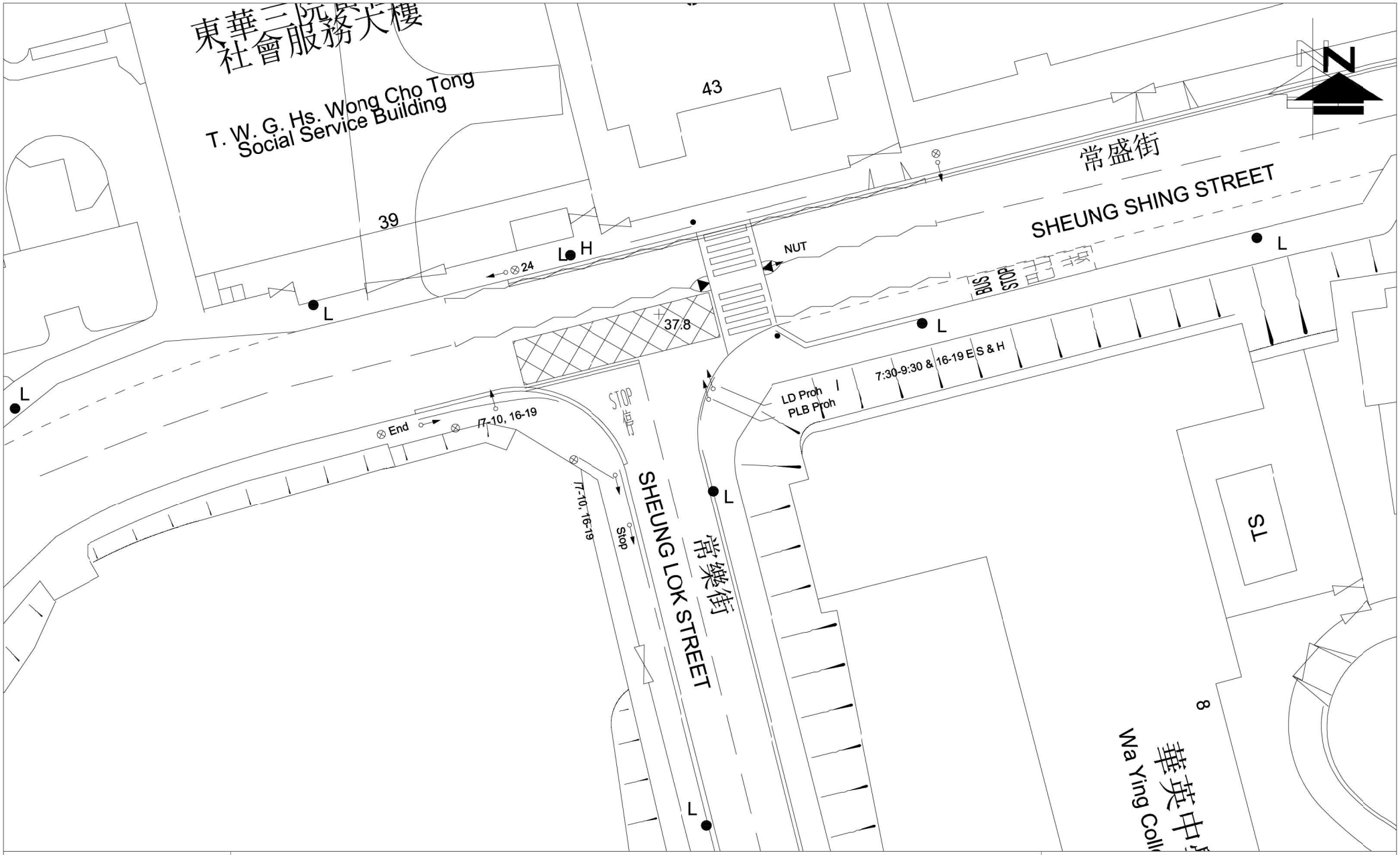

FIGURE NO.: 3.13		PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 22101HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF SHEUNG SHING STREET / SHEUNG LOK STREET (L)	
SCALE: 1 : 500@A4	DATE: 18 AUG 2022		

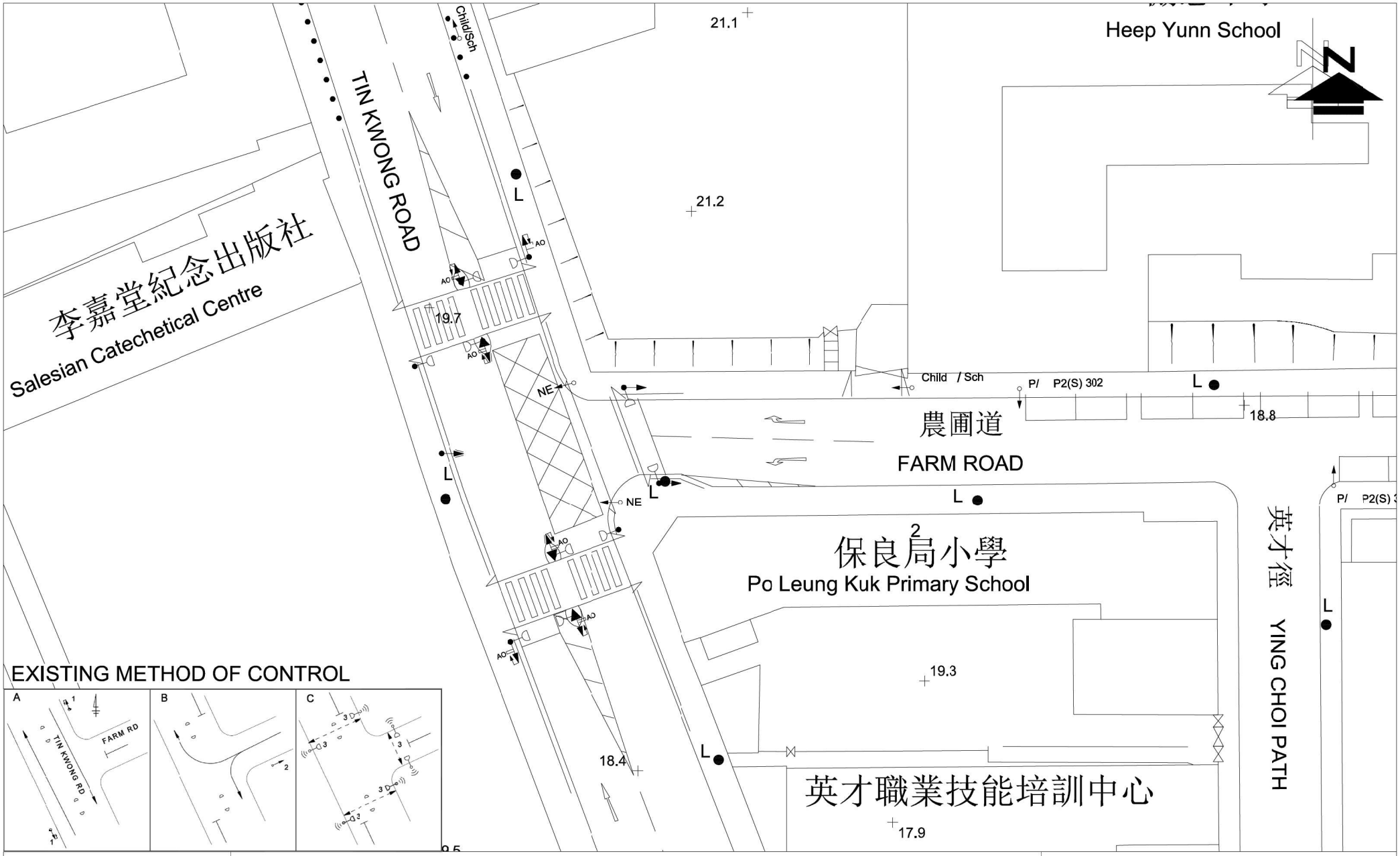

FIGURE NO.: 3.14	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)		
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TIN KWONG ROAD / FARM ROAD (M)		
SCALE: 1 : 500 @A4	DATE: 18 AUG 2022		

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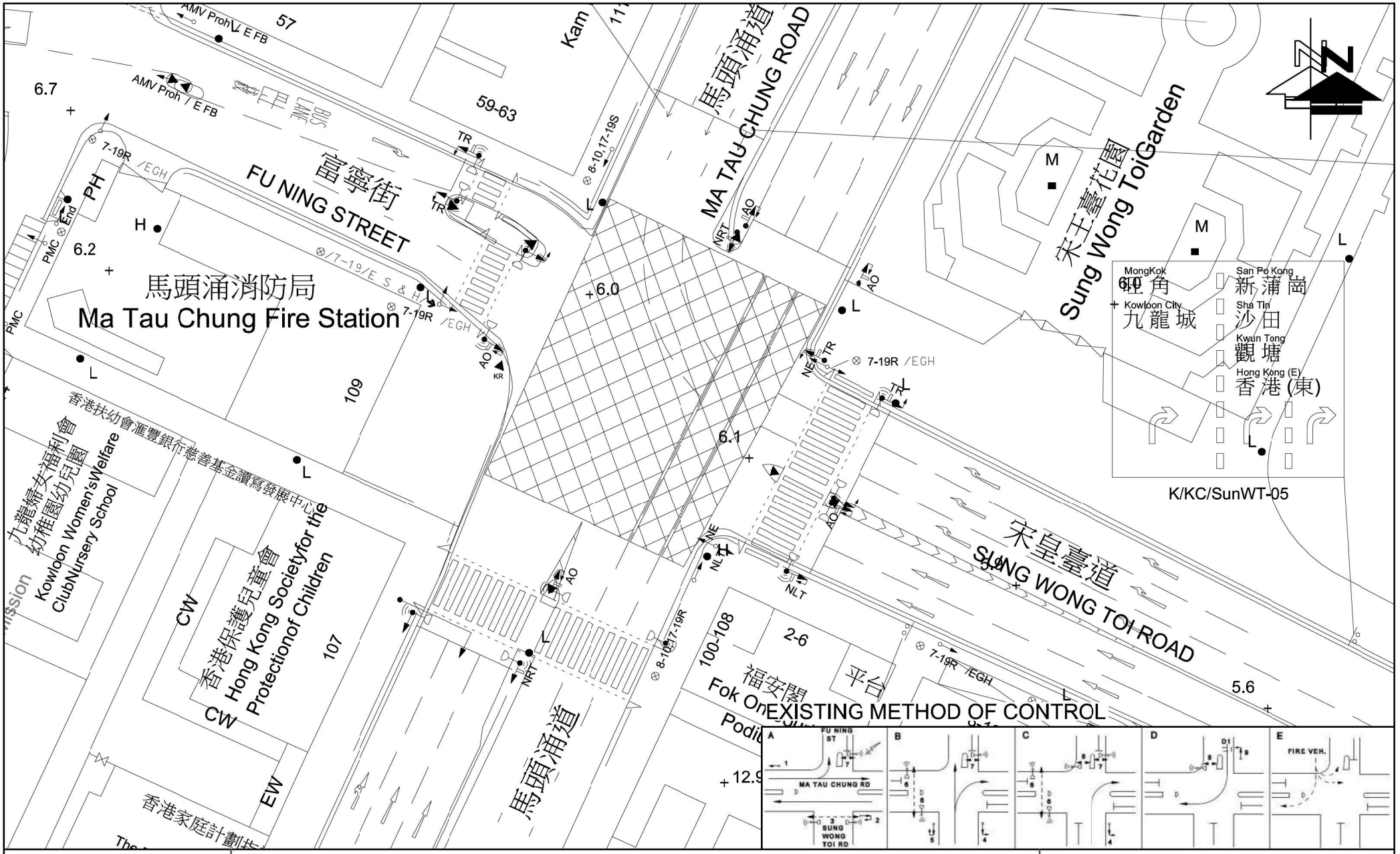

FIGURE NO.: 3.15	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF MA TAU CHUNG ROAD / SUNG WONG TOI ROAD / FU NING STREET (N)
SCALE: 1 : 500@A4	DATE: 22 AUG 2022

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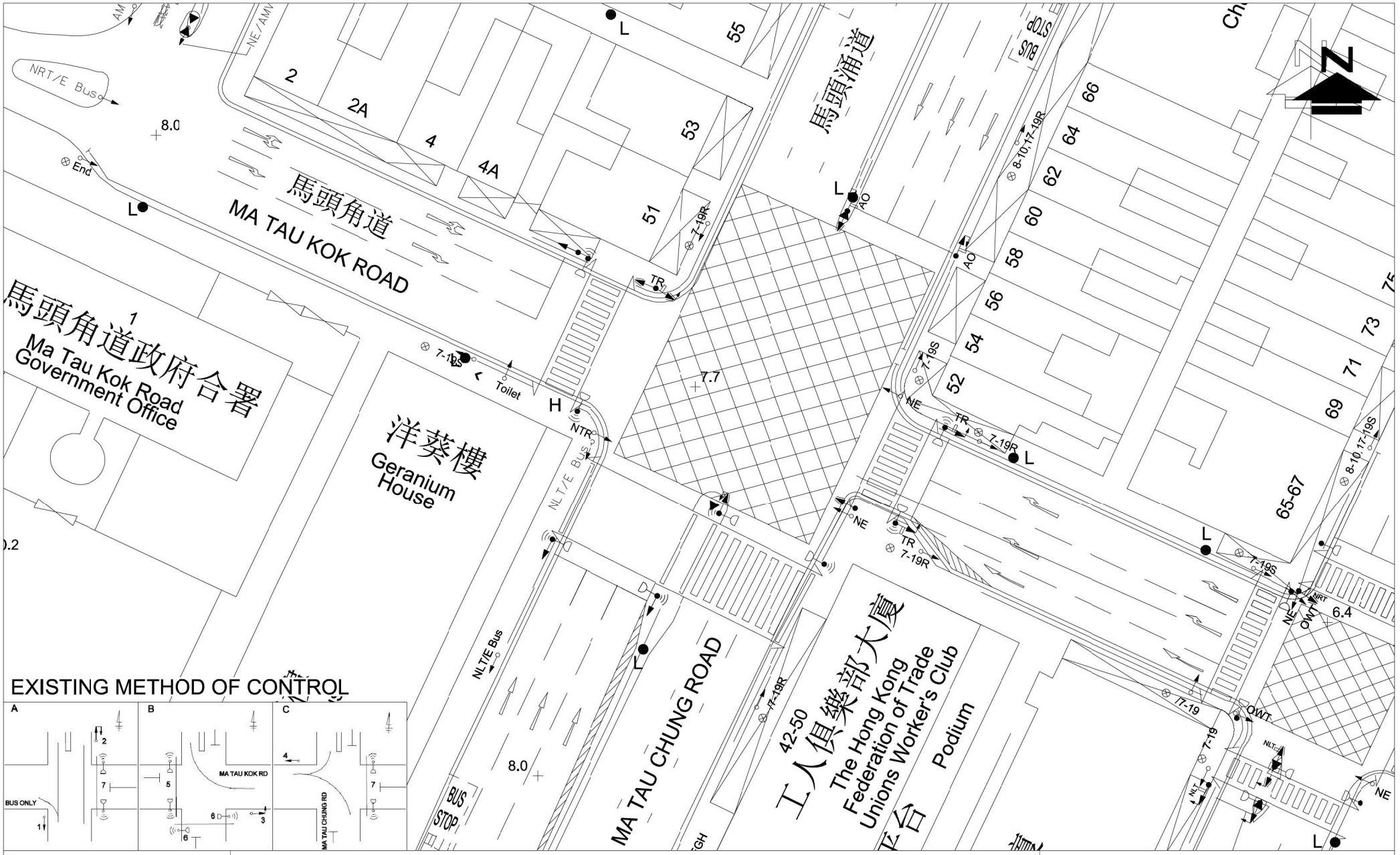

FIGURE NO.: 3.16	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)		
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF MA TAU CHUNG ROAD / MA TAU KOK ROAD (O)		
SCALE: 1 : 500@A4	DATE: 18 AUG 2022		

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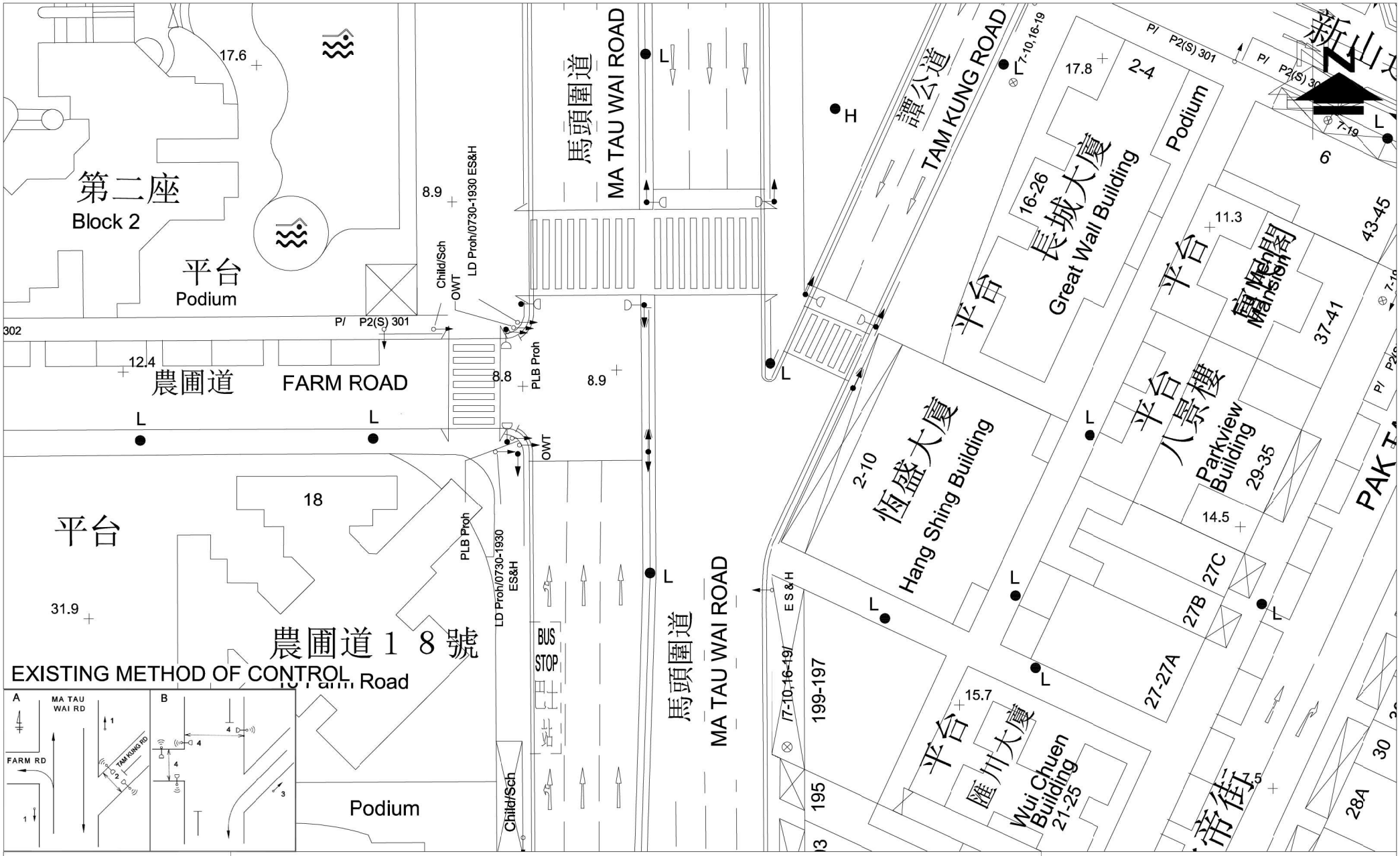

FIGURE NO.: 3.17	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF MA TAU WAI ROAD / FARM ROAD / TAM KUNG ROAD (P)
SCALE: 1 : 500 @A4	DATE: 24 AUG 2022

CTA Consultants Limited
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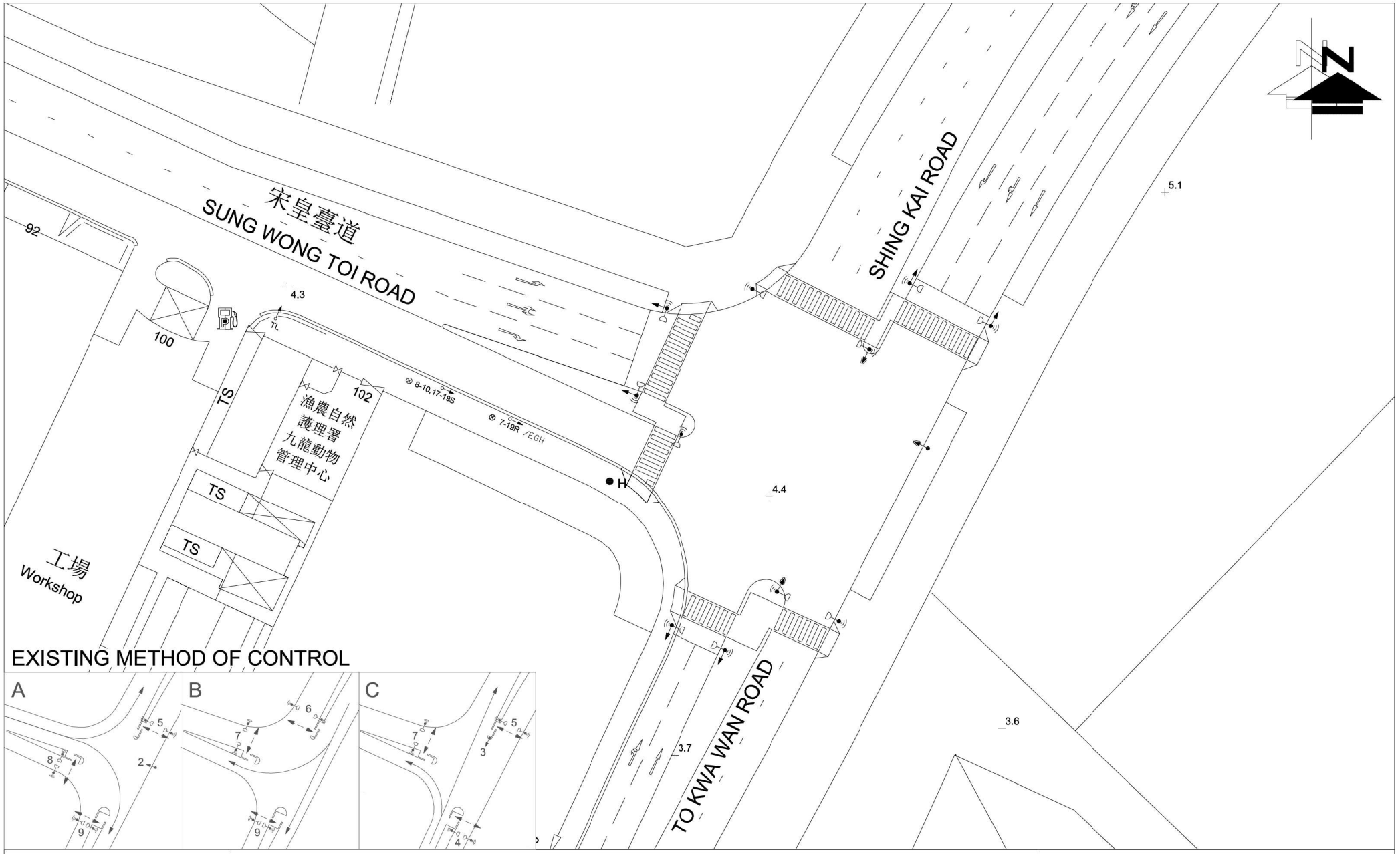

FIGURE NO.: 3.18		PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 22101HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF SUNG WONG TOI ROAD / TO KWA WAN ROAD / SHING KAI ROAD (Q)	
SCALE: 1 : 700@A4	DATE: 18 AUG 2022		

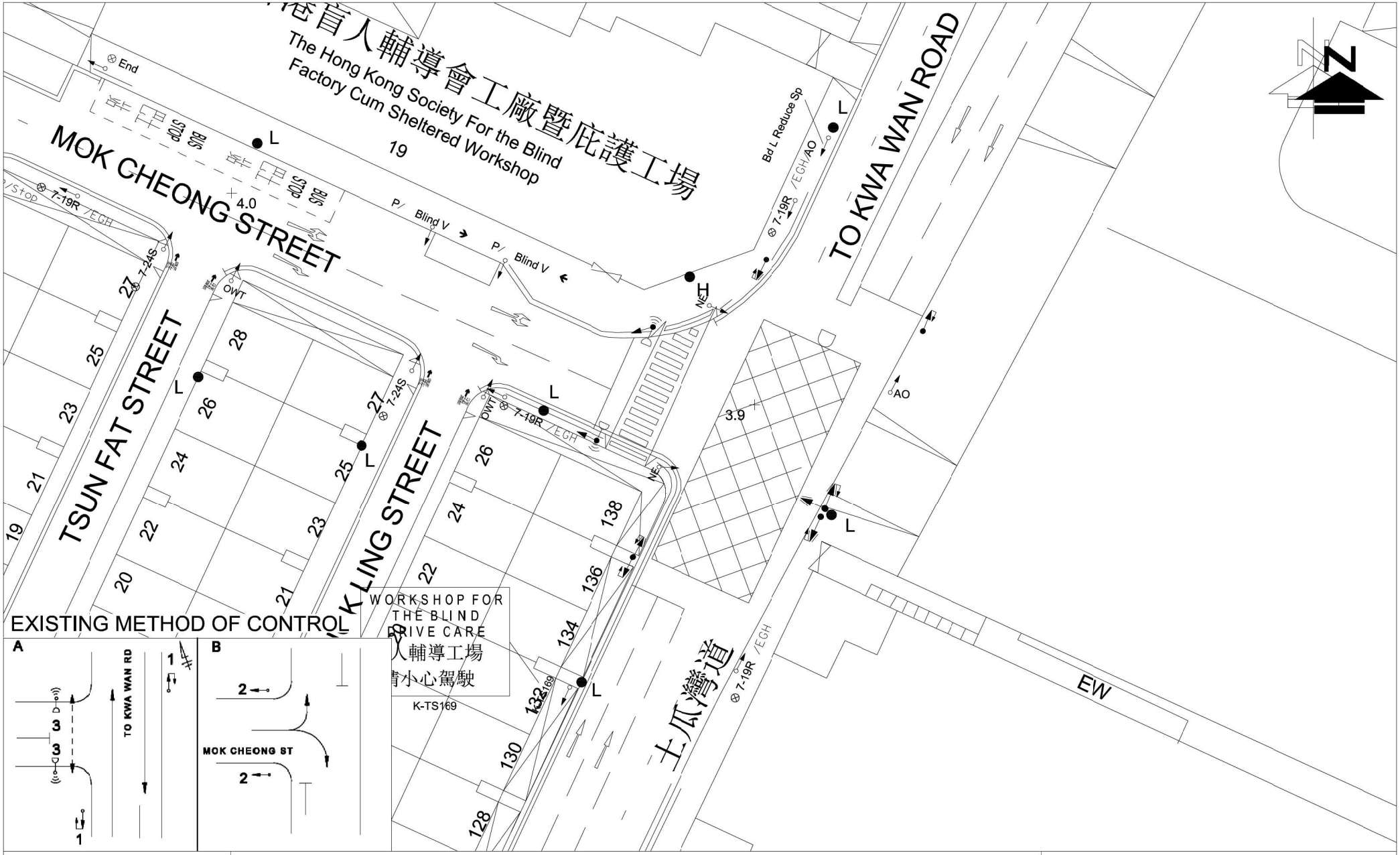

FIGURE NO.: 3.19	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)	
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF MOK CHEONG STREET / TO KWA WAN ROAD (R)	CTA Consultants Limited 志達顧問有限公司
SCALE: 1 : 500@A4 / DATE: 18 AUG 2022		

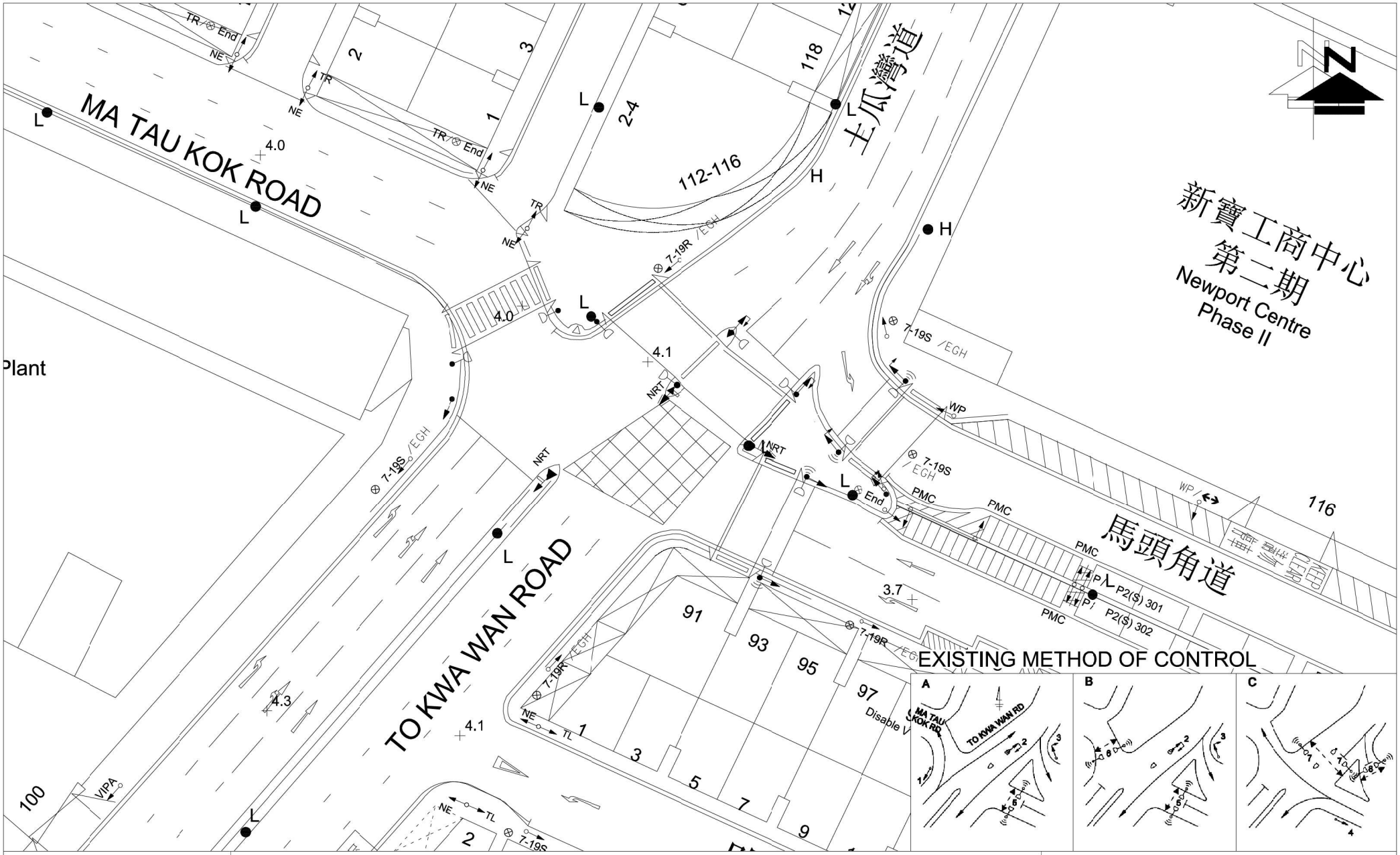

FIGURE NO.: 3.20	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)	
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF MA TAU KOK ROAD / TO KWA WAN ROAD (S)	CTA Consultants Limited 志達顧問有限公司
SCALE: 1 : 500@A4 / DATE: 18 AUG 2022		

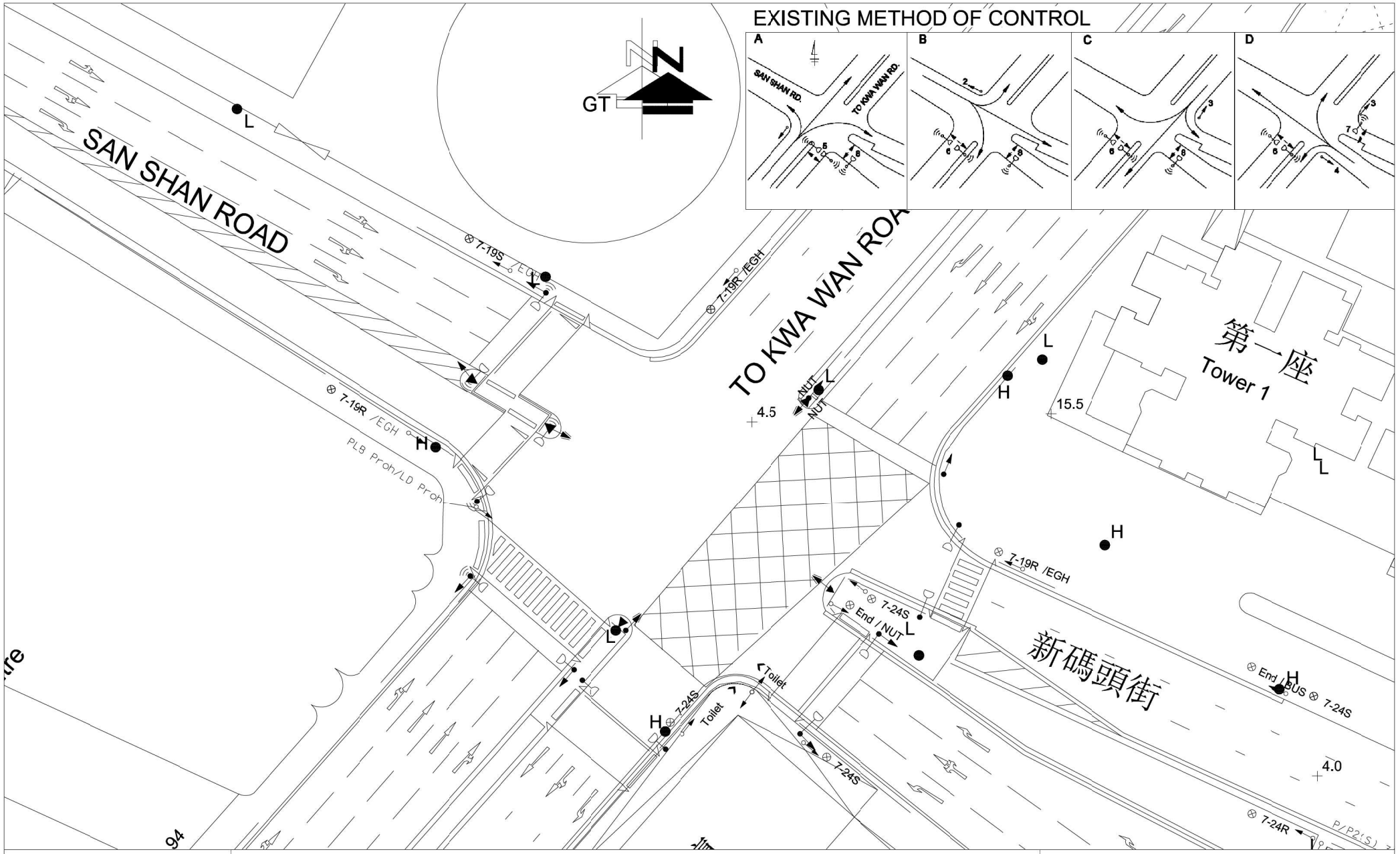

FIGURE NO.: 3.21	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)		
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF SAN SHAN ROAD / TO KWA WAN ROAD (T)		
SCALE: 1 : 500@A4	DATE: 18 AUG 2022		

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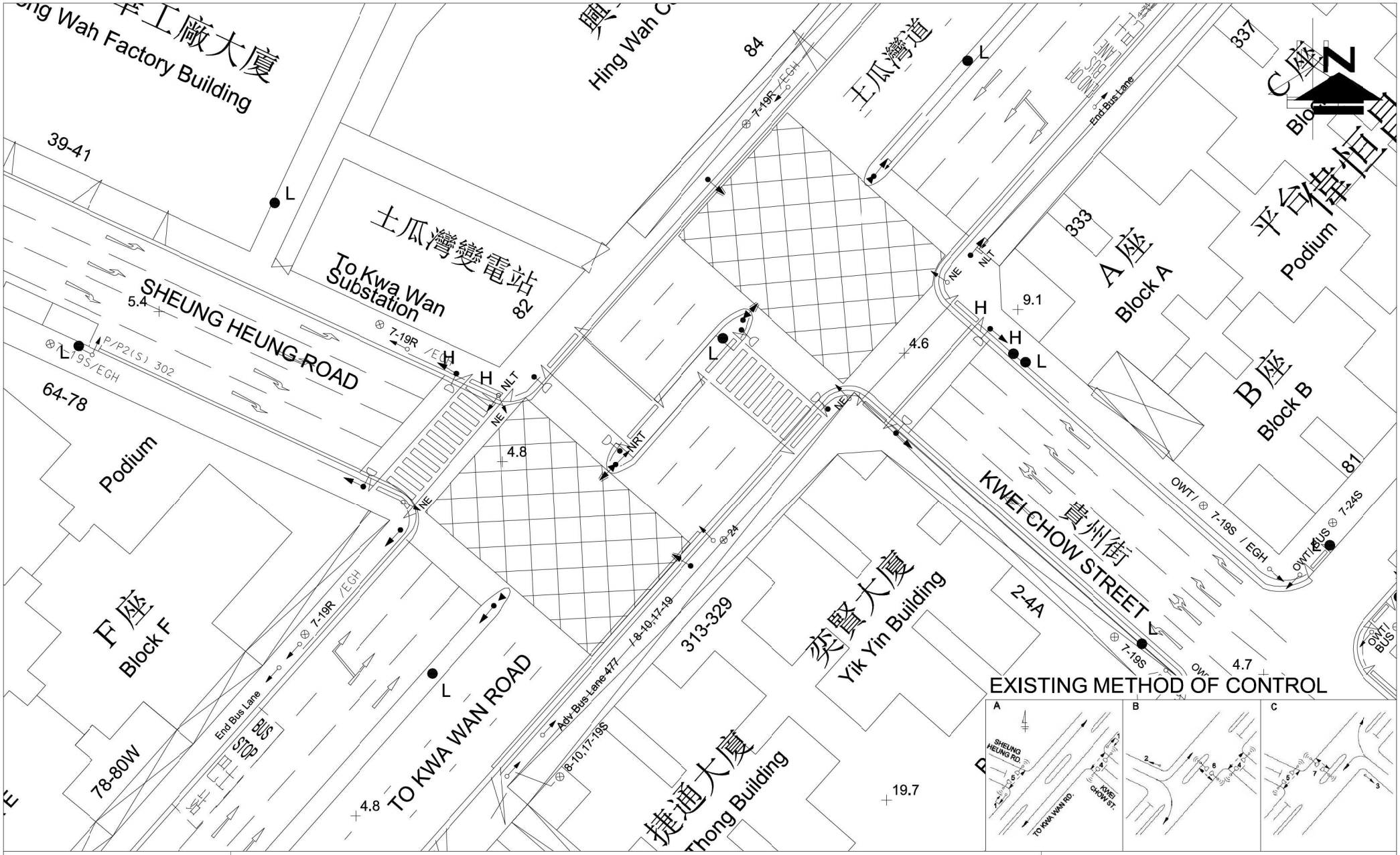

FIGURE NO.: 3.22	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)	
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TO KWA WAN ROAD / SHEUNG HEUNG ROAD / KWEI CHOW STREET (U)	
SCALE: 1 : 500@A4	DATE: 18 AUG 2022	

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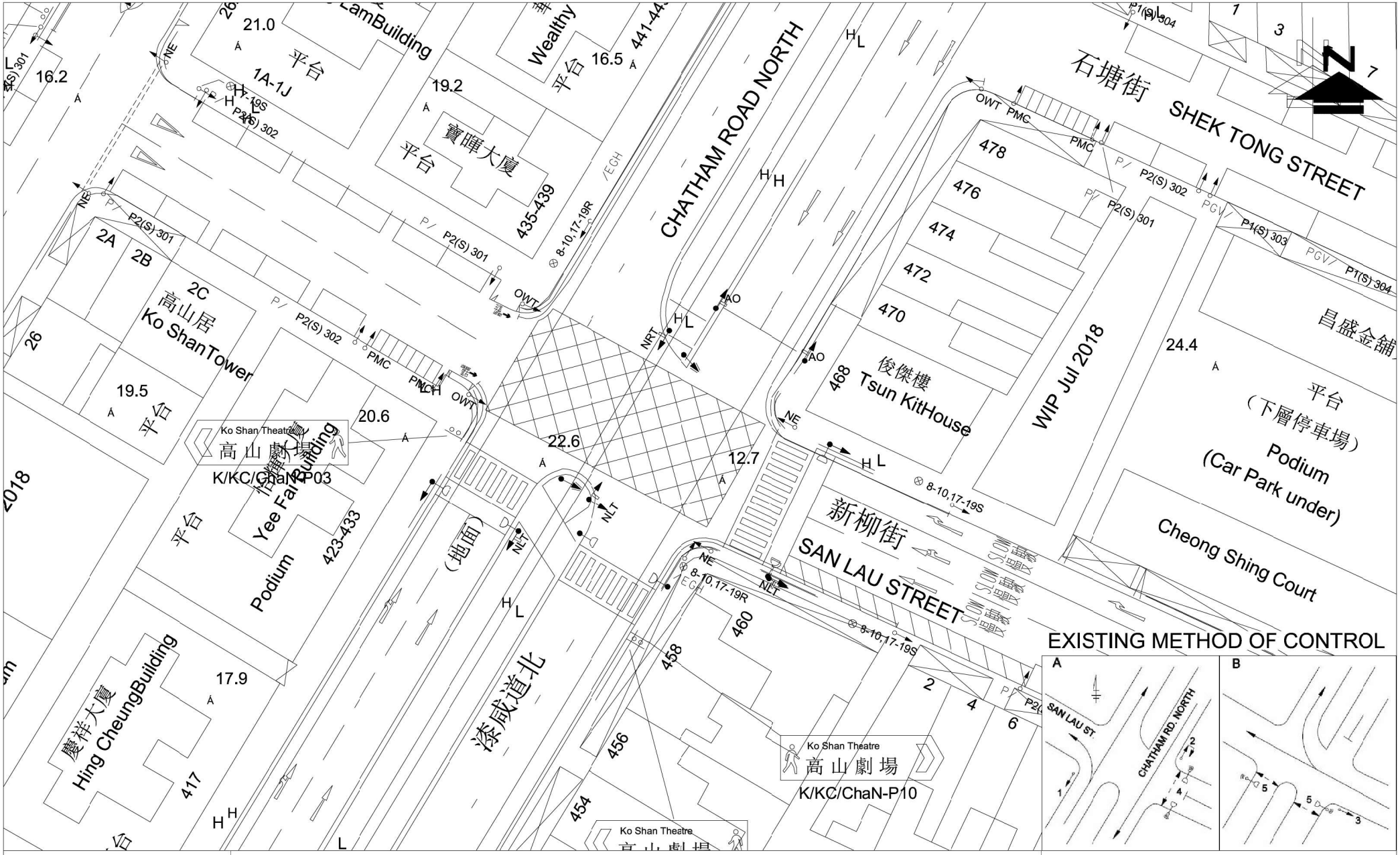

FIGURE NO.: 3.23	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF CHATHAM ROAD NORTH / SAN LAU STREET (V)
SCALE: 1 : 500@A4	DATE: 18 AUG 2022

CTA Consultants Limited
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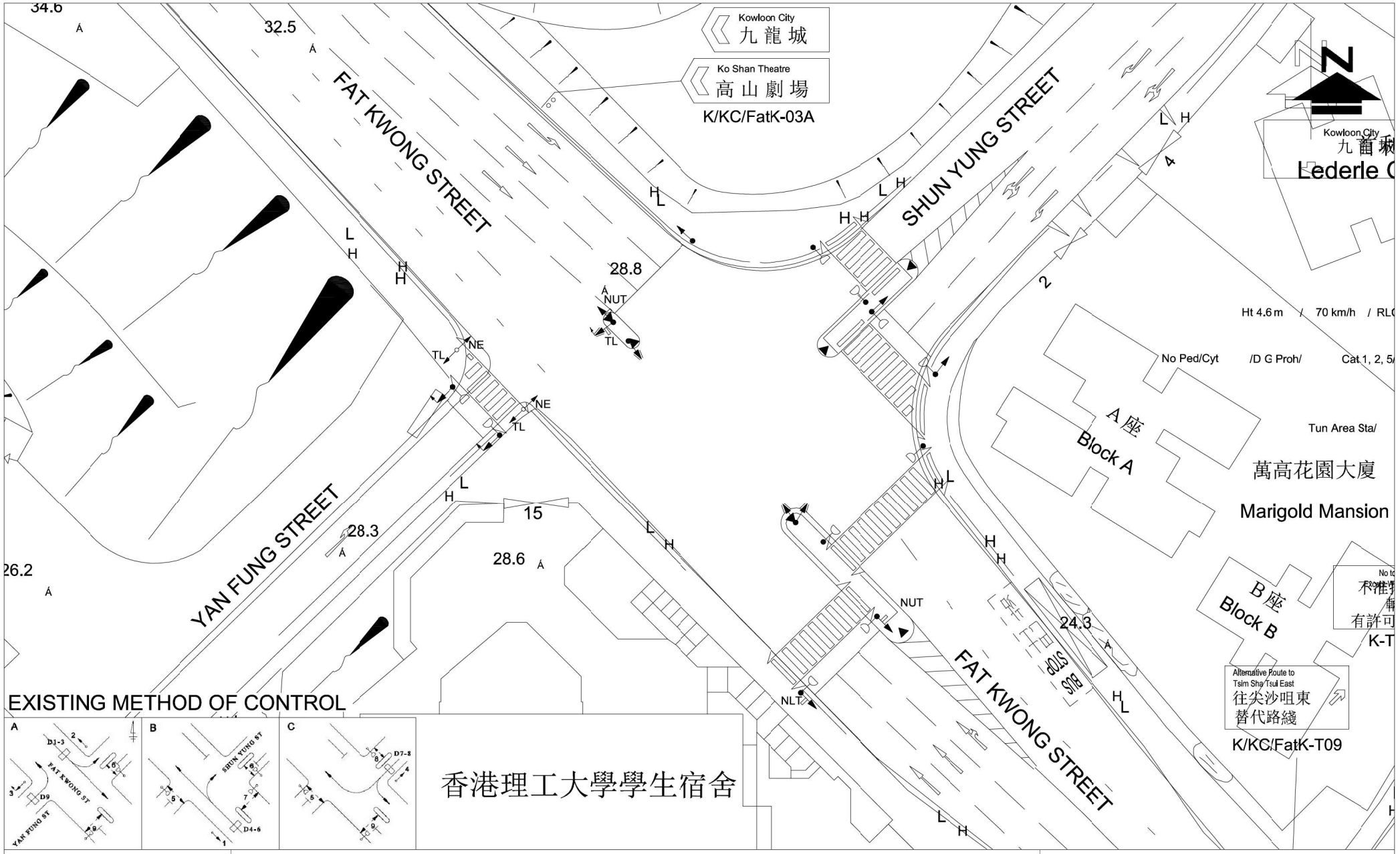

FIGURE NO.: 3.24	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)	
PROJECT NO.: 22101HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF FAT KWONG STREET / SHUN TUNG STREET / YAN FUNG STREET (W)	
SCALE: 1 : 500@A4	DATE: 18 AUG 2022	

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EXISTING METHOD OF CONTROL

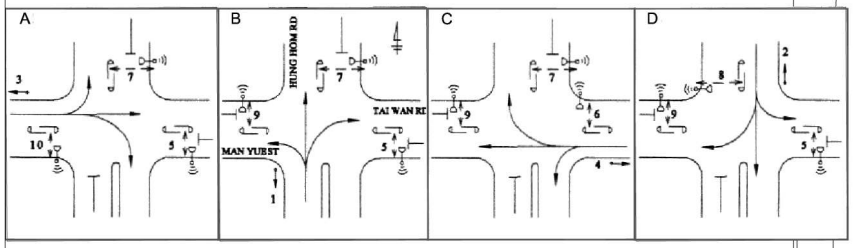

FIGURE NO.: 3.25		PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)	
PROJECT NO.: 22101HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF HUNG HOM ROAD / FAT KWONG STREET FLYOVER / TAI WAN ROAD EAST (X)	
SCALE: 1 : 500 @A4	DATE: 24 AUG 2022		

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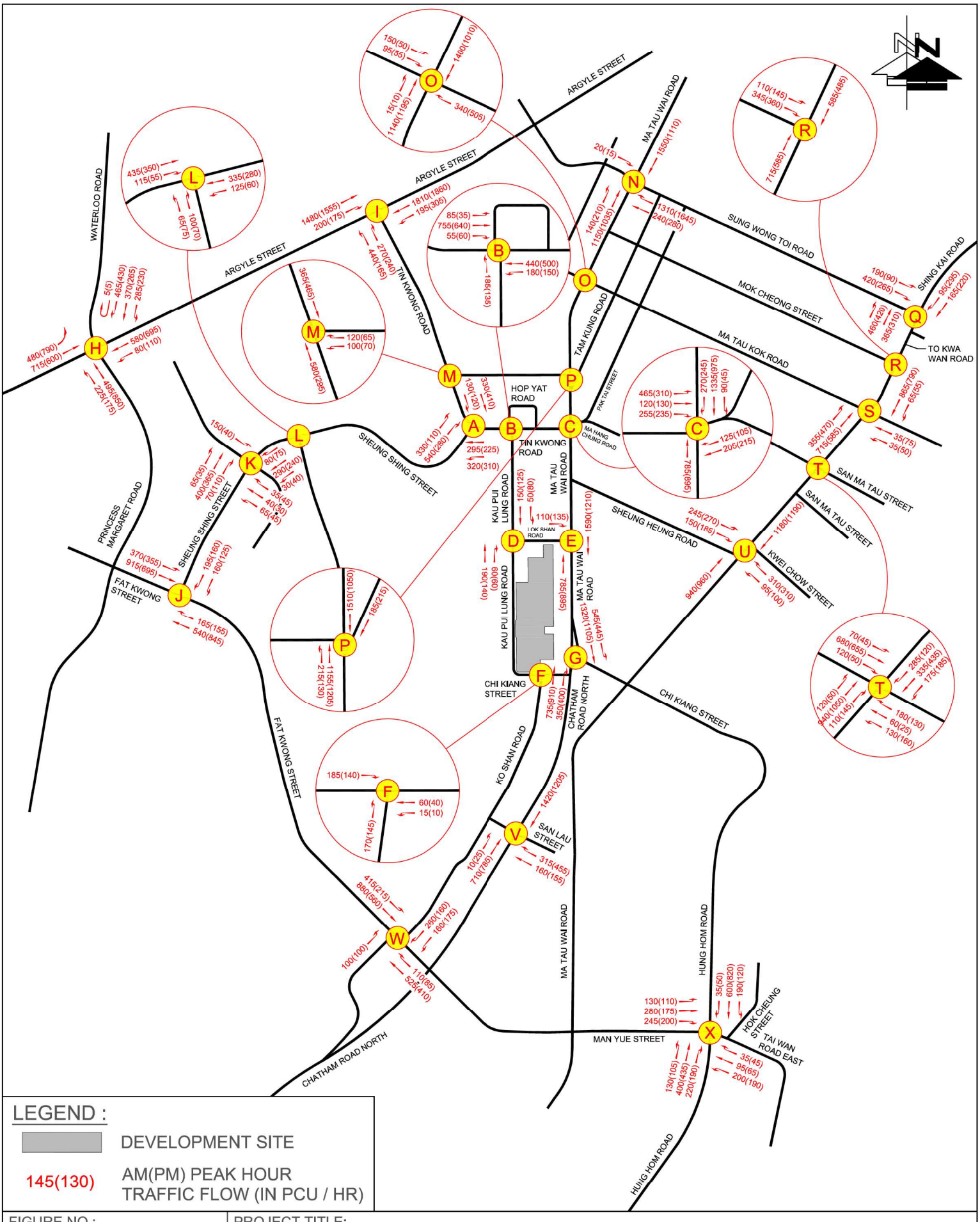

FIGURE NO.: 3.26	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: 2022 OBSERVED TRAFFIC FLOWS
SCALE: N. T. S. @A3 / DATE: 18 OCT 2022	CTA Consultants Limited 志達顧問有限公司

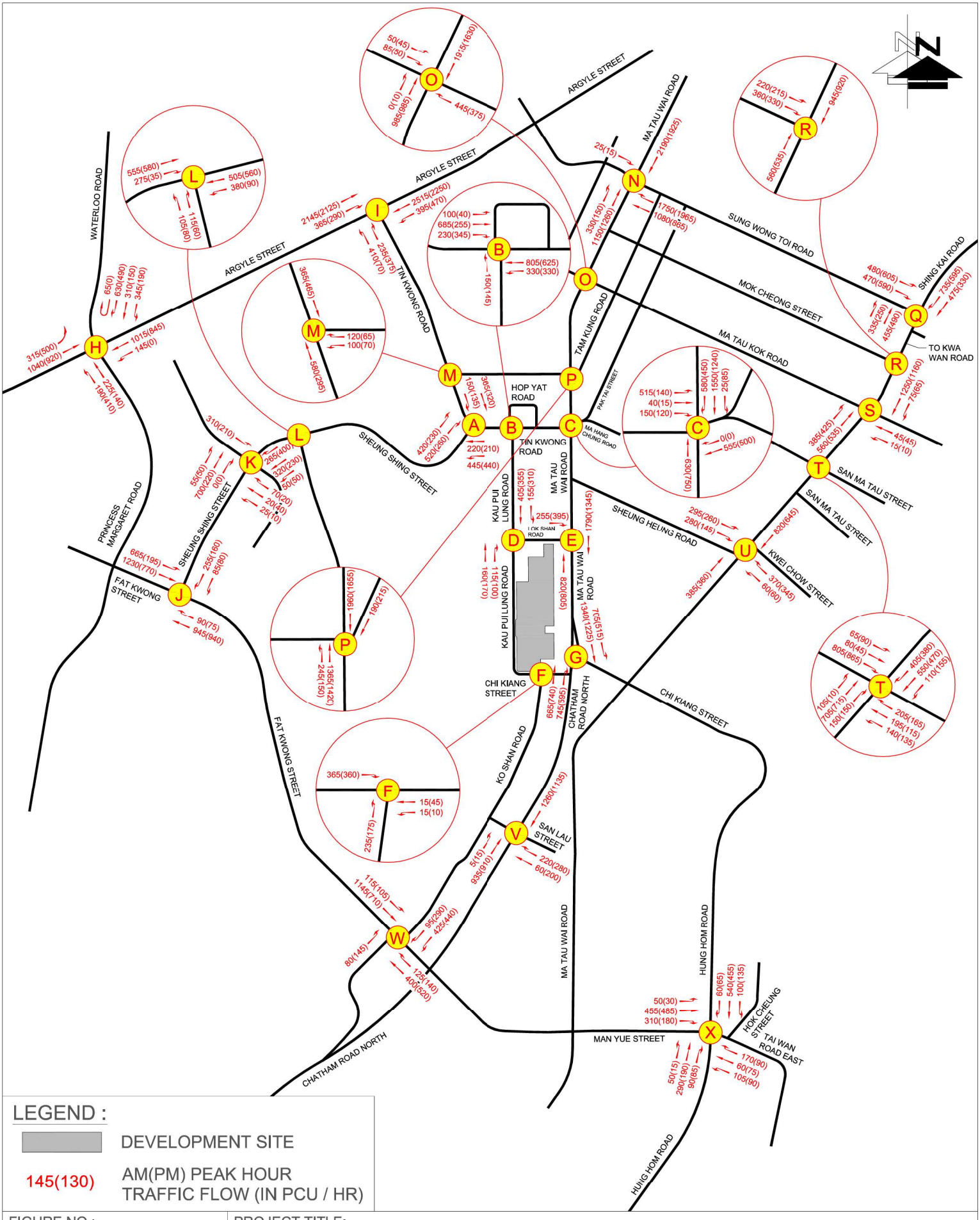

FIGURE NO.: 4.1	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: 2036 REFERENCE TRAFFIC FLOWS
SCALE: N. T. S. @A3	DATE: 18 OCT 2022

CTA Consultants Limited 志達顧問有限公司

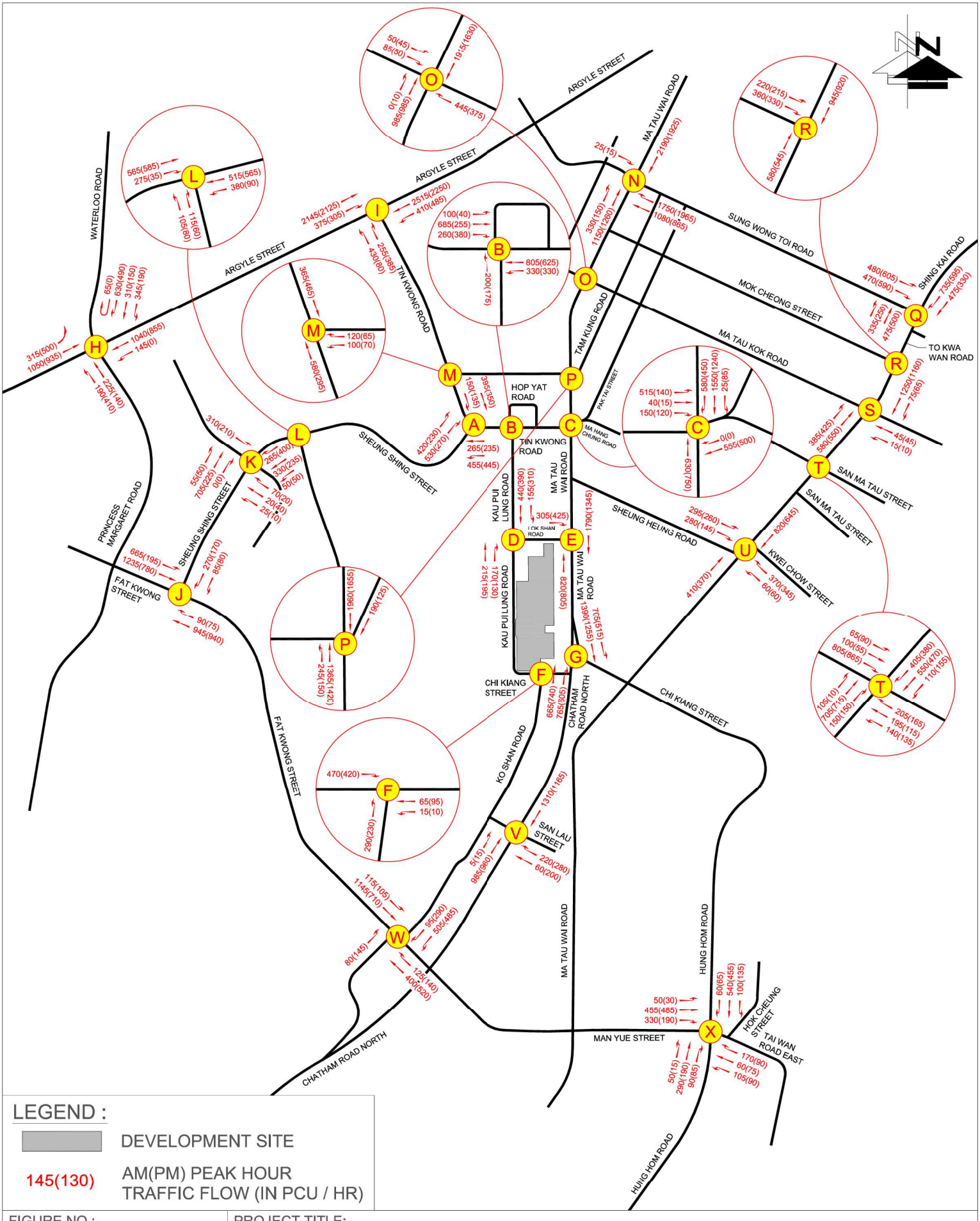

FIGURE NO.: 4.2	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: 2036 DESIGN TRAFFIC FLOWS
SCALE: N. T. S. @A3	DATE: 18 OCT 2022

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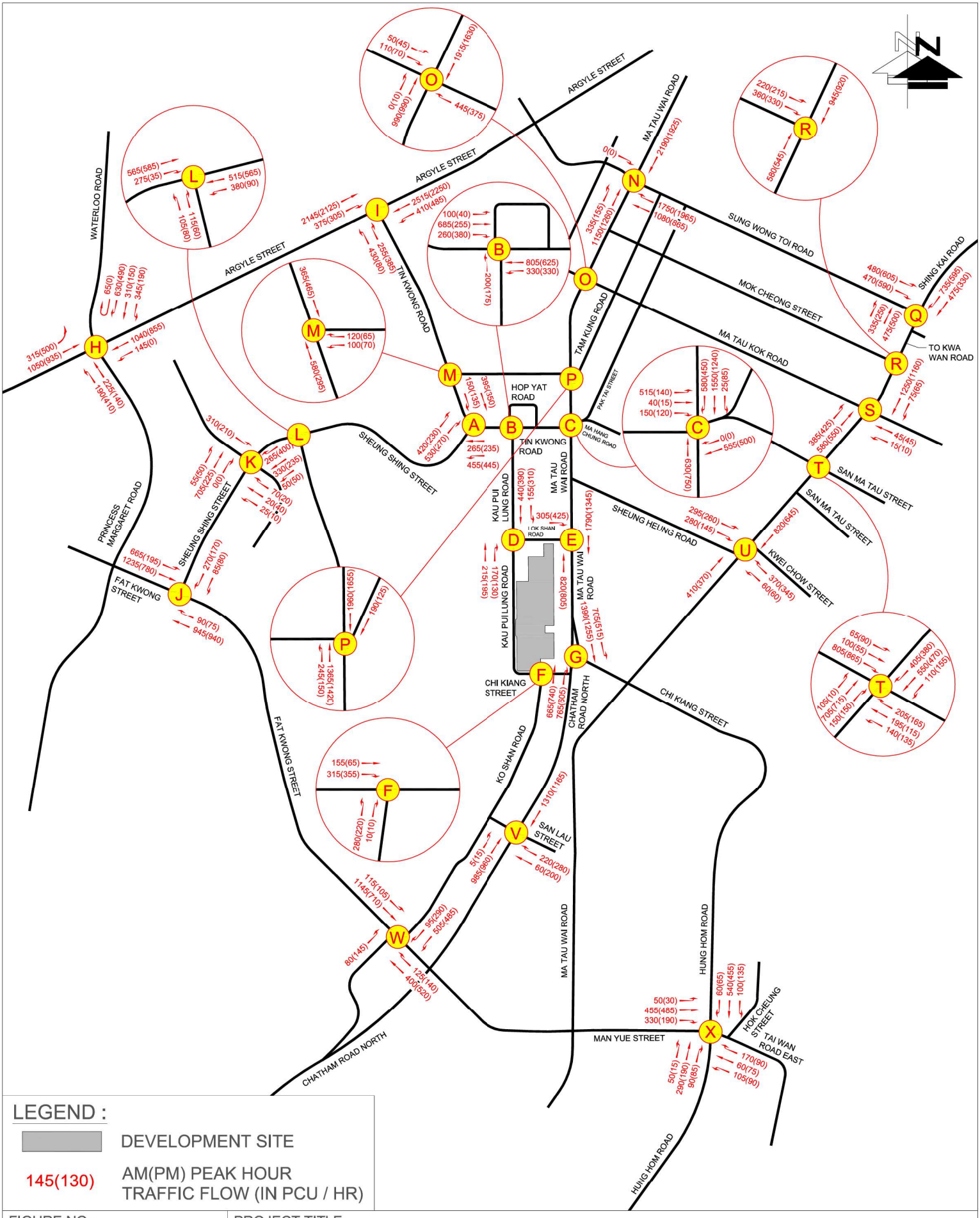

LEGEND :

DEVELOPMENT SITE

145(130) AM(PM) PEAK HOUR TRAFFIC FLOW (IN PCU / HR)

FIGURE NO.: 4.3	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: 2036 DESIGN TRAFFIC FLOWS (WITH IMPROVEMENT)
SCALE: N. T. S. @A3	DATE: 18 OCT 2022

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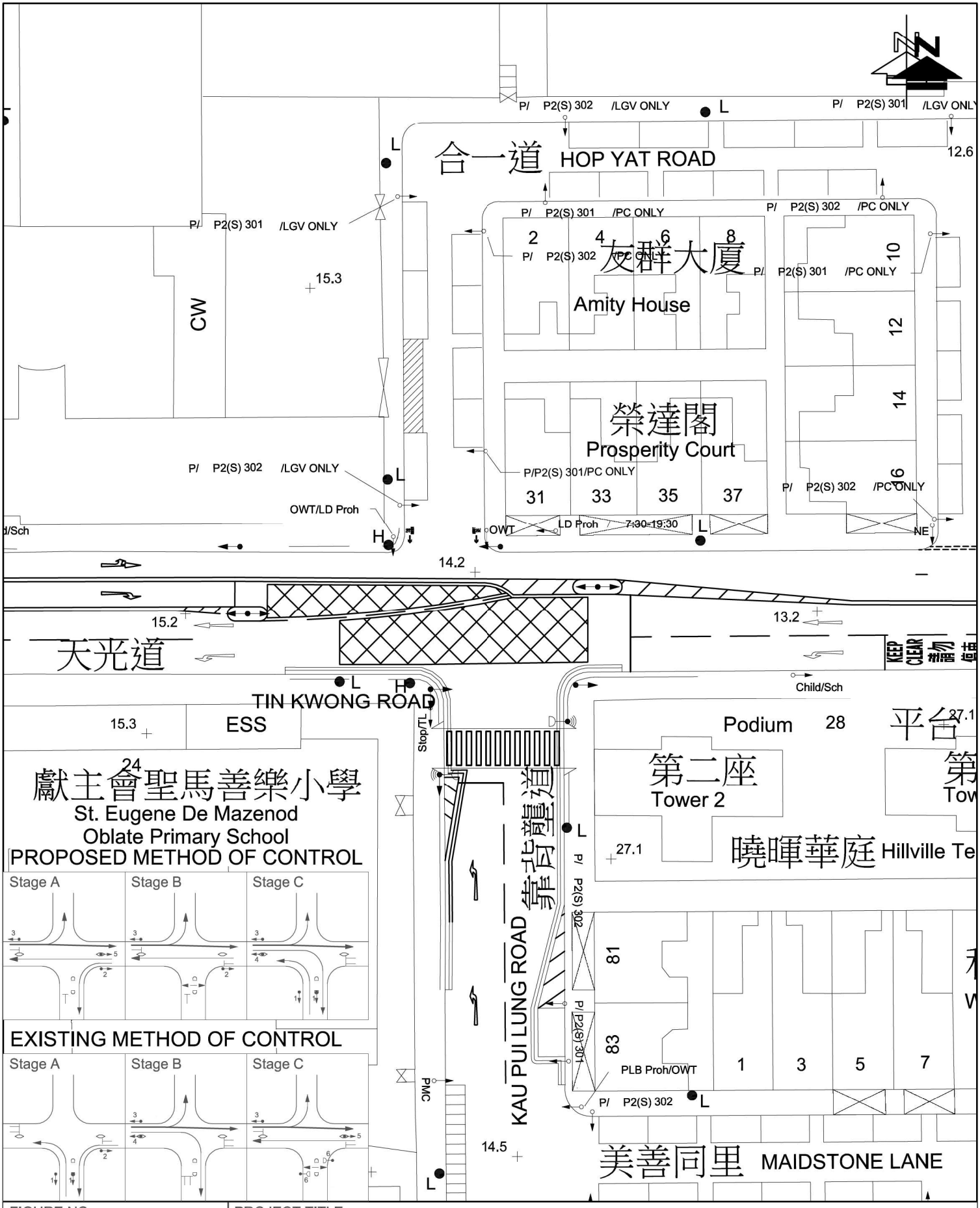

FIGURE NO.: 4.4	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: PROPOSED IMPROVEMENT JUNCTION LAYOUT OF TIN KWONG ROAD / KAU PUI LUNG ROAD / HOP YAT ROAD (B)
SCALE: 1 : 500 @A4 / DATE: 18 OCT 2022	CTA Consultants Limited 志達顧問有限公司

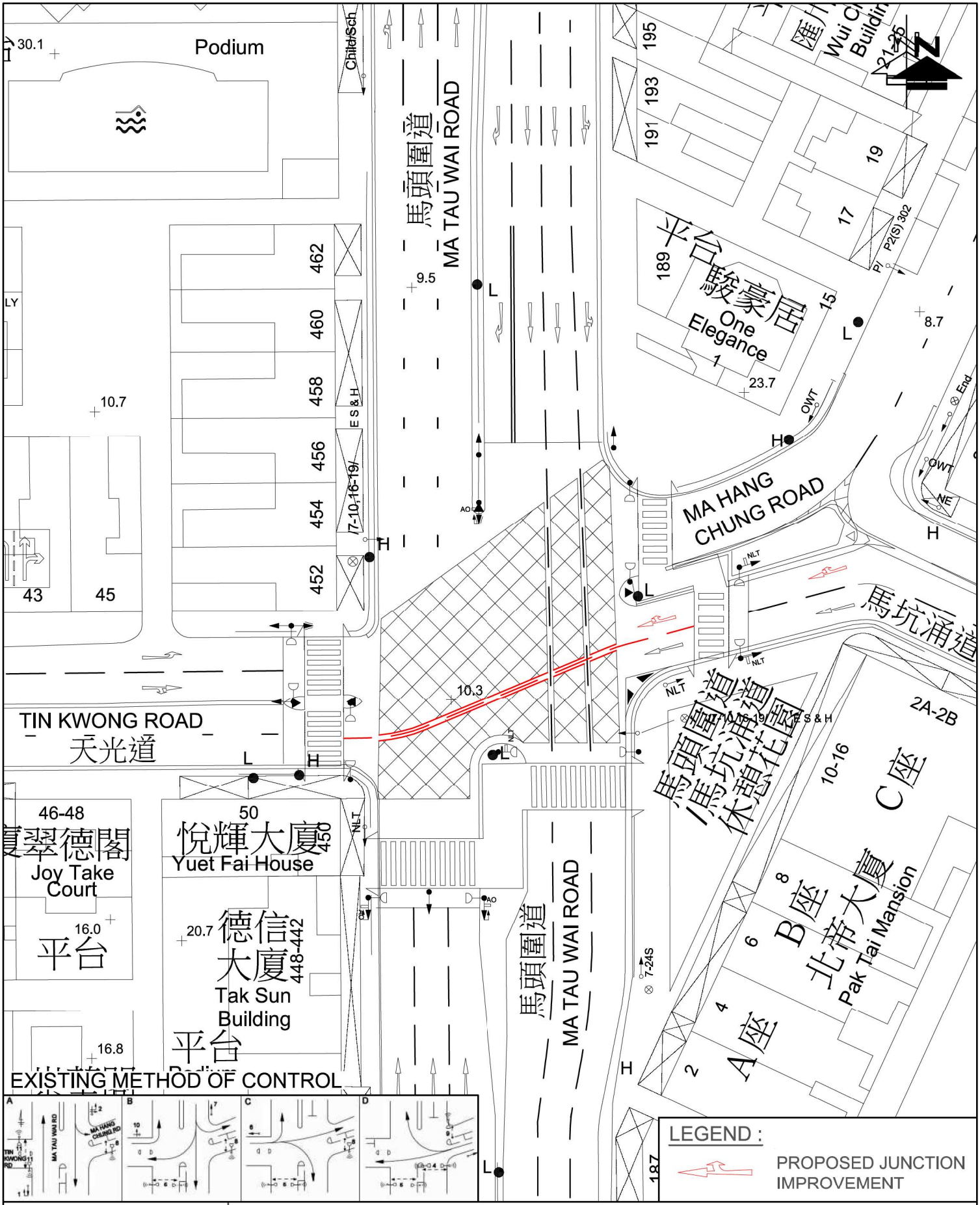

FIGURE NO.: 4.5	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: PROPOSED IMPROVEMENT JUNCTION LAYOUT OF MA TAU WAI ROAD / TIN KWONG ROAD / MA HANG CHUNG ROAD (C)
SCALE: 1 : 500 @A4	DATE: 18 OCT 2022

CTA Consultants Limited 志達顧問有限公司



FIGURE NO.: 4.6	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: PROPOSED IMPROVEMENT JUNCTION LAYOUT OF CHI KIANG STREET / KO SHAN ROAD (F)
SCALE: 1 : 500 @A4	DATE: 18 OCT 2022

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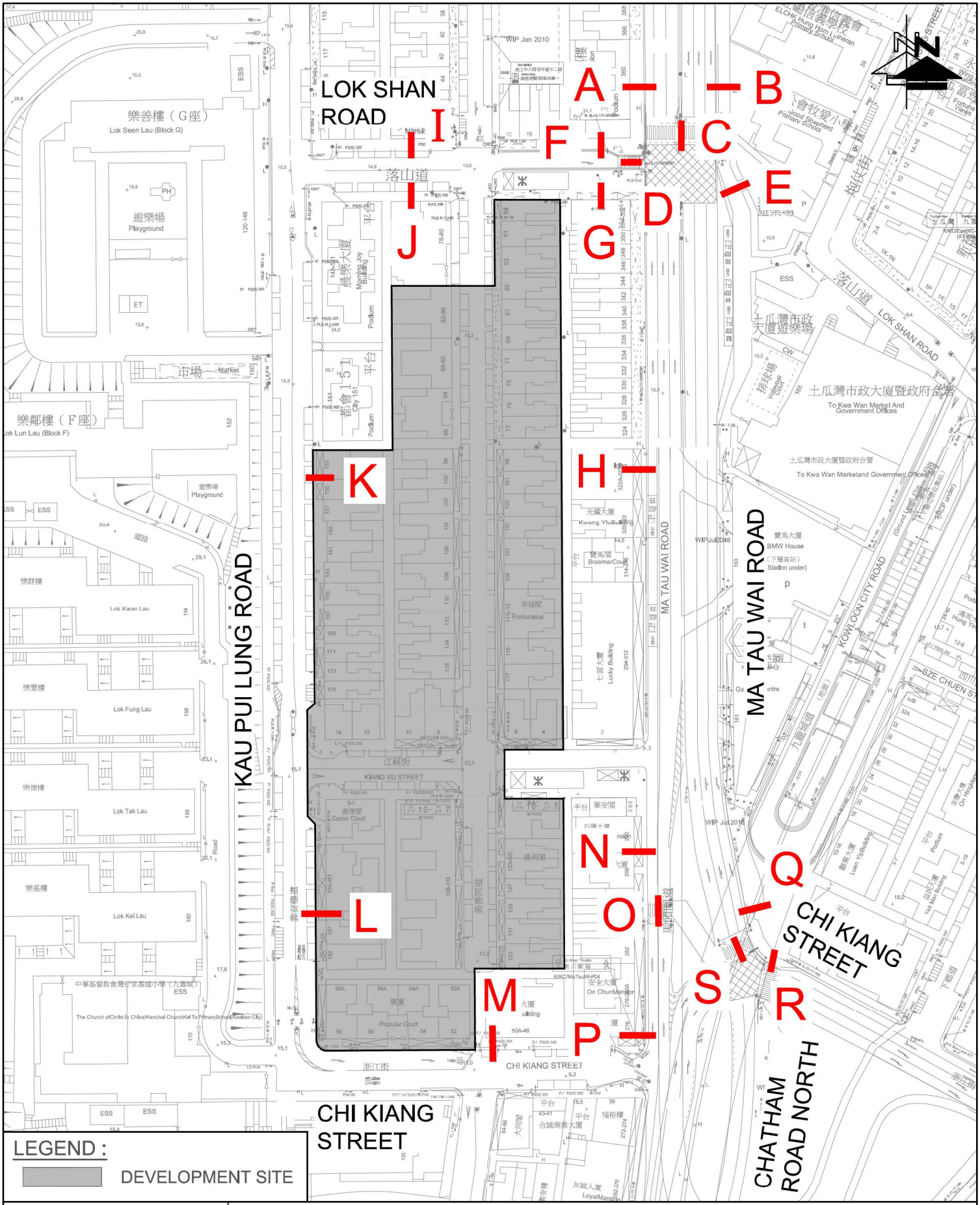

FIGURE NO.: 5.1	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: PEDESTRIAN INDEX PLAN
SCALE: 1 : 1500 @A4	DATE: 18 OCT 2022

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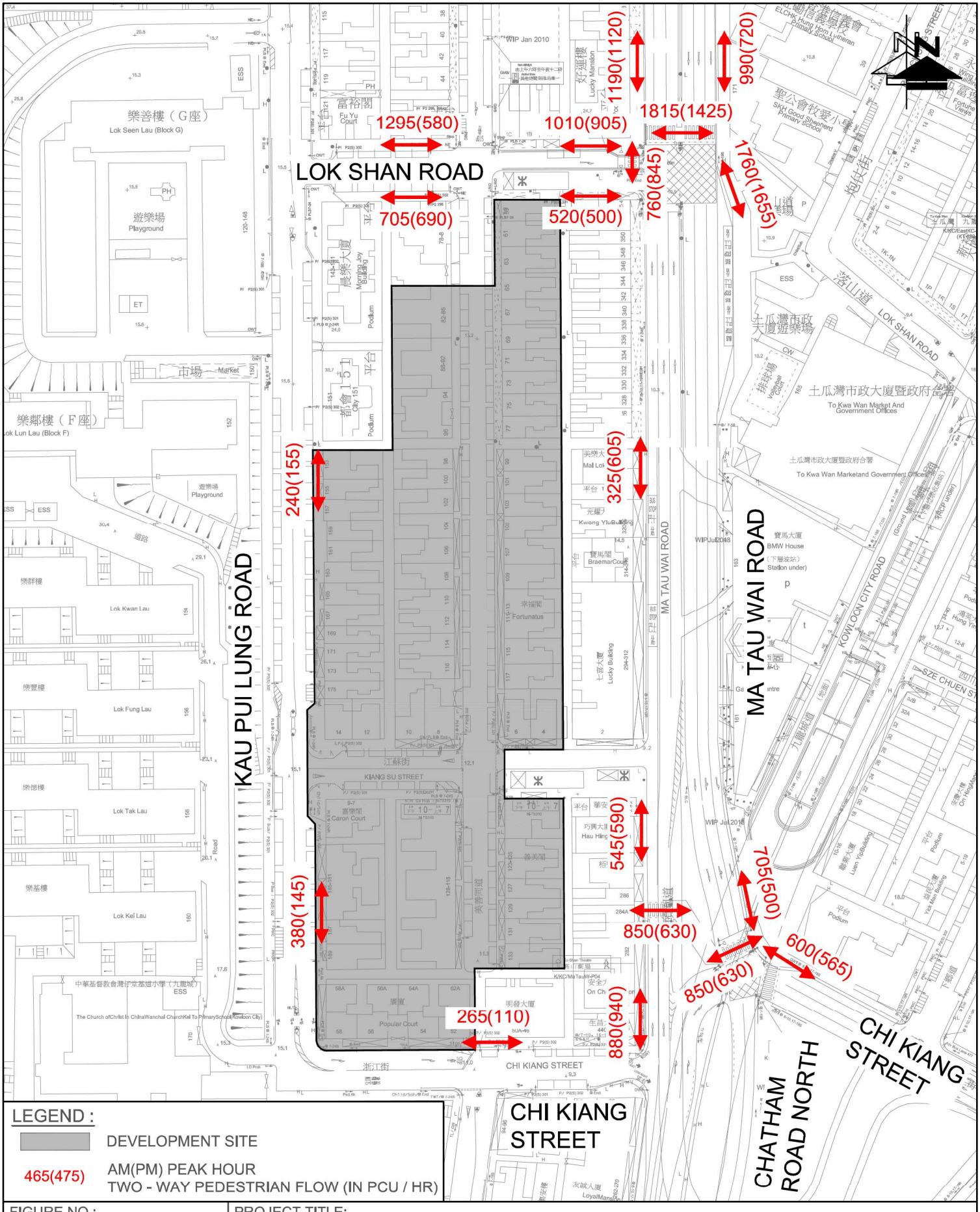


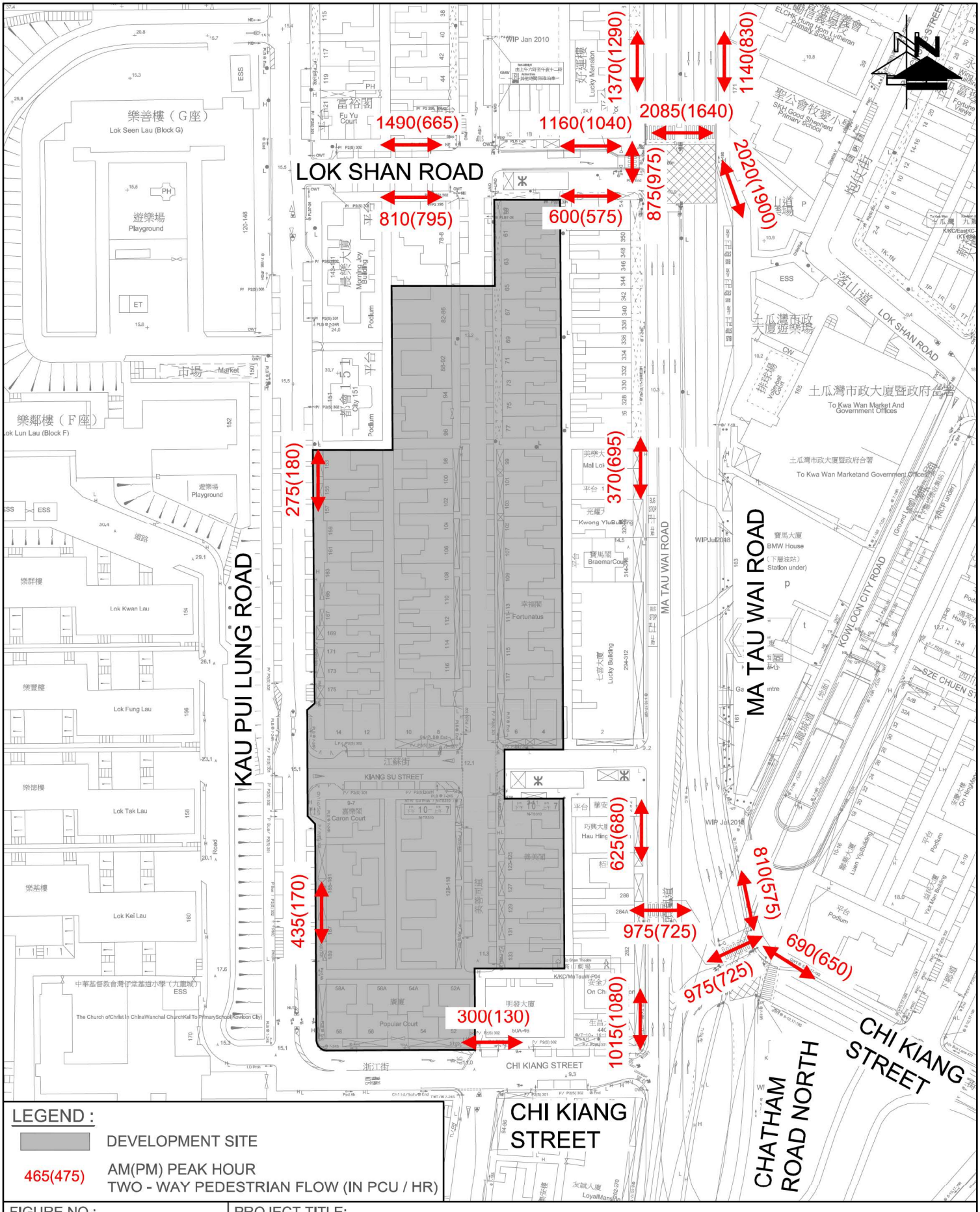
LEGEND :

DEVELOPMENT SITE

465(475) AM(PM) PEAK HOUR
TWO - WAY PEDESTRIAN FLOW (IN PCU / HR)

FIGURE NO.: 5.2	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: 2022 OBSERVED PEDESTRIAN FLOWS
SCALE: 1 : 1500 @A4	DATE: 18 OCT 2022

CTA Consultants Limited
志達顧問有限公司



LEGEND :

DEVELOPMENT SITE

465(475) AM(PM) PEAK HOUR TWO - WAY PEDESTRIAN FLOW (IN PCU / HR)

FIGURE NO.: 5.3	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: 2036 REFERENCE PEDESTRIAN FLOWS
SCALE: 1 : 1500 @A4	DATE: 18 OCT 2022

CTA Consultants Limited 志達顧問有限公司

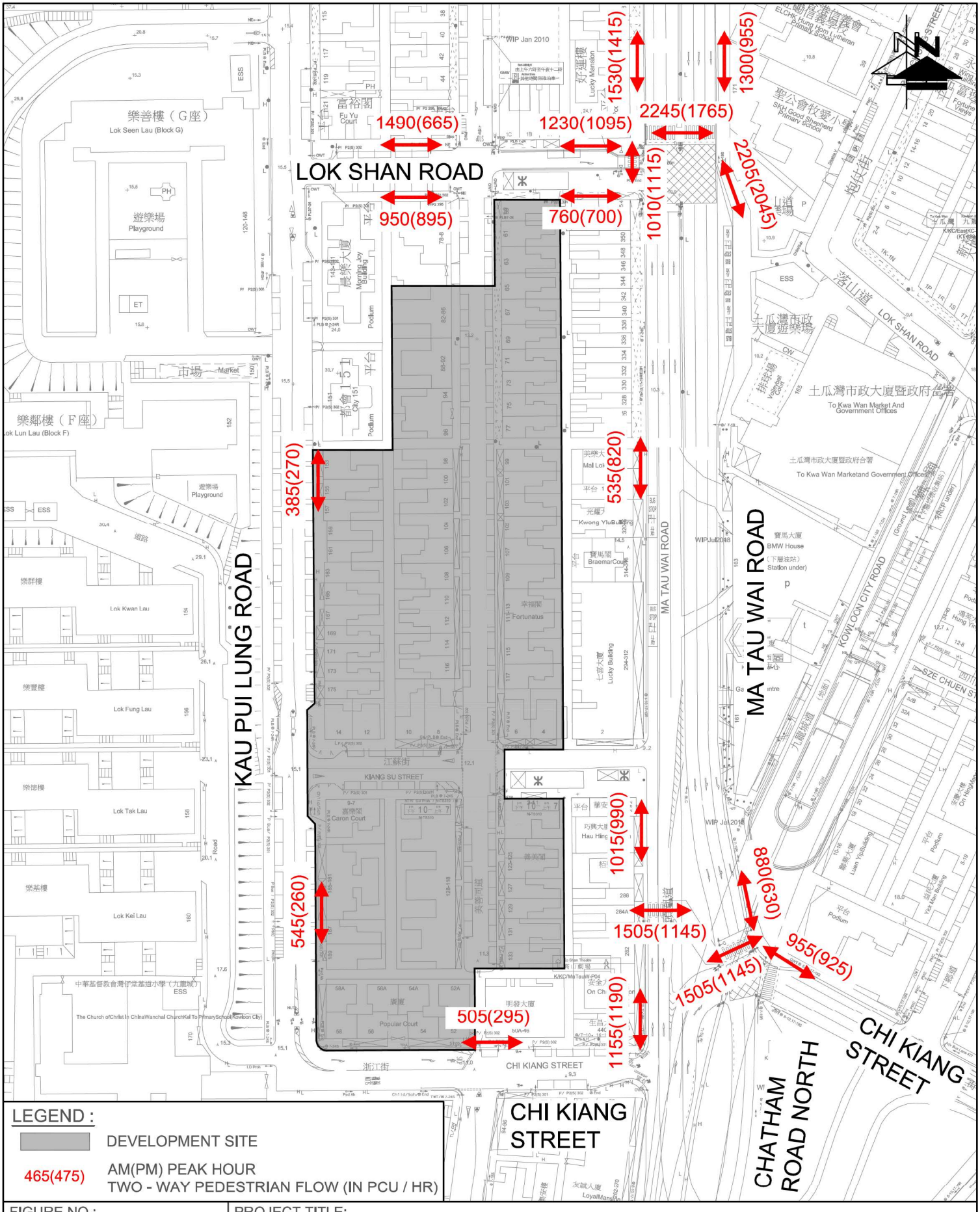


FIGURE NO.: 5.4	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: 2036 DESIGN PEDESTRIAN FLOWS
SCALE: 1 : 1500 @A4 / DATE: 18 OCT 2022	CTA Consultants Limited 志達顧問有限公司

Appendix I

Junction Calculation Sheets

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

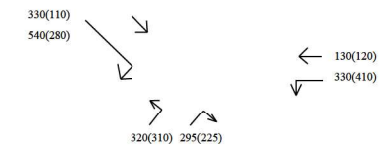
Junction: **(A) Tin Kwong Road / Sheung Shing Street**

Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tin Kwong Road	SE	↘	2,3	A,B	3.7	0	0	1	0%	0%	1	1985	1985	1985	1985	1985	1985	330	0.166		410	0.207	
	SE	↘	3	B	3.5	0	10	0	100%	100%	1	2105	2105	1830	1830	1830	1830	130	0.071	0.071	120	0.066	0.066
Sheung Shing Street	NE	↗	4	C	3.2	10	18	1	0% / 20	9% / 41	1	1935	4010	1700	1725	3585	3610	413	0.243	0.243	186	0.108	0.108
	NE	↗	4	C	3.2	0	15	0	100%	100%	1	2075	0	1885	1885	0	0	457	0.243		204	0.108	
Tin Kwong Road	W	↙	1	A	3.4	10	0	1	100%	100%	1	1955	1955	1700	1700	1700	1700	295	0.174	0.174	225	0.132	0.148
	W	←	1	A	3.4	0	0	0	0%	0%	1	2095	2095	2095	2095	2095	2095	320	0.153		310	0.148	
Pedestrian crossing		↕	5p	B		Min. Crossing Time = 10GM + 5FGM = 15s																	
		↕	6p	C		Min. Crossing Time = 6GM + 6FGM = 12s																	
		↔	7p	C		Min. Crossing Time = 11GM + 5FGM = 16s																	
		↔	8p	A,B		Min. Crossing Time = 6GM + 6FGM = 12s																	

Notes:

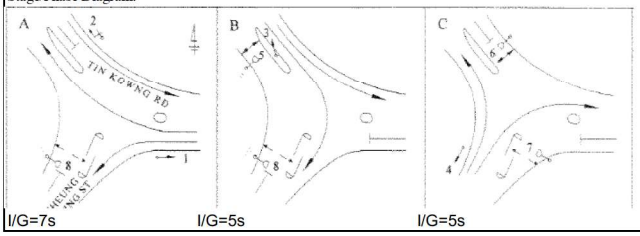
Traffic Flow (pcu / hr)



A.M. Check Phase	
εy	0.487
L (sec)	14
C (sec)	130
y pract.	0.803
R.C. (%)	65%

P.M. Check Phase	
εy	0.322
L (sec)	14
C (sec)	118
y pract.	0.793
R.C. (%)	147%

Stage/Phase Diagram:



TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

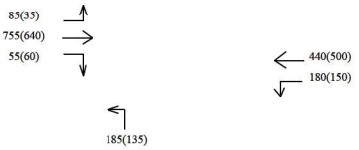
Junction: **(B) Tin Kwong Road / Kau Pui Lung Road**

Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tin Kwong Road	E		1	A,B,C	2.8	8	0	1	10%	5%	0.8	1516	1516	1485	1500	1485	1500	840	0.566		675	0.450	
	E		2	B	2.8	0	12.5	0	100%	100%	1	2035	2035	1815	1815	1815	1815	55	0.030	0.030	60	0.033	0.033
Kau Pui Lung Road	N		3	C	4.6	25	0	1	100%	100%	0.7	1452.5	1453	1370	1370	1370	1370	185	0.135		135	0.099	
Tin Kwong Road	W		5	A	3.0	0	0	0	0%	0%	1	2055	2055	2055	2055	2055	2055	440	0.214	0.214	500	0.243	0.243
	W		4	C	3.0	5	0	1	100%	100%	1	1915	1915	1475	1475	1475	1475	180	0.122	0.135	150	0.102	0.102
Pedestrian crossing			6p	A		Min. Crossing Time = 8GM + 8FGM = 16s																	

Notes:

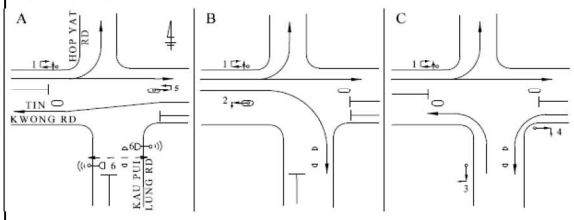
Traffic Flow (pcu / hr)



A.M. Check Phase	
Σy	0.379
L (sec)	16
C (sec)	130
y pract.	0.789
R.C. (%)	**108%**

P.M. Check Phase	
Σy	0.378
L (sec)	16
C (sec)	118
y pract.	0.778
R.C. (%)	**106%**

Stage/Phase Diagram:



I/G=5s I/G=6s I/G=8s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

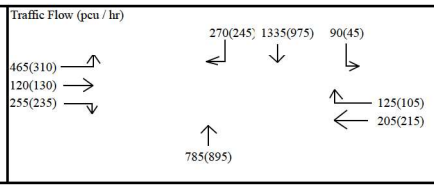
Junction: **(C) Tin Kwong Road / Ma Tau Wai Road / Ma Hang Chung Road**

Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tin Kwong Road	E		2	B,C	2.9	10	0	1	100%	100%	1	1905	1905	1655	1655	1655	1655	465	0.281		310	0.187	
	E		2	C	2.9	0	15	0	68%	64%	1	2045	2045	1915	1920	1915	1920	375	0.196	0.196	365	0.190	0.190
Ma Tau Wai Road	N		5	A	3.4	0	0	1	0%	0%	1	1955	6105	1955	1955	6105	6105	251	0.129	0.129	287	0.147	0.147
	N		5	A	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	269	0.129		307	0.147	
	N		5	A	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	264	0.129		301	0.147	
Ma Hang Chung Road	W		6	D	3.7	0	15	0	100%	100%	1	2125	2125	1930	1930	1930	1930	125	0.065		105	0.054	
	W		6	D	3.7	0	0	1	0%	0%	1	1985	1985	1985	1985	1985	1985	205	0.103	0.103	215	0.108	0.108
Ma Tau Wai Road	S		3	A,B	3.0	8	0	1	20%	14%	1	1915	6025	1840	1860	5950	5970	441	0.239		318	0.171	
	S		3	A,B	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	492	0.240		351	0.171	
	S		3	A,B	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	492	0.240		351	0.171	
	S		3	B	3.0	0	15	0	100%	100%	1	2055	2055	1870	1870	1870	1870	270	0.144	0.144	245	0.131	0.131
Pedestrian crossing			7p			Min. Crossing Time = 14GM + 13FGM = 27s																	
			8p			Min. Crossing Time = 6GM + 12FGM = 18s																	
			9p			Min. Crossing Time = 5M + 9FGM = 14s																	
			10p			Min. Crossing Time = 13GM + 10FGM = 23s																	
			11p			Min. Crossing Time = 19GM + 7FGM = 26s																	

Notes:

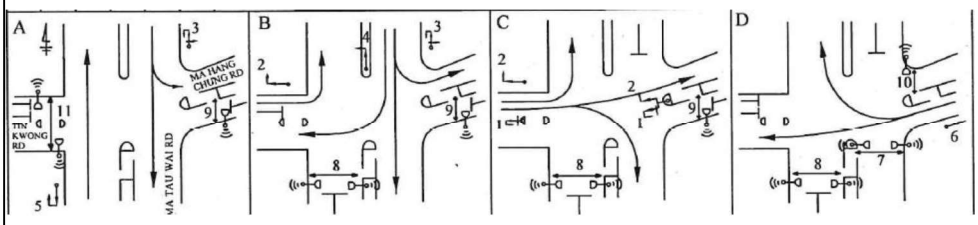
Traffic Flow (pcu / hr)



A.M. Check Phase	
εy	0.572
L (sec)	24
C (sec)	130
y pract.	0.734
R.C. (%)	**28%**

P.M. Check Phase	
εy	0.576
L (sec)	24
C (sec)	120
y pract.	0.720
R.C. (%)	**25%**

Stage/Phase Diagram:



I/G=12s I/G=6s I/G=5s I/G=5s

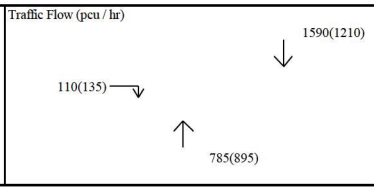
TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(E) Ma Tau Wai Road / Lok Shan Road**
Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Lok Shan Road	E	↘	3	B	3.5	0	15	1	100%	100%	1	1965	1965	1785	1785	1785	1785	110	0.062	0.062	135	0.076	0.076
Ma Tau Wai Road	N	↑	1	A	3.5	0	0	1	0%	0%	1	1965	6175	1965	1965	6175	6175	250	0.127		285	0.145	
	N	↑	1	A	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	268	0.127		305	0.145	
	N	↑	1	A	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	268	0.127		305	0.145	
											#N/A												
Ma Tau Wai Road	S	↓	2	A	3.5	0	0	1	0%	0%	1	1965	6175	1965	1965	6175	6175	506	0.257	0.257	385	0.196	0.196
	S	↓	2	A	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	542	0.257		412	0.196	
	S	↓	2	A	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	542	0.257		412	0.196	
Pedestrian crossing		↔	4p	B		Min. Crossing Time = 9GM + 10FGM = 19s																	
		↕	5p	A		Min. Crossing Time = 6GM + 4FGM = 9s																	

Notes:

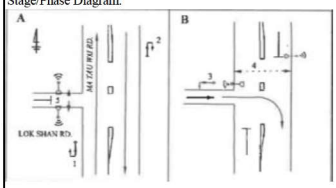
Traffic Flow (pcu / hr)



A.M. Check Phase	
ey	0.319
L (sec)	9
C (sec)	130
y pract.	0.838
R.C. (%)	**163%**

P.M. Check Phase	
ey	0.272
L (sec)	9
C (sec)	120
y pract.	0.833
R.C. (%)	**207%**

Stage/Phase Diagram:



I/G=6s I/G=5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

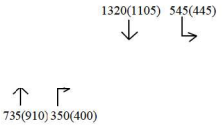
Junction: **(G) Ma Tau Wai Road / Chi Kiang Street**

Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Ma Tau Wai Road	N	↑	1	A,B	3.5	0	0	1	0%	0%	1	1825	3930	1825	1825	3930	3930	341	0.187		423	0.232	
	N	↑	1	A,B	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	394	0.187		487	0.232	
	N	↱	2	A	5.4	0	20	0	100%	100%	1	2295	4590	2135	2135	4220	4220	177	0.083	0.083	202	0.095	0.095
	N	↱	2	A	5.4	0	15	0	100%	100%	1	2295	0	2085	2085	0	0	173	0.083		198	0.095	
Ma Tau Wai Road	S	↳	3	C	3.3	18	0	1	100%	100%	1	1945	6115	1790	1790	5960	5960	545	0.304	0.304	445	0.249	0.249
	S	↓	3	C	3.3	20	0	0	0%	0%	1	2085	0	2085	2085	0	0	660	0.317		553	0.265	
	S	↓	3	C	3.3	0	0	0	0%	0%	1	2085	0	2085	2085	0	0	660	0.317		553	0.265	
Pedestrian crossing		↔	4p	A,B		Min. Crossing Time = 6GM + 11FGM = 17s																	
		↕	5p	B		Min. Crossing Time = 5GM + 13FGM = 18s																	
		↔	6p	C		Min. Crossing Time = 5GM + 8FGM = 13s																	

Notes:

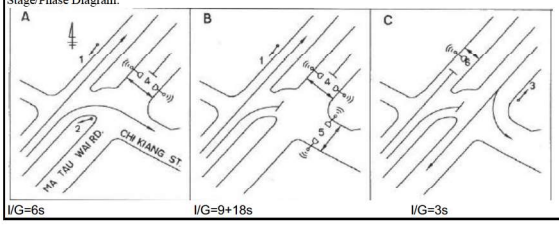
Traffic Flow (pcu / hr)



A.M. Check Phase	
εy	0.387
L (sec)	34
C (sec)	130
y pract.	0.665
R.C. (%)	**72%**

P.M. Check Phase	
εy	0.343
L (sec)	30
C (sec)	120
y pract.	0.675
R.C. (%)	**97%**

Stage/Phase Diagram:



I/G=6s I/G=9+18s I/G=3s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(H) Argyle Street / Waterloo Road / Princess Margaret Road**
Description: **2022 Observed Flow**

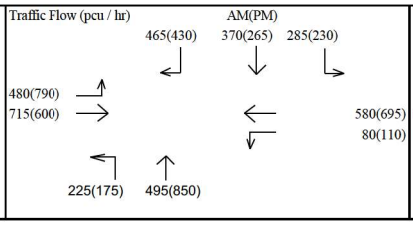
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Argyle Street	E	↗	4	B,C,D	3.7	0	0	0	0%	0%	1	2125	4250	2125	0	4250	4250	240	0.113		395	0.186	
Argyle Street	E	↗	4	B,C,D	3.7	0	0	0	0%	0%	1	2125	0	2125	0	0	0	240	0.113		395	0.186	
Argyle Street	E	→	6	D	3.7	0	0	0	0%	0%	1	2125	4280	2125	0	4280	4280	355	0.167		298	0.140	
Argyle Street	E	→	6	D	4.0	0	0	0	0%	0%	1	2155	0	2155	0	0	0	360	0.167		302	0.140	
Princess Margaret Road	N	↰↑	1	A	3.4	15	0	1	67%	36%	1	1955	4050	1830	1885	3925	3980	336	0.184		486	0.258	
Princess Margaret Road	N	↑	1	A	3.4	0	0	0	0%	0%	1	2095	0	2095	0	0	0	384	0.183		539	0.257	
Princess Margaret Road (Middle)	N	↑	2	A	3.5	0	0	1	0%	0%	1	1965	4070	1965	1965	4070	4070	239	0.122		410	0.209	
Princess Margaret Road (Middle)	N	↑	2	A	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	256	0.122		440	0.209	
Argyle Street	W	←	11	C,D	3.5	0	0	0	0%	0%	1	2105	4180	2105	0	4180	4180	292	0.139	0.139	350	0.166	0.166
Argyle Street	W	←	11	C,D	3.2	0	0	0	0%	0%	1	2075	0	2075	0	0	0	288	0.139		345	0.166	
Argyle Street	W	↙	15	D	3.8	15	0	1	100%	100%	1	1995	1995	1815	1815	1815	1815	80	0.044		110	0.061	
Argyle Street (Middle)	W	←	5	B,C,D	3.5	0	0	1	0%	0%	1	1965	6175	1965	0	6175	6175	333	0.169		358	0.182	
Argyle Street (Middle)	W	←	5	B,C,D	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	356	0.169		384	0.182	
Argyle Street (Middle)	W	←	5	B,C,D	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	356	0.169		384	0.182	
Waterloo Road	S	↳	3	A,B	3.4	15	0	0	100%	100%	1	2095	2095	1905	1905	1905	1905	285	0.150		230	0.121	
Waterloo Road	S	↓	3	A,B	3.5	0	0	0	0%	0%	1	2105	2105	2105	2105	2105	2105	370	0.176	0.176	265	0.126	0.126
Waterloo Road	S	↲	3	A,B	3.5	0	25	0	100%	100%	1	2105	4210	1985	1985	3945	3945	234	0.118		216	0.109	
Waterloo Road	S	↲	3	A,B	3.5	0	20	0	100%	100%	1	2105	0	1960	1960	0	0	231	0.118		214	0.109	

Pedestrian Crossing

7	A	Min. Green Time = 05 Gm + 11 Fm = 16s
8	B,C,D	Min. Green Time = 05 Gm + 07 Fm = 12s
9	B,C,D	Min. Green Time = 05 Gm + 07 Fm = 12s
10	C	Min. Green Time = 05 Gm + 07 Fm = 12s
12	A,B	Min. Green Time = 05 Gm + 09 Fm = 14s
13	C	Min. Green Time = 05 Gm + 07 Fm = 12s
14	C,D	Min. Green Time = 13 Gm + 12 Fm = 25s

Notes:

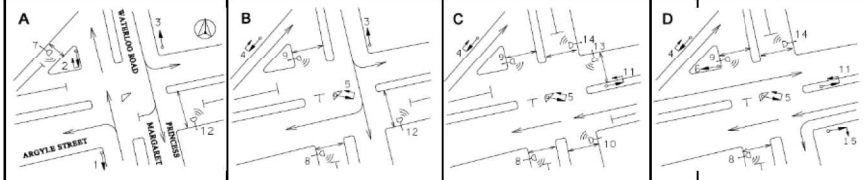
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
ey	0.315
L (sec)	12
C (sec)	130
y pract.	0.817
R.C. (%)	160%

P.M. Check Phase	
ey	0.292
L (sec)	12
C (sec)	120
y pract.	0.810
R.C. (%)	177%

Stage / Phase Diagrams



I/G=6s I/G=8s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(I) Argyle Street / Tin Kwong Road**
Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Argyle Street	E	→	2	A,B	3.0	0	0	1	0%	0%	1	1915	3970	1915	1915	3970	3970	714	0.373		750	0.392	
Argyle Street	E	→	2	A,B	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	766	0.373		805	0.392	
Argyle Street	E	↘	3	B	3.1	0	25	0	100%	100%	1	2065	4120	1950	1950	3860	3860	101	0.052	0.052	88	0.045	0.045
Argyle Street	E	↘	3	B	3.0	0	20	0	100%	100%	1	2055	0	1910	1910	0	0	99	0.052		87	0.045	
Tin Kwong Road	N	↰	4	B,C	3.0	15	0	1	100%	100%	1	1915	1915	1740	1740	1740	1740	440	0.253		165	0.095	
Tin Kwong Road	N	↱	5	C	2.9	0	20	0	100%	100%	1	2045	2045	1900	1900	1900	1900	270	0.142	0.142	240	0.126	0.126
Argyle Street	W	←	1	A,D	3.2	0	0	0	0%	0%	1	2075	6185	2075	2075	6185	6185	607	0.293	0.293	624	0.301	0.301
Argyle Street	W	←	1	A,D	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	601	0.293		618	0.301	
Argyle Street	W	←	1	A,D	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	601	0.293		618	0.301	
Argyle Street	N	↙	1	A,D	3.2	15	0	1	100%	100%	1	1935	1935	1760	1760	1760	1760	195	0.111		305	0.173	
Pedestrian Crossing			6	A,D	Min. Green Time = 05 Gm + 06 Fm = 11s																		
			7	C	Min. Green Time = 05 Gm + 06 Fm = 11s																		
			8	A,B	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			9	D	Min. Green Time = 05 Gm + 07 Fm = 12s																		

Notes:

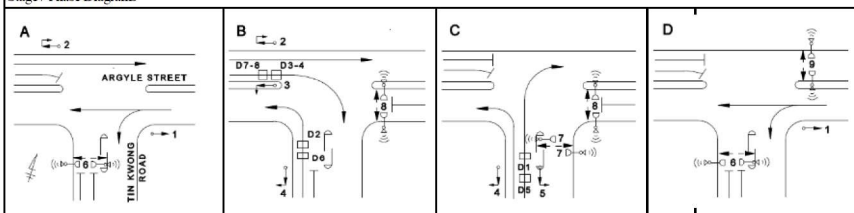
Traffic Flow (pcu / hr) AM(PM)

1480(1555) →
200(175) ↘
← 1810(1860)
↙ 195(305)
↰ 440(165) ↱ 270(240)

A.M. Check Phase	
εy	0.487
L (sec)	13
C (sec)	130
y pract.	0.810
R.C. (%)	66%

P.M. Check Phase	
εy	0.472
L (sec)	13
C (sec)	130
y pract.	0.810
R.C. (%)	71%

Stage / Phase Diagrams



I/G = 6s I/G = 5s I/G = 5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(J) Fat Kwong Street / Sheung Shing Street**
Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fat Kwong Street	E	↱	1	A	3.7	15	0	1	100%	100%	1	1985	1985	1805	1805	1805	1805	370	0.205		355	0.197	
Fat Kwong Street	E	→	1	A	3.4	0	0	0	0%	0%	1	2095	4190	2095	2095	4190	4190	458	0.218		348	0.166	
Fat Kwong Street	E	→	1	A	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	458	0.218	0.218	348	0.166	0.197
Fat Kwong Street	W	↰	3	B	3.9	0	20	0	100%	100%	1	2145	2145	1995	1995	1995	1995	165	0.083		155	0.078	0.078
Fat Kwong Street	W	←	2,3	A,B	3.6	0	0	0	0%	0%	1	2114.4	4083.9	2114.4	2114.4	4083.9	4083.9	280	0.132		437	0.207	
Fat Kwong Street	W	←	2,3	A,B	3.5	0	0	1	0%	0%	1	1969.5	0	1969.5	1969.5	0	0	260	0.132		408	0.207	
Sheung Shing Street	S	↳	3	B	3.2	15	0	1	100%	100%	1	1935	1935	1760	1760	1760	1760	160	0.091	0.091	125	0.071	
Sheung Shing Street	S	↲	4	C	2.8	0	20	0	100%	100%	1	2035	2035	1895	1895	1895	1895	195	0.103	0.103	160	0.084	0.084
Pedestrian Crossing			5	A	Min. Green Time = 05 Gm + 05 Fm = 10s																		
			6	C	Min. Green Time = 07 Gm + 10 Fm = 17s																		
			7	C	Min. Green Time = 05 Gm + 05 Fm = 10s																		

Notes:

Traffic Flow (pcu / hr) AM(PM)

195(160) 160(125)

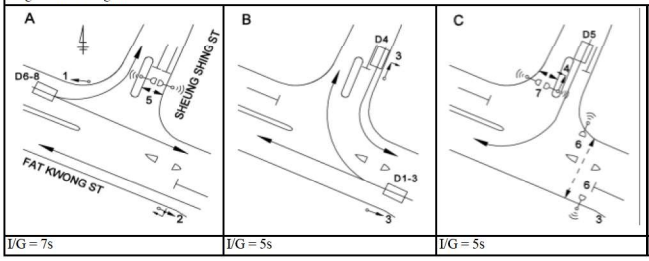
370(355) ↑ ↰ 165(155)

915(695) → ← 540(845)

A.M. Check Phase	
ey	0.412
L (sec)	14
C (sec)	120
y pract.	0.795
R.C. (%)	93%

P.M. Check Phase	
ey	0.359
L (sec)	14
C (sec)	120
y pract.	0.795
R.C. (%)	122%

Stage / Phase Diagrams



I/G = 7s I/G = 5s I/G = 5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

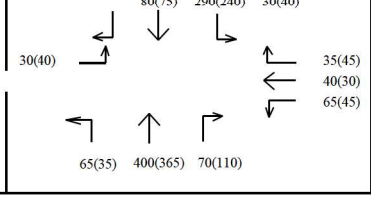
Junction: **(K) Sheung Shing Street / Shek Ku Street / Sheung Shing Lane**

Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Shek Ku Street	E		4	B	3.8	15	0	1	100%	100%	1	1995	1995	1815	1815	1815	1815	150	0.083		40	0.022	
Sheung Shing Street	N		1	A	3.2	15	0	1	16%	25%	1	1935	4030	1905	1890	3940	3925	193	0.102	0.102	171	0.091	0.091
Sheung Shing Street	N		1	A	3.4	0	20	0	39%	41%	1	2095	0	2035	2035	0	0	207	0.102		184	0.090	
Sheung Shing Lane	W		3	C	4.2	15	20	1	6% / 25'	8% / 38'	1	2035	2035	1910	1910	1910	1910	140	0.073	0.073	120	0.063	0.063
Sheung Shing Street	S		2	B	3.7	15	0	1	25%	14%	1	1985	4080	1935	1960	3990	3990	260	0.134	0.134	250	0.128	0.128
Sheung Shing Street	S		2	B	3.4	0	20	0	25%	42%	1	2095	0	2055	2030	0	0	275	0.134		260	0.128	
Pedestrian Crossing			5	D	Min. Green Time = 09 Gm + 09 Fm = 18s																		
			6	D	Min. Green Time = 07 Gm + 13 Fm = 20s																		
			7	D	Min. Green Time = 05 Gm + 07 Fm = 12s																		
			8	D	Min. Green Time = 08 Gm + 07 Fm = 15s																		

Notes:

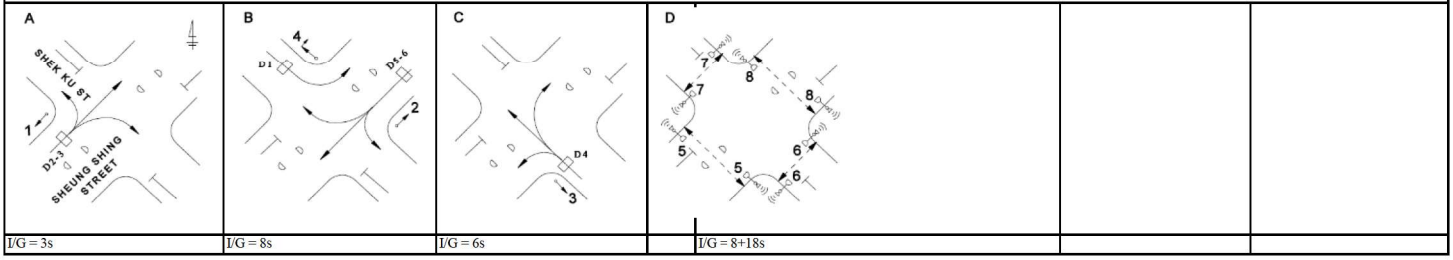
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
sy	0.309
L (sec)	40
C (sec)	108
y pract.	0.567
R.C. (%)	83%

P.M. Check Phase	
sy	0.281
L (sec)	40
C (sec)	80
y pract.	0.450
R.C. (%)	60%

Stage / Phase Diagrams



I/G = 3s | I/G = 8s | I/G = 6s | I/G = 8+18s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

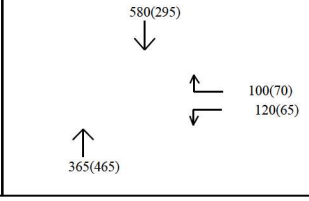
Junction: **(M) Tin Kwong Road / Farm Road**

Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Tin Kwong Road	S	↓	1	A	3.0	0	0	1	0%	0%	1	1915	1915	1915	1915	1915	1915	580	0.303	0.303	295	0.154	0.154
Tin Kwong Road	N	↑	2	A	4.0	0	0	1	0%	0%	1	2015	2015	2015	2015	2015	2015	365	0.181		465	0.231	
Farm Road	W	↙	3	B	3.0	15	0	0	100%	100%	0.8	1644	1644	1495	1495	1495	1495	120	0.080	0.080	65	0.043	0.046
	W	↖	3	B	3.0	0	20	0	100%	100%	0.8	1644	1644	1530	1530	1530	1530	100	0.065		70	0.046	
Pedestrian Crossing			4p	C		Min. Crossing Time = 5GM + 11FGM = 16s																	
			5p	C		Min. Crossing Time = 5GM + 7FGM = 12s																	
			6p	C		Min. Crossing Time = 5GM + 7FGM = 12s																	

Notes:

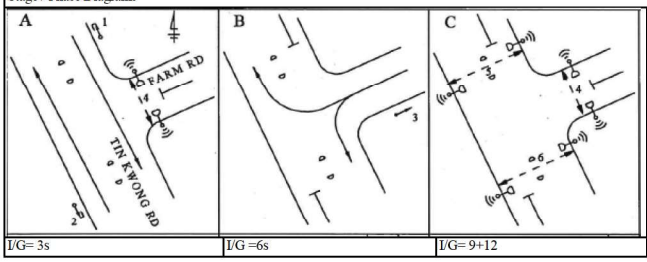
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
εy	0.383
L (sec)	28
C (sec)	130
y pract.	0.706
R.C. (%)	84%

P.M. Check Phase	
εy	0.200
L (sec)	28
C (sec)	118
y pract.	0.686
R.C. (%)	244%

Stage / Phase Diagrams



I/G= 3s | I/G =6s | I/G= 9+12

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(N) Ma Tau Chung Road / Sung Wong Toi Road / Fu Ning Street**

Description: **2022 Observed Flow**

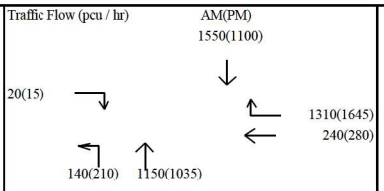
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fu Ning Street	E	↘	9	D	3.4	0	20	1	100%	100%	1	1955	1955	1820	1820	1820	1820	20	0.011	0.011	15	0.008	0.008
Ma Tau Chung Road	N	↰↑	1	A	3.4	15	0	1	35%	55%	1	1955	6155	1890	0	6090	6055	400	0.212		381	0.205	
Ma Tau Chung Road	N	↑	1	A	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	446	0.212		433	0.206	
Ma Tau Chung Road	N	↑	1	A	3.4	0	0	0	0%	0%	1	2095	0	2095	0	0	0	444	0.212		431	0.206	
Sung Wong Toi Road	W	←	5	B	2.8	0	0	1	0%	0%	1	1895	4010	1895	0	4010	4010	113	0.060		132	0.070	
Sung Wong Toi Road	W	←	5	B	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	127	0.060		148	0.070	
Sung Wong Toi Road	W	↰	4	B,C	3.0	0	30	0	100%	100%	1	2055	6255	1955	1955	5890	5890	435	0.222	0.222	546	0.279	0.279
Sung Wong Toi Road	W	↰	4	B,C	3.4	0	25	0	100%	100%	1	2095	0	1975	1975	0	0	439	0.222		552	0.279	
Sung Wong Toi Road	W	↰	4	B,C	3.5	0	20	0	100%	100%	1	2105	0	1960	1960	0	0	436	0.222		547	0.279	
Ma Tau Chung Road	S	↓	2	A	3.5	0	0	1	0%	0%	1	1965	6195	1965	0	6195	6195	492	0.250	0.250	349	0.178	0.206
Ma Tau Chung Road	S	↓	2	A	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	529	0.250		376	0.178	
Ma Tau Chung Road	S	↓	2	A	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	529	0.250		376	0.178	

Pedestrian Crossing

3p	A,D,E	Min. Green Time = 10 Gm + 11 Fm = 21s
6p	B,C	Min. Green Time = 16 Gm + 9 Fm = 25s
7p	A,B,C	Min. Green Time = 12 Gm + 6 Fm = 18s
8p	C,D	Min. Green Time = 20 Gm + 8 Fm = 28s
10p	A,D,E	Min. Green Time = 8 Gm + 16 Fm = 24s

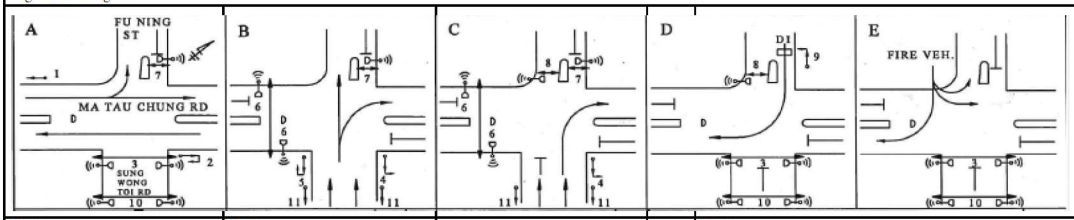
Notes:

Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase		P.M. Check Phase	
εy	0.484	εy	0.493
L (sec)	17	L (sec)	17
C (sec)	130	C (sec)	118
y pract.	0.782	y pract.	0.770
R.C. (%)	62%	R.C. (%)	56%

Stage / Phase Diagrams



I/G=6s I/G=7s I/G=7s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(O) Ma Tau Chung Road / Ma Tau Kok Road**

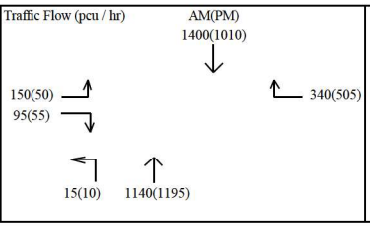
Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Ma Tau Kok Road	E		4	C	3.3	15	25	1	100% / 0%	100% / 0%	1	1945	4040	1770	1770	3720	3720	150	0.085	0.085	50	0.028	0.028
Ma Tau Kok Road	E		4	C	3.4	0	20	0	100%	100%	1	2095	0	1950	1950	0	0	95	0.049		55	0.028	
Ma Tau Chung Road*	N		1	A	3.5	15	0	1	7%	4%	0.5	982.5	5162.5	975	980	5155	5160	219	0.224		229	0.233	
Ma Tau Chung Road	N		1	A	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	469	0.224		489	0.234	
Ma Tau Chung Road	N		1	A	3.3	0	0	0	0%	0%	1	2085	0	2085	2085	0	0	467	0.224		487	0.234	
Ma Tau Kok Road	W		3	B	4.5	0	25	0	100%	100%	1	2205	0	2080	2080	0	0	177	0.085	0.085	263	0.126	0.126
Ma Tau Kok Road	W		3	B	4.5	0	20	1	100%	100%	1	2065	4270	1920	1920	4000	4000	163	0.085		242	0.126	
Ma Tau Chung Road	S		2	A	3.6	0	0	1	0%	0%	0.5	987.5	5207.5	987.5	987.5	5207.5	5207.5	265	0.269	0.269	192	0.194	0.234
Ma Tau Chung Road	S		2	A	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	563	0.269		406	0.194	
Ma Tau Chung Road	S		2	A	3.7	0	0	0	0%	0%	1	2125	0	2125	2125	0	0	571	0.269		412	0.194	
Pedestrian Crossing			5p	B		Min. Green Time = 14 Gm + 11 Fm = 25s																	
			6p	B		Min. Green Time = 20 Gm + 12 Fm = 32s																	
			7p	C,A		Min. Green Time = 7 Gm + 9 Fm = 16s																	

Notes:

*Only franchsied buses are allowed to left turn

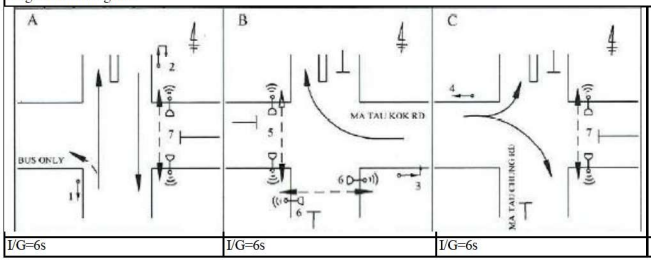
Traffic Flow (pcu / hr)



A.M. Check Phase	
ey	0.439
L (sec)	15
C (sec)	130
y pract.	0.796
R.C. (%)	82%

P.M. Check Phase	
ey	0.388
L (sec)	15
C (sec)	118
y pract.	0.786
R.C. (%)	102%

Stage / Phase Diagrams



I/G=6s | I/G=6s | I/G=6s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(P) Ma Tau Wai Road / Farm Road / Tam Kung Road**

Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ma Tau Wai Road	N	↰	2	A	3.6	15	0	0	49%	30%	1	2115	6375	2015	0	6275	6315	440	0.218		434	0.211	
Ma Tau Wai Road	N	↑	2	A	3.4	0	0	0	0%	0%	1	2095	0	2095	0	0	0	457	0.218		443	0.211	
Ma Tau Wai Road	N	↑	2	A	4.1	0	0	0	0%	0%	1	2165	0	2165	0	0	0	473	0.218		458	0.211	
Tam Kung Road	S	↓	3	B	3.5	0	0	1	0%	0%	0.5	982.5	3087.5	982.5	0	3087.5	3087.5	59	0.060	0.060	68	0.070	0.070
Tam Kung Road	S	↓	3	B	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	126	0.060		147	0.070	
Ma Tau Wai Road	S	↓	1	A	3.6	0	0	1	0%	0%	1	1975	6215	1975	0	6215	6215	480	0.243	0.243	334	0.169	0.211
Ma Tau Wai Road	S	↓	1	A	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	514	0.243		357	0.169	
Ma Tau Wai Road	S	↓	1	A	3.7	0	0	0	0%	0%	1	2125	0	2125	0	0	0	516	0.243		359	0.169	
Pedestrian Crossing			4p	B,C	Min. Green Time = 12 Gm + 8 Fm = 20s																		
			5p	C	Min. Green Time = 15 Gm + 11 Fm = 26s																		
			6p	A,B	Min. Green Time = 8 Gm + 6 Fm = 14s																		

Notes:

Traffic Flow (pcu / hr) AM(PM)

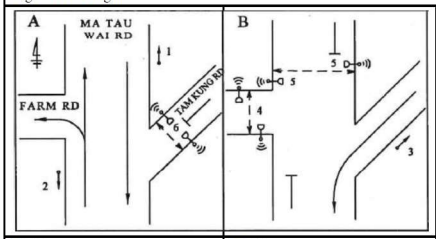
1510(1050) ↓ 185(215) ↙

215(130) ↰ 1155(1205) ↑

A.M. Check Phase	
ey	0.303
L (sec)	9
C (sec)	130
y pract.	0.838
R.C. (%)	177%

P.M. Check Phase	
ey	0.281
L (sec)	9
C (sec)	120
y pract.	0.833
R.C. (%)	196%

Stage / Phase Diagrams



I/G=5s I/G=6s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

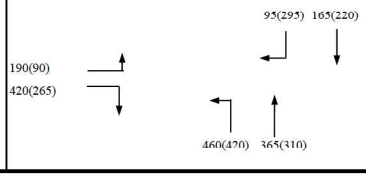
Junction: **(Q) Shing kai Road/ Sung Wong Toi Road**

Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Sung Wong Toi Road	E		2	A	3.7	20.0	0	1	100%	100%	1	1985	6235	1845	1845	5885	5885	190	0.103		90	0.049	
Sung Wong Toi Road	E		2	A	3.7	23.0	31	0	0% / 100%	0% / 100%	1	2125	0	2025	2025	0	0	211	0.104	0.104	133	0.066	0.066
Sung Wong Toi Road	E		2	A	3.7	0.0	28	0	100%	100%	1	2125	0	2015	2015	0	0	209	0.104		132	0.066	
Shing kai Road	N		3	C	3.3	16.0	0	1	100%	100%	1	1945	4030	1780	1780	3865	3865	460	0.258	0.258	420	0.236	0.236
Shing kai Road	N		3	C	3.3	0.0	0	0	0%	0%	1	2085	0	2085	2085	0	0	365	0.175		310	0.149	
Shing kai Road	S		1	B	3.8	0.0	0	1	0%	0%	1	1995	6265	1995	1995	6190	6150	84	0.042	0.042	167	0.084	0.084
Shing kai Road	S		1	B	3.8	0.0	50	0	9%	70%	1	2135	0	2130	2090	0	0	89	0.042		175	0.084	
Shing kai Road	S		1	B	3.8	0.0	45	0	100%	100%	1	2135	0	2065	2065	0	0	87	0.042		173	0.084	
Pedestrian crossing		<---->	4p	C		Min. Crossing Time = 35Gm + 7FGm =42s																	
			5p	A,C		Min. Crossing Time = 72Gm + 10FGm =82s																	
			6p	B		Min. Crossing Time = 7Gm + 12FGm =15s																	
			7p	B,C		Min. Crossing Time = 55Gm + 18FGm =73s																	
			8p	A		Min. Crossing Time = 17Gm + 7FGm =24s																	
			9p	A,B		Min. Crossing Time = 50Gm + 6FGm =56s																	

Notes:

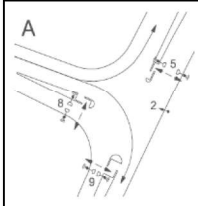
Traffic Flow (pcu / hr) AM(PM) Peak



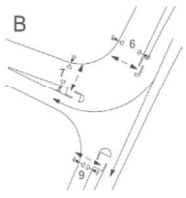
AM Peak Check Phase	
εy	0.404
L (sec)	12
C (sec)	110
y pract.	0.802
R.C. (%)	98%

PM Peak Check Phase	
εy	0.385
L (sec)	12
C (sec)	110
y pract.	0.802
R.C. (%)	108%

Stage / Phase Diagrams



I/G = 5



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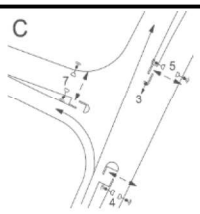


I/G = 5

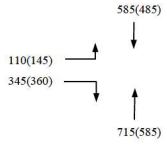
TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(R) Mok Cheong Street / To Kwa Wan Road**
Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Mok Cheong Street	E		2	B	3.5	27.5	18	1	48% / 52%	57% / 43%	1	1965	4070	1835	1840	3665	3670	228	0.124	0.124	253	0.138	0.138
Mok Cheong Street	E		2	B	3.5	0.0	10	0	100%	100%	1	2105	0	1830	1830	0	0	227	0.124		252	0.138	
To Kwa Wan Road	N		1	A	3.5	0.0	0	1	0%	0%	1	1965	4120	1965	1965	4120	4120	341	0.174		279	0.142	0.142
To Kwa Wan Road	N		1	A	4.0	0.0	0	0	0%	0%	1	2155	0	2155	2155	0	0	374	0.174		306	0.142	
To Kwa Wan Road	S		1	A	3.0	0.0	0	1	0%	0%	1	1915	3970	1915	1915	3970	3970	282	0.147	0.174	234	0.122	
To Kwa Wan Road	S		1	A	3.0	0.0	0	0	0%	0%	1	2055	0	2055	2055	0	0	303	0.147		251	0.122	
Pedestrian crossing		<---->	3p	A	Min. Crossing Time = 29Gm + 11FGm =40s																		

Notes:

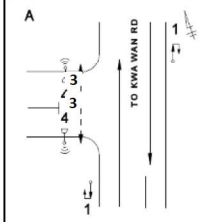
Traffic Flow (pcu / hr) AM(PM) Peak

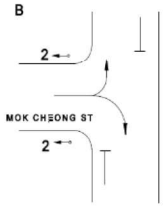


AM Peak Check Phase	
εy	0.298
L (sec)	10
C (sec)	108
y pract.	0.817
R.C. (%)	174%

PM Peak Check Phase	
εy	0.280
L (sec)	10
C (sec)	90
y pract.	0.800
R.C. (%)	186%

Stage / Phase Diagrams





I/G = 6 I/G = 6

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

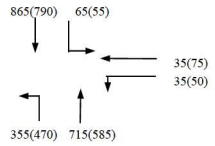
Junction: **(S) Ma Tau Kok Road / To Kwa Wan Road**

Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
To Kwa Wan Road	N		1	A	3.5	15.0	0	1	100%	100%	1	1965	6175	1785	1785	5980	5930	319	0.179		318	0.178	
To Kwa Wan Road	N		1	A	3.5	20.0	0	0	10%	42%	1	2105	0	2090	2040	0	0	374	0.179		363	0.178	
To Kwa Wan Road	N		1	A	3.5	0.0	0	0	0%	0%	1	2105	0	2105	2105	0	0	377	0.179		374	0.178	
Ma Tau Kok Road	W		4	C	5.0	0.0	0	0	0%	0%	1	2255	2255	2255	2255	2255	2255	35	0.016	0.036	75	0.033	0.052
Ma Tau Kok Road	W		4	C	4.8	16.0	0	1	100%	100%	0.5	1047.5	1047.5	960	960	960	960	35	0.036		50	0.052	
To Kwa Wan Road	S		2,3	A,B	3.5	25.0	0	1	15%	14%	1	1965	4070	1950	1950	4055	4055	447	0.229	0.229	406	0.208	0.208
To Kwa Wan Road	S		2,3	A,B	3.5	0.0	0	0	0%	0%	1	2105	0	2105	2105	0	0	483	0.229		439	0.208	
Pedestrian crossing			5p	A,B		Min. Crossing Time = 5Gm + 8FGm =11s																	
			6p	B		Min. Crossing Time = 5Gm + 8FGm =11s																	
			7p	C		Min. Crossing Time = 8Gm + 8FGm =16s																	
			8p	C		Min. Crossing Time = 5Gm + 8FGm =11s																	

Notes:

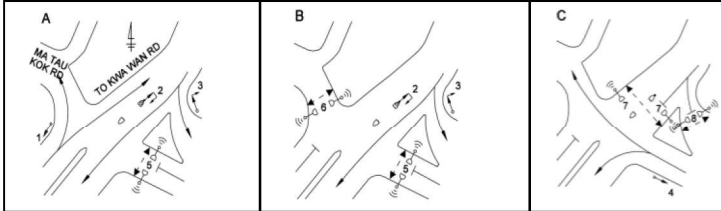
Traffic Flow (pcu / hr) AM(PM) Peak



AM Peak Check Phase	
εy	0.266
L (sec)	8
C (sec)	108
y pract.	0.833
R.C. (%)	213%

PM Peak Check Phase	
εy	0.261
L (sec)	8
C (sec)	90
y pract.	0.820
R.C. (%)	215%

Stage / Phase Diagrams



I/G = 5 I/G = 5

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

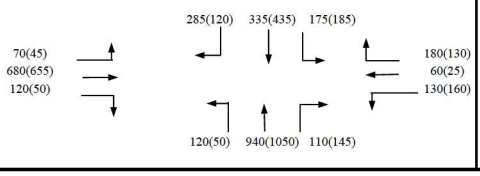
Junction: **(T) San Shan Road / To Kwa Wan Road**

Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
San Shan Road	E		2	B	3.0	17.5	0	1	71%	64%	1	1915	6005	1805	1815	5785	5800	248	0.138		291	0.160	
San Shan Road	E		2	B	3.0	0.0	32	0	7%	0%	1	2055	0	2050	2055	0	0	282	0.137	0.138	329	0.160	0.160
San Shan Road	E		2	B	2.8	0.0	27	0	100%	100%	1	2035	0	1930	1930	0	0	265	0.137		120	0.062	
To Kwa Wan Road	N		3	C	3.5	15.0	0	1	36%	14%	1	1965	8280	1895	1895	8090	8090	329	0.174		347	0.183	
To Kwa Wan Road	N		3	C	3.5	0.0	0	0	0%	0%	1	2105	0	2105	2105	0	0	248	0.118		253	0.120	
To Kwa Wan Road	N		3	C	3.5	0.0	0	0	0%	0%	1	2105	0	2105	2105	0	0	248	0.118		253	0.120	
To Kwa Wan Road	N		3	C	3.5	0.0	25	0	32%	37%	1	2105	0	1985	1985	0	0	346	0.174	0.174	393	0.198	0.198
San Ma Tau Street	W		4	D	3.5	0.0	31	0	100%	100%	1	2105	0	2010	2010	0	0	134	0.067		115	0.057	
San Ma Tau Street	W		4	D	3.5	16.0	33	0	22% / 34%	65% / 13%	1	2105	0	2030	1975	0	0	135	0.067	0.067	113	0.057	0.057
San Ma Tau Street	W		4	D	3.2	10.0	0	1	100%	100%	0.9	1741.5	5951.5	1515	1515	5555	5500	101	0.067		87	0.057	
To Kwa Wan Road	S		1	A	3.2	25.0	0	1	100%	97%	1	1935	6045	1825	1830	5935	5940	175	0.096		191	0.104	
To Kwa Wan Road	S		1	A	3.0	0.0	0	0	0%	0%	1	2055	0	2055	2055	0	0	168	0.082		215	0.104	
To Kwa Wan Road	S		1	A	3.0	0.0	0	0	0%	0%	1	2055	0	2055	2055	0	0	168	0.082		215	0.104	
To Kwa Wan Road	S		1	A	2.8	0.0	30	0	100%	100%	1	2035	2035	1940	1940	1940	1940	285	0.147	0.147	120	0.062	0.104
Pedestrian crossing			5p	A		Min. Crossing Time = 8Gm + 8FGm =16s																	
			6p	B,C,D		Min. Crossing Time = 8Gm + 10FGm =18s																	
			7p	D		Min. Crossing Time = 5Gm + 7FGm =12s																	
			8p	A,B,C		Min. Crossing Time = 5Gm + 10FGm =15s																	

Notes:

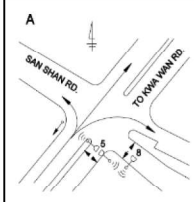
Traffic Flow (pcu / hr) AM(PM) Peak



AM Peak Check Phase	
εy	0.525
L (sec)	22
C (sec)	130
y pract.	0.748
R.C. (%)	42%

PM Peak Check Phase	
εy	0.520
L (sec)	22
C (sec)	130
y pract.	0.748
R.C. (%)	44%

Stage / Phase Diagrams



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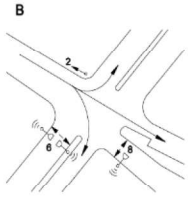

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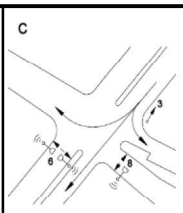

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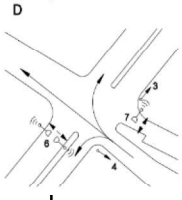


I/G =6

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(U) To Kwa Wan Road / Sheung Heung Road / Kwei Chow Street**

Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Sheung Heung Road	E	↰	2	B	3.1	15	0	1	100%	100%	1	1925	3990	1750	0	3670	3670	117	0.067	0.067	129	0.074	0.074
Sheung Heung Road	E	↑	2	B	3.1	20	0	0	100%	100%	1	2065	0	1920	0	0	0	128	0.067		141	0.074	
Sheung Heung Road	E	↘	2	B	3.2	0	25	0	100%	100%	1	2075	4160	1960	0	3900	3900	75	0.038		93	0.047	
Sheung Heung Road	E	↘	2	B	3.3	0	20	0	100%	100%	1	2085	0	1940	0	0	0	75	0.038		92	0.047	
To Kwa Wan Road	N	↑	1	A	3.5	0	0	1	0%	0%	0.5	982.5	5142.5	982.5	0	5142.5	5142.5	180	0.183		183	0.187	
To Kwa Wan Road	N	↑	1	A	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	387	0.183		395	0.187	
To Kwa Wan Road	N	↑	1	A	2.9	0	0	0	0%	0%	1	2045	0	2045	0	0	0	374	0.183	0.228	382	0.187	
Kwei Chow Street	W	↰	3	C	3.0	0	20	0	100%	100%	1	2055	0	1940	0	0	0	103	0.053	0.053	105	0.054	0.054
Kwei Chow Street	W	↰	3	C	3.0	0	25	0	100%	100%	1	2055	0	1940	0	0	0	103	0.053		105	0.054	
Kwei Chow Street	W	↕	3	C	3.0	20	30	0	1% / 99%	4% / 96%	1	2055	0	1955	0	0	0	104	0.053		105	0.054	
Kwei Chow Street	W	↓	3	C	3.4	15	0	1	100%	100%	1	1955	6065	1775	0	7610	7610	94	0.053		96	0.054	
To Kwa Wan Road	S	↓	1	A	3.0	0	0	1	0%	0%	0.5	957.5	5177.5	957.5	0	5177.5	5177.5	218	0.228		220	0.230	0.230
To Kwa Wan Road	S	↓	1	A	3.8	0	0	0	0%	0%	1	2135	0	2135	0	0	0	487	0.228		491	0.230	
To Kwa Wan Road	S	↓	1	A	3.3	0	0	0	0%	0%	1	2085	0	2085	0	0	0	475	0.228		479	0.230	
Pedestrian Crossing			4	A,B	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			5	C,A	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			6	B	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			7	C	Min. Green Time = 05 Gm + 08 Fm = 13s																		

Notes:

Traffic Flow (pcu / hr) AM(PM)

1180(1190) ↓

310(310) ↰

95(100) ↓

245(270) ↱

150(185) ↳

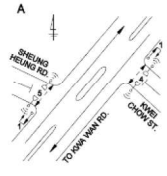
940(960) ↑

A.M. Check Phase	
εy	0.348
L (sec)	20
C (sec)	108
y pract.	0.733
R.C. (%)	111%

P.M. Check Phase	
εy	0.357
L (sec)	20
C (sec)	108
y pract.	0.733
R.C. (%)	105%

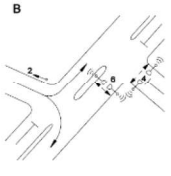
Stage / Phase Diagrams

A



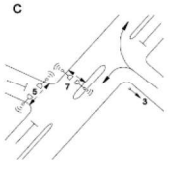
I/G= 7s

B



I/G= 8s

C



I/G= 8s

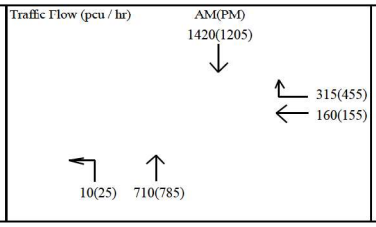
TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(V) Chatham Road North / San Lau Street**
Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Chatham Road North	N		1	A	4.0	15	0	1	3%	6%	1	2015	4170	2010	2000	4165	4155	347	0.173		390	0.195	
Chatham Road North	N		1	A	4.0	0	0	0	0%	0%	1	2155	0	2155	0	0	0	373	0.173		420	0.195	
San Lau Street	W		3	B	2.7	0	20	0	100%	100%	1	2025	0	1885	0	0	0	153	0.081	0.081	222	0.118	0.118
San Lau Street	W		3	B	3.5	0	25	0	100%	100%	1	2105	0	1985	0	0	0	162	0.081		233	0.118	
San Lau Street	W		3	B	4.2	0	0	1	0%	0%	1	2035	6165	2035	0	5905	5905	160	0.079		155	0.076	
Chatham Road North	S		2	A	4.7	0	0	1	0%	0%	1	2085	4260	2085	0	4260	4260	695	0.333	0.333	590	0.283	0.283
Chatham Road North	S		2	A	4.2	0	0	0	0%	0%	1	2175	0	2175	0	0	0	725	0.333		615	0.283	
Pedestrian Crossing			4	A	Min. Green Time = 12 Gm + 10 Fm = 22s																		
			5	B	Min. Green Time = 06 Gm + 08 Fm = 14s																		

Notes:

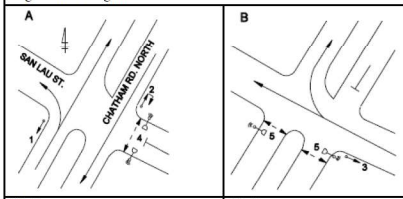
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
ey	0.415
L (sec)	10
C (sec)	90
y pract.	0.800
R.C. (%)	93%

P.M. Check Phase	
ey	0.400
L (sec)	10
C (sec)	108
y pract.	0.817
R.C. (%)	104%

Stage / Phase Diagrams



I/G=7s I/G=5s

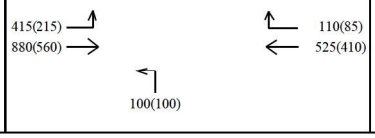
TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(W) Fat Kwong Street / Shun Yung Street / Yan Fung Street**
Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fat Kwong Street	E		2	A	3.1	15	0	1	100%	100%	1	1925	1925	1750	1750	1750	1750	415	0.237		215	0.123	0.135
Fat Kwong Street	E		2	A	3.2	0	0	0	0%	0%	1	2075	4160	2075	2075	4160	4160	439	0.212		279	0.135	
Fat Kwong Street	E		2	A	3.3	0	0	0	0%	0%	1	2085	0	2085	2085	0	0	441	0.212	0.237	281	0.135	
Yan Fung Street	N		3	A	4.2	15	0	1	100%	100%	1	2035	2035	1850	1850	1850	1850	100	0.054		100	0.054	
Fat Kwong Street	W		1	B	3.1	0	20	0	52%	51%	1	2065	0	1990	1990	0	0	212	0.107	0.107	165	0.083	0.083
Fat Kwong Street	W		1	B	3.0	0	0	0	0%	0%	1	2055	0	2055	0	0	0	219	0.107		171	0.083	
Fat Kwong Street	W		1	B	2.9	0	0	1	0%	0%	1	1905	6025	1905	1905	5950	5950	203	0.107		159	0.083	
Shun Yung Street	S		4	C	3.2	15	0	1	100%	100%	1	1935	4000	1760	1760	3680	3680	160	0.091		160	0.091	
Shun Yung Street	S		4	C	3.1	20	20	0	0% / 100%	8% / 92%	1	2065	0	1920	1920	0	0	260	0.135	0.135	175	0.091	0.091
Pedestrian Crossing			5	B,C	Min. Green Time = 05 Gm + 07 Fm = 12s																		
			6	A,B	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			7	B	Min. Green Time = 06 Gm + 11 Fm = 17s																		
			8	C	Min. Green Time = 05 Gm + 05 Fm = 10s																		
			9	C,A	Min. Green Time = 05 Gm + 08 Fm = 13s																		

Notes:

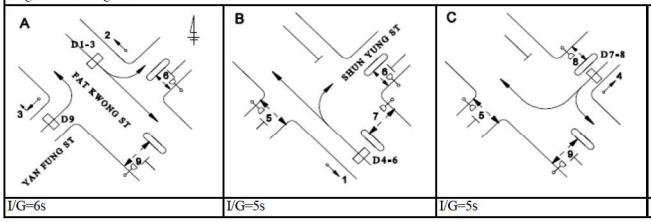
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
ey	0.479
L (sec)	13
C (sec)	108
y pract.	0.792
R.C. (%)	65%

P.M. Check Phase	
ey	0.309
L (sec)	13
C (sec)	108
y pract.	0.792
R.C. (%)	156%

Stage / Phase Diagrams



I/G=6s I/G=5s I/G=5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

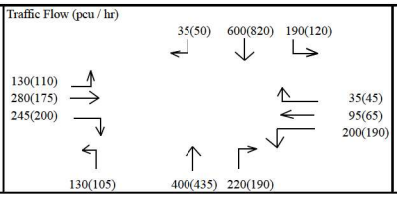
Junction: **(X) Hung Hom Road/ Fat Kwong Street Flyover/ Tai Wan Road East**

Description: **2022 Observed Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fat Kwong Street Flyover	E		3	A	3.5	10	0	1	32%	39%	1	1965	1965	1875	1855	1875	1855	410	0.219	0.219	285	0.154	0.154
	E		3	A	3.3	0	19	0	100%	100%	1	2085	2085	1930	1930	1930	1930	275	0.142		210	0.109	
Hung Hom Road	N		1	B	3.4	8	0	1	100%	100%	1	1955	1955	1630	1630	1630	1630	130	0.080		105	0.064	
	N		1	B	3.4	0	0	0	0%	0%	1	1955	4050	1955	1955	4050	4050	229	0.117		196	0.100	
	N		1	B	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	246	0.117	0.117	210	0.100	
	N		1	B	3.7	0	15	0	100%	100%	1	2125	2125	1930	1930	1930	1930	220	0.114		190	0.098	0.100
Tai Wan Road East	W		4	C	4.0	0	12.5	0	27%	41%	1	2155	2155	2090	2055	2090	2055	130	0.062	0.114	110	0.054	0.108
	W		4	C	3.5	13	0	1	100%	100%	1	1965	1965	1755	1755	1755	1755	200	0.114		190	0.108	
Hung Hom Road	S		2	D	3.5	15	0	1	49%	25%	1	1965	4070	1875	1915	3965	4000	390	0.208	0.208	474	0.248	0.248
	S		2	D	3.5	0	15	0	8%	10%	1	2105	0	2090	2085	0	0	435	0.208		516	0.247	
Pedestrian crossing			5P	A,B,D		Min. Crossing Time = 6GM + 7FGM = 13s														*			*
			6P	C		Min. Crossing Time = 5GM + 6FGM = 11s																	
			7P	A,B,C		Min. Crossing Time = 5GM + 7FGM = 12s																	
			8P	D		Min. Crossing Time = 5GM + 9FGM = 14s																	
			9P	B,C,D		Min. Crossing Time = 5GM + 7FGM = 12s																	
			10P	A		Min. Crossing Time = 5GM + 9FGM = 14s																	

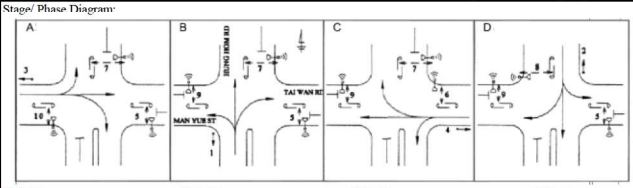
Notes:

Traffic Flow (pcu / hr)



A.M. Check Phase		P.M. Check Phase	
εy	0.658	εy	0.610
L (sec)	18	L (sec)	18
C (sec)	130	C (sec)	130
y pract.	0.775	y pract.	0.775
R.C. (%)	18%	R.C. (%)	27%

Stage/ Phase Diagram



I/G= 5s I/G=7s I/G=5s I/G=5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

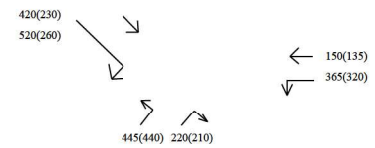
Junction: **(A) Tin Kwong Road / Sheung Shing Street**

Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tin Kwong Road	SE	↘	2,3	A,B	3.7	0	0	1	0%	0%	1	1985	1985	1985	1985	1985	1985	365	0.184		320	0.161	
	SE	↘	3	B	3.5	0	10	0	100%	100%	1	2105	2105	1830	1830	1830	1830	150	0.082	0.082	135	0.074	0.074
Sheung Shing Street	NE	↖↘	4	C	3.2	10	18	1	)5% / 5%	00% / 0%	1	1935	4010	1690	1685	3575	3570	444	0.263	0.263	231	0.137	0.137
	NE	↗	4	C	3.2	0	15	0	100%	100%	1	2075	0	1885	1885	0	0	496	0.263		259	0.137	
Tin Kwong Road	W	↙	1	A	3.4	10	0	1	100%	100%	1	1955	1955	1700	1700	1700	1700	220	0.129	0.212	210	0.124	0.210
	W	←	1	A	3.4	0	0	0	0%	0%	1	2095	2095	2095	2095	2095	2095	445	0.212		440	0.210	
Pedestrian crossing		↕	5p	B	Min. Crossing Time = 10GM + 5FGM = 15s																		
		↕	6p	C	Min. Crossing Time = 6GM + 6FGM = 12s																		
		↔	7p	C	Min. Crossing Time = 11GM + 5FGM = 16s																		
		↔	8p	A,B	Min. Crossing Time = 6GM + 6FGM = 12s																		

Notes:

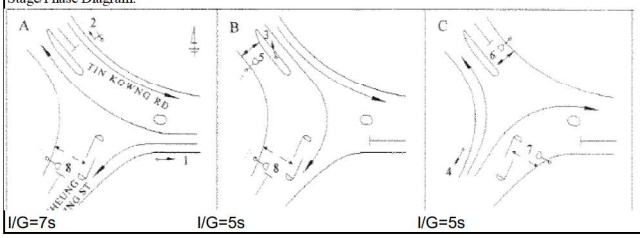
Traffic Flow (pcu / hr)



A.M. Check Phase	
εy	0.557
L (sec)	14
C (sec)	130
y pract.	0.803
R.C. (%)	44%

P.M. Check Phase	
εy	0.421
L (sec)	14
C (sec)	118
y pract.	0.793
R.C. (%)	88%

Stage/Phase Diagram:



TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(B) Tin Kwong Road / Kau Pui Lung Road**

Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tin Kwong Road	E		1	A,B,C	2.8	8	0	1	13%	14%	0.8	1516	1516	1480	1475	1480	1475	785	0.530		295	0.200	
	E		2	B	2.8	0	12.5	0	100%	100%	1	2035	2035	1815	1815	1815	1815	230	0.127	0.127	345	0.190	0.190
Kau Pui Lung Road	N		3	C	4.6	25	0	1	100%	100%	0.7	1452.5	1453	1370	1370	1370	1370	150	0.109		145	0.106	
Tin Kwong Road	W		5	A	3.0	0	0	0	0%	0%	1	2055	2055	2055	2055	2055	2055	805	0.392	0.392	625	0.304	0.304
	W		4	C	3.0	5	0	1	100%	100%	1	1915	1915	1475	1475	1475	1475	330	0.224	0.224	330	0.224	0.224
Pedestrian crossing			6p	A		Min. Crossing Time = 8GM + 8FGM = 16s																	

Notes:

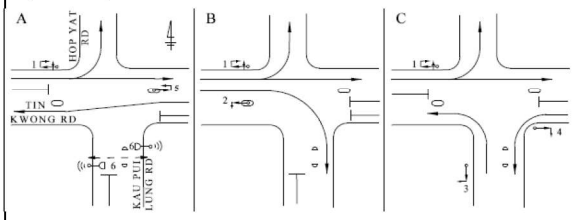
Traffic Flow (pcu / hr)



A.M. Check Phase	
εy	0.742
L (sec)	16
C (sec)	130
y pract.	0.789
R.C. (%)	**6%**

P.M. Check Phase	
εy	0.718
L (sec)	16
C (sec)	118
y pract.	0.778
R.C. (%)	**8%**

Stage/Phase Diagram:



I/G=5s I/G=6s I/G=8s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

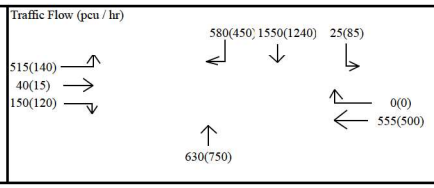
Junction: **(C) Tin Kwong Road / Ma Tau Wai Road / Ma Hang Chung Road**

Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tin Kwong Road	E		2	B,C	2.9	10	0	1	100%	100%	1	1905	1905	1655	1655	1655	1655	515	0.311		140	0.085	
	E		2	C	2.9	0	15	0	79%	89%	1	2045	2045	1895	1880	1895	1880	190	0.100	0.100	135	0.072	0.072
Ma Tau Wai Road	N		5	A	3.4	0	0	1	0%	0%	1	1955	6105	1955	1955	6105	6105	202	0.103	0.103	240	0.123	0.123
	N		5	A	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	216	0.103		257	0.123	
	N		5	A	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	212	0.103		252	0.123	
Ma Hang Chung Road	W		6	D	3.7	0	15	0	100%	100%	1	2125	2125	1930	1930	1930	1930	0	0.000		0	0.000	
	W		6	D	3.7	0	0	1	0%	0%	1	1985	1985	1985	1985	1985	1985	555	0.280	0.280	500	0.252	0.252
Ma Tau Wai Road	S		3	A,B	3.0	8	0	1	5%	21%	1	1915	6025	1895	1840	6005	5950	497	0.262		410	0.223	
	S		3	A,B	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	539	0.262		458	0.223	
	S		3	A,B	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	539	0.262		458	0.223	
	S		3	B	3.0	0	15	0	100%	100%	1	2055	2055	1870	1870	1870	1870	580	0.310	0.310	450	0.241	0.241
Pedestrian crossing			7p			Min. Crossing Time = 14GM + 13FGM = 27s																	
			8p			Min. Crossing Time = 6GM + 12FGM = 18s																	
			9p			Min. Crossing Time = 5M + 9FGM = 14s																	
			10p			Min. Crossing Time = 13GM + 10FGM = 23s																	
			11p			Min. Crossing Time = 19GM + 7FGM = 26s																	

Notes:

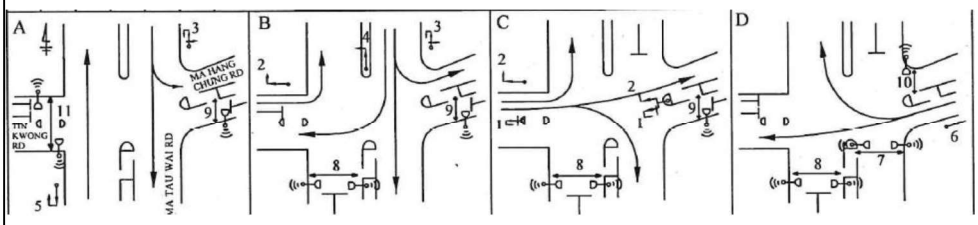
Traffic Flow (pcu / hr)



A.M. Check Phase	
εy	0.793
L (sec)	24
C (sec)	130
y pract.	0.734
R.C. (%)	**-7%**

P.M. Check Phase	
εy	0.687
L (sec)	24
C (sec)	120
y pract.	0.720
R.C. (%)	**5%**

Stage/Phase Diagram:



I/G=12s I/G=6s I/G=5s I/G=5s

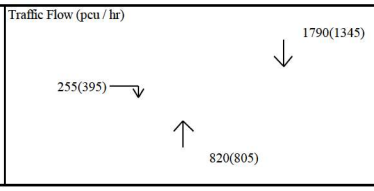
TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(E) Ma Tau Wai Road / Lok Shan Road**
Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Lok Shan Road	E	↘	3	B	3.5	0	15	1	100%	100%	1	1965	1965	1785	1785	1785	1785	255	0.143	0.143	395	0.221	0.221
Ma Tau Wai Road	N	↑	1	A	3.5	0	0	1	0%	0%	1	1965	6175	1965	1965	6175	6175	261	0.133		256	0.130	
	N	↑	1	A	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	280	0.133		274	0.130	
	N	↑	1	A	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	280	0.133		274	0.130	
											#N/A												
Ma Tau Wai Road	S	↓	2	A	3.5	0	0	1	0%	0%	1	1965	6175	1965	1965	6175	6175	570	0.290	0.290	428	0.218	0.218
	S	↓	2	A	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	610	0.290		458	0.218	
	S	↓	2	A	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	610	0.290		458	0.218	
Pedestrian crossing		↔	4p	B		Min. Crossing Time = 9GM + 10FGM = 19s																	
		↕	5p	A		Min. Crossing Time = 6GM + 4FGM = 9s																	

Notes:

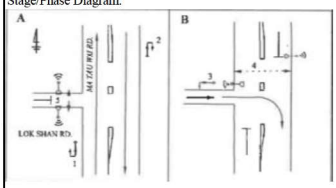
Traffic Flow (pcu / hr)



A.M. Check Phase	
ey	0.433
L (sec)	9
C (sec)	130
y pract.	0.838
R.C. (%)	**94%**

P.M. Check Phase	
ey	0.439
L (sec)	9
C (sec)	120
y pract.	0.833
R.C. (%)	**90%**

Stage/Phase Diagram:



I/G=6s I/G=5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(G) Ma Tau Wai Road / Chi Kiang Street**

Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Ma Tau Wai Road	N	↑	1	A,B	3.5	0	0	1	0%	0%	1	1825	3930	1825	1825	3930	3930	309	0.169		344	0.188	
	N	↑	1	A,B	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	356	0.169		396	0.188	
	N	↱	2	A	5.4	0	20	0	100%	100%	1	2295	4590	2135	2135	4220	4220	377	0.177	0.177	301	0.141	0.141
	N	↱	2	A	5.4	0	15	0	100%	100%	1	2295	0	2085	2085	0	0	368	0.177		294	0.141	
Ma Tau Wai Road	S	↳	3	C	3.3	18	0	1	100%	100%	1	1945	6115	1790	1790	5960	5960	616	0.344	0.344	515	0.288	0.288
	S	↳	3	C	3.3	20	0	0	0%	0%	1	2085	0	2085	2085	0	0	711	0.341		613	0.294	
	S	↓	3	C	3.3	0	0	0	0%	0%	1	2085	0	2085	2085	0	0	718	0.344		613	0.294	

Pedestrian crossing	4p	A,B	Min. Crossing Time = 6GM + 11FGM = 17s
	5p	B	Min. Crossing Time = 5GM + 13FGM = 18s
	6p	C	Min. Crossing Time = 5GM + 8FGM = 13s

Notes:

Traffic Flow (pcu / hr)

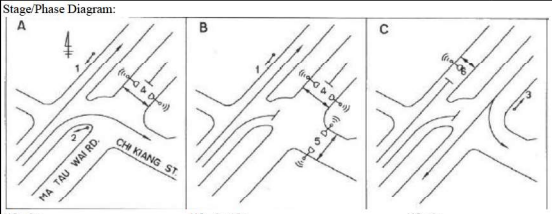
1340(1225) 705(515)

665(740) 745(595)

A.M. Check Phase	
εy	0.521
L (sec)	34
C (sec)	130
y pract.	0.665
R.C. (%)	**28%**

P.M. Check Phase	
εy	0.429
L (sec)	30
C (sec)	120
y pract.	0.675
R.C. (%)	**57%**

Stage/Phase Diagram:



I/G=6s I/G=9+18s I/G=3s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(H) Argyle Street / Waterloo Road / Princess Margaret Road**
Description: **2036 Reference Flow**

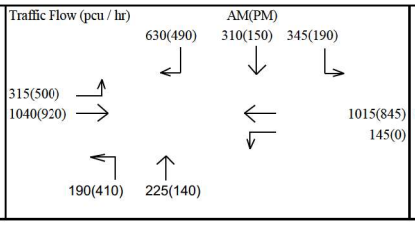
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Argyle Street	E	↗	4	B,C,D	3.7	0	0	0	0%	0%	1	2125	4250	2125	0	4250	4250	158	0.074		250	0.118	
Argyle Street	E	↗	4	B,C,D	3.7	0	0	0	0%	0%	1	2125	0	2125	0	0	0	158	0.074		250	0.118	
Argyle Street	E	→	6	D	3.7	0	0	0	0%	0%	1	2125	4280	2125	0	4280	4280	516	0.243		457	0.215	
Argyle Street	E	→	6	D	4.0	0	0	0	0%	0%	1	2155	0	2155	0	0	0	524	0.243		463	0.215	
Princess Margaret Road	N	↰↑	1	A	3.4	15	0	1	100%	100%	1	1955	4050	1780	1775	3875	3870	190	0.107		410	0.231	
Princess Margaret Road	N	↑	1	A	3.4	0	0	0	0%	0%	1	2095	0	2095	0	0	0	225	0.107		140	0.067	
Princess Margaret Road (Middle)	N	↑	2	A	3.5	0	0	1	0%	0%	1	1965	4070	1965	1965	4070	4070	109	0.055		68	0.034	
Princess Margaret Road (Middle)	N	↑	2	A	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	116	0.055		72	0.034	
Argyle Street	W	←	11	C,D	3.5	0	0	0	0%	0%	1	2105	4180	2105	0	4180	4180	511	0.243	0.243	426	0.202	0.202
Argyle Street	W	←	11	C,D	3.2	0	0	0	0%	0%	1	2075	0	2075	0	0	0	504	0.243		419	0.202	
Argyle Street	W	↰↓	15	D	3.8	15	0	1	100%	100%	1	1995	1995	1815	1815	1815	1815	145	0.080		0	0.000	
Argyle Street (Middle)	W	←	5	B,C,D	3.5	0	0	1	0%	0%	1	1965	6175	1965	0	6175	6175	523	0.266		425	0.216	
Argyle Street (Middle)	W	←	5	B,C,D	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	561	0.266		455	0.216	
Argyle Street (Middle)	W	←	5	B,C,D	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	561	0.266		455	0.216	
Waterloo Road	S	↳	3	A,B	3.4	15	0	0	100%	100%	1	2095	2095	1905	1905	1905	1905	345	0.181		190	0.100	
Waterloo Road	S	↓	3	A,B	3.5	0	0	0	0%	0%	1	2105	2105	2105	2105	2105	2105	310	0.147	0.181	150	0.071	0.124
Waterloo Road	S	↲	3	A,B	3.5	0	25	0	100%	100%	1	2105	4210	1985	1985	3945	3945	317	0.160		247	0.124	
Waterloo Road	S	↲	3	A,B	3.5	0	20	0	100%	100%	1	2105	0	1960	1960	0	0	313	0.160		243	0.124	

Pedestrian Crossing

7	A	Min. Green Time = 05 Gm + 11 Fm = 16s
8	B,C,D	Min. Green Time = 05 Gm + 07 Fm = 12s
9	B,C,D	Min. Green Time = 05 Gm + 07 Fm = 12s
10	C	Min. Green Time = 05 Gm + 07 Fm = 12s
12	A,B	Min. Green Time = 05 Gm + 09 Fm = 14s
13	C	Min. Green Time = 05 Gm + 07 Fm = 12s
14	C,D	Min. Green Time = 13 Gm + 12 Fm = 25s

Notes:

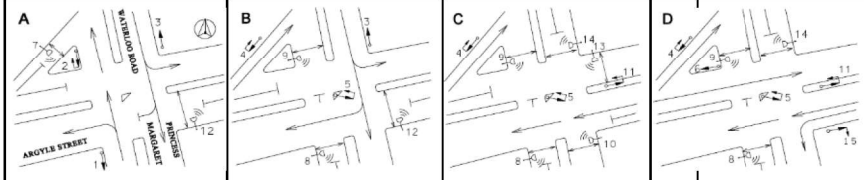
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
cy	0.424
L (sec)	12
C (sec)	130
y pract.	0.817
R.C. (%)	93%

P.M. Check Phase	
cy	0.326
L (sec)	12
C (sec)	120
y pract.	0.810
R.C. (%)	148%

Stage / Phase Diagrams



I/G=6s I/G=8s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(I) Argyle Street / Tin Kwong Road**
Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Argyle Street	E	→	2	A,B	3.0	0	0	1	0%	0%	1	1915	3970	1915	1915	3970	3970	1035	0.540		1025	0.535	
Argyle Street	E	→	2	A,B	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	1110	0.540		1100	0.535	
Argyle Street	E	↘	3	B	3.1	0	25	0	100%	100%	1	2065	4120	1950	1950	3860	3860	184	0.095	0.095	147	0.075	0.075
Argyle Street	E	↘	3	B	3.0	0	20	0	100%	100%	1	2055	0	1910	1910	0	0	181	0.095		143	0.075	
Tin Kwong Road	N	↰	4	B,C	3.0	15	0	1	100%	100%	1	1915	1915	1740	1740	1740	1740	410	0.236		70	0.040	
Tin Kwong Road	N	↱	5	C	2.9	0	20	0	100%	100%	1	2045	2045	1900	1900	1900	1900	235	0.124	0.124	375	0.197	0.197
Argyle Street	W	←	1	A,D	3.2	0	0	0	0%	0%	1	2075	6185	2075	2075	6185	6185	844	0.407	0.407	755	0.364	0.364
Argyle Street	W	←	1	A,D	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	836	0.407		748	0.364	
Argyle Street	W	←	1	A,D	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	836	0.407		748	0.364	
Argyle Street	N	↙	1	A,D	3.2	15	0	1	100%	100%	1	1935	1935	1760	1760	1760	1760	395	0.224		470	0.267	
Pedestrian Crossing			6	A,D	Min. Green Time = 05 Gm + 06 Fm = 11s																		
			7	C	Min. Green Time = 05 Gm + 06 Fm = 11s																		
			8	A,B	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			9	D	Min. Green Time = 05 Gm + 07 Fm = 12s																		

Notes:

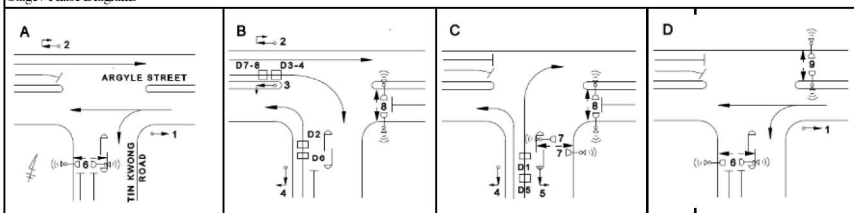
Traffic Flow (pcu / hr) AM(PM)

2145(2125) →
365(290) ↘
← 2515(2250)
↙ 395(470)
↰ 410(70) ↱ 235(375)

A.M. Check Phase	
εy	0.625
L (sec)	13
C (sec)	130
y pract.	0.810
R.C. (%)	30%

P.M. Check Phase	
εy	0.636
L (sec)	13
C (sec)	130
y pract.	0.810
R.C. (%)	27%

Stage / Phase Diagrams



I/G = 6s I/G = 5s I/G = 5s

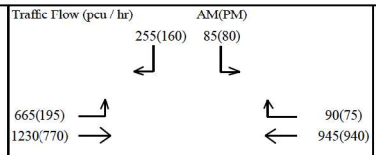
TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(J) Fat Kwong Street / Sheung Shing Street**
Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fat Kwong Street	E	↱	1	A	3.7	15	0	1	100%	100%	1	1985	1985	1805	1805	1805	1805	665	0.368		195	0.108	
Fat Kwong Street	E	→	1	A	3.4	0	0	0	0%	0%	1	2095	4190	2095	2095	4190	4190	615	0.294		385	0.184	
Fat Kwong Street	E	→	1	A	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	615	0.294	0.368	385	0.184	0.184
Fat Kwong Street	W	↰	3	B	3.9	0	20	0	100%	100%	1	2145	2145	1995	1995	1995	1995	90	0.045		75	0.038	0.045
Fat Kwong Street	W	←	2,3	A,B	3.6	0	0	0	0%	0%	1	2114.4	4083.9	2114.4	2114.4	4083.9	4083.9	489	0.231		487	0.230	
Fat Kwong Street	W	←	2,3	A,B	3.5	0	0	1	0%	0%	1	1969.5	0	1969.5	1969.5	0	0	456	0.231		453	0.230	
Sheung Shing Street	S	↳	3	B	3.2	15	0	1	100%	100%	1	1935	1935	1760	1760	1760	1760	85	0.048	0.048	80	0.045	
Sheung Shing Street	S	↲	4	C	2.8	0	20	0	100%	100%	1	2035	2035	1895	1895	1895	1895	255	0.135	0.135	160	0.084	0.084
Pedestrian Crossing			5	A	Min. Green Time = 05 Gm + 05 Fm = 10s																		
			6	C	Min. Green Time = 07 Gm + 10 Fm = 17s																		
			7	C	Min. Green Time = 05 Gm + 05 Fm = 10s																		

Notes:

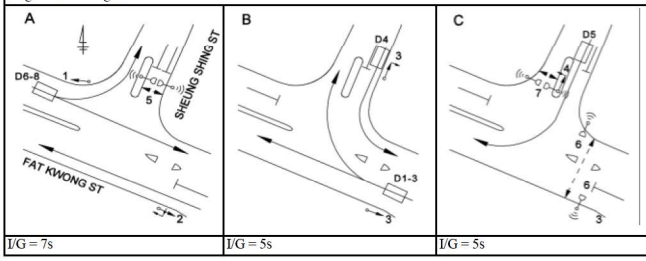
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
ey	0.551
L (sec)	14
C (sec)	120
y pract.	0.795
R.C. (%)	44%

P.M. Check Phase	
ey	0.314
L (sec)	14
C (sec)	120
y pract.	0.795
R.C. (%)	153%

Stage / Phase Diagrams



I/G = 7s I/G = 5s I/G = 5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

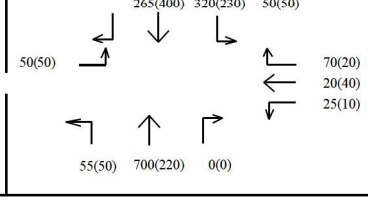
Junction: **(K) Sheung Shing Street / Shek Ku Street / Sheung Shing Lane**

Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Shek Ku Street	E		4	B	3.8	15	0	1	100%	100%	1	1995	1995	1815	1815	1815	1815	310	0.171		210	0.116	
Sheung Shing Street	N		1	A	3.2	15	0	1	16%	18%	1	1935	4030	1905	1900	3880	3850	312	0.164	0.164	280	0.147	0.147
Sheung Shing Street	N		1	A	3.4	0	20	0	82%	100%	1	2095	0	1975	1950	0	0	323	0.164		400	0.205	
Sheung Shing Lane	W		3	C	4.2	15	20	1	2% / 61	4% / 29	1	2035	2035	1905	1965	1905	1965	115	0.060	0.060	70	0.036	0.036
Sheung Shing Street	S		2	B	3.7	15	0	1	15%	39%	1	1985	4080	1955	1910	4050	4005	364	0.186	0.186	129	0.067	0.067
Sheung Shing Street	S		2	B	3.4	0	20	0	0%	0%	1	2095	0	2095	2095	0	0	391	0.186		141	0.067	
Pedestrian Crossing			5	D	Min. Green Time = 09 Gm + 09 Fm = 18s																		
			6	D	Min. Green Time = 07 Gm + 13 Fm = 20s																		
			7	D	Min. Green Time = 05 Gm + 07 Fm = 12s																		
			8	D	Min. Green Time = 08 Gm + 07 Fm = 15s																		

Notes:

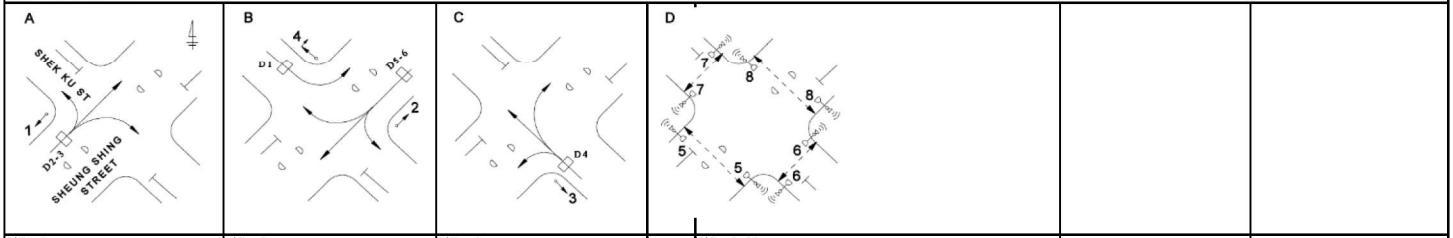
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
sy	0.411
L (sec)	40
C (sec)	108
y pract.	0.567
R.C. (%)	38%

P.M. Check Phase	
sy	0.250
L (sec)	40
C (sec)	80
y pract.	0.450
R.C. (%)	80%

Stage / Phase Diagrams



I/G = 3s | I/G = 8s | I/G = 6s | I/G = 8+18s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

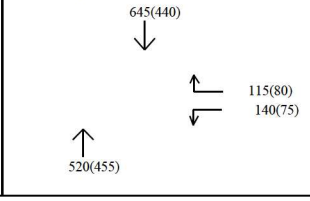
Junction: **(M) Tin Kwong Road / Farm Road**

Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Tin Kwong Road	S	↓	1	A	3.0	0	0	1	0%	0%	1	1915	1915	1915	1915	1915	1915	645	0.337	0.337	440	0.230	0.230
Tin Kwong Road	N	↑	2	A	4.0	0	0	1	0%	0%	1	2015	2015	2015	2015	2015	2015	520	0.258		455	0.226	
Farm Road	W	↙	3	B	3.0	15	0	0	100%	100%	0.8	1644	1644	1495	1495	1495	1495	140	0.094	0.094	75	0.050	0.052
	W	↖	3	B	3.0	0	20	0	100%	100%	0.8	1644	1644	1530	1530	1530	1530	115	0.075		80	0.052	
Pedestrian Crossing			4p	C		Min. Crossing Time = 5GM + 11FGM = 16s																	
			5p	C		Min. Crossing Time = 5GM + 7FGM = 12s																	
			6p	C		Min. Crossing Time = 5GM + 7FGM = 12s																	

Notes:

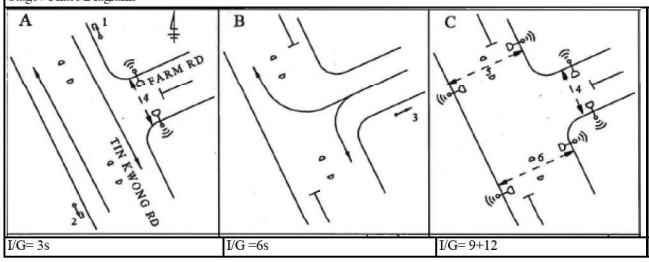
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
εy	0.430
L (sec)	28
C (sec)	130
y pract.	0.706
R.C. (%)	64%

P.M. Check Phase	
εy	0.282
L (sec)	28
C (sec)	118
y pract.	0.686
R.C. (%)	143%

Stage / Phase Diagrams



I/G= 3s | I/G =6s | I/G= 9+12

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(N) Ma Tau Chung Road / Sung Wong Toi Road / Fu Ning Street**

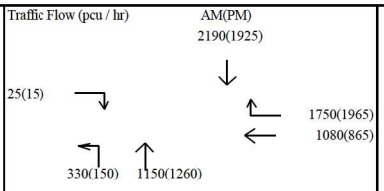
Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fu Ning Street	E	↘	9	D	3.4	0	20	1	100%	100%	1	1955	1955	1820	1820	1820	1820	25	0.014	0.014	15	0.008	0.008
Ma Tau Chung Road	N	↰↑	1	A	3.4	15	0	1	74%	34%	1	1955	6155	1820	0	6020	6090	448	0.246		438	0.232	
Ma Tau Chung Road	N	↑	1	A	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	517	0.246		487	0.232	
Ma Tau Chung Road	N	↑	1	A	3.4	0	0	0	0%	0%	1	2095	0	2095	0	0	0	515	0.246		485	0.232	
Sung Wong Toi Road	W	←	5	B	2.8	0	0	1	0%	0%	1	1895	4010	1895	0	4010	4010	510	0.269		409	0.216	
Sung Wong Toi Road	W	←	5	B	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	570	0.269		456	0.216	
Sung Wong Toi Road	W	↰	4	B,C	3.0	0	30	0	100%	100%	1	2055	6255	1955	1955	5890	5890	581	0.297	0.297	652	0.334	0.334
Sung Wong Toi Road	W	↰	4	B,C	3.4	0	25	0	100%	100%	1	2095	0	1975	1975	0	0	587	0.297		659	0.334	
Sung Wong Toi Road	W	↰	4	B,C	3.5	0	20	0	100%	100%	1	2105	0	1960	1960	0	0	582	0.297		654	0.334	
Ma Tau Chung Road	S	↓	2	A	3.5	0	0	1	0%	0%	1	1965	6195	1965	0	6195	6195	695	0.354	0.354	611	0.311	0.311
Ma Tau Chung Road	S	↓	2	A	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	748	0.354		657	0.311	
Ma Tau Chung Road	S	↓	2	A	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	748	0.354		657	0.311	

Pedestrian Crossing	3p	A,D,E	Min. Green Time = 10 Gm + 11 Fm = 21s
	6p	B,C	Min. Green Time = 16 Gm + 9 Fm = 25s
	7p	A,B,C	Min. Green Time = 12 Gm + 6 Fm = 18s
	8p	C,D	Min. Green Time = 20 Gm + 8 Fm = 28s
	10p	A,D,E	Min. Green Time = 8 Gm + 16 Fm = 24s

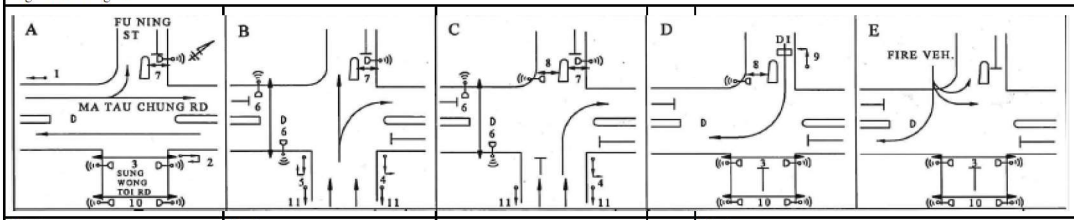
Notes:

Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase		P.M. Check Phase	
εy	0.664	εy	0.653
L (sec)	17	L (sec)	17
C (sec)	130	C (sec)	118
y pract.	0.782	y pract.	0.770
R.C. (%)	18%	R.C. (%)	18%

Stage / Phase Diagrams



I/G=6s I/G=7s I/G=7s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

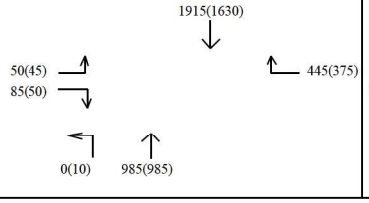
Junction: **(O) Ma Tau Chung Road / Ma Tau Kok Road**

Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Ma Tau Kok Road	E		4	C	3.3	15	25	1	78% / 22%	100% / 0%	1	1945	4040	1785	1770	3735	3720	64	0.036	0.036	45	0.026	0.026
Ma Tau Kok Road	E		4	C	3.4	0	20	0	100%	100%	1	2095	0	1950	1950	0	0	71	0.036		50	0.026	
Ma Tau Chung Road*	N		1	A	3.5	15	0	1	0%	5%	0.5	982.5	5162.5	985	975	5165	5155	187	0.190		189	0.193	
Ma Tau Chung Road	N		1	A	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	400	0.191		404	0.193	
Ma Tau Chung Road	N		1	A	3.3	0	0	0	0%	0%	1	2085	0	2085	2085	0	0	398	0.191		402	0.193	
Ma Tau Kok Road	W		3	B	4.5	0	25	0	100%	100%	1	2205	0	2080	2080	0	0	231	0.111	0.111	195	0.094	0.094
Ma Tau Kok Road	W		3	B	4.5	0	20	1	100%	100%	1	2065	4270	1920	1920	4000	4000	214	0.111		180	0.094	
Ma Tau Chung Road	S		2	A	3.6	0	0	1	0%	0%	0.5	987.5	5207.5	987.5	987.5	5207.5	5207.5	363	0.368	0.368	309	0.313	0.313
Ma Tau Chung Road	S		2	A	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	770	0.368		656	0.313	
Ma Tau Chung Road	S		2	A	3.7	0	0	0	0%	0%	1	2125	0	2125	2125	0	0	781	0.368		665	0.313	
Pedestrian Crossing			5p	B		Min. Green Time = 14 Gm + 11 Fm = 25s																	
			6p	B		Min. Green Time = 20 Gm + 12 Fm = 32s																	
			7p	C,A		Min. Green Time = 7 Gm + 9 Fm = 16s																	

Notes:
*Only franchsied buses are allowed to left turn

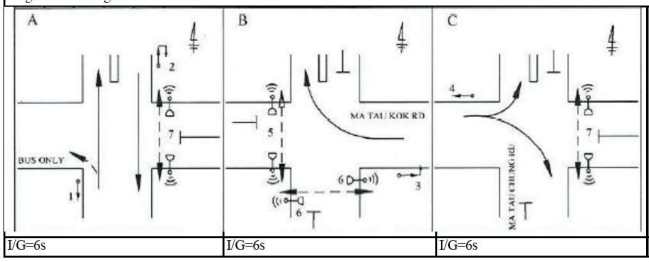
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
ey	0.515
L (sec)	15
C (sec)	130
y pract.	0.796
R.C. (%)	55%

P.M. Check Phase	
ey	0.432
L (sec)	15
C (sec)	118
y pract.	0.786
R.C. (%)	82%

Stage / Phase Diagrams



I/G=6s I/G=6s I/G=6s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

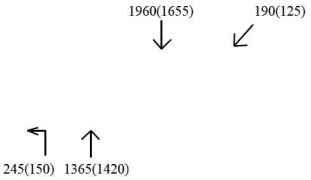
Junction: **(P) Ma Tau Wai Road / Farm Road / Tam Kung Road**

Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ma Tau Wai Road	N	↰↑	2	A	3.6	15	0	0	47%	29%	1	2115	6375	2020	0	6280	6315	518	0.256		511	0.249	
Ma Tau Wai Road	N	↑	2	A	3.4	0	0	0	0%	0%	1	2095	0	2095	0	0	0	537	0.256		521	0.249	
Ma Tau Wai Road	N	↑	2	A	4.1	0	0	0	0%	0%	1	2165	0	2165	0	0	0	555	0.256		538	0.249	
Tam Kung Road	S	↓	3	B	3.5	0	0	1	0%	0%	0.5	982.5	3087.5	982.5	0	3087.5	3087.5	60	0.062	0.062	40	0.040	0.040
Tam Kung Road	S	↓	3	B	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	130	0.062		85	0.040	
Ma Tau Wai Road	S	↓	1	A	3.6	0	0	1	0%	0%	1	1975	6215	1975	0	6215	6215	623	0.315	0.315	526	0.266	0.266
Ma Tau Wai Road	S	↓	1	A	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	667	0.315		563	0.266	
Ma Tau Wai Road	S	↓	1	A	3.7	0	0	0	0%	0%	1	2125	0	2125	0	0	0	670	0.315		566	0.266	
Pedestrian Crossing			4p	B,C	Min. Green Time = 12 Gm + 8 Fm = 20s																		
			5p	C	Min. Green Time = 15 Gm + 11 Fm = 26s																		
			6p	A,B	Min. Green Time = 8 Gm + 6 Fm = 14s																		

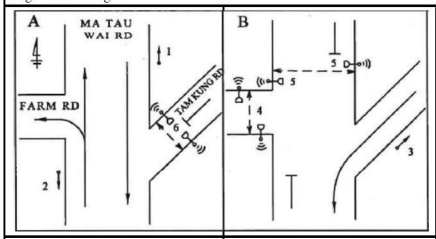
Notes:

Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase		P.M. Check Phase	
εy	0.377	εy	0.307
L (sec)	9	L (sec)	9
C (sec)	130	C (sec)	120
y pract.	0.838	y pract.	0.833
R.C. (%)	122%	R.C. (%)	171%

Stage / Phase Diagrams



I/G=5s I/G=6s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

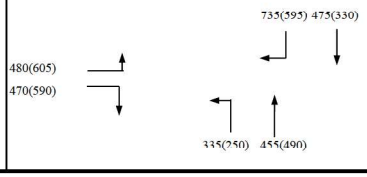
Junction: **(Q) Shing kai Road/ Sung Wong Toi Road**

Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Sung Wong Toi Road	E		2	A	3.7	20.0	0	1	100%	100%	1	1985	6235	1845	1845	5870	5870	299	0.162		376	0.204	
Sung Wong Toi Road	E		2	A	3.7	23.0	31	0	56% / 44%	56% / 44%	1	2125	0	2010	2010	0	0	325	0.162	0.162	409	0.204	0.204
Sung Wong Toi Road	E		2	A	3.7	0.0	28	0	100%	100%	1	2125	0	2015	2015	0	0	326	0.162		410	0.204	
Shing kai Road	N		3	C	3.3	16.0	0	1	92%	72%	1	1945	4030	1790	1820	3875	3905	365	0.204	0.204	345	0.190	0.190
Shing kai Road	N		3	C	3.3	0.0	0	0	0%	0%	1	2085	0	2085	2085	0	0	425	0.204		395	0.189	
Shing kai Road	S		1	B	3.8	0.0	0	1	0%	0%	1	1995	6265	1995	1995	6145	6140	393	0.197	0.197	301	0.151	0.151
Shing kai Road	S		1	B	3.8	0.0	50	0	80%	91%	1	2135	0	2085	2080	0	0	411	0.197		313	0.151	
Shing kai Road	S		1	B	3.8	0.0	45	0	100%	100%	1	2135	0	2065	2065	0	0	407	0.197		311	0.151	
Pedestrian crossing		<---->	4p	C	Min. Crossing Time = 35Gm + 7FGm =42s																		
			5p	A,C	Min. Crossing Time = 72Gm + 10FGm =82s																		
			6p	B	Min. Crossing Time = 7Gm + 12FGm =15s																		
			7p	B,C	Min. Crossing Time = 55Gm + 18FGm =73s																		
			8p	A	Min. Crossing Time = 17Gm + 7FGm =24s																		
			9p	A,B	Min. Crossing Time = 50Gm + 6FGm =56s																		

Notes:

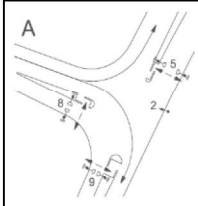
Traffic Flow (pcu / hr) AM(PM) Peak



AM Peak Check Phase	
εy	0.563
L (sec)	12
C (sec)	110
y pract.	0.802
R.C. (%)	42%

PM Peak Check Phase	
εy	0.544
L (sec)	12
C (sec)	110
y pract.	0.802
R.C. (%)	47%

Stage / Phase Diagrams



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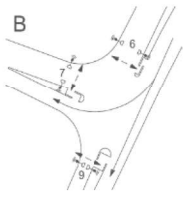

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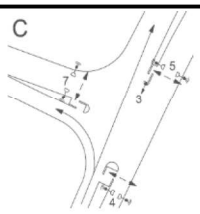


I/G = 5

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(R) Mok Cheong Street / To Kwa Wan Road**
Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Mok Cheong Street	E		2	B	3.5	27.5	18	1	75% / 25%	78% / 22%	1	1965	4070	1850	1850	3680	3680	292	0.158	0.158	274	0.148	0.148
Mok Cheong Street	E		2	B	3.5	0.0	10	0	100%	100%	1	2105	0	1830	1830	0	0	288	0.158		271	0.148	
To Kwa Wan Road	N		1	A	3.5	0.0	0	1	0%	0%	1	1965	4120	1965	1965	4120	4120	267	0.136		255	0.130	0.232
To Kwa Wan Road	N		1	A	4.0	0.0	0	0	0%	0%	1	2155	0	2155	2155	0	0	293	0.136		280	0.130	
To Kwa Wan Road	S		1	A	3.0	0.0	0	1	0%	0%	1	1915	3970	1915	1915	3970	3970	456	0.238	0.238	444	0.232	
To Kwa Wan Road	S		1	A	3.0	0.0	0	0	0%	0%	1	2055	0	2055	2055	0	0	489	0.238		476	0.232	
Pedestrian crossing		<---->	3p	A	Min. Crossing Time = 29Gm + 11FGm =40s																		

Notes:

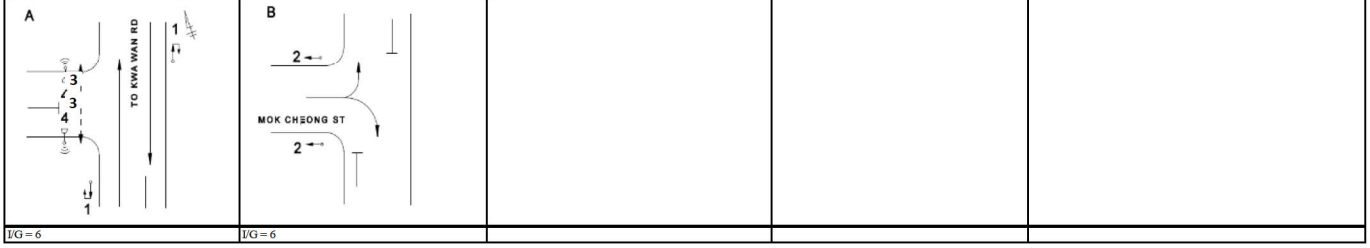
Traffic Flow (pcu / hr) AM(PM) Peak

945(920)
220(215)
360(330)
560(535)

AM Peak Check Phase	
εy	0.396
L (sec)	10
C (sec)	108
y pract.	0.817
R.C. (%)	106%

PM Peak Check Phase	
εy	0.380
L (sec)	10
C (sec)	90
y pract.	0.800
R.C. (%)	111%

Stage / Phase Diagrams



I/G = 6 I/G = 6

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

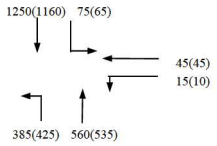
Junction: **(S) Ma Tau Kok Road / To Kwa Wan Road**

Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
To Kwa Wan Road	N		1	A	3.5	15.0	0	1	100%	100%	1	1965	6175	1785	1785	5945	5930	284	0.159		289	0.162	
To Kwa Wan Road	N		1	A	3.5	20.0	0	0	31%	41%	1	2105	0	2055	2040	0	0	327	0.159		330	0.162	
To Kwa Wan Road	N		1	A	3.5	0.0	0	0	0%	0%	1	2105	0	2105	2105	0	0	334	0.159		341	0.162	
Ma Tau Kok Road	W		4	C	5.0	0.0	0	0	0%	0%	1	2255	2255	2255	2255	2255	2255	45	0.020	0.020	45	0.020	0.020
Ma Tau Kok Road	W		4	C	4.8	16.0	0	1	100%	100%	0.5	1047.5	1047.5	960	960	960	960	15	0.016		10	0.010	
To Kwa Wan Road	S		2,3	A,B	3.5	25.0	0	1	12%	11%	1	1965	4070	1950	1950	4055	4055	637	0.327	0.327	589	0.302	0.302
To Kwa Wan Road	S		2,3	A,B	3.5	0.0	0	0	0%	0%	1	2105	0	2105	2105	0	0	688	0.327		636	0.302	
Pedestrian crossing			5p	A,B	Min. Crossing Time = 5Gm + 8FGm =11s																		
			6p	B	Min. Crossing Time = 5Gm + 8FGm =11s																		
			7p	C	Min. Crossing Time = 8Gm + 8FGm =16s																		
			8p	C	Min. Crossing Time = 5Gm + 8FGm =11s																		

Notes:

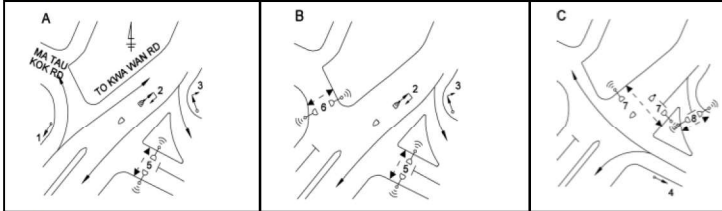
Traffic Flow (pcu / hr) AM(PM) Peak



AM Peak Check Phase	
εy	0.347
L (sec)	8
C (sec)	108
y pract.	0.833
R.C. (%)	140%

PM Peak Check Phase	
εy	0.322
L (sec)	8
C (sec)	90
y pract.	0.820
R.C. (%)	154%

Stage / Phase Diagrams



I/G = 5 I/G = 5

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

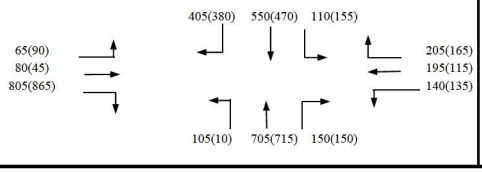
Junction: **(T) San Shan Road / To Kwa Wan Road**

Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
San Shan Road	E		2	B	3.0	17.5	0	1	32%	49%	1	1915	6005	1865	1840	5835	5810	340	0.182		318	0.173	
San Shan Road	E		2	B	3.0	0.0	32	0	14%	13%	1	2055	0	2040	2040	0	0	373	0.183	0.183	353	0.173	0.173
San Shan Road	E		2	B	2.8	0.0	27	0	100%	100%	1	2035	0	1930	1930	0	0	352	0.183		334	0.173	
To Kwa Wan Road	N		3	C	3.5	15.0	0	1	42%	4%	1	1965	8280	1885	1885	8080	8080	251	0.133		230	0.122	
To Kwa Wan Road	N		3	C	3.5	0.0	0	0	0%	0%	1	2105	0	2105	2105	0	0	215	0.102		181	0.086	
To Kwa Wan Road	N		3	C	3.5	0.0	0	0	0%	0%	1	2105	0	2105	2105	0	0	215	0.102		181	0.086	
To Kwa Wan Road	N		3	C	3.5	0.0	25	0	54%	53%	1	2105	0	1985	1985	0	0	279	0.141	0.141	282	0.142	0.142
San Ma Tau Street	W		4	D	3.5	0.0	31	0	100%	100%	1	2105	0	2010	2010	0	0	196	0.097		149	0.074	
San Ma Tau Street	W		4	D	3.5	16.0	33	0	0% / 5%	15% / 10%	1	2105	0	2100	2065	0	0	204	0.097	0.097	153	0.074	0.074
San Ma Tau Street	W		4	D	3.2	10.0	0	1	100%	100%	0.9	1741.5	5951.5	1515	1515	5625	5590	140	0.092		112	0.074	
To Kwa Wan Road	S		1	A	3.2	25.0	0	1	53%	80%	1	1935	6045	1875	1845	5985	5955	207	0.110		194	0.105	
To Kwa Wan Road	S		1	A	3.0	0.0	0	0	0%	0%	1	2055	0	2055	2055	0	0	227	0.110		216	0.105	
To Kwa Wan Road	S		1	A	3.0	0.0	0	0	0%	0%	1	2055	0	2055	2055	0	0	227	0.110		216	0.105	
To Kwa Wan Road	S		1	A	2.8	0.0	30	0	100%	100%	1	2035	2035	1940	1940	1940	1940	405	0.209	0.209	380	0.196	0.196
Pedestrian crossing			5p	A		Min. Crossing Time = 8Gm + 8FGm =16s																	
			6p	B,C,D		Min. Crossing Time = 8Gm + 10FGm =18s																	
			7p	D		Min. Crossing Time = 5Gm + 7FGm =12s																	
			8p	A,B,C		Min. Crossing Time = 5Gm + 10FGm =15s																	

Notes:

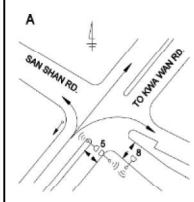
Traffic Flow (pcu / hr) AM(PM) Peak



AM Peak Check Phase	
εy	0.629
L (sec)	22
C (sec)	130
y pract.	0.748
R.C. (%)	19%

PM Peak Check Phase	
εy	0.586
L (sec)	22
C (sec)	130
y pract.	0.748
R.C. (%)	28%

Stage / Phase Diagrams



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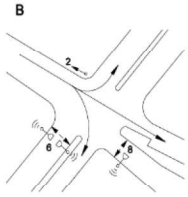

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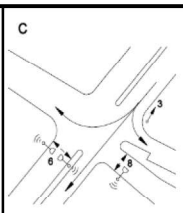

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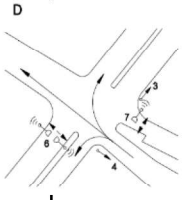


I/G =6

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(U) To Kwa Wan Road / Sheung Heung Road / Kwei Chow Street**

Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Sheung Heung Road	E	↱	2	B	3.1	15	0	1	100%	100%	1	1925	3990	1750	0	3670	3670	141	0.080	0.080	124	0.071	0.071
Sheung Heung Road	E	↑	2	B	3.1	20	0	0	100%	100%	1	2065	0	1920	0	0	0	154	0.080		136	0.071	
Sheung Heung Road	E	↴	2	B	3.2	0	25	0	100%	100%	1	2075	4160	1960	0	3900	3900	141	0.072		73	0.037	
Sheung Heung Road	E	↴	2	B	3.3	0	20	0	100%	100%	1	2085	0	1940	0	0	0	139	0.072		72	0.037	
To Kwa Wan Road	N	↑	1	A	3.5	0	0	1	0%	0%	0.5	982.5	5142.5	982.5	0	5142.5	5142.5	74	0.075		69	0.070	
To Kwa Wan Road	N	↑	1	A	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	158	0.075		148	0.070	
To Kwa Wan Road	N	↑	1	A	2.9	0	0	0	0%	0%	1	2045	0	2045	0	0	0	153	0.075	0.158	143	0.070	
Kwei Chow Street	W	↰	3	C	3.0	0	20	0	100%	100%	1	2055	0	1940	0	0	0	123	0.063	0.063	115	0.059	0.059
Kwei Chow Street	W	↰	3	C	3.0	0	25	0	100%	100%	1	2055	0	1940	0	0	0	123	0.063		115	0.059	
Kwei Chow Street	W	↕	3	C	3.0	20	30	0	0% / 100%	0% / 100%	1	2055	0	1955	0	0	0	124	0.063		116	0.059	
Kwei Chow Street	W	↓	3	C	3.4	15	0	1	100%	100%	1	1955	6065	1775	0	7610	7610	60	0.034		60	0.034	
To Kwa Wan Road	S	↓	1	A	3.0	0	0	1	0%	0%	0.5	957.5	5177.5	957.5	0	5177.5	5177.5	152	0.158		119	0.125	0.125
To Kwa Wan Road	S	↓	1	A	3.8	0	0	0	0%	0%	1	2135	0	2135	0	0	0	338	0.158		266	0.125	
To Kwa Wan Road	S	↓	1	A	3.3	0	0	0	0%	0%	1	2085	0	2085	0	0	0	330	0.158		260	0.125	
Pedestrian Crossing			4	A,B	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			5	C,A	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			6	B	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			7	C	Min. Green Time = 05 Gm + 08 Fm = 13s																		

Notes:

Traffic Flow (pcu / hr) AM(PM)

820(645)

370(345)

60(60)

295(260)

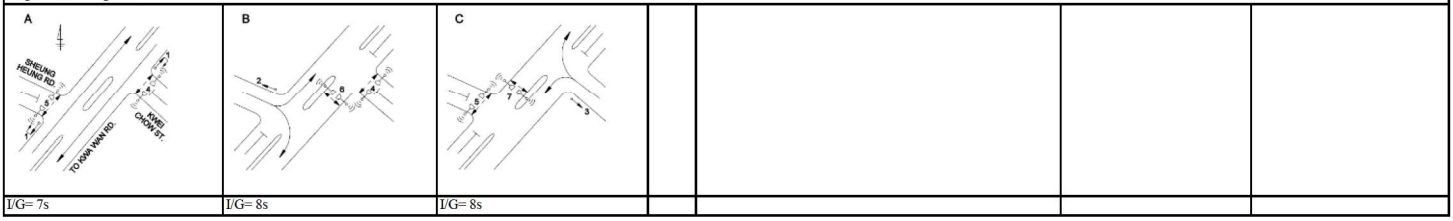
280(145)

385(360)

A.M. Check Phase	
εy	0.302
L (sec)	20
C (sec)	108
y pract.	0.733
R.C. (%)	143%

P.M. Check Phase	
εy	0.255
L (sec)	20
C (sec)	108
y pract.	0.733
R.C. (%)	188%

Stage / Phase Diagrams



I/G= 7s I/G= 8s I/G= 8s

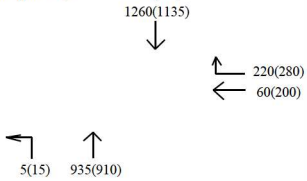
TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(V) Chatham Road North / San Lau Street**
Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Chatham Road North	N		1	A	4.0	15	0	1	1%	3%	1	2015	4170	2015	2010	4170	4165	454	0.225		446	0.222	
Chatham Road North	N		1	A	4.0	0	0	0	0%	0%	1	2155	0	2155	0	0	0	486	0.226		479	0.222	
San Lau Street	W		3	B	2.7	0	20	0	100%	100%	1	2025	0	1885	0	0	0	107	0.057	0.057	153	0.081	0.081
San Lau Street	W		3	B	3.5	0	25	0	100%	78%	1	2105	0	1985	0	0	0	113	0.057		163	0.081	
San Lau Street	W		3	B	4.2	0	0	1	0%	0%	1	2035	6165	2035	0	5905	5930	60	0.029		165	0.081	
Chatham Road North	S		2	A	4.7	0	0	1	0%	0%	1	2085	4260	2085	0	4260	4260	617	0.296	0.296	556	0.266	0.266
Chatham Road North	S		2	A	4.2	0	0	0	0%	0%	1	2175	0	2175	0	0	0	643	0.296		579	0.266	
Pedestrian Crossing			4	A	Min. Green Time = 12 Gm + 10 Fm = 22s																		
			5	B	Min. Green Time = 06 Gm + 08 Fm = 14s																		

Notes:

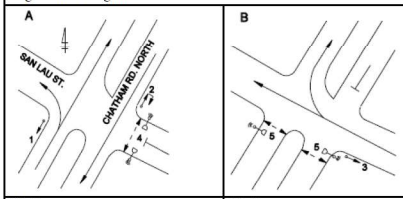
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
ey	0.353
L (sec)	10
C (sec)	90
y pract.	0.800
R.C. (%)	127%

P.M. Check Phase	
ey	0.347
L (sec)	10
C (sec)	108
y pract.	0.817
R.C. (%)	135%

Stage / Phase Diagrams



I/G=7s I/G=5s

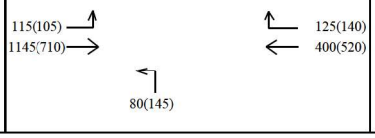
TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(W) Fat Kwong Street / Shun Yung Street / Yan Fung Street**
Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fat Kwong Street	E		2	A	3.1	15	0	1	100%	100%	1	1925	1925	1750	1750	1750	1750	115	0.066		105	0.060	0.171
Fat Kwong Street	E		2	A	3.2	0	0	0	0%	0%	1	2075	4160	2075	2075	4160	4160	571	0.275		354	0.171	
Fat Kwong Street	E		2	A	3.3	0	0	0	0%	0%	1	2085	0	2085	2085	0	0	574	0.275	0.275	356	0.171	
Yan Fung Street	N		3	A	4.2	15	0	1	100%	100%	1	2035	2035	1850	1850	1850	1850	80	0.043		145	0.078	
Fat Kwong Street	W		1	B	3.1	0	20	0	72%	64%	1	2065	0	1960	1970	0	0	174	0.089	0.089	219	0.111	0.111
Fat Kwong Street	W		1	B	3.0	0	0	0	0%	0%	1	2055	0	2055	0	0	0	182	0.089		229	0.111	
Fat Kwong Street	W		1	B	2.9	0	0	1	0%	0%	1	1905	6025	1905	1905	5920	5930	169	0.089		212	0.111	
Shun Yung Street	S		4	C	3.2	15	0	1	100%	100%	1	1935	4000	1760	1760	3680	3680	249	0.141		349	0.198	
Shun Yung Street	S		4	C	3.1	20	20	0	65% / 35%	24% / 76%	1	2065	0	1920	1920	0	0	271	0.141	0.141	381	0.198	0.198
Pedestrian Crossing			5	B,C	Min. Green Time = 05 Gm + 07 Fm = 12s																		
			6	A,B	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			7	B	Min. Green Time = 06 Gm + 11 Fm = 17s																		
			8	C	Min. Green Time = 05 Gm + 05 Fm = 10s																		
			9	C,A	Min. Green Time = 05 Gm + 08 Fm = 13s																		

Notes:

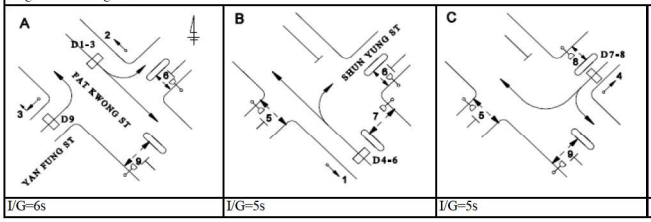
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
ey	0.505
L (sec)	13
C (sec)	108
y pract.	0.792
R.C. (%)	57%

P.M. Check Phase	
ey	0.480
L (sec)	13
C (sec)	108
y pract.	0.792
R.C. (%)	65%

Stage / Phase Diagrams



I/G=6s I/G=5s I/G=5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

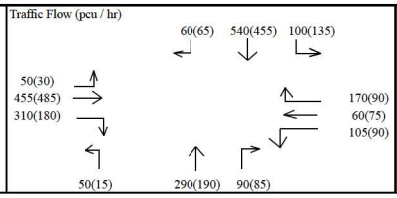
Junction: **(X) Hung Hom Road/ Fat Kwong Street Flyover/ Tai Wan Road East**

Description: **2036 Reference Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fat Kwong Street Flyover	E		3	A	3.5	10	0	1	10%	6%	1	1965	1965	1935	1950	1935	1950	505	0.261	0.261	515	0.264	0.264
	E		3	A	3.3	0	19	0	100%	100%	1	2085	2085	1930	1930	1930	1930	275	0.142		210	0.109	
Hung Hom Road	N		1	B	3.4	8	0	1	100%	100%	1	1955	1955	1630	1630	1630	1630	50	0.031		15	0.009	
	N		1	B	3.4	0	0	0	0%	0%	1	1955	4050	1955	1955	4050	4050	229	0.117		196	0.100	
	N		1	B	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	246	0.117	0.117	210	0.100	
	N		1	B	3.7	0	15	0	100%	100%	1	2125	2125	1930	1930	1930	1930	90	0.047		85	0.044	0.100
Tai Wan Road East	W		4	C	4.0	0	12.5	0	74%	55%	1	2155	2155	1980	2025	1980	2025	230	0.116	0.116	165	0.081	0.081
	W		4	C	3.5	13	0	1	100%	100%	1	1965	1965	1755	1755	1755	1755	105	0.060		90	0.051	
Hung Hom Road	S		2	D	3.5	15	0	1	30%	43%	1	1965	4070	1910	1885	3980	3950	336	0.176	0.176	312	0.166	0.166
	S		2	D	3.5	0	15	0	16%	19%	1	2105	0	2070	2065	0	0	364	0.176		343	0.166	
Pedestrian crossing			5P	A,B,D	Min. Crossing Time = 6GM + 7FGM = 13s															*			*
			6P	C	Min. Crossing Time = 5GM + 6FGM = 11s																		
			7P	A,B,C	Min. Crossing Time = 5GM + 7FGM = 12s																		
			8P	D	Min. Crossing Time = 5GM + 9FGM = 14s																		
			9P	B,C,D	Min. Crossing Time = 5GM + 7FGM = 12s																		
			10P	A	Min. Crossing Time = 5GM + 9FGM = 14s																		

Notes:

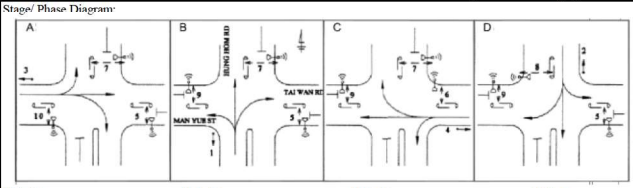
Traffic Flow (pcu / hr)



A.M. Check Phase	
Σy	0.670
L (sec)	18
C (sec)	130
y pract.	0.775
R.C. (%)	16%

P.M. Check Phase	
Σy	0.611
L (sec)	18
C (sec)	130
y pract.	0.775
R.C. (%)	27%

Stage/ Phase Diagram:



I/G= 5s I/G=7s I/G=5s I/G=5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

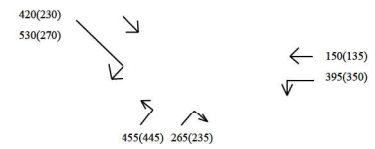
Junction: **(A) Tin Kwong Road / Sheung Shing Street**

Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tin Kwong Road	SE	↘	2,3	A,B	3.7	0	0	1	0%	0%	1	1985	1985	1985	1985	1985	1985	395	0.199		350	0.176	
	SE	↘	3	B	3.5	0	10	0	100%	100%	1	2105	2105	1830	1830	1830	1830	150	0.082	0.082	135	0.074	0.074
Sheung Shing Street	NE	↖↘	4	C	3.2	10	18	1	)4% / 6%)7% / 3%		1	1935	4010	1690	1685	3575	3570	449	0.266	0.266	236	0.140	0.140
	NE	↗	4	C	3.2	0	15	0	100%	100%	1	2075	0	1885	1885	0	0	501	0.266		264	0.140	
Tin Kwong Road	W	↙	1	A	3.4	10	0	1	100%	100%	1	1955	1955	1700	1700	1700	1700	265	0.156	0.217	235	0.138	0.212
	W	←	1	A	3.4	0	0	0	0%	0%	1	2095	2095	2095	2095	2095	2095	455	0.217		445	0.212	
Pedestrian crossing		↕	5p	B		Min. Crossing Time = 10GM + 5FGM = 15s																	
		↕	6p	C		Min. Crossing Time = 6GM + 6FGM = 12s																	
		↔	7p	C		Min. Crossing Time = 11GM + 5FGM = 16s																	
		↔	8p	A,B		Min. Crossing Time = 6GM + 6FGM = 12s																	

Notes:

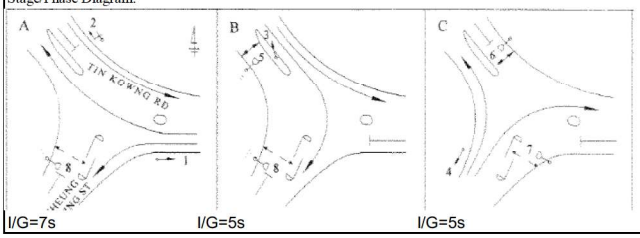
Traffic Flow (pcu / hr)



A.M. Check Phase	
εy	0.565
L (sec)	14
C (sec)	130
y pract.	0.803
R.C. (%)	42%

P.M. Check Phase	
εy	0.426
L (sec)	14
C (sec)	118
y pract.	0.793
R.C. (%)	86%

Stage/Phase Diagram:



I/G=7s I/G=5s I/G=5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

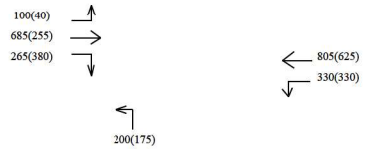
Junction: **(B) Tin Kwong Road / Kau Pui Lung Road**

Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tin Kwong Road	E		1	A,B,C	2.8	8	0	1	13%	14%	0.8	1516	1516	1480	1475	1480	1475	785	0.530		295	0.200	
	E		2	B	2.8	0	12.5	0	100%	100%	1	2035	2035	1815	1815	1815	1815	265	0.146	0.146	380	0.209	0.209
Kau Pui Lung Road	N		3	C	4.6	25	0	1	100%	100%	0.7	1452.5	1453	1370	1370	1370	1370	200	0.146		175	0.128	
Tin Kwong Road	W		5	A	3.0	0	0	0	0%	0%	1	2055	2055	2055	2055	2055	2055	805	0.392	0.392	625	0.304	0.304
	W		4	C	3.0	5	0	1	100%	100%	1	1915	1915	1475	1475	1475	1475	330	0.224	0.224	330	0.224	0.224
Pedestrian crossing			6p	A		Min. Crossing Time = 8GM + 8FGM = 16s																	

Notes:

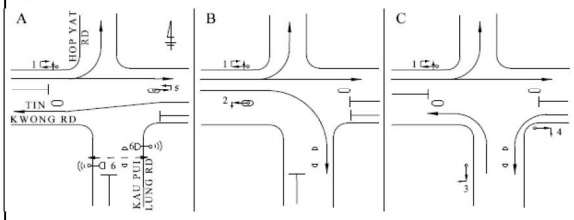
Traffic Flow (pcu / hr)



A.M. Check Phase	
εy	0.761
L (sec)	16
C (sec)	130
y pract.	0.789
R.C. (%)	**4%**

P.M. Check Phase	
εy	0.737
L (sec)	16
C (sec)	118
y pract.	0.778
R.C. (%)	**6%**

Stage/Phase Diagram:



I/G=5s I/G=6s I/G=8s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

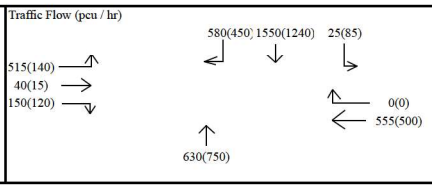
Junction: **(C) Tin Kwong Road / Ma Tau Wai Road / Ma Hang Chung Road**

Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tin Kwong Road	E		2	B,C	2.9	10	0	1	100%	100%	1	1905	1905	1655	1655	1655	1655	515	0.311		140	0.085	
	E		2	C	2.9	0	15	0	79%	89%	1	2045	2045	1895	1880	1895	1880	190	0.100	0.100	135	0.072	0.072
Ma Tau Wai Road	N		5	A	3.4	0	0	1	0%	0%	1	1955	6105	1955	1955	6105	6105	202	0.103	0.103	240	0.123	0.123
	N		5	A	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	216	0.103		257	0.123	
	N		5	A	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	212	0.103		252	0.123	
Ma Hang Chung Road	W		6	D	3.7	0	15	0	100%	100%	1	2125	2125	1930	1930	1930	1930	0	0.000		0	0.000	
	W		6	D	3.7	0	0	1	0%	0%	1	1985	1985	1985	1985	1985	1985	555	0.280	0.280	500	0.252	0.252
Ma Tau Wai Road	S		3	A,B	3.0	8	0	1	5%	21%	1	1915	6025	1895	1840	6005	5950	497	0.262		410	0.223	
	S		3	A,B	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	539	0.262		458	0.223	
	S		3	A,B	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	539	0.262		458	0.223	
	S		3	B	3.0	0	15	0	100%	100%	1	2055	2055	1870	1870	1870	1870	580	0.310	0.310	450	0.241	0.241
Pedestrian crossing			7p			Min. Crossing Time = 14GM + 13FGM = 27s																	
			8p			Min. Crossing Time = 6GM + 12FGM = 18s																	
			9p			Min. Crossing Time = 5M + 9FGM = 14s																	
			10p			Min. Crossing Time = 13GM + 10FGM = 23s																	
			11p			Min. Crossing Time = 19GM + 7FGM = 26s																	

Notes:

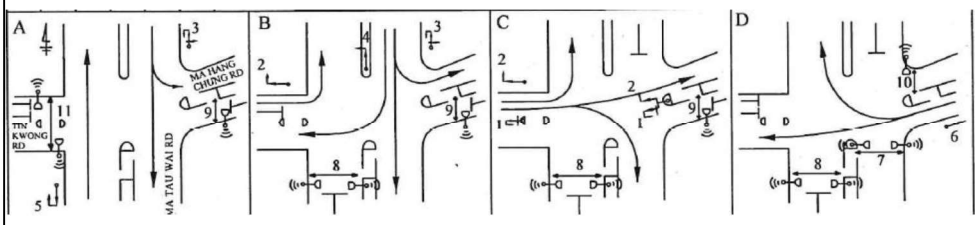
Traffic Flow (pcu / hr)



A.M. Check Phase	
εy	0.793
L (sec)	24
C (sec)	130
y pract.	0.734
R.C. (%)	**-7%**

P.M. Check Phase	
εy	0.687
L (sec)	24
C (sec)	120
y pract.	0.720
R.C. (%)	**5%**

Stage/Phase Diagram:



I/G=12s I/G=6s I/G=5s I/G=5s

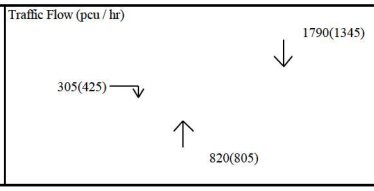
TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(E) Ma Tau Wai Road / Lok Shan Road**
Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Lok Shan Road	E	↘	3	B	3.5	0	15	1	100%	100%	1	1965	1965	1785	1785	1785	1785	305	0.171	0.171	425	0.238	0.238
Ma Tau Wai Road	N	↑	1	A	3.5	0	0	1	0%	0%	1	1965	6175	1965	1965	6175	6175	261	0.133		256	0.130	
	N	↑	1	A	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	280	0.133		274	0.130	
	N	↑	1	A	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	280	0.133		274	0.130	
											#N/A												
Ma Tau Wai Road	S	↓	2	A	3.5	0	0	1	0%	0%	1	1965	6175	1965	1965	6175	6175	570	0.290	0.290	428	0.218	0.218
	S	↓	2	A	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	610	0.290		458	0.218	
	S	↓	2	A	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	610	0.290		458	0.218	
Pedestrian crossing		↔	4p	B		Min. Crossing Time = 9GM + 10FGM = 19s																	
		↕	5p	A		Min. Crossing Time = 6GM + 4FGM = 9s																	

Notes:

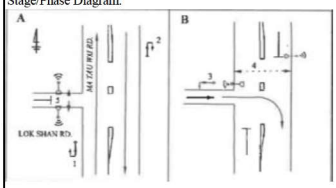
Traffic Flow (pcu / hr)



A.M. Check Phase	
ey	0.461
L (sec)	9
C (sec)	130
y pract.	0.838
R.C. (%)	**82%**

P.M. Check Phase	
ey	0.456
L (sec)	9
C (sec)	120
y pract.	0.833
R.C. (%)	**83%**

Stage/Phase Diagram:



I/G=6s I/G=5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(G) Ma Tau Wai Road / Chi Kiang Street**

Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Ma Tau Wai Road	N	↑	1	A,B	3.5	0	0	1	0%	0%	1	1825	3930	1825	1825	3930	3930	309	0.169		344	0.188	
	N	↑	1	A,B	3.5	0	0	0	0%	0%	1	2105	0	2105	2105	0	0	356	0.169		396	0.188	
	N	↱	2	A	5.4	0	20	0	100%	100%	1	2295	4590	2135	2135	4220	4220	387	0.181	0.181	306	0.143	0.143
	N	↱	2	A	5.4	0	15	0	100%	100%	1	2295	0	2085	2085	0	0	378	0.181		299	0.143	
Ma Tau Wai Road	S	↳	3	C	3.3	18	0	1	100%	100%	1	1945	6115	1790	1790	5960	5960	631	0.352	0.352	515	0.288	0.288
	S	↓	3	C	3.3	20	0	0	0%	0%	1	2085	0	2085	2085	0	0	729	0.350		628	0.301	
	S	↓	3	C	3.3	0	0	0	0%	0%	1	2085	0	2085	2085	0	0	735	0.352		628	0.301	

Pedestrian crossing	4p	A,B	Min. Crossing Time = 6GM + 11FGM = 17s
	5p	B	Min. Crossing Time = 5GM + 13FGM = 18s
	6p	C	Min. Crossing Time = 5GM + 8FGM = 13s

Notes:

Traffic Flow (pcu / hr)

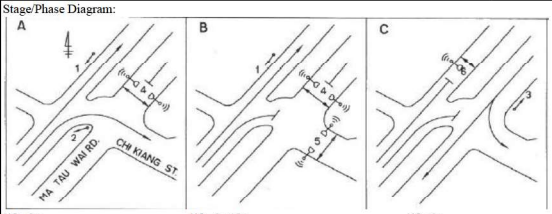
1390(1255) 705(515)

665(740) 765(605)

A.M. Check Phase	
εy	0.534
L (sec)	34
C (sec)	130
y pract.	0.665
R.C. (%)	**25%**

P.M. Check Phase	
εy	0.431
L (sec)	30
C (sec)	120
y pract.	0.675
R.C. (%)	**57%**

Stage/Phase Diagram:



I/G=6s I/G=9+18s I/G=3s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(H) Argyle Street / Waterloo Road / Princess Margaret Road**
Description: **2036 Design Flow**

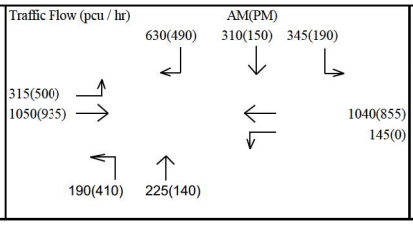
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Argyle Street	E	↗	4	B,C,D	3.7	0	0	0	0%	0%	1	2125	4250	2125	0	4250	4250	158	0.074		250	0.118	
Argyle Street	E	↗	4	B,C,D	3.7	0	0	0	0%	0%	1	2125	0	2125	0	0	0	158	0.074		250	0.118	
Argyle Street	E	→	6	D	3.7	0	0	0	0%	0%	1	2125	4280	2125	0	4280	4280	521	0.245		464	0.218	
Argyle Street	E	→	6	D	4.0	0	0	0	0%	0%	1	2155	0	2155	0	0	0	529	0.245		471	0.218	
Princess Margaret Road	N	↰↑	1	A	3.4	15	0	1	100%	100%	1	1955	4050	1780	1775	3875	3870	190	0.107		410	0.231	
Princess Margaret Road	N	↑	1	A	3.4	0	0	0	0%	0%	1	2095	0	2095	0	0	0	225	0.107		140	0.067	
Princess Margaret Road (Middle)	N	↑	2	A	3.5	0	0	1	0%	0%	1	1965	4070	1965	1965	4070	4070	109	0.055		68	0.034	
Princess Margaret Road (Middle)	N	↑	2	A	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	116	0.055		72	0.034	
Argyle Street	W	←	11	C,D	3.5	0	0	0	0%	0%	1	2105	4180	2105	0	4180	4180	524	0.249	0.249	431	0.205	0.205
Argyle Street	W	←	11	C,D	3.2	0	0	0	0%	0%	1	2075	0	2075	0	0	0	516	0.249		424	0.205	
Argyle Street	W	↙	15	D	3.8	15	0	1	100%	100%	1	1995	1995	1815	1815	1815	1815	145	0.080		0	0.000	
Argyle Street (Middle)	W	←	5	B,C,D	3.5	0	0	1	0%	0%	1	1965	6175	1965	0	6175	6175	531	0.270		428	0.218	
Argyle Street (Middle)	W	←	5	B,C,D	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	569	0.270		458	0.218	
Argyle Street (Middle)	W	←	5	B,C,D	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	569	0.270		458	0.218	
Waterloo Road	S	↳	3	A,B	3.4	15	0	0	100%	100%	1	2095	2095	1905	1905	1905	1905	345	0.181		190	0.100	
Waterloo Road	S	↓	3	A,B	3.5	0	0	0	0%	0%	1	2105	2105	2105	2105	2105	2105	310	0.147	0.181	150	0.071	0.124
Waterloo Road	S	↲	3	A,B	3.5	0	25	0	100%	100%	1	2105	4210	1985	1985	3945	3945	317	0.160		247	0.124	
Waterloo Road	S	↲	3	A,B	3.5	0	20	0	100%	100%	1	2105	0	1960	1960	0	0	313	0.160		243	0.124	

Pedestrian Crossing

7	A	Min. Green Time = 05 Gm + 11 Fm = 16s
8	B,C,D	Min. Green Time = 05 Gm + 07 Fm = 12s
9	B,C,D	Min. Green Time = 05 Gm + 07 Fm = 12s
10	C	Min. Green Time = 05 Gm + 07 Fm = 12s
12	A,B	Min. Green Time = 05 Gm + 09 Fm = 14s
13	C	Min. Green Time = 05 Gm + 07 Fm = 12s
14	C,D	Min. Green Time = 13 Gm + 12 Fm = 25s

Notes:

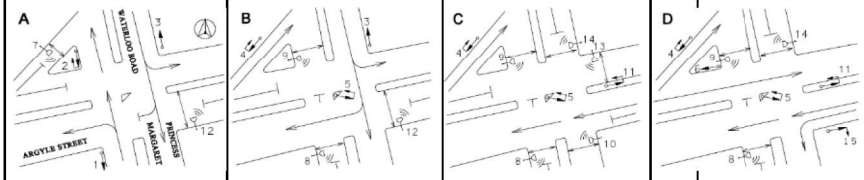
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
εy	0.430
L (sec)	12
C (sec)	130
y pract.	0.817
R.C. (%)	90%

P.M. Check Phase	
εy	0.329
L (sec)	12
C (sec)	120
y pract.	0.810
R.C. (%)	146%

Stage / Phase Diagrams



I/G=6s I/G=8s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(I) Argyle Street / Tin Kwong Road**
Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Argyle Street	E	→	2	A,B	3.0	0	0	1	0%	0%	1	1915	3970	1915	1915	3970	3970	1035	0.540		1025	0.535	
Argyle Street	E	→	2	A,B	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	1110	0.540		1100	0.535	
Argyle Street	E	↘	3	B	3.1	0	25	0	100%	100%	1	2065	4120	1950	1950	3860	3860	189	0.097	0.097	154	0.079	0.079
Argyle Street	E	↘	3	B	3.0	0	20	0	100%	100%	1	2055	0	1910	1910	0	0	186	0.097		151	0.079	
Tin Kwong Road	N	↰	4	B,C	3.0	15	0	1	100%	100%	1	1915	1915	1740	1740	1740	1740	430	0.247		80	0.046	
Tin Kwong Road	N	↱	5	C	2.9	0	20	0	100%	100%	1	2045	2045	1900	1900	1900	1900	255	0.134	0.134	385	0.203	0.203
Argyle Street	W	←	1	A,D	3.2	0	0	0	0%	0%	1	2075	6185	2075	2075	6185	6185	844	0.407	0.407	755	0.364	0.364
Argyle Street	W	←	1	A,D	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	836	0.407		748	0.364	
Argyle Street	W	←	1	A,D	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	836	0.407		748	0.364	
Argyle Street	N	↙	1	A,D	3.2	15	0	1	100%	100%	1	1935	1935	1760	1760	1760	1760	410	0.233		485	0.276	
Pedestrian Crossing			6	A,D	Min. Green Time = 05 Gm + 06 Fm = 11s																		
			7	C	Min. Green Time = 05 Gm + 06 Fm = 11s																		
			8	A,B	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			9	D	Min. Green Time = 05 Gm + 07 Fm = 12s																		

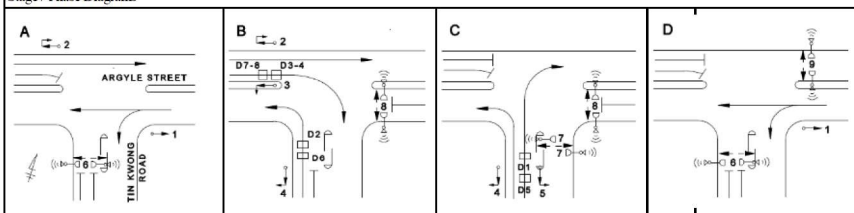
Notes:

Traffic Flow (pcu / hr) AM(PM)

2145(2125) → ← 2515(2250)
375(305) ↘ ↙ 410(485)
430(80) ↰ ↱ 255(385)

A.M. Check Phase		P.M. Check Phase	
εy	0.638	εy	0.645
L (sec)	13	L (sec)	13
C (sec)	130	C (sec)	130
y pract.	0.810	y pract.	0.810
R.C. (%)	27%	R.C. (%)	25%

Stage / Phase Diagrams



I/G = 6s I/G = 5s I/G = 5s

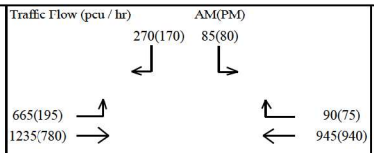
TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(J) Fat Kwong Street / Sheung Shing Street**
Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fat Kwong Street	E		1	A	3.7	15	0	1	100%	100%	1	1985	1985	1805	1805	1805	1805	665	0.368		195	0.108	
Fat Kwong Street	E		1	A	3.4	0	0	0	0%	0%	1	2095	4190	2095	2095	4190	4190	618	0.295		390	0.186	
Fat Kwong Street	E		1	A	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	618	0.295	0.368	390	0.186	0.186
Fat Kwong Street	W		3	B	3.9	0	20	0	100%	100%	1	2145	2145	1995	1995	1995	1995	90	0.045		75	0.038	0.045
Fat Kwong Street	W		2,3	A,B	3.6	0	0	0	0%	0%	1	2114.4	4083.9	2114.4	2114.4	4083.9	4083.9	489	0.231		487	0.230	
Fat Kwong Street	W		2,3	A,B	3.5	0	0	1	0%	0%	1	1969.5	0	1969.5	1969.5	0	0	456	0.231		453	0.230	
Sheung Shing Street	S		3	B	3.2	15	0	1	100%	100%	1	1935	1935	1760	1760	1760	1760	85	0.048	0.048	80	0.045	
Sheung Shing Street	S		4	C	2.8	0	20	0	100%	100%	1	2035	2035	1895	1895	1895	1895	270	0.142	0.142	170	0.090	0.090
Pedestrian Crossing			5	A	Min. Green Time = 05 Gm + 05 Fm = 10s																		
			6	C	Min. Green Time = 07 Gm + 10 Fm = 17s																		
			7	C	Min. Green Time = 05 Gm + 05 Fm = 10s																		

Notes:

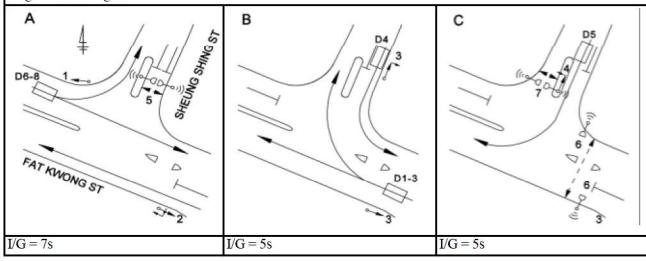
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
ey	0.559
L (sec)	14
C (sec)	120
y pract.	0.795
R.C. (%)	42%

P.M. Check Phase	
ey	0.321
L (sec)	14
C (sec)	120
y pract.	0.795
R.C. (%)	147%

Stage / Phase Diagrams



I/G = 7s | I/G = 5s | I/G = 5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

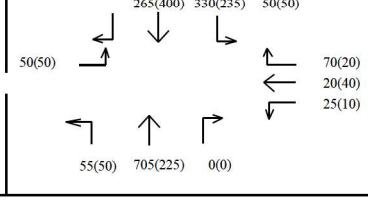
Junction: **(K) Sheung Shing Street / Shek Ku Street / Sheung Shing Lane**

Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Shek Ku Street	E		4	B	3.8	15	0	1	100%	100%	1	1995	1995	1815	1815	1815	1815	310	0.171		210	0.116	
Sheung Shing Street	N		1	A	3.2	15	0	1	16%	18%	1	1935	4030	1905	1900	3880	3850	317	0.166	0.166	285	0.150	0.150
Sheung Shing Street	N		1	A	3.4	0	20	0	81%	100%	1	2095	0	1975	1950	0	0	328	0.166		400	0.205	
Sheung Shing Lane	W		3	C	4.2	15	20	1	2% / 61	4% / 29	1	2035	2035	1905	1965	1905	1965	115	0.060	0.060	70	0.036	0.036
Sheung Shing Street	S		2	B	3.7	15	0	1	15%	38%	1	1985	4080	1955	1910	4050	4005	367	0.188	0.188	131	0.069	0.069
Sheung Shing Street	S		2	B	3.4	0	20	0	0%	0%	1	2095	0	2095	2095	0	0	393	0.188		144	0.069	
Pedestrian Crossing			5	D	Min. Green Time = 09 Gm + 09 Fm = 18s																		
			6	D	Min. Green Time = 07 Gm + 13 Fm = 20s																		
			7	D	Min. Green Time = 05 Gm + 07 Fm = 12s																		
			8	D	Min. Green Time = 08 Gm + 07 Fm = 15s																		

Notes:

Traffic Flow (pcu / hr) AM(PM)

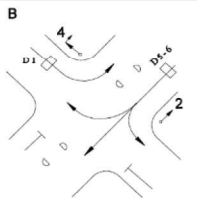


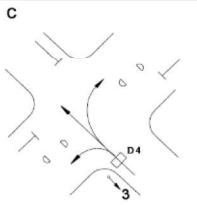
A.M. Check Phase	
sy	0.414
L (sec)	40
C (sec)	108
y pract.	0.567
R.C. (%)	37%

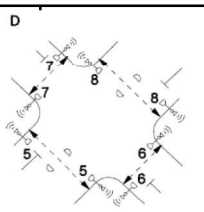
P.M. Check Phase	
sy	0.254
L (sec)	40
C (sec)	80
y pract.	0.450
R.C. (%)	77%

Stage / Phase Diagrams









I/G = 3s | I/G = 8s | I/G = 6s | I/G = 8+18s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

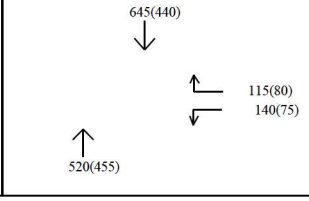
Junction: **(M) Tin Kwong Road / Farm Road**

Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Tin Kwong Road	S	↓	1	A	3.0	0	0	1	0%	0%	1	1915	1915	1915	1915	1915	1915	645	0.337	0.337	440	0.230	0.230
Tin Kwong Road	N	↑	2	A	4.0	0	0	1	0%	0%	1	2015	2015	2015	2015	2015	2015	520	0.258		455	0.226	
Farm Road	W	↙	3	B	3.0	15	0	0	100%	100%	0.8	1644	1644	1495	1495	1495	1495	140	0.094	0.094	75	0.050	0.052
	W	↖	3	B	3.0	0	20	0	100%	100%	0.8	1644	1644	1530	1530	1530	1530	115	0.075		80	0.052	
Pedestrian Crossing			4p	C		Min. Crossing Time = 5GM + 11FGM = 16s																	
			5p	C		Min. Crossing Time = 5GM + 7FGM = 12s																	
			6p	C		Min. Crossing Time = 5GM + 7FGM = 12s																	

Notes:

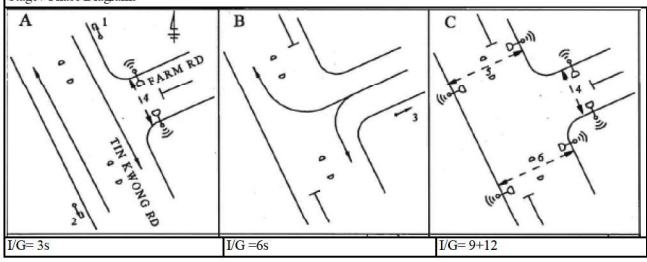
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
εy	0.430
L (sec)	28
C (sec)	130
y pract.	0.706
R.C. (%)	64%

P.M. Check Phase	
εy	0.282
L (sec)	28
C (sec)	118
y pract.	0.686
R.C. (%)	143%

Stage / Phase Diagrams



I/G= 3s | I/G =6s | I/G= 9+12

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(N) Ma Tau Chung Road / Sung Wong Toi Road / Fu Ning Street**

Description: **2036 Design Flow**

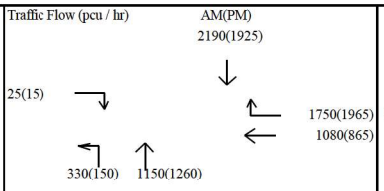
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fu Ning Street	E	↘	9	D	3.4	0	20	1	100%	100%	1	1955	1955	1820	1820	1820	1820	25	0.014	0.014	15	0.008	0.008
Ma Tau Chung Road	N	↰↑	1	A	3.4	15	0	1	74%	34%	1	1955	6155	1820	0	6020	6090	448	0.246		438	0.232	
Ma Tau Chung Road	N	↑	1	A	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	517	0.246		487	0.232	
Ma Tau Chung Road	N	↑	1	A	3.4	0	0	0	0%	0%	1	2095	0	2095	0	0	0	515	0.246		485	0.232	
Sung Wong Toi Road	W	←	5	B	2.8	0	0	1	0%	0%	1	1895	4010	1895	0	4010	4010	510	0.269		409	0.216	
Sung Wong Toi Road	W	←	5	B	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	570	0.269		456	0.216	
Sung Wong Toi Road	W	↰	4	B,C	3.0	0	30	0	100%	100%	1	2055	6255	1955	1955	5890	5890	581	0.297	0.297	652	0.334	0.334
Sung Wong Toi Road	W	↰	4	B,C	3.4	0	25	0	100%	100%	1	2095	0	1975	1975	0	0	587	0.297		659	0.334	
Sung Wong Toi Road	W	↰	4	B,C	3.5	0	20	0	100%	100%	1	2105	0	1960	1960	0	0	582	0.297		654	0.334	
Ma Tau Chung Road	S	↓	2	A	3.5	0	0	1	0%	0%	1	1965	6195	1965	0	6195	6195	695	0.354	0.354	611	0.311	0.311
Ma Tau Chung Road	S	↓	2	A	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	748	0.354		657	0.311	
Ma Tau Chung Road	S	↓	2	A	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	748	0.354		657	0.311	

Pedestrian Crossing

3p	A,D,E	Min. Green Time = 10 Gm + 11 Fm = 21s
6p	B,C	Min. Green Time = 16 Gm + 9 Fm = 25s
7p	A,B,C	Min. Green Time = 12 Gm + 6 Fm = 18s
8p	C,D	Min. Green Time = 20 Gm + 8 Fm = 28s
10p	A,D,E	Min. Green Time = 8 Gm + 16 Fm = 24s

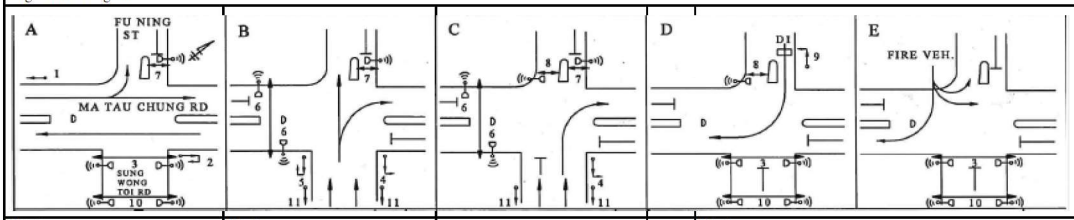
Notes:

Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase		P.M. Check Phase	
εy	0.664	εy	0.653
L (sec)	17	L (sec)	17
C (sec)	130	C (sec)	118
y pract.	0.782	y pract.	0.770
R.C. (%)	18%	R.C. (%)	18%

Stage / Phase Diagrams



I/G=6s I/G=7s I/G=7s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

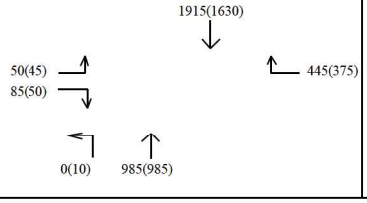
Junction: **(O) Ma Tau Chung Road / Ma Tau Kok Road**

Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ma Tau Kok Road	E		4	C	3.3	15	25	1	78% / 22%	100% / 0%	1	1945	4040	1785	1770	3735	3720	64	0.036	0.036	45	0.026	0.026
Ma Tau Kok Road	E		4	C	3.4	0	20	0	100%	100%	1	2095	0	1950	1950	0	0	71	0.036		50	0.026	
Ma Tau Chung Road*	N		1	A	3.5	15	0	1	0%	5%	0.5	982.5	5162.5	985	975	5165	5155	187	0.190		189	0.193	
Ma Tau Chung Road	N		1	A	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	400	0.191		404	0.193	
Ma Tau Chung Road	N		1	A	3.3	0	0	0	0%	0%	1	2085	0	2085	2085	0	0	398	0.191		402	0.193	
Ma Tau Kok Road	W		3	B	4.5	0	25	0	100%	100%	1	2205	0	2080	2080	0	0	231	0.111	0.111	195	0.094	0.094
Ma Tau Kok Road	W		3	B	4.5	0	20	1	100%	100%	1	2065	4270	1920	1920	4000	4000	214	0.111		180	0.094	
Ma Tau Chung Road	S		2	A	3.6	0	0	1	0%	0%	0.5	987.5	5207.5	987.5	987.5	5207.5	5207.5	363	0.368	0.368	309	0.313	0.313
Ma Tau Chung Road	S		2	A	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	770	0.368		656	0.313	
Ma Tau Chung Road	S		2	A	3.7	0	0	0	0%	0%	1	2125	0	2125	2125	0	0	781	0.368		665	0.313	
Pedestrian Crossing			5p	B		Min. Green Time = 14 Gm + 11 Fm = 25s																	
			6p	B		Min. Green Time = 20 Gm + 12 Fm = 32s																	
			7p	C,A		Min. Green Time = 7 Gm + 9 Fm = 16s																	

Notes:
*Only franchsied buses are allowed to left turn

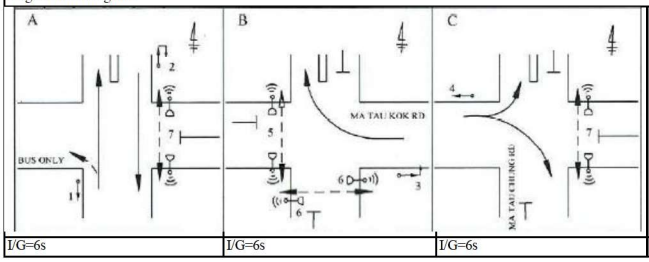
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
εy	0.515
L (sec)	15
C (sec)	130
y pract.	0.796
R.C. (%)	55%

P.M. Check Phase	
εy	0.432
L (sec)	15
C (sec)	118
y pract.	0.786
R.C. (%)	82%

Stage / Phase Diagrams



I/G=6s | I/G=6s | I/G=6s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

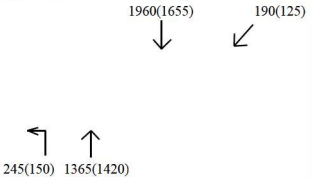
Junction: **(P) Ma Tau Wai Road / Farm Road / Tam Kung Road**

Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ma Tau Wai Road	N	↰	2	A	3.6	15	0	0	47%	29%	1	2115	6375	2020	0	6280	6315	518	0.256		511	0.249	
Ma Tau Wai Road	N	↑	2	A	3.4	0	0	0	0%	0%	1	2095	0	2095	0	0	0	537	0.256		521	0.249	
Ma Tau Wai Road	N	↑	2	A	4.1	0	0	0	0%	0%	1	2165	0	2165	0	0	0	555	0.256		538	0.249	
Tam Kung Road	S	↓	3	B	3.5	0	0	1	0%	0%	0.5	982.5	3087.5	982.5	0	3087.5	3087.5	60	0.062	0.062	40	0.040	0.040
Tam Kung Road	S	↓	3	B	3.5	0	0	0	0%	0%	1	2105	0	2105	0	0	0	130	0.062		85	0.040	
Ma Tau Wai Road	S	↓	1	A	3.6	0	0	1	0%	0%	1	1975	6215	1975	0	6215	6215	623	0.315	0.315	526	0.266	0.266
Ma Tau Wai Road	S	↓	1	A	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	667	0.315		563	0.266	
Ma Tau Wai Road	S	↓	1	A	3.7	0	0	0	0%	0%	1	2125	0	2125	0	0	0	670	0.315		566	0.266	
Pedestrian Crossing			4p	B,C		Min. Green Time = 12 Gm + 8 Fm = 20s																	
			5p	C		Min. Green Time = 15 Gm + 11 Fm = 26s																	
			6p	A,B		Min. Green Time = 8 Gm + 6 Fm = 14s																	

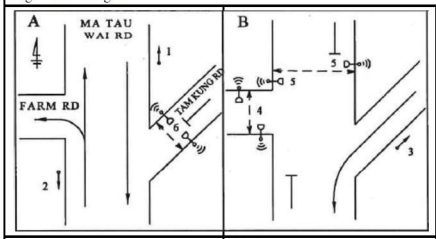
Notes:

Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase		P.M. Check Phase	
εy	0.377	εy	0.307
L (sec)	9	L (sec)	9
C (sec)	130	C (sec)	120
y pract.	0.838	y pract.	0.833
R.C. (%)	122%	R.C. (%)	171%

Stage / Phase Diagrams



I/G=5s I/G=6s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

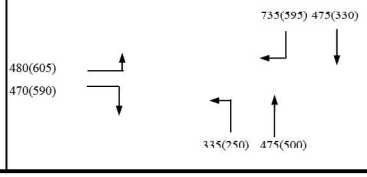
Junction: **(Q) Shing kai Road/ Sung Wong Toi Road**

Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Sung Wong Toi Road	E		2	A	3.7	20.0	0	1	100%	100%	1	1985	6235	1845	1845	5870	5870	299	0.162		376	0.204	
Sung Wong Toi Road	E		2	A	3.7	23.0	31	0	56% / 44%	56% / 44%	1	2125	0	2010	2010	0	0	325	0.162	0.162	409	0.204	0.204
Sung Wong Toi Road	E		2	A	3.7	0.0	28	0	100%	100%	1	2125	0	2015	2015	0	0	326	0.162		410	0.204	
Shing kai Road	N		3	C	3.3	16.0	0	1	89%	71%	1	1945	4030	1795	1825	3880	3910	375	0.209	0.209	350	0.192	0.192
Shing kai Road	N		3	C	3.3	0.0	0	0	0%	0%	1	2085	0	2085	2085	0	0	435	0.209		400	0.192	
Shing kai Road	S		1	B	3.8	0.0	0	1	0%	0%	1	1995	6265	1995	1995	6145	6140	393	0.197	0.197	301	0.151	0.151
Shing kai Road	S		1	B	3.8	0.0	50	0	80%	91%	1	2135	0	2085	2080	0	0	411	0.197		313	0.151	
Shing kai Road	S		1	B	3.8	0.0	45	0	100%	100%	1	2135	0	2065	2065	0	0	407	0.197		311	0.151	
Pedestrian crossing		<---->	4p	C	Min. Crossing Time = 35Gm + 7FGm =42s																		
			5p	A,C	Min. Crossing Time = 72Gm + 10FGm =82s																		
			6p	B	Min. Crossing Time = 7Gm + 12FGm =15s																		
			7p	B,C	Min. Crossing Time = 55Gm + 18FGm =73s																		
			8p	A	Min. Crossing Time = 17Gm + 7FGm =24s																		
			9p	A,B	Min. Crossing Time = 50Gm + 6FGm =56s																		

Notes:

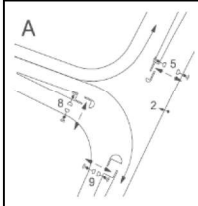
Traffic Flow (pcu / hr) AM(PM) Peak



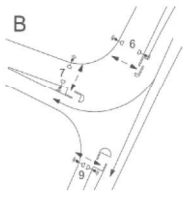
AM Peak Check Phase	
εy	0.568
L (sec)	12
C (sec)	110
y pract.	0.802
R.C. (%)	41%

PM Peak Check Phase	
εy	0.546
L (sec)	12
C (sec)	110
y pract.	0.802
R.C. (%)	47%

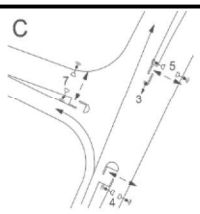
Stage / Phase Diagrams



I/G = 5



I/G = 5



I/G = 5

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(R) Mok Cheong Street / To Kwa Wan Road**
Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Mok Cheong Street	E		2	B	3.5	27.5	18	1	75% / 25%	78% / 22%	1	1965	4070	1850	1850	3680	3680	292	0.158	0.158	274	0.148	0.148
Mok Cheong Street	E		2	B	3.5	0.0	10	0	100%	100%	1	2105	0	1830	1830	0	0	288	0.158		271	0.148	
To Kwa Wan Road	N		1	A	3.5	0.0	0	1	0%	0%	1	1965	4120	1965	1965	4120	4120	277	0.141		260	0.132	0.232
To Kwa Wan Road	N		1	A	4.0	0.0	0	0	0%	0%	1	2155	0	2155	2155	0	0	303	0.141		285	0.132	
To Kwa Wan Road	S		1	A	3.0	0.0	0	1	0%	0%	1	1915	3970	1915	1915	3970	3970	456	0.238	0.238	444	0.232	
To Kwa Wan Road	S		1	A	3.0	0.0	0	0	0%	0%	1	2055	0	2055	2055	0	0	489	0.238		476	0.232	
Pedestrian crossing		<---->	3p	A	Min. Crossing Time = 29Gm + 11FGm =40s																		

Notes:

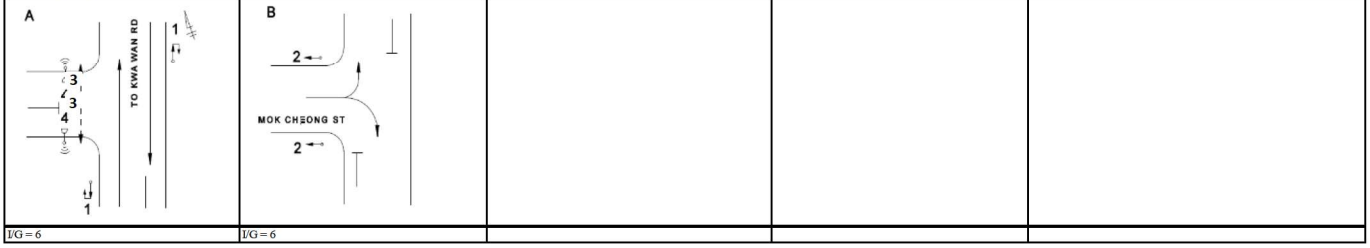
Traffic Flow (pcu / hr) AM(PM) Peak

945(920)
220(215)
360(330)
580(545)

AM Peak Check Phase	
εy	0.396
L (sec)	10
C (sec)	108
y pract.	0.817
R.C. (%)	106%

PM Peak Check Phase	
εy	0.380
L (sec)	10
C (sec)	90
y pract.	0.800
R.C. (%)	111%

Stage / Phase Diagrams



I/G = 6 I/G = 6

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

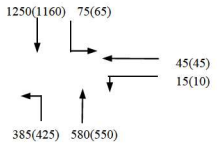
Junction: **(S) Ma Tau Kok Road / To Kwa Wan Road**

Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
To Kwa Wan Road	N		1	A	3.5	15.0	0	1	100%	100%	1	1965	6175	1785	1785	5950	5935	289	0.162		293	0.164	
To Kwa Wan Road	N		1	A	3.5	20.0	0	0	29%	39%	1	2105	0	2060	2045	0	0	334	0.162		336	0.164	
To Kwa Wan Road	N		1	A	3.5	0.0	0	0	0%	0%	1	2105	0	2105	2105	0	0	341	0.162		346	0.164	
Ma Tau Kok Road	W		4	C	5.0	0.0	0	0	0%	0%	1	2255	2255	2255	2255	2255	2255	45	0.020	0.020	45	0.020	0.020
Ma Tau Kok Road	W		4	C	4.8	16.0	0	1	100%	100%	0.5	1047.5	1047.5	960	960	960	960	15	0.016		10	0.010	
To Kwa Wan Road	S		2,3	A,B	3.5	25.0	0	1	12%	11%	1	1965	4070	1950	1950	4055	4055	637	0.327	0.327	589	0.302	0.302
To Kwa Wan Road	S		2,3	A,B	3.5	0.0	0	0	0%	0%	1	2105	0	2105	2105	0	0	688	0.327		636	0.302	
Pedestrian crossing			5p	A,B	Min. Crossing Time = 5Gm + 8FGm =11s																		
			6p	B	Min. Crossing Time = 5Gm + 8FGm =11s																		
			7p	C	Min. Crossing Time = 8Gm + 8FGm =16s																		
			8p	C	Min. Crossing Time = 5Gm + 8FGm =11s																		

Notes:

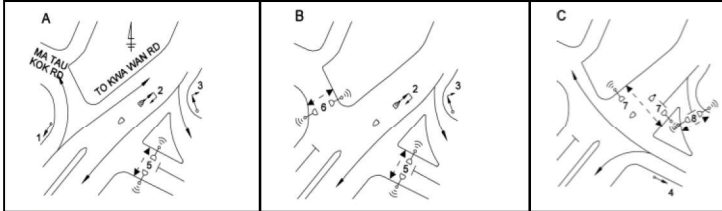
Traffic Flow (pcu / hr) AM(PM) Peak



AM Peak Check Phase	
εy	0.347
L (sec)	8
C (sec)	108
y pract.	0.833
R.C. (%)	140%

PM Peak Check Phase	
εy	0.322
L (sec)	8
C (sec)	90
y pract.	0.820
R.C. (%)	154%

Stage / Phase Diagrams



I/G = 5 I/G = 5

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

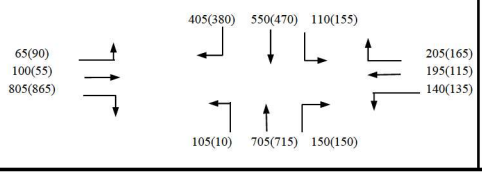
Junction: **(T) San Shan Road / To Kwa Wan Road**

Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
San Shan Road	E		2	B	3.0	17.5	0	1	32%	49%	1	1915	6005	1865	1840	5835	5810	340	0.182		318	0.173	
San Shan Road	E		2	B	3.0	0.0	32	0	14%	13%	1	2055	0	2040	2040	0	0	373	0.183	0.183	353	0.173	0.173
San Shan Road	E		2	B	2.8	0.0	27	0	100%	100%	1	2035	0	1930	1930	0	0	352	0.183		334	0.173	
To Kwa Wan Road	N		3	C	3.5	15.0	0	1	42%	4%	1	1965	8280	1885	1885	8080	8080	251	0.133		230	0.122	
To Kwa Wan Road	N		3	C	3.5	0.0	0	0	0%	0%	1	2105	0	2105	2105	0	0	215	0.102		181	0.086	
To Kwa Wan Road	N		3	C	3.5	0.0	0	0	0%	0%	1	2105	0	2105	2105	0	0	215	0.102		181	0.086	
To Kwa Wan Road	N		3	C	3.5	0.0	25	0	54%	53%	1	2105	0	1985	1985	0	0	279	0.141	0.141	282	0.142	0.142
San Ma Tau Street	W		4	D	3.5	0.0	31	0	100%	100%	1	2105	0	2010	2010	0	0	196	0.097		149	0.074	
San Ma Tau Street	W		4	D	3.5	16.0	33	0	0% / 5%	15% / 10%	1	2105	0	2100	2065	0	0	204	0.097	0.097	153	0.074	0.074
San Ma Tau Street	W		4	D	3.2	10.0	0	1	100%	100%	0.9	1741.5	5951.5	1515	1515	5625	5590	140	0.092		112	0.074	
To Kwa Wan Road	S		1	A	3.2	25.0	0	1	53%	80%	1	1935	6045	1875	1845	5985	5955	207	0.110		194	0.105	
To Kwa Wan Road	S		1	A	3.0	0.0	0	0	0%	0%	1	2055	0	2055	2055	0	0	227	0.110		216	0.105	
To Kwa Wan Road	S		1	A	3.0	0.0	0	0	0%	0%	1	2055	0	2055	2055	0	0	227	0.110		216	0.105	
To Kwa Wan Road	S		1	A	2.8	0.0	30	0	100%	100%	1	2035	2035	1940	1940	1940	1940	405	0.209	0.209	380	0.196	0.196
Pedestrian crossing			5p	A		Min. Crossing Time = 8Gm + 8FGm =16s																	
			6p	B,C,D		Min. Crossing Time = 8Gm + 10FGm =18s																	
			7p	D		Min. Crossing Time = 5Gm + 7FGm =12s																	
			8p	A,B,C		Min. Crossing Time = 5Gm + 10FGm =15s																	

Notes:

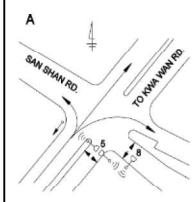
Traffic Flow (pcu / hr) AM(PM) Peak



AM Peak Check Phase	
εy	0.629
L (sec)	22
C (sec)	130
y pract.	0.748
R.C. (%)	19%

PM Peak Check Phase	
εy	0.586
L (sec)	22
C (sec)	130
y pract.	0.748
R.C. (%)	28%

Stage / Phase Diagrams



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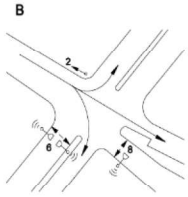

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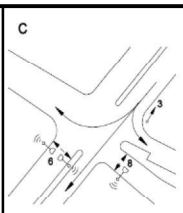

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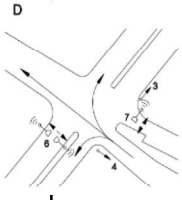


I/G =6

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(U) To Kwa Wan Road / Sheung Heung Road / Kwei Chow Street**
Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Sheung Heung Road	E	↱	2	B	3.1	15	0	1	100%	100%	1	1925	3990	1750	0	3670	3670	141	0.080	0.080	124	0.071	0.071
Sheung Heung Road	E	↑	2	B	3.1	20	0	0	100%	100%	1	2065	0	1920	0	0	0	154	0.080		136	0.071	
Sheung Heung Road	E	↴	2	B	3.2	0	25	0	100%	100%	1	2075	4160	1960	0	3900	3900	141	0.072		73	0.037	
Sheung Heung Road	E	↴	2	B	3.3	0	20	0	100%	100%	1	2085	0	1940	0	0	0	139	0.072		72	0.037	
To Kwa Wan Road	N	↑	1	A	3.5	0	0	1	0%	0%	0.5	982.5	5142.5	982.5	0	5142.5	5142.5	78	0.080		71	0.072	
To Kwa Wan Road	N	↑	1	A	3.6	0	0	0	0%	0%	1	2115	0	2115	0	0	0	169	0.080		152	0.072	
To Kwa Wan Road	N	↑	1	A	2.9	0	0	0	0%	0%	1	2045	0	2045	0	0	0	163	0.080	0.158	147	0.072	
Kwei Chow Street	W	↰	3	C	3.0	0	20	0	100%	100%	1	2055	0	1940	0	0	0	123	0.063	0.063	115	0.059	0.059
Kwei Chow Street	W	↰	3	C	3.0	0	25	0	100%	100%	1	2055	0	1940	0	0	0	123	0.063		115	0.059	
Kwei Chow Street	W	↕	3	C	3.0	20	30	0	0% / 100%	0% / 100%	1	2055	0	1955	0	0	0	124	0.063		116	0.059	
Kwei Chow Street	W	↓	3	C	3.4	15	0	1	100%	100%	1	1955	6065	1775	0	7610	7610	60	0.034		60	0.034	
To Kwa Wan Road	S	↓	1	A	3.0	0	0	1	0%	0%	0.5	957.5	5177.5	957.5	0	5177.5	5177.5	152	0.158		119	0.125	0.125
To Kwa Wan Road	S	↓	1	A	3.8	0	0	0	0%	0%	1	2135	0	2135	0	0	0	338	0.158		266	0.125	
To Kwa Wan Road	S	↓	1	A	3.3	0	0	0	0%	0%	1	2085	0	2085	0	0	0	330	0.158		260	0.125	
Pedestrian Crossing			4	A,B	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			5	C,A	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			6	B	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			7	C	Min. Green Time = 05 Gm + 08 Fm = 13s																		

Notes:

Traffic Flow (pcu / hr) AM(PM)

820(645)

370(345)
60(60)

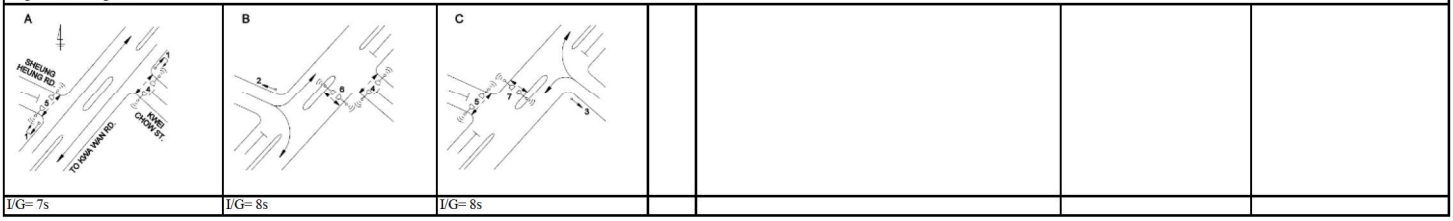
295(260)
280(145)

410(370)

A.M. Check Phase	
εy	0.302
L (sec)	20
C (sec)	108
y pract.	0.733
R.C. (%)	143%

P.M. Check Phase	
εy	0.255
L (sec)	20
C (sec)	108
y pract.	0.733
R.C. (%)	188%

Stage / Phase Diagrams



I/G= 7s | I/G= 8s | I/G= 8s

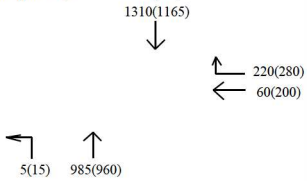
TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(V) Chatham Road North / San Lau Street**
Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Chatham Road North	N		1	A	4.0	15	0	1	1%	3%	1	2015	4170	2015	2010	4170	4165	478	0.237		470	0.234	
Chatham Road North	N		1	A	4.0	0	0	0	0%	0%	1	2155	0	2155	0	0	0	512	0.238		505	0.234	
San Lau Street	W		3	B	2.7	0	20	0	100%	100%	1	2025	0	1885	0	0	0	107	0.057	0.057	153	0.081	0.081
San Lau Street	W		3	B	3.5	0	25	0	100%	78%	1	2105	0	1985	0	0	0	113	0.057		163	0.081	
San Lau Street	W		3	B	4.2	0	0	1	0%	0%	1	2035	6165	2035	0	5905	5930	60	0.029		165	0.081	
Chatham Road North	S		2	A	4.7	0	0	1	0%	0%	1	2085	4260	2085	0	4260	4260	641	0.308	0.308	570	0.273	0.273
Chatham Road North	S		2	A	4.2	0	0	0	0%	0%	1	2175	0	2175	0	0	0	669	0.308		595	0.273	
Pedestrian Crossing			4	A	Min. Green Time = 12 Gm + 10 Fm = 22s																		
			5	B	Min. Green Time = 06 Gm + 08 Fm = 14s																		

Notes:

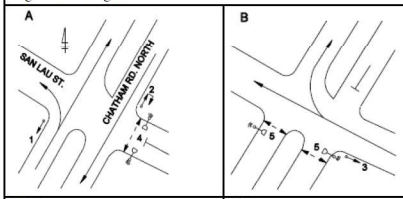
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
ey	0.364
L (sec)	10
C (sec)	90
y pract.	0.800
R.C. (%)	120%

P.M. Check Phase	
ey	0.354
L (sec)	10
C (sec)	108
y pract.	0.817
R.C. (%)	130%

Stage / Phase Diagrams



I/G=7s I/G=5s

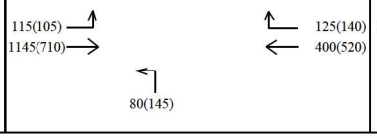
TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(W) Fat Kwong Street / Shun Yung Street / Yan Fung Street**
Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fat Kwong Street	E		2	A	3.1	15	0	1	100%	100%	1	1925	1925	1750	1750	1750	1750	115	0.066		105	0.060	0.171
Fat Kwong Street	E		2	A	3.2	0	0	0	0%	0%	1	2075	4160	2075	2075	4160	4160	571	0.275		354	0.171	
Fat Kwong Street	E		2	A	3.3	0	0	0	0%	0%	1	2085	0	2085	2085	0	0	574	0.275	0.275	356	0.171	
Yan Fung Street	N		3	A	4.2	15	0	1	100%	100%	1	2035	2035	1850	1850	1850	1850	80	0.043		145	0.078	
Fat Kwong Street	W		1	B	3.1	0	20	0	72%	64%	1	2065	0	1960	1970	0	0	174	0.089	0.089	219	0.111	0.111
Fat Kwong Street	W		1	B	3.0	0	0	0	0%	0%	1	2055	0	2055	0	0	0	182	0.089		229	0.111	
Fat Kwong Street	W		1	B	2.9	0	0	1	0%	0%	1	1905	6025	1905	1905	5920	5930	169	0.089		212	0.111	
Shun Yung Street	S		4	C	3.2	15	0	1	100%	100%	1	1935	4000	1760	1760	3680	3680	287	0.163		371	0.211	
Shun Yung Street	S		4	C	3.1	20	20	0	70% / 30%	28% / 72%	1	2065	0	1920	1920	0	0	313	0.163	0.163	404	0.211	0.211
Pedestrian Crossing			5	B,C	Min. Green Time = 05 Gm + 07 Fm = 12s																		
			6	A,B	Min. Green Time = 05 Gm + 10 Fm = 15s																		
			7	B	Min. Green Time = 06 Gm + 11 Fm = 17s																		
			8	C	Min. Green Time = 05 Gm + 05 Fm = 10s																		
			9	C,A	Min. Green Time = 05 Gm + 08 Fm = 13s																		

Notes:

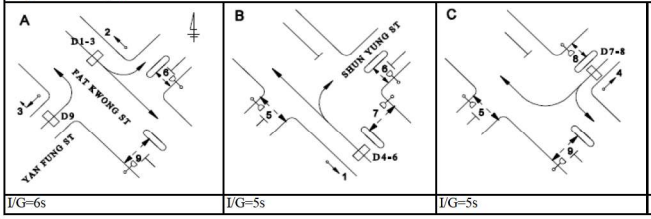
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
ey	0.527
L (sec)	13
C (sec)	108
y pract.	0.792
R.C. (%)	50%

P.M. Check Phase	
ey	0.493
L (sec)	13
C (sec)	108
y pract.	0.792
R.C. (%)	61%

Stage / Phase Diagrams



I/G=6s I/G=5s I/G=5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

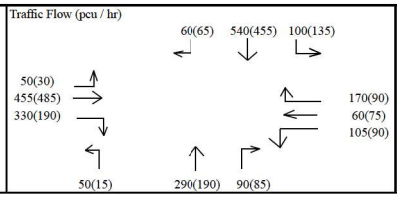
Junction: **(X) Hung Hom Road/ Fat Kwong Street Flyover/ Tai Wan Road East**

Description: **2036 Design Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fat Kwong Street Flyover	E		3	A	3.5	10	0	1	10%	6%	1	1965	1965	1935	1950	1935	1950	505	0.261	0.261	515	0.264	0.264
	E		3	A	3.3	0	19	0	100%	100%	1	2085	2085	1930	1930	1930	1930	275	0.142		210	0.109	
Hung Hom Road	N		1	B	3.4	8	0	1	100%	100%	1	1955	1955	1630	1630	1630	1630	50	0.031		15	0.009	
	N		1	B	3.4	0	0	0	0%	0%	1	1955	4050	1955	1955	4050	4050	229	0.117		196	0.100	
	N		1	B	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	246	0.117	0.117	210	0.100	
	N		1	B	3.7	0	15	0	100%	100%	1	2125	2125	1930	1930	1930	1930	90	0.047		85	0.044	0.100
Tai Wan Road East	W		4	C	4.0	0	12.5	0	74%	55%	1	2155	2155	1980	2025	1980	2025	230	0.116	0.116	165	0.081	0.081
	W		4	C	3.5	13	0	1	100%	100%	1	1965	1965	1755	1755	1755	1755	105	0.060		90	0.051	
Hung Hom Road	S		2	D	3.5	15	0	1	30%	43%	1	1965	4070	1910	1885	3980	3950	336	0.176	0.176	312	0.166	0.166
	S		2	D	3.5	0	15	0	16%	19%	1	2105	0	2070	2065	0	0	364	0.176		343	0.166	
Pedestrian crossing			5P	A,B,D	Min. Crossing Time = 6GM + 7FGM = 13s															*			*
			6P	C	Min. Crossing Time = 5GM + 6FGM = 11s																		
			7P	A,B,C	Min. Crossing Time = 5GM + 7FGM = 12s																		
			8P	D	Min. Crossing Time = 5GM + 9FGM = 14s																		
			9P	B,C,D	Min. Crossing Time = 5GM + 7FGM = 12s																		
			10P	A	Min. Crossing Time = 5GM + 9FGM = 14s																		

Notes:

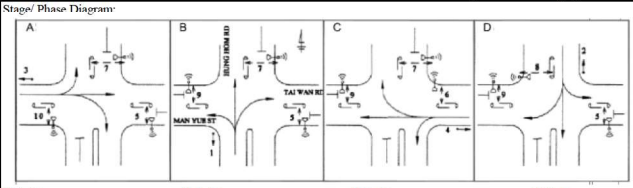
Traffic Flow (pcu / hr)



A.M. Check Phase	
Σy	0.670
L (sec)	18
C (sec)	130
y pract.	0.775
R.C. (%)	16%

P.M. Check Phase	
Σy	0.611
L (sec)	18
C (sec)	130
y pract.	0.775
R.C. (%)	27%

Stage/ Phase Diagram:



I/G= 5s I/G=7s I/G=5s I/G=5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

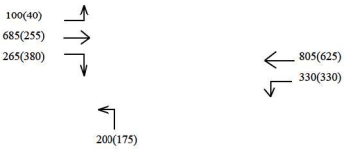
Junction: **(B) Tin Kwong Road / Kau Pui Lung Road**

Description: **2036 Design Flow (with Improvement)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tin Kwong Road	E		1	A,B,C	2.8	8	0	1	13%	14%	0.8	1516	1516	1480	1475	1480	1475	785	0.530		295	0.200	
	E		2	B	2.8	0	12.5	0	100%	100%	1	2035	2035	1815	1815	1815	1815	265	0.146	0.146	380	0.209	0.209
Kau Pui Lung Road	N		3	C	4.6	25	0	1	100%	100%	0.7	1452.5	1453	1370	1370	1370	1370	200	0.146		175	0.128	
Tin Kwong Road	W		5	A,C	3.0	0	0	0	0%	0%	1	2055	2055	2055	2055	2055	2055	805	0.392		625	0.304	
	W		4	C	3.0	5	0	1	100%	100%	1	1915	1915	1475	1475	1475	1475	330	0.224	0.224	330	0.224	0.224
Pedestrian crossing			6p	A		Min. Crossing Time = 8GM + 8FGM = 16s																	

Notes:

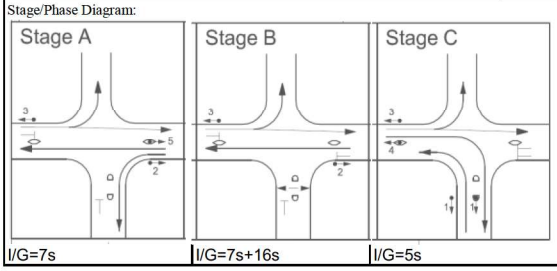
Traffic Flow (pcu / hr)



A.M. Check Phase	
εy	0.370
L (sec)	31
C (sec)	130
y pract.	0.685
R.C. (%)	**85%**

P.M. Check Phase	
εy	0.433
L (sec)	31
C (sec)	118
y pract.	0.664
R.C. (%)	**53%**

Stage/Phase Diagram:



I/G=7s | I/G=7s+16s | I/G=5s

TRAFFIC SIGNALS CALCULATION Job No: 22101HK **CTA Consultants Ltd.**

Junction: **(C) Tin Kwong Road / Ma Tau Wai Road / Ma Hang Chung Road**

Description: **2036 Design Flow (with Improvement)**

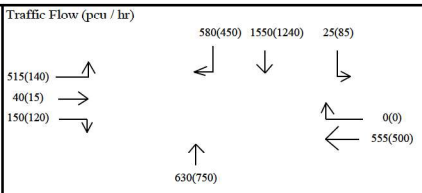
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.				A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tin Kwong Road	E		6,10	B,C	2.9	10	0	1	100%	100%	1	1905	1905	1655	1655	1655	1655	515	0.311		140	0.085	
	E		6	C	2.9	0	15	0	79%	89%	1	2045	2045	1895	1880	1895	1880	190	0.100	0.100	135	0.072	0.072
Ma Tau Wai Road	N		1	A	3.4	0	0	1	0%	0%	1	1955	6105	1955	1955	6105	6105	202	0.103	0.103	240	0.123	0.123
	N		1	A	3.4	0	0	0	0%	0%	1	2095	0	2095	2095	0	0	216	0.103		257	0.123	
	N		1	A	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	212	0.103		252	0.123	
Ma Hang Chung Road	W		3	D	3.7	0	15	0	0%	0%	1	2125	0	2125	2125	0	0	287	0.135	0.135	259	0.122	0.122
	W		3	D	3.7	0	0	1	0%	0%	1	1985	4110	1985	1985	4110	4110	268	0.135		241	0.122	
Ma Tau Wai Road	S		2,7	A,B	3.0	8	0	1	5%	21%	1	1915	6025	1895	1840	6005	5950	497	0.262		410	0.223	
	S		2,7	A,B	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	539	0.262		458	0.223	
	S		2,7	A,B	3.0	0	0	0	0%	0%	1	2055	0	2055	2055	0	0	539	0.262		458	0.223	
	S		7	B	3.0	0	15	0	100%	100%	1	2055	2055	1870	1870	1870	1870	580	0.310	0.310	450	0.241	0.241

Pedestrian crossing

4p	Min. Crossing Time = 6GM + 11FGM = 17s
5p	Min. Crossing Time = 5GM + 8FGM = 14s
8p	Min. Crossing Time = 75M + 7FGM = 12s
9p	Min. Crossing Time = 5GM + 8FGM = 13s
11p	Min. Crossing Time = 7GM + 11FGM = 18s

Notes:

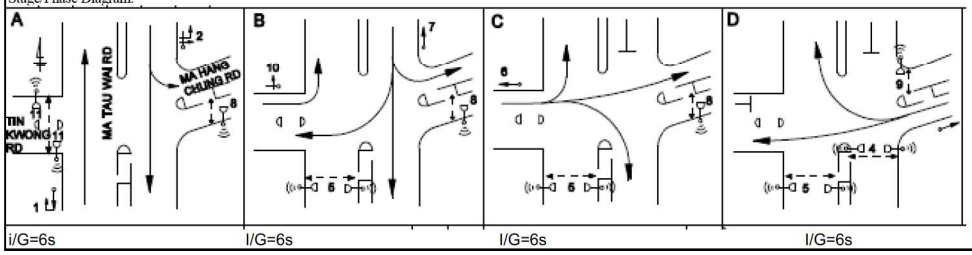
Traffic Flow (pcu / hr)



A.M. Check Phase	
Σy	0.649
L (sec)	20
C (sec)	120
y pract.	0.750
R.C. (%)	**16%**

P.M. Check Phase	
Σy	0.557
L (sec)	20
C (sec)	120
y pract.	0.750
R.C. (%)	**35%**

Stage/Phase Diagram:



Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.5.523 [19102,19/06/2015]
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Filename: 22101HK_Pri Jn.arc8
Path: \\PROJSRV\Project\CTA Consultants Limited\CTA - Project\22101HK (wkk) - URA (CBS-2 KC) Kau Pui Lung Rd Chi Kiang St Dev Scheme\Cal\TIA\2022-10-13
Report generation date: 17/10/2022 16:54:53

» (Default Analysis Set) - 2022 Existing, AM
» (Default Analysis Set) - 2022 Existing, PM
» (Default Analysis Set) - 2036 Reference, AM
» (Default Analysis Set) - 2036 Reference, PM
» (Default Analysis Set) - 2036 Design, AM
» (Default Analysis Set) - 2036 Design, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2022 Existing							
Junction D - Stream B-AC	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Junction D - Stream C-A	-	-	-	-	-	-	-	-
Junction D - Stream C-B	0.12	7.08	0.11	A	0.12	7.09	0.11	A
Junction D - Stream A-B	-	-	-	-	-	-	-	-
Junction D - Stream A-C	-	-	-	-	-	-	-	-
Junction F - Stream B-AC	0.31	6.66	0.24	A	0.26	6.35	0.20	A
Junction F - Stream C-A	-	-	-	-	-	-	-	-
Junction F - Stream C-B	0.45	8.69	0.31	A	0.30	7.82	0.23	A
Junction F - Stream A-B	-	-	-	-	-	-	-	-
Junction F - Stream A-C	-	-	-	-	-	-	-	-
Junction L - Stream B-AC	0.49	10.66	0.33	B	0.34	8.34	0.25	A
Junction L - Stream C-A	-	-	-	-	-	-	-	-
Junction L - Stream C-B	0.29	9.02	0.22	A	0.11	7.46	0.10	A
Junction L - Stream A-B	-	-	-	-	-	-	-	-
Junction L - Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2036 Design							
Junction D - Stream B-AC	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Junction D - Stream C-A	-	-	-	-	-	-	-	-
Junction D - Stream C-B	0.51	10.90	0.34	B	0.37	10.22	0.27	B
Junction D - Stream A-B	-	-	-	-	-	-	-	-
Junction D - Stream A-C	-	-	-	-	-	-	-	-
Junction F - Stream B-AC	0.69	8.57	0.41	A	0.48	7.52	0.32	A
Junction F - Stream C-A	-	-	-	-	-	-	-	-
Junction F - Stream C-B	3.56	27.80	0.78	D	2.34	20.24	0.70	C
Junction F - Stream A-B	-	-	-	-	-	-	-	-
Junction F - Stream A-C	-	-	-	-	-	-	-	-
Junction L - Stream B-AC	1.33	21.90	0.57	C	0.39	10.16	0.28	B

Junction L - Stream C-A	-	-	-	-	-	-	-	-
Junction L - Stream C-B	1.75	23.17	0.64	C	0.08	8.15	0.07	A
Junction L - Stream A-B	-	-	-	-	-	-	-	-
Junction L - Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2036 Reference							
Junction D - Stream B-AC	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Junction D - Stream C-A	-	-	-	-	-	-	-	-
Junction D - Stream C-B	0.29	9.20	0.23	A	0.26	9.27	0.20	A
Junction D - Stream A-B	-	-	-	-	-	-	-	-
Junction D - Stream A-C	-	-	-	-	-	-	-	-
Junction F - Stream B-AC	0.49	7.53	0.33	A	0.33	6.71	0.25	A
Junction F - Stream C-A	-	-	-	-	-	-	-	-
Junction F - Stream C-B	1.53	15.22	0.61	C	1.49	14.99	0.60	B
Junction F - Stream A-B	-	-	-	-	-	-	-	-
Junction F - Stream A-C	-	-	-	-	-	-	-	-
Junction L - Stream B-AC	1.29	21.36	0.57	C	0.39	10.11	0.28	B
Junction L - Stream C-A	-	-	-	-	-	-	-	-
Junction L - Stream C-B	1.73	22.88	0.64	C	0.08	8.13	0.07	A
Junction L - Stream A-B	-	-	-	-	-	-	-	-
Junction L - Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2022 Existing, AM " model duration: 8:30 - 10:00
"D2 - 2022 Existing, PM" model duration: 17:30 - 19:00
"D3 - 2036 Reference, AM" model duration: 8:30 - 10:00
"D4 - 2036 Reference, PM" model duration: 17:30 - 19:00
"D5 - 2036 Design, AM" model duration: 8:30 - 10:00
"D6 - 2036 Design, PM" model duration: 17:30 - 19:00

Run using Junctions 8.0.5.523 at 17/10/2022 16:54:44

File summary

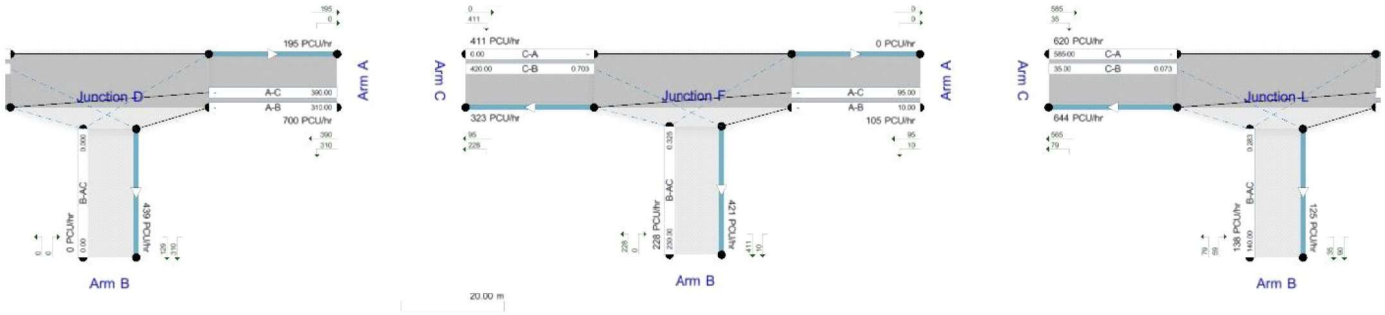
Title	Jcn C
Location	
Site Number	
Date	3/6/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	user
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing modelled flow through junction (PCU/hr).
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC ()
Time Segment: (08:30-08:45)
Showing Analysis Set "A1 "; Demand Set "D1 - 2022 Existing, AM "

The junction diagram reflects the last run of ARCADY.

(Default Analysis Set) - 2022 Existing, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2022 Existing, AM	2022 Existing	AM		FLAT	08:30	10:00	90	15		

Junction Network

Junctions

Junction	Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
D	D	Kau Pui Lung Rd / Lok Shan Rd	T-Junction	Two-way	A,B,C	7.08	A
F	F	Chi Kiang St / Ko Shan Rd	T-Junction	One-way from A to C	A,B,C	7.72	A
L	L	Sheung Shing Street / Sheung Lot Street	T-Junction	Two-way	A,B,C	9.99	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Arm	Name	Description	Arm Type
D	A	A	Kau Pui Lung Road		Major
D	B	B	Lok Shan Rd		Minor
D	C	C	Kau Pui Lung Rd		Major
F	A	A	Chi Kiang St W		Major
F	B	B	Ko Shan Rd		Minor
F	C	C	Chi Kiang St		Major
L	A	A	Sheung Shing Street WB		Major
L	B	B	Sheung Lok Street		Minor
L	C	C	Sheung Shing Street EB		Major

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
D	C	12.00		0.00		2.20	50.00		
F	C	12.00		0.00		2.20	50.00		
L	C	10.00		0.00		2.20	50.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Junction	Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
D	B	One lane	5.00										50	50
F	B	One lane	3.90										50	50
L	B	One lane	5.00										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
D	B-A	622.329	0.084	0.212	0.133	0.302
D	B-C	786.649	0.089	0.225	-	-
D	C-B	602.919	0.173	0.173	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
F	B-A	565.227	0.022	0.056	0.036	0.081
F	B-C	714.470	0.024	0.060	-	-
F	C-B	602.919	0.051	0.051	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
L	B-A	622.329	0.094	0.237	0.149	0.338
L	B-C	786.649	0.100	0.252	-	-
L	C-B	602.919	0.193	0.193	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
D	A	FLAT	✓	200.00	100.000
D	B	FLAT	✓	0.00	100.000
D	C	FLAT	✓	250.00	100.000
F	A	FLAT	✓	75.00	100.000
F	B	FLAT	✓	170.00	100.000
F	C	FLAT	✓	185.00	100.000
L	A	FLAT	✓	460.00	100.000
L	B	FLAT	✓	165.00	100.000
L	C	FLAT	✓	550.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction D (for whole period)

		To		
		A	B	C
From	A	0.000	50.000	150.000
	B	0.000	0.000	0.000
	C	190.000	60.000	0.000

Turning Proportions (PCU) - Junction D (for whole period)

		To		
		A	B	C
From	A	0.00	0.25	0.75
	B	0.33	0.33	0.33
	C	0.76	0.24	0.00

Turning Counts / Proportions (PCU/hr) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.000	15.000	60.000
	B	0.000	0.000	170.000
	C	0.000	185.000	0.000

Turning Proportions (PCU) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.00	0.20	0.80
	B	0.00	0.00	1.00
	C	0.00	1.00	0.00

Turning Counts / Proportions (PCU/hr) - Junction L (for whole period)

		To		
		A	B	C
From	A	0.000	125.000	335.000
	B	100.000	0.000	65.000
	C	435.000	115.000	0.000

Turning Proportions (PCU) - Junction L (for whole period)

		To		
		A	B	C
From	A	0.00	0.27	0.73
	B	0.61	0.00	0.39
	C	0.79	0.21	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction D (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction D (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Average PCU Per Vehicle - Junction F (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction F (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Average PCU Per Vehicle - Junction L (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction L (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
D	B-AC	0.00	0.00	0.00	A
D	C-A	-	-	-	-
D	C-B	0.11	7.08	0.12	A
D	A-B	-	-	-	-
D	A-C	-	-	-	-
F	B-AC	0.24	6.66	0.31	A
F	C-A	-	-	-	-
F	C-B	0.31	8.69	0.45	A
F	A-B	-	-	-	-
F	A-C	-	-	-	-
L	B-AC	0.33	10.66	0.49	B
L	C-A	-	-	-	-
L	C-B	0.22	9.02	0.29	A
L	A-B	-	-	-	-
L	A-C	-	-	-	-

Main Results for each time segment

Main results: (08:30-08:45)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	629.32	0.000	0.00	0.000	A
D	C-A	190.00	190.00	0.00	-	-	-	-	-
D	C-B	60.00	59.53	0.00	568.39	0.106	0.12	7.069	A
D	A-B	50.00	50.00	0.00	-	-	-	-	-
D	A-C	150.00	150.00	0.00	-	-	-	-	-
F	B-AC	170.00	168.75	0.00	710.51	0.239	0.31	6.630	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	185.00	183.24	0.00	599.12	0.309	0.44	8.621	A
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	60.00	60.00	0.00	-	-	-	-	-
L	B-AC	165.00	163.08	0.00	503.01	0.328	0.48	10.533	B
L	C-A	435.00	435.00	0.00	-	-	-	-	-
L	C-B	115.00	113.86	0.00	514.16	0.224	0.28	8.969	A
L	A-B	125.00	125.00	0.00	-	-	-	-	-
L	A-C	335.00	335.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	629.23	0.000	0.00	0.000	A
D	C-A	190.00	190.00	0.00	-	-	-	-	-
D	C-B	60.00	60.00	0.00	568.39	0.106	0.12	7.080	A
D	A-B	50.00	50.00	0.00	-	-	-	-	-
D	A-C	150.00	150.00	0.00	-	-	-	-	-
F	B-AC	170.00	169.99	0.00	710.51	0.239	0.31	6.659	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	185.00	184.99	0.00	599.12	0.309	0.44	8.692	A
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	60.00	60.00	0.00	-	-	-	-	-
L	B-AC	165.00	164.98	0.00	502.69	0.328	0.48	10.658	B
L	C-A	435.00	435.00	0.00	-	-	-	-	-
L	C-B	115.00	114.99	0.00	514.16	0.224	0.29	9.018	A
L	A-B	125.00	125.00	0.00	-	-	-	-	-
L	A-C	335.00	335.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	629.23	0.000	0.00	0.000	A
D	C-A	190.00	190.00	0.00	-	-	-	-	-
D	C-B	60.00	60.00	0.00	568.39	0.106	0.12	7.080	A
D	A-B	50.00	50.00	0.00	-	-	-	-	-
D	A-C	150.00	150.00	0.00	-	-	-	-	-
F	B-AC	170.00	170.00	0.00	710.51	0.239	0.31	6.659	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	185.00	185.00	0.00	599.12	0.309	0.44	8.692	A
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	60.00	60.00	0.00	-	-	-	-	-
L	B-AC	165.00	164.99	0.00	502.69	0.328	0.49	10.660	B
L	C-A	435.00	435.00	0.00	-	-	-	-	-
L	C-B	115.00	115.00	0.00	514.16	0.224	0.29	9.018	A
L	A-B	125.00	125.00	0.00	-	-	-	-	-
L	A-C	335.00	335.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	629.23	0.000	0.00	0.000	A
D	C-A	190.00	190.00	0.00	-	-	-	-	-
D	C-B	60.00	60.00	0.00	568.39	0.106	0.12	7.080	A
D	A-B	50.00	50.00	0.00	-	-	-	-	-
D	A-C	150.00	150.00	0.00	-	-	-	-	-
F	B-AC	170.00	170.00	0.00	710.51	0.239	0.31	6.659	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	185.00	185.00	0.00	599.12	0.309	0.45	8.692	A
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	60.00	60.00	0.00	-	-	-	-	-
L	B-AC	165.00	165.00	0.00	502.69	0.328	0.49	10.660	B
L	C-A	435.00	435.00	0.00	-	-	-	-	-
L	C-B	115.00	115.00	0.00	514.16	0.224	0.29	9.018	A
L	A-B	125.00	125.00	0.00	-	-	-	-	-
L	A-C	335.00	335.00	0.00	-	-	-	-	-

Main results: (09:30-09:45)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	629.23	0.000	0.00	0.000	A
D	C-A	190.00	190.00	0.00	-	-	-	-	-
D	C-B	60.00	60.00	0.00	568.39	0.106	0.12	7.080	A
D	A-B	50.00	50.00	0.00	-	-	-	-	-
D	A-C	150.00	150.00	0.00	-	-	-	-	-
F	B-AC	170.00	170.00	0.00	710.51	0.239	0.31	6.659	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	185.00	185.00	0.00	599.12	0.309	0.45	8.692	A
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	60.00	60.00	0.00	-	-	-	-	-
L	B-AC	165.00	165.00	0.00	502.69	0.328	0.49	10.660	B
L	C-A	435.00	435.00	0.00	-	-	-	-	-
L	C-B	115.00	115.00	0.00	514.16	0.224	0.29	9.018	A
L	A-B	125.00	125.00	0.00	-	-	-	-	-
L	A-C	335.00	335.00	0.00	-	-	-	-	-

Main results: (09:45-10:00)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	629.23	0.000	0.00	0.000	A
D	C-A	190.00	190.00	0.00	-	-	-	-	-
D	C-B	60.00	60.00	0.00	568.39	0.106	0.12	7.080	A
D	A-B	50.00	50.00	0.00	-	-	-	-	-
D	A-C	150.00	150.00	0.00	-	-	-	-	-
F	B-AC	170.00	170.00	0.00	710.51	0.239	0.31	6.659	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	185.00	185.00	0.00	599.12	0.309	0.45	8.692	A
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	60.00	60.00	0.00	-	-	-	-	-
L	B-AC	165.00	165.00	0.00	502.69	0.328	0.49	10.660	B
L	C-A	435.00	435.00	0.00	-	-	-	-	-
L	C-B	115.00	115.00	0.00	514.16	0.224	0.29	9.018	A
L	A-B	125.00	125.00	0.00	-	-	-	-	-
L	A-C	335.00	335.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2022 Existing, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2022 Existing, PM	2022 Existing	PM		FLAT	17:30	19:00	90	15		

Junction Network

Junctions

Junction	Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
D	D	Kau Pui Lung Rd / Lok Shan Rd	T-Junction	Two-way	A,B,C	7.09	A
F	F	Chi Kiang St / Ko Shan Rd	T-Junction	One-way from A to C	A,B,C	7.07	A
L	L	Sheung Shing Street / Sheung Lot Street	T-Junction	Two-way	A,B,C	8.10	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Arm	Name	Description	Arm Type
D	A	A	Kau Pui Lung Road		Major
D	B	B	Lok Shan Rd		Minor
D	C	C	Kau Pui Lung Rd		Major
F	A	A	Chi Kiang St W		Major
F	B	B	Ko Shan Rd		Minor
F	C	C	Chi Kiang St		Major
L	A	A	Sheung Shing Street WB		Major
L	B	B	Sheung Lok Street		Minor
L	C	C	Sheung Shing Street EB		Major

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
D	C	12.00		0.00		2.20	50.00		
F	C	12.00		0.00		2.20	50.00		
L	C	10.00		0.00		2.20	50.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Junction	Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
D	B	One lane	5.00										50	50
F	B	One lane	3.90										50	50
L	B	One lane	5.00										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
D	B-A	622.329	0.084	0.212	0.133	0.302
D	B-C	786.649	0.089	0.225	-	-
D	C-B	602.919	0.173	0.173	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
F	B-A	565.227	0.022	0.056	0.036	0.081
F	B-C	714.470	0.024	0.060	-	-
F	C-B	602.919	0.051	0.051	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
L	B-A	622.329	0.094	0.237	0.149	0.338
L	B-C	786.649	0.100	0.252	-	-
L	C-B	602.919	0.193	0.193	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
D	A	FLAT	✓	205.00	100.000
D	B	FLAT	✓	0.00	100.000
D	C	FLAT	✓	200.00	100.000
F	A	FLAT	✓	50.00	100.000
F	B	FLAT	✓	145.00	100.000
F	C	FLAT	✓	140.00	100.000
L	A	FLAT	✓	340.00	100.000
L	B	FLAT	✓	145.00	100.000
L	C	FLAT	✓	405.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction D (for whole period)

		To		
		A	B	C
From	A	0.000	80.000	125.000
	B	0.000	0.000	0.000
	C	140.000	60.000	0.000

Turning Proportions (PCU) - Junction D (for whole period)

		To		
		A	B	C
From	A	0.00	0.39	0.61
	B	0.33	0.33	0.33
	C	0.70	0.30	0.00

Turning Counts / Proportions (PCU/hr) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.000	10.000	40.000
	B	0.000	0.000	145.000
	C	0.000	140.000	0.000

Turning Proportions (PCU) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.00	0.20	0.80
	B	0.00	0.00	1.00
	C	0.00	1.00	0.00

Turning Counts / Proportions (PCU/hr) - Junction L (for whole period)

		To		
		A	B	C
From	A	0.000	60.000	280.000
	B	70.000	0.000	75.000
	C	350.000	55.000	0.000

Turning Proportions (PCU) - Junction L (for whole period)

		To		
		A	B	C
From	A	0.00	0.18	0.82
	B	0.48	0.00	0.52
	C	0.86	0.14	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction D (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction D (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Average PCU Per Vehicle - Junction F (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction F (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Average PCU Per Vehicle - Junction L (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction L (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
D	B-AC	0.00	0.00	0.00	A
D	C-A	-	-	-	-
D	C-B	0.11	7.09	0.12	A
D	A-B	-	-	-	-
D	A-C	-	-	-	-
F	B-AC	0.20	6.35	0.26	A
F	C-A	-	-	-	-
F	C-B	0.23	7.82	0.30	A
F	A-B	-	-	-	-
F	A-C	-	-	-	-
L	B-AC	0.25	8.34	0.34	A
L	C-A	-	-	-	-
L	C-B	0.10	7.46	0.11	A
L	A-B	-	-	-	-
L	A-C	-	-	-	-

Main Results for each time segment

Main results: (17:30-17:45)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	636.68	0.000	0.00	0.000	A
D	C-A	140.00	140.00	0.00	-	-	-	-	-
D	C-B	60.00	59.53	0.00	567.53	0.106	0.12	7.081	A
D	A-B	80.00	80.00	0.00	-	-	-	-	-
D	A-C	125.00	125.00	0.00	-	-	-	-	-
F	B-AC	145.00	143.99	0.00	711.83	0.204	0.25	6.328	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	140.00	138.80	0.00	600.39	0.233	0.30	7.779	A
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	40.00	40.00	0.00	-	-	-	-	-
L	B-AC	145.00	143.67	0.00	576.51	0.252	0.33	8.293	A
L	C-A	350.00	350.00	0.00	-	-	-	-	-
L	C-B	55.00	54.55	0.00	537.32	0.102	0.11	7.451	A
L	A-B	60.00	60.00	0.00	-	-	-	-	-
L	A-C	280.00	280.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	636.59	0.000	0.00	0.000	A
D	C-A	140.00	140.00	0.00	-	-	-	-	-
D	C-B	60.00	60.00	0.00	567.53	0.106	0.12	7.092	A
D	A-B	80.00	80.00	0.00	-	-	-	-	-
D	A-C	125.00	125.00	0.00	-	-	-	-	-
F	B-AC	145.00	145.00	0.00	711.83	0.204	0.25	6.350	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	140.00	139.99	0.00	600.39	0.233	0.30	7.819	A
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	40.00	40.00	0.00	-	-	-	-	-
L	B-AC	145.00	144.99	0.00	576.40	0.252	0.33	8.344	A
L	C-A	350.00	350.00	0.00	-	-	-	-	-
L	C-B	55.00	55.00	0.00	537.32	0.102	0.11	7.463	A
L	A-B	60.00	60.00	0.00	-	-	-	-	-
L	A-C	280.00	280.00	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	636.59	0.000	0.00	0.000	A
D	C-A	140.00	140.00	0.00	-	-	-	-	-
D	C-B	60.00	60.00	0.00	567.53	0.106	0.12	7.092	A
D	A-B	80.00	80.00	0.00	-	-	-	-	-
D	A-C	125.00	125.00	0.00	-	-	-	-	-
F	B-AC	145.00	145.00	0.00	711.83	0.204	0.26	6.350	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	140.00	140.00	0.00	600.39	0.233	0.30	7.819	A
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	40.00	40.00	0.00	-	-	-	-	-
L	B-AC	145.00	145.00	0.00	576.40	0.252	0.33	8.344	A
L	C-A	350.00	350.00	0.00	-	-	-	-	-
L	C-B	55.00	55.00	0.00	537.32	0.102	0.11	7.463	A
L	A-B	60.00	60.00	0.00	-	-	-	-	-
L	A-C	280.00	280.00	0.00	-	-	-	-	-

Main results: (18:15-18:30)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	636.59	0.000	0.00	0.000	A
D	C-A	140.00	140.00	0.00	-	-	-	-	-
D	C-B	60.00	60.00	0.00	567.53	0.106	0.12	7.092	A
D	A-B	80.00	80.00	0.00	-	-	-	-	-
D	A-C	125.00	125.00	0.00	-	-	-	-	-
F	B-AC	145.00	145.00	0.00	711.83	0.204	0.26	6.350	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	140.00	140.00	0.00	600.39	0.233	0.30	7.819	A
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	40.00	40.00	0.00	-	-	-	-	-
L	B-AC	145.00	145.00	0.00	576.40	0.252	0.34	8.344	A
L	C-A	350.00	350.00	0.00	-	-	-	-	-
L	C-B	55.00	55.00	0.00	537.32	0.102	0.11	7.463	A
L	A-B	60.00	60.00	0.00	-	-	-	-	-
L	A-C	280.00	280.00	0.00	-	-	-	-	-

Main results: (18:30-18:45)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	636.59	0.000	0.00	0.000	A
D	C-A	140.00	140.00	0.00	-	-	-	-	-
D	C-B	60.00	60.00	0.00	567.53	0.106	0.12	7.092	A
D	A-B	80.00	80.00	0.00	-	-	-	-	-
D	A-C	125.00	125.00	0.00	-	-	-	-	-
F	B-AC	145.00	145.00	0.00	711.83	0.204	0.26	6.350	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	140.00	140.00	0.00	600.39	0.233	0.30	7.819	A
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	40.00	40.00	0.00	-	-	-	-	-
L	B-AC	145.00	145.00	0.00	576.40	0.252	0.34	8.344	A
L	C-A	350.00	350.00	0.00	-	-	-	-	-
L	C-B	55.00	55.00	0.00	537.32	0.102	0.11	7.463	A
L	A-B	60.00	60.00	0.00	-	-	-	-	-
L	A-C	280.00	280.00	0.00	-	-	-	-	-

Main results: (18:45-19:00)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	636.59	0.000	0.00	0.000	A
D	C-A	140.00	140.00	0.00	-	-	-	-	-
D	C-B	60.00	60.00	0.00	567.53	0.106	0.12	7.092	A
D	A-B	80.00	80.00	0.00	-	-	-	-	-
D	A-C	125.00	125.00	0.00	-	-	-	-	-
F	B-AC	145.00	145.00	0.00	711.83	0.204	0.26	6.350	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	140.00	140.00	0.00	600.39	0.233	0.30	7.819	A
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	40.00	40.00	0.00	-	-	-	-	-
L	B-AC	145.00	145.00	0.00	576.40	0.252	0.34	8.344	A
L	C-A	350.00	350.00	0.00	-	-	-	-	-
L	C-B	55.00	55.00	0.00	537.32	0.102	0.11	7.463	A
L	A-B	60.00	60.00	0.00	-	-	-	-	-
L	A-C	280.00	280.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2036 Reference, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2036 Reference, AM	2036 Reference	AM		FLAT	08:30	10:00	90	15		

Junction Network

Junctions

Junction	Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
D	D	Kau Pui Lung Rd / Lok Shan Rd	T-Junction	Two-way	A,B,C	9.20	A
F	F	Chi Kiang St / Ko Shan Rd	T-Junction	One-way from A to C	A,B,C	12.21	B
L	L	Sheung Shing Street / Sheung Lot Street	T-Junction	Two-way	A,B,C	22.21	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Arm	Name	Description	Arm Type
D	A	A	Kau Pui Lung Road		Major
D	B	B	Lok Shan Rd		Minor
D	C	C	Kau Pui Lung Rd		Major
F	A	A	Chi Kiang St W		Major
F	B	B	Ko Shan Rd		Minor
F	C	C	Chi Kiang St		Major
L	A	A	Sheung Shing Street WB		Major
L	B	B	Sheung Lok Street		Minor
L	C	C	Sheung Shing Street EB		Major

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
D	C	12.00		0.00		2.20	50.00		
F	C	12.00		0.00		2.20	50.00		
L	C	10.00		0.00		2.20	50.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Junction	Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
D	B	One lane	5.00										50	50
F	B	One lane	3.90										50	50
L	B	One lane	5.00										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
D	B-A	622.329	0.084	0.212	0.133	0.302
D	B-C	786.649	0.089	0.225	-	-
D	C-B	602.919	0.173	0.173	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
F	B-A	565.227	0.022	0.056	0.036	0.081
F	B-C	714.470	0.024	0.060	-	-
F	C-B	602.919	0.051	0.051	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
L	B-A	622.329	0.094	0.237	0.149	0.338
L	B-C	786.649	0.100	0.252	-	-
L	C-B	602.919	0.193	0.193	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
D	A	FLAT	✓	560.00	100.000
D	B	FLAT	✓	0.00	100.000
D	C	FLAT	✓	275.00	100.000
F	A	FLAT	✓	30.00	100.000
F	B	FLAT	✓	235.00	100.000
F	C	FLAT	✓	365.00	100.000
L	A	FLAT	✓	885.00	100.000
L	B	FLAT	✓	220.00	100.000
L	C	FLAT	✓	830.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction D (for whole period)

		To		
		A	B	C
From	A	0.000	155.000	405.000
	B	0.000	0.000	0.000
	C	160.000	115.000	0.000

Turning Proportions (PCU) - Junction D (for whole period)

		To		
		A	B	C
From	A	0.00	0.28	0.72
	B	0.33	0.33	0.33
	C	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.000	15.000	15.000
	B	0.000	0.000	235.000
	C	0.000	365.000	0.000

Turning Proportions (PCU) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.00	0.50	0.50
	B	0.00	0.00	1.00
	C	0.00	1.00	0.00

Turning Counts / Proportions (PCU/hr) - Junction L (for whole period)

		To		
		A	B	C
From	A	0.000	380.000	505.000
	B	115.000	0.000	105.000
	C	555.000	275.000	0.000

Turning Proportions (PCU) - Junction L (for whole period)

		To		
		A	B	C
From	A	0.00	0.43	0.57
	B	0.52	0.00	0.48
	C	0.67	0.33	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction D (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction D (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Average PCU Per Vehicle - Junction F (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction F (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Average PCU Per Vehicle - Junction L (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction L (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
D	B-AC	0.00	0.00	0.00	A
D	C-A	-	-	-	-
D	C-B	0.23	9.20	0.29	A
D	A-B	-	-	-	-
D	A-C	-	-	-	-
F	B-AC	0.33	7.53	0.49	A
F	C-A	-	-	-	-
F	C-B	0.61	15.22	1.53	C
F	A-B	-	-	-	-
F	A-C	-	-	-	-
L	B-AC	0.57	21.36	1.29	C
L	C-A	-	-	-	-
L	C-B	0.64	22.88	1.73	C
L	A-B	-	-	-	-
L	A-C	-	-	-	-

Main Results for each time segment

Main results: (08:30-08:45)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	554.62	0.000	0.00	0.000	A
D	C-A	160.00	160.00	0.00	-	-	-	-	-
D	C-B	115.00	113.84	0.00	506.25	0.227	0.29	9.148	A
D	A-B	155.00	155.00	0.00	-	-	-	-	-
D	A-C	405.00	405.00	0.00	-	-	-	-	-
F	B-AC	235.00	233.06	0.00	713.21	0.330	0.49	7.468	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	365.00	359.07	0.00	601.40	0.607	1.48	14.528	B
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	15.00	15.00	0.00	-	-	-	-	-
L	B-AC	220.00	215.10	0.00	390.62	0.563	1.23	20.002	C
L	C-A	555.00	555.00	0.00	-	-	-	-	-
L	C-B	275.00	268.44	0.00	432.16	0.636	1.64	21.233	C
L	A-B	380.00	380.00	0.00	-	-	-	-	-
L	A-C	505.00	505.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	554.37	0.000	0.00	0.000	A
D	C-A	160.00	160.00	0.00	-	-	-	-	-
D	C-B	115.00	114.99	0.00	506.25	0.227	0.29	9.200	A
D	A-B	155.00	155.00	0.00	-	-	-	-	-
D	A-C	405.00	405.00	0.00	-	-	-	-	-
F	B-AC	235.00	234.99	0.00	713.21	0.330	0.49	7.527	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	365.00	364.88	0.00	601.40	0.607	1.51	15.200	C
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	15.00	15.00	0.00	-	-	-	-	-
L	B-AC	220.00	219.83	0.00	388.54	0.566	1.27	21.288	C
L	C-A	555.00	555.00	0.00	-	-	-	-	-
L	C-B	275.00	274.79	0.00	432.16	0.636	1.69	22.794	C
L	A-B	380.00	380.00	0.00	-	-	-	-	-
L	A-C	505.00	505.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	554.37	0.000	0.00	0.000	A
D	C-A	160.00	160.00	0.00	-	-	-	-	-
D	C-B	115.00	115.00	0.00	506.25	0.227	0.29	9.200	A
D	A-B	155.00	155.00	0.00	-	-	-	-	-
D	A-C	405.00	405.00	0.00	-	-	-	-	-
F	B-AC	235.00	235.00	0.00	713.21	0.330	0.49	7.527	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	365.00	364.96	0.00	601.40	0.607	1.52	15.212	C
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	15.00	15.00	0.00	-	-	-	-	-
L	B-AC	220.00	219.95	0.00	388.47	0.566	1.28	21.334	C
L	C-A	555.00	555.00	0.00	-	-	-	-	-
L	C-B	275.00	274.93	0.00	432.16	0.636	1.71	22.848	C
L	A-B	380.00	380.00	0.00	-	-	-	-	-
L	A-C	505.00	505.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	554.37	0.000	0.00	0.000	A
D	C-A	160.00	160.00	0.00	-	-	-	-	-
D	C-B	115.00	115.00	0.00	506.25	0.227	0.29	9.200	A
D	A-B	155.00	155.00	0.00	-	-	-	-	-
D	A-C	405.00	405.00	0.00	-	-	-	-	-
F	B-AC	235.00	235.00	0.00	713.21	0.330	0.49	7.527	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	365.00	364.98	0.00	601.40	0.607	1.53	15.218	C
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	15.00	15.00	0.00	-	-	-	-	-
L	B-AC	220.00	219.97	0.00	388.45	0.566	1.29	21.349	C
L	C-A	555.00	555.00	0.00	-	-	-	-	-
L	C-B	275.00	274.96	0.00	432.16	0.636	1.72	22.869	C
L	A-B	380.00	380.00	0.00	-	-	-	-	-
L	A-C	505.00	505.00	0.00	-	-	-	-	-

Main results: (09:30-09:45)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	554.37	0.000	0.00	0.000	A
D	C-A	160.00	160.00	0.00	-	-	-	-	-
D	C-B	115.00	115.00	0.00	506.25	0.227	0.29	9.200	A
D	A-B	155.00	155.00	0.00	-	-	-	-	-
D	A-C	405.00	405.00	0.00	-	-	-	-	-
F	B-AC	235.00	235.00	0.00	713.21	0.330	0.49	7.527	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	365.00	364.99	0.00	601.40	0.607	1.53	15.221	C
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	15.00	15.00	0.00	-	-	-	-	-
L	B-AC	220.00	219.98	0.00	388.44	0.566	1.29	21.355	C
L	C-A	555.00	555.00	0.00	-	-	-	-	-
L	C-B	275.00	274.98	0.00	432.16	0.636	1.73	22.877	C
L	A-B	380.00	380.00	0.00	-	-	-	-	-
L	A-C	505.00	505.00	0.00	-	-	-	-	-

Main results: (09:45-10:00)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	554.37	0.000	0.00	0.000	A
D	C-A	160.00	160.00	0.00	-	-	-	-	-
D	C-B	115.00	115.00	0.00	506.25	0.227	0.29	9.200	A
D	A-B	155.00	155.00	0.00	-	-	-	-	-
D	A-C	405.00	405.00	0.00	-	-	-	-	-
F	B-AC	235.00	235.00	0.00	713.21	0.330	0.49	7.527	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	365.00	364.99	0.00	601.40	0.607	1.53	15.221	C
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	15.00	15.00	0.00	-	-	-	-	-
L	B-AC	220.00	219.99	0.00	388.43	0.566	1.29	21.360	C
L	C-A	555.00	555.00	0.00	-	-	-	-	-
L	C-B	275.00	274.98	0.00	432.16	0.636	1.73	22.883	C
L	A-B	380.00	380.00	0.00	-	-	-	-	-
L	A-C	505.00	505.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2036 Reference, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2036 Reference, PM	2036 Reference	PM		FLAT	17:30	19:00	90	15		

Junction Network

Junctions

Junction	Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
D	D	Kau Pui Lung Rd / Lok Shan Rd	T-Junction	Two-way	A,B,C	9.27	A
F	F	Chi Kiang St / Ko Shan Rd	T-Junction	One-way from A to C	A,B,C	12.28	B
L	L	Sheung Shing Street / Sheung Lot Street	T-Junction	Two-way	A,B,C	9.72	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Arm	Name	Description	Arm Type
D	A	A	Kau Pui Lung Road		Major
D	B	B	Lok Shan Rd		Minor
D	C	C	Kau Pui Lung Rd		Major
F	A	A	Chi Kiang St W		Major
F	B	B	Ko Shan Rd		Minor
F	C	C	Chi Kiang St		Major
L	A	A	Sheung Shing Street WB		Major
L	B	B	Sheung Lok Street		Minor
L	C	C	Sheung Shing Street EB		Major

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
D	C	12.00		0.00		2.20	50.00		
F	C	12.00		0.00		2.20	50.00		
L	C	10.00		0.00		2.20	50.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Junction	Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
D	B	One lane	5.00										50	50
F	B	One lane	3.90										50	50
L	B	One lane	5.00										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
D	B-A	622.329	0.084	0.212	0.133	0.302
D	B-C	786.649	0.089	0.225	-	-
D	C-B	602.919	0.173	0.173	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
F	B-A	565.227	0.022	0.056	0.036	0.081
F	B-C	714.470	0.024	0.060	-	-
F	C-B	602.919	0.051	0.051	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
L	B-A	622.329	0.094	0.237	0.149	0.338
L	B-C	786.649	0.100	0.252	-	-
L	C-B	602.919	0.193	0.193	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
D	A	FLAT	✓	665.00	100.000
D	B	FLAT	✓	0.00	100.000
D	C	FLAT	✓	270.00	100.000
F	A	FLAT	✓	55.00	100.000
F	B	FLAT	✓	175.00	100.000
F	C	FLAT	✓	360.00	100.000
L	A	FLAT	✓	650.00	100.000
L	B	FLAT	✓	140.00	100.000
L	C	FLAT	✓	615.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction D (for whole period)

		To		
		A	B	C
From	A	0.000	310.000	355.000
	B	0.000	0.000	0.000
	C	170.000	100.000	0.000

Turning Proportions (PCU) - Junction D (for whole period)

		To		
		A	B	C
From	A	0.00	0.47	0.53
	B	0.33	0.33	0.33
	C	0.63	0.37	0.00

Turning Counts / Proportions (PCU/hr) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.000	10.000	45.000
	B	0.000	0.000	175.000
	C	0.000	360.000	0.000

Turning Proportions (PCU) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.00	0.18	0.82
	B	0.00	0.00	1.00
	C	0.00	1.00	0.00

Turning Counts / Proportions (PCU/hr) - Junction L (for whole period)

		To		
		A	B	C
From	A	0.000	90.000	560.000
	B	60.000	0.000	80.000
	C	580.000	35.000	0.000

Turning Proportions (PCU) - Junction L (for whole period)

		To		
		A	B	C
From	A	0.00	0.14	0.86
	B	0.43	0.00	0.57
	C	0.94	0.06	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction D (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction D (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Average PCU Per Vehicle - Junction F (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction F (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Average PCU Per Vehicle - Junction L (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction L (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
D	B-AC	0.00	0.00	0.00	A
D	C-A	-	-	-	-
D	C-B	0.20	9.27	0.26	A
D	A-B	-	-	-	-
D	A-C	-	-	-	-
F	B-AC	0.25	6.71	0.33	A
F	C-A	-	-	-	-
F	C-B	0.60	14.99	1.49	B
F	A-B	-	-	-	-
F	A-C	-	-	-	-
L	B-AC	0.28	10.11	0.39	B
L	C-A	-	-	-	-
L	C-B	0.07	8.13	0.08	A
L	A-B	-	-	-	-
L	A-C	-	-	-	-

Main Results for each time segment

Main results: (17:30-17:45)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	554.34	0.000	0.00	0.000	A
D	C-A	170.00	170.00	0.00	-	-	-	-	-
D	C-B	100.00	98.98	0.00	488.12	0.205	0.25	9.227	A
D	A-B	310.00	310.00	0.00	-	-	-	-	-
D	A-C	355.00	355.00	0.00	-	-	-	-	-
F	B-AC	175.00	173.71	0.00	711.53	0.246	0.32	6.677	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	360.00	354.24	0.00	600.13	0.600	1.44	14.329	B
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	45.00	45.00	0.00	-	-	-	-	-
L	B-AC	140.00	138.45	0.00	496.06	0.282	0.39	10.025	B
L	C-A	580.00	580.00	0.00	-	-	-	-	-
L	C-B	35.00	34.69	0.00	477.50	0.073	0.08	8.124	A
L	A-B	90.00	90.00	0.00	-	-	-	-	-
L	A-C	560.00	560.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	554.12	0.000	0.00	0.000	A
D	C-A	170.00	170.00	0.00	-	-	-	-	-
D	C-B	100.00	99.99	0.00	488.12	0.205	0.26	9.274	A
D	A-B	310.00	310.00	0.00	-	-	-	-	-
D	A-C	355.00	355.00	0.00	-	-	-	-	-
F	B-AC	175.00	174.99	0.00	711.53	0.246	0.32	6.708	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	360.00	359.89	0.00	600.13	0.600	1.47	14.964	B
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	45.00	45.00	0.00	-	-	-	-	-
L	B-AC	140.00	139.99	0.00	495.99	0.282	0.39	10.112	B
L	C-A	580.00	580.00	0.00	-	-	-	-	-
L	C-B	35.00	35.00	0.00	477.50	0.073	0.08	8.135	A
L	A-B	90.00	90.00	0.00	-	-	-	-	-
L	A-C	560.00	560.00	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	554.12	0.000	0.00	0.000	A
D	C-A	170.00	170.00	0.00	-	-	-	-	-
D	C-B	100.00	100.00	0.00	488.12	0.205	0.26	9.274	A
D	A-B	310.00	310.00	0.00	-	-	-	-	-
D	A-C	355.00	355.00	0.00	-	-	-	-	-
F	B-AC	175.00	175.00	0.00	711.53	0.246	0.33	6.708	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	360.00	359.96	0.00	600.13	0.600	1.48	14.979	B
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	45.00	45.00	0.00	-	-	-	-	-
L	B-AC	140.00	140.00	0.00	495.99	0.282	0.39	10.112	B
L	C-A	580.00	580.00	0.00	-	-	-	-	-
L	C-B	35.00	35.00	0.00	477.50	0.073	0.08	8.135	A
L	A-B	90.00	90.00	0.00	-	-	-	-	-
L	A-C	560.00	560.00	0.00	-	-	-	-	-

Main results: (18:15-18:30)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	554.12	0.000	0.00	0.000	A
D	C-A	170.00	170.00	0.00	-	-	-	-	-
D	C-B	100.00	100.00	0.00	488.12	0.205	0.26	9.274	A
D	A-B	310.00	310.00	0.00	-	-	-	-	-
D	A-C	355.00	355.00	0.00	-	-	-	-	-
F	B-AC	175.00	175.00	0.00	711.53	0.246	0.33	6.708	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	360.00	359.98	0.00	600.13	0.600	1.48	14.982	B
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	45.00	45.00	0.00	-	-	-	-	-
L	B-AC	140.00	140.00	0.00	495.99	0.282	0.39	10.112	B
L	C-A	580.00	580.00	0.00	-	-	-	-	-
L	C-B	35.00	35.00	0.00	477.50	0.073	0.08	8.135	A
L	A-B	90.00	90.00	0.00	-	-	-	-	-
L	A-C	560.00	560.00	0.00	-	-	-	-	-

Main results: (18:30-18:45)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	554.12	0.000	0.00	0.000	A
D	C-A	170.00	170.00	0.00	-	-	-	-	-
D	C-B	100.00	100.00	0.00	488.12	0.205	0.26	9.274	A
D	A-B	310.00	310.00	0.00	-	-	-	-	-
D	A-C	355.00	355.00	0.00	-	-	-	-	-
F	B-AC	175.00	175.00	0.00	711.53	0.246	0.33	6.708	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	360.00	359.99	0.00	600.13	0.600	1.49	14.984	B
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	45.00	45.00	0.00	-	-	-	-	-
L	B-AC	140.00	140.00	0.00	495.99	0.282	0.39	10.112	B
L	C-A	580.00	580.00	0.00	-	-	-	-	-
L	C-B	35.00	35.00	0.00	477.50	0.073	0.08	8.135	A
L	A-B	90.00	90.00	0.00	-	-	-	-	-
L	A-C	560.00	560.00	0.00	-	-	-	-	-

Main results: (18:45-19:00)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	554.12	0.000	0.00	0.000	A
D	C-A	170.00	170.00	0.00	-	-	-	-	-
D	C-B	100.00	100.00	0.00	488.12	0.205	0.26	9.274	A
D	A-B	310.00	310.00	0.00	-	-	-	-	-
D	A-C	355.00	355.00	0.00	-	-	-	-	-
F	B-AC	175.00	175.00	0.00	711.53	0.246	0.33	6.708	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	360.00	359.99	0.00	600.13	0.600	1.49	14.987	B
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	45.00	45.00	0.00	-	-	-	-	-
L	B-AC	140.00	140.00	0.00	495.99	0.282	0.39	10.112	B
L	C-A	580.00	580.00	0.00	-	-	-	-	-
L	C-B	35.00	35.00	0.00	477.50	0.073	0.08	8.135	A
L	A-B	90.00	90.00	0.00	-	-	-	-	-
L	A-C	560.00	560.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2036 Design, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2036 Design, AM	2036 Design	AM		FLAT	08:30	10:00	90	15		

Junction Network

Junctions

Junction	Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
D	D	Kau Pui Lung Rd / Lok Shan Rd	T-Junction	Two-way	A,B,C	10.90	B
F	F	Chi Kiang St / Ko Shan Rd	T-Junction	One-way from A to C	A,B,C	20.46	C
L	L	Sheung Shing Street / Sheung Lot Street	T-Junction	Two-way	A,B,C	22.60	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Arm	Name	Description	Arm Type
D	A	A	Kau Pui Lung Road		Major
D	B	B	Lok Shan Rd		Minor
D	C	C	Kau Pui Lung Rd		Major
F	A	A	Chi Kiang St W		Major
F	B	B	Ko Shan Rd		Minor
F	C	C	Chi Kiang St		Major
L	A	A	Sheung Shing Street WB		Major
L	B	B	Sheung Lok Street		Minor
L	C	C	Sheung Shing Street EB		Major

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
D	C	12.00		0.00		2.20	50.00		
F	C	12.00		0.00		2.20	50.00		
L	C	10.00		0.00		2.20	50.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Junction	Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
D	B	One lane	5.00										50	50
F	B	One lane	3.90										50	50
L	B	One lane	5.00										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
D	B-A	622.329	0.084	0.212	0.133	0.302
D	B-C	786.649	0.089	0.225	-	-
D	C-B	602.919	0.173	0.173	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
F	B-A	565.227	0.022	0.056	0.036	0.081
F	B-C	714.470	0.024	0.060	-	-
F	C-B	602.919	0.051	0.051	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
L	B-A	622.329	0.094	0.237	0.149	0.338
L	B-C	786.649	0.100	0.252	-	-
L	C-B	602.919	0.193	0.193	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
D	A	FLAT	✓	595.00	100.000
D	B	FLAT	✓	0.00	100.000
D	C	FLAT	✓	385.00	100.000
F	A	FLAT	✓	80.00	100.000
F	B	FLAT	✓	290.00	100.000
F	C	FLAT	✓	470.00	100.000
L	A	FLAT	✓	895.00	100.000
L	B	FLAT	✓	220.00	100.000
L	C	FLAT	✓	840.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction D (for whole period)

		To		
		A	B	C
From	A	0.000	155.000	440.000
	B	0.000	0.000	0.000
	C	215.000	170.000	0.000

Turning Proportions (PCU) - Junction D (for whole period)

		To		
		A	B	C
From	A	0.00	0.26	0.74
	B	0.33	0.33	0.33
	C	0.56	0.44	0.00

Turning Counts / Proportions (PCU/hr) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.000	15.000	65.000
	B	0.000	0.000	290.000
	C	0.000	470.000	0.000

Turning Proportions (PCU) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.00	0.19	0.81
	B	0.00	0.00	1.00
	C	0.00	1.00	0.00

Turning Counts / Proportions (PCU/hr) - Junction L (for whole period)

		To		
		A	B	C
From	A	0.000	380.000	515.000
	B	115.000	0.000	105.000
	C	565.000	275.000	0.000

Turning Proportions (PCU) - Junction L (for whole period)

		To		
		A	B	C
From	A	0.00	0.42	0.58
	B	0.52	0.00	0.48
	C	0.67	0.33	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction D (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction D (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Average PCU Per Vehicle - Junction F (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction F (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Average PCU Per Vehicle - Junction L (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction L (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
D	B-AC	0.00	0.00	0.00	A
D	C-A	-	-	-	-
D	C-B	0.34	10.90	0.51	B
D	A-B	-	-	-	-
D	A-C	-	-	-	-
F	B-AC	0.41	8.57	0.69	A
F	C-A	-	-	-	-
F	C-B	0.78	27.80	3.56	D
F	A-B	-	-	-	-
F	A-C	-	-	-	-
L	B-AC	0.57	21.90	1.33	C
L	C-A	-	-	-	-
L	C-B	0.64	23.17	1.75	C
L	A-B	-	-	-	-
L	A-C	-	-	-	-

Main Results for each time segment

Main results: (08:30-08:45)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	529.51	0.000	0.00	0.000	A
D	C-A	215.00	215.00	0.00	-	-	-	-	-
D	C-B	170.00	167.98	0.00	500.21	0.340	0.51	10.773	B
D	A-B	155.00	155.00	0.00	-	-	-	-	-
D	A-C	440.00	440.00	0.00	-	-	-	-	-
F	B-AC	290.00	287.28	0.00	710.21	0.408	0.68	8.459	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	470.00	457.10	0.00	598.87	0.785	3.22	23.635	C
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	65.00	65.00	0.00	-	-	-	-	-
L	B-AC	220.00	214.99	0.00	386.53	0.569	1.25	20.448	C
L	C-A	565.00	565.00	0.00	-	-	-	-	-
L	C-B	275.00	268.37	0.00	430.23	0.639	1.66	21.460	C
L	A-B	380.00	380.00	0.00	-	-	-	-	-
L	A-C	515.00	515.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	529.06	0.000	0.00	0.000	A
D	C-A	215.00	215.00	0.00	-	-	-	-	-
D	C-B	170.00	169.98	0.00	500.21	0.340	0.51	10.899	B
D	A-B	155.00	155.00	0.00	-	-	-	-	-
D	A-C	440.00	440.00	0.00	-	-	-	-	-
F	B-AC	290.00	289.98	0.00	710.21	0.408	0.68	8.565	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	470.00	469.24	0.00	598.87	0.785	3.41	27.376	D
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	65.00	65.00	0.00	-	-	-	-	-
L	B-AC	220.00	219.82	0.00	384.41	0.572	1.30	21.816	C
L	C-A	565.00	565.00	0.00	-	-	-	-	-
L	C-B	275.00	274.78	0.00	430.23	0.639	1.71	23.073	C
L	A-B	380.00	380.00	0.00	-	-	-	-	-
L	A-C	515.00	515.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	529.05	0.000	0.00	0.000	A
D	C-A	215.00	215.00	0.00	-	-	-	-	-
D	C-B	170.00	169.99	0.00	500.21	0.340	0.51	10.901	B
D	A-B	155.00	155.00	0.00	-	-	-	-	-
D	A-C	440.00	440.00	0.00	-	-	-	-	-
F	B-AC	290.00	289.99	0.00	710.21	0.408	0.69	8.566	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	470.00	469.71	0.00	598.87	0.785	3.49	27.624	D
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	65.00	65.00	0.00	-	-	-	-	-
L	B-AC	220.00	219.94	0.00	384.34	0.572	1.31	21.866	C
L	C-A	565.00	565.00	0.00	-	-	-	-	-
L	C-B	275.00	274.92	0.00	430.23	0.639	1.73	23.129	C
L	A-B	380.00	380.00	0.00	-	-	-	-	-
L	A-C	515.00	515.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	529.05	0.000	0.00	0.000	A
D	C-A	215.00	215.00	0.00	-	-	-	-	-
D	C-B	170.00	170.00	0.00	500.21	0.340	0.51	10.901	B
D	A-B	155.00	155.00	0.00	-	-	-	-	-
D	A-C	440.00	440.00	0.00	-	-	-	-	-
F	B-AC	290.00	290.00	0.00	710.21	0.408	0.69	8.566	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	470.00	469.85	0.00	598.87	0.785	3.52	27.719	D
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	65.00	65.00	0.00	-	-	-	-	-
L	B-AC	220.00	219.97	0.00	384.32	0.572	1.32	21.888	C
L	C-A	565.00	565.00	0.00	-	-	-	-	-
L	C-B	275.00	274.96	0.00	430.23	0.639	1.74	23.150	C
L	A-B	380.00	380.00	0.00	-	-	-	-	-
L	A-C	515.00	515.00	0.00	-	-	-	-	-

Main results: (09:30-09:45)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	529.05	0.000	0.00	0.000	A
D	C-A	215.00	215.00	0.00	-	-	-	-	-
D	C-B	170.00	170.00	0.00	500.21	0.340	0.51	10.901	B
D	A-B	155.00	155.00	0.00	-	-	-	-	-
D	A-C	440.00	440.00	0.00	-	-	-	-	-
F	B-AC	290.00	290.00	0.00	710.21	0.408	0.69	8.566	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	470.00	469.91	0.00	598.87	0.785	3.55	27.771	D
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	65.00	65.00	0.00	-	-	-	-	-
L	B-AC	220.00	219.98	0.00	384.30	0.572	1.32	21.893	C
L	C-A	565.00	565.00	0.00	-	-	-	-	-
L	C-B	275.00	274.98	0.00	430.23	0.639	1.75	23.159	C
L	A-B	380.00	380.00	0.00	-	-	-	-	-
L	A-C	515.00	515.00	0.00	-	-	-	-	-

Main results: (09:45-10:00)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	529.05	0.000	0.00	0.000	A
D	C-A	215.00	215.00	0.00	-	-	-	-	-
D	C-B	170.00	170.00	0.00	500.21	0.340	0.51	10.901	B
D	A-B	155.00	155.00	0.00	-	-	-	-	-
D	A-C	440.00	440.00	0.00	-	-	-	-	-
F	B-AC	290.00	290.00	0.00	710.21	0.408	0.69	8.566	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	470.00	469.94	0.00	598.87	0.785	3.56	27.801	D
F	A-B	15.00	15.00	0.00	-	-	-	-	-
F	A-C	65.00	65.00	0.00	-	-	-	-	-
L	B-AC	220.00	219.99	0.00	384.30	0.572	1.33	21.896	C
L	C-A	565.00	565.00	0.00	-	-	-	-	-
L	C-B	275.00	274.98	0.00	430.23	0.639	1.75	23.166	C
L	A-B	380.00	380.00	0.00	-	-	-	-	-
L	A-C	515.00	515.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2036 Design, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2036 Design, PM	2036 Design	PM		FLAT	17:30	19:00	90	15		

Junction Network

Junctions

Junction	Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
D	D	Kau Pui Lung Rd / Lok Shan Rd	T-Junction	Two-way	A,B,C	10.22	B
F	F	Chi Kiang St / Ko Shan Rd	T-Junction	One-way from A to C	A,B,C	15.74	C
L	L	Sheung Shing Street / Sheung Lot Street	T-Junction	Two-way	A,B,C	9.76	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Arm	Name	Description	Arm Type
D	A	A	Kau Pui Lung Road		Major
D	B	B	Lok Shan Rd		Minor
D	C	C	Kau Pui Lung Rd		Major
F	A	A	Chi Kiang St W		Major
F	B	B	Ko Shan Rd		Minor
F	C	C	Chi Kiang St		Major
L	A	A	Sheung Shing Street WB		Major
L	B	B	Sheung Lok Street		Minor
L	C	C	Sheung Shing Street EB		Major

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
D	C	12.00		0.00		2.20	50.00		
F	C	12.00		0.00		2.20	50.00		
L	C	10.00		0.00		2.20	50.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Junction	Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
D	B	One lane	5.00										50	50
F	B	One lane	3.90										50	50
L	B	One lane	5.00										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
D	B-A	622.329	0.084	0.212	0.133	0.302
D	B-C	786.649	0.089	0.225	-	-
D	C-B	602.919	0.173	0.173	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
F	B-A	565.227	0.022	0.056	0.036	0.081
F	B-C	714.470	0.024	0.060	-	-
F	C-B	602.919	0.051	0.051	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
L	B-A	622.329	0.094	0.237	0.149	0.338
L	B-C	786.649	0.100	0.252	-	-
L	C-B	602.919	0.193	0.193	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
D	A	FLAT	✓	700.00	100.000
D	B	FLAT	✓	0.00	100.000
D	C	FLAT	✓	325.00	100.000
F	A	FLAT	✓	105.00	100.000
F	B	FLAT	✓	230.00	100.000
F	C	FLAT	✓	420.00	100.000
L	A	FLAT	✓	655.00	100.000
L	B	FLAT	✓	140.00	100.000
L	C	FLAT	✓	620.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction D (for whole period)

		To		
		A	B	C
From	A	0.000	310.000	390.000
	B	0.000	0.000	0.000
	C	195.000	130.000	0.000

Turning Proportions (PCU) - Junction D (for whole period)

		To		
		A	B	C
From	A	0.00	0.44	0.56
	B	0.33	0.33	0.33
	C	0.60	0.40	0.00

Turning Counts / Proportions (PCU/hr) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.000	10.000	95.000
	B	0.000	0.000	230.000
	C	0.000	420.000	0.000

Turning Proportions (PCU) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.00	0.10	0.90
	B	0.00	0.00	1.00
	C	0.00	1.00	0.00

Turning Counts / Proportions (PCU/hr) - Junction L (for whole period)

		To		
		A	B	C
From	A	0.000	90.000	565.000
	B	60.000	0.000	80.000
	C	585.000	35.000	0.000

Turning Proportions (PCU) - Junction L (for whole period)

		To		
		A	B	C
From	A	0.00	0.14	0.86
	B	0.43	0.00	0.57
	C	0.94	0.06	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction D (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction D (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Average PCU Per Vehicle - Junction F (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction F (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Average PCU Per Vehicle - Junction L (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction L (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
D	B-AC	0.00	0.00	0.00	A
D	C-A	-	-	-	-
D	C-B	0.27	10.22	0.37	B
D	A-B	-	-	-	-
D	A-C	-	-	-	-
F	B-AC	0.32	7.52	0.48	A
F	C-A	-	-	-	-
F	C-B	0.70	20.24	2.34	C
F	A-B	-	-	-	-
F	A-C	-	-	-	-
L	B-AC	0.28	10.16	0.39	B
L	C-A	-	-	-	-
L	C-B	0.07	8.15	0.08	A
L	A-B	-	-	-	-
L	A-C	-	-	-	-

Main Results for each time segment

Main results: (17:30-17:45)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	537.70	0.000	0.00	0.000	A
D	C-A	195.00	195.00	0.00	-	-	-	-	-
D	C-B	130.00	128.55	0.00	482.08	0.270	0.36	10.142	B
D	A-B	310.00	310.00	0.00	-	-	-	-	-
D	A-C	390.00	390.00	0.00	-	-	-	-	-
F	B-AC	230.00	228.10	0.00	708.53	0.325	0.47	7.466	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	420.00	411.18	0.00	597.60	0.703	2.21	18.535	C
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	95.00	95.00	0.00	-	-	-	-	-
L	B-AC	140.00	138.44	0.00	494.24	0.283	0.39	10.079	B
L	C-A	585.00	585.00	0.00	-	-	-	-	-
L	C-B	35.00	34.69	0.00	476.54	0.073	0.08	8.141	A
L	A-B	90.00	90.00	0.00	-	-	-	-	-
L	A-C	565.00	565.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	537.39	0.000	0.00	0.000	A
D	C-A	195.00	195.00	0.00	-	-	-	-	-
D	C-B	130.00	129.99	0.00	482.08	0.270	0.37	10.224	B
D	A-B	310.00	310.00	0.00	-	-	-	-	-
D	A-C	390.00	390.00	0.00	-	-	-	-	-
F	B-AC	230.00	229.99	0.00	708.53	0.325	0.48	7.522	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	420.00	419.70	0.00	597.60	0.703	2.28	20.145	C
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	95.00	95.00	0.00	-	-	-	-	-
L	B-AC	140.00	139.99	0.00	494.16	0.283	0.39	10.164	B
L	C-A	585.00	585.00	0.00	-	-	-	-	-
L	C-B	35.00	35.00	0.00	476.54	0.073	0.08	8.153	A
L	A-B	90.00	90.00	0.00	-	-	-	-	-
L	A-C	565.00	565.00	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	537.38	0.000	0.00	0.000	A
D	C-A	195.00	195.00	0.00	-	-	-	-	-
D	C-B	130.00	130.00	0.00	482.08	0.270	0.37	10.224	B
D	A-B	310.00	310.00	0.00	-	-	-	-	-
D	A-C	390.00	390.00	0.00	-	-	-	-	-
F	B-AC	230.00	230.00	0.00	708.53	0.325	0.48	7.522	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	420.00	419.89	0.00	597.60	0.703	2.31	20.204	C
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	95.00	95.00	0.00	-	-	-	-	-
L	B-AC	140.00	140.00	0.00	494.16	0.283	0.39	10.164	B
L	C-A	585.00	585.00	0.00	-	-	-	-	-
L	C-B	35.00	35.00	0.00	476.54	0.073	0.08	8.153	A
L	A-B	90.00	90.00	0.00	-	-	-	-	-
L	A-C	565.00	565.00	0.00	-	-	-	-	-

Main results: (18:15-18:30)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	537.38	0.000	0.00	0.000	A
D	C-A	195.00	195.00	0.00	-	-	-	-	-
D	C-B	130.00	130.00	0.00	482.08	0.270	0.37	10.224	B
D	A-B	310.00	310.00	0.00	-	-	-	-	-
D	A-C	390.00	390.00	0.00	-	-	-	-	-
F	B-AC	230.00	230.00	0.00	708.53	0.325	0.48	7.522	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	420.00	419.94	0.00	597.60	0.703	2.32	20.226	C
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	95.00	95.00	0.00	-	-	-	-	-
L	B-AC	140.00	140.00	0.00	494.16	0.283	0.39	10.164	B
L	C-A	585.00	585.00	0.00	-	-	-	-	-
L	C-B	35.00	35.00	0.00	476.54	0.073	0.08	8.153	A
L	A-B	90.00	90.00	0.00	-	-	-	-	-
L	A-C	565.00	565.00	0.00	-	-	-	-	-

Main results: (18:30-18:45)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	537.38	0.000	0.00	0.000	A
D	C-A	195.00	195.00	0.00	-	-	-	-	-
D	C-B	130.00	130.00	0.00	482.08	0.270	0.37	10.224	B
D	A-B	310.00	310.00	0.00	-	-	-	-	-
D	A-C	390.00	390.00	0.00	-	-	-	-	-
F	B-AC	230.00	230.00	0.00	708.53	0.325	0.48	7.522	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	420.00	419.97	0.00	597.60	0.703	2.33	20.236	C
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	95.00	95.00	0.00	-	-	-	-	-
L	B-AC	140.00	140.00	0.00	494.16	0.283	0.39	10.164	B
L	C-A	585.00	585.00	0.00	-	-	-	-	-
L	C-B	35.00	35.00	0.00	476.54	0.073	0.08	8.153	A
L	A-B	90.00	90.00	0.00	-	-	-	-	-
L	A-C	565.00	565.00	0.00	-	-	-	-	-

Main results: (18:45-19:00)

Junction	Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
D	B-AC	0.00	0.00	0.00	537.38	0.000	0.00	0.000	A
D	C-A	195.00	195.00	0.00	-	-	-	-	-
D	C-B	130.00	130.00	0.00	482.08	0.270	0.37	10.224	B
D	A-B	310.00	310.00	0.00	-	-	-	-	-
D	A-C	390.00	390.00	0.00	-	-	-	-	-
F	B-AC	230.00	230.00	0.00	708.53	0.325	0.48	7.522	A
F	C-A	0.00	0.00	0.00	-	-	-	-	-
F	C-B	420.00	419.98	0.00	597.60	0.703	2.34	20.245	C
F	A-B	10.00	10.00	0.00	-	-	-	-	-
F	A-C	95.00	95.00	0.00	-	-	-	-	-
L	B-AC	140.00	140.00	0.00	494.16	0.283	0.39	10.164	B
L	C-A	585.00	585.00	0.00	-	-	-	-	-
L	C-B	35.00	35.00	0.00	476.54	0.073	0.08	8.153	A
L	A-B	90.00	90.00	0.00	-	-	-	-	-
L	A-C	565.00	565.00	0.00	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.5.523 [19102,19/06/2015]
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Filename: 22101HK_Jn F Imp.arc8
Path: \\PROJSRV\Project\CTA Consultants Limited\CTA - Project\22101HK (wkk) - URA (CBS-2 KC) Kau Pui Lung Rd Chi Kiang St Dev Scheme\Cal\TIA\2022-10-13
Report generation date: 17/10/2022 16:51:31

» (Default Analysis Set) - 2036 Design Imp, AM
» (Default Analysis Set) - 2036 Design Imp, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2036 Design Imp							
Stream B-AC	0.70	8.76	0.41	A	0.49	7.70	0.33	A
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	1.09	12.50	0.52	B	1.42	14.52	0.59	B
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D5 - 2036 Design Imp, AM " model duration: 8:30 - 10:00
"D6 - 2036 Design Imp, PM" model duration: 17:30 - 19:00

Run using Junctions 8.0.5.523 at 17/10/2022 16:51:29

File summary

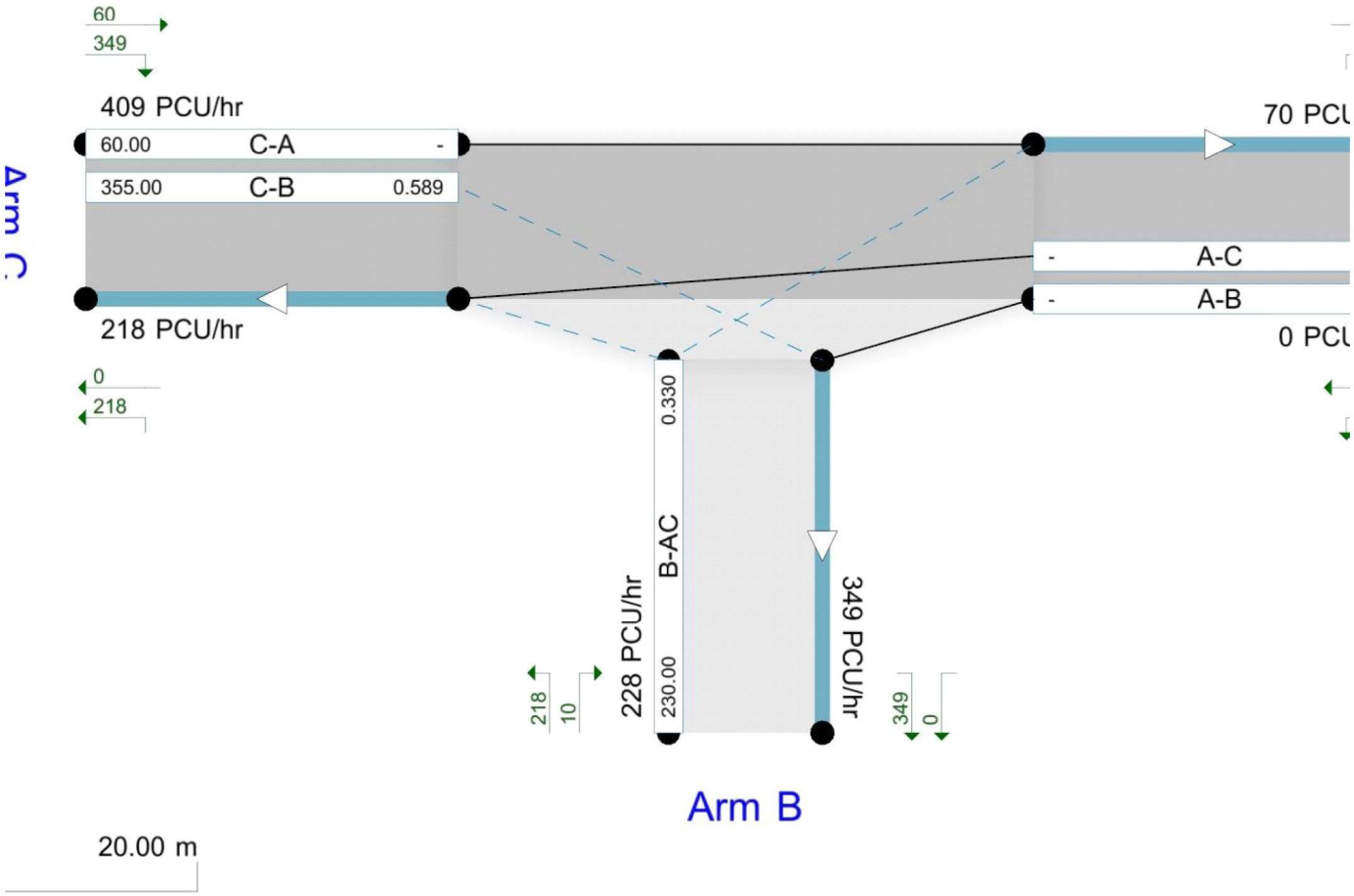
Title	Jcn C
Location	
Site Number	
Date	3/6/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	user
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing modelled flow through junction (PCU/hr).
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC ()
Time Segment: (08:30-08:45)
Showing Analysis Set "A1 "; Demand Set "D5 - 2036 Design Imp, AM "

The junction diagram reflects the last run of ARCADY.

(Default Analysis Set) - 2036 Design Imp, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2036 Design Imp, AM	2036 Design Imp	AM		FLAT	08:30	10:00	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
F	Chi Kiang St / Ko Shan Rd	T-Junction	Two-way	A,B,C	10.71	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Chi Kiang St W		Major
B	B	Ko Shan Rd		Minor
C	C	Chi Kiang St		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	50.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.90										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
F	B-A	565.227	0.076	0.192	0.121	0.275
F	B-C	714.470	0.081	0.205	-	-
F	C-B	602.919	0.173	0.173	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	0.00	100.000
B	FLAT	✓	290.00	100.000
C	FLAT	✓	470.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	10.000	0.000	280.000
	C	155.000	315.000	0.000

Turning Proportions (PCU) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.33	0.33	0.33
	B	0.03	0.00	0.97
	C	0.33	0.67	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction F (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction F (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.41	8.76	0.70	A
C-A	-	-	-	-
C-B	0.52	12.50	1.09	B
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	287.22	0.00	701.09	0.414	0.69	8.642	A
C-A	155.00	155.00	0.00	-	-	-	-	-
C-B	315.00	310.75	0.00	602.92	0.522	1.06	12.153	B
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	289.98	0.00	701.00	0.414	0.70	8.757	A
C-A	155.00	155.00	0.00	-	-	-	-	-
C-B	315.00	314.94	0.00	602.92	0.522	1.08	12.493	B
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	289.99	0.00	701.00	0.414	0.70	8.758	A
C-A	155.00	155.00	0.00	-	-	-	-	-
C-B	315.00	314.98	0.00	602.92	0.522	1.08	12.497	B
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	290.00	0.00	701.00	0.414	0.70	8.758	A
C-A	155.00	155.00	0.00	-	-	-	-	-
C-B	315.00	314.99	0.00	602.92	0.522	1.09	12.500	B
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (09:30-09:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	290.00	0.00	701.00	0.414	0.70	8.758	A
C-A	155.00	155.00	0.00	-	-	-	-	-
C-B	315.00	314.99	0.00	602.92	0.522	1.09	12.500	B
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (09:45-10:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	290.00	0.00	701.00	0.414	0.70	8.758	A
C-A	155.00	155.00	0.00	-	-	-	-	-
C-B	315.00	315.00	0.00	602.92	0.522	1.09	12.502	B
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2036 Design Imp, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2036 Design Imp, PM	2036 Design Imp	PM		FLAT	17:30	19:00	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
F	Chi Kiang St / Ko Shan Rd	T-Junction	Two-way	A,B,C	11.84	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Chi Kiang St W		Major
B	B	Ko Shan Rd		Minor
C	C	Chi Kiang St		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	50.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.90										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
F	B-A	565.227	0.076	0.192	0.121	0.275
F	B-C	714.470	0.081	0.205	-	-
F	C-B	602.919	0.173	0.173	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	0.00	100.000
B	FLAT	✓	230.00	100.000
C	FLAT	✓	415.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	10.000	0.000	220.000
	C	60.000	355.000	0.000

Turning Proportions (PCU) - Junction F (for whole period)

		To		
		A	B	C
From	A	0.33	0.33	0.33
	B	0.04	0.00	0.96
	C	0.14	0.86	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction F (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction F (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.33	7.70	0.49	A
C-A	-	-	-	-
C-B	0.59	14.52	1.42	B
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	230.00	228.06	0.00	697.73	0.330	0.49	7.634	A
C-A	60.00	60.00	0.00	-	-	-	-	-
C-B	355.00	349.48	0.00	602.92	0.589	1.38	13.924	B
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	230.00	229.99	0.00	697.58	0.330	0.49	7.698	A
C-A	60.00	60.00	0.00	-	-	-	-	-
C-B	355.00	354.90	0.00	602.92	0.589	1.40	14.497	B
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	230.00	230.00	0.00	697.58	0.330	0.49	7.698	A
C-A	60.00	60.00	0.00	-	-	-	-	-
C-B	355.00	354.96	0.00	602.92	0.589	1.41	14.508	B
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (18:15-18:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	230.00	230.00	0.00	697.58	0.330	0.49	7.698	A
C-A	60.00	60.00	0.00	-	-	-	-	-
C-B	355.00	354.98	0.00	602.92	0.589	1.42	14.514	B
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (18:30-18:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	230.00	230.00	0.00	697.58	0.330	0.49	7.699	A
C-A	60.00	60.00	0.00	-	-	-	-	-
C-B	355.00	354.99	0.00	602.92	0.589	1.42	14.514	B
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Main results: (18:45-19:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	230.00	230.00	0.00	697.58	0.330	0.49	7.699	A
C-A	60.00	60.00	0.00	-	-	-	-	-
C-B	355.00	354.99	0.00	602.92	0.589	1.42	14.517	B
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	0.00	0.00	0.00	-	-	-	-	-

Environmental Assessment
(EA)

Prepared for

Urban Renewal Authority

Prepared by

Ramboll Hong Kong Limited

KAU PUI LUNG ROAD / CHI KIANG STREET DEVELOPMENT SCHEME (CBS-2:KC)

ENVIRONMENTAL ASSESSMENT

Date	**October 2022**
Prepared by	**Kitty Wong** **Senior Consultant**
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Project Reference	**URACBS02EI00**
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1. INTRODUCTION

1.1 Background

1.1.1 The Urban Renewal Authority (URA) commenced the Kau Pui Lung Road / Chi Kiang Street Development Scheme (the Scheme) (CBS-2:KC) on 22 May 2020, as a development scheme under section 25 of the Urban Renewal Authority Ordinance (URAO). An Environmental Assessment (EA) is required to be prepared to support the submission of the draft Development Scheme Plan (DSP) of the Scheme to the Town Planning Board (TPB) for consideration.

1.1.2 Ramboll Hong Kong Limited has been commissioned by the URA to undertake this EA for the proposed development.

1.1.3 This EA consists of the air quality impact assessment, noise impact assessment and waste management study for the proposed development of the site. Mitigation measures and recommendation shall be proposed in compliance with relevant standards and guidelines.

1.1.4 A draft DSP together with planning proposal and technical assessments were submitted to the TPB at commencement of the Scheme in May 2020. During public consultation, most of the comments and concerns were related to CBS issues, especially on the land matters of the undissolved CBS. The URA, after consultation with different Government Bureaux / Departments, has addressed the related comments and concerns. In this connection, the URA has taken the opportunity to review the draft DSP to respond to the new policy directives of entrusting the URA to provide more Starter Home (SH) units. Opportunity is also sought to enhance the Scheme to achieve wider planning gains to the community.

1.1.5 With the above consideration and changes, a revised Draft DSP, with revised notional design of providing private housing units and about 950 SH units (the "Revised Design 2022") are prepared and its necessary TAs are updated for TPB consideration.

1.2 The Site

1.2.1 The site is bounded by Ma Tau Wai Road to the east, Chi Kiang Street to the south, Kau Pui Lung Road to the west and Lok Shan Road to the north.

1.2.2 The Scheme area remains unchanged as commenced in May 2020 and will be considered as one site to be developed by the URA or its joint venture partner(s) (**Figure 1**). Under the current notional design, the Scheme area will be divided into two sites, i.e. the Northern Site and the Southern Site, for private housing development and provision of SH units respectively. The site boundary between the Northern Site and the Southern Site is indicative and the location of the SH units are subject to change.

1.3 Proposed Development

1.3.1 The site covers a Scheme Area of approximately 16,500m^2. Under the revised draft DSP, the existing structure will be demolished for redevelopment. The site will be redeveloped for high-density residential development with the provision of Government, Institution or Community (GIC) facilities, commercial use, and underground public vehicle park.

1.3.2 Under notional layout of the Revised Design 2022, the Northern Site consists of five residential towers providing 1374 residential units, clubhouses (about 3,435m^2), retail (about 8,587m^2) and community facilities (about 500m^2). The Southern Site consists of two residential towers providing 950 residential units, clubhouses (about 2,755m^2),

retail (about 6,888m^2) and community facilities (about 2,000m^2). A block plan of the notional layout is provided in **Appendix 1.1**.

1.3.3 **Table 1.1** shows the breakdown of flat units under the notional layout of the Revised Design 2022.

1.3.4 An indicative MLP is shown in **Appendix 1.1** with further details of the floor plans and sections.

1.3.5 The anticipated completion year of the Project is 2033.

Table 1.1 Breakdown of Flat Units under Notional Layout

	*Northern Site	*Southern Site
Low Zone	1-22/F (22 Storeys)	1-20/F (20 Storeys)
	40 Flats per Storey	28 Flats per Storey
	880 Flats	560 Flats
High Zone	23-35/F (13 Storeys)	21-35/F (15 Storeys)
	38 Flats per Storey	26 Flats per Storey
	494 Flats	390 Flats
Total	**1374 Flats**	**950 Flats**

**The site boundaries between Northern Site and Southern Site is indicative and subject to change.*

1.4 Objectives

1.4.1 To address the changes in the draft DSP, it is considered necessary to revise the EA to support the re-submission to TPB for consideration. In this EA, apart from the proposed development parameters, internal boundary between the sites, and the types of housings, the calculation assumption, methodology, catchment area adopted in the last version of EA (ref. no.: R6859_v1.2) remain unchanged.

1.4.2 The last version of EA (ref. no.: R6859_v1.2 dated January 2022), was submitted to the TPB in March 2022 in support of the draft DSP submission. The Environmental Protection Department (EPD) then has no objection to the previously submitted draft DSP based on the findings of the submitted EA and Sewerage Impact Assessment (SIA), understanding that the URA has committed to carry out further reviews on noise impact, sewerage impact and land contamination issues at detailed design stage.

2. AIR QUALITY IMPACT ASSESSMENT

2.1 Operational Phase

2.1.1 This assessment is to review the potential air quality impact due to the traffic emissions from the surrounding roads and the industrial emission upon the sensitive receivers of the proposed development.

2.2 Vehicular Emission Impact Assessment

2.2.1 The proposed development is bounded by road networks. According to Table 3.1 of Chapter 9 (Environment) of the Hong Kong Planning Standard and Guideline (HKPSG), there is a recommended buffer distance on vehicular emission in relation to different types of road. The recommended buffer distance is 5m for "Local Distributor", 10m for "District Distributor" and 20m for "Trunk Road and Primary Distributor".

2.2.2 According to The Annual Traffic Census 2021 published by Transport Department (TD) and confirmation from TD (see **Appendix 2.1**), the classification of road type are summarized as **Table 2.1** below.

Table 2.1 Road Type and Recommended Buffer Distance

Road Name	Road Type	Recommended Buffer Distance
Ma Tau Wai Road	Primary Distributor	20m
Lok Shan Road	Local Distributor	5m
Kau Pui Lung Road	Local Distributor	5m
Chi Kiang Street	Local Distributor	5m
Maidstone Road	Local Distributor	5m
Kiang Su Street	Local Distributor	5m

2.2.3 As shown in **Figure 2.1**, the residential buildings within both Northern Site and Southern Site have sufficient buffer distance to the roads, hence the recommended buffer distance of vehicular emission stipulated in the HKPSG can be met.

2.2.4 The podium of proposed development will not rely on opened windows for ventilation, it will adopt mechanical ventilation system with fresh air intake. The fresh air intake point(s) are proposed to be located at the roof of podium where there would be sufficient buffer distance to the roads.

2.2.5 Therefore, the future occupants of the development will not be subjected to insurmountable vehicular emission impacts.

2.3 Industrial Emission Impact Assessment

2.3.1 No chimney was identified within 500m from the Subject Site. Therefore, the Air Sensitive Receivers (ASRs) within the Subject Site would not be under any impacts of industrial emissions from chimney.

2.4 Conclusion

2.4.1 The proposed development under the Revised Design 2022 has sufficient buffer distance to the roads, and no chimney was found within 500m from the Subject Site. In this connection, it is anticipated that the proposed development would not be subject to adverse vehicular and industrial emission impacts in operational phase.

2.5 Construction Phase

Identification of Existing Representative Air Sensitive Receivers

2.5.1 There are a number of residential buildings, community centers, place for recreation located within 500m of the proposed development. The existing representative ASRs are shown in **Table 2.2** below and **Figure 2.2**.

Table 2.2 Summary of Existing Representative Air Sensitive Receivers

	Location	Land Use
1	Ko Shan Theatre	Place of recreation, sport or culture
2	Ko Shan Road Park 7-a-side Soccer Pitch	Place of recreation, sport or culture
3	Ko Shan Road Park	Place of recreation, sport or culture
4	Ming Fat Building, Seng Cheong Building, 278-292 Ma Tau Wai Road	Residential
5	Lok Man Sun Chuen	Residential
6	C.C.C. Wan Chai Church Kei to Primary School (Kowloon City)	School
7	Morning Joy Building	Residential
8	City 151, 151 Kau Pui Lung Rd	Residential
9	80 Maidstone Rd	Residential
10	Maxim Mansion	Residential
11	1A – 1C Lok Shan Rd	Residential
12	Celestial Heights	Residential
13	324 – 354 Ma Tau Wai Road	Residential
14	Braemar Court, 320-322C Ma Tau Wai Road, Mai Lok Building	Residential

	Location	Land Use
15	Lucky Building	Residential
16	356 -360 Ma Tau Wai Road	Residential
17	S.K.H. Good Shepherd Primary School. Elchk Hung Hom Lutheran Primary School, Po Leung Kuk Madam Chan Wai Chow Memorial School, Po Leung Kuk Madam Chan Wai Chow English Primary School	School
18	To Kwa Wan Government Offices	Government, Institution or Community
19	BMW House	Commercial

Identification of Potential Fugitive Dust Impacts

2.5.2 Demolition of existing building, earthworks (excavation and backfilling) for the construction of the basements, foundation works would be required for the Subject Site. Fugitive dust will be the only potential major source of air quality impact during the construction phase. Significant emissions are not anticipated from the criteria pollutants – NO_2, SO_2, and CO, etc. as only a limited number of diesel/ petroleum fuelled machinery would be operating at the relatively small Subject Site when compared to the traffic volume on the local road network. Moreover, under the Air Pollutant Control (Non-road Mobile Machinery) (Emission) Regulation, only approved or exempted non-road mobile machineries (including mobile generator, air compressor, crawler crane, bulldozer, and etc.) with a proper label are allowed to be used in the construction site. In addition, dust potentially generated as a result of the concreting works for the construction of superstructure, floor slab, etc. would be insignificant as the concrete would be pre-mixed and transferred to the Subject Site by concrete lorry mixer.

Mitigation Measures for Fugitive Dust Emission

2.5.3 With the implementation of sufficient dust suppression measures as stipulated under the APCO, Air Pollution Control (Construction Dust) Regulation (Cap 311R) and good site practices, fugitive dust emission arising from the demolition works, earthworks, etc. can be effectively suppressed through contractual clauses and close enforcement of the resident engineers. The Contractor(s) shall be required to follow the requirements of the Air Pollution Control (Construction Dust) Regulation which requires notification before carrying out demolition works or construction works and to adopt dust reduction measures while carrying out demolition activities or construction activities. In general, non-blasting demolition method (such as top down demolition

method) will probably be adopted for the demolition of the existing building. During the demolition works, relevant dust control measures (e.g. impervious dust screens) shall be implemented.

2.5.4 The recommended dust mitigation measures for protection of nearby ASRs are described below:

- During the demolition of buildings, impervious dust screens or sheeting shall be used;
- Use of regular watering, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather;
- Use of frequent watering for particularly dusty construction areas close to ASRs;
- Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering should be applied to aggregate fines;
- Open temporary stockpiles should be avoided or covered. Prevent placing dusty material storage plies near ASRs;
- Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations;
- Establishment and use of vehicle wheel and body washing facilities at the exit points of the site;
- Imposition of speed controls for vehicles on unpaved site roads. 8 km/hr is the recommended limit;
- Routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs;
- Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3-sides;
- Loading, unloading, transfer, handling or storage of large amount of cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system;
- The area at which demolition work takes place should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the demolition activities; and
- Site hoarding of not less than 2.4 m high from ground level should be provided.

2.5.5 "Recommended Pollution Control Clauses for Construction Contracts" is available on the EPD website which set out the recommended air pollution control measures to be implemented by the contractor(s) during the construction stage of the Project.

2.5.6 With the adoption of good practices, it is expected that emission of construction fugitive dust can be kept to an acceptable level.

3. ROAD TRAFFIC NOISE IMPACT ASSESSMENT

3.1 Introduction

3.1.1 In this assessment, potential road traffic noise impact arising from nearby existing and future roads on the proposed development of the Subject Site has been assessed by using modelling. Practicable environmental mitigation measures have been recommended, as required.

3.2 Assessment Criteria

3.2.1 Noise standards are recommended in the HKPSG for planning against noise impact from sources such as road traffic, railway and aircraft, etc.

3.2.2 The proposed development includes 5 residential towers in Northern Site and 2 residential blocks in Southern Site. The podia beneath the residential towers will be provided with centralized air condition and will not rely on opened window for ventilation, whilst the domestic dwellings will rely on opened window for ventilation. According to the guidelines, the maximum noise level from road traffic, measured in terms of L10 (1-hr) is recommended to be 70 dB(A) at typical facades of new dwellings.

3.3 Assessment Methodology and Assumptions

3.3.1 The methodology involved the prediction of future road traffic noise impacts on Noise Sensitive Receivers (NSRs) arising from traffic flows on existing and future road carriageways situated within 300m study area from the Subject Site.

3.3.2 The U.K. Department of Transport's procedure "Calculation of Road Traffic Noise" was used to predict the hourly L10 noise levels generated from road traffic at selected representative NSRs. The predicted noise levels are then compared with the relevant HKPSG noise standard (i.e. 70 dB(A)). Noise mitigation measures are recommended at situations when the predicted noise levels exceed the noise standard.

3.3.3 The tentative completion date of the development will be in Year 2033. Calculations of the predicted road traffic noise were based on the AM peak hour and PM peak hour traffic flows within a 15-year period (i.e. Year 2048) from the tentative completion date of the proposed development. The assessment year has been chosen to be Year 2048 because the traffic forecast for the Year 2048 is the maximum among the 15-year period. The projected traffic flows and vehicle composition of the road carriageways provided by the project traffic consultant are shown in **Appendix 3.1**. The endorsement from Transport Department will be provided once available.

3.4 Noise Sensitive Receivers (NSRs)

3.4.1 Representative NSRs were selected to represent the noise sensitive uses of the proposed development. Locations of the representative NSRs are shown in **Figures 3.1 to 3.2** for Northern Site and **Figure 3.3 to 3.4** for Southern Site respectively. The assessment points have been taken to be situated at 1.2m above floor slabs and at 1m away from the external façade of windows of the residential unit.

3.5 Incorporated Noise Mitigating Designs

3.5.1 In order to minimise the potential traffic noise impact, noise mitigating designs have been incorporated or considered when formulating the building layout. They are include:

- Building Setback and Orientation

  The residential towers have been set back from Ma Tau Wai Road as far as practicable in order to minimize the traffic noise impact to the domestic premises.

- Building Layout

  To ensure the remaining residential units would not have direct exposure to the major road traffic noise source, the façades of the residential towers have been orientated such that the respective openable windows of habitable rooms can be shielded by the projected façades of the other units of the towers against the more trafficked roads along the Southern Site boundary.

- Podium

  The residential towers are sitting above the podiums. Residential floors are elevated at 27.6mPD in Northern Site and Southern Site so as to increase the vertical buffer distance from the nearby more trafficked roads.

3.6 Assessment Results – Base Case Scenario

3.6.1 The predicted traffic noise levels of the NSRs for the Base Case Scenario (without proposed noise mitigation measures mentioned in section 3.7) with AM peak and PM peak traffic flows are shown in **Appendix 3.2**. The results are summarized in Table below.

3.6.2 By comparing with the predicted noise results of the Base Case Scenario with AM peak and PM peak traffic flows, it is concluded that the Base Case Scenario with AM peak traffic flow is the worst case scenario.

Scenario	Total No. of Flats	No. of Flats Exceeding the Noise Criteria of 70 dB(A)(L10 1-hour)	Max Noise Levels, dB(A)(L10 1-hour)	Compliance Rate
Base Case (AM peak)	2324	432	77	~81%
Base Case (PM peak)		358	77	~85%

3.7 Proposed Traffic Noise Mitigation Measures

3.7.1 In order to further minimise the potential traffic noise impact, at-receiver mitigation measures have been incorporated.

3.7.2 The recommended noise mitigation measures are listed as below in **Table 3.1** & **Table 3.2** and the locations are shown in **Figure 3.1** to **Figure 3.4**.

a. Acoustic Window (Baffle Type) and Enhanced Acoustic Balcony (Baffle Type)

3.7.3 The acoustic window (baffle type) (AW(BT)) and enhanced acoustic balcony (baffle type) (EAB(BT)) in the "*Practice Noise on Application of Innovative Noise Mitigation Designs in Planning Private Residential Developments against Road Traffic Noise Impact*" (Practice Note) issued by EPD are proposed at the residential blocks. The location of the proposed AW(BT) and EAB(BT) can be referred to **Figures 3.1 to 3.4**. Extracts of the Practice Note can be referred to **Appendix 3.4**.

3.7.4 All of the sizes of room to be adopted with AW(BT) and EAB(BT) would be within +10% of the designated room size of $8m^2$ and $14m^2$ for AW(BT) and EAB(BT) in the Practice Note respectively. If the room size is smaller than -10% of $8m^2$ and $14m^2$ as compared

to the Reference Case, the sound attenuation will be deducted by a factor of 10 x log(R_{ref}/R_{design}), where R_{ref} and R_{design} are the area of the room of the Reference Case and the proposed development respectively. This methodology for adjusting the sound attenuation performance of an AW(BT) / EAB(BT) due to difference in room size has been widely adopted in numerous approved planning applications, e.g. A/TSW/63-1, A/TSW/70, A/K10/267 and A/K10/266.

3.7.5 Some of the AW(BT) facing Chi Kiang Street will be equipped with sound absorptive materials (SAM). The location of these windows have been indicated in **Figure 3.3**. As stated in the Practice Note, addition of SAM to the AW(BT) can offer an additional 1.5dB(A) reduction. On the other hand, none of the EAB(BT) will be equipped with SAM.

3.7.6 The sound attenuation performances of AW(BT) and EAB(BT) at each NSR after room size correction and addition of SAM, if applicable, can be referred to **Appendix 3.3**. Extracts of the Practice Note can be referred to **Appendix 3.4**.

b. Architectural Fin

3.7.7 1.0m and 1.5m long architectural fins are proposed to reduce the angle of view from the noise sensitive use to the nearby roads. Regarding the effectiveness provided by the fin, it is maximized to be not more than 3 dB(A) with reference to the EPD's website.

3.8 Assessment Results – Mitigated Scenario

3.8.1 Under mitigated scenario with AM peak traffic flow, the road traffic noise compliance rate for the proposed development is improved from 81% (base case scenario) to 94% (149 flats exceeding the noise criteria). **Appendix 3.2** shows the predicted noise results under mitigated scenario.

3.9 Schedule of Noise Mitigation Measures

3.9.1 The proposed mitigation measures for the traffic noise impact are summarized in **Table 3.1** for Northern Site and **Table 3.2** for Southern Site below.

Table 3.1 Proposed Mitigation Measures for Northern Site

Tower	Flat	NSR	Floor	Proposed Mitigation Measures
1	A	N1-01	1-35	AW(BT)
		N1-02	1-35	EAB(BT)
	B	N1-03	1-35	EAB(BT)
		N1-04	1-35	AW(BT)
		N1-05	1-35	AW(BT)
	I	N1-22	Full Height	1.5m long architectural fin
3	A	N3-01	1-5 (up to 43.35mPD)	1.5m long architectural fin
		N3-04	1-5	EAB(BT)
	B	N3-05	1-5	EAB(BT)
	C	N3-08	1-5	EAB(BT)
	D	N3-09	1-5	EAB(BT)
		N3-11	1-5 (up to 43.35mPD)	1.5m long architectural fin
4	A	N4-01	1-4 (up to 40.2mPD)	1.5m long architectural fin
		N4-03	1-4	EAB(BT)
	B	N4-05	1-4	EAB(BT)
	C	N4-06	1-4	EAB(BT)
		N4-08	1-5 (up to 43.35mPD)	1.5m long architectural fin
5	F	N5-16	Full Height	1.0m long architectural fin

Note:

AW(BT) = Acoustic Window (Baffle Type) w/o SAM

EAB(BT) = Enhanced Acoustic Balcony (Baffle Type) w/o SAM

Table 3.2 Proposed Mitigation Measures for Southern Site

Block	Flat	NSR	Floor	Proposed Mitigation Measures
7	A	NAL-01	1-5 (up to 43.35mPD)	1.5m long architectural fin
		NAL-02	1-4	EAB(BT)
	B	NAL-03	1-4	EAB(BT)
		NAL-05	1-4	EAB(BT)
	C	NAL-06	1-4	EAB(BT)
		NAL-08	1-4	EAB(BT)
	D	NAL-10	1	EAB(BT)
			1-5 (up to 43.35mPD)	1.5m long architectural fin
	E	NAL-11	1-20	EAB(BT)
		NAH-11	21-35	EAB(BT)
		NAL-12	1-5	AW(BT) with SAM
			6-20	AW(BT)
		NAH-12	21-35	AW(BT)
		NAL-13	1-20	EAB(BT)
		NAH-13	21-35	EAB(BT)
	F	NAL-14	1-20	EAB(BT)
		NAH-14	21-35	EAB(BT)
		NAL-15	1-20	AW(BT)
		NAH-15	21-35	AW(BT)
	G	NAL-16	1-20	EAB(BT)
		NAH-16	21-35	EAB(BT)
		NAL-17	1-20	AW(BT)
		NAH-17	21-35	AW(BT)
		NAL-18	1-20	EAB(BT)
		NAH-18	21-35	EAB(BT)
	H	NAL-19	1-20	EAB(BT)
		NAH-19	21-35	EAB(BT)
		NAL-20	1-5	AW(BT) with SAM
			6-20	AW(BT)
		NAH-20	21-35	AW(BT)
		NAL-21	1-20	EAB(BT)
		NAH-21	21-35	EAB(BT)
	I	NAL-22	1	AW(BT) with SAM
			2-20	AW(BT)
		NAH-22	21-35	AW(BT)
		NAL-23	1-20	EAB(BT)
			Full Height	1.5m long architectural fin
		NAH-23	21-35	EAB(BT)
		NAL-25	Full Height	1.5m long architectural fin
		NAH-25	Full Height	1.5m long architectural fin

	N	NAL-34	Full Height	1.5m long architectural fin
		NAH-34	Full Height	1.5m long architectural fin
6	A	NB-01	1-4 (up to 40.2mPD)	1.5m long architectural fin
		NB-02	1-4	EAB(BT)
	B	NB-03	1-4	EAB(BT)
		NB-05	1-4	EAB(BT)
	C	NB-06	1-4	EAB(BT)
		NB-08	1-4	EAB(BT)
	D	NB-10	1	EAB(BT)
			1-4 (up to 40.2mPD)	1.5m long architectural fin
	E	NB-11	1-3 (up to 37.05mPD)	1.0m long architectural fin
	J	NB-24	Full Height	1.5m long architectural fin
	N	NB-34	Full Height	1.5m long architectural fin

Note:

AW(BT) = Acoustic Window (Baffle Type) w/o SAM

AW(BT) with SAM = Acoustic Window (Baffle Type) with SAM

EAB(BT) = Enhanced Acoustic Balcony (Baffle Type) w/o SAM

3.10 Design Constraints in the Proposed Layout

3.10.1 The current notional design has exhaustively explored all possible noise mitigation measures to minimize the traffic noise impact to the proposed development in order to achieve a 94% of noise compliance level. However, the design of layout has been restricted owing to various site constraints as stated in the following:

a. The Subject Site is a long and narrow rectangle shape and surrounded by local roads with adjacent existing buildings in close proximity which have limited the flexibility of the placement and orientation of towers within the site boundary. Furthermore, the 5m recommended setback for the air quality (discussed in Section 2) and the future access road within the site boundary further reduce the flexibility of buildable area. Hence, building setback is limited by the site condition;

b. There is no window opening towards Ma Tau Wai Road directly in order to prevent any direct line of sight to Ma Tau Wai Road, which affect orientation of towers (mainly Tower 1 & 5); and

c. Seven towers approach to accommodate more residential units to meet housing demand.

3.11 Conclusion

3.11.1 With the implementation of the proposed mitigation measures listed in Section 3.9, 94% of residential units comply with the road traffic noise standard (i.e. L_{10}(1-hr) 70 dB(A)).

3.11.2 For those residential units with residual noise impacts, based on the Appendix 4.4: Suitable Window Types for Noise of HKPSG, it is recommended to have openable well-gasketted window with 6mm pane as indirect mitigation measure. In this project, upgraded window/door will be provided for insulation as the last resort. The noise insulation of these upgraded window/door would be STC 31 as a minimum.

4. FIXED NOISE IMPACT ASSESSMENT

4.1 Introduction

4.1.1 In this assessment, potential noise impact arising from nearby fixed source noises on the proposed development of the Subject Site has been assessed. Practicable environmental mitigation measures have been recommended, where necessary.

4.1.2 The Subject Site is located in an urban area surrounded by Ma Tau Wai Road to the east, Chi Kiang Street to the south, Kau Pui Lung Road to the west and Lok Shan Road to the north. In accordance with the Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites (herein referred as IND-TM), the type of the area where the Subject Site located is considered to be "Type (iii) Urban Area".

4.2 Noise Assessment Criteria

4.2.1 According to Table 1 of the IND-TM, the area sensitive rating (ASR) depends on the type of area and the degree of impact that Influencing Factors (IFs) have on the NSRs. Industrial area, major road or the area within the boundary of Hong Kong International Airport shall be considered to be an IF.

4.2.2 The type of area of this site is considered as urban area. Ma Tau Wai Road with an annual average daily traffic flow in excess of 30,000 vehicles is considered as the influencing factor of this site.

4.2.3 As shown in **Figure 4.3**, the units highlighted in blue are directly or indirectly affected by Ma Tau Wai Road, an ASR of C is therefore assigned.

4.2.4 As shown in **Figure 4.3**, the units highlighted in red are back towards Ma Tau Wai Road and they are not affected by Ma Tau Wai Road, an ASR of B is therefore assigned.

4.2.5 According to Table 2 of the IND-TM, the Acceptable Noise Level (ANL), in Leq (30min) dB(A) regarding to the ASR "B" and "C" for both Daytime/Evening and Night-time is shown in **Table 4.1** below.

Table 4.1 Fixed Noise Impact Assessment Criteria

Area Sensitivity Rating (ASR)	Time Period	Acceptable Noise Level (ANL), Leq (30 min) dB(A)
B	Leq (30 mins) (07:00 – 23:00)	65 dB(A)
	Leq (30 mins) (23:00 – 07:00)	55 dB(A)
C	Leq (30 mins) (07:00 – 23:00)	70 dB(A)
	Leq (30 mins) (23:00 – 07:00)	60 dB(A)

Notes:

In any event, the Area Sensitivity Rating and the ANLs adopted in this report are only indicative and they are used for assessment only. Noise from fixed noise sources is controlled under the NCO. Therefore, the Noise Control Authority shall determine the noise impact on the basis of prevailing legislation and practices being in force, and taking into account of contemporary conditions / situations of adjoining land uses.

4.3 Fixed Noise Sources

4.3.1 Site visits were conducted on 24 April 2019, 22 May 2019 and 18 July 2022 to identify the fixed noise sources within 300m from the Subject Site.

Potential fixed noise sources mainly include 1) the garages and workshops for car repair and motor services, 2) Variable Refrigerant Volume (VRVs) on the roof of BMW House, 3) air cool chillers and VRV on the roof of To Kwa Wan Complex and Government Offices, 4) chillers and VRVs on the roof of To Kwa Wan Market, and 5) fixed plant noise sources of To Kwa Wan MTR Station. The identified fixed noise sources are shown in **Figure 4.1** and **Figure 4.2** and described as below sections.

1. Garages and Workshops for Car Repair and Motor Services

4.3.2 38 nos. garages, which located at the ground floor of buildings, were found within 300m from the Subject Site during the site visits. As shown in **Figure 4.1**, all of them are blocked by the buildings erected in between hence there is no direct line of sight from the NSRs of the proposed development. The garages mainly include car washing and car painting work. There were no night-time activities identified in the garages and they close before 7pm. In view of no direct line of sight from the NSRs of the proposed development, they are not considered as potential noise sources in this assessment.

2. VRVs on the Roof of BMW House

4.3.3 19 VRV (V01 to V19) outdoor condenser units were found on the roof of BMW House (refer to **Figure 4.2**). Permission could not be obtained from BMW House for conducting the noise measurement at the roof area. However, it was identified from the site visits that the VRVs belong to Daikin Series X7. 12 nos. of VRVs (V01 to V08, V13 to V16) have double top fan, 7 nos. of them (V09 to V12, V17 to V19) have single top fan.

4.3.4 The sound power level (SWL) of the VRVs were referenced from the Daikin's catalogues, the model with the largest SWL is selected as worst case study. It is assumed all VRVs were in operation. Details of VRVs include their locations, brand, model number, dimension and SWLs were summarised in **Appendix 4.1**.

4.3.5 According to the website of BMW House, their operation hour is from 9am to 8pm.

3. Air cool chillers and VRV on the roof of To Kwa Wan Complex and Government Offices

4.3.6 4 air cool chillers (C01 to C04) and a VRV (C05) were found on the roof of To Kwa Wan Complex and Government Offices (refer to **Figure 4.2**). The brand of C01 to C04 is Carrier but the model number is known. Their SWL were calculated by following the methodology stated in ISO 3746-2010 Acoustics – Determination of Sound Power Levels and Sound Energy Levels of Noise Sources Using Sound Pressure – Survey Method Using an Enveloping Measurement Surface over a Reflecting Plane. The measurement methodology, locations of measurement points, measured sound pressure levels (SPLs) and the associated calculated SWLs are summarised in **Appendix 4.2**. The SWL of the VRV was referenced from the Daikin's catalogue.

4.3.7 The opening hours of the offices is from 8:30am to 6:15pm.

4. Chillers and VRVs on the roof of To Kwa Wan Market

4.3.8 4 chillers (A01, A02, A06 & A07) and 3 VRVs (A03 to A05) were found on the roof of To Kwa Wan Market (refer to **Figure 4.2**). Their SWL were calculated by following the methodology stated in ISO 3746-2010 or referenced from the catalogue, which are shown in details in **Appendix 4.3**. The calculated SWLs are then compared with the SWL shown in the catalogues, the larger SWL will be adopted for assessment as a conservative assessment.

4.3.9 As advised by the management officer, the operation hours of the market is from 7am to 8pm.

5. Fixed plant noise sources of To Kwa Wan MTR Station

4.3.10 Tunnel ventilation louvers (TVL), station ventilation louvers (SVL) and cooling towers were identified at the Ventilation Shaft, To Kwa Wan MTR Station Exits A and D (refer to **Figure 4.2**). Their maximum allowable SWLs were adopted in this assessment with reference to the Fixed Plant Noise Audit Report (Batch 1 – To Kwa Wan Station), which is prepared pursuant to EP Condition 2.32 of the Environmental Permit (EP No: EP-438/2012/K). The relevant pages of the noise audit report are extracted in **Appendix 4.5**.

4.3.11 The operation hours of the noise sources are 24 hours.

4.4 Noise Sensitive Receivers

4.4.1 Three (3) representative NSRs N01, N02 and N03 are selected, which are located at the eastern part of the site boundary and nearest to the identified noise sources. **Figure 4.3** shows the location of the representative NSR.

4.5 Assessment Methodology

4.5.1 A façade correction of + 3dB(A) were assumed.

4.5.2 No tonality, impulsiveness and intermittency characteristics were identified during the on-site surveys. Therefore, no correction of tonality, impulsiveness and intermittency were applied in the calculations.

4.6 Assessment Result

4.6.1 The maximum predicted fixed noise levels during daytime/evening at the selected NSRs is 60dB(A), which comply with the noise standards (65dB(A) for ASR of B and 70dB(A) for ASR of C). During night-time period, the maximum predicted fixed noise levels at the selected NSRs is 53dB(A), which also comply with the noise standards (55dB(A) for ASR of B and 60dB(A) for ASR of C). Therefore, it is anticipated the remaining NSRs at the residential towers can comply with the noise standard. Detailed calculations are shown in **Appendix 4.4**.

4.7 Conclusion

4.7.1 The assessment results indicated that all the predicted noise level of NSRs from all identified fixed noise sources within 300m study area comply the criteria as stipulated in NCO. It is therefore anticipated that the proposed development will not be subject to adverse fixed noise impacts.

5. WASTE MANAGEMENT

5.1 Introduction

5.1.1 This section presents the management and disposal strategy of the wastes generated from the construction work for the proposed development. The options for waste minimization, reuse, recycling, collection, transport and disposal of wastes arising from the construction and demolition work have been examined. Where appropriate, procedures for waste reduction and management are considered and environmental control measures for avoiding and minimising the potential impacts are recommended.

5.2 Relevant Legislation & Guideline

5.2.1 The following legislations and guidelines are relevant to the handling, treatment and disposal of waste in HKSAR and reference were made in assessing the potential impacts and their avoidance or mitigation:

- Waste Disposal Ordinance (Cap. 354);
- Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C);
- Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N);
- Public Cleansing and Prevention of Nuisances Regulation (Cap. 132BK);
- Project Administration Handbook for Civil Engineering Works, Management of Construction/ Demolition Materials including Rocks
- The Environment, Transport and Works Bureau Technical Circular (Works) No. 19/2005 – Environmental Management on Construction Sites; and
- The Development Bureau Technical Circular (Works) No. 6/2010– Trip-ticket System for Disposal of Construction and Demolition Material

5.3 Waste Generation During Construction Phase

5.3.1 The construction activities to be carried out such as demolition of existing buildings and excavation of basements would generate a variety of wastes that can be divided into distinct categories based on their composition and ultimate method of disposal. The identified waste types include:

- construction and demolition (C&D) materials;
- chemical waste;
- general refuse; and
- asbestos-containing wastes.

Construction and Demolition (C&D) Material

5.3.2 C&D materials comprise mainly of unwanted materials, including surplus materials generated from demolition of existing buildings and excavation of basements. C&D materials may comprise different types of materials including:

- Inert C&D materials (also known as public fill, including soil, rock debris, rubble earth, concrete, etc.) do not decompose and are suitable to reuse as filling materials for land reclamation and site formation. Inert C&D materials could be reused on-site as filling materials. For those inert C&D materials that cannot be reused should be disposed of at Public Fill Reception Facilities.
- Non-inert C&D materials (also known as C&D waste, including bamboo, timber, paper, metal, glass, plastic, packaging wastes, etc.). Non-inert C&D materials

should be reused or recycled as far as possible. For those non-inert C&D materials that cannot be reused or recycled, they should be disposed of at designated landfill sites as last resort.

5.3.3 The general waste management strategy is to avoid waste generation in the first place. Should it be unavoidable, reduction and segregation at-source should be exercised as far as practicable and recycling and reuse should be adopted at the same time to salvage all the recyclable and reusable materials as much as possible.

5.3.4 The Contractor(s) should be responsible for ensuring that all on-site wastes will be collected by approved waste collectors and appropriate measures should be undertaken to minimise adverse impacts to the surrounding environment, such as dust generation. The Contractor(s) must also ensure that all necessary waste disposal permits have been obtained before actions.

5.3.5 Prior to disposal of non-inert C&D materials, it is recommended that wood, steel, glass and other metals will be collected separately for re-use and/or recycling and inert C&D materials utilized as fill materials to minimize the quantity of waste to be disposed of at the Public Fill Reception Facilities and landfill.

Chemical Waste

5.3.6 Construction plant and equipment will require regular maintenance and servicing, which would generate waste such as solvents, lubrication oil and fuel, etc. Chemical wastes arising during the construction phase may pose serious environmental, health and safety hazards if not stored and disposed of in an appropriate manner. The estimated quantity of chemical waste generated would be less than hundred litres per month.

5.3.7 The contractor is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.

5.3.8 Storage, handling, transport and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste published by the EPD. Chemical wastes such as wasted solvents, lubrication oil and fuel, etc. will need special handling and storage arrangements and should be collected by licensed collectors for subsequent disposal and appropriate treatment at licensed waste disposal facilities, for example the Chemical Waste Treatment Facility Centre (CWTC) in Tsing Yi. Mitigation and control requirements for chemical waste are provided in the "Recommended Pollution Control Clauses for Construction Contracts" available in EPD website mentioned the handling, storage and disposal of chemical wastes. With good management and site particles, adverse environmental impacts should not result.

General Refuse

5.3.9 Throughout the construction stage, the workforce would generate general refuse comprising food scraps, waste paper, empty containers, etc. Release of general refuse into watercourses or marine waters should not be permitted as introduction of these wastes is likely to have detrimental effects on water quality in the area. Effective collection of site wastes would be required to prevent waste materials being blown around by wind, flushed or leached into the marine environment, and odour nuisance. The work sites may also attract pests and vermin if the waste storage area is not well maintained and cleaned regularly. Disposal of refuse at sites other than approved waste transfer or disposal facilities can also result in similar impacts. The number of work force to be employed for the Project is around 80. Based on the generation rate

of 0.65kg/person/day, the estimated total refuse generated per day (maximum) would be about 52kg/day.

5.3.10 Recyclable materials (i.e. paper, plastic bottles and aluminium cans) will be collected separately for recycling, in order to reduce the amount of general refuse to be disposed into the landfill. Adequate number of enclosed waste containers will be provided to avoid over-spillage of waste. The non-recyclable refuse will be placed in bags and stored in enclosed containers, and disposed of on a daily basis to the designated landfill. Given that the quantity of general refuse to be disposed will be small, no adverse impact on the operation of these waste disposal facilities is anticipated.

5.3.11 With the implementation of the recommended waste management practices at the site, adverse environmental impacts would not arise from the storage, handling and transportation of refuse.

Asbestos-containing Wastes

5.3.12 Asbestos waste, a kind of chemical waste, may potentially be found during the demolition phase of the existing residential building. Relevant requirements under the Air Pollution Control Ordinance, Waste Disposal (Chemical Waste) (General) Regulation and the practice note for registered contractors – 15 issued by Building Departments for asbestos control should be followed prior to demolition of the existing buildings.

5.3.13 Asbestos waste should be removed by a registered asbestos contractor, who shall arrange a licensed collector for the removal in accordance with the Air Pollution Control Ordinance and the Waste Disposal (Chemical Waste) (General) Regulation.

Summary

5.3.14 Preliminary quantity estimation of construction waste involved and disposal method is summarised in the **Table 5.1** below. However, it should be noted that these quantities are initial estimates only and would need to be further reviewed and updated as the design progresses.

Table 5.1 Summary of Estimated Construction Waste and Disposal Method

Waste Material Type		Estimated Quantity Generated	Disposal Method
Inert C&D Materials	Demolition of Existing Building and Excavation of Basements	~135,000m^3	Around 20% (~33,280m3) to be reused on-site for site formation The remainders should be disposed of at Public Fill Reception Facilities
	Construction of New Buildings	~31,400m^3	
Non-inert C&D Materials	Demolition of Existing Building and Excavation of Basements	~2,400m^3	Around 20% (~590m3) to be reused and recycled in other projects The remainders should be disposed of at NENT Landfill as last resort.
	Construction of New Buildings	~550m^3	
Chemical Waste	-	Less than hundred litres /month (preliminary estimate)	For treatment at licensed facilities
General Refuse	-	52kg/day (preliminary estimate, assuming there are 80 workers at any one time with generation rate of 0.65kg per worker per day)	Around 20% (~10.4kg/day) to be reused or recycled on-site or in other projects The remainders which cannot be reused or recycled will be disposed of at NENT landfill

5.4 Waste Disposal and Mitigation Measures

5.4.1 Waste generated by construction activities should be properly sorted and certain waste management requirements must be followed to minimize the impacts arising because of the generation, storage, handling, transport and disposal of wastes. Good site management and control can prevent the generation of significant amounts of "mixed waste". For unavoidable wastes, reuse, recycling and optimal disposal are most practical when segregation occurs on the construction site, categorized as follows:

- Inert C&D materials for reuse on-site or delivering to Public Fill Reception Facilities for beneficial reuse at other projects;
- Non-inert C&D materials for reuse or recycle or disposal at landfill as last resort;
- Chemical waste for treatment at licensed facilities; and
- General refuse for disposal at landfill.

C&D Materials

5.4.2 Proper storage and site practices should be adopted to minimize the damage to, or contamination of, C&D materials that may reduce their recyclability and suitability for disposal in public fill reception facilities. The inert C&D materials shall be reused in earth filling, reclamation or site formation works. The non-inert C&D materials shall be reused or recycled and, as the last resort, disposed of at landfills.

5.4.3 Appropriate measures should also be employed to minimize windblown litter and dust during transportation by either covering trucks with tarpaulin or transporting wastes in enclosed containers. Waste should only be disposed at licensed sites. Resident site staff and the contractors should develop procedures to ensure that illegal disposal of waste does not occur. In addition, waste storage areas within the Project should be well maintained and cleaned regularly to prevent cross-contamination. The disposal of inert C&D materials and non-inert C&D materials to public fill reception facilities/sorting facilities respectively through a trip-ticket system, while general refuse will be disposed of at landfill.

5.4.4 The ETWB TCW No. 19/2005 - Environmental Management on Construction Sites introduces additional measures to enhance waste management on construction sites, which is applicable for this project. The circular sets out the policies and procedures that require the contractors to prepare and implement an Environmental Management Plan (EMP), which includes the Waste Management Plan (WMP) to encourage on-site sorting of C&D materials and to minimize generation of C&D materials during the course of construction. The EMP shall be submitted to the Project Architect/Engineer for approval before construction works.

5.4.5 According to Chapter 4 Clause 4.1.3 of the Project Administration Handbook for Civil Engineering Works, a Construction and Demolition Materials Management Plan (C&DMMP) is required if a project generates more than 50,000m^3 of C&D materials or requires more than 50,000 m^3 of imported fill. The total quantity of inert C&D materials estimated for the Project is more than 50,000 m^3, therefore C&DMMP is required. The C&DMMP shall be prepared and submitted to Public Fill Committee for approval before construction works.

Chemical Waste

5.4.6 Chemical and oily wastes generated from the construction activities, vehicle and plant maintenance should be disposed of as chemical waste in strict compliance with the Waste Disposal (Chemical Waste) (General) Regulations.

General Refuse

5.4.7 For general refuse, mitigation measures should include provision of a collection area where waste can be sorted, stored and loaded prior to removal from the site during construction phase.

5.4.8 In additional, with the implementation of the recommended mitigation measures in the "Recommended Pollution Control Clauses for Construction Contracts" available in EPD website, the potential environmental impacts resulting from the storage, handling and transportation of inert C&D materials, non-inert C&D materials, chemical wastes and general site wastes would be minimal. Below are the examples of the relevant measures:-

Waste Minimisation

- The Contractor shall submit to the Engineer for approval a waste management plan with appropriate mitigation measures including the allocation of an area for waste segregation and shall ensure that the day-to-day site operations comply with the approved waste management plan.
- The Contractor shall minimise the generation of waste from his work. Avoidance and minimisation of waste generation can be achieved through changing or improving design and practices, careful planning and good site management.
- The Contractor shall ensure that different types of wastes are segregated on-site and stored in different containers, skips or stockpiles to facilitate reuse/recycling of waste and, as the last resort, disposal at different outlets as appropriate.
- The reuse and recycling of waste shall be practised as far as possible.
- The Contractor shall record the amount of wastes generated, recycled and disposed of (including the disposal sites).
- The Contractor shall use a trip ticket system as stipulated in TCW No. 6/2010 for the disposal of C&D materials to any designated public filling facility and/or landfill.

5.5 Waste Generated during Operation Phase

5.5.1 A Person-per-Flat (PPF) of 2.3 is assumed for the area, which has made reference to HKPSG and adopted a more conservative assumption than HKPSG recommendation. In order to assess the waste capacities, a sensitivity test adding 22% is adopted to assess the adequacy of the waste capacities (i.e. PPF 2.8 = PPF 2.3 x 122%). The proposed development will provide a total number of about 2350 residential units. It is anticipated that the proposed development will serve a population of about 6600 under the sensitivity test scenario.

5.5.2 The disposal rate of domestic waste is 0.87 kg/person/day according to the Monitoring of Solid Waste in Hong Kong – Waste Statistics for 2020. By applying this figure to the anticipated population of the proposed development, approximately 5800 kg/day of domestic waste would be disposed of from operation of the proposed development.

5.5.3 Prior to disposal of domestic waste, recycling would be conducted as much as practicable. In order to facilitate recycling, recycling bin for paper, metals and plastics should be provided together with a general refuse bin. They should be placed in prominent places to promote waste separation at source. All recyclable materials should be collected by recyclers.

5.6 Conclusion

5.6.1 Waste generated during construction and operation phases of the project have been qualitatively evaluated. With the implementation of the mitigation measures, no significant impact on waste management is anticipated. The implementation of the mitigation measures shall form part of the works contracts.

6. CONCLUSION

6.1.1 The Environmental Assessment report has been prepared to identify the following potential environmental impacts during the operational phase of the proposed development.

Air Quality Impact Assessment

6.1.2 The proposed development under the Revised Design 2022 has sufficient buffer distance to the roads, and no chimney was found within 500m from the Subject Site. In this connection, it is anticipated that the proposed development would not be subject to adverse vehicular and industrial emission impacts.

Noise Impact Assessment

6.1.3 A traffic noise impact assessment has been carried out for the proposed development. With the implementation of proposed mitigation measures, the compliance level is 94%.

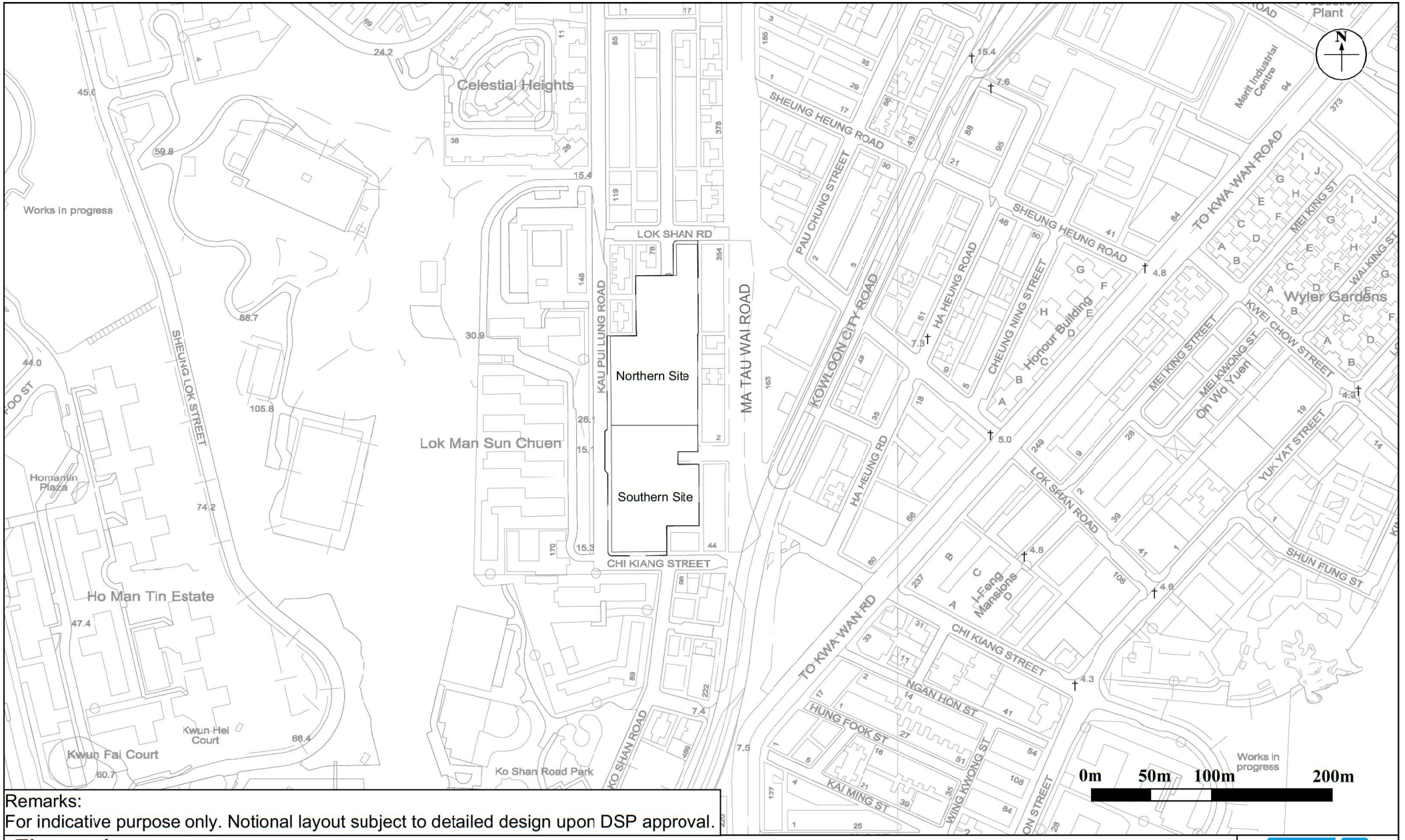
6.1.4 A fixed noise impact assessment has been conducted. The predicted noise level of NSRs from all identified fixed noise sources within 300m study area comply the criteria as stipulated in NCO. It is therefore anticipated that the proposed development will not be subject to adverse fixed noise impacts.

Waste Management

6.1.5 Waste generated during construction and operation phases of the project have been qualitatively evaluated. With the implementation of the mitigation measures, no significant impact on waste management is anticipated. The implementation of the mitigation measures shall form part of the works contracts.

6.1.6 In conclusion, the assessments in this EA report reveal overall acceptability of the proposed development from air, noise and waste management perspectives.

Figures



Remarks:
For indicative purpose only. Notional layout subject to detailed design upon DSP approval.

Figure: 1

Title: Location of the Subject Site and Its Environs

Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

RAMBOLL

Drawn by:	KW
Checked by:	TC
Rev.:	2.0
Date:	Sep 2022

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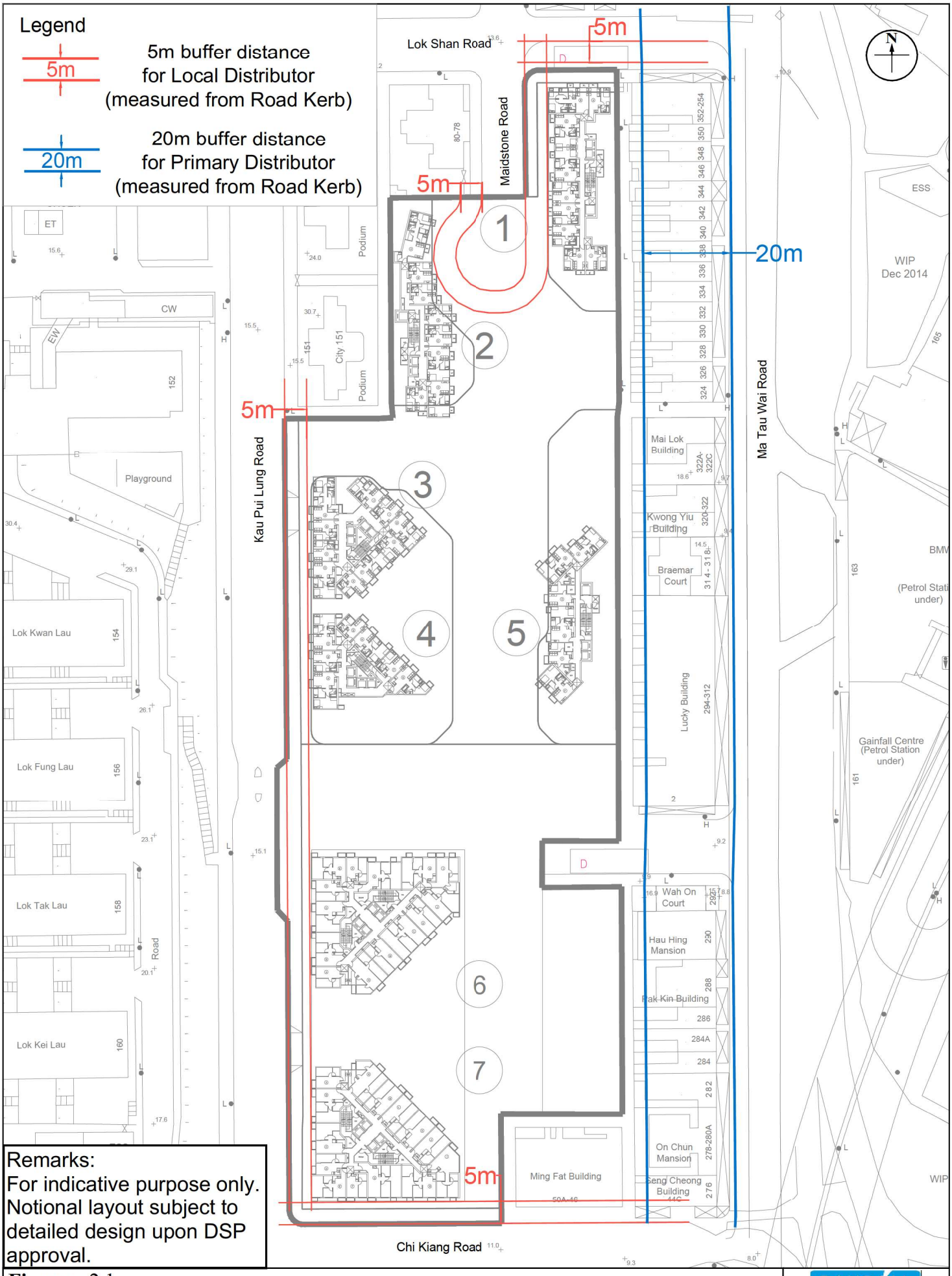

Remarks:
For indicative purpose only.
Notional layout subject to detailed design upon DSP approval.

Figure: 2.1

Title: HKPSG Recommended Buffer Distance for Vehicular Emission Impact

Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

RAMBOLL

Drawn by:	KW
Checked by:	TC
Rev.:	2.0
Date:	Aug 2022

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Note:
Please refer to Table 2.2 of the Report for Full Name of Buildings.

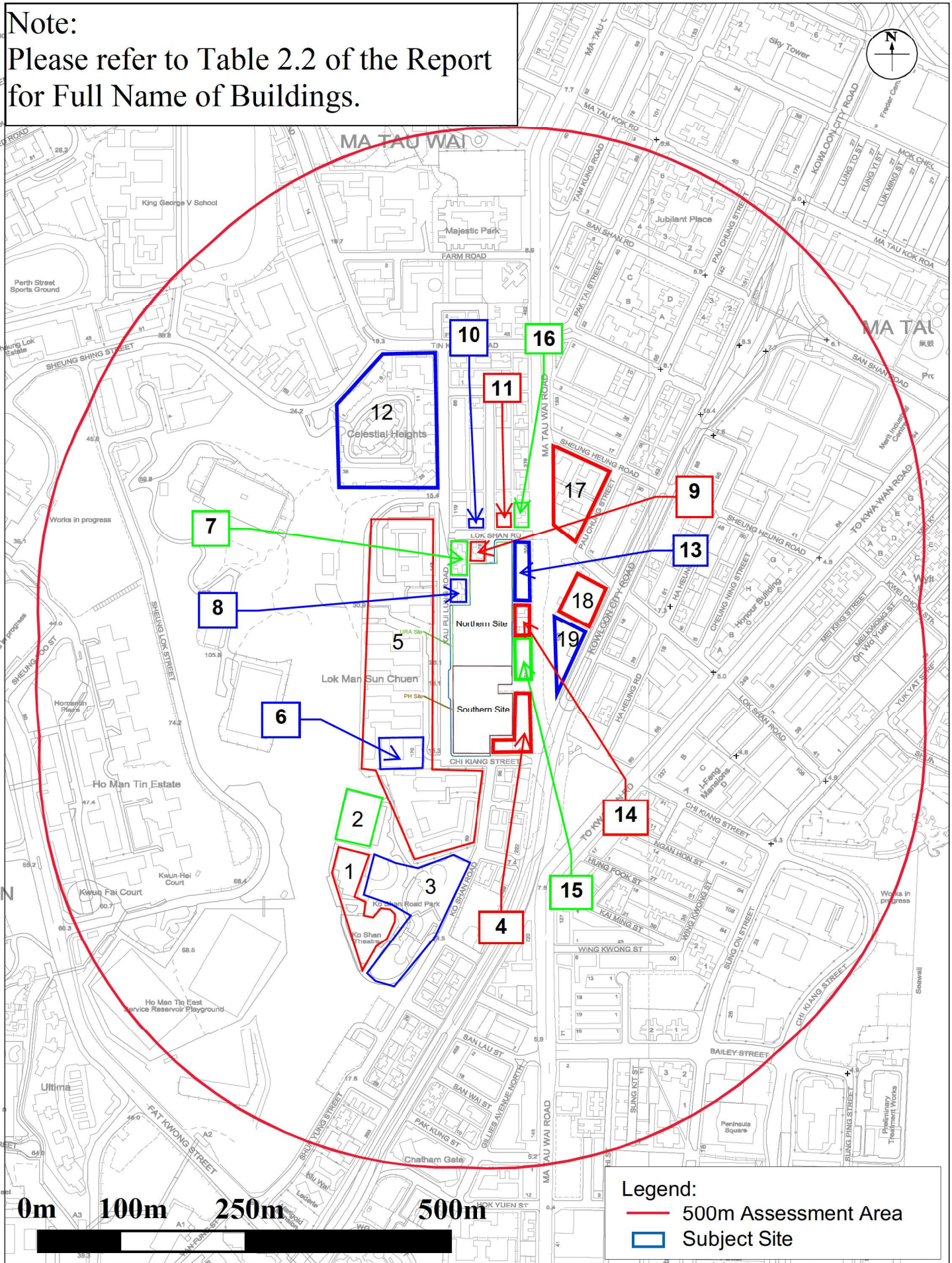

Figure: 2.2	RAMBOLL
Title: Existing Representative Air Sensitive Receivers	Drawn by: WT
	Checked by: TC
Project: Kau Pui Lung Road/ Chi Kiang Street Development Scheme (CBS-2:KC)	Rev.: 1.0
	Date: Jul 2019

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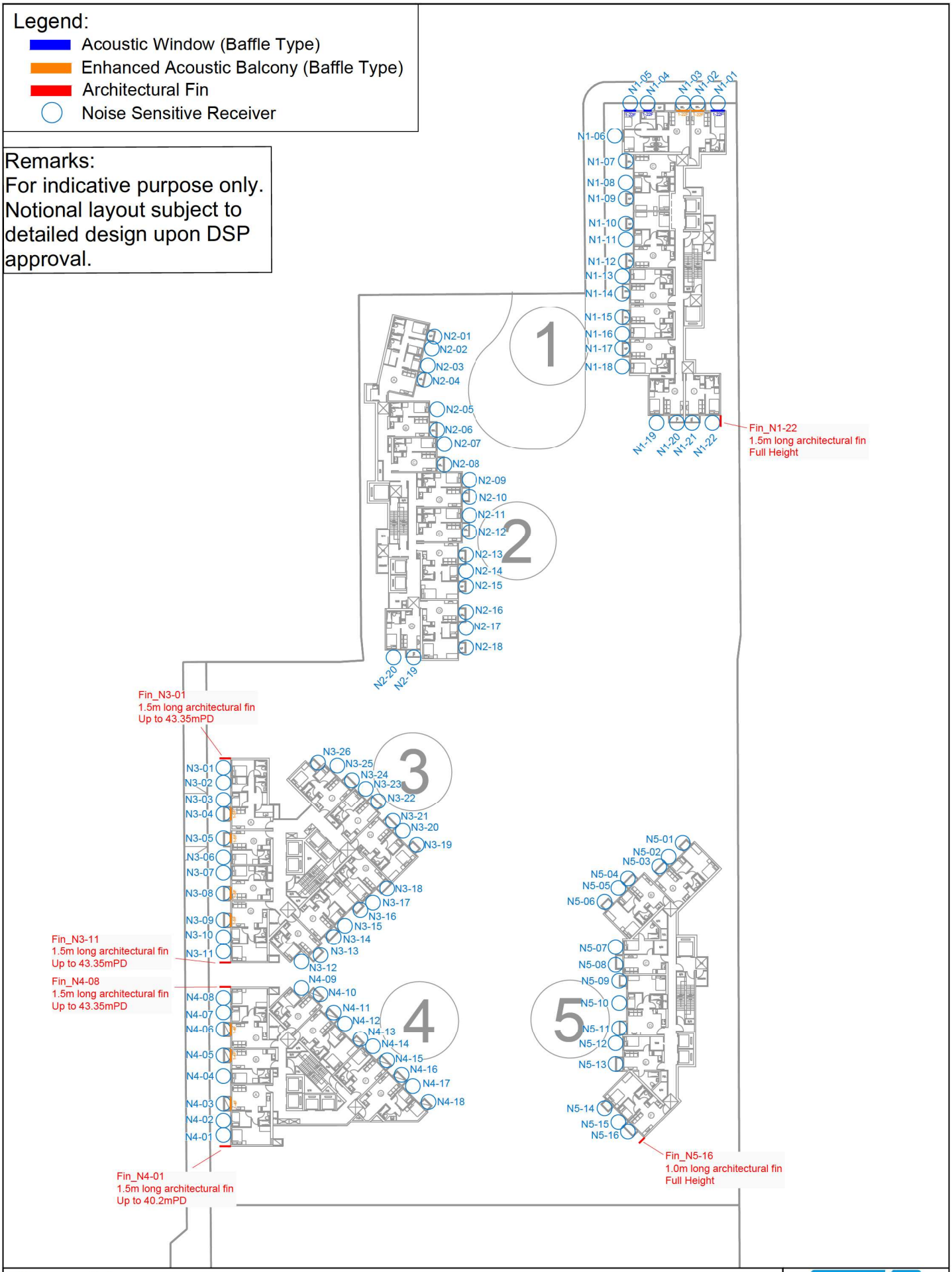


Figure: 3.1

Title: Location of Noise Sensitive Receivers and Proposed Noise Mitigation Measures for Road Traffic Noise Impact Assessment for Northern Site - Low Zone (1/F - 22/F)

RAMBOLL

Drawn by: HC

Checked by: TC

Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

Rev.: 2.0

Date: Oct 2022

Q:\Projects\URACBS02EI00\05 Assessments\02 Noise\02 Traffic\20220816-new layout\TNIA-20220816 (fig 3.1&3.2).dwg

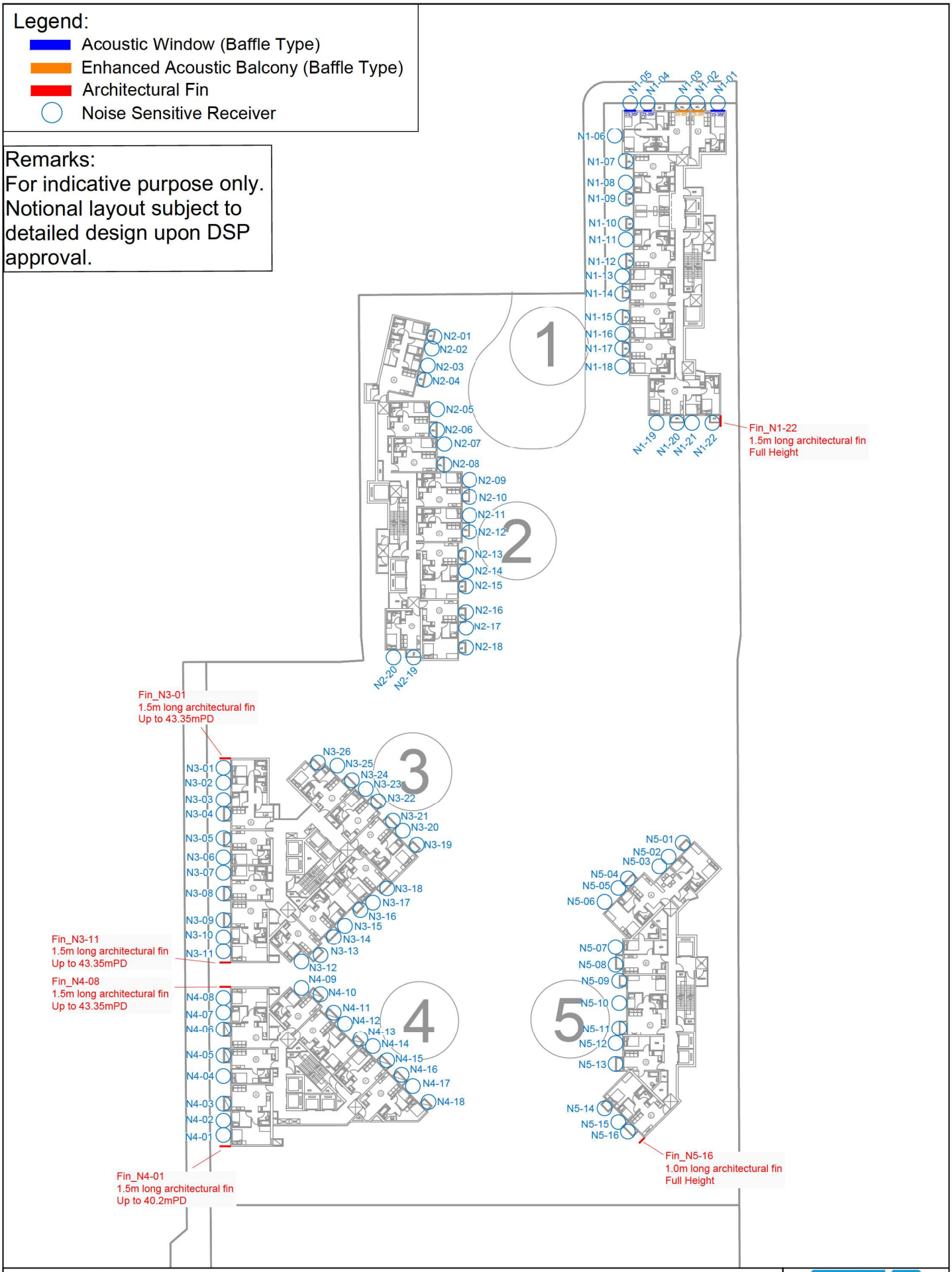


Figure: 3.2

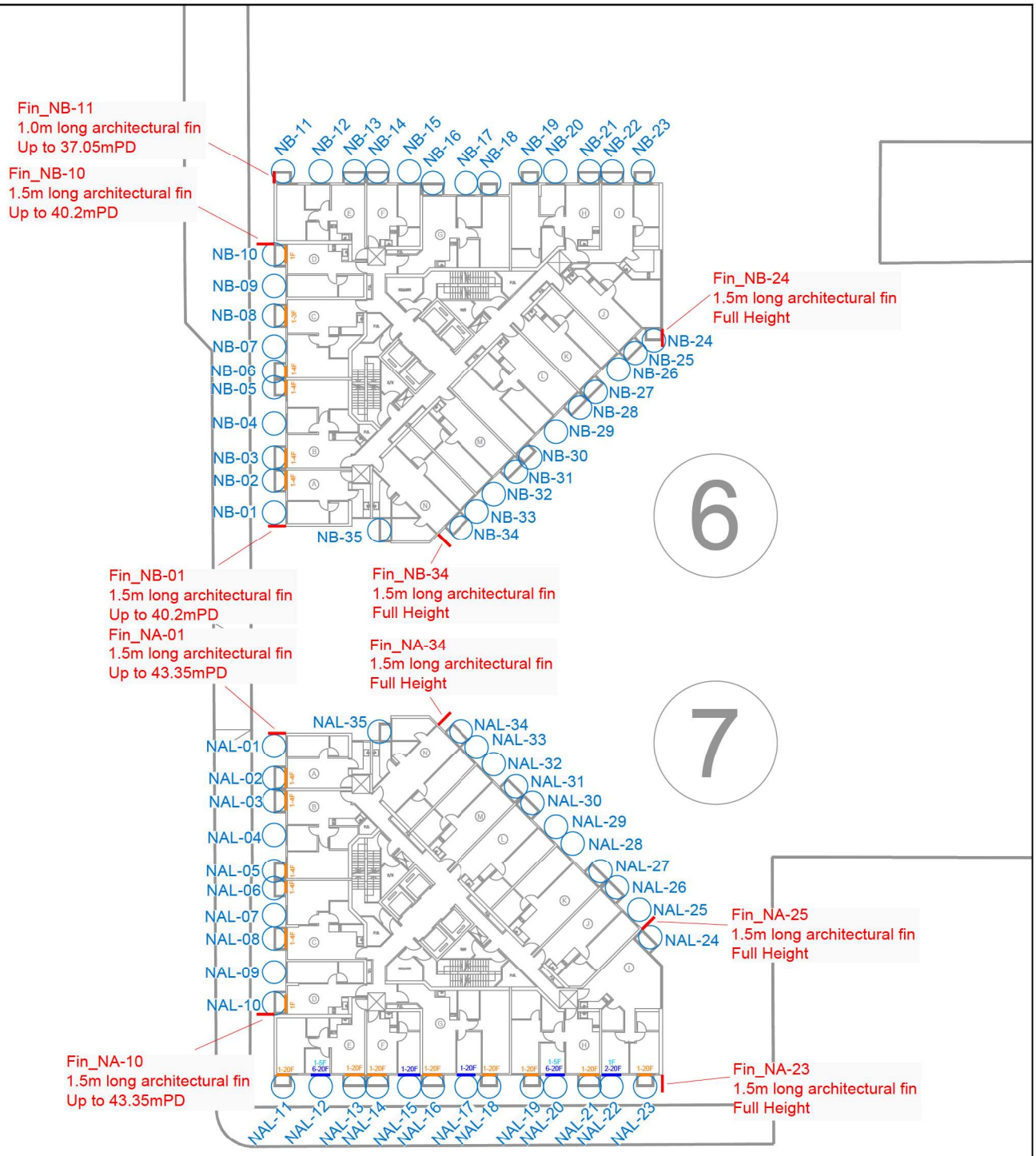
Title: Location of Noise Sensitive Receivers and Proposed Noise Mitigation Measures for Road Traffic Noise Impact Assessment for Northern Site - High Zone (23/F - 35/F)

Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

RAMBOLL

Drawn by:	HC
Checked by:	TC
Rev.:	2.0
Date:	Oct 2022

Q:\Projects\URACBS02EI00\05 Assessments\02 Noise\02 Traffic\20220816-new layout\TNIA-20220816 (fig 3.1&3.2).dwg



Remarks:
For indicative purpose only.
Notional layout subject to detailed design upon DSP approval.

Legend:
- Acoustic Window (Baffle Type)
- 1-5F Floors requiring SAM
- Enhanced Acoustic Balcony (Baffle Type)
- Architectural Fin
- Noise Sensitive Receiver

Figure: 3.3

Title: Location of Noise Sensitive Receivers and Proposed Noise Mitigation Measures for Road Traffic Noise Impact Assessment for Southern Site - Low Zone (1/F - 20/F)

Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

RAMBOLL

Drawn by: HC
Checked by: TC
Rev.: 2.0
Date: Oct 2022

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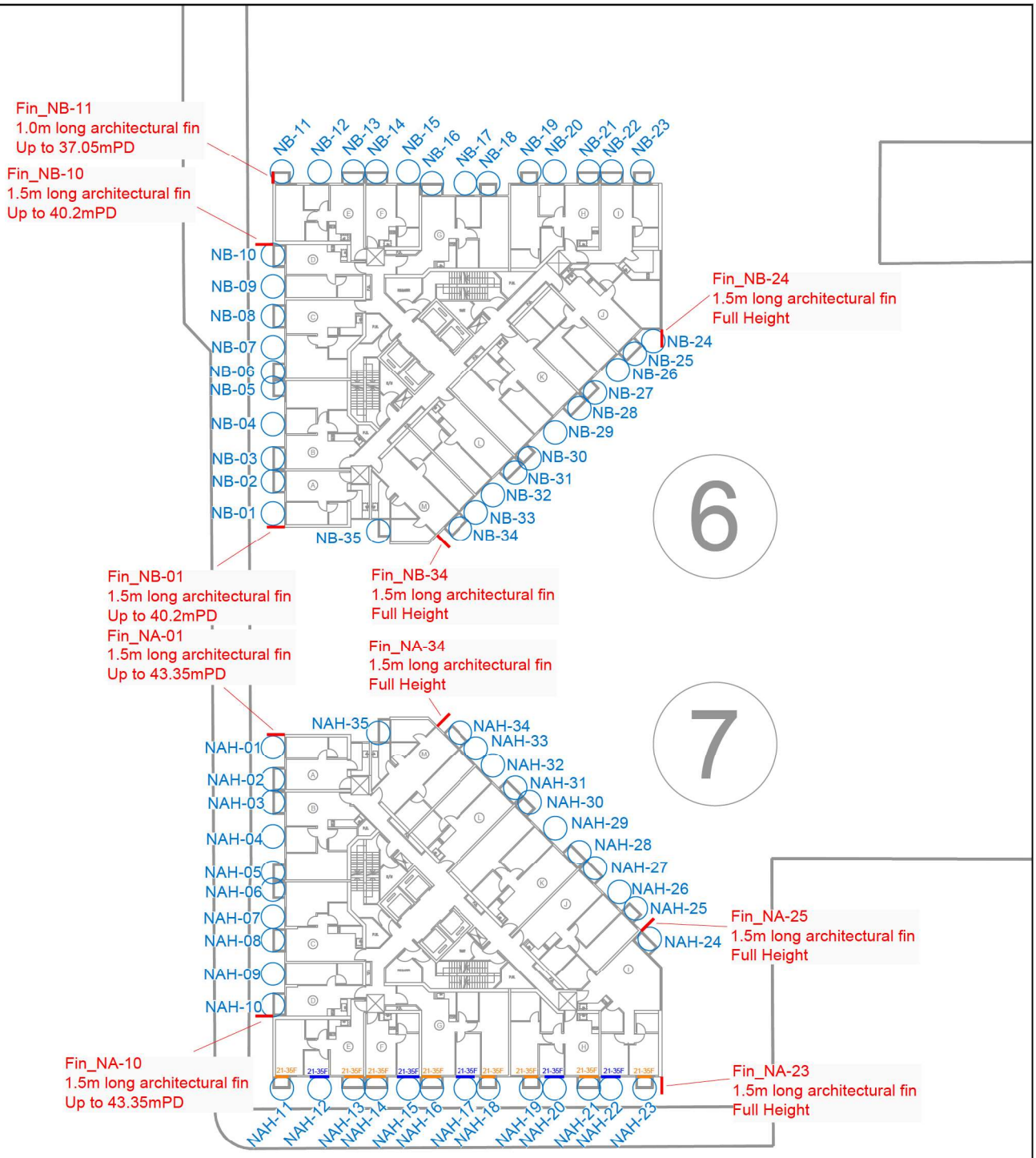


Remarks:
For indicative purpose only.
Notional layout subject to detailed design upon DSP approval.

Legend:
- Acoustic Window (Baffle Type)
- Enhanced Acoustic Balcony (Baffle Type)
- Architectural Fin
- Noise Sensitive Receiver

Figure: 3.4

Title: Location of Noise Sensitive Receivers and Proposed Noise Mitigation Measures for Road Traffic Noise Impact Assessment for Southern Site - High Zone (21/F - 35/F)

Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

RAMBOLL

Drawn by: HC
Checked by: TC
Rev.: 2.0
Date: Oct 2022

Q:\Projects\URACBS02EI00\05 Assessments\02 Noise\02 Traffic\20220816-new layout\TNIA-20220816 (fig 3.1&3.2).dwg

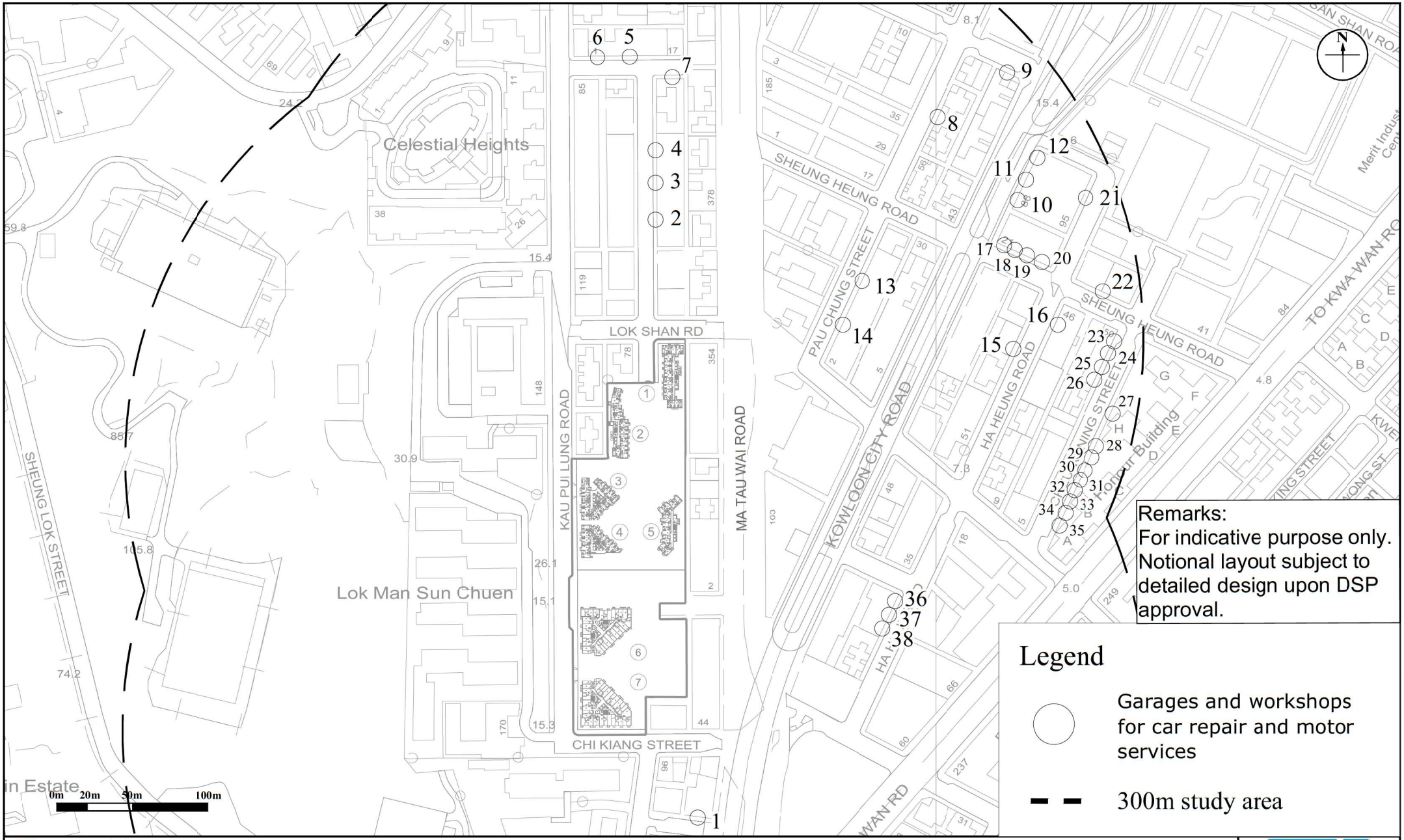


Figure: 4.1	RAMBOLL
Title: Locations of the Identified Garages and Workshops for Car Repair and Motor Services	Drawn by: KW
	Checked by: TC
Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Rev.: 2.0
	Date: Aug 2022

Q:\Projects\URACBS02EI00\05 Assessments\02 Noise\01 Industrial\202208 v2.0\Fig 4 300m from Site (Noise).dwg

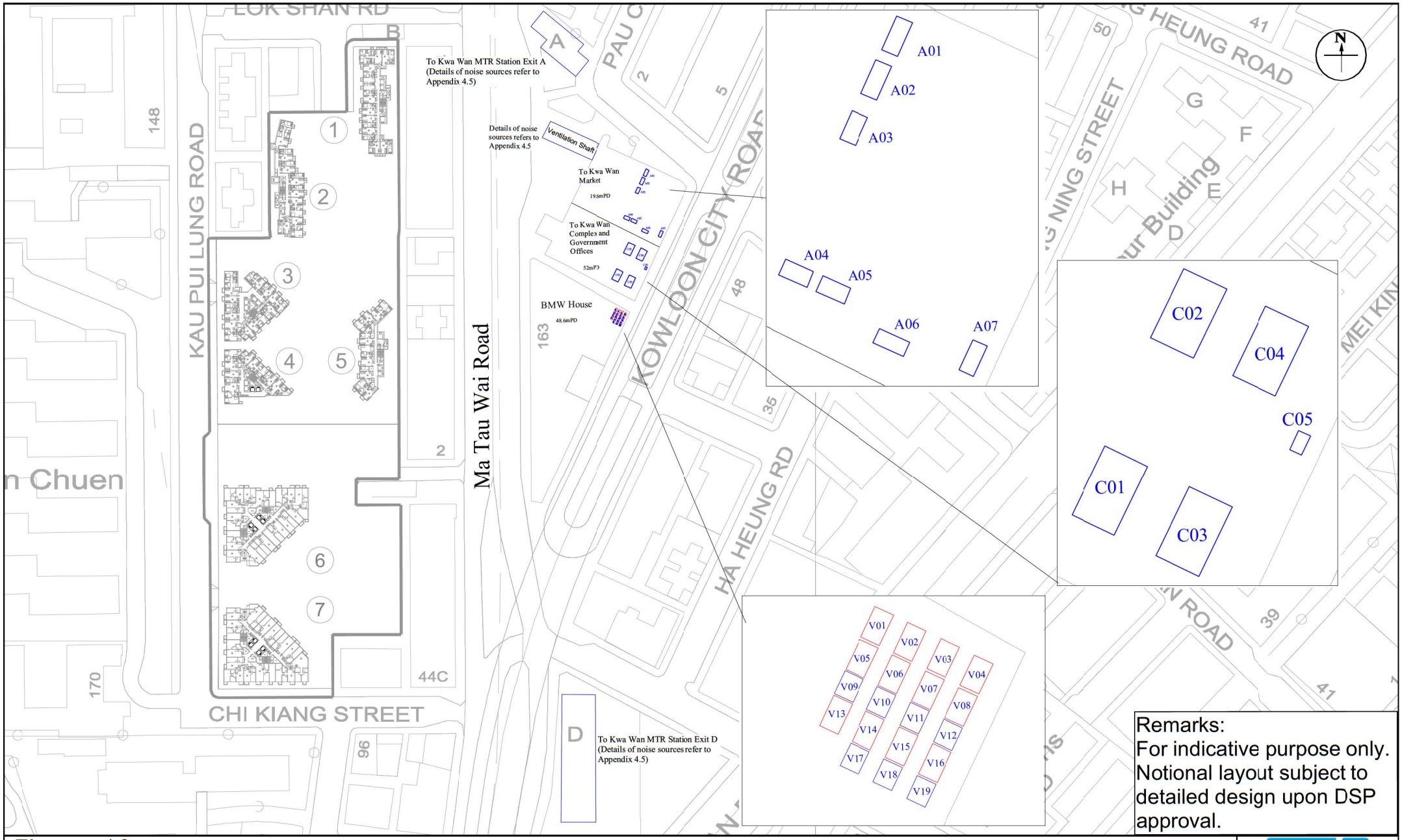


Figure: 4.2	RAMBOLL
Title: Location of Potential Fixed Noise Sources on the Roof of BMW House, To Kwa Wan Complex and Government Offices, To Kwa Wan Market and To Kwa Wan MTR Station	Drawn by: KW Checked by: TC
Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Rev.: 2.0 Date: Aug 2022

Q:\Projects\URACBS02EI00\05 Assessments\02 Noise\01 Industrial\202208 v2.0\Fig 4 300m from Site (Noise).dwg

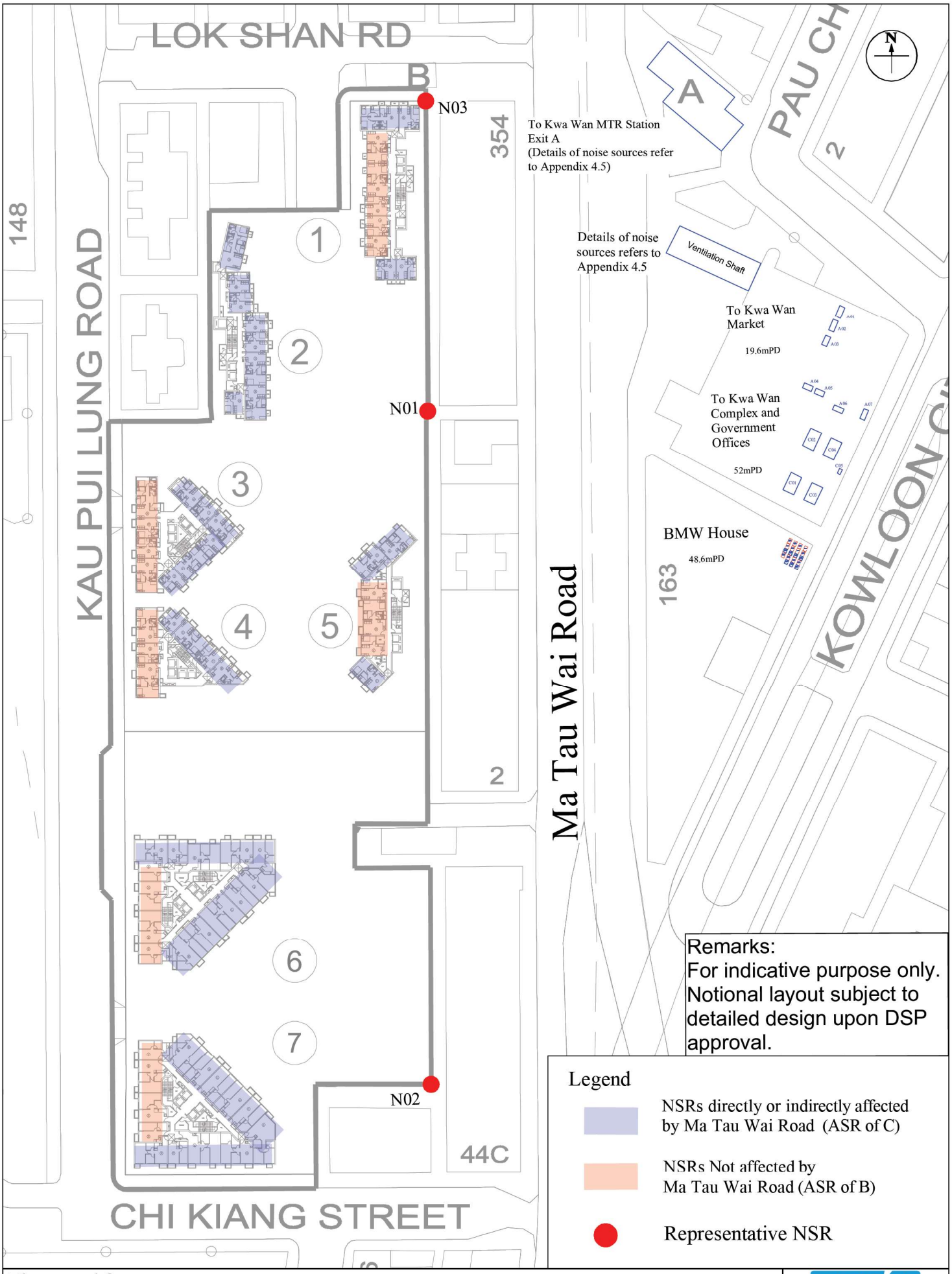
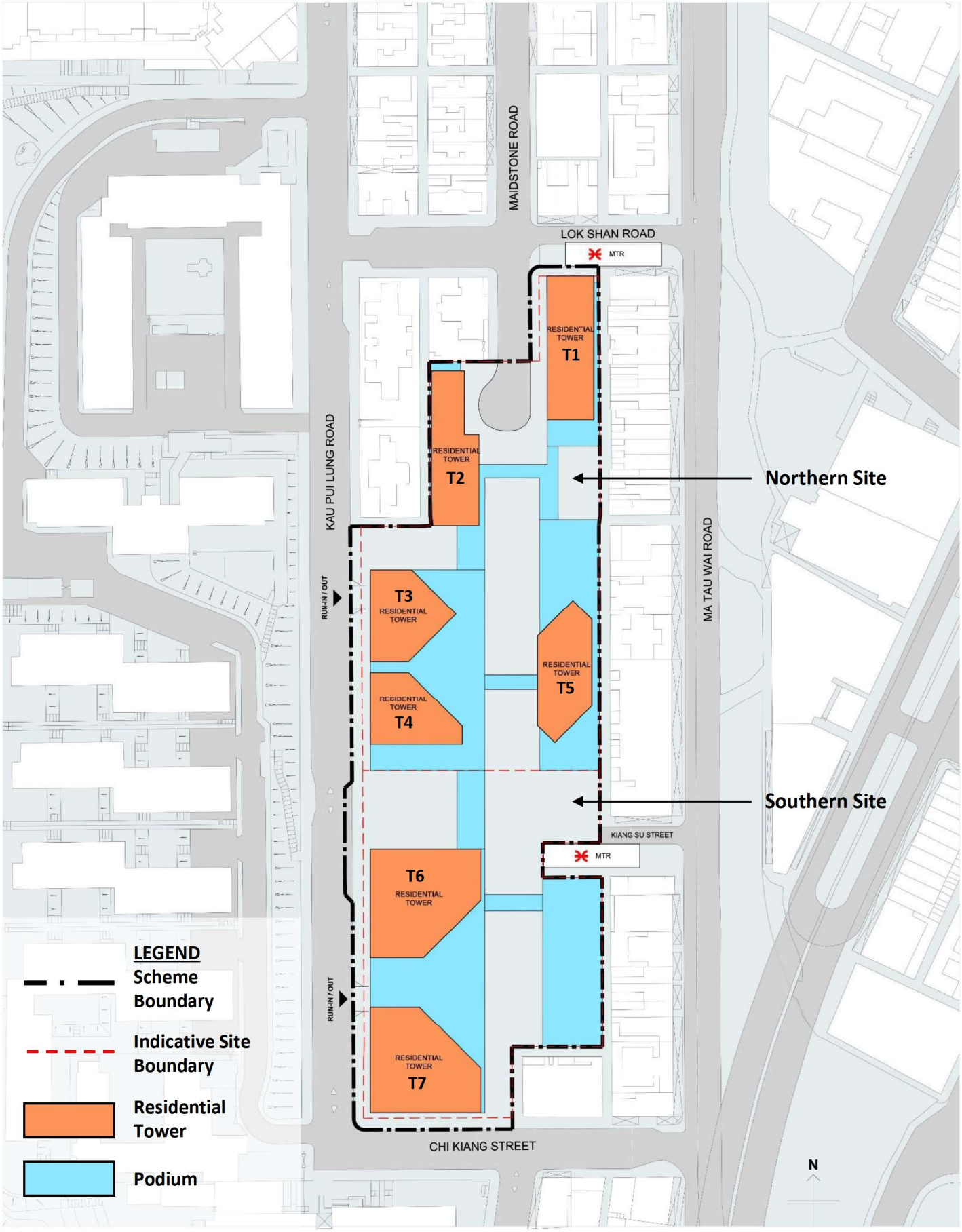


Figure: 4.3	RAMBOLL
Title: Identification of Area Sensitive Rating and Location of Representative Noise Sensitive Receivers for Fixed Noise Impact Assessment	Drawn by: KW Checked by: TC
Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Rev.: 2.0 Date: Aug 2022

Q:\Projects\URACBS02EI00\05 Assessments\02 Noise\01 Industrial\202208 v2.0\Fig 4 300m from Site (Noise).dwg

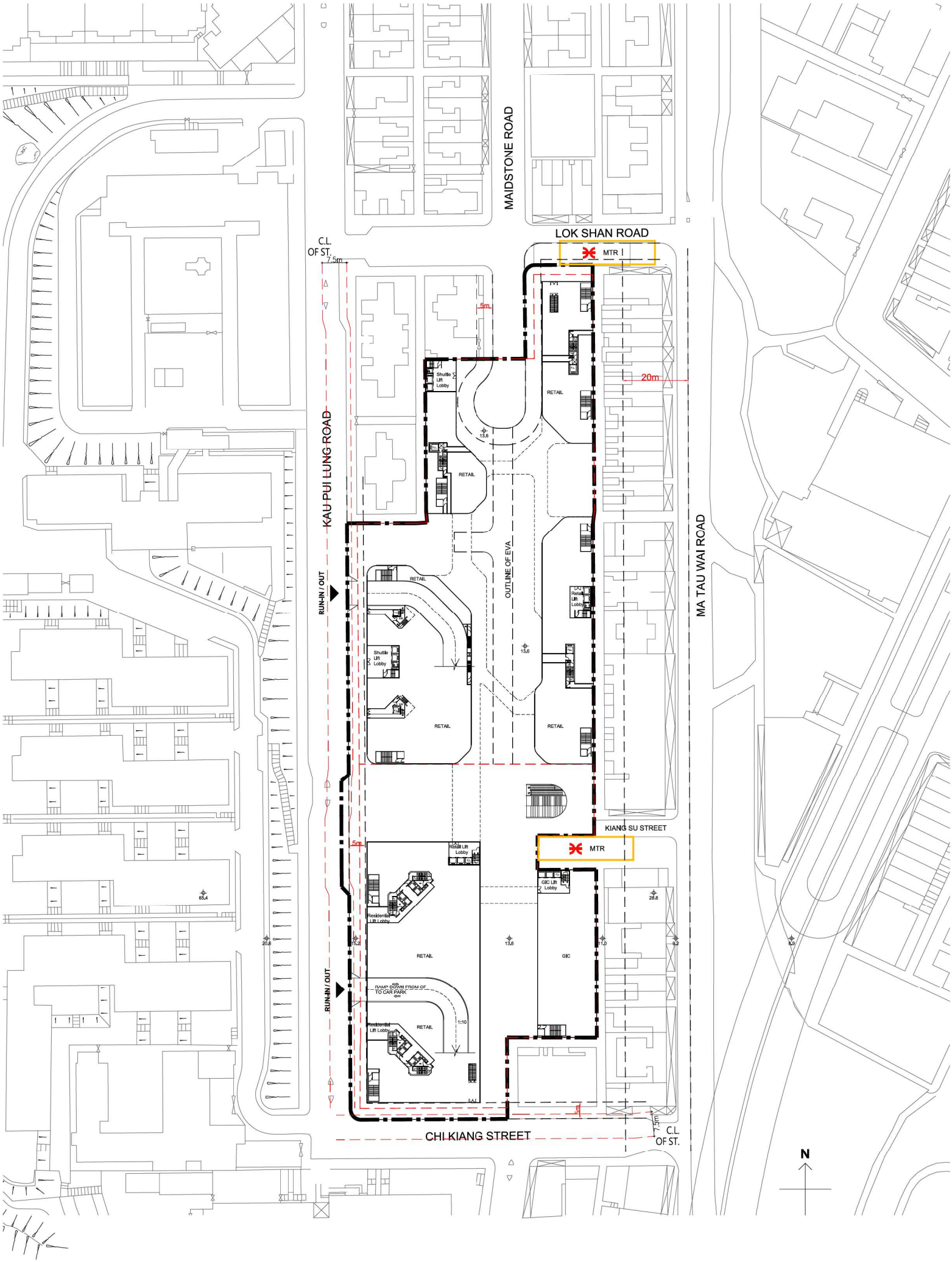
Appendix 1.1

Master Layout Plan

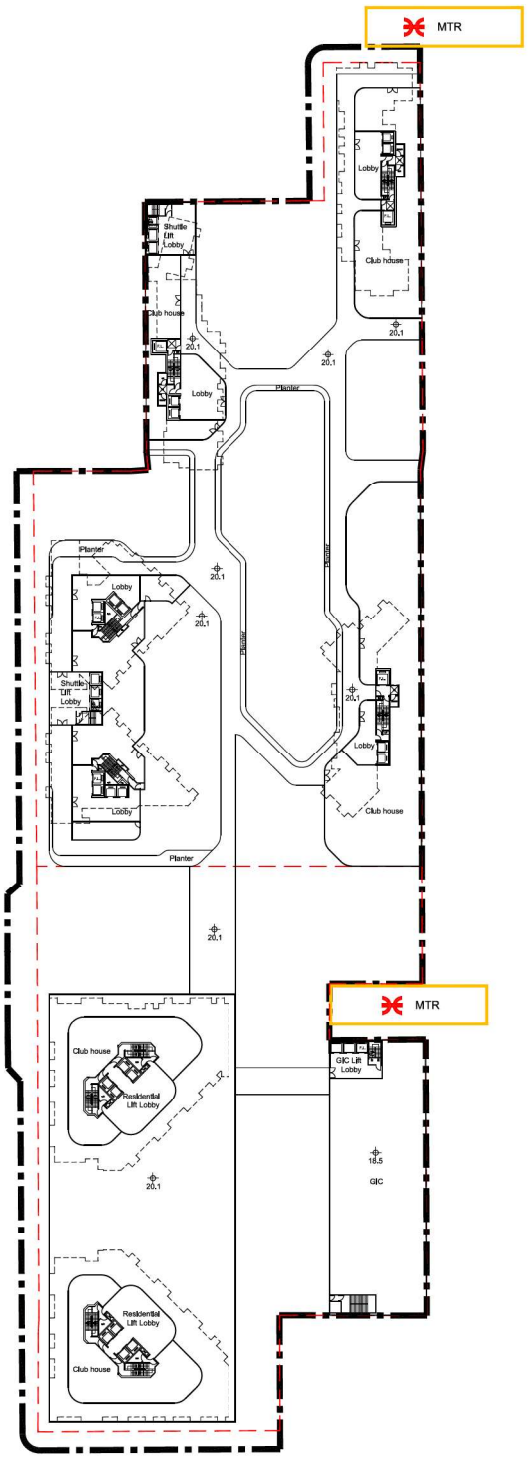


(Remarks: For indicative purpose only. Notional layout subject to detailed design upon DSP approval.)

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Notional Design – Indicative Block Plan	**Figure 1.1**



CBS-2 KC NORTHERN SITE + SOUTHERN SITE
140mPD GF PLAN
1:1000@A3 2022-09-27



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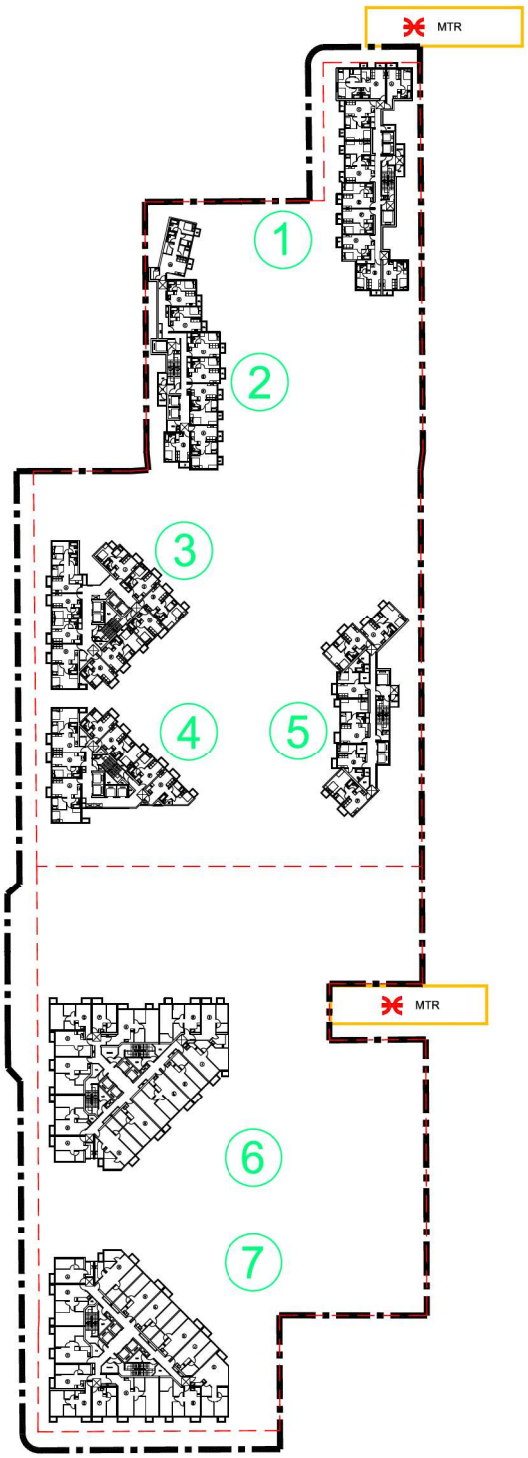
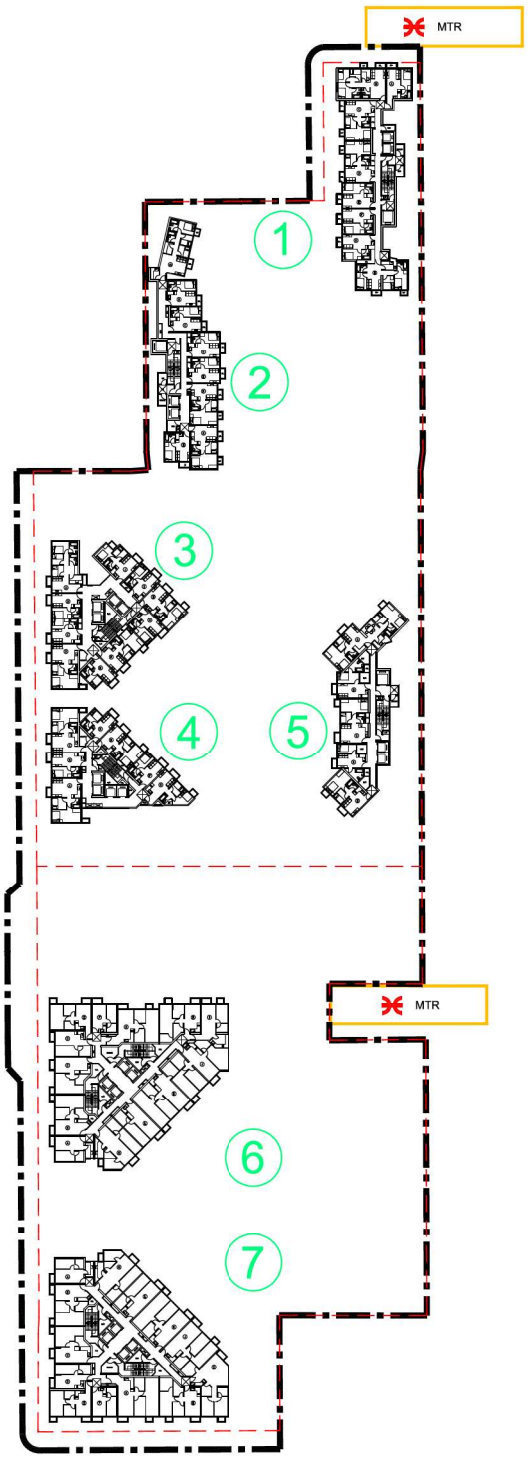
CBS-2 KC NORTHERN SITE + SOUTHERN SITE
140mPD 1F PLAN
1:1000@A3 2022-09-27



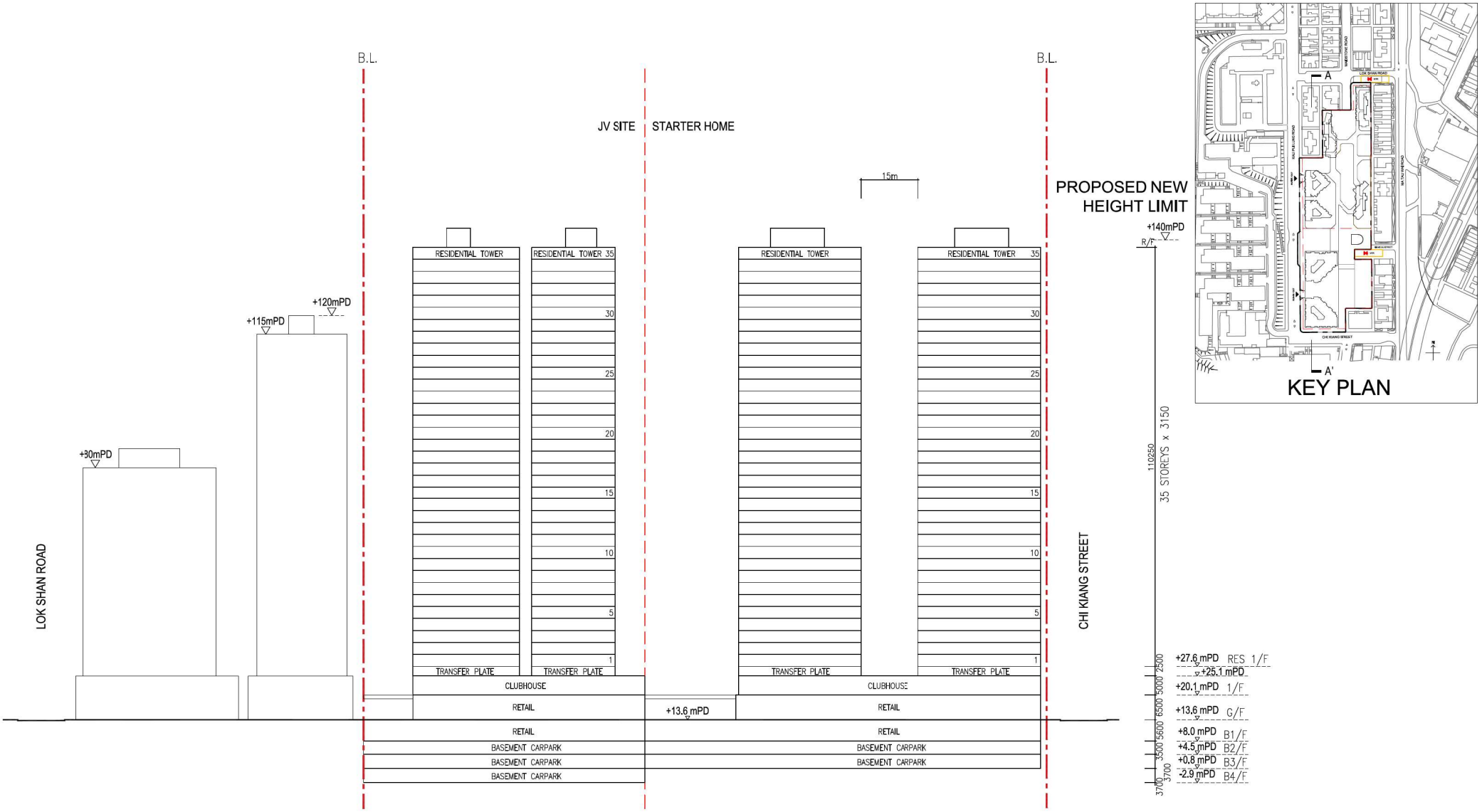
N

CBS-2 KC NORTHERN SITE (1-22F) + SOUTHERN SITE (1-20F)
140mPD TYPICAL FLOOR PLAN (LOW ZONE)
1:1000@A3 2022-09-27



N

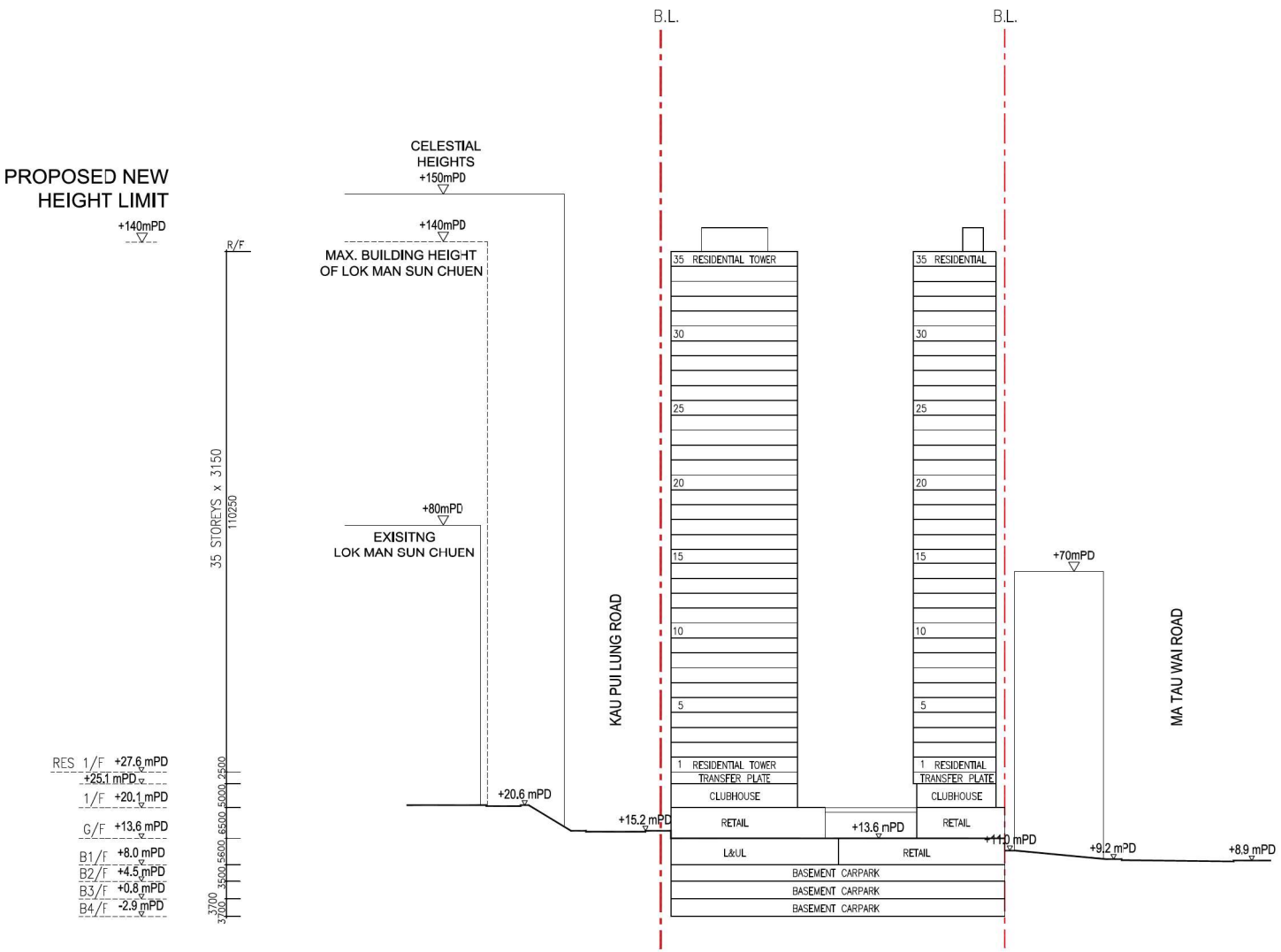
CBS-2 KC NORTHERN SITE (23-35F) + SOUTHERN SITE (21-35F)
140mPD TYPICAL FLOOR PLAN (HIGH ZONE)
1:1000@A3 2022-09-27

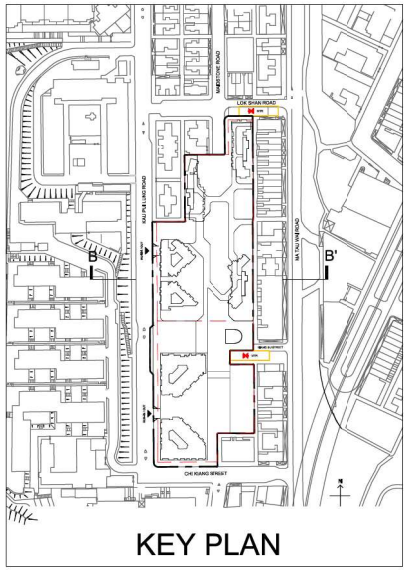


CBS-2 KC NORTHERN SITE + SOUTHERN SITE

140mPD SECTION AA'

1:1000@A3 2022-09-27





CBS-2 KC NORTHERN SITE + SOUTHERN SITE

140mPD SECTION BB'

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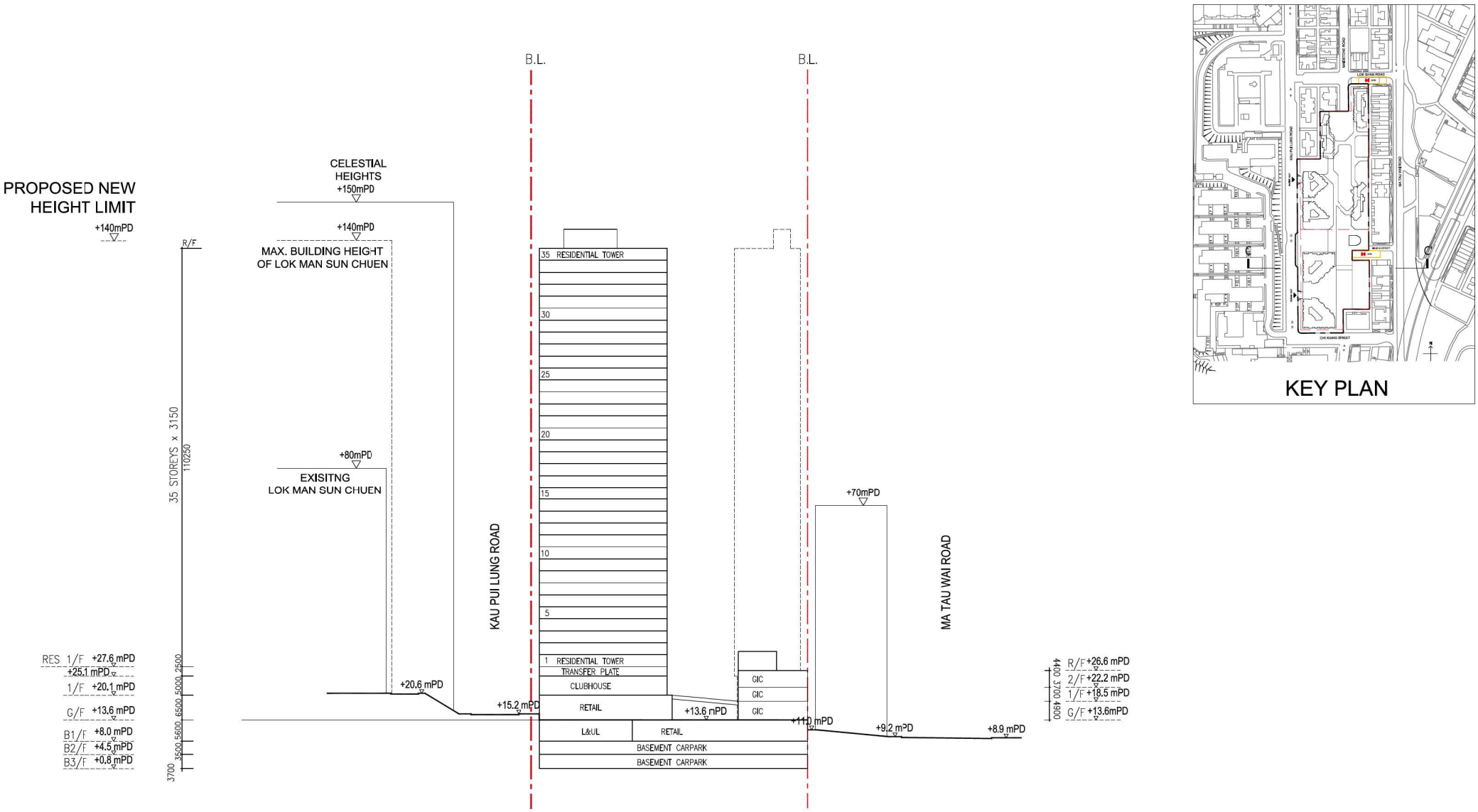


CBS-2 KC NORTHERN SITE + SOUTHERN SITE
140mPD SECTION CC'
1:1000@A3 2022-09-27

Appendix 2.1

Extract of The Annual Traffic Census 2021 and

Confirmation from Transport Department on the Road Type

Appendix C - AADT of Counting Stations - ordered by Road Names

Road Name	From	To	Stn. No.	Road Type	Stn. Type	AADT 2020	AADT 2021	Change of 2021 as % of 2020
Ma On Shan Rd	Ma On Shan Bypass	Hang Hong St RA	5005	PD	A	24,340	25,520	+4.8
Ma On Shan Rd	Ma On Shan Bypass	Hang Shun St	5913	RT	C	46,990 *	50,410	+7.3
Ma On Shan Rd	Slip rds to & from Tate's Cairn Highway	Hang Shun St	5692	RT	C	47,540	44,630	-6.1
Ma Sik Rd	Fan Leng Lau Rd	Luen Chit St	5895	DD	C	15,030 *	14,980	-0.3
Ma Sik Rd	Jockey Club Rd	Tin Ping Rd	5500	DD	C	20,760	21,600 *	+4.0
Ma Sik Rd	Luen Chit St	Wo Tai St	6091	DD	C	13,040 *	13,570 *	+4.0
Ma Sik Rd	Tin Ping Rd	Fan Leng Lau Rd	5695	DD	C	23,240	22,520	-3.1
Ma Sik Rd	Wo Tai St	Sha Tau Kok Rd - Lung Yeuk Tau	5293	DD	C	14,400 *	14,980 *	+4.0
Ma Tau Chung Rd	Ma Tau Kok Rd	Sung Wong Toi Rd	3436	PD	C	35,730	36,230 *	+1.4
Ma Tau Chung Rd	Sung Wong Toi Rd	Slip rd to Olympic Ave	3638	PD	C	58,320	71,050	+21.8
Ma Tau Chung Rd & FO <K11C>	Kowloon City RA	Tak Ku Ling Rd	4027	PD	C	49,700 *	51,820 *	+4.3
Ma Tau Chung Rd & FO <K11C>	Sung Wong Toi Rd Garden	Kowloon City INT	3831	PD	C	63,100 *	76,950	+22.0
Ma Tau Kok Rd	Kowloon City Rd	Ma Tau Chung Rd	4045	DD	C	7,540 *	7,750 *	+2.8
Ma Tau Kok Rd	Kowloon City Rd	To Kwa Wan Rd	3250	DD	C	7,180 *	7,380 *	+2.8
Ma Tau Pa Rd & Texaco Rd	Yeung Uk Rd	Texaco Rd RA	5230	DD	C	14,590 *	15,160 *	+3.9
Ma Tau Wai Rd	Chi Kiang St	Tin Kwong Rd	3620	PD	C	27,960	28,890	+3.3
Ma Tau Wai Rd	Fat Kwong St	Wuhu St	3840	DD	C	18,760 *	19,320	+3.0
Ma Tau Wai Rd	San Lau St & Bailey St	Fat Kwong St	4040	DD	C	14,320 *	14,710 *	+2.8
Ma Tau Wai Rd	Tin Kwong Rd	Farm Rd	3818	PD	C	31,950 *	34,230	+7.1
Ma Tau Wai Rd & Ma Tau Chung Rd	Farm Rd	Ma Tau Kok Rd	4016	PD	C	28,580 *	28,980 *	+1.4
Ma Tau Wai Rd & To Kwa Wan Rd	San Lau St & Bailey St	Chi Kiang St	3014	DD	A	22,500	23,130	+2.8
Magazine Gap Rd	Garden Rd	Peak Rd	2205	DD	B	15,630	16,160	+3.4
Magic Rd	Penny's Bay Highway	End	5709	LD	C	3,390	3,560	+4.8
Man Fuk Rd	Pui Ching Rd	Man Wan Rd	4626	LD	C	8,090	9,920	+22.5
Man Hong St	Java Rd	King's Rd	1613	PD	C	23,780	25,860	+8.7
Man Kam To Rd	Jockey Club Rd	Boundary	5465	RR	C	17,270	17,960 *	+4.0
Man Yiu St	Man Kwong St	Harbour View St	1647	DD	C	17,680	19,460	+10.1
Man Yue St	Ma Tau Wai Rd	Hung Hom Rd	3698	DD	C	4,420	5,610	+27.1
Marsh Rd	Gloucester Rd	Hennessy Rd	2625	LD	C	9,180	9,260	+0.8
Marsh Rd & FO <H78>	Hung Hing Rd	Lockhart Rd	1859	DD	C	13,130 *	12,600	-4.0
Mau Yip Rd	Po Fung Rd	Wan Hang Rd	6107	DD	C	6,440 *	6,740 *	+4.7

*** AADT estimated by Growth Factor**

Kitty Wong

Subject: FW: URA Confidential Project in Kowloon City

From: Christine LUK [mailto:christineluk@td.gov.hk]
Sent: Friday, July 5, 2019 3:43 PM
To: Horace Mak
Cc: 'W K Kwong'
Subject: Re: URA Confidential Project in Kowloon City

Dear Horace,

I have no comment on your proposed road type.

Regards,

Christine LUK
EK/KC, TEK,TD
Tel 2399 2512

From: "Horace Mak" <horacemak@ctaconsultants.com>
To: <Christineluk@td.gov.hk>
Cc: "'W K Kwong'" <wkkwong@ctaconsultants.com>
Date: 03/06/2019 09:15 AM
Subject: URA Confidential Project in Kowloon City

Dear Christine,

We refer to our telephone conversation on 31 May 2019 regarding the captioned subject.

In order to facilitate the environmental assessment for the proposed development to be carried out by the URA's environmental consultants, we would like to seek your confirmation on the road type of the following roads in the vicinity of the proposed development:

Road Name	Road Type
Lok Shan Road	Local Distributor
Kau Pui Lung Road	Local Distributor
Chi Kiang Street	Local Distributor
Maidstone Road	Local Distributor
Kiang Su Street	Local Distributor

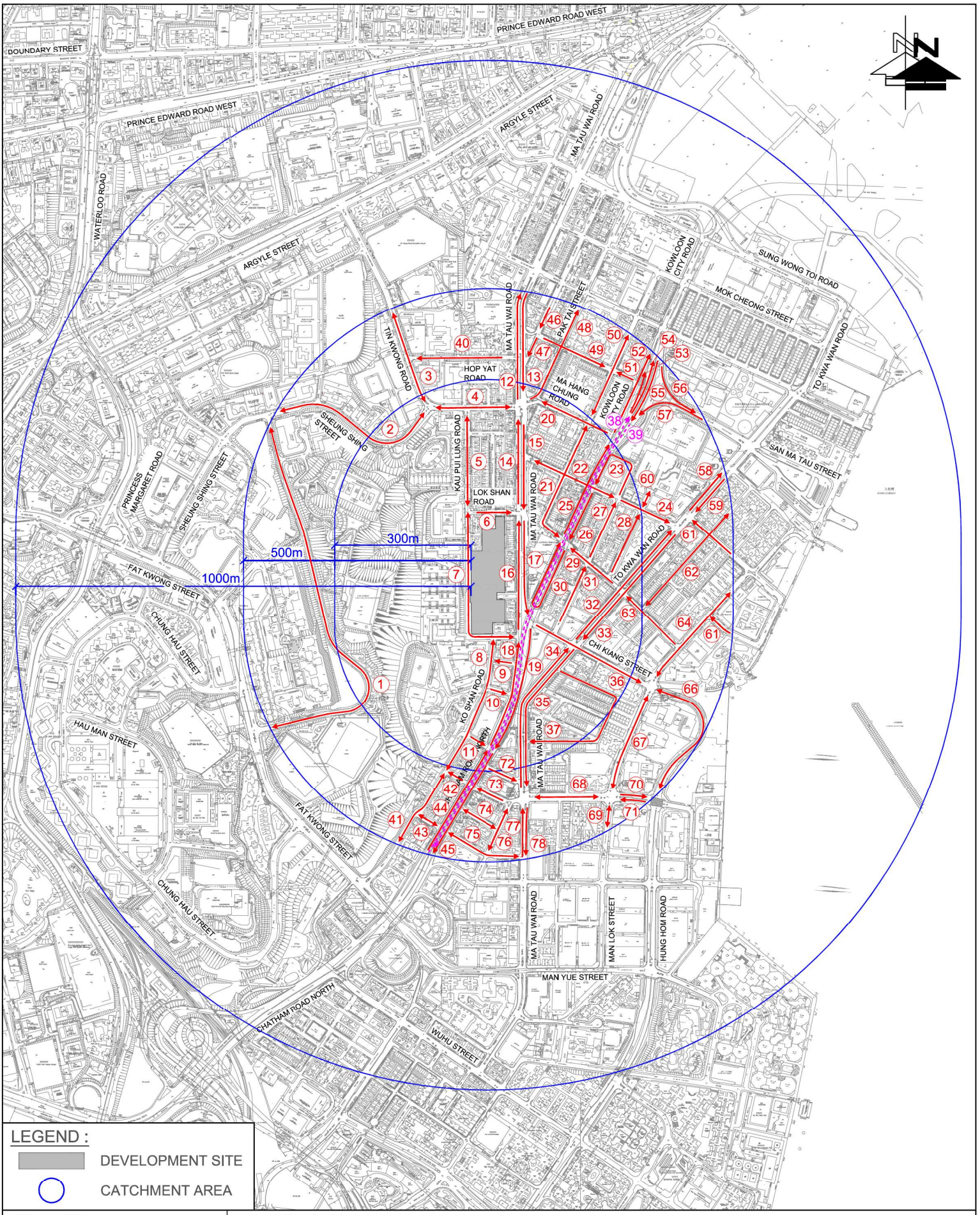
Should you have any queries or require further information, please feel free to contact me at 2214 0849/9172 2107 or our Mr. W. K. Kwong at 2214 0849.
Many thanks for your kind assistance.

Best Regards,

Horace Mak
Director
T : (852) 2214 0849
M : (852) 9172 2107
CTA Consultants Limited

Appendix 3.1

Traffic Forecast Data for Year 2048 for Traffic Noise Impact Assessment



LEGEND :

DEVELOPMENT SITE

CATCHMENT AREA

FIGURE NO.: 1	PROJECT TITLE: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-02:KC)
PROJECT NO.: 22101HK	DRAWING TITLE: INDEX PLAN
SCALE: 1 : 7500 @ A3	DATE: 14 SEP 2022

CTA Consultants Limited
志達顧問有限公司

Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

TRAFFIC FORECAST FOR TRAFFIC NOISE IMPACT ASSESSMENT

Link No.	Road Name	Direction	Year 2048			
			AM Peak		PM Peak	
			Traffic Flow (veh/hr)	HV%	Traffic Flow (veh/hr)	HV%
1	Sheung Lok Street	Two-way	235	10%	125	20%
2	Sheung Shing Street	Two-way	1,635	10%	1,015	15%
3	Tin Kwong Road	Two-way	1,480	15%	1,135	25%
4	Tin Kwong Road	Two-way	1,700	20%	1,295	15%
5	Kau Pui Lung Road	Two-way	760	15%	910	15%
6	Lok Shan Road	EB	360	40%	465	20%
7	Kau Pui Lung Road	Two-way	695	15%	665	15%
8	Ko Shan Road	Two-way	915	20%	855	20%
9	Anhui Street	WB	95	20%	115	80%
10	Kiang Hsi Street	EB	20	15%	20	40%
11	Shan Si Street	EB	230	25%	150	40%
12	Ma Tau Wai Road	NB	865	30%	745	55%
13	Ma Tau Wai Road	SB	2,250	25%	1,765	20%
14	Ma Tau Wai Road	NB	340	85%	445	80%
15	Ma Tau Wai Road	SB	1,765	30%	1,310	30%
16	Ma Tau Wai Road	NB	670	45%	555	70%
17	Ma Tau Wai Road	SB	1,875	35%	1,625	25%
18	Ma Tau Wai Road	NB	1,635	45%	1,490	50%
19	Ma Tau Wai Road	SB	1,210	35%	1,140	25%
20	Ma Hang Chung Road	WB	400	40%	450	15%
21	Pau Chung Street	Two-way	315	30%	345	15%
22	Sheung Heung Road	Two-way	880	20%	770	20%
23	Ha Heung Road	Anti-clockwise	70	30%	65	15%
24	Sheung Heung Road	EB	505	35%	365	25%
25	Kowloon City Road	NB	705	15%	695	15%
26	Kowloon City Road	SB	5	0%	5	0%
27	Ha Heung Road	NB	670	15%	665	15%
28	Cheung Ning Street	NB	40	45%	30	40%
29	Lok Shan Road	WB	850	20%	945	20%
30	Kowloon City Road	Clockwise	5	0%	5	0%
31	Ha Heung Road	NB	265	10%	155	10%
32	To Kwa Wan Road	NB	355	55%	360	55%
33	To Kwa Wan Road	SB	1,195	40%	840	55%
34	To Kwa Wan Road	NB	345	55%	390	55%
35	To Kwa Wan Road	SB	2,320	40%	1,855	40%
36	Chi Kiang Street	EB	1,700	35%	1,400	30%
37	Ngan Hon Street	Clockwise	1,060	75%	815	65%
38	East Kowloon Corridor	NB	3,650	20%	4,090	25%
39	East Kowloon Corridor	SB	2,530	30%	2,220	15%

Appendix 3.2

Results of Road Traffic Noise Impact Assessment

Predicted Results for Road Traffic Noise Impact Assessment of Proposed Development

1a. AM Peak - Unmitigated Scenario

Northern Site

Block 1

Low Zone

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22
1/F	27.6	73	73	72	73	73	70	67	68	67	66	66	66	65	65	64	64	64	63	49	48	48	48
2/F	30.75	73	73	73	73	73	70	67	67	67	66	66	65	65	65	64	64	63	63	50	48	48	48
3/F	33.9	73	73	73	72	73	69	66	67	67	66	66	65	65	65	64	64	63	63	50	48	48	49
4/F	37.05	73	73	73	73	73	69	66	67	66	66	66	65	65	64	64	64	63	63	51	49	49	49
5/F	40.2	73	73	73	73	73	69	66	67	66	66	65	65	65	64	64	64	63	63	51	49	50	50
6/F	43.35	74	73	73	73	73	68	66	66	66	66	65	65	65	64	64	63	63	63	52	51	51	52
7/F	46.5	74	73	73	73	73	68	66	66	66	65	65	65	65	64	64	63	63	63	53	52	52	53
8/F	49.65	74	74	73	73	73	68	65	66	66	65	65	65	64	64	64	63	63	63	54	54	54	55
9/F	52.8	74	73	73	73	73	68	65	66	66	65	65	65	65	64	64	63	63	63	56	56	57	59
10/F	55.95	74	73	73	73	73	67	65	66	66	65	65	65	65	64	64	63	63	63	59	60	61	62
11/F	59.1	74	73	73	73	73	67	65	66	66	65	65	65	65	64	64	63	63	63	62	62	62	63
12/F	62.25	74	73	73	73	73	67	65	66	66	65	65	65	64	64	64	63	63	63	63	63	63	64
13/F	65.4	74	73	73	73	72	67	65	66	66	65	65	64	64	64	64	63	63	63	63	63	64	65
14/F	68.55	74	73	73	72	72	67	64	65	65	65	65	64	64	64	64	63	63	63	64	64	64	65
15/F	71.7	73	73	73	72	72	67	64	65	65	65	65	64	64	64	64	63	63	63	64	64	65	66
16/F	74.85	73	73	73	72	72	66	64	65	65	65	65	64	64	64	64	63	63	63	64	65	65	67
17/F	78	73	73	73	72	72	66	64	65	65	65	65	64	64	64	63	63	63	63	65	65	66	68
18/F	81.15	73	73	72	72	72	66	64	65	65	65	64	64	64	64	63	63	63	63	65	66	67	69
19/F	84.3	74	73	72	72	72	66	64	65	65	65	64	64	64	64	63	63	63	63	66	67	68	70
20/F	87.45	74	72	72	72	72	66	63	65	65	64	64	64	64	64	63	63	63	63	67	68	69	71
21/F	90.6	74	72	72	72	72	66	63	64	64	64	64	64	64	64	63	63	63	63	68	68	70	71
22/F	93.75	74	72	72	72	72	66	63	64	64	64	64	64	64	63	63	63	63	63	68	69	70	72
Max. Noise Level		74	74	73	73	73	70	67	68	67	66	66	66	65	65	64	64	64	63	68	69	70	72
No. of Noise Exceedance		22	22	22	22	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
No. of Flats with Noise Exceedance		22		22				0			0			0		0		0		0		3	
No. of Flats		22		22				22			22			22		22		22		22		22	

High Zone

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22
23/F	96.9	74	72	72	72	72	66	63	64	64	64	64	64	64	63	63	63	63	63	69	70	70	72
24/F	100.05	73	72	72	72	72	65	63	64	64	64	64	64	64	63	63	63	63	64	69	70	70	72
25/F	103.2	73	72	72	72	72	65	63	64	64	64	64	64	64	63	63	63	63	64	69	70	71	72
26/F	106.35	73	72	72	72	72	65	63	64	64	64	64	63	63	63	63	63	63	64	70	70	71	72
27/F	109.5	73	72	72	72	71	65	63	64	64	64	64	63	63	63	63	63	63	64	70	70	71	72
28/F	112.65	73	72	72	71	71	65	63	64	64	64	63	63	63	63	63	63	63	64	70	70	71	72
29/F	115.8	73	72	72	71	71	65	63	64	64	64	63	63	63	63	63	63	63	65	70	71	71	72
30/F	118.95	73	72	72	71	71	65	62	64	64	63	63	63	63	63	63	63	63	65	70	71	71	72
31/F	122.1	73	72	72	71	71	65	62	64	64	63	63	63	63	63	63	63	63	65	70	71	71	72
32/F	125.25	73	72	72	71	71	65	62	64	64	63	63	63	63	63	63	63	63	65	70	71	71	72
33/F	128.4	73	72	71	71	71	65	62	63	63	63	63	63	63	63	63	62	63	65	71	71	71	72
34/F	131.55	73	72	71	71	71	65	62	63	63	63	63	63	63	63	63	63	63	65	71	71	71	72
35/F	134.7	73	72	71	71	71	65	62	63	64	63	63	63	63	63	63	63	63	66	71	71	71	72
Max. Noise Level		74	72	72	72	72	66	63	64	64	64	64	64	64	63	63	63	63	66	71	71	71	72
No. of Noise Exceedance		13	13	13	13	13	0	0	0	0	0	0	0	0	0	0	0	0	0	3	7	11	13
No. of Flats with Noise Exceedance		13		13				0			0			0		0		0		13			
No. of Flats		13		13				13			13			13		13		13		13			

Block 2

Low Zone

Floor	mPD	N2-01	N2-02	N2-03	N2-04	N2-05	N2-06	N2-07	N2-08	N2-09	N2-10	N2-11	N2-12	N2-13	N2-14	N2-15	N2-16	N2-17	N2-18	N2-19	N2-20
1/F	27.6	62	62	61	61	61	60	60	60	61	61	61	61	60	60	60	61	61	60	62	63
2/F	30.75	62	62	61	61	61	60	60	60	61	61	61	61	60	60	60	61	61	61	62	63
3/F	33.9	62	61	61	61	61	60	60	60	61	61	61	61	60	60	60	61	62	61	62	63
4/F	37.05	62	61	61	60	61	60	60	60	61	61	61	61	60	60	60	61	62	61	62	62
5/F	40.2	62	61	61	60	60	60	60	60	61	61	61	61	60	60	60	61	62	62	62	62
6/F	43.35	62	61	61	60	60	60	60	60	61	61	61	61	60	60	60	61	62	62	62	62
7/F	46.5	62	61	61	60	60	60	60	60	61	61	61	61	60	60	60	61	62	62	62	63
8/F	49.65	62	61	61	61	61	60	60	60	61	61	61	61	60	60	60	61	62	62	62	62
9/F	52.8	62	62	61	61	61	60	60	60	61	61	61	61	60	60	60	61	62	62	62	62
10/F	55.95	63	62	62	61	61	61	60	60	61	61	61	61	60	60	60	61	62	62	62	62
11/F	59.1	63	62	62	62	62	61	61	60	61	61	61	61	61	60	61	61	62	62	62	62
12/F	62.25	63	62	62	62	62	62	61	61	62	62	61	61	61	61	61	62	62	62	61	62
13/F	65.4	63	63	62	62	62	62	62	61	62	62	62	62	62	62	62	62	63	63	61	62
14/F	68.55	63	63	63	62	63	63	63	62	63	63	63	62	62	62	62	63	63	63	61	62
15/F	71.7	64	63	63	63	63	63	63	62	63	63	63	63	62	62	62	63	63	63	61	62
16/F	74.85	64	63	63	63	63	63	63	62	63	63	63	63	63	63	63	63	63	63	61	61
17/F	78	64	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	61	61
18/F	81.15	64	63	63	63	63	63	63	63	64	63	63	63	63	63	63	63	63	64	61	61
19/F	84.3	64	63	63	63	63	64	63	63	64	64	63	63	63	63	63	63	64	64	61	61
20/F	87.45	64	63	63	63	64	64	63	63	64	64	64	64	63	63	63	64	64	64	61	61
21/F	90.6	64	63	63	63	64	64	64	63	64	64	64	64	64	64	64	64	64	64	61	61
22/F	93.75	65	64	63	63	64	64	64	63	64	64	64	64	64	64	64	64	64	64	60	61
Max. Noise Level		65	64	63	63	64	64	64	63	64	64	64	64	64	64	64	64	64	64	62	63
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0				0		0		0		0		0			0			0	
No. of Flats		22				22		22		22		22		22			22			22	

High Zone

Floor	mPD	N2-01	N2-02	N2-03	N2-04	N2-05	N2-06	N2-07	N2-08	N2-09	N2-10	N2-11	N2-12	N2-13	N2-14	N2-15	N2-16	N2-17	N2-18	N2-19	N2-20
23/F	96.9	65	64	63	63	64	64	64	63	65	64	64	64	64	64	64	64	64	65	60	61
24/F	100.05	65	64	64	64	64	64	64	63	65	65	65	65	65	65	65	65	65	65	60	61
25/F	103.2	65	64	64	64	65	65	64	63	65	65	65	65	65	65	65	65	65	65	60	61
26/F	106.35	65	64	64	64	65	65	65	64	65	65	65	65	65	65	65	65	65	65	60	62
27/F	109.5	66	65	64	65	65	65	65	64	66	65	66	66	65	65	65	65	65	65	61	62
28/F	112.65	66	65	65	65	65	65	65	64	66	66	66	66	66	66	66	66	66	66	61	62
29/F	115.8	66	65	65	65	66	66	65	64	66	66	66	66	66	66	66	66	66	66	61	62
30/F	118.95	66	65	65	65	66	66	66	64	66	66	66	66	66	66	66	66	66	66	61	62
31/F	122.1	66	65	65	65	66	66	66	64	66	66	67	67	66	66	66	66	66	66	61	63
32/F	125.25	66	66	65	65	66	66	66	64	67	67	67	67	67	67	67	67	67	67	61	63
33/F	128.4	66	66	65	66	66	66	66	64	67	67	67	67	67	67	67	67	67	67	61	63
34/F	131.55	67	66	66	66	67	67	67	65	67	67	67	67	67	67	67	67	67	67	61	63
35/F	134.7	67	66	66	66	67	67	67	65	68	67	68	68	68	68	68	68	68	68	62	63
Max. Noise Level		67	66	66	66	67	67	67	65	68	67	68	68	68	68	68	68	68	68	62	63
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0				0		0		0		0		0			0			0	
No. of Flats		13				13		13		13		13		13			13			13	

Block 3

Low Zone

Floor	mPD	N3-01	N3-02	N3-03	N3-04	N3-05	N3-06	N3-07	N3-08	N3-09	N3-10	N3-11	N3-12	N3-13	N3-14	N3-15	N3-16	N3-17	N3-18	N3-19	N3-20	N3-21	N3-22	N3-23	N3-24	N3-25	N3-26
1/F	27.6	73	73	73	73	73	73	73	73	73	73	73	57	56	49	48	47	47	48	50	51	52	56	58	59	63	64
2/F	30.75	72	72	72	72	72	72	72	72	72	72	72	59	58	52	49	48	48	48	52	53	54	57	58	59	63	64
3/F	33.9	72	72	72	72	72	72	72	72	72	72	72	61	58	53	50	48	48	48	53	54	54	57	59	59	63	64
4/F	37.05	71	71	71	71	71	71	71	71	71	71	71	61	59	54	51	48	48	49	54	55	55	58	59	60	63	65
5/F	40.2	71	71	71	71	71	71	71	71	71	71	71	61	59	55	51	49	49	50	56	56	57	58	60	61	64	65
6/F	43.35	70	70	70	70	70	70	70	70	70	70	70	61	59	55	52	50	50	51	57	57	58	60	61	61	64	65
7/F	46.5	70	70	70	70	70	70	70	70	70	70	70	61	59	55	52	50	51	52	57	58	59	60	61	62	64	64
8/F	49.65	70	70	70	70	70	70	70	69	69	69	69	61	59	55	52	51	51	52	58	59	59	60	61	62	64	64
9/F	52.8	69	69	69	69	69	69	69	69	69	69	69	61	59	55	53	52	52	53	58	59	59	61	61	62	64	64
10/F	55.95	69	69	69	69	69	69	69	69	69	69	69	61	59	56	54	53	53	54	59	59	59	61	61	62	64	64
11/F	59.1	69	69	69	69	69	69	69	68	69	68	68	61	60	57	56	55	55	55	59	59	60	61	61	62	64	64
12/F	62.25	68	68	68	68	68	68	68	68	68	68	68	61	60	58	57	57	57	56	59	60	60	61	61	62	63	64
13/F	65.4	68	68	68	68	68	68	68	68	68	68	68	61	60	59	58	58	58	58	60	60	60	61	62	62	63	64
14/F	68.55	68	68	68	68	68	68	68	68	68	68	68	61	61	59	59	59	58	58	60	61	61	61	62	62	63	64
15/F	71.7	68	68	68	68	68	68	68	68	68	67	68	62	61	60	59	59	59	59	61	61	61	62	62	62	63	64
16/F	74.85	67	67	67	67	67	67	67	67	67	67	67	62	61	60	60	59	59	59	61	61	61	62	62	62	63	64
17/F	78	67	67	67	67	67	67	67	67	67	67	67	62	61	60	60	60	60	60	61	61	61	62	62	62	64	64
18/F	81.15	67	67	67	67	67	67	67	67	67	67	67	62	62	61	60	60	60	60	61	61	61	62	62	62	63	64
19/F	84.3	67	67	67	67	67	67	67	67	67	67	67	63	62	61	61	60	60	60	61	62	61	62	62	62	63	64
20/F	87.45	67	67	67	67	67	67	67	66	66	66	66	63	63	62	61	61	61	61	62	62	61	62	62	62	63	63
21/F	90.6	66	67	67	66	66	66	66	66	66	66	66	63	63	62	62	62	62	62	62	62	62	62	62	62	63	63
22/F	93.75	66	66	66	66	66	66	66	66	66	66	66	64	64	63	63	62	62	62	62	62	62	62	62	62	63	63
Max. Noise Level		73	73	73	73	73	73	73	73	73	73	73	64	64	63	63	62	62	62	62	62	62	62	62	62	64	65
No. of Noise Exceedance		5	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		5				5		5		5			0		0			0			0		0			0	
No. of Flats		22				22		22		22			22		22			22			22		22			22	

High Zone

Floor	mPD	N3-01	N3-02	N3-03	N3-04	N3-05	N3-06	N3-07	N3-08	N3-09	N3-10	N3-11	N3-12	N3-13	N3-14	N3-15	N3-16	N3-17	N3-18	N3-19	N3-20	N3-21	N3-22	N3-23	N3-24	N3-25	N3-26
23/F	96.9	66	66	66	66	66	66	66	66	66	66	66	64	64	64	63	63	63	63	63	63	62	62	62	62	63	63
24/F	100.05	66	66	66	66	66	66	66	66	66	66	66	64	65	64	64	64	64	64	63	63	62	63	62	62	63	63
25/F	103.2	66	66	66	66	66	66	66	66	66	66	66	64	65	65	65	64	64	64	63	63	62	63	62	63	63	63
26/F	106.35	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	65	65	64	64	63	63	63	63	63	64	63
27/F	109.5	65	66	66	65	65	66	65	65	65	65	65	65	65	65	65	65	65	65	64	63	63	63	63	63	64	63
28/F	112.65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	64	64	63	63	63	63	64	63
29/F	115.8	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	65	65	65	65	64	63	63	63	63	64	63
30/F	118.95	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	65	65	64	63	64	63	63	64	63
31/F	122.1	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	66	65	64	64	64	63	63	64	63
32/F	125.25	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	66	65	64	64	64	64	64	64	63
33/F	128.4	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	66	66	65	64	64	64	64	64	64
34/F	131.55	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	66	66	65	64	64	64	64	64	64
35/F	134.7	65	65	65	65	65	65	65	65	65	65	65	65	66	66	67	66	67	66	66	65	65	65	64	64	65	64
Max. Noise Level		66	66	66	66	66	66	66	66	66	66	66	65	66	66	67	66	67	66	66	65	65	65	64	64	65	64
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0				0		0		0			0		0			0			0		0			0	
No. of Flats		13				13		13		13			13		13			13			13		13			13	

Block 4

Low Zone

Floor	mPD	N4-01	N4-02	N4-03	N4-04	N4-05	N4-06	N4-07	N4-08	N4-09	N4-10	N4-11	N4-12	N4-13	N4-14	N4-15	N4-16	N4-17	N4-18
1/F	27.6	73	73	73	73	73	73	73	73	51	58	59	59	60	60	61	61	61	62
2/F	30.75	72	72	72	72	72	72	72	72	54	60	60	60	61	61	61	61	62	62
3/F	33.9	71	71	71	71	71	71	71	71	58	60	60	60	61	61	61	61	62	62
4/F	37.05	71	71	71	71	71	71	71	71	59	60	60	60	61	61	61	61	62	62
5/F	40.2	70	70	70	70	70	70	70	71	59	60	60	60	60	61	61	61	62	62
6/F	43.35	70	70	70	70	70	70	70	70	59	60	60	60	60	61	61	61	61	62
7/F	46.5	70	70	70	70	70	70	70	70	59	60	60	60	60	61	61	61	61	62
8/F	49.65	69	69	69	69	69	69	69	69	59	60	60	60	60	61	61	61	61	62
9/F	52.8	69	69	69	69	69	69	69	69	58	60	60	60	60	61	61	61	62	62
10/F	55.95	69	69	69	69	69	69	69	69	58	60	60	60	61	61	61	62	62	62
11/F	59.1	68	68	68	68	68	68	68	68	58	61	60	61	61	61	62	62	62	63
12/F	62.25	68	68	68	68	68	68	68	68	58	61	61	61	61	62	62	62	63	63
13/F	65.4	68	68	68	68	68	68	68	68	58	61	61	61	62	62	62	63	63	63
14/F	68.55	68	68	67	67	68	68	68	68	57	62	62	62	62	62	63	63	63	64
15/F	71.7	67	67	67	67	67	67	67	67	57	62	62	62	62	63	63	63	64	64
16/F	74.85	67	67	67	67	67	67	67	67	57	62	62	62	63	63	63	64	64	64
17/F	78	67	67	67	67	67	67	67	67	57	62	62	63	63	63	63	64	64	65
18/F	81.15	67	67	67	67	67	67	67	67	57	63	63	63	63	63	64	64	64	65
19/F	84.3	66	66	66	66	66	66	66	67	57	63	63	63	63	64	64	64	65	65
20/F	87.45	66	66	66	66	66	66	66	66	58	63	63	63	64	64	64	65	65	66
21/F	90.6	66	66	66	66	66	66	66	66	58	63	63	64	64	64	65	65	66	66
22/F	93.75	66	66	66	66	66	66	66	66	58	64	64	64	64	65	65	66	66	67
Max. Noise Level		73	73	73	73	73	73	73	73	59	64	64	64	64	65	65	66	66	67
No. of Noise Exceedance		4	4	4	4	4	4	4	5	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		4			4		5			0		0			0		0		
No. of Flats		22			22		22			22		22			22		22		

High Zone

Floor	mPD	N4-01	N4-02	N4-03	N4-04	N4-05	N4-06	N4-07	N4-08	N4-09	N4-10	N4-11	N4-12	N4-13	N4-14	N4-15	N4-16	N4-17	N4-18
23/F	96.9	66	66	66	66	66	66	66	66	58	64	64	64	65	65	66	66	66	67
24/F	100.05	66	66	66	66	66	66	66	66	58	64	64	64	65	65	66	66	67	67
25/F	103.2	66	66	65	65	66	66	66	66	59	65	64	65	65	65	66	66	67	67
26/F	106.35	65	65	65	65	65	65	65	65	59	65	65	65	65	66	66	66	67	67
27/F	109.5	65	65	65	65	65	65	65	65	59	65	65	65	65	66	66	67	67	68
28/F	112.65	65	65	65	65	65	65	65	65	59	65	65	65	65	66	66	67	67	68
29/F	115.8	65	65	65	65	65	65	65	65	59	65	65	65	65	66	66	67	67	68
30/F	118.95	65	65	65	65	65	65	65	65	60	65	65	65	66	66	66	67	67	68
31/F	122.1	65	65	65	65	65	65	65	65	60	65	65	65	66	66	67	67	67	68
32/F	125.25	65	65	65	65	65	65	65	65	60	65	65	65	66	66	67	67	68	69
33/F	128.4	65	65	65	65	65	65	65	65	60	65	65	66	66	66	67	67	68	69
34/F	131.55	65	65	65	65	65	65	65	65	61	66	66	66	66	67	67	68	68	69
35/F	134.7	65	65	65	65	65	65	65	65	61	66	66	66	66	67	67	68	68	69
Max. Noise Level		66	66	66	66	66	66	66	66	61	66	66	66	66	67	67	68	68	69
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0			0		0			0		0			0		0		
No. of Flats		13			13		13			13		13			13		13		

Block 5

Low Zone

Floor	mPD	N5-01	N5-02	N5-03	N5-04	N5-05	N5-06	N5-07	N5-08	N5-09	N5-10	N5-11	N5-12	N5-13	N5-14	N5-15	N5-16
1/F	27.6	56	56	56	57	57	56	57	56	50	50	51	53	54	62	62	62
2/F	30.75	57	57	57	57	57	57	58	57	51	51	52	53	54	62	62	62
3/F	33.9	57	57	57	57	57	57	58	57	53	53	53	54	55	63	63	62
4/F	37.05	57	57	57	57	57	57	58	58	55	55	55	56	56	63	62	62
5/F	40.2	57	57	57	57	57	57	59	58	56	56	56	56	57	63	62	62
6/F	43.35	57	57	57	57	57	57	59	59	56	56	56	57	57	63	62	62
7/F	46.5	57	57	57	57	57	57	59	59	56	56	56	57	57	62	62	62
8/F	49.65	57	57	57	58	57	57	59	59	56	56	57	57	57	62	62	62
9/F	52.8	57	57	57	58	57	57	59	59	56	56	57	57	57	63	62	62
10/F	55.95	58	58	57	58	58	58	59	59	56	56	57	57	57	63	63	63
11/F	59.1	58	58	58	58	58	58	59	59	56	56	57	57	57	63	63	63
12/F	62.25	59	58	58	58	58	58	59	59	56	56	57	57	58	64	63	63
13/F	65.4	60	59	59	59	58	58	59	59	56	56	57	57	58	64	64	64
14/F	68.55	61	60	60	59	59	59	59	59	56	56	57	57	58	64	64	64
15/F	71.7	62	61	61	60	60	59	59	59	57	57	57	58	58	64	64	64
16/F	74.85	63	62	61	61	60	60	59	59	57	57	57	58	58	65	65	65
17/F	78	64	63	62	61	61	60	59	59	57	57	57	58	58	65	65	66
18/F	81.15	65	63	63	62	62	61	59	59	57	57	57	58	58	66	66	67
19/F	84.3	65	64	64	63	62	61	59	59	57	57	57	58	58	67	67	67
20/F	87.45	66	65	64	63	63	62	59	59	57	57	57	58	58	67	67	68
21/F	90.6	67	66	65	64	63	62	59	59	57	57	57	57	58	68	68	68
22/F	93.75	68	66	66	65	64	63	59	59	57	57	57	57	58	68	68	68
Max. Noise Level		68	66	66	65	64	63	59	59	57	57	57	58	58	68	68	68
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0			0			0		0			0		0		
No. of Flats		22			22			22		22			22		22		

High Zone

Floor	mPD	N5-01	N5-02	N5-03	N5-04	N5-05	N5-06	N5-07	N5-08	N5-09	N5-10	N5-11	N5-12	N5-13	N5-14	N5-15	N5-16
23/F	96.9	68	67	66	65	65	64	59	59	56	57	57	57	58	68	68	69
24/F	100.05	69	67	67	66	65	64	59	58	56	56	57	57	58	68	69	69
25/F	103.2	69	67	67	66	65	65	59	58	56	56	57	57	58	69	69	69
26/F	106.35	69	67	67	67	66	65	59	58	56	56	57	57	57	69	69	70
27/F	109.5	69	68	67	67	66	66	59	58	56	56	57	57	57	69	69	70
28/F	112.65	69	67	67	67	66	66	59	58	56	56	57	57	57	69	70	70
29/F	115.8	69	67	67	67	67	66	58	58	56	56	57	57	57	69	70	70
30/F	118.95	69	68	67	67	67	66	58	58	56	56	57	57	57	69	70	70
31/F	122.1	69	68	67	67	67	66	58	58	56	56	56	57	57	69	70	71
32/F	125.25	69	68	67	67	67	66	58	58	56	56	56	57	57	70	70	71
33/F	128.4	69	68	67	67	67	66	58	58	56	56	56	57	57	70	70	71
34/F	131.55	69	68	67	67	67	66	58	58	56	56	56	57	57	70	70	71
35/F	134.7	69	68	67	67	67	66	58	58	56	57	57	57	57	70	70	71
Max. Noise Level		69	68	67	67	67	66	59	59	56	57	57	57	58	70	70	71
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
No. of Flats with Noise Exceedance		0						0		0			0		5		
No. of Flats		13						13		13			13		13		

Summary of Northern Site

Max. Noise Level, dB(A) =	74
No. of Noise Exceeded Flat =	124
Total no. of Flat=	1374
%Compliance =	91%

Southern Site

Block 7

Low Zone

Floor	mPD	NAL-01	NAL-02	NAL-03	NAL-04	NAL-05	NAL-06	NAL-07	NAL-08	NAL-09	NAL-10	NAL-11	NAL-12	NAL-13	NAL-14	NAL-15	NAL-16	NAL-17	NAL-18	NAL-19	NAL-20	NAL-21	NAL-22	NAL-23	NAL-24	NAL-25	NAL-26	NAL-27	NAL-28	NAL-29	NAL-30	NAL-31	NAL-32	NAL-33	NAL-34	NAL-35
1/F	27.6	73	73	73	73	73	72	72	72	73	73	76	75	76	76	76	76	76	76	76	76	77	77	77	66	65	59	57	56	56	55	55	55	55	55	56
2/F	30.75	72	72	72	72	72	72	72	72	72	72	75	75	75	75	75	75	76	76	76	76	76	76	76	67	66	62	61	59	58	57	57	57	57	57	62
3/F	33.9	71	71	72	72	72	71	71	71	72	72	75	75	75	75	75	75	75	75	76	76	76	76	76	68	67	64	62	61	60	60	59	59	59	59	65
4/F	37.05	71	71	71	71	71	71	71	71	71	71	75	74	75	75	75	75	75	75	75	75	76	76	76	68	68	65	64	63	62	62	61	61	61	61	65
5/F	40.2	71	71	71	71	71	71	71	71	71	71	74	74	74	74	74	75	75	75	75	75	75	75	75	69	68	66	65	64	64	63	63	63	63	63	65
6/F	43.35	70	70	70	70	70	70	70	70	70	70	74	74	74	74	74	74	74	74	75	75	75	75	75	69	69	67	66	65	65	65	64	64	64	65	65
7/F	46.5	70	70	70	70	70	70	70	70	70	70	74	74	74	74	74	74	74	74	75	75	75	75	75	69	69	67	67	66	66	66	65	65	65	65	65
8/F	49.65	70	70	70	70	70	69	70	70	70	70	74	73	74	74	74	74	74	74	74	74	75	75	75	69	69	68	67	67	66	66	66	66	66	66	64
9/F	52.8	69	69	69	69	69	69	69	69	69	69	73	73	73	73	74	74	74	74	74	74	74	74	74	69	69	68	68	67	67	67	67	66	66	67	64
10/F	55.95	69	69	69	69	69	69	69	69	69	69	73	73	73	73	73	73	74	74	74	74	74	74	74	69	69	68	68	67	67	67	67	67	67	67	64
11/F	59.1	69	69	69	69	69	69	69	69	69	69	73	73	73	73	73	73	73	73	74	74	74	74	74	69	69	68	68	68	68	67	67	67	67	67	64
12/F	62.25	68	68	68	68	68	68	68	68	68	69	73	73	73	73	73	73	73	73	74	74	74	74	74	69	69	68	68	68	68	68	68	68	68	68	63
13/F	65.4	68	68	68	68	68	68	68	68	68	68	73	73	73	73	73	73	73	73	73	74	74	74	74	69	69	68	68	68	68	68	68	68	68	68	63
14/F	68.55	68	68	68	68	68	68	68	68	68	68	72	72	73	73	73	73	73	73	73	73	74	74	74	69	69	68	68	68	68	68	68	68	68	68	63
15/F	71.7	68	68	68	68	68	68	68	68	68	68	72	72	72	72	73	73	73	73	73	73	73	74	73	69	69	68	68	68	68	68	68	68	68	68	63
16/F	74.85	67	67	67	67	67	67	67	67	67	68	72	72	72	72	73	73	73	73	73	73	73	73	73	69	69	68	68	68	68	68	68	68	68	68	63
17/F	78	67	67	67	67	67	67	67	67	67	67	72	72	72	72	72	73	73	73	73	73	73	73	73	69	69	69	69	68	68	68	68	68	68	69	62
18/F	81.15	67	67	67	67	67	67	67	67	67	67	72	72	72	72	72	72	73	73	73	73	73	73	73	69	69	69	69	68	68	68	68	68	68	69	62
19/F	84.3	67	67	67	67	67	67	67	67	67	67	72	72	72	72	72	72	73	73	73	73	73	73	73	70	70	69	69	69	69	69	68	69	69	69	62
20/F	87.45	67	67	67	67	67	67	67	67	67	67	72	72	72	72	72	72	73	73	73	73	73	73	73	70	70	69	69	69	69	69	69	69	69	69	62
Max. Noise Level		73	73	73	73	73	72	72	72	73	73	76	75	76	76	76	76	76	76	76	76	77	77	77	70	70	69	69	69	69	69	69	69	69	69	65
No. of Noise Exceedance		5	5	5	5	5	5	5	5	5	5	20	20	20	20	20	20	20	20	20	20	20	20	20	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		5		5			5			5		20			20		20			20			20		0		0		0			0			0	
No. of Flats		20		20			20			20		20			20		20			20			20		20		20		20			20			20	

High Zone

Floor	mPD	NAH-01	NAH-02	NAH-03	NAH-04	NAH-05	NAH-06	NAH-07	NAH-08	NAH-09	NAH-10	NAH-11	NAH-12	NAH-13	NAH-14	NAH-15	NAH-16	NAH-17	NAH-18	NAH-19	NAH-20	NAH-21	NAH-22	NAH-23	NAH-24	NAH-25	NAH-26	NAH-27	NAH-28	NAH-29	NAH-30	NAH-31	NAH-32	NAH-33	NAH-34	NAH-35
21/F	90.6	67	67	67	67	67	66	67	67	67	67	72	72	72	72	72	72	73	73	73	73	73	73	73	70	70	70	69	69	69	69	69	69	69	69	62
22/F	93.75	66	66	66	66	67	66	66	67	67	67	72	72	72	72	72	73	73	73	73	73	73	73	73	71	71	70	70	70	69	69	69	69	69	69	61
23/F	96.9	66	66	66	66	66	66	66	66	67	67	72	72	72	72	73	73	73	73	73	73	73	73	73	71	71	70	70	70	70	70	69	69	69	69	61
24/F	100.05	66	66	66	66	66	66	66	66	66	66	72	72	72	72	73	73	73	73	73	73	73	73	73	71	71	71	70	70	70	70	70	70	69	69	61
25/F	103.2	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	73	73	73	73	73	73	73	73	71	71	71	71	71	70	70	70	70	70	70	61
26/F	106.35	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	73	73	73	73	73	73	73	73	72	71	71	71	71	70	70	70	70	70	70	61
27/F	109.5	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	73	73	73	73	73	73	73	74	72	72	71	71	71	71	70	70	70	70	70	61
28/F	112.65	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	73	73	73	73	73	73	74	72	72	71	71	71	71	71	70	70	70	70	61
29/F	115.8	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	73	73	73	73	73	73	74	72	72	72	71	71	71	71	71	70	70	70	60
30/F	118.95	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	73	73	73	73	73	73	74	72	72	72	71	71	71	71	71	70	70	70	60
31/F	122.1	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	73	73	73	73	73	73	74	73	72	72	71	71	71	71	71	71	71	70	60
32/F	125.25	65	65	65	66	66	65	65	65	66	66	72	72	72	72	72	72	73	73	73	73	73	73	74	73	73	72	72	71	71	71	71	71	71	71	60
33/F	128.4	65	65	65	65	65	65	65	65	65	66	72	72	72	72	72	73	73	73	73	73	73	73	74	73	73	72	72	72	71	71	71	71	71	71	60
34/F	131.55	65	65	65	65	65	65	65	65	65	65	72	72	72	72	72	72	73	73	73	73	73	73	74	73	73	72	72	72	71	71	71	71	71	71	60
35/F	134.7	65	65	65	65	65	65	65	65	65	65	72	72	72	72	72	72	73	73	73	73	73	73	74	73	73	72	72	72	71	71	71	71	71	71	60
Max. Noise Level		67	67	67	67	67	66	67	67	67	67	72	72	72	72	73	73	73	73	73	73	73	73	74	73	73	72	72	72	71	71	71	71	71	71	62
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	15	15	15	15	15	15	15	15	15	15	15	15	15	14	14	12	11	11	9	8	7	5	5	4	0
No. of Flats with Noise Exceedance		0		0			0			0		15			15		15			15			15		14		11			11			7			5	
No. of Flats		15		15			15			15		15			15		15			15			15		15		15			15			15			15	

Block 6

Low Zone

Floor	mPD	NB-01	NB-02	NB-03	NB-04	NB-05	NB-06	NB-07	NB-08	NB-09	NB-10	NB-11	NB-12	NB-13	NB-14	NB-15	NB-16	NB-17	NB-18	NB-19	NB-20	NB-21	NB-22	NB-23	NB-24	NB-25	NB-26	NB-27	NB-28	NB-29	NB-30	NB-31	NB-32	NB-33	NB-34	NB-35
1/F	27.6	72	72	72	72	72	72	72	72	72	72	72	69	68	67	67	66	65	65	66	66	66	67	67	64	62	61	59	58	57	57	57	56	56	56	56
2/F	30.75	72	72	72	72	72	72	72	72	72	72	71	69	68	68	67	66	66	66	66	67	67	67	67	66	65	64	62	61	60	59	59	59	58	58	62
3/F	33.9	71	71	71	71	71	71	71	71	71	71	71	69	68	68	67	66	66	66	66	67	67	67	67	67	66	66	65	64	63	62	62	61	61	61	65
4/F	37.05	71	71	71	71	71	71	71	71	71	71	70	69	68	68	67	66	66	66	66	66	66	67	67	67	67	67	66	66	66	65	64	64	63	63	66
5/F	40.2	70	70	70	70	70	70	70	70	70	70	70	68	68	67	67	66	66	66	66	66	66	66	67	68	67	67	67	67	66	66	66	65	65	65	65
6/F	43.35	70	70	70	70	70	70	70	70	70	70	69	68	67	67	67	66	66	66	66	66	66	66	67	68	68	68	68	67	67	67	67	67	66	66	65
7/F	46.5	70	70	70	70	70	70	70	70	70	70	69	68	67	67	67	66	66	66	66	66	66	66	67	68	68	68	68	68	68	67	67	67	67	67	65
8/F	49.65	69	69	69	69	69	69	69	69	69	69	69	67	67	67	66	66	66	65	66	66	66	66	67	68	68	68	68	68	68	68	68	68	68	67	65
9/F	52.8	69	69	69	69	69	69	69	69	69	69	68	67	67	67	66	66	65	65	66	66	66	67	67	69	69	69	69	69	69	68	68	68	68	68	65
10/F	55.95	69	69	69	69	69	69	69	69	69	69	68	67	67	66	66	66	65	65	66	66	66	67	67	69	69	69	69	69	69	69	69	68	68	68	64
11/F	59.1	68	68	68	68	68	68	68	68	68	68	68	67	66	66	66	65	65	65	66	66	66	67	67	69	69	69	69	69	69	69	69	69	69	69	64
12/F	62.25	68	68	68	68	68	68	68	68	68	68	68	67	66	66	66	65	65	65	66	66	66	67	67	70	70	70	70	69	69	69	69	69	69	69	64
13/F	65.4	68	68	68	68	68	68	68	68	68	68	68	66	66	66	66	65	65	65	66	66	67	67	68	70	70	70	70	70	70	70	69	69	69	69	64
14/F	68.55	68	68	68	68	68	68	68	68	68	68	67	66	66	66	66	65	65	65	66	66	67	67	68	70	70	70	70	70	70	70	70	69	69	69	64
15/F	71.7	67	67	67	67	67	67	67	67	67	67	67	66	66	66	66	65	65	65	66	66	67	67	68	70	70	70	70	70	70	70	70	70	69	69	63
16/F	74.85	67	67	67	67	67	67	67	67	67	67	67	66	66	66	66	65	65	65	66	67	67	67	68	70	70	70	70	70	70	70	70	70	70	69	63
17/F	78	67	67	67	67	67	67	67	67	67	67	67	66	66	66	66	65	65	65	66	67	67	67	68	70	70	70	70	70	70	70	70	70	70	70	63
18/F	81.15	67	67	67	67	67	67	67	67	67	67	67	66	66	66	66	65	65	65	66	67	67	67	69	71	70	70	70	70	70	70	70	70	70	70	63
19/F	84.3	67	67	67	67	67	66	67	66	67	66	67	66	66	66	66	65	65	65	66	67	67	67	69	71	71	71	71	70	70	70	70	70	70	70	63
20/F	87.45	66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	65	65	65	66	67	67	67	69	71	71	71	71	71	71	70	70	70	70	70	63
Max. Noise Level		72	72	72	72	72	72	72	72	72	72	72	69	68	68	67	66	66	66	66	67	67	67	69	71	71	71	71	71	71	70	70	70	70	70	66
No. of Noise Exceedance		4	4	4	4	4	4	4	4	4	4	3	0	0	0	0	0	0	0	0	0	0	0	0	3	2	2	2	1	1	0	0	0	0	0	0
No. of Flats with Noise Exceedance		4			4			4			4			3		0		0			0			0		3			2			1			0	
No. of Flats		20			20			20			20			20		20		20			20			20		20			20			20			20	

High Zone

Floor	mPD	NB-01	NB-02	NB-03	NB-04	NB-05	NB-06	NB-07	NB-08	NB-09	NB-10	NB-11	NB-12	NB-13	NB-14	NB-15	NB-16	NB-17	NB-18	NB-19	NB-20	NB-21	NB-22	NB-23	NB-24	NB-25	NB-26	NB-27	NB-28	NB-29	NB-30	NB-31	NB-32	NB-33	NB-34	NB-35
21/F	90.6	66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	65	65	65	66	67	67	67	69	71	71	71	71	71	71	71	70	70	70	70	63
22/F	93.75	66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	65	65	65	66	67	67	68	69	71	71	71	71	71	71	71	70	70	70	70	62
23/F	96.9	66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	65	65	65	66	67	67	68	69	71	71	71	71	71	71	71	71	70	70	70	62
24/F	100.05	66	66	66	66	66	66	66	66	66	66	67	66	66	66	65	65	65	65	66	67	67	68	69	71	71	71	71	71	71	71	71	70	70	70	62
25/F	103.2	66	66	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	65	66	67	67	68	69	71	71	71	71	71	71	71	71	70	70	70	62
26/F	106.35	66	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	65	65	66	67	67	68	69	71	71	71	71	71	71	71	71	70	70	70	62
27/F	109.5	66	66	66	66	66	66	65	65	65	65	66	66	65	65	65	65	65	65	66	67	67	68	69	71	71	71	71	71	71	71	71	71	70	70	62
28/F	112.65	66	66	66	66	66	65	65	65	65	65	66	65	65	65	65	65	65	65	66	67	67	68	69	72	71	71	71	71	71	71	71	71	71	70	62
29/F	115.8	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	65	65	65	66	67	67	68	70	72	72	71	71	71	71	71	71	71	71	71	62
30/F	118.95	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	65	65	65	67	67	68	68	70	72	72	72	71	71	71	71	71	71	71	71	62
31/F	122.1	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	65	65	65	67	67	68	68	70	72	72	72	71	71	71	71	71	71	71	71	62
32/F	125.25	65	65	65	65	65	65	65	65	65	65	66	65	65	65	66	65	65	66	67	67	68	68	70	72	72	72	72	71	72	71	71	71	71	71	62
33/F	128.4	65	65	65	65	65	65	65	65	65	65	66	65	65	65	66	65	66	66	67	67	68	68	70	72	72	72	72	72	72	71	71	71	71	71	62
34/F	131.55	65	65	65	65	65	65	65	65	65	65	66	65	66	66	66	65	66	66	67	67	68	69	70	72	72	72	72	72	72	71	71	71	71	71	62
35/F	134.7	65	65	65	65	65	65	65	65	65	65	66	65	66	66	66	66	66	66	67	68	68	69	70	72	72	72	72	72	72	72	71	71	71	71	62
Max. Noise Level		66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	66	66	66	67	68	68	69	70	72	72	72	72	72	72	72	71	71	71	71	63
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	15	15	15	15	15	15	13	9	8	7	0
No. of Flats with Noise Exceedance		0			0			0			0			0		0		0			0			0		15			15			13			8	
No. of Flats		15			15			15			15			15		15		15			15			15		15			15			15			15	

Summary of Southern Site

Max. Noise Level, dB(A) =	77
No. of Noise Exceeded Flat =	308
Total no. of Flat=	950
%Compliance =	68%

Summary of Northern Site + Southern Site

Max. Noise Level, dB(A) =	77
No. of Noise Exceeded Flat =	432
Total no. of Flat =	2324
%Compliance =	81%

Note:

Shaded cell denotes predicted noise level exceeds the limit of 70dB(A)

Predicted Results for Road Traffic Noise Impact Assessment of Proposed Development

1b. PM Peak - Unmitigated Scenario

Northern Site

Block 1

Low Zone

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22
1/F	27.6	72	72	72	72	72	69	66	67	66	65	65	65	64	64	63	63	63	62	49	47	48	48
2/F	30.75	72	72	72	72	72	69	66	66	66	65	65	64	64	64	63	63	63	62	49	48	48	48
3/F	33.9	72	72	72	72	72	68	66	66	66	65	65	64	64	64	63	63	63	62	50	48	48	48
4/F	37.05	72	72	72	72	72	68	65	66	66	65	65	64	64	63	63	63	63	62	50	48	48	49
5/F	40.2	73	72	72	72	72	68	65	66	65	65	64	64	64	63	63	63	62	62	51	49	49	50
6/F	43.35	73	72	72	72	72	67	65	65	65	65	64	64	64	63	63	63	62	62	52	50	50	51
7/F	46.5	73	73	72	72	72	67	65	65	65	65	64	64	64	63	63	63	62	62	53	51	52	53
8/F	49.65	73	73	72	72	72	67	65	65	65	65	64	64	64	63	63	63	62	62	54	53	54	55
9/F	52.8	73	72	72	72	72	67	65	65	65	65	64	64	64	63	63	63	62	62	56	56	57	58
10/F	55.95	73	72	72	72	72	67	64	65	65	65	64	64	64	63	63	63	63	62	59	59	60	61
11/F	59.1	73	72	72	72	72	66	64	65	65	65	64	64	64	63	63	63	63	62	61	62	62	63
12/F	62.25	73	72	72	72	72	66	64	65	65	64	64	64	64	63	63	63	63	62	62	62	63	63
13/F	65.4	73	72	72	72	72	66	64	65	65	64	64	64	64	63	63	63	63	62	63	63	63	64
14/F	68.55	73	72	72	72	71	66	64	65	65	64	64	64	64	63	63	63	62	62	63	63	63	65
15/F	71.7	73	72	72	72	71	66	64	65	64	64	64	64	64	63	63	63	62	62	63	63	64	65
16/F	74.85	73	72	72	71	71	66	63	64	64	64	64	64	63	63	63	63	62	62	64	64	64	66
17/F	78	73	72	72	71	71	66	63	64	64	64	64	63	63	63	63	63	62	62	64	65	65	67
18/F	81.15	73	72	72	71	71	65	63	64	64	64	64	63	63	63	63	62	62	62	65	65	66	68
19/F	84.3	73	72	71	71	71	65	63	64	64	64	64	63	63	63	63	62	62	62	65	66	67	69
20/F	87.45	73	72	71	71	71	65	63	64	64	64	63	63	63	63	63	62	62	62	66	67	68	70
21/F	90.6	73	72	71	71	71	65	63	64	64	64	63	63	63	63	63	62	62	63	67	67	68	70
22/F	93.75	73	72	71	71	71	65	63	64	64	63	63	63	63	63	63	62	62	63	67	68	69	70
Max. Noise Level		73	73	72	72	72	69	66	67	66	65	65	65	64	64	63	63	63	63	67	68	69	70
No. of Noise Exceedance		22	22	22	22	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		22		22				0			0			0		0		0		0		0	
No. of Flats		22		22				22			22			22		22		22		22		22	

High Zone

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22
23/F	96.9	73	71	71	71	71	65	63	64	64	63	63	63	63	63	62	62	62	63	68	68	69	70
24/F	100.05	73	71	71	71	71	65	62	63	63	63	63	63	63	63	62	62	62	63	68	69	69	71
25/F	103.2	73	71	71	71	71	65	62	63	63	63	63	63	63	63	62	62	62	63	68	69	69	71
26/F	106.35	72	71	71	71	71	65	62	63	63	63	63	63	63	63	62	62	62	63	69	69	69	71
27/F	109.5	72	71	71	71	71	65	62	63	63	63	63	63	63	63	62	62	62	63	69	69	70	71
28/F	112.65	72	71	71	71	71	64	62	63	63	63	63	63	63	63	62	62	62	64	69	69	70	71
29/F	115.8	72	71	71	71	70	64	62	63	63	63	63	63	63	62	62	62	62	64	69	69	70	71
30/F	118.95	72	71	71	71	70	64	62	63	63	63	63	63	63	62	62	62	62	64	69	69	70	71
31/F	122.1	72	71	71	70	70	64	62	63	63	63	63	63	63	62	62	62	62	64	69	70	70	71
32/F	125.25	72	71	71	70	70	64	62	63	63	63	63	63	63	62	62	62	62	64	69	70	70	71
33/F	128.4	72	71	71	70	70	64	62	63	63	63	63	63	63	62	62	62	62	64	69	70	70	71
34/F	131.55	72	71	71	70	70	64	62	63	63	63	63	63	63	62	62	62	62	65	70	70	70	71
35/F	134.7	72	71	71	70	70	64	62	63	63	63	63	63	63	62	62	62	63	65	70	70	70	71
Max. Noise Level		73	71	71	71	71	65	63	64	64	63	63	63	63	63	62	62	63	65	70	70	70	71
No. of Noise Exceedance		13	13	13	8	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
No. of Flats with Noise Exceedance		13		13				0			0			0		0		0		12			
No. of Flats		13		13				13			13			13		13		13		13			

Block 2

Low Zone

Floor	mPD	N2-01	N2-02	N2-03	N2-04	N2-05	N2-06	N2-07	N2-08	N2-09	N2-10	N2-11	N2-12	N2-13	N2-14	N2-15	N2-16	N2-17	N2-18	N2-19	N2-20
1/F	27.6	61	61	60	60	60	59	59	59	60	60	60	60	59	59	59	60	60	59	62	63
2/F	30.75	61	60	60	60	60	59	59	59	60	60	60	60	60	59	60	60	61	60	62	62
3/F	33.9	61	60	60	60	59	59	59	59	60	60	60	60	60	59	60	60	61	60	62	62
4/F	37.05	61	60	60	59	59	59	59	59	60	60	60	60	60	59	60	60	61	61	62	62
5/F	40.2	61	60	60	59	59	59	59	59	60	60	60	60	60	60	60	60	61	61	62	62
6/F	43.35	61	60	60	59	59	59	59	58	60	60	60	60	60	60	60	60	61	61	62	62
7/F	46.5	61	60	60	59	59	59	59	58	60	60	60	60	60	60	60	61	61	61	62	62
8/F	49.65	61	60	60	59	60	59	59	58	60	60	60	60	60	60	60	60	61	61	62	62
9/F	52.8	61	61	60	60	60	59	59	59	60	60	60	60	60	60	60	60	61	61	62	62
10/F	55.95	61	61	61	60	60	60	59	59	60	60	60	60	60	60	60	61	61	61	62	62
11/F	59.1	62	61	61	61	61	60	60	59	61	60	60	60	60	60	60	61	61	62	61	62
12/F	62.25	62	61	61	61	61	61	60	60	61	61	61	61	60	60	60	61	61	62	61	62
13/F	65.4	62	62	61	61	61	61	61	60	62	62	61	61	61	61	61	62	62	62	61	62
14/F	68.55	62	62	61	61	62	62	62	61	62	62	62	62	62	62	62	62	62	63	61	61
15/F	71.7	62	62	61	62	62	62	62	62	63	62	62	62	62	62	62	62	62	63	61	61
16/F	74.85	63	62	62	62	62	63	62	62	63	62	62	62	62	62	62	62	63	63	61	61
17/F	78	63	62	62	62	62	63	62	62	63	63	62	62	62	62	62	62	63	63	61	61
18/F	81.15	63	62	62	62	62	63	62	62	63	63	63	62	62	62	62	63	63	63	60	61
19/F	84.3	63	62	62	62	63	63	62	62	63	63	63	63	63	63	62	63	63	63	60	61
20/F	87.45	63	62	62	62	63	63	63	62	63	63	63	63	63	63	63	63	63	63	60	61
21/F	90.6	63	62	62	62	63	63	63	62	63	63	63	63	63	63	63	63	63	63	60	61
22/F	93.75	64	62	62	62	63	63	63	62	64	63	63	63	63	63	63	63	63	64	60	61
Max. Noise Level		64	62	62	62	63	63	63	62	64	63	63	63	63	63	63	63	63	64	62	63
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0				0		0		0		0		0			0			0	
No. of Flats		22				22		22		22		22		22			22			22	

High Zone

Floor	mPD	N2-01	N2-02	N2-03	N2-04	N2-05	N2-06	N2-07	N2-08	N2-09	N2-10	N2-11	N2-12	N2-13	N2-14	N2-15	N2-16	N2-17	N2-18	N2-19	N2-20
23/F	96.9	64	63	62	62	63	63	63	63	64	64	64	64	64	64	63	64	64	64	60	61
24/F	100.05	64	63	62	63	63	64	63	63	64	64	64	64	64	64	64	64	64	64	60	61
25/F	103.2	64	63	63	63	64	64	64	63	64	64	64	64	64	64	64	64	64	64	60	61
26/F	106.35	64	63	63	63	64	64	64	63	65	64	64	64	64	64	64	64	64	64	60	61
27/F	109.5	65	64	63	63	64	64	64	63	65	65	65	65	64	64	64	64	64	65	60	61
28/F	112.65	65	64	63	64	64	64	64	63	65	65	65	65	65	65	65	65	65	65	60	62
29/F	115.8	65	64	64	64	65	65	65	63	65	65	65	65	65	65	65	65	65	65	61	62
30/F	118.95	65	64	64	64	65	65	65	63	65	65	65	65	65	65	65	65	65	65	61	62
31/F	122.1	65	64	64	64	65	65	65	63	66	65	66	66	65	65	65	65	66	66	61	62
32/F	125.25	65	64	64	64	65	65	65	63	66	66	66	66	66	66	66	66	66	66	61	62
33/F	128.4	65	64	64	64	65	65	65	64	66	66	66	66	66	66	66	66	66	66	61	62
34/F	131.55	65	65	64	65	66	66	65	64	66	66	66	66	66	66	66	66	66	66	61	63
35/F	134.7	66	65	65	65	66	66	66	64	67	66	67	67	67	67	66	67	67	67	61	63
Max. Noise Level		66	65	65	65	66	66	66	64	67	66	67	67	67	67	66	67	67	67	61	63
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0				0		0		0		0		0			0			0	
No. of Flats		13				13		13		13		13		13			13			13	

Block 3

Low Zone

Floor	mPD	N3-01	N3-02	N3-03	N3-04	N3-05	N3-06	N3-07	N3-08	N3-09	N3-10	N3-11	N3-12	N3-13	N3-14	N3-15	N3-16	N3-17	N3-18	N3-19	N3-20	N3-21	N3-22	N3-23	N3-24	N3-25	N3-26
1/F	27.6	73	73	73	73	73	73	73	73	73	73	73	56	55	48	47	47	47	47	50	51	51	56	58	59	63	64
2/F	30.75	72	72	72	72	72	72	72	72	72	72	72	58	57	51	48	47	47	47	52	53	53	56	58	59	63	64
3/F	33.9	72	72	72	72	72	72	72	71	71	71	71	60	57	53	50	47	47	48	53	53	54	57	58	59	63	64
4/F	37.05	71	71	71	71	71	71	71	71	71	71	71	61	58	53	50	48	48	48	54	54	55	57	59	59	63	64
5/F	40.2	71	71	71	71	71	71	71	70	70	70	70	61	58	54	51	48	48	49	55	55	56	58	59	60	63	64
6/F	43.35	70	70	70	70	70	70	70	70	70	70	70	61	58	54	51	49	49	50	56	56	57	59	60	61	64	64
7/F	46.5	70	70	70	70	70	70	70	70	70	70	70	60	58	54	51	49	50	51	57	57	58	60	61	61	64	64
8/F	49.65	69	69	69	69	69	69	69	69	69	69	69	60	58	54	52	50	50	51	57	58	58	60	61	61	63	64
9/F	52.8	69	69	69	69	69	69	69	69	69	69	69	60	58	55	52	51	51	52	58	58	59	60	61	61	63	64
10/F	55.95	69	69	69	69	69	69	69	69	69	69	69	60	58	55	53	52	52	53	58	59	59	60	61	61	63	64
11/F	59.1	68	68	68	68	68	68	68	68	68	68	68	60	59	56	55	54	54	54	58	59	59	60	61	61	63	64
12/F	62.25	68	68	68	68	68	68	68	68	68	68	68	60	59	57	56	55	55	55	59	59	59	60	61	61	63	63
13/F	65.4	68	68	68	68	68	68	68	68	68	68	68	61	59	57	57	57	56	56	59	60	60	61	61	61	63	63
14/F	68.55	68	68	68	68	68	68	68	68	68	67	68	61	60	58	58	57	57	57	60	60	60	61	61	62	63	63
15/F	71.7	67	67	67	67	67	67	67	67	67	67	67	61	60	59	58	58	58	58	60	60	60	61	61	62	63	63
16/F	74.85	67	67	67	67	67	67	67	67	67	67	67	61	60	59	58	58	58	58	60	60	60	61	61	62	63	63
17/F	78	67	67	67	67	67	67	67	67	67	67	67	61	61	59	59	59	59	59	60	61	60	61	61	62	63	63
18/F	81.15	67	67	67	67	67	67	67	67	67	67	67	61	61	60	59	59	59	59	60	61	61	61	61	62	63	63
19/F	84.3	67	67	67	67	67	67	67	66	66	66	66	62	61	60	60	59	59	59	61	61	61	61	61	62	63	63
20/F	87.45	66	67	66	66	66	66	66	66	66	66	66	62	61	61	60	60	60	60	61	61	61	61	61	62	63	63
21/F	90.6	66	66	66	66	66	66	66	66	66	66	66	62	62	61	61	60	61	61	61	61	61	61	61	62	63	63
22/F	93.75	66	66	66	66	66	66	66	66	66	66	66	63	63	62	62	61	61	61	62	62	61	61	61	62	63	63
Max. Noise Level		73	73	73	73	73	73	73	73	73	73	73	63	63	62	62	61	61	61	62	62	61	61	61	62	64	64
No. of Noise Exceedance		5	5	5	5	5	5	5	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		5				5		5		4			0		0			0			0		0		0		
No. of Flats		22				22		22		22			22		22			22			22		22		22		

High Zone

Floor	mPD	N3-01	N3-02	N3-03	N3-04	N3-05	N3-06	N3-07	N3-08	N3-09	N3-10	N3-11	N3-12	N3-13	N3-14	N3-15	N3-16	N3-17	N3-18	N3-19	N3-20	N3-21	N3-22	N3-23	N3-24	N3-25	N3-26
23/F	96.9	66	66	66	66	66	66	66	66	66	66	66	63	63	63	62	62	62	62	62	62	61	62	62	62	63	63
24/F	100.05	66	66	66	66	66	66	66	66	66	66	66	63	64	63	63	63	63	63	62	62	61	62	62	62	63	63
25/F	103.2	66	66	66	66	66	66	66	65	66	65	65	63	64	64	64	63	63	63	63	62	62	62	62	62	63	63
26/F	106.35	65	66	66	65	65	66	65	65	65	65	65	64	64	64	64	63	64	63	63	63	62	62	62	62	63	63
27/F	109.5	65	65	65	65	65	65	65	65	65	65	65	64	64	64	64	64	64	64	63	63	62	62	62	62	63	63
28/F	112.65	65	65	65	65	65	65	65	65	65	65	65	64	64	64	64	64	64	64	63	63	62	62	62	62	63	63
29/F	115.8	65	65	65	65	65	65	65	65	65	65	65	64	65	65	65	64	64	64	64	63	62	63	62	62	63	63
30/F	118.95	65	65	65	65	65	65	65	65	65	65	65	64	65	65	65	65	65	64	64	63	63	63	62	63	63	63
31/F	122.1	65	65	65	65	65	65	65	65	65	65	65	64	65	65	65	65	65	65	64	64	63	63	63	63	63	63
32/F	125.25	65	65	65	65	65	65	65	65	65	65	65	64	65	65	65	65	65	65	64	64	63	63	63	63	63	63
33/F	128.4	65	65	65	65	65	65	65	65	65	65	65	64	65	65	65	65	65	65	65	64	63	63	63	63	63	63
34/F	131.55	65	65	65	65	65	65	65	65	65	65	65	64	65	65	65	65	65	65	65	64	63	64	63	63	64	63
35/F	134.7	65	65	65	65	65	65	65	65	65	65	65	64	65	65	66	65	66	65	65	64	64	64	63	63	64	63
Max. Noise Level		66	66	66	66	66	66	66	66	66	66	66	64	65	65	66	65	66	65	65	64	64	64	63	63	64	63
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0				0		0		0			0		0			0			0		0		0		
No. of Flats		13				13		13		13			13		13			13			13		13		13		

Block 4

Low Zone

Floor	mPD	N4-01	N4-02	N4-03	N4-04	N4-05	N4-06	N4-07	N4-08	N4-09	N4-10	N4-11	N4-12	N4-13	N4-14	N4-15	N4-16	N4-17	N4-18
1/F	27.6	72	72	72	72	72	72	72	72	51	57	58	58	59	59	60	60	61	61
2/F	30.75	72	72	72	72	72	72	72	72	54	59	59	60	60	60	60	61	61	61
3/F	33.9	71	71	71	71	71	71	71	71	58	59	59	60	60	60	60	61	61	61
4/F	37.05	71	71	71	71	71	71	71	71	59	60	59	60	60	60	60	61	61	61
5/F	40.2	70	70	70	70	70	70	70	70	59	60	59	59	60	60	60	61	61	61
6/F	43.35	70	70	70	70	70	70	70	70	59	60	59	59	60	60	60	61	61	61
7/F	46.5	69	69	69	69	69	69	69	70	59	60	59	59	60	60	60	61	61	61
8/F	49.65	69	69	69	69	69	69	69	69	58	60	59	59	60	60	60	61	61	61
9/F	52.8	69	69	69	69	69	69	69	69	58	60	59	59	60	60	60	61	61	61
10/F	55.95	68	68	68	68	68	68	68	68	58	60	59	60	60	60	61	61	61	62
11/F	59.1	68	68	68	68	68	68	68	68	58	60	60	60	60	60	61	61	61	62
12/F	62.25	68	68	68	68	68	68	68	68	58	60	60	60	60	61	61	62	62	62
13/F	65.4	68	68	68	68	68	68	68	68	57	60	60	61	61	61	62	62	62	63
14/F	68.55	67	67	67	67	67	67	67	67	57	61	61	61	61	61	62	62	63	63
15/F	71.7	67	67	67	67	67	67	67	67	57	61	61	61	62	62	62	63	63	63
16/F	74.85	67	67	67	67	67	67	67	67	57	61	61	61	62	62	62	63	63	63
17/F	78	67	67	67	67	67	67	67	67	57	61	61	62	62	62	63	63	63	64
18/F	81.15	66	66	66	66	66	66	66	67	57	62	62	62	62	62	63	63	63	64
19/F	84.3	66	66	66	66	66	66	66	66	57	62	62	62	62	63	63	63	64	64
20/F	87.45	66	66	66	66	66	66	66	66	57	62	62	62	63	63	63	64	64	65
21/F	90.6	66	66	66	66	66	66	66	66	57	63	62	63	63	63	64	64	65	65
22/F	93.75	66	66	66	66	66	66	66	66	57	63	63	63	63	64	64	65	65	66
Max. Noise Level		72	72	72	72	72	72	72	72	59	63	63	63	63	64	64	65	65	66
No. of Noise Exceedance		4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		4			4		4			0		0			0		0		
No. of Flats		22			22		22			22		22			22		22		

High Zone

Floor	mPD	N4-01	N4-02	N4-03	N4-04	N4-05	N4-06	N4-07	N4-08	N4-09	N4-10	N4-11	N4-12	N4-13	N4-14	N4-15	N4-16	N4-17	N4-18
23/F	96.9	66	66	66	66	66	66	66	66	57	63	63	63	64	64	65	65	65	66
24/F	100.05	66	66	65	65	66	66	66	66	58	63	63	63	64	64	65	65	66	66
25/F	103.2	65	65	65	65	65	65	65	65	58	64	64	64	64	65	65	65	66	66
26/F	106.35	65	65	65	65	65	65	65	65	58	64	64	64	64	65	65	66	66	67
27/F	109.5	65	65	65	65	65	65	65	65	58	64	64	64	64	65	65	66	66	67
28/F	112.65	65	65	65	65	65	65	65	65	59	64	64	64	65	65	65	66	66	67
29/F	115.8	65	65	65	65	65	65	65	65	59	64	64	64	65	65	65	66	66	67
30/F	118.95	65	65	65	65	65	65	65	65	59	64	64	64	65	65	65	66	66	67
31/F	122.1	65	65	65	65	65	65	65	65	59	64	64	64	65	65	66	66	67	67
32/F	125.25	65	65	65	65	65	65	65	65	59	65	64	65	65	65	66	66	67	68
33/F	128.4	65	65	65	65	65	65	65	65	60	65	65	65	65	66	66	67	67	68
34/F	131.55	65	64	64	64	64	64	64	65	60	65	65	65	65	66	66	67	67	68
35/F	134.7	64	64	64	64	64	64	64	64	60	65	65	65	65	66	66	67	67	68
Max. Noise Level		66	66	66	66	66	66	66	66	60	65	65	65	65	66	66	67	67	68
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0			0		0			0		0			0		0		
No. of Flats		13			13		13			13		13			13		13		

Block 5

Low Zone

Floor	mPD	N5-01	N5-02	N5-03	N5-04	N5-05	N5-06	N5-07	N5-08	N5-09	N5-10	N5-11	N5-12	N5-13	N5-14	N5-15	N5-16
1/F	27.6	55	55	55	56	56	56	57	56	49	49	51	52	53	62	62	62
2/F	30.75	56	56	56	56	56	56	57	56	51	50	51	53	54	62	62	62
3/F	33.9	56	56	56	56	56	56	58	57	52	52	53	54	55	62	62	62
4/F	37.05	56	56	56	57	56	56	58	58	54	54	55	56	56	62	62	62
5/F	40.2	56	56	56	57	56	57	59	58	55	55	56	56	56	62	62	62
6/F	43.35	56	56	56	57	57	57	59	58	56	56	56	56	56	62	62	62
7/F	46.5	57	56	56	57	57	57	59	58	56	56	56	56	57	62	62	62
8/F	49.65	57	57	56	57	57	57	59	58	56	56	56	57	57	62	62	62
9/F	52.8	57	57	57	57	57	57	59	58	56	56	56	57	57	62	62	62
10/F	55.95	57	57	57	57	57	57	59	58	56	56	57	57	57	63	62	62
11/F	59.1	58	57	57	57	57	57	59	58	56	56	57	57	57	63	63	63
12/F	62.25	58	58	57	57	57	57	59	58	56	56	57	57	57	63	63	63
13/F	65.4	59	58	58	58	58	57	59	58	56	56	57	57	57	63	63	63
14/F	68.55	60	59	59	58	58	58	59	58	56	56	57	57	57	63	63	63
15/F	71.7	61	60	60	59	59	58	59	59	56	56	57	57	58	64	64	64
16/F	74.85	62	61	60	60	59	59	59	59	56	56	57	57	58	64	64	64
17/F	78	62	62	61	60	60	60	59	59	56	56	57	57	58	65	65	65
18/F	81.15	63	62	62	61	61	60	59	59	56	56	57	57	58	65	66	66
19/F	84.3	64	63	62	62	61	61	59	59	56	56	57	57	58	66	66	67
20/F	87.45	65	64	63	62	62	61	59	58	56	56	57	57	58	66	67	67
21/F	90.6	66	64	64	63	62	61	59	58	56	56	57	57	57	67	67	67
22/F	93.75	66	65	64	63	63	62	59	58	56	56	57	57	57	67	67	68
Max. Noise Level		66	65	64	63	63	62	59	59	56	56	57	57	58	67	67	68
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0			0			0		0			0		0		
No. of Flats		22			22			22		22			22		22		

High Zone

Floor	mPD	N5-01	N5-02	N5-03	N5-04	N5-05	N5-06	N5-07	N5-08	N5-09	N5-10	N5-11	N5-12	N5-13	N5-14	N5-15	N5-16
23/F	96.9	67	65	65	64	63	63	59	58	56	56	57	57	57	67	68	68
24/F	100.05	67	66	65	64	64	63	59	58	56	56	57	57	57	68	68	68
25/F	103.2	67	66	65	65	64	64	59	58	56	56	57	57	57	68	68	69
26/F	106.35	68	66	65	65	65	64	58	58	56	56	57	57	57	68	68	69
27/F	109.5	68	66	66	65	65	64	58	58	56	56	56	57	57	68	69	69
28/F	112.65	68	66	66	66	65	64	58	58	56	56	56	57	57	68	69	69
29/F	115.8	68	66	66	66	65	65	58	58	56	56	56	57	57	69	69	70
30/F	118.95	68	66	66	66	65	65	58	58	56	56	56	57	57	69	69	70
31/F	122.1	68	66	66	66	65	65	58	58	56	56	56	57	57	69	69	70
32/F	125.25	68	66	66	66	65	65	58	58	56	56	56	57	57	69	69	70
33/F	128.4	68	66	66	66	65	65	58	58	56	56	56	57	57	69	69	70
34/F	131.55	68	66	66	66	66	65	58	58	56	56	56	57	57	69	69	70
35/F	134.7	68	66	66	66	66	65	58	58	56	56	57	57	57	69	69	70
Max. Noise Level		68	66	66	66	66	65	59	58	56	56	57	57	57	69	69	70
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0						0		0			0		0		
No. of Flats		13						13		13			13		13		

Summary of Northern Site

Max. Noise Level, dB(A) =	73
No. of Noise Exceeded Flat =	113
Total no. of Flat=	1374
%Compliance =	92%

Southern Site

Block 7

Low Zone

Floor	mPD	NAL-01	NAL-02	NAL-03	NAL-04	NAL-05	NAL-06	NAL-07	NAL-08	NAL-09	NAL-10	NAL-11	NAL-12	NAL-13	NAL-14	NAL-15	NAL-16	NAL-17	NAL-18	NAL-19	NAL-20	NAL-21	NAL-22	NAL-23	NAL-24	NAL-25	NAL-26	NAL-27	NAL-28	NAL-29	NAL-30	NAL-31	NAL-32	NAL-33	NAL-34	NAL-35
1/F	27.6	72	72	72	72	72	72	72	72	72	73	76	75	75	75	76	76	76	76	76	76	76	77	77	66	64	59	57	55	55	55	55	54	54	55	56
2/F	30.75	72	72	72	72	72	72	72	72	72	72	75	75	75	75	75	75	75	75	76	76	76	76	76	67	66	62	60	58	57	57	56	56	56	56	61
3/F	33.9	71	71	71	71	71	71	71	71	71	72	75	75	75	75	75	75	75	75	75	75	76	76	76	67	66	63	62	60	60	59	59	58	58	58	65
4/F	37.05	71	71	71	71	71	71	71	71	71	71	74	74	74	74	74	74	75	75	75	75	75	75	75	68	67	64	63	62	62	61	61	60	60	61	65
5/F	40.2	70	70	70	70	70	70	70	70	70	71	74	74	74	74	74	74	74	75	75	75	75	75	75	68	68	66	65	64	63	63	62	62	62	63	65
6/F	43.35	70	70	70	70	70	70	70	70	70	70	74	74	74	74	74	74	74	74	74	75	75	75	75	68	68	66	66	65	64	64	64	63	64	64	65
7/F	46.5	70	70	70	70	70	70	70	70	70	70	74	73	73	73	74	74	74	74	74	74	74	75	75	69	68	67	66	66	65	65	65	64	65	65	64
8/F	49.65	69	69	69	69	69	69	69	69	69	70	73	73	73	73	73	74	74	74	74	74	74	74	74	69	68	67	67	66	66	66	65	65	65	65	64
9/F	52.8	69	69	69	69	69	69	69	69	69	69	73	73	73	73	73	73	73	74	74	74	74	74	74	69	69	67	67	67	66	66	66	66	66	66	64
10/F	55.95	69	69	69	69	69	69	69	69	69	69	73	73	73	73	73	73	73	73	74	74	74	74	74	69	69	68	67	67	67	67	66	66	66	66	64
11/F	59.1	68	68	68	68	69	68	68	68	68	69	73	73	73	73	73	73	73	73	73	74	74	74	74	69	69	68	68	67	67	67	67	67	67	67	63
12/F	62.25	68	68	68	68	68	68	68	68	68	68	72	72	73	73	73	73	73	73	73	73	74	74	74	69	69	68	68	67	67	67	67	67	67	67	63
13/F	65.4	68	68	68	68	68	68	68	68	68	68	72	72	72	72	73	73	73	73	73	73	73	73	73	69	69	68	68	68	67	67	67	67	67	67	63
14/F	68.55	68	68	68	68	68	68	68	68	68	68	72	72	72	72	72	73	73	73	73	73	73	73	73	69	69	68	68	68	68	67	67	67	67	68	63
15/F	71.7	67	67	67	68	68	67	67	67	68	68	72	72	72	72	72	72	73	73	73	73	73	73	73	69	69	68	68	68	68	68	67	67	68	68	63
16/F	74.85	67	67	67	67	67	67	67	67	67	67	72	72	72	72	72	72	72	73	73	73	73	73	73	69	69	68	68	68	68	68	68	68	68	68	62
17/F	78	67	67	67	67	67	67	67	67	67	67	72	72	72	72	72	72	72	72	73	73	73	73	73	69	69	68	68	68	68	68	68	68	68	68	62
18/F	81.15	67	67	67	67	67	67	67	67	67	67	72	72	72	72	72	72	72	72	73	73	73	73	73	69	69	68	68	68	68	68	68	68	68	68	62
19/F	84.3	67	67	67	67	67	67	67	67	67	67	72	72	72	72	72	72	72	72	73	73	73	73	73	69	69	68	68	68	68	68	68	68	68	68	62
20/F	87.45	66	66	66	66	67	66	66	66	67	67	71	71	72	72	72	72	72	72	73	73	73	73	73	69	69	69	68	68	68	68	68	68	68	68	62
Max. Noise Level		72	72	72	72	72	72	72	72	72	73	76	75	75	75	76	76	76	76	76	76	76	77	77	69	69	69	68	68	68	68	68	68	68	68	65
No. of Noise Exceedance		4	4	4	4	4	4	4	4	4	5	20	20	20	20	20	20	20	20	20	20	20	20	20	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		4		4			4			5		20			20		20			20			20		0		0		0		0		0			
No. of Flats		20		20			20			20		20			20		20			20			20		20		20		20		20		20			

High Zone

Floor	mPD	NAH-01	NAH-02	NAH-03	NAH-04	NAH-05	NAH-06	NAH-07	NAH-08	NAH-09	NAH-10	NAH-11	NAH-12	NAH-13	NAH-14	NAH-15	NAH-16	NAH-17	NAH-18	NAH-19	NAH-20	NAH-21	NAH-22	NAH-23	NAH-24	NAH-25	NAH-26	NAH-27	NAH-28	NAH-29	NAH-30	NAH-31	NAH-32	NAH-33	NAH-34	NAH-35
21/F	90.6	66	66	66	66	66	66	66	66	66	67	71	71	72	72	72	72	72	72	72	73	73	73	73	70	69	69	69	68	68	68	68	68	68	68	61
22/F	93.75	66	66	66	66	66	66	66	66	66	66	71	71	72	72	72	72	72	72	73	73	73	73	73	70	70	69	69	69	69	68	68	68	68	68	61
23/F	96.9	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	72	72	73	73	73	73	73	70	70	70	69	69	69	69	69	69	69	69	61
24/F	100.05	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	72	72	73	73	73	73	73	70	70	70	70	70	69	69	69	69	69	69	61
25/F	103.2	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	72	72	72	72	73	73	73	71	70	70	70	70	70	69	69	69	69	69	61
26/F	106.35	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	72	72	72	73	73	73	73	71	71	70	70	70	70	70	69	69	69	69	61
27/F	109.5	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	72	72	72	72	73	73	73	71	71	71	70	70	70	70	70	69	69	69	60
28/F	112.65	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	72	72	72	72	73	73	73	71	71	71	70	70	70	70	70	70	70	70	60
29/F	115.8	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	72	72	72	72	73	73	73	71	71	71	70	70	70	70	70	70	70	70	60
30/F	118.95	65	65	66	66	66	65	66	66	66	66	72	72	72	72	72	72	72	72	72	72	73	73	73	72	71	71	71	70	70	70	70	70	70	70	60
31/F	122.1	65	65	65	65	66	65	65	65	66	66	72	72	72	72	72	72	72	72	72	72	73	73	73	72	72	71	71	71	70	70	70	70	70	70	60
32/F	125.25	65	65	65	65	65	65	65	65	65	65	72	72	72	72	72	72	72	72	72	72	73	73	73	72	72	71	71	71	70	70	70	70	70	70	60
33/F	128.4	65	65	65	65	65	65	65	65	65	65	72	72	72	72	72	72	72	72	72	72	73	73	73	72	72	71	71	71	70	70	70	70	70	70	60
34/F	131.55	65	65	65	65	65	65	65	65	65	65	72	72	72	72	72	72	72	72	72	72	73	73	73	72	72	72	71	71	71	70	70	70	70	70	60
35/F	134.7	65	65	65	65	65	65	65	65	65	65	72	72	72	72	72	72	72	72	72	72	73	73	73	72	72	72	71	71	71	70	70	70	70	70	60
Max. Noise Level		66	66	66	66	66	66	66	66	66	67	72	72	72	72	72	72	72	72	73	73	73	73	73	72	72	72	71	71	71	70	70	70	70	70	61
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	15	15	15	15	15	15	15	15	15	15	15	15	15	11	10	9	6	5	2	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0		0			0			0		15			15		15			15			15		10		5		0		0				
No. of Flats		15		15			15			15		15			15		15			15			15		15		15		15		15				

Block 6

Low Zone

Floor	mPD	NB-01	NB-02	NB-03	NB-04	NB-05	NB-06	NB-07	NB-08	NB-09	NB-10	NB-11	NB-12	NB-13	NB-14	NB-15	NB-16	NB-17	NB-18	NB-19	NB-20	NB-21	NB-22	NB-23	NB-24	NB-25	NB-26	NB-27	NB-28	NB-29	NB-30	NB-31	NB-32	NB-33	NB-34	NB-35
1/F	27.6	72	72	72	72	72	72	72	72	72	72	71	69	68	67	67	65	65	65	65	66	66	66	66	64	62	60	58	57	56	56	56	56	56	56	56
2/F	30.75	72	72	72	72	72	72	72	72	72	72	71	69	68	67	67	66	66	65	66	66	66	66	66	65	64	63	62	61	59	59	58	58	58	58	61
3/F	33.9	71	71	71	71	71	71	71	71	71	71	70	69	68	67	67	66	66	65	66	66	66	66	66	66	65	65	64	64	62	61	61	61	60	60	65
4/F	37.05	71	71	71	71	71	71	71	71	71	71	70	68	68	67	67	66	65	65	66	66	66	66	66	67	66	66	65	65	65	64	63	63	63	62	65
5/F	40.2	70	70	70	70	70	70	70	70	70	70	70	68	67	67	67	66	65	65	66	66	66	66	66	67	67	67	66	66	66	65	65	65	64	64	65
6/F	43.35	70	70	70	70	70	70	70	70	70	70	69	68	67	67	66	66	65	65	66	66	66	66	66	67	67	67	67	67	66	66	66	66	66	66	65
7/F	46.5	69	69	69	69	69	69	69	69	69	69	69	67	67	67	66	66	65	65	66	66	66	66	66	67	67	67	67	67	67	67	67	66	66	66	65
8/F	49.65	69	69	69	69	69	69	69	69	69	69	69	67	67	66	66	65	65	65	66	66	66	66	66	68	68	68	68	67	67	67	67	67	67	67	65
9/F	52.8	69	69	69	69	69	69	69	69	69	69	68	67	66	66	66	65	65	65	66	66	66	66	66	68	68	68	68	68	68	68	67	67	67	67	64
10/F	55.95	68	68	68	68	68	68	68	68	68	68	68	67	66	66	66	65	65	65	65	66	66	66	66	68	68	68	68	68	68	68	68	68	68	68	64
11/F	59.1	68	68	68	68	68	68	68	68	68	68	68	66	66	66	65	65	65	65	65	66	66	66	67	69	69	69	69	69	68	68	68	68	68	68	64
12/F	62.25	68	68	68	68	68	68	68	68	68	68	67	66	66	66	65	65	65	64	65	66	66	66	67	69	69	69	69	69	69	69	68	68	68	68	64
13/F	65.4	68	68	68	68	68	68	68	68	68	68	67	66	66	65	65	65	65	64	65	66	66	66	67	69	69	69	69	69	69	69	69	69	68	68	63
14/F	68.55	67	67	67	67	67	67	67	67	67	67	67	66	66	65	65	65	65	64	65	66	66	66	67	69	69	69	69	69	69	69	69	69	69	69	63
15/F	71.7	67	67	67	67	67	67	67	67	67	67	67	66	65	65	65	65	64	64	65	66	66	66	67	69	69	69	69	69	69	69	69	69	69	69	63
16/F	74.85	67	67	67	67	67	67	67	67	67	67	67	66	65	65	65	65	64	64	65	66	66	66	67	69	69	69	69	69	69	69	69	69	69	69	63
17/F	78	67	67	67	67	67	67	67	67	67	67	67	66	65	65	65	65	64	64	65	66	66	66	68	70	70	70	70	69	69	69	69	69	69	69	63
18/F	81.15	67	67	67	67	67	66	67	66	67	66	67	65	65	65	65	64	64	64	65	66	66	66	68	70	70	70	70	70	70	69	69	69	69	69	63
19/F	84.3	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	64	64	64	65	66	66	66	68	70	70	70	70	70	70	70	69	69	69	69	63
20/F	87.45	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	64	64	64	65	66	66	67	68	70	70	70	70	70	70	70	70	69	69	69	62
Max. Noise Level		72	72	72	72	72	72	72	72	72	72	71	69	68	67	67	66	66	65	66	66	66	67	68	70	70	70	70	70	70	70	70	69	69	69	65
No. of Noise Exceedance		4	4	4	4	4	4	4	4	4	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		4			4			4			4		2		0		0			0			0		0		0		0			0			0	
No. of Flats		20			20			20			20		20		20		20			20			20		20		20		20			20			20	

High Zone

Floor	mPD	NB-01	NB-02	NB-03	NB-04	NB-05	NB-06	NB-07	NB-08	NB-09	NB-10	NB-11	NB-12	NB-13	NB-14	NB-15	NB-16	NB-17	NB-18	NB-19	NB-20	NB-21	NB-22	NB-23	NB-24	NB-25	NB-26	NB-27	NB-28	NB-29	NB-30	NB-31	NB-32	NB-33	NB-34	NB-35
21/F	90.6	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	64	64	64	65	66	66	67	68	70	70	70	70	70	70	70	70	69	69	69	62
22/F	93.75	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	64	64	64	66	66	66	67	68	70	70	70	70	70	70	70	70	69	69	69	62
23/F	96.9	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	64	64	64	65	66	66	67	68	70	70	70	70	70	70	70	70	69	69	69	62
24/F	100.05	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	64	64	64	65	66	66	67	68	71	70	70	70	70	70	70	70	70	69	69	62
25/F	103.2	66	66	66	65	65	65	65	65	65	65	66	65	65	65	65	64	64	64	66	66	66	67	68	71	70	70	70	70	70	70	70	70	69	69	62
26/F	106.35	66	66	66	65	65	65	65	65	65	65	66	65	65	65	65	64	64	64	65	66	66	67	68	71	71	70	70	70	70	70	70	70	70	69	62
27/F	109.5	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	64	64	64	66	66	67	67	69	71	71	71	70	70	70	70	70	70	70	70	62
28/F	112.65	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	64	64	64	66	66	67	67	69	71	71	71	71	70	70	70	70	70	70	70	62
29/F	115.8	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	64	64	64	66	66	67	67	69	71	71	71	71	71	71	70	70	70	70	70	62
30/F	118.95	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	64	64	65	66	66	67	67	69	71	71	71	71	71	71	70	70	70	70	70	62
31/F	122.1	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	64	64	65	66	66	67	68	69	71	71	71	71	71	71	70	70	70	70	70	61
32/F	125.25	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	64	65	65	66	66	67	68	69	71	71	71	71	71	71	71	70	70	70	70	61
33/F	128.4	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	66	67	67	68	69	71	71	71	71	71	71	71	70	70	70	70	61
34/F	131.55	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	66	67	67	68	69	71	71	71	71	71	71	71	70	70	70	70	61
35/F	134.7	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	65	65	65	66	67	67	68	69	71	71	71	71	71	71	71	71	70	70	70	61
Max. Noise Level		66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	65	65	65	66	67	67	68	69	71	71	71	71	71	71	71	71	70	70	70	62
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	10	9	8	7	7	4	1	0	0	0	0
No. of Flats with Noise Exceedance		0			0			0			0		0		0		0			0			0		12				7			1			0	
No. of Flats		15			15			15			15		15		15		15			15			15		15				15			15			15	

Summary of Southern Site

Max. Noise Level, dB(A) =	77
No. of Noise Exceeded Flat =	245
Total no. of Flat=	950
%Compliance =	74%

Summary of Northern Site + Southern Site

Max. Noise Level, dB(A) =	77
No. of Noise Exceeded Flat =	358
Total no. of Flat =	2324
%Compliance =	85%

Note:

Shaded cell denotes predicted noise level exceeds the limit of 70dB(A)

Predicted Results for Road Traffic Noise Impact Assessment of Proposed Development

2. AM Peak - Mitigated Scenario (by Architectual Fins)

Northern Site

Block 1

Low Zone

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22
1/F	27.6	73	73	72	73	73	70	67	68	67	66	66	66	65	65	64	64	64	63	49	48	48	48
2/F	30.75	73	73	73	73	73	70	67	67	67	66	66	65	65	65	64	64	63	63	50	48	48	48
3/F	33.9	73	73	73	72	73	69	66	67	67	66	66	65	65	65	64	64	63	63	50	48	48	48
4/F	37.05	73	73	73	73	73	69	66	67	66	66	66	65	65	64	64	64	63	63	50	48	48	49
5/F	40.2	73	73	73	73	73	69	66	67	66	66	65	65	65	64	64	64	63	63	51	49	49	49
6/F	43.35	74	73	73	73	73	68	66	66	66	66	65	65	65	64	64	63	63	63	52	50	50	50
7/F	46.5	74	73	73	73	73	68	66	66	66	65	65	65	65	64	64	63	63	63	52	51	51	50
8/F	49.65	74	74	73	73	73	68	65	66	66	65	65	65	64	64	64	63	63	63	53	52	52	52
9/F	52.8	74	73	73	73	73	68	65	66	66	65	65	65	65	64	64	63	63	63	55	54	54	56
10/F	55.95	74	73	73	73	73	67	65	66	66	65	65	65	65	64	64	63	63	63	58	57	58	59
11/F	59.1	74	73	73	73	73	67	65	66	66	65	65	65	64	64	64	63	63	63	60	59	59	60
12/F	62.25	74	73	73	73	73	67	65	66	66	65	65	65	64	64	64	63	63	63	61	60	60	61
13/F	65.4	74	73	73	73	72	67	65	66	66	65	65	64	64	64	64	63	63	63	62	61	61	62
14/F	68.55	74	73	73	72	72	67	64	65	65	65	65	64	64	64	64	63	63	63	62	61	61	62
15/F	71.7	73	73	73	72	72	67	64	65	65	65	65	64	64	64	64	63	63	63	62	62	62	63
16/F	74.85	73	73	73	72	72	66	64	65	65	65	65	64	64	64	63	63	63	63	63	63	63	64
17/F	78	73	73	73	72	72	66	64	65	65	65	65	64	64	64	63	63	63	63	64	64	64	65
18/F	81.15	73	73	72	72	72	66	64	65	65	65	64	64	64	64	63	63	63	63	64	65	65	66
19/F	84.3	74	73	72	72	72	66	64	65	65	65	64	64	64	64	63	63	63	63	65	66	66	67
20/F	87.45	74	72	72	72	72	66	63	65	65	64	64	64	64	64	63	63	63	63	66	67	67	68
21/F	90.6	74	72	72	72	72	66	63	64	64	64	64	64	64	64	63	63	63	63	67	67	68	68
22/F	93.75	74	72	72	72	72	66	63	64	64	64	64	64	64	63	63	63	63	63	67	68	69	69
Max. Noise Level		74	74	73	73	73	70	67	68	67	66	66	66	65	65	64	64	64	63	67	68	69	69
No. of Noise Exceedance		22	22	22	22	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		22		22				0			0			0		0		0		0		0	
No. of Flats		22		22				22			22			22		22		22		22		22	

High Zone

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22
23/F	96.9	74	72	72	72	72	66	63	64	64	64	64	64	64	63	63	63	63	63	68	69	69	69
24/F	100.05	73	72	72	72	72	65	63	64	64	64	64	64	64	63	63	63	63	64	68	69	69	69
25/F	103.2	73	72	72	72	72	65	63	64	64	64	64	64	64	63	63	63	63	64	69	69	69	69
26/F	106.35	73	72	72	72	72	65	63	64	64	64	64	63	63	63	63	63	63	64	69	69	69	69
27/F	109.5	73	72	72	72	71	65	63	64	64	64	64	63	63	63	63	63	63	64	69	70	70	69
28/F	112.65	73	72	72	71	71	65	63	64	64	64	63	63	63	63	63	63	63	64	69	70	70	69
29/F	115.8	73	72	72	71	71	65	62	64	64	64	63	63	63	63	63	63	63	65	70	70	70	69
30/F	118.95	73	72	72	71	71	65	62	64	64	63	63	63	63	63	63	63	63	65	70	70	70	69
31/F	122.1	73	72	72	71	71	65	62	64	64	63	63	63	63	63	63	63	63	65	70	70	70	69
32/F	125.25	73	72	72	71	71	65	62	64	64	63	63	63	63	63	63	63	63	65	70	70	70	69
33/F	128.4	73	72	71	71	71	65	62	63	63	63	63	63	63	63	63	62	63	65	70	70	70	69
34/F	131.55	73	72	71	71	71	65	62	63	63	63	63	63	63	63	63	62	63	65	70	70	70	70
35/F	134.7	73	72	71	71	71	65	62	63	64	63	63	63	63	63	63	63	63	66	70	70	70	70
Max. Noise Level		74	72	72	72	72	66	63	64	64	64	64	64	64	63	63	63	63	66	70	70	70	70
No. of Noise Exceedance		13	13	13	13	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		13		13				0			0			0		0		0		0			
No. of Flats		13		13				13			13			13		13		13		13			

Block 2

Low Zone

Floor	mPD	N2-01	N2-02	N2-03	N2-04	N2-05	N2-06	N2-07	N2-08	N2-09	N2-10	N2-11	N2-12	N2-13	N2-14	N2-15	N2-16	N2-17	N2-18	N2-19	N2-20
1/F	27.6	62	62	61	61	61	60	60	60	61	61	61	61	60	60	60	61	61	60	62	63
2/F	30.75	62	62	61	61	61	60	60	60	61	61	61	61	60	60	60	61	61	61	62	62
3/F	33.9	62	61	61	61	61	60	60	60	61	61	61	61	60	60	60	61	62	61	62	62
4/F	37.05	62	61	61	60	61	60	60	60	61	61	61	61	60	60	60	61	62	61	62	62
5/F	40.2	62	61	61	60	60	60	60	60	61	61	61	61	60	60	60	61	62	62	62	62
6/F	43.35	62	61	61	60	60	60	60	60	61	61	61	61	60	60	60	61	62	62	62	62
7/F	46.5	62	61	61	60	60	60	60	60	61	61	61	61	60	60	60	61	62	62	62	62
8/F	49.65	62	61	61	61	61	60	60	59	61	61	61	61	60	60	60	61	62	62	62	62
9/F	52.8	62	62	61	61	61	60	60	60	61	61	61	61	60	60	60	61	62	62	62	62
10/F	55.95	63	62	62	61	61	61	60	60	61	61	61	61	60	60	60	61	62	62	62	62
11/F	59.1	63	62	62	62	62	61	61	60	61	61	61	61	61	60	61	61	62	62	61	62
12/F	62.25	63	62	62	62	62	62	61	61	62	62	61	61	61	61	61	62	62	62	61	62
13/F	65.4	63	63	62	62	62	62	62	61	62	62	62	62	62	62	62	62	63	63	61	62
14/F	68.55	63	63	63	62	63	63	63	62	63	63	63	62	62	62	62	63	63	63	61	62
15/F	71.7	64	63	63	63	63	63	63	62	63	63	63	63	62	62	62	63	63	63	61	61
16/F	74.85	64	63	63	63	63	63	63	62	63	63	63	63	63	62	63	63	63	63	61	61
17/F	78	64	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	61	61
18/F	81.15	64	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	64	61	61
19/F	84.3	64	63	63	63	63	63	63	63	64	63	63	63	63	63	63	63	64	64	61	61
20/F	87.45	64	63	63	63	63	63	63	63	64	64	64	64	63	63	63	64	64	64	60	61
21/F	90.6	64	63	63	63	63	63	63	63	64	64	64	64	64	64	64	64	64	64	60	61
22/F	93.75	65	64	63	63	63	64	64	63	64	64	64	64	64	64	64	64	64	64	60	61
Max. Noise Level		65	64	63	63	63	64	64	63	64	64	64	64	64	64	64	64	64	64	62	63
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0				0		0		0		0		0			0			0	
No. of Flats		22				22		22		22		22		22			22			22	

High Zone

Floor	mPD	N2-01	N2-02	N2-03	N2-04	N2-05	N2-06	N2-07	N2-08	N2-09	N2-10	N2-11	N2-12	N2-13	N2-14	N2-15	N2-16	N2-17	N2-18	N2-19	N2-20
23/F	96.9	65	64	63	63	64	64	64	63	64	64	64	64	64	64	64	64	64	64	60	61
24/F	100.05	65	64	64	64	64	64	64	63	65	65	65	65	65	64	65	65	65	65	60	61
25/F	103.2	65	64	64	64	64	64	64	63	65	65	65	65	65	65	65	65	65	65	60	61
26/F	106.35	65	64	64	64	65	65	65	63	65	65	65	65	65	65	65	65	65	65	60	61
27/F	109.5	66	65	64	65	65	65	65	64	65	65	66	65	65	65	65	65	65	65	61	62
28/F	112.65	66	65	65	65	65	65	65	64	66	65	66	66	66	66	66	66	66	66	61	62
29/F	115.8	66	65	65	65	65	65	65	64	66	66	66	66	66	66	66	66	66	66	61	62
30/F	118.95	66	65	65	65	65	66	66	64	66	66	66	66	66	66	66	66	66	66	61	62
31/F	122.1	66	65	65	65	66	66	66	64	66	66	67	66	66	66	66	66	66	66	61	63
32/F	125.25	66	66	65	65	66	66	66	64	67	67	67	67	67	67	67	67	67	67	61	63
33/F	128.4	66	66	65	66	66	66	66	64	67	67	67	67	67	67	67	67	67	67	61	63
34/F	131.55	67	66	66	66	66	66	66	65	67	67	67	67	67	67	67	67	67	67	61	63
35/F	134.7	67	66	66	66	67	67	67	65	67	67	68	68	67	68	68	68	67	67	62	63
Max. Noise Level		67	66	66	66	67	67	67	65	67	67	68	68	67	68	68	68	67	67	62	63
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0				0		0		0		0		0			0			0	
No. of Flats		13				13		13		13		13		13			13			13	

Block 3

Low Zone

Floor	mPD	N3-01	N3-02	N3-03	N3-04	N3-05	N3-06	N3-07	N3-08	N3-09	N3-10	N3-11	N3-12	N3-13	N3-14	N3-15	N3-16	N3-17	N3-18	N3-19	N3-20	N3-21	N3-22	N3-23	N3-24	N3-25	N3-26
1/F	27.6	72	73	73	73	73	73	73	73	73	73	72	57	56	49	48	47	47	48	50	51	52	56	58	59	63	64
2/F	30.75	72	72	72	72	72	72	72	72	72	72	72	59	57	52	49	48	48	48	52	53	54	57	58	59	63	64
3/F	33.9	71	72	72	72	72	72	72	72	72	71	71	60	58	53	50	48	48	48	53	54	54	57	59	59	63	64
4/F	37.05	71	71	71	71	71	71	71	71	71	71	71	61	58	54	51	48	48	49	54	55	55	58	59	60	63	65
5/F	40.2	70	71	71	71	71	71	71	71	71	70	70	61	59	55	51	49	49	50	56	56	57	58	60	61	64	65
6/F	43.35	70	70	70	70	70	70	70	70	70	70	70	61	59	55	52	50	50	51	57	57	58	60	61	61	64	65
7/F	46.5	70	70	70	70	70	70	70	70	70	70	70	60	58	55	52	50	51	52	57	58	59	60	61	62	64	64
8/F	49.65	70	70	70	70	70	70	70	69	69	69	69	60	58	55	52	51	51	52	58	59	59	60	61	62	64	64
9/F	52.8	69	69	69	69	69	69	69	69	69	69	69	60	59	55	53	52	52	53	58	59	59	61	61	62	64	64
10/F	55.95	69	69	69	69	69	69	69	69	69	69	69	60	59	56	54	53	53	54	59	59	59	61	61	62	64	64
11/F	59.1	69	69	69	69	69	69	69	68	68	68	68	61	59	57	56	55	55	55	59	59	60	61	61	62	64	64
12/F	62.25	68	68	68	68	68	68	68	68	68	68	68	61	60	58	57	57	57	56	59	60	60	61	61	62	63	64
13/F	65.4	68	68	68	68	68	68	68	68	68	68	68	61	60	59	58	58	58	58	60	60	60	61	62	62	63	64
14/F	68.55	68	68	68	68	68	68	68	68	68	68	68	61	60	59	59	59	58	58	60	61	61	61	62	62	63	64
15/F	71.7	68	68	68	68	68	68	68	68	68	67	68	62	61	60	59	59	59	59	61	61	61	62	62	62	63	64
16/F	74.85	67	67	67	67	67	67	67	67	67	67	67	62	61	60	60	59	59	59	61	61	61	62	62	62	63	64
17/F	78	67	67	67	67	67	67	67	67	67	67	67	62	61	60	60	60	60	60	61	61	61	62	62	62	64	64
18/F	81.15	67	67	67	67	67	67	67	67	67	67	67	62	62	61	60	60	60	60	61	61	61	62	62	62	63	64
19/F	84.3	67	67	67	67	67	67	67	67	67	67	67	62	62	61	61	60	60	60	61	62	61	62	62	62	63	64
20/F	87.45	67	67	67	67	67	67	67	66	66	66	66	63	62	62	61	61	61	61	62	62	61	62	62	62	63	63
21/F	90.6	66	67	66	66	66	66	66	66	66	66	66	63	63	62	62	62	62	62	62	62	62	62	62	62	63	63
22/F	93.75	66	66	66	66	66	66	66	66	66	66	66	64	64	63	63	62	62	62	62	62	62	62	62	62	63	63
Max. Noise Level		72	73	73	73	73	73	73	73	73	73	72	64	64	63	63	62	62	62	62	62	62	62	62	62	64	65
No. of Noise Exceedance		4	5	5	5	5	5	5	5	5	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		5				5		5		5			0		0			0			0		0		0		
No. of Flats		22				22		22		22			22		22			22			22		22		22		

High Zone

Floor	mPD	N3-01	N3-02	N3-03	N3-04	N3-05	N3-06	N3-07	N3-08	N3-09	N3-10	N3-11	N3-12	N3-13	N3-14	N3-15	N3-16	N3-17	N3-18	N3-19	N3-20	N3-21	N3-22	N3-23	N3-24	N3-25	N3-26
23/F	96.9	66	66	66	66	66	66	66	66	66	66	66	64	64	64	63	63	63	63	63	63	62	62	62	62	63	63
24/F	100.05	66	66	66	66	66	66	66	66	66	66	66	64	64	64	64	64	64	63	63	63	62	63	62	62	63	63
25/F	103.2	66	66	66	66	66	66	66	66	66	66	66	64	65	65	64	64	64	64	63	63	62	63	62	63	63	63
26/F	106.35	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	64	64	64	64	63	63	63	63	63	64	63
27/F	109.5	65	66	66	65	65	65	65	65	65	65	65	65	65	65	65	65	65	64	64	63	63	63	63	63	64	63
28/F	112.65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	64	64	63	63	63	63	64	63
29/F	115.8	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	65	65	65	65	64	63	63	63	63	64	63
30/F	118.95	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	65	65	65	64	63	64	63	63	64	63
31/F	122.1	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	65	65	64	64	64	63	63	64	63
32/F	125.25	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	66	65	64	64	64	64	64	64	63
33/F	128.4	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	66	66	65	64	64	64	64	64	64
34/F	131.55	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	66	66	65	64	64	64	64	64	64
35/F	134.7	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	66	66	65	65	64	64	64	65	64
Max. Noise Level		66	66	66	66	66	66	66	66	66	66	66	65	66	66	66	66	66	66	66	65	65	64	64	64	65	64
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0				0		0		0			0		0			0			0		0		0		
No. of Flats		13				13		13		13			13		13			13			13		13		13		

Block 4

Low Zone

Floor	mPD	N4-01	N4-02	N4-03	N4-04	N4-05	N4-06	N4-07	N4-08	N4-09	N4-10	N4-11	N4-12	N4-13	N4-14	N4-15	N4-16	N4-17	N4-18
1/F	27.6	72	72	73	73	73	73	72	72	51	58	59	59	60	60	61	61	61	62
2/F	30.75	72	72	72	72	72	72	72	71	54	59	60	60	61	61	61	61	62	62
3/F	33.9	71	71	71	71	71	71	71	71	58	60	60	60	61	61	61	61	62	62
4/F	37.05	70	71	71	71	71	71	71	70	59	60	60	60	61	61	61	61	62	62
5/F	40.2	70	70	70	70	70	70	70	70	59	60	60	60	60	61	61	61	62	62
6/F	43.35	70	70	70	70	70	70	70	70	59	60	60	60	60	61	61	61	61	62
7/F	46.5	70	70	70	70	70	70	70	70	58	60	60	60	60	61	61	61	61	62
8/F	49.65	69	69	69	69	69	69	69	69	58	60	60	60	60	61	61	61	61	62
9/F	52.8	69	69	69	69	69	69	69	69	58	60	60	60	60	61	61	61	62	62
10/F	55.95	69	69	69	69	69	69	69	69	58	60	60	60	61	61	61	62	62	62
11/F	59.1	68	68	68	68	68	68	68	68	57	61	60	61	61	61	62	62	62	63
12/F	62.25	68	68	68	68	68	68	68	68	57	61	61	61	61	62	62	62	63	63
13/F	65.4	68	68	68	68	68	68	68	68	57	61	61	61	62	62	62	63	63	63
14/F	68.55	68	68	67	67	68	68	68	68	57	61	62	62	62	62	63	63	63	64
15/F	71.7	67	67	67	67	67	67	67	67	57	62	62	62	62	63	63	63	64	64
16/F	74.85	67	67	67	67	67	67	67	67	57	62	62	62	63	63	63	64	64	64
17/F	78	67	67	67	67	67	67	67	67	57	62	62	63	63	63	63	64	64	65
18/F	81.15	67	67	67	67	67	67	67	67	57	62	63	63	63	63	64	64	64	65
19/F	84.3	66	66	66	66	66	66	66	67	57	63	63	63	63	64	64	64	65	65
20/F	87.45	66	66	66	66	66	66	66	66	57	63	63	63	64	64	64	65	65	66
21/F	90.6	66	66	66	66	66	66	66	66	58	63	63	64	64	64	65	65	66	66
22/F	93.75	66	66	66	66	66	66	66	66	58	64	64	64	64	65	65	66	66	67
Max. Noise Level		72	72	73	73	73	73	72	72	59	64	64	64	64	65	65	66	66	67
No. of Noise Exceedance		3	4	4	4	4	4	4	3	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		4			4		4			0		0			0		0		
No. of Flats		22			22		22			22		22			22		22		

High Zone

Floor	mPD	N4-01	N4-02	N4-03	N4-04	N4-05	N4-06	N4-07	N4-08	N4-09	N4-10	N4-11	N4-12	N4-13	N4-14	N4-15	N4-16	N4-17	N4-18
23/F	96.9	66	66	66	66	66	66	66	66	58	64	64	64	65	65	66	66	66	67
24/F	100.05	66	66	66	66	66	66	66	66	58	64	64	64	65	65	66	66	67	67
25/F	103.2	66	66	65	65	66	66	66	66	59	65	64	65	65	65	66	66	67	67
26/F	106.35	65	65	65	65	65	65	65	65	59	65	65	65	65	66	66	66	67	67
27/F	109.5	65	65	65	65	65	65	65	65	59	65	65	65	65	66	66	66	67	67
28/F	112.65	65	65	65	65	65	65	65	65	59	65	65	65	65	66	66	67	67	68
29/F	115.8	65	65	65	65	65	65	65	65	59	65	65	65	65	66	66	67	67	68
30/F	118.95	65	65	65	65	65	65	65	65	60	65	65	65	65	66	66	67	67	68
31/F	122.1	65	65	65	65	65	65	65	65	60	65	65	65	66	66	66	67	67	68
32/F	125.25	65	65	65	65	65	65	65	65	60	65	65	65	66	66	67	67	68	68
33/F	128.4	65	65	65	65	65	65	65	65	60	65	65	66	66	66	67	67	68	69
34/F	131.55	65	65	65	65	65	65	65	65	61	66	65	66	66	67	67	68	68	69
35/F	134.7	65	65	65	65	65	65	65	65	61	66	66	66	66	67	67	68	68	69
Max. Noise Level		66	66	66	66	66	66	66	66	61	66	66	66	66	67	67	68	68	69
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0			0		0			0		0			0		0		
No. of Flats		13			13		13			13		13			13		13		

Block 5

Low Zone

Floor	mPD	N5-01	N5-02	N5-03	N5-04	N5-05	N5-06	N5-07	N5-08	N5-09	N5-10	N5-11	N5-12	N5-13	N5-14	N5-15	N5-16
1/F	27.6	56	56	56	57	57	56	57	56	50	50	51	53	54	62	62	62
2/F	30.75	57	57	57	57	57	56	58	57	51	51	52	53	54	62	62	62
3/F	33.9	57	57	57	57	57	57	58	57	53	53	53	54	55	63	63	62
4/F	37.05	57	57	57	57	57	57	58	58	55	55	55	56	56	63	62	62
5/F	40.2	57	57	57	57	57	57	59	58	56	56	56	56	57	63	62	62
6/F	43.35	57	57	57	57	57	57	59	59	56	56	56	57	57	63	62	62
7/F	46.5	57	57	57	57	57	57	59	59	56	56	56	57	57	62	62	62
8/F	49.65	57	57	57	58	57	57	59	59	56	56	57	57	57	62	62	62
9/F	52.8	57	57	57	58	57	57	59	58	56	56	57	57	57	63	62	62
10/F	55.95	58	58	57	58	58	58	59	58	56	56	57	57	57	63	63	63
11/F	59.1	58	58	58	58	58	58	59	58	56	56	57	57	57	63	63	63
12/F	62.25	59	58	58	58	58	58	59	58	56	56	57	57	58	64	63	63
13/F	65.4	60	59	59	59	58	58	59	58	56	56	57	57	58	64	64	64
14/F	68.55	61	60	60	59	59	58	59	59	56	56	57	57	58	64	64	64
15/F	71.7	62	61	61	60	59	59	59	59	57	57	57	58	58	64	64	64
16/F	74.85	63	62	61	61	60	60	59	59	57	57	57	58	58	65	65	65
17/F	78	64	63	62	61	61	60	59	59	57	57	57	58	58	65	65	65
18/F	81.15	65	63	63	62	62	61	59	59	57	57	57	58	58	66	66	66
19/F	84.3	65	64	64	63	62	61	59	59	57	57	57	58	58	66	66	66
20/F	87.45	66	65	64	63	63	62	59	59	57	57	57	57	58	66	67	67
21/F	90.6	67	66	65	64	63	62	59	58	57	57	57	57	58	67	67	67
22/F	93.75	68	66	66	64	64	63	59	58	56	56	57	57	58	67	67	67
Max. Noise Level		68	66	66	64	64	63	59	59	57	57	57	58	58	67	67	67
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0			0			0		0			0		0		
No. of Flats		22			22			22		22			22		22		

High Zone

Floor	mPD	N5-01	N5-02	N5-03	N5-04	N5-05	N5-06	N5-07	N5-08	N5-09	N5-10	N5-11	N5-12	N5-13	N5-14	N5-15	N5-16
23/F	96.9	68	67	66	65	64	64	59	58	56	56	57	57	58	67	68	68
24/F	100.05	69	67	67	66	65	64	59	58	56	56	57	57	57	68	68	68
25/F	103.2	69	67	67	66	65	65	59	58	56	56	57	57	57	68	68	68
26/F	106.35	69	67	67	66	66	65	59	58	56	56	57	57	57	68	68	68
27/F	109.5	69	68	67	67	66	65	59	58	56	56	57	57	57	68	68	68
28/F	112.65	69	67	67	67	66	66	58	58	56	56	57	57	57	68	68	69
29/F	115.8	69	67	67	67	67	66	58	58	56	56	56	57	57	68	68	69
30/F	118.95	69	68	67	67	67	66	58	58	56	56	56	57	57	68	69	69
31/F	122.1	69	68	67	67	67	66	58	58	56	56	56	57	57	68	69	69
32/F	125.25	69	68	67	67	67	66	58	58	56	56	56	57	57	68	69	69
33/F	128.4	69	68	67	67	67	66	58	58	56	56	56	57	57	68	69	69
34/F	131.55	69	68	67	67	67	66	58	58	56	56	56	57	57	69	69	69
35/F	134.7	69	68	67	67	67	66	58	58	56	56	57	57	57	69	69	69
Max. Noise Level		69	68	67	67	67	66	59	58	56	56	57	57	58	69	69	69
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0						0		0			0		0		
No. of Flats		13						13		13			13		13		

Summary of Northern Site

Max. Noise Level, dB(A) =	74
No. of Noise Exceeded Flat =	102
Total no. of Flat=	1374
%Compliance =	93%

Southern Site

Block 7

Low Zone

Floor	mPD	NAL-01	NAL-02	NAL-03	NAL-04	NAL-05	NAL-06	NAL-07	NAL-08	NAL-09	NAL-10	NAL-11	NAL-12	NAL-13	NAL-14	NAL-15	NAL-16	NAL-17	NAL-18	NAL-19	NAL-20	NAL-21	NAL-22	NAL-23	NAL-24	NAL-25	NAL-26	NAL-27	NAL-28	NAL-29	NAL-30	NAL-31	NAL-32	NAL-33	NAL-34	NAL-35
1/F	27.6	72	72	72	72	72	72	72	72	72	71	76	75	76	76	76	76	76	76	76	76	77	77	76	66	62	56	56	55	55	55	55	55	55	54	56
2/F	30.75	71	72	72	72	72	72	72	72	71	70	75	75	75	75	75	75	76	76	76	76	76	76	75	67	63	59	58	57	57	57	57	56	56	56	61
3/F	33.9	71	71	71	71	71	71	71	71	71	70	75	75	75	75	75	75	75	75	75	76	76	76	75	68	64	61	60	60	59	59	59	58	58	58	64
4/F	37.05	70	71	71	71	71	71	71	71	70	69	75	74	75	75	75	75	75	75	75	75	75	75	75	68	65	63	63	62	61	61	61	60	60	60	65
5/F	40.2	70	70	70	70	70	70	70	70	70	69	74	74	74	74	74	75	75	75	75	75	75	75	74	69	65	64	64	64	63	63	62	62	62	62	65
6/F	43.35	70	70	70	70	70	70	70	70	69	69	74	74	74	74	74	74	74	74	75	75	75	75	74	69	66	65	65	65	64	64	64	63	63	63	65
7/F	46.5	70	70	70	70	70	69	69	69	69	70	74	74	74	74	74	74	74	74	74	74	75	74	74	69	66	66	66	65	65	65	65	64	64	64	64
8/F	49.65	69	69	69	69	69	69	69	69	69	70	74	73	74	74	74	74	74	74	74	74	74	74	73	69	66	66	66	66	66	66	65	65	65	65	64
9/F	52.8	69	69	69	69	69	69	69	69	69	69	73	73	73	73	74	74	74	74	74	74	74	74	73	69	66	67	67	66	66	66	66	66	66	66	64
10/F	55.95	69	69	69	69	69	69	69	69	69	69	73	73	73	73	73	73	73	74	74	74	74	74	73	69	67	67	67	67	67	67	66	66	66	66	64
11/F	59.1	68	68	68	68	69	68	68	69	69	69	73	73	73	73	73	73	73	73	74	74	74	74	73	69	67	67	67	67	67	67	67	67	67	67	63
12/F	62.25	68	68	68	68	68	68	68	68	68	68	73	73	73	73	73	73	73	73	73	73	74	73	72	69	67	67	68	67	67	67	67	67	67	67	63
13/F	65.4	68	68	68	68	68	68	68	68	68	68	73	73	73	73	73	73	73	73	73	73	73	73	72	69	67	68	68	68	68	68	68	68	67	67	63
14/F	68.55	68	68	68	68	68	68	68	68	68	68	72	72	72	73	73	73	73	73	73	73	73	73	72	69	67	68	68	68	68	68	68	68	68	68	63
15/F	71.7	68	68	68	68	68	68	68	68	68	68	72	72	72	72	73	73	73	73	73	73	73	73	72	69	67	68	68	68	68	68	68	68	68	68	63
16/F	74.85	67	67	67	67	67	67	67	67	67	68	72	72	72	72	72	73	73	73	73	73	73	73	72	69	67	68	68	68	68	68	68	68	68	68	62
17/F	78	67	67	67	67	67	67	67	67	67	67	72	72	72	72	72	72	73	73	73	73	73	73	72	69	68	68	68	68	68	68	68	68	68	68	62
18/F	81.15	67	67	67	67	67	67	67	67	67	67	72	72	72	72	72	72	73	73	73	73	73	73	72	69	68	68	68	68	68	68	68	68	68	68	62
19/F	84.3	67	67	67	67	67	67	67	67	67	67	72	72	72	72	72	72	72	73	73	73	73	73	72	70	68	68	68	68	68	68	68	68	68	68	62
20/F	87.45	67	67	67	67	67	67	67	67	67	67	72	72	72	72	72	72	72	73	73	73	73	73	71	70	68	69	69	69	68	68	68	68	68	68	62
Max. Noise Level		72	72	72	72	72	72	72	72	72	71	76	75	76	76	76	76	76	76	76	76	77	77	76	70	68	69	69	69	68	68	68	68	68	68	65
No. of Noise Exceedance		3	4	4	4	4	4	4	4	3	1	20	20	20	20	20	20	20	20	20	20	20	20	20	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		4		4			4			3		20			20		20			20			20		0		0		0		0		0		
No. of Flats		20		20			20			20		20			20		20			20			20		20		20		20		20		20		

High Zone

Floor	mPD	NAH-01	NAH-02	NAH-03	NAH-04	NAH-05	NAH-06	NAH-07	NAH-08	NAH-09	NAH-10	NAH-11	NAH-12	NAH-13	NAH-14	NAH-15	NAH-16	NAH-17	NAH-18	NAH-19	NAH-20	NAH-21	NAH-22	NAH-23	NAH-24	NAH-25	NAH-26	NAH-27	NAH-28	NAH-29	NAH-30	NAH-31	NAH-32	NAH-33	NAH-34	NAH-35
21/F	90.6	66	67	67	67	67	66	67	67	67	67	72	72	72	72	72	72	72	73	73	73	73	73	71	70	69	69	69	69	69	69	69	69	69	69	62
22/F	93.75	66	66	66	66	67	66	66	67	67	67	72	72	72	72	72	72	73	73	73	73	73	73	71	71	69	70	69	69	69	69	69	69	69	69	61
23/F	96.9	66	66	66	66	66	66	66	66	67	67	72	72	72	72	72	72	73	73	73	73	73	73	71	71	70	70	70	70	70	69	69	69	69	69	61
24/F	100.05	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	73	73	73	73	73	72	71	71	70	70	70	70	70	70	70	69	69	69	61
25/F	103.2	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	72	73	73	73	73	72	71	71	70	70	70	70	70	70	70	70	70	69	61
26/F	106.35	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	72	73	73	73	73	72	71	72	70	71	71	70	70	70	70	70	70	70	61
27/F	109.5	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	72	72	72	73	73	72	71	72	71	71	71	71	70	70	70	70	70	70	61
28/F	112.65	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	72	72	72	73	72	72	71	72	71	71	71	71	71	70	70	70	70	70	61
29/F	115.8	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	72	72	72	72	72	72	71	72	71	71	71	71	71	70	70	70	70	70	60
30/F	118.95	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	72	72	72	73	73	72	71	72	71	71	71	71	71	71	70	70	70	70	60
31/F	122.1	66	66	66	66	66	66	66	66	66	66	72	72	72	72	72	72	72	72	73	73	73	72	71	73	71	71	71	71	71	71	71	70	70	70	60
32/F	125.25	65	65	65	66	66	65	65	65	66	66	72	72	72	72	72	72	72	72	72	73	73	72	71	73	71	71	71	71	71	71	71	71	70	70	60
33/F	128.4	65	65	65	65	65	65	65	65	65	66	72	72	72	72	72	72	72	72	72	73	72	72	71	73	71	72	71	71	71	71	71	71	71	70	60
34/F	131.55	65	65	65	65	65	65	65	65	65	65	72	72	72	72	72	72	72	72	72	72	72	72	71	73	72	72	72	71	71	71	71	71	71	70	60
35/F	134.7	65	65	65	65	65	65	65	65	65	65	72	72	72	72	72	72	72	72	72	72	72	72	71	73	72	72	72	71	71	71	71	71	71	71	60
Max. Noise Level		66	67	67	67	67	66	67	67	67	67	72	72	72	72	72	72	73	73	73	73	73	73	71	73	72	72	72	71	71	71	71	71	71	71	62
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	15	15	15	15	15	15	15	15	15	15	15	15	15	14	9	10	10	9	8	6	5	4	3	1	0
No. of Flats with Noise Exceedance		0		0			0			0		15			15		15			15			15		10		9			5			3		
No. of Flats		15		15			15			15		15			15		15			15			15		15		15			15			15		

Block 6

Low Zone

Floor	mPD	NB-01	NB-02	NB-03	NB-04	NB-05	NB-06	NB-07	NB-08	NB-09	NB-10	NB-11	NB-12	NB-13	NB-14	NB-15	NB-16	NB-17	NB-18	NB-19	NB-20	NB-21	NB-22	NB-23	NB-24	NB-25	NB-26	NB-27	NB-28	NB-29	NB-30	NB-31	NB-32	NB-33	NB-34	NB-35
1/F	27.6	72	72	72	72	72	72	72	72	72	71	70	69	68	67	67	66	65	65	66	66	66	67	67	62	60	61	59	58	57	57	56	56	56	55	56
2/F	30.75	71	72	72	72	72	72	72	71	71	70	69	69	68	67	67	66	66	66	66	67	67	67	67	63	63	64	62	61	60	59	59	58	58	57	61
3/F	33.9	71	71	71	71	71	71	71	71	71	70	69	68	68	67	67	66	66	66	66	67	67	67	67	64	64	66	65	64	63	62	62	61	60	60	65
4/F	37.05	70	71	71	71	71	71	71	70	70	69	69	68	68	67	67	66	66	66	66	66	66	67	67	64	65	67	66	66	65	65	64	64	63	62	65
5/F	40.2	70	70	70	70	70	70	70	70	70	69	70	68	67	67	67	66	66	65	66	66	66	66	67	65	66	67	67	67	66	66	66	65	65	64	65
6/F	43.35	70	70	70	70	70	70	70	70	70	70	69	68	67	67	66	66	66	65	66	66	66	66	67	65	66	68	67	67	67	67	67	66	66	65	65
7/F	46.5	70	70	70	70	70	69	69	69	69	69	69	67	67	67	66	66	65	65	66	66	66	66	67	65	67	68	68	68	67	67	67	67	66	66	65
8/F	49.65	69	69	69	69	69	69	69	69	69	69	69	67	67	66	66	66	65	65	66	66	66	66	67	65	67	68	68	68	68	68	68	67	67	66	64
9/F	52.8	69	69	69	69	69	69	69	69	69	69	68	67	67	66	66	65	65	65	66	66	66	66	67	66	68	69	69	69	68	68	68	68	67	67	64
10/F	55.95	69	69	69	69	69	69	69	69	69	68	68	67	66	66	66	65	65	65	66	66	66	66	67	66	68	69	69	69	69	69	68	68	68	68	64
11/F	59.1	68	68	68	68	68	68	68	68	68	68	68	67	66	66	66	65	65	65	66	66	66	66	67	66	68	69	69	69	69	69	69	68	68	68	64
12/F	62.25	68	68	68	68	68	68	68	68	68	68	68	66	66	66	66	65	65	65	66	66	66	67	67	67	68	70	69	69	69	69	69	69	69	68	64
13/F	65.4	68	68	68	68	68	68	68	68	68	68	68	66	66	66	66	65	65	65	66	66	66	67	68	67	68	70	70	70	70	69	69	69	69	69	63
14/F	68.55	68	68	68	68	68	67	68	68	68	67	67	66	66	66	66	65	65	65	66	66	67	67	68	67	69	70	70	70	70	70	69	69	69	69	63
15/F	71.7	67	67	67	67	67	67	67	67	67	67	67	66	66	66	66	65	65	65	66	66	67	67	68	67	69	70	70	70	70	70	70	69	69	69	63
16/F	74.85	67	67	67	67	67	67	67	67	67	67	67	66	66	66	66	65	65	65	66	66	67	67	68	67	69	70	70	70	70	70	70	69	69	69	63
17/F	78	67	67	67	67	67	67	67	67	67	67	67	66	66	66	66	65	65	65	66	66	67	67	68	67	69	70	70	70	70	70	70	70	69	69	63
18/F	81.15	67	67	67	67	67	67	67	67	67	67	67	66	66	66	66	65	65	65	66	66	67	67	69	68	70	70	70	70	70	70	70	70	69	69	63
19/F	84.3	67	66	67	66	66	66	66	66	66	66	67	66	66	66	66	65	65	65	66	66	67	67	69	68	70	71	70	70	70	70	70	70	70	69	63
20/F	87.45	66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	65	65	65	66	66	67	67	69	68	70	71	71	71	71	70	70	70	70	69	62
Max. Noise Level		72	72	72	72	72	72	72	72	72	71	70	69	68	67	67	66	66	66	66	67	67	67	69	68	70	71	71	71	71	70	70	70	70	69	65
No. of Noise Exceedance		3	4	4	4	4	4	4	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	1	0	0	0	0	0	0
No. of Flats with Noise Exceedance		4			4			4			3			0		0		0			0			0		0		2			1			0		
No. of Flats		20			20			20			20			20		20		20			20			20		20		20			20			20		

High Zone

Floor	mPD	NB-01	NB-02	NB-03	NB-04	NB-05	NB-06	NB-07	NB-08	NB-09	NB-10	NB-11	NB-12	NB-13	NB-14	NB-15	NB-16	NB-17	NB-18	NB-19	NB-20	NB-21	NB-22	NB-23	NB-24	NB-25	NB-26	NB-27	NB-28	NB-29	NB-30	NB-31	NB-32	NB-33	NB-34	NB-35
21/F	90.6	66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	65	65	65	66	67	67	67	69	68	70	71	71	71	71	70	70	70	70	70	62
22/F	93.75	66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	65	65	65	66	67	67	67	69	68	70	71	71	71	71	71	70	70	70	70	62
23/F	96.9	66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	65	65	65	66	67	67	68	69	68	70	71	71	71	71	71	70	70	70	70	62
24/F	100.05	66	66	66	66	66	66	66	66	66	66	67	66	66	66	65	65	65	65	66	67	67	68	69	68	70	71	71	71	71	71	70	70	70	70	62
25/F	103.2	66	66	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	65	66	67	67	68	69	68	70	71	71	71	71	71	70	70	70	70	62
26/F	106.35	66	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	65	65	66	67	67	68	69	68	70	71	71	71	71	71	71	70	70	70	62
27/F	109.5	66	66	66	66	66	66	65	65	65	65	66	66	65	65	65	65	65	65	66	67	67	68	69	68	70	71	71	71	71	71	71	70	70	70	62
28/F	112.65	66	65	66	65	65	65	65	65	65	65	66	65	65	65	65	65	65	65	66	67	67	68	69	69	71	71	71	71	71	71	71	71	70	70	62
29/F	115.8	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	65	65	65	66	67	67	68	69	69	71	71	71	71	71	71	71	71	70	70	62
30/F	118.95	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	65	65	65	67	67	68	68	70	69	71	72	71	71	71	71	71	71	71	70	62
31/F	122.1	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	65	65	65	67	67	68	68	70	69	71	72	71	71	71	71	71	71	71	70	62
32/F	125.25	65	65	65	65	65	65	65	65	65	65	66	65	65	65	66	65	65	65	67	67	68	68	70	69	71	72	72	71	71	71	71	71	71	71	62
33/F	128.4	65	65	65	65	65	65	65	65	65	65	66	65	65	65	66	65	66	66	67	67	68	68	70	69	71	72	72	71	71	71	71	71	71	71	61
34/F	131.55	65	65	65	65	65	65	65	65	65	65	66	65	66	66	66	65	66	66	67	67	68	69	70	69	71	72	72	72	72	71	71	71	71	71	61
35/F	134.7	65	65	65	65	65	65	65	65	65	65	66	65	66	66	66	66	66	66	67	68	68	69	70	69	71	72	72	72	72	71	71	71	71	71	62
Max. Noise Level		66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	66	66	66	67	68	68	69	70	69	71	72	72	72	72	71	71	71	71	71	62
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	15	15	15	15	14	10	8	6	4	0
No. of Flats with Noise Exceedance		0			0			0			0			0		0		0			0			0		15			15			10			6	
No. of Flats		15			15			15			15			15		15		15			15			15		15			15			15			15	

Summary of Southern Site

Max. Noise Level, dB(A) =	77
No. of Noise Exceeded Flat =	281
Total no. of Flat=	950
%Compliance =	70%

Summary of Northern Site + Southern Site

Max. Noise Level, dB(A) =	77
No. of Noise Exceeded Flat =	383
Total no. of Flat =	2324
%Compliance =	84%

Note:

Shaded cell denotes predicted noise level exceeds the limit of 70dB(A)

Predicted Results for Road Traffic Noise Impact Assessment of Proposed Development

3. AM Peak - Mitigated Scenario (by Architectual Fins, Acoustic Window (Baffle Type) with/without SAM and Enhanced Acoustic Blacony (Baffle Type))

Northern Site

Block 1

Low Zone

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22
1/F	27.6	67	65	64	70	69	70	67	68	67	66	66	66	65	65	64	64	64	63	49	48	48	48
2/F	30.75	67	65	65	70	68	70	67	67	67	66	66	65	65	65	64	64	63	63	50	48	48	48
3/F	33.9	67	65	65	69	68	69	66	67	67	66	66	65	65	65	64	64	63	63	50	48	48	48
4/F	37.05	67	65	65	70	68	69	66	67	66	66	66	65	65	64	64	64	63	63	50	48	48	49
5/F	40.2	67	65	65	70	68	69	66	67	66	66	65	65	65	64	64	64	63	63	51	49	49	49
6/F	43.35	68	65	65	70	68	68	66	66	66	66	65	65	65	64	64	63	63	63	52	50	50	50
7/F	46.5	68	65	65	70	68	68	66	66	66	65	65	65	65	64	64	63	63	63	52	51	51	50
8/F	49.65	68	66	65	70	68	68	65	66	66	65	65	65	64	64	64	63	63	63	53	52	52	52
9/F	52.8	68	65	65	70	68	68	65	66	66	65	65	65	65	64	64	63	63	63	55	54	54	56
10/F	55.95	68	65	65	70	68	67	65	66	66	65	65	65	65	64	64	63	63	63	58	57	58	59
11/F	59.1	68	65	65	70	68	67	65	66	66	65	65	65	64	64	64	63	63	63	60	59	59	60
12/F	62.25	68	65	65	70	68	67	65	66	66	65	65	65	64	64	64	63	63	63	61	60	60	61
13/F	65.4	68	65	65	70	68	67	65	66	66	65	65	64	64	64	64	63	63	63	62	61	61	62
14/F	68.55	68	65	65	69	68	67	64	65	65	65	65	64	64	64	64	63	63	63	62	61	61	62
15/F	71.7	67	65	65	69	68	67	64	65	65	65	65	64	64	64	64	63	63	63	62	62	62	63
16/F	74.85	67	65	65	69	68	66	64	65	65	65	65	64	64	64	63	63	63	63	63	63	63	64
17/F	78	67	65	65	69	68	66	64	65	65	65	65	64	64	64	63	63	63	63	64	64	64	65
18/F	81.15	67	65	64	69	68	66	64	65	65	65	64	64	64	64	63	63	63	63	64	65	65	66
19/F	84.3	68	65	64	69	68	66	64	65	65	65	64	64	64	64	63	63	63	63	65	66	66	67
20/F	87.45	68	64	64	69	68	66	63	65	65	64	64	64	64	64	63	63	63	63	66	67	67	68
21/F	90.6	68	64	64	69	68	66	63	64	64	64	64	64	64	64	63	63	63	63	67	67	68	68
22/F	93.75	68	64	64	69	68	66	63	64	64	64	64	64	64	63	63	63	63	63	67	68	69	69
Max. Noise Level		68	66	65	70	69	70	67	68	67	66	66	66	65	65	64	64	64	63	67	68	69	69
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0			0			0			0			0		0		0			0		0	
No. of Flats		22			22			22			22			22		22		22			22		22	

High Zone

Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22
23/F	96.9	68	64	64	69	68	66	63	64	64	64	64	64	64	63	63	63	63	63	68	69	69	69
24/F	100.05	67	64	64	69	67	65	63	64	64	64	64	64	64	63	63	63	63	64	68	69	69	69
25/F	103.2	67	64	64	69	67	65	63	64	64	64	64	64	64	63	63	63	63	64	69	69	69	69
26/F	106.35	67	64	64	69	67	65	63	64	64	64	64	63	63	63	63	63	63	64	69	69	69	69
27/F	109.5	67	64	64	69	67	65	63	64	64	64	64	63	63	63	63	63	63	64	69	70	70	69
28/F	112.65	67	64	64	68	67	65	63	64	64	64	63	63	63	63	63	63	63	64	69	70	70	69
29/F	115.8	67	64	64	68	67	65	62	64	64	64	63	63	63	63	63	63	63	65	70	70	70	69
30/F	118.95	67	64	64	68	67	65	62	64	64	63	63	63	63	63	63	63	63	65	70	70	70	69
31/F	122.1	67	64	64	68	67	65	62	64	64	63	63	63	63	63	63	63	63	65	70	70	70	69
32/F	125.25	67	64	64	68	67	65	62	64	64	63	63	63	63	63	63	63	63	65	70	70	70	69
33/F	128.4	67	64	63	68	67	65	62	63	63	63	63	63	63	63	63	62	63	65	70	70	70	69
34/F	131.55	67	64	63	68	67	65	62	63	63	63	63	63	63	63	63	62	63	65	70	70	70	70
35/F	134.7	67	64	63	68	67	65	62	63	64	63	63	63	63	63	63	63	63	66	70	70	70	70
Max. Noise Level		68	64	64	69	68	66	63	64	64	64	64	64	64	63	63	63	63	66	70	70	70	70
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0			0			0			0			0		0		0			0		
No. of Flats		13			13			13			13			13		13		13			13		

Block 2

Low Zone

Floor	mPD	N2-01	N2-02	N2-03	N2-04	N2-05	N2-06	N2-07	N2-08	N2-09	N2-10	N2-11	N2-12	N2-13	N2-14	N2-15	N2-16	N2-17	N2-18	N2-19	N2-20
1/F	27.6	62	62	61	61	61	60	60	60	61	61	61	61	60	60	60	61	61	60	62	63
2/F	30.75	62	62	61	61	61	60	60	60	61	61	61	61	60	60	60	61	61	61	62	62
3/F	33.9	62	61	61	61	61	60	60	60	61	61	61	61	60	60	60	61	62	61	62	62
4/F	37.05	62	61	61	60	61	60	60	60	61	61	61	61	60	60	60	61	62	61	62	62
5/F	40.2	62	61	61	60	60	60	60	60	61	61	61	61	60	60	60	61	62	62	62	62
6/F	43.35	62	61	61	60	60	60	60	60	61	61	61	61	60	60	60	61	62	62	62	62
7/F	46.5	62	61	61	60	60	60	60	60	61	61	61	61	60	60	60	61	62	62	62	62
8/F	49.65	62	61	61	61	61	60	60	59	61	61	61	61	60	60	60	61	62	62	62	62
9/F	52.8	62	62	61	61	61	60	60	60	61	61	61	61	60	60	60	61	62	62	62	62
10/F	55.95	63	62	62	61	61	61	60	60	61	61	61	61	60	60	60	61	62	62	62	62
11/F	59.1	63	62	62	62	62	61	61	60	61	61	61	61	61	60	61	61	62	62	61	62
12/F	62.25	63	62	62	62	62	62	61	61	62	62	61	61	61	61	61	62	62	62	61	62
13/F	65.4	63	63	62	62	62	62	62	61	62	62	62	62	62	62	62	62	63	63	61	62
14/F	68.55	63	63	63	62	63	63	63	62	63	63	63	62	62	62	62	63	63	63	61	62
15/F	71.7	64	63	63	63	63	63	63	62	63	63	63	63	62	62	62	63	63	63	61	61
16/F	74.85	64	63	63	63	63	63	63	62	63	63	63	63	63	62	63	63	63	63	61	61
17/F	78	64	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	61	61
18/F	81.15	64	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	64	61	61
19/F	84.3	64	63	63	63	63	63	63	63	64	63	63	63	63	63	63	63	64	64	61	61
20/F	87.45	64	63	63	63	63	63	63	63	64	64	64	64	63	63	63	64	64	64	60	61
21/F	90.6	64	63	63	63	63	63	63	63	64	64	64	64	64	64	64	64	64	64	60	61
22/F	93.75	65	64	63	63	63	64	64	63	64	64	64	64	64	64	64	64	64	64	60	61
Max. Noise Level		65	64	63	63	63	64	64	63	64	64	64	64	64	64	64	64	64	64	62	63
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0				0		0		0		0		0			0			0	
No. of Flats		22				22		22		22		22		22			22			22	

High Zone

Floor	mPD	N2-01	N2-02	N2-03	N2-04	N2-05	N2-06	N2-07	N2-08	N2-09	N2-10	N2-11	N2-12	N2-13	N2-14	N2-15	N2-16	N2-17	N2-18	N2-19	N2-20
23/F	96.9	65	64	63	63	64	64	64	63	64	64	64	64	64	64	64	64	64	64	60	61
24/F	100.05	65	64	64	64	64	64	64	63	65	65	65	65	65	64	65	65	65	65	60	61
25/F	103.2	65	64	64	64	64	64	64	63	65	65	65	65	65	65	65	65	65	65	60	61
26/F	106.35	65	64	64	64	65	65	65	63	65	65	65	65	65	65	65	65	65	65	60	61
27/F	109.5	66	65	64	65	65	65	65	64	65	65	66	65	65	65	65	65	65	65	61	62
28/F	112.65	66	65	65	65	65	65	65	64	66	65	66	66	66	66	66	66	66	66	61	62
29/F	115.8	66	65	65	65	65	65	65	64	66	66	66	66	66	66	66	66	66	66	61	62
30/F	118.95	66	65	65	65	65	66	66	64	66	66	66	66	66	66	66	66	66	66	61	62
31/F	122.1	66	65	65	65	66	66	66	64	66	66	67	66	66	66	66	66	66	66	61	63
32/F	125.25	66	66	65	65	66	66	66	64	67	67	67	67	67	67	67	67	67	67	61	63
33/F	128.4	66	66	65	66	66	66	66	64	67	67	67	67	67	67	67	67	67	67	61	63
34/F	131.55	67	66	66	66	66	66	66	65	67	67	67	67	67	67	67	67	67	67	61	63
35/F	134.7	67	66	66	66	67	67	67	65	67	67	68	68	67	68	68	68	67	67	62	63
Max. Noise Level		67	66	66	66	67	67	67	65	67	67	68	68	67	68	68	68	67	67	62	63
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0				0		0		0		0		0			0			0	
No. of Flats		13				13		13		13		13		13			13			13	

Block 3

Low Zone

Floor	mPD	N3-01	N3-02	N3-03	N3-04	N3-05	N3-06	N3-07	N3-08	N3-09	N3-10	N3-11	N3-12	N3-13	N3-14	N3-15	N3-16	N3-17	N3-18	N3-19	N3-20	N3-21	N3-22	N3-23	N3-24	N3-25	N3-26
1/F	27.6	72	73	73	65	65	73	73	65	65	73	72	57	56	49	48	47	47	48	50	51	52	56	58	59	63	64
2/F	30.75	72	72	72	64	65	72	72	65	64	72	72	59	57	52	49	48	48	48	52	53	54	57	58	59	63	64
3/F	33.9	71	72	72	64	64	72	72	64	64	71	71	60	58	53	50	48	48	48	53	54	54	57	59	59	63	64
4/F	37.05	71	71	71	63	64	71	71	64	63	71	71	61	58	54	51	48	48	49	54	55	55	58	59	60	63	65
5/F	40.2	70	71	71	63	63	71	71	63	63	70	70	61	59	55	51	49	49	50	56	56	57	58	60	61	64	65
6/F	43.35	70	70	70	70	70	70	70	70	70	70	70	61	59	55	52	50	50	51	57	57	58	60	61	61	64	65
7/F	46.5	70	70	70	70	70	70	70	70	70	70	70	60	58	55	52	50	51	52	57	58	59	60	61	62	64	64
8/F	49.65	70	70	70	70	70	70	70	69	69	69	69	60	58	55	52	51	51	52	58	59	59	60	61	62	64	64
9/F	52.8	69	69	69	69	69	69	69	69	69	69	69	60	59	55	53	52	52	53	58	59	59	61	61	62	64	64
10/F	55.95	69	69	69	69	69	69	69	69	69	69	69	60	59	56	54	53	53	54	59	59	59	61	61	62	64	64
11/F	59.1	69	69	69	69	69	69	69	68	68	68	68	61	59	57	56	55	55	55	59	59	60	61	61	62	64	64
12/F	62.25	68	68	68	68	68	68	68	68	68	68	68	61	60	58	57	57	57	56	59	60	60	61	61	62	63	64
13/F	65.4	68	68	68	68	68	68	68	68	68	68	68	61	60	59	58	58	58	58	60	60	60	61	62	62	63	64
14/F	68.55	68	68	68	68	68	68	68	68	68	68	68	61	60	59	59	59	58	58	60	61	61	61	62	62	63	64
15/F	71.7	68	68	68	68	68	68	68	68	68	67	68	62	61	60	59	59	59	59	61	61	61	62	62	62	63	64
16/F	74.85	67	67	67	67	67	67	67	67	67	67	67	62	61	60	60	59	59	59	61	61	61	62	62	62	63	64
17/F	78	67	67	67	67	67	67	67	67	67	67	67	62	61	60	60	60	60	60	61	61	61	62	62	62	64	64
18/F	81.15	67	67	67	67	67	67	67	67	67	67	67	62	62	61	60	60	60	60	61	61	61	62	62	62	63	64
19/F	84.3	67	67	67	67	67	67	67	67	67	67	67	62	62	61	61	60	60	60	61	62	61	62	62	62	63	64
20/F	87.45	67	67	67	67	67	67	67	66	66	66	66	63	62	62	61	61	61	61	62	62	61	62	62	62	63	63
21/F	90.6	66	67	66	66	66	66	66	66	66	66	66	63	63	62	62	62	62	62	62	62	62	62	62	62	63	63
22/F	93.75	66	66	66	66	66	66	66	66	66	66	66	64	64	63	63	62	62	62	62	62	62	62	62	62	63	63
Max. Noise Level		72	73	73	70	70	73	73	70	70	73	72	64	64	63	63	62	62	62	62	62	62	62	62	62	64	65
No. of Noise Exceedance		4	5	5	0	0	5	5	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		5				5		5		4			0		0			0			0		0		0		
No. of Flats		22				22		22		22			22		22			22			22		22		22		

High Zone

Floor	mPD	N3-01	N3-02	N3-03	N3-04	N3-05	N3-06	N3-07	N3-08	N3-09	N3-10	N3-11	N3-12	N3-13	N3-14	N3-15	N3-16	N3-17	N3-18	N3-19	N3-20	N3-21	N3-22	N3-23	N3-24	N3-25	N3-26
23/F	96.9	66	66	66	66	66	66	66	66	66	66	66	64	64	64	63	63	63	63	63	63	62	62	62	62	63	63
24/F	100.05	66	66	66	66	66	66	66	66	66	66	66	64	64	64	64	64	64	63	63	63	62	63	62	62	63	63
25/F	103.2	66	66	66	66	66	66	66	66	66	66	66	64	65	65	64	64	64	64	63	63	62	63	62	63	63	63
26/F	106.35	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	64	64	64	64	63	63	63	63	63	64	63
27/F	109.5	65	66	66	65	65	65	65	65	65	65	65	65	65	65	65	65	65	64	64	63	63	63	63	63	64	63
28/F	112.65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	64	64	63	63	63	63	64	63
29/F	115.8	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	65	65	65	65	64	63	63	63	63	64	63
30/F	118.95	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	65	65	65	64	63	64	63	63	64	63
31/F	122.1	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	65	65	64	64	64	63	63	64	63
32/F	125.25	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	66	65	64	64	64	64	64	64	63
33/F	128.4	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	66	66	65	64	64	64	64	64	64
34/F	131.55	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	66	66	65	64	64	64	64	64	64
35/F	134.7	65	65	65	65	65	65	65	65	65	65	65	65	66	66	66	66	66	66	66	65	65	64	64	64	65	64
Max. Noise Level		66	66	66	66	66	66	66	66	66	66	66	65	66	66	66	66	66	66	66	65	65	64	64	64	65	64
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0				0		0		0			0		0			0			0		0		0		
No. of Flats		13				13		13		13			13		13			13			13		13		13		

Block 4

Low Zone

Floor	mPD	N4-01	N4-02	N4-03	N4-04	N4-05	N4-06	N4-07	N4-08	N4-09	N4-10	N4-11	N4-12	N4-13	N4-14	N4-15	N4-16	N4-17	N4-18
1/F	27.6	72	72	65	73	65	65	72	72	51	58	59	59	60	60	61	61	61	62
2/F	30.75	72	72	64	72	64	64	72	71	54	59	60	60	61	61	61	61	62	62
3/F	33.9	71	71	63	71	63	63	71	71	58	60	60	60	61	61	61	61	62	62
4/F	37.05	70	71	63	71	63	63	71	70	59	60	60	60	61	61	61	61	62	62
5/F	40.2	70	70	70	70	70	70	70	70	59	60	60	60	60	61	61	61	62	62
6/F	43.35	70	70	70	70	70	70	70	70	59	60	60	60	60	61	61	61	61	62
7/F	46.5	70	70	70	70	70	70	70	70	58	60	60	60	60	61	61	61	61	62
8/F	49.65	69	69	69	69	69	69	69	69	58	60	60	60	60	61	61	61	61	62
9/F	52.8	69	69	69	69	69	69	69	69	58	60	60	60	60	61	61	61	62	62
10/F	55.95	69	69	69	69	69	69	69	69	58	60	60	60	61	61	61	62	62	62
11/F	59.1	68	68	68	68	68	68	68	68	57	61	60	61	61	61	62	62	62	63
12/F	62.25	68	68	68	68	68	68	68	68	57	61	61	61	61	62	62	62	63	63
13/F	65.4	68	68	68	68	68	68	68	68	57	61	61	61	62	62	62	63	63	63
14/F	68.55	68	68	67	67	68	68	68	68	57	61	62	62	62	62	63	63	63	64
15/F	71.7	67	67	67	67	67	67	67	67	57	62	62	62	62	63	63	63	64	64
16/F	74.85	67	67	67	67	67	67	67	67	57	62	62	62	63	63	63	64	64	64
17/F	78	67	67	67	67	67	67	67	67	57	62	62	63	63	63	63	64	64	65
18/F	81.15	67	67	67	67	67	67	67	67	57	62	63	63	63	63	64	64	64	65
19/F	84.3	66	66	66	66	66	66	66	67	57	63	63	63	63	64	64	64	65	65
20/F	87.45	66	66	66	66	66	66	66	66	57	63	63	63	64	64	64	65	65	66
21/F	90.6	66	66	66	66	66	66	66	66	58	63	63	64	64	64	65	65	66	66
22/F	93.75	66	66	66	66	66	66	66	66	58	64	64	64	64	65	65	66	66	67
Max. Noise Level		72	72	70	73	70	70	72	72	59	64	64	64	64	65	65	66	66	67
No. of Noise Exceedance		3	4	0	4	0	0	4	3	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		4			4		4			0		0			0		0		
No. of Flats		22			22		22			22		22			22		22		

High Zone

Floor	mPD	N4-01	N4-02	N4-03	N4-04	N4-05	N4-06	N4-07	N4-08	N4-09	N4-10	N4-11	N4-12	N4-13	N4-14	N4-15	N4-16	N4-17	N4-18
23/F	96.9	66	66	66	66	66	66	66	66	58	64	64	64	65	65	66	66	66	67
24/F	100.05	66	66	66	66	66	66	66	66	58	64	64	64	65	65	66	66	67	67
25/F	103.2	66	66	65	65	66	66	66	66	59	65	64	65	65	65	66	66	67	67
26/F	106.35	65	65	65	65	65	65	65	65	59	65	65	65	65	66	66	66	67	67
27/F	109.5	65	65	65	65	65	65	65	65	59	65	65	65	65	66	66	66	67	67
28/F	112.65	65	65	65	65	65	65	65	65	59	65	65	65	65	66	66	67	67	68
29/F	115.8	65	65	65	65	65	65	65	65	59	65	65	65	65	66	66	67	67	68
30/F	118.95	65	65	65	65	65	65	65	65	60	65	65	65	65	66	66	67	67	68
31/F	122.1	65	65	65	65	65	65	65	65	60	65	65	65	66	66	66	67	67	68
32/F	125.25	65	65	65	65	65	65	65	65	60	65	65	65	66	66	67	67	68	68
33/F	128.4	65	65	65	65	65	65	65	65	60	65	65	66	66	66	67	67	68	69
34/F	131.55	65	65	65	65	65	65	65	65	61	66	65	66	66	67	67	68	68	69
35/F	134.7	65	65	65	65	65	65	65	65	61	66	66	66	66	67	67	68	68	69
Max. Noise Level		66	66	66	66	66	66	66	66	61	66	66	66	66	67	67	68	68	69
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0			0		0			0		0			0		0		
No. of Flats		13			13		13			13		13			13		13		

Block 5

Low Zone

Floor	mPD	N5-01	N5-02	N5-03	N5-04	N5-05	N5-06	N5-07	N5-08	N5-09	N5-10	N5-11	N5-12	N5-13	N5-14	N5-15	N5-16
1/F	27.6	56	56	56	57	57	56	57	56	50	50	51	53	54	62	62	62
2/F	30.75	57	57	57	57	57	56	58	57	51	51	52	53	54	62	62	62
3/F	33.9	57	57	57	57	57	57	58	57	53	53	53	54	55	63	63	62
4/F	37.05	57	57	57	57	57	57	58	58	55	55	55	56	56	63	62	62
5/F	40.2	57	57	57	57	57	57	59	58	56	56	56	56	57	63	62	62
6/F	43.35	57	57	57	57	57	57	59	59	56	56	56	57	57	63	62	62
7/F	46.5	57	57	57	57	57	57	59	59	56	56	56	57	57	62	62	62
8/F	49.65	57	57	57	58	57	57	59	59	56	56	57	57	57	62	62	62
9/F	52.8	57	57	57	58	57	57	59	58	56	56	57	57	57	63	62	62
10/F	55.95	58	58	57	58	58	58	59	58	56	56	57	57	57	63	63	63
11/F	59.1	58	58	58	58	58	58	59	58	56	56	57	57	57	63	63	63
12/F	62.25	59	58	58	58	58	58	59	58	56	56	57	57	58	64	63	63
13/F	65.4	60	59	59	59	58	58	59	58	56	56	57	57	58	64	64	64
14/F	68.55	61	60	60	59	59	58	59	59	56	56	57	57	58	64	64	64
15/F	71.7	62	61	61	60	59	59	59	59	57	57	57	58	58	64	64	64
16/F	74.85	63	62	61	61	60	60	59	59	57	57	57	58	58	65	65	65
17/F	78	64	63	62	61	61	60	59	59	57	57	57	58	58	65	65	65
18/F	81.15	65	63	63	62	62	61	59	59	57	57	57	58	58	66	66	66
19/F	84.3	65	64	64	63	62	61	59	59	57	57	57	58	58	66	66	66
20/F	87.45	66	65	64	63	63	62	59	59	57	57	57	57	58	66	67	67
21/F	90.6	67	66	65	64	63	62	59	58	57	57	57	57	58	67	67	67
22/F	93.75	68	66	66	64	64	63	59	58	56	56	57	57	58	67	67	67
Max. Noise Level		68	66	66	64	64	63	59	59	57	57	57	58	58	67	67	67
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0			0			0		0			0		0		
No. of Flats		22			22			22		22			22		22		

High Zone

Floor	mPD	N5-01	N5-02	N5-03	N5-04	N5-05	N5-06	N5-07	N5-08	N5-09	N5-10	N5-11	N5-12	N5-13	N5-14	N5-15	N5-16
23/F	96.9	68	67	66	65	64	64	59	58	56	56	57	57	58	67	68	68
24/F	100.05	69	67	67	66	65	64	59	58	56	56	57	57	57	68	68	68
25/F	103.2	69	67	67	66	65	65	59	58	56	56	57	57	57	68	68	68
26/F	106.35	69	67	67	66	66	65	59	58	56	56	57	57	57	68	68	68
27/F	109.5	69	68	67	67	66	65	59	58	56	56	57	57	57	68	68	68
28/F	112.65	69	67	67	67	66	66	58	58	56	56	57	57	57	68	68	69
29/F	115.8	69	67	67	67	67	66	58	58	56	56	56	57	57	68	68	69
30/F	118.95	69	68	67	67	67	66	58	58	56	56	56	57	57	68	69	69
31/F	122.1	69	68	67	67	67	66	58	58	56	56	56	57	57	68	69	69
32/F	125.25	69	68	67	67	67	66	58	58	56	56	56	57	57	68	69	69
33/F	128.4	69	68	67	67	67	66	58	58	56	56	56	57	57	68	69	69
34/F	131.55	69	68	67	67	67	66	58	58	56	56	56	57	57	69	69	69
35/F	134.7	69	68	67	67	67	66	58	58	56	56	57	57	57	69	69	69
Max. Noise Level		69	68	67	67	67	66	59	58	56	56	57	57	58	69	69	69
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		0						0		0			0		0		
No. of Flats		13						13		13			13		13		

Summary of Northern Site

Max. Noise Level, dB(A) =	73
No. of Noise Exceeded Flat =	31
Total no. of Flat=	1374
%Compliance =	98%

Southern Site

Block 7

Low Zone

Floor	mPD	NAL-01	NAL-02	NAL-03	NAL-04	NAL-05	NAL-06	NAL-07	NAL-08	NAL-09	NAL-10	NAL-11	NAL-12	NAL-13	NAL-14	NAL-15	NAL-16	NAL-17	NAL-18	NAL-19	NAL-20	NAL-21	NAL-22	NAL-23	NAL-24	NAL-25	NAL-26	NAL-27	NAL-28	NAL-29	NAL-30	NAL-31	NAL-32	NAL-33	NAL-34	NAL-35
1/F	27.6	72	64	64	72	64	64	72	64	72	63	69	70	68	68	70	68	70	68	69	70	69	69	70	66	62	56	56	55	55	55	55	55	55	54	56
2/F	30.75	71	64	64	72	64	64	72	64	71	70	68	70	67	68	70	67	70	68	69	70	68	70	70	67	63	59	58	57	57	57	57	56	56	56	61
3/F	33.9	71	63	63	71	63	63	71	63	71	70	68	70	67	67	70	67	69	67	68	70	68	70	69	68	64	61	60	60	59	59	59	58	58	58	64
4/F	37.05	70	63	63	71	63	63	71	63	70	69	67	69	67	67	69	67	69	67	68	69	67	69	69	68	65	63	63	62	61	61	61	60	60	60	65
5/F	40.2	70	70	70	70	70	70	70	70	70	69	67	69	66	67	69	67	69	67	68	69	67	69	68	69	65	64	64	64	63	63	62	62	62	62	65
6/F	43.35	70	70	70	70	70	70	70	70	69	69	67	70	66	67	69	66	68	66	68	70	67	69	68	69	66	65	65	65	64	64	64	63	63	63	65
7/F	46.5	70	70	70	70	70	69	69	69	69	70	67	70	66	66	69	66	68	66	67	70	67	68	68	69	66	66	66	65	65	65	65	64	64	64	64
8/F	49.65	69	69	69	69	69	69	69	69	69	70	66	70	66	66	68	66	68	66	67	70	66	68	67	69	66	66	66	66	66	66	65	65	65	65	64
9/F	52.8	69	69	69	69	69	69	69	69	69	69	66	70	65	66	68	66	68	66	67	70	66	68	67	69	66	67	67	66	66	66	66	66	66	66	64
10/F	55.95	69	69	69	69	69	69	69	69	69	69	66	70	65	66	68	65	67	66	67	69	66	68	67	69	67	67	67	67	67	67	66	66	66	66	64
11/F	59.1	68	68	68	68	69	68	68	69	69	69	66	69	65	66	68	65	67	65	67	69	66	68	67	69	67	67	67	67	67	67	67	67	67	67	63
12/F	62.25	68	68	68	68	68	68	68	68	68	68	65	69	65	66	68	65	67	65	66	69	66	67	67	69	67	67	68	67	67	67	67	67	67	67	63
13/F	65.4	68	68	68	68	68	68	68	68	68	68	65	69	65	65	67	65	67	65	66	69	65	67	66	69	67	68	68	68	68	68	68	68	67	67	63
14/F	68.55	68	68	68	68	68	68	68	68	68	68	65	69	64	65	67	65	67	65	66	69	65	67	66	69	67	68	68	68	68	68	68	68	68	68	63
15/F	71.7	68	68	68	68	68	68	68	68	68	68	65	69	64	65	67	65	67	65	66	69	65	67	66	69	67	68	68	68	68	68	68	68	68	68	63
16/F	74.85	67	67	67	67	67	67	67	67	67	68	65	69	64	65	67	65	67	65	66	69	65	67	66	69	67	68	68	68	68	68	68	68	68	68	62
17/F	78	67	67	67	67	67	67	67	67	67	67	65	68	64	65	67	64	67	65	66	68	65	67	66	69	68	68	68	68	68	68	68	68	68	68	62
18/F	81.15	67	67	67	67	67	67	67	67	67	67	65	68	64	65	67	64	67	65	66	68	65	67	66	69	68	68	68	68	68	68	68	68	68	68	62
19/F	84.3	67	67	67	67	67	67	67	67	67	67	65	68	64	65	67	64	66	65	66	68	65	67	66	70	68	68	68	68	68	68	68	68	68	68	62
20/F	87.45	67	67	67	67	67	67	67	67	67	67	64	68	64	65	67	64	66	65	66	68	65	67	66	70	68	69	69	69	68	68	68	68	68	68	62
Max. Noise Level		72	70	70	72	70	70	72	70	72	70	69	70	68	68	70	68	70	68	69	70	69	70	70	70	68	69	69	69	68	68	68	68	68	68	65
No. of Noise Exceedance		3	0	0	4	0	0	4	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of Flats with Noise Exceedance		3			4			4		3		0			0		0		0		0		0		0		0		0		0		0			
No. of Flats		20			20			20		20		20			20		20		20		20		20		20		20		20		20		20			

High Zone

Floor	mPD	NAH-01	NAH-02	NAH-03	NAH-04	NAH-05	NAH-06	NAH-07	NAH-08	NAH-09	NAH-10	NAH-11	NAH-12	NAH-13	NAH-14	NAH-15	NAH-16	NAH-17	NAH-18	NAH-19	NAH-20	NAH-21	NAH-22	NAH-23	NAH-24	NAH-25	NAH-26	NAH-27	NAH-28	NAH-29	NAH-30	NAH-31	NAH-32	NAH-33	NAH-34	NAH-35
21/F	90.6	66	67	67	67	67	66	67	67	67	67	64	68	64	64	67	64	66	65	66	68	65	67	66	70	69	69	69	69	69	69	69	69	69	69	62
22/F	93.75	66	66	66	66	67	66	66	67	67	67	64	68	64	65	67	64	67	65	66	68	65	67	66	71	69	70	69	69	69	69	69	69	69	69	61
23/F	96.9	66	66	66	66	66	66	66	66	67	67	65	68	64	65	67	64	67	65	66	68	65	67	65	71	70	70	70	70	70	69	69	69	69	69	61
24/F	100.05	66	66	66	66	66	66	66	66	66	66	65	69	64	65	67	64	67	65	66	68	65	66	65	71	70	70	70	70	70	70	70	69	69	69	61
25/F	103.2	66	66	66	66	66	66	66	66	66	66	65	69	64	65	67	64	66	65	66	68	65	66	65	71	70	70	70	70	70	70	70	70	70	69	61
26/F	106.35	66	66	66	66	66	66	66	66	66	66	65	69	64	65	67	64	66	64	66	68	65	66	65	72	70	71	71	70	70	70	70	70	70	70	61
27/F	109.5	66	66	66	66	66	66	66	66	66	66	65	69	64	65	67	64	66	64	65	68	65	66	65	72	71	71	71	71	70	70	70	70	70	70	61
28/F	112.65	66	66	66	66	66	66	66	66	66	66	65	69	64	65	67	64	66	64	66	68	64	66	65	72	71	71	71	71	71	70	70	70	70	70	61
29/F	115.8	66	66	66	66	66	66	66	66	66	66	65	69	64	65	67	64	66	64	66	68	64	66	65	72	71	71	71	71	71	70	70	70	70	70	60
30/F	118.95	66	66	66	66	66	66	66	66	66	66	65	69	64	65	67	64	66	64	66	68	65	66	65	72	71	71	71	71	71	71	70	70	70	70	60
31/F	122.1	66	66	66	66	66	66	66	66	66	66	65	68	64	65	67	64	66	64	66	68	65	66	66	73	71	71	71	71	71	71	71	70	70	70	60
32/F	125.25	65	65	65	66	66	65	65	65	66	66	65	68	64	65	67	64	66	64	66	68	64	66	66	73	71	71	71	71	71	71	71	71	70	70	60
33/F	128.4	65	65	65	65	65	65	65	65	65	66	65	69	64	65	67	64	66	64	66	68	64	66	66	73	71	72	71	71	71	71	71	71	71	70	60
34/F	131.55	65	65	65	65	65	65	65	65	65	65	65	69	64	65	67	64	66	64	66	68	64	66	66	73	72	72	72	71	71	71	71	71	71	70	60
35/F	134.7	65	65	65	65	65	65	65	65	65	65	65	69	64	65	67	64	66	64	66	68	64	66	66	73	72	72	72	71	71	71	71	71	71	71	60
Max. Noise Level		66	67	67	67	67	66	67	67	67	67	65	69	64	65	67	64	67	65	66	68	65	67	66	73	72	72	72	71	71	71	71	71	71	71	62
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	9	10	10	9	8	6	5	4	3	1	0
No. of Flats with Noise Exceedance		0			0			0		0		0			0		0		0		0		14		10		9			5			3		
No. of Flats		15			15			15		15		15			15		15		15		15		15		15		15			15			15		

Block 6

Low Zone

Floor	mPD	NB-01	NB-02	NB-03	NB-04	NB-05	NB-06	NB-07	NB-08	NB-09	NB-10	NB-11	NB-12	NB-13	NB-14	NB-15	NB-16	NB-17	NB-18	NB-19	NB-20	NB-21	NB-22	NB-23	NB-24	NB-25	NB-26	NB-27	NB-28	NB-29	NB-30	NB-31	NB-32	NB-33	NB-34	NB-35
1/F	27.6	72	64	64	72	64	64	72	64	72	63	70	69	68	67	67	66	65	65	66	66	66	67	67	62	60	61	59	58	57	57	56	56	56	55	56
2/F	30.75	71	64	64	72	64	64	72	63	71	70	69	69	68	67	67	66	66	66	66	67	67	67	67	63	63	64	62	61	60	59	59	58	58	57	61
3/F	33.9	71	63	63	71	63	63	71	63	71	70	69	68	68	67	67	66	66	66	66	67	67	67	67	64	64	66	65	64	63	62	62	61	60	60	65
4/F	37.05	70	63	63	71	63	63	71	70	70	69	69	68	68	67	67	66	66	66	66	66	66	67	67	64	65	67	66	66	65	65	64	64	63	62	65
5/F	40.2	70	70	70	70	70	70	70	70	70	69	70	68	67	67	67	66	66	65	66	66	66	66	67	65	66	67	67	67	66	66	66	65	65	64	65
6/F	43.35	70	70	70	70	70	70	70	70	70	70	69	68	67	67	66	66	66	65	66	66	66	66	67	65	66	68	67	67	67	67	67	66	66	65	65
7/F	46.5	70	70	70	70	70	69	69	69	69	69	69	67	67	67	66	66	65	65	66	66	66	66	67	65	67	68	68	68	67	67	67	67	66	66	65
8/F	49.65	69	69	69	69	69	69	69	69	69	69	69	67	67	66	66	66	65	65	66	66	66	66	67	65	67	68	68	68	68	68	68	67	67	66	64
9/F	52.8	69	69	69	69	69	69	69	69	69	69	68	67	67	66	66	65	65	65	66	66	66	66	67	66	68	69	69	69	68	68	68	68	67	67	64
10/F	55.95	69	69	69	69	69	69	69	69	69	68	68	67	66	66	66	65	65	65	66	66	66	66	67	66	68	69	69	69	69	69	68	68	68	68	64
11/F	59.1	68	68	68	68	68	68	68	68	68	68	68	67	66	66	66	65	65	65	66	66	66	66	67	66	68	69	69	69	69	69	69	68	68	68	64
12/F	62.25	68	68	68	68	68	68	68	68	68	68	68	66	66	66	66	65	65	65	66	66	66	67	67	67	68	70	69	69	69	69	69	69	69	68	64
13/F	65.4	68	68	68	68	68	68	68	68	68	68	68	66	66	66	66	65	65	65	66	66	66	67	68	67	68	70	70	70	70	69	69	69	69	69	63
14/F	68.55	68	68	68	68	68	67	68	68	68	67	67	66	66	66	66	65	65	65	66	66	67	67	68	67	69	70	70	70	70	70	69	69	69	69	63
15/F	71.7	67	67	67	67	67	67	67	67	67	67	67	66	66	66	66	65	65	65	66	66	67	67	68	67	69	70	70	70	70	70	70	69	69	69	63
16/F	74.85	67	67	67	67	67	67	67	67	67	67	67	66	66	66	66	65	65	65	66	66	67	67	68	67	69	70	70	70	70	70	70	69	69	69	63
17/F	78	67	67	67	67	67	67	67	67	67	67	67	66	66	66	66	65	65	65	66	66	67	67	68	67	69	70	70	70	70	70	70	70	69	69	63
18/F	81.15	67	67	67	67	67	67	67	67	67	67	67	66	66	66	66	65	65	65	66	66	67	67	69	68	70	70	70	70	70	70	70	70	69	69	63
19/F	84.3	67	66	67	66	66	66	66	66	66	66	67	66	66	66	66	65	65	65	66	66	67	67	69	68	70	71	70	70	70	70	70	70	70	69	63
20/F	87.45	66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	65	65	65	66	66	67	67	69	68	70	71	71	71	71	70	70	70	70	69	62
Max. Noise Level		72	70	70	72	70	70	72	70	72	70	70	69	68	67	67	66	66	66	66	67	67	67	69	68	70	71	71	71	71	70	70	70	70	69	65
No. of Noise Exceedance		3	0	0	4	0	0	4	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	1	0	0	0	0	0	0
No. of Flats with Noise Exceedance		3			4			4		3			0		0		0			0	0		0		0		2		1			0			0		
No. of Flats		20			20			20		20			20		20		20			20	20		20		20		20		20			20			20		

High Zone

Floor	mPD	NB-01	NB-02	NB-03	NB-04	NB-05	NB-06	NB-07	NB-08	NB-09	NB-10	NB-11	NB-12	NB-13	NB-14	NB-15	NB-16	NB-17	NB-18	NB-19	NB-20	NB-21	NB-22	NB-23	NB-24	NB-25	NB-26	NB-27	NB-28	NB-29	NB-30	NB-31	NB-32	NB-33	NB-34	NB-35
21/F	90.6	66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	65	65	65	66	67	67	67	69	68	70	71	71	71	71	70	70	70	70	70	62
22/F	93.75	66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	65	65	65	66	67	67	67	69	68	70	71	71	71	71	71	70	70	70	70	62
23/F	96.9	66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	65	65	65	66	67	67	68	69	68	70	71	71	71	71	71	70	70	70	70	62
24/F	100.05	66	66	66	66	66	66	66	66	66	66	67	66	66	66	65	65	65	65	66	67	67	68	69	68	70	71	71	71	71	71	70	70	70	70	62
25/F	103.2	66	66	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	65	66	67	67	68	69	68	70	71	71	71	71	71	70	70	70	70	62
26/F	106.35	66	66	66	66	66	66	66	66	66	66	66	66	65	65	65	65	65	65	66	67	67	68	69	68	70	71	71	71	71	71	71	70	70	70	62
27/F	109.5	66	66	66	66	66	66	65	65	65	65	66	66	65	65	65	65	65	65	66	67	67	68	69	68	70	71	71	71	71	71	71	70	70	70	62
28/F	112.65	66	65	66	65	65	65	65	65	65	65	66	65	65	65	65	65	65	65	66	67	67	68	69	69	71	71	71	71	71	71	71	71	70	70	62
29/F	115.8	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	65	65	65	66	67	67	68	69	69	71	71	71	71	71	71	71	71	70	70	62
30/F	118.95	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	65	65	65	67	67	68	68	70	69	71	72	71	71	71	71	71	71	71	70	62
31/F	122.1	65	65	65	65	65	65	65	65	65	65	66	65	65	65	65	65	65	65	67	67	68	68	70	69	71	72	71	71	71	71	71	71	71	70	62
32/F	125.25	65	65	65	65	65	65	65	65	65	65	66	65	65	65	66	65	65	65	67	67	68	68	70	69	71	72	72	71	71	71	71	71	71	71	62
33/F	128.4	65	65	65	65	65	65	65	65	65	65	66	65	65	65	66	65	66	66	67	67	68	68	70	69	71	72	72	71	71	71	71	71	71	71	61
34/F	131.55	65	65	65	65	65	65	65	65	65	65	66	65	66	66	66	65	66	66	67	67	68	69	70	69	71	72	72	72	72	71	71	71	71	71	61
35/F	134.7	65	65	65	65	65	65	65	65	65	65	66	65	66	66	66	66	66	66	67	68	68	69	70	69	71	72	72	72	72	71	71	71	71	71	62
Max. Noise Level		66	66	66	66	66	66	66	66	66	66	67	66	66	66	66	66	66	66	67	68	68	69	70	69	71	72	72	72	72	71	71	71	71	71	62
No. of Noise Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	15	15	15	15	14	10	8	6	4	0
No. of Flats with Noise Exceedance		0			0			0		0			0		0		0			0	0		0		0		15			15			10			6	
No. of Flats		15			15			15		15			15		15		15			15	15		15		15		15			15			15			15	

Summary of Southern Site

Max. Noise Level, dB(A) =	73
No. of Noise Exceeded Flat =	118
Total no. of Flat=	950
%Compliance =	88%

Summary of Northern Site + Southern Site

Max. Noise Level, dB(A) =	73
No. of Noise Exceeded Flat =	149
Total no. of Flat =	2324
%Compliance =	94%

Note:

Adopted with Enhanced Acoustic Balcony (Baffle Type)

Adopted with Acoustic Window (Baffle Type) w/o SAM

Adopted with Acoustic Window (Baffle Type) with SAM

Shaded cell denotes predicted noise level exceeds the limit of 70dB(A)

Appendix 3.3

Sound Attenuation Performance of AW(BT) and EAB (BT) after Room Size Correction and addition of SAM

Innovative Noise Mitigation Measures Adopted In Traffic Noise Impact Assessment

Table of Major Parameters and Room Size of Proposed Case and Corresponding Reference Case, and Sound Attenuation Adjustment

Room	Type	Reference	
		Room area (RAref), m^2	Ref. sound attenuation, dB(A)
Living Room	Enhanced Acoustic Balcony (Baffle Type)	14.0	8.0
Bedroom	Acoustic Window (Baffle Type)	8.0	6.0

NSRs	Type	Application Site	Reference		Room Adjustment: 10xlog(RA / RAref) (adjust downward only), dB(A) RAref)	Sound attenuation after room adjustment, dB(A)	Sound attenuation with SAM, dB(A)
		Room area (RA), m^2	Room area (RAref), m^2	Ref. sound attenuation, dB(A)			
N1-01	Acoustic Window (Baffle Type)	7.4	8.0	6.0	0.0	6.0	--
N1-02	Enhanced Acoustic Balcony (Baffle Type)	15.1	14.0	8.0	0.0	8.0	--
N1-03	Enhanced Acoustic Balcony (Baffle Type)	15.9	14.0	8.0	0.0	8.0	--
N1-04	Acoustic Window (Baffle Type)	4.0	8.0	6.0	-3.0	3.0	--
N1-05	Acoustic Window (Baffle Type)	5.3	8.0	6.0	-1.8	4.2	--
N3-04	Enhanced Acoustic Balcony (Baffle Type)	12.6	14.0	8.0	0.0	8.0	--
N3-05	Enhanced Acoustic Balcony (Baffle Type)	12.4	14.0	8.0	-0.5	7.5	--
N3-08	Enhanced Acoustic Balcony (Baffle Type)	12.4	14.0	8.0	-0.5	7.5	--
N3-09	Enhanced Acoustic Balcony (Baffle Type)	15.4	14.0	8.0	0.0	8.0	--
N4-03	Enhanced Acoustic Balcony (Baffle Type)	16.6	14.0	8.0	0.0	8.0	--
N4-05	Enhanced Acoustic Balcony (Baffle Type)	14.2	14.0	8.0	0.0	8.0	--
N4-06	Enhanced Acoustic Balcony (Baffle Type)	16.2	14.0	8.0	0.0	8.0	--
NAL-02	Enhanced Acoustic Balcony (Baffle Type)	14.0	14.0	8.0	0.0	8.0	--
NAL-03	Enhanced Acoustic Balcony (Baffle Type)	15.8	14.0	8.0	0.0	8.0	--
NAL-05	Enhanced Acoustic Balcony (Baffle Type)	12.8	14.0	8.0	0.0	8.0	--
NAL-06	Enhanced Acoustic Balcony (Baffle Type)	15.4	14.0	8.0	0.0	8.0	--
NAL-08	Enhanced Acoustic Balcony (Baffle Type)	16.9	14.0	8.0	0.0	8.0	--
NAL-10	Enhanced Acoustic Balcony (Baffle Type)	13.7	14.0	8.0	0.0	8.0	--
NAL-11	Enhanced Acoustic Balcony (Baffle Type)	11.9	14.0	8.0	-0.7	7.3	--
NAH-11	Enhanced Acoustic Balcony (Baffle Type)	11.9	14.0	8.0	-0.7	7.3	--
NAL-12	Acoustic Window (Baffle Type)	4.5	8.0	6.0	-2.5	3.5	5.0
NAH-12	Acoustic Window (Baffle Type)	4.5	8.0	6.0	-2.5	3.5	--
NAL-13	Enhanced Acoustic Balcony (Baffle Type)	14.2	14.0	8.0	0.0	8.0	--
NAH-13	Enhanced Acoustic Balcony (Baffle Type)	14.2	14.0	8.0	0.0	8.0	--
NAL-14	Enhanced Acoustic Balcony (Baffle Type)	12.2	14.0	8.0	-0.6	7.4	--
NAH-14	Enhanced Acoustic Balcony (Baffle Type)	12.2	14.0	8.0	-0.6	7.4	--
NAL-15	Acoustic Window (Baffle Type)	6.8	8.0	6.0	-0.7	5.3	--
NAH-15	Acoustic Window (Baffle Type)	6.8	8.0	6.0	-0.7	5.3	--
NAL-16	Enhanced Acoustic Balcony (Baffle Type)	22.4	14.0	8.0	0.0	8.0	--
NAH-16	Enhanced Acoustic Balcony (Baffle Type)	22.4	14.0	8.0	0.0	8.0	--
NAL-17	Acoustic Window (Baffle Type)	7.7	8.0	6.0	0.0	6.0	--
NAH-17	Acoustic Window (Baffle Type)	7.7	8.0	6.0	0.0	6.0	--
NAL-18	Enhanced Acoustic Balcony (Baffle Type)	17.3	14.0	8.0	0.0	8.0	--
NAH-18	Enhanced Acoustic Balcony (Baffle Type)	17.3	14.0	8.0	0.0	8.0	--
NAL-19	Enhanced Acoustic Balcony (Baffle Type)	11.1	14.0	8.0	-1.0	7.0	--
NAH-19	Enhanced Acoustic Balcony (Baffle Type)	11.1	14.0	8.0	-1.0	7.0	--
NAL-20	Acoustic Window (Baffle Type)	5.6	8.0	6.0	-1.6	4.4	5.9
NAH-20	Acoustic Window (Baffle Type)	5.6	8.0	6.0	-1.6	4.4	--
NAL-21	Enhanced Acoustic Balcony (Baffle Type)	14.0	14.0	8.0	0.0	8.0	--
NAH-21	Enhanced Acoustic Balcony (Baffle Type)	14.0	14.0	8.0	0.0	8.0	--
NAL-22	Acoustic Window (Baffle Type)	8.0	8.0	6.0	0.0	6.0	7.5
NAH-22	Acoustic Window (Baffle Type)	8.0	8.0	6.0	0.0	6.0	--
NAL-23	Enhanced Acoustic Balcony (Baffle Type)	8.5	14.0	8.0	-2.2	5.8	--
NAH-23	Enhanced Acoustic Balcony (Baffle Type)	8.5	14.0	8.0	-2.2	5.8	--
NB-02	Enhanced Acoustic Balcony (Baffle Type)	14.0	14.0	8.0	0.0	8.0	--
NB-03	Enhanced Acoustic Balcony (Baffle Type)	15.7	14.0	8.0	0.0	8.0	--
NB-05	Enhanced Acoustic Balcony (Baffle Type)	12.8	14.0	8.0	0.0	8.0	--
NB-06	Enhanced Acoustic Balcony (Baffle Type)	15.4	14.0	8.0	0.0	8.0	--
NB-08	Enhanced Acoustic Balcony (Baffle Type)	17.0	14.0	8.0	0.0	8.0	
NB-10	Enhanced Acoustic Balcony (Baffle Type)	13.8	14.0	8.0	0.0	8.0	--

Note:

RA: Room Area,m^2

RAref: Reference Room Area,m^2

SAM: Sound Absorptive Material

*[1] The Sound Attenuation is determined according to the following equation: Sound Attenuation of Reference Case + 10*log[(RA of the habitable room at the Proposed Development)/ (RA of the habitable room at the reference case)]*

[2] According to the "Practice Noise on Application of Innovative Noise Mitigation Designs in Planning Private Residential Developments against Road Traffic Noise Impact" issued by EPD, addition of SAM to Acoustic Window (Baffle Type) can offer an additional 1.5dB(A) reduction.

Appendix 3.4

Extract of Practice Note on Application of Innovative Noise Mitigation Designs in Planning Private Residential Developments against Road Traffic Noise Impact by EPD

Practice Note on Application of INNOVATIVE NOISE MITIGATION DESIGNS in Planning Private Residential Developments against Road Traffic Noise Impact

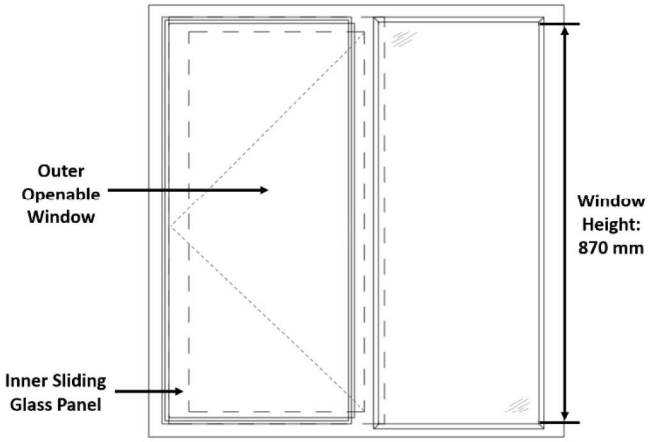
Version: V2.0

Date of issue: December 2021

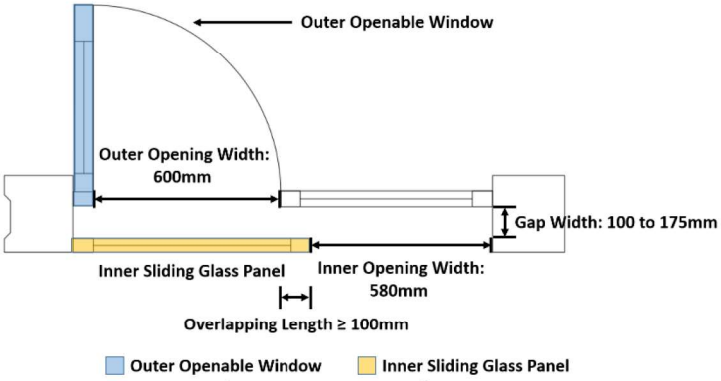
Environmental Protection Department
The Government of the Hong Kong Special Administrative Region

Annex A

(I) A possible design of "Acoustic Window (Baffle Type)" for 8m² habitable room (i.e. dining room, living room or bedroom)



INTERNAL VIEW (NOT TO SCALE)



PLAN (NOT TO SCALE)

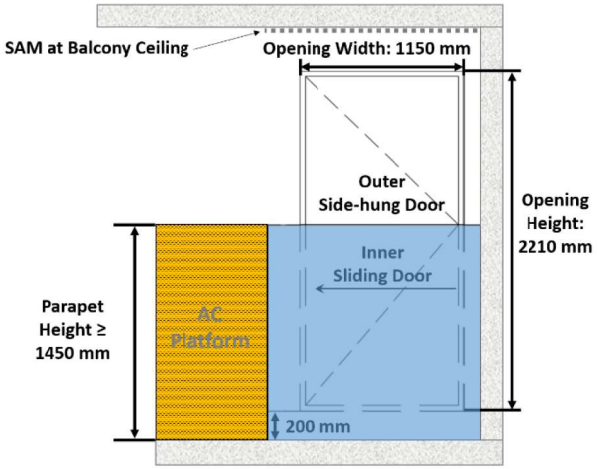
A Possible Design of "Acoustic Window (Baffle Type)" for 8m² room				
Room Dimensions (mm^3)	**Inner Window Opening (mm^2)**	**Outer Window Opening (mm^2)**	**Window Overlapping Length (mm)**	**Gap Width between Window Panels (mm)**
3200 (W) x 2500 (D) x 3400 (H)	**580 (W) x 870 (H)**	**600 (W) x 870 (H)**	**≥ 100**	**100 to 175**

**** This is one of feasible designs of AW(BT) for 8m² room. The key points of designs include:***

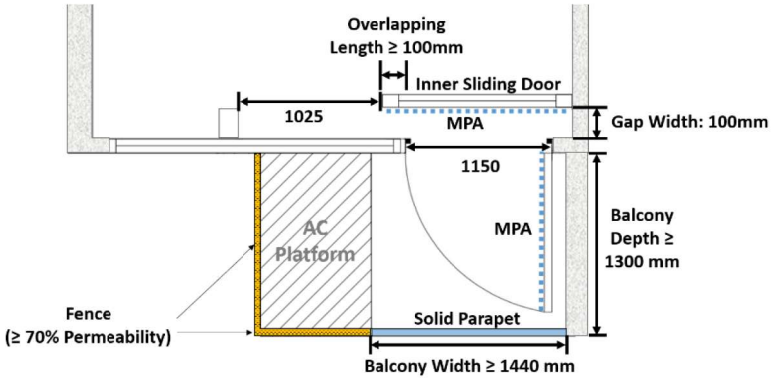
- The resultant opening after aligning the inner sliding glass panel with the outer openable window will be taken as its openable window area for the purpose of regulations 30 and 31 of the Building (Planning) Regulations (B(P)R) and Part III of Appendix A of PNAP APP-130;

- For optimum performance, the air gap should have a pane-to-pane overlapping length of ≥ 100mm and a width between 100mm and 175mm, with the inner sliding glass panel in a closed position as required in PNAP APP-130. The window pane shall be ≥ 6mm in thickness.

(III) A possible design of "Enhanced Acoustic Balcony (Baffle Type)" in 14m^2 habitable room (i.e. dining room, living room or bedroom)



EXTERNAL VIEW (NOT TO SCALE)



PLAN (NOT TO SCALE)

Fence (≥ 70% Permeability) Solid Parapet

A Possible Design of "Enhanced Acoustic Balcony (Baffle Type)" for 14m^2 room							
Room Dimensions (mm^3)	**Balcony Width (mm)**	**Balcony Depth (mm)**	**Parapet Height (mm)**	**Inner Opening (mm^2)**	**Outer Opening (mm^2)**	**Overlapping Length (mm)**	**Gap Width between Panels (mm)**
3400 (W) x 4100 (D) x 3100 (H)	**≥ 1440**	**≥ 1300**	**≥ 1450**	**1025 (W) x 2210 (H)**	**1150 (W) x 2210 (H)**	**≥ 100**	**100**

**** This is one of feasible designs of EAB for 14m^2 room. The room with EAB should meet the natural lighting and ventilation requirements in regulations 30 & 31 of the Building (Planning) Regulations (B(P)R). The EAB door with MPA may not be accountable for complying with the natural lighting requirements in regulation 30(2)(a)(i) of B(P)R. The AC platform should comply with the requirements under Appendix B of Code of Practice on Access for External Maintenance 2021 (AfEM Code), and balconies for residential buildings should comply with the criteria and conditions set out in Joint Practice Note (JPN) 1 for application of exemption from gross floor area and/or site coverage under the B(P)R.***

**** MPA refers to micro-perforated absorber of noise reduction coefficient ≥ 0.45; SAM refers to sound absorptive material of noise reduction coefficient ≥ 0.7.***

**** Comparable noise performance is anticipated should the AC platform be replaced by balcony with solid parapet.***

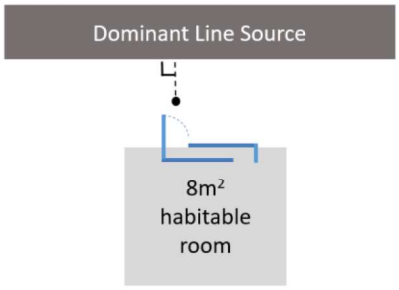
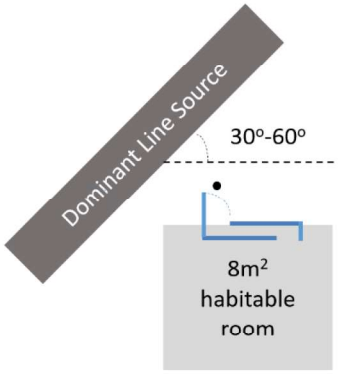
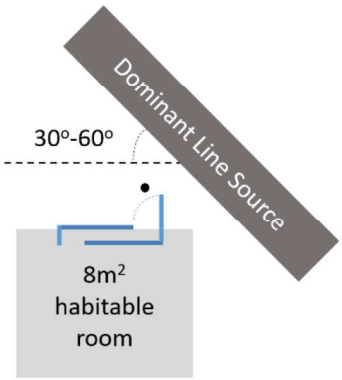
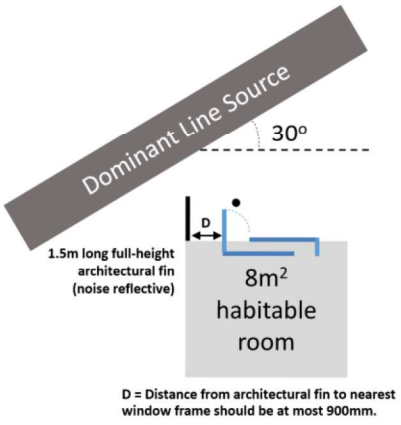
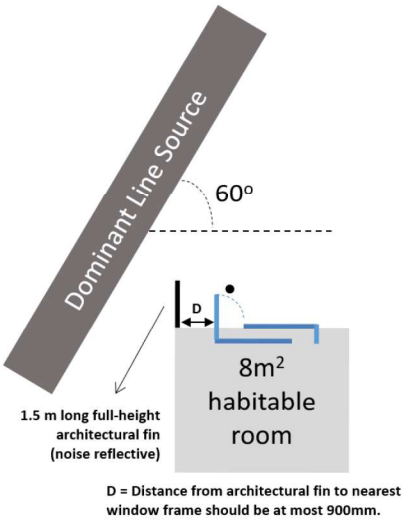
Table 1: Summary on RNR of Acoustic Window (Baffle Type) (for use in NIA) *Plan not to scale		Correction dB(A) L10(1hr)
	(a) Provision of AW(BT) parallel to dominant line source (whichever side the outer side-hung window is)	- 6.0
 	(b) Tilting the AW(BT) in (a) above to 30°-60° horizontal incident angle to dominant line source (whichever side the outer side-hung window is)	Additional - 1.0 to (a)
	(b1) If tilted AW(BT) is <u>at 30° horizontal incident angle</u> to dominant line source + 1.5m long full-height architectural fin (noise reflective) Note1 * AW(BT) + fin should be considered as ONE package of noise mitigation measures. Outer side-hung window of AW(BT) and fin should be installed at the side nearer to dominant line source.	Additional - 1.0 to (b)

Table 1: Summary on RNR of Acoustic Window (Baffle Type) (for use in NIA) *Plan not to scale		Correction dB(A) L10(1hr)
	(b2) If tilted AW(BT) is <u>at 60° horizontal incident angle</u> to dominant line source + 1.5m long full-height architectural fin (noise reflective) Note1 * AW(BT) + fin should be considered as ONE package of noise mitigation measures. Outer side-hung window of AW(BT) and fin should be installed at the side nearer to dominant line source.	Additional - 2.0 to (b)

Note 1: The 1.5m long full-height architectural fin (noise reflective) may be subject to the requirements for natural lighting and ventilation, gross floor area and site coverage under the B(P)R.

Note 2: For case (a), (b), (b1) and (b2), addition of Sound Absorptive Material (SAM) of Noise Reduction Coefficient ≥ 0.7 at top and both side of window frame can offer an additional 1.5 dB(A) reduction. The material of SAM is subject to the requirements of section 3 of Building (Construction) Regulation. The examples below may serve as reference.

Example 1

Predicted Noise Level at Noise Sensitive Receiver (Base Case)	: 77.9	dB(A)
RNR of prescribed AW in (a) + SAM	: 6.0 + 1.5	dB(A)
Predicted Noise Level at Noise Sensitive Receiver (Mitigated Case)	: 70.4	dB(A)
	= 70 dB(A) [rounded to the nearest whole number]	
	[complied with the HKPSG]	

Example 2

Predicted Noise Level at Noise Sensitive Receiver (Base Case)	: 78.9	dB(A)
RNR of prescribed AW in (b) + SAM	: 6.0 + 1.0 + 1.5	dB(A)
Predicted Noise Level at Noise Sensitive Receiver (Mitigated Case)	: 70.4	dB(A)
	= 70 dB(A) [rounded to the nearest whole number]	
	[complied with the HKPSG]	

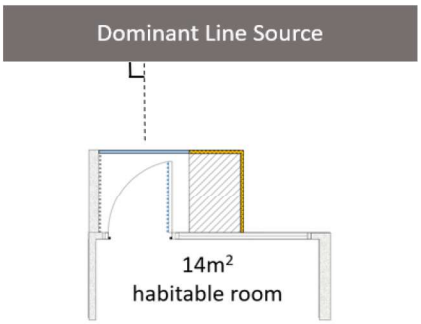
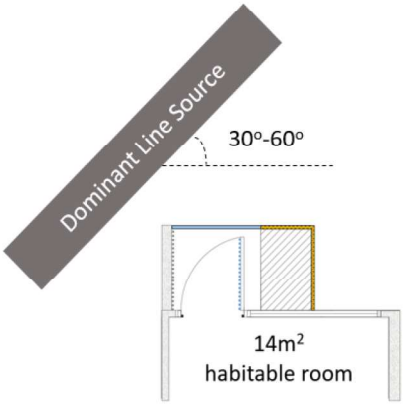
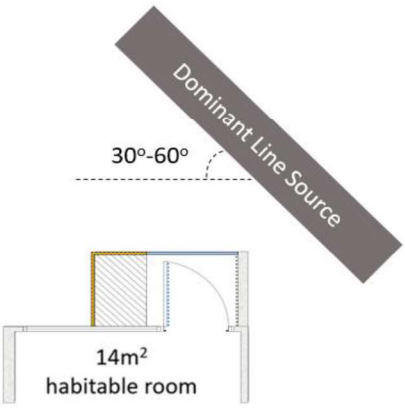
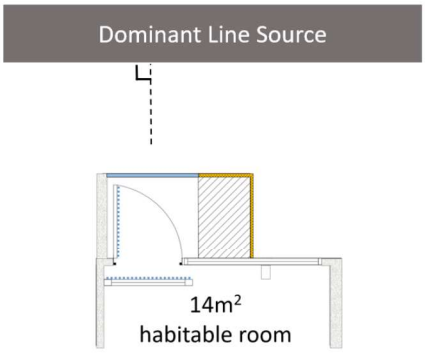
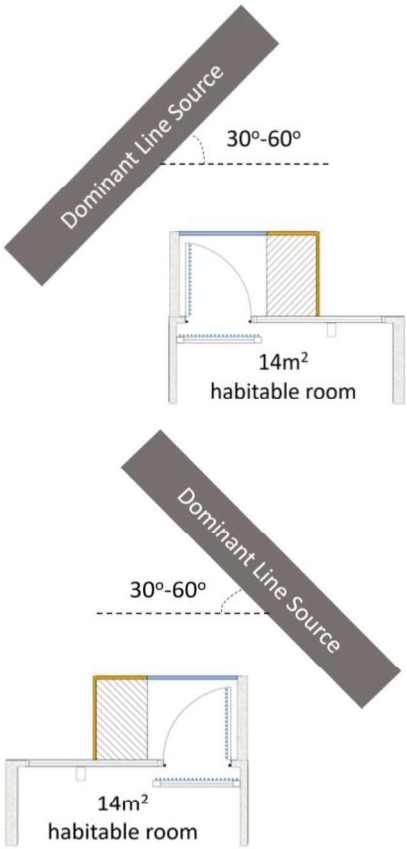
Table 2: Summary on RNR of Enhanced Acoustic Balconies (for use in NIA) *Plan not to scale		Correction dB(A) L10(1hr)
	(a) Provision of EAB(ST) parallel to dominant line source	- 2.0
	(b) Tilting the EAB in (a) above to 30°-60° horizontal incident angle to dominant line source	Additional - 1.0 to (a)
		
	(c) Provision of EAB(BT) parallel to dominant line source	- 8.0

Table 2: Summary on RNR of Enhanced Acoustic Balconies (for use in NIA) *Plan not to scale		Correction dB(A) L10(1hr)
	(d) Tilting the EAB in (c) above to 30°-60° horizontal incident angle to dominant line source	Additional - 3.0 to (c)

Note: For cases (c) and (d), addition of Sound Absorptive Material (SAM) of Noise Reduction Coefficient ≥ 0.7 at top and both side of the mullion can offer an additional 1.5 dB(A) reduction. The material of SAM is subject to the requirements of section 3 of Building (Construction) Regulation. The examples below may serve as reference.

Example 1

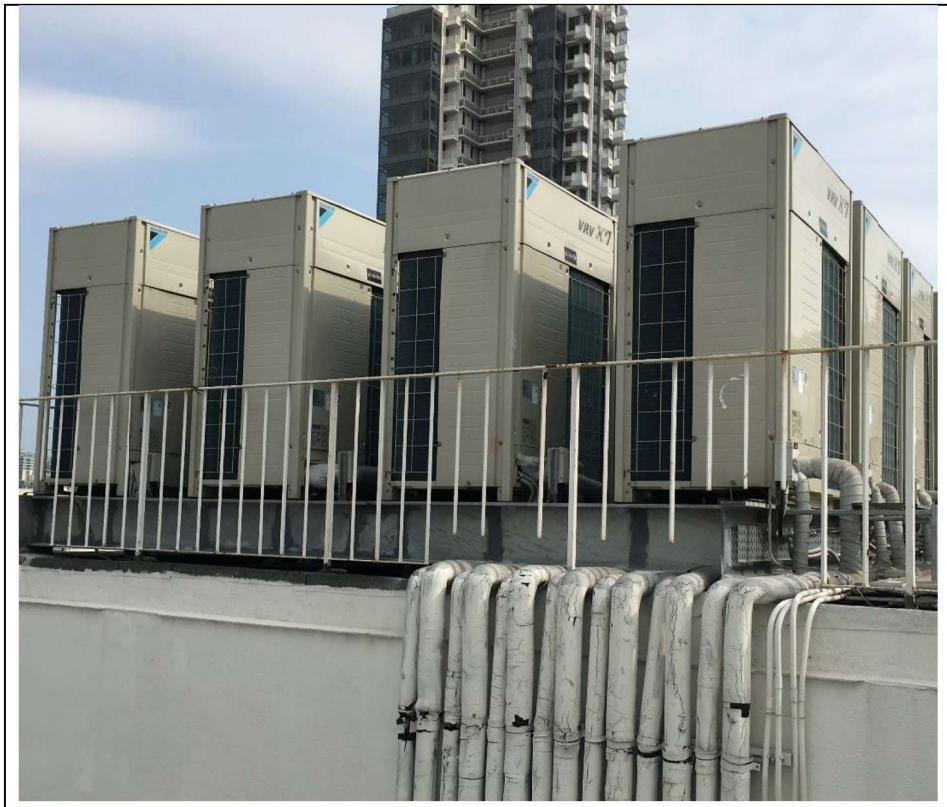
Predicted Noise Level at Noise Sensitive Receiver (Base Case)	: 72.4	dB(A)
RNR of prescribed EAB in (a)	: 2.0	dB(A)
Predicted Noise Level at Noise Sensitive Receiver (Mitigated Case)	: 70.4	dB(A)
	= 70 dB(A) [rounded to the nearest whole number]	
	[complied with the HKPSG]	

Appendix 4.1

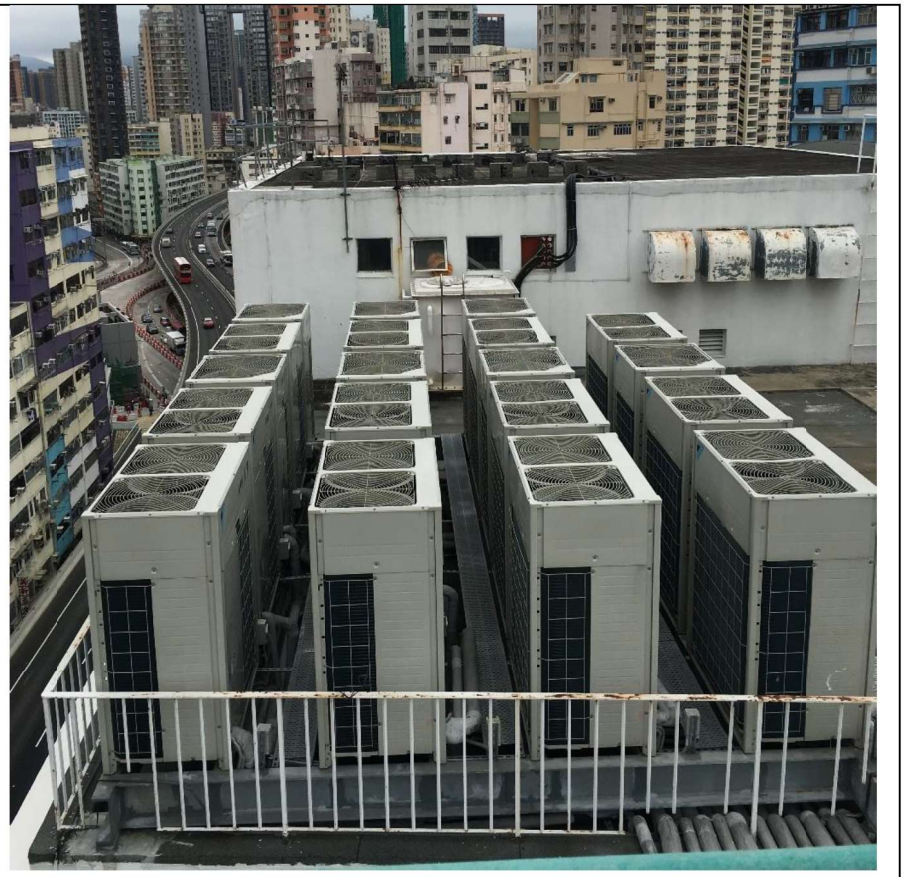
Details of the VRVs (V01 to V19) on the roof of BMW House and

Catalogue of Daikin

The VRVs (V01 to V19) on the roof of BMW House



The VRVs belong to Daikin Series X7.



There are in total 19 nos. of VRVs on the roof of BMW house.
12 nos. of VRVs have double top fan, 7 nos. of them have single top fan.
Their location is indicated in **Figure 4.2**.

Source ID	Brand	VRV Series	Number of Fan on the top	Model Number adopted *	Horse Power	Cooling Capacity (KW)	Dimension			Sound Power Level, dB(A) ^
							H (m)	L (m)	W (m)	
V09 to V12, V17 to V19	Daikin	Series X7	1	RUXYQ14BA	14	40	1.66	0.93	0.77	64
V01 to V08, V13 to V16	Daikin	Series X7	2	RUXYQ22BA	22	61.5	1.66	1.24	0.77	68

* Since the model number is unknown, the model with the largest sound power level is selected as worst case study.

^ Refer to the catalogue of Daikin, which is attached in this Appendix 4.1.

VRV X7 智能化中央冷氣系統

V09 to V12, V17 to V19

返回

8匹	10匹	12匹	14匹	16匹	18匹	20匹	22匹	24匹	26匹	28匹	30匹	32匹
34匹	36匹	38匹	40匹	42匹	44匹	46匹	48匹	50匹	52匹	54匹	56匹	58匹
60匹	62匹	64匹	66匹									

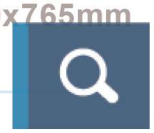
室外機 - RUXYQ14BA



V09 to V12, V17 to V19

Sound power level is 64dB(A) when the measurement distance is 1m

型號		室外機	
室外機	RUXYQ14BA	運轉音量 (高/低)	56dB(A)
製冷量	40kW kW	尺寸 (高x闊x深)	1657x1240x765mm
供暖量	45kW kW	機身重量	250kg
電源	3Ø, 380V, 50Hz	配管直徑(液態)	Ø12.7mm
		配管直徑(氣態)	Ø25.4mm



描述

製冷量以室內溫度27°CDB，19°CWB及室外溫度35°CDB為基本量度環境

供暖量以室內溫度20°CDB 及室外溫度7°CDB，6°CWB為基本量度環境

運轉音量值為無反響房間轉換數值，以機身前1m量度，在一般實際運行情況下，室外機運轉音量值可能受環境影響



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VRV X7 智能化中央冷氣系統

V01 to V08, V13 to V16

返回

8匹	10匹	12匹	14匹	16匹	18匹	20匹	22匹	24匹	26匹	28匹	30匹	32匹
34匹	36匹	38匹	40匹	42匹	44匹	46匹	48匹	50匹	52匹	54匹	56匹	58匹
60匹	62匹	64匹	66匹									

室外機 - RUXYQ22BA



V01 to V08, V13 to V16

Sound power level is 68dB(A) when the measurement distance is 1m

型號		室外機	
室外機	RUXYQ22BA	運轉音量 (高/低)	60dB(A)
製冷量	61.5kW kW	尺寸 (高x闊x深)	1657x1240x765mm
供暖量	69.0kW kW	機身重量	300kg
電源	3Ø, 380V, 50Hz	配管直徑(液態)	Ø15.9mm
		配管直徑(氣態)	Ø28.6mm

描述

製冷量以室內溫度27°CDB，19°CWB及室外溫度35°CDB為基本量度環境

供暖量以室內溫度20°CDB 及室外溫度7°CDB，6°CWB為基本量度環境

運轉音量值為無反響房間轉換數值，以機身前1m量度，在一般實際運行情況下，室外機運轉音量值可能受環境影響

TOP

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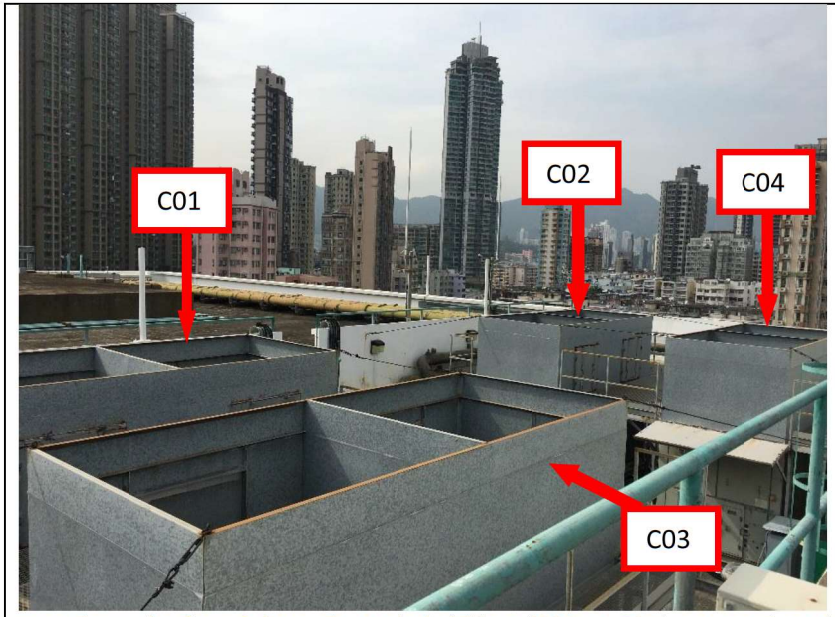
Appendix 4.2

Details of the Chillers (C01 to C04) and VRV (C05) on the Roof of To Kwa Wan Complex and Government Offices

The chillers (C01 to C04) and VRV (C05) on the roof of To Kwa Wan Complex and Government Offices



Top view, the four 8 fans-air cooled chillers (C01 to C04) are semi-enclosed.



Side view, the brand of chiller is Carrier.


Side view


Side view



C05, the VRV

ID	Type	Brand	Number of Fans on the top	Model Number	In operation during the measurement?	Dimension			Sound Power Level, dB(A)
						H (m)	L (m)	W (m)	
C01	Chiller	Carrier	8	Unknown	Yes	4.1 *	4.5	2	87.9 ^
C02		Carrier	8	Unknown	No	4.1 *	4.5	2	87.9 ^
C03		Carrier	8	Unknown	No	4.1 *	4.5	2	87.9 ^
C04		Carrier	8	Unknown	Yes	4.1 *	4.5	2	87.9 ^
C05	VRV	Daikin	2	RHXYQ16QY1	No	1.68	1.24	0.77	68 #

* With semi-enclosure

^ Refer to the calculation, which is attached in this Appendix 4.2.

Refer to the catalogue, which is attached in this Appendix 4.2.

C01 to C04

Sound Power Measurement Calculation Sheet

To: ISO 3746 (Survey Method)

Project	To Kwa Wan
Measurement Date & Time:	2019-May-22
Type of Sound Source:	Chillers and VRVs
Opeartion Conditions:	Stable

Overall, dB(A)			C01 (Chiller)			
Raw Data	$\overline{L'_{pA(ST)}} = 10 \lg \left[\frac{1}{N_M} \sum_{i=1}^{N_M} 10^{0,1 L'_{pA\,i(ST)}} \right]$ dB	**Averaged $L'_{pA(ST)}$**	68.6			
		Averaged $L_{pA(BG)}$	63.1			

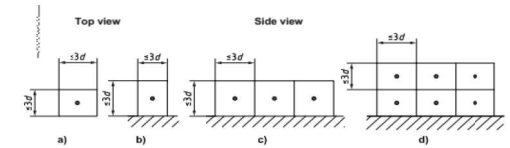
Surface Area	**No. of reflecting plane:**		1			
	Parallaed Measurement Surface, d (m):		1			
	Surface Area of Measurement (m^2):		133.1			

K_{1A} Correction	$\Delta L_{pA} = \overline{L'_{pA(ST)}} - \overline{L_{pA(B)}}$	**ΔL_{pA}=L'$_{pA(ST)}$ - $L_{pA(BG)}$**	5.5			
	$\Delta L_{pA} > 10$ dB, K_{1A} is assumed equal to zero.	**ΔL_{pA}>10**				
	3 dB $\leqslant \Delta L_{pA} \leqslant$ 10 dB $K_{1A} = -10 \lg \left(1 - 10^{-0,1 \Delta L_{pA}}\right)$ dB	**3=<ΔL_{pA}<=10**	1.4			
	$\Delta L_{pA} <$ 3 dB, K_{1A} to be applied in this case is 3 dB	**ΔL_{pA}<3**				
		K_{1A}	1.4			

K_{2A} Correction	$K_{2A} = 10 \lg \left[1 + 4 \frac{S}{A}\right]$ dB	**A= α S_V**	Outdoor Env.			
		K_{2A}	0			

Results	$\overline{L_{pA}} = \overline{L'_{pA(ST)}} - K_{1A} - K_{2A}$	**Corrected L_{pA}**	67.2			
	$L_{WA} = \overline{L_{pA}} + 10 \lg \frac{S}{S_0}$ dB	**Sound Power Level: L_{WA}**	**88.4**			

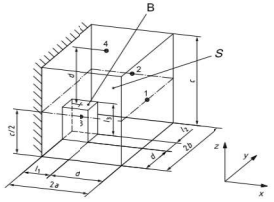
Determination of Microphone Arrays on Parallelepiped Measurement Surface



Key
● microphone positions
d measurement distance

Figure C.1 — Microphone positions on a parallelepiped measurement surface

Parallelepiped Measurement Surface for Floor-standing Noise Sources Adjacent to Two Reflecting Plans

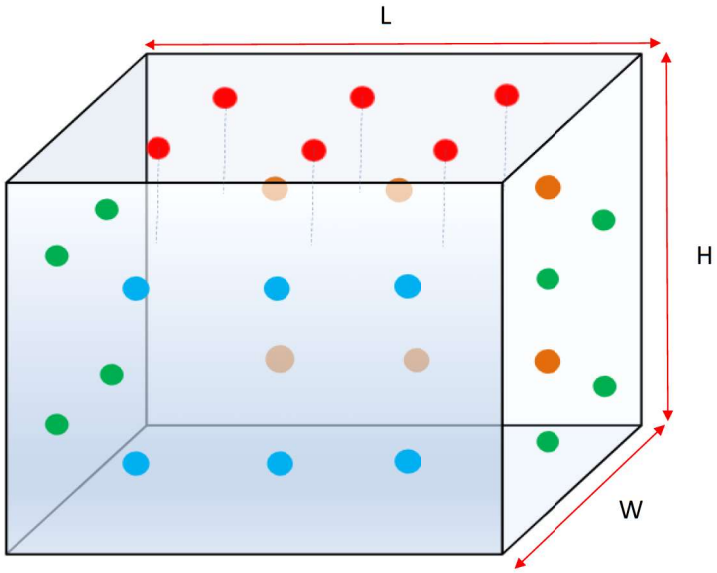


Key
● microphone positions (1, 2, 3, 4)
B reference box
$2a$ measurement surface length
$2b$ measurement surface width
c measurement surface height
d measurement distance
l_1 reference box length
l_2 reference box width
l_3 reference box height
S measurement surface
$S = 2(2ab + bc + 2ca)$

C01 to C04

Sound Pressure Level of C01 (Chiller):

Sound Source	Overall, dB(A)	$10^{li/10}$
Side	68.1	6456542.3
	67.3	5370318.0
	68.3	6760829.8
	68.5	7079457.8
	66.9	4897788.2
	67.6	5754399.4
	67.7	5888436.6
	67.2	5248074.6
	68.0	6309573.4
	67.5	5623413.3
	66.9	4897788.2
	68.1	6456542.3
	68.3	6760829.8
	67.7	5888436.6
	67.6	5754399.4
	67.6	5754399.4
	66.8	4786300.9
	67.7	5888436.6
	68.5	7079457.8
	67.4	5495408.7
Top	70.4	10964782.0
	69.5	8912509.4
	71.3	13489628.8
	71.2	13182567.4
	70.8	12022644.3
	70.8	12022644.3
$L'_{pA(ST)}$ = Average SPL	68.6	



Microphone Position over the noise source

Microphone Position aside the noise source

Measurement Distance = 1m

Dimension of measurement Surface

	H (m)	L (m)	W (m)
=	4.1+1	4.5+1+1	2+1+1
=	5.1	6.5	4

Total Measurement Surface

= 6.5*4 + 2*6.5*5.1 + 2*5.1*4

= **133.1** m2

C05

VRV 更新用Q 智能化中央冷氣系統

返回

8匹 | 10匹 | 12匹 | 14匹 | 16匹 | 18匹 | 20匹 | 22匹 | 24匹 | 26匹 | 28匹 | 30匹 | 32匹

34匹 | 36匹 | 38匹 | 40匹 | 42匹 | 44匹 | 46匹 | 48匹

室外機 - RHXYQ16QY1



C05

Sound power level is 68dB(A) when the measurement distance is 1m

型號		室外機	
室外機	RHXYQ16QY1	運轉音量 (高/低)	60dB(A)
製冷量	45.0kW kW	尺寸 (高x闊x深)	1,680x1,240x765mm
供暖量	50.0kW kW	機身重量	393kg
電源	3Ø, 380V, 50Hz	配管直徑(液態)	Ø12.7mm
		配管直徑(氣態)	Ø28.6mm

製冷量以室內溫度27°CDB，19°CWB及室外溫度35°CDB為基本量度環境

供暖量以室內溫度20°CDB 及室外溫度7°CDB，6°CWB為基本量度環境

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Appendix 4.3

Details of the Chillers (A01, A02, A06 & A07) and VRVs (A03 to A05) on the Roof of To Kwa Wan Market

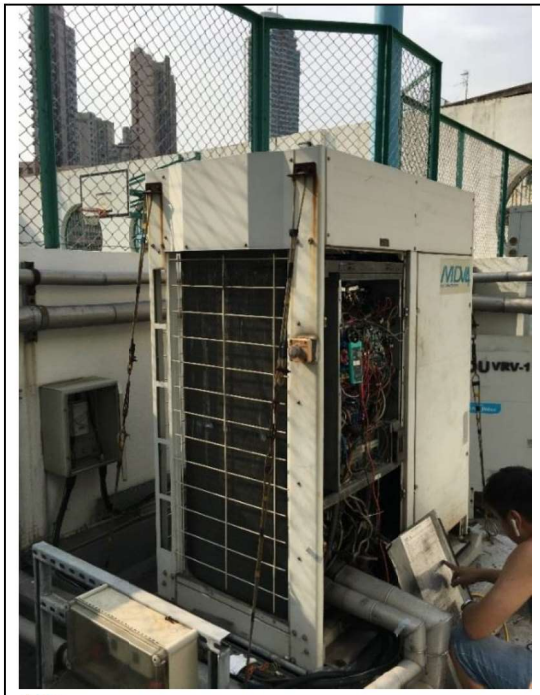
The VRVs and chillers (A01 to A07) on the roof of To Kwa Wan Market



A01



A02



A03



A04



A05



A06 & A07

Noise Source ID	Type	Brand	Model Number	Dimension of 1 nos. of chiller / VRV			In Operation during Site Visit?	Sound Power Level dB(A)		
				H (m)	L (m)	W (m)		Shown in Catalogue *	Measured by ISO3746:2010 Methodology ^	Adopted in Industrial Noise Impact Assessment
A01	Chiller	Airedale	UCUR100	2.0	2.8	1.3	No	81	-	**81**
A02							No	81	-	**81**
A03	VRV	Midea	MDV-450W	1.8	1.3	0.8	No	68	-	**68**
A04	VRV	Daikin	RJZQ8AAY	1.43	0.94	0.32	Yes	64	73.4	**73.4**
A05	VRV	Daikin	RXQ12ARY6	1.66	0.93	0.77	Yes	67	74.4	**74.4**
A06	Chiller	Carrier	30RBS045	1.33	2.05	1.06	Yes	81	79.1	**81**
A07							No	81	-	**81**

* Refer to the catalogue, which is attached in this Appendix 4.3.

^ Refer to the calculation, which is attached in this Appendix 4.3.

A04 to A06

Sound Power Measurement Calculation Sheet

To: ISO 3746 (Survey Method)

Project	To Kwa Wan
Measurement Date & Time:	2019-May-22
Type of Sound Source:	Chillers and VRVs
Opeartion Conditions:	Stable

Overall, dB(A)			A04 (VRV)	A05 (VRV)	A06 (Chiller)	
Raw Data	$\overline{L'_{pA(ST)}} = 10 \lg \left[\frac{1}{N_M} \sum_{i=1}^{N_M} 10^{0,1 L'_{pA\,i(ST)}} \right]$ dB	**Averaged $L'_{pA(ST)}$**	63.1	63.4	67.2	
		Averaged $L_{pA(BG)}$	63.1	63.1	63.1	

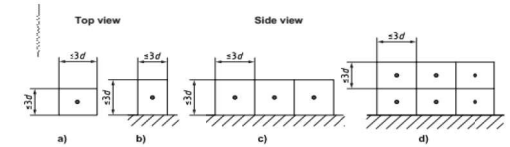
Surface Area	**No. of reflecting plane:**		2	2	1	
	Parallaed Measurement Surface, d (m):		1	1	1	
	Surface Area of Measurement (m^2):		21.4	25.2	45.5	

K_{1A} Correction	$\Delta L_{pA} = \overline{L'_{pA(ST)}} - \overline{L_{pA(B)}}$	**$\Delta L_{pA} = L'_{pA(ST)} - L_{pA(BG)}$**	0.0	0.3	4.1	
	$\Delta L_{pA} > 10$ dB, K_{1A} is assumed equal to zero.	**$\Delta L_{pA} > 10$**				
	3 dB $\leqslant \Delta L_{pA} \leqslant$ 10 dB $K_{1A} = -10 \lg \left(1 - 10^{-0,1 \Delta L_{pA}}\right)$ dB	**$3 =< \Delta L_{pA} <= 10$**			2.1	
	$\Delta L_{pA} <$ 3 dB, K_{1A} to be applied in this case is 3 dB	**$\Delta L_{pA} < 3$**	3	3		
		K_{1A}	3.0	3.0	2.1	

K_{2A} Correction	$K_{2A} = 10 \lg \left[1 + 4 \frac{S}{A}\right]$ dB	**$A = \alpha S_V$**	Outdoor Env.
		K_{2A}	0

Results	$\overline{L_{pA}} = \overline{L'_{pA(ST)}} - K_{1A} - K_{2A}$	**Corrected L_{pA}**	60.1	60.4	65.1	
	$L_{WA} = \overline{L_{pA}} + 10 \lg \frac{S}{S_0}$ dB	**Sound Power Level: L_{WA}**	**73.4**	**74.4**	**79.1**	

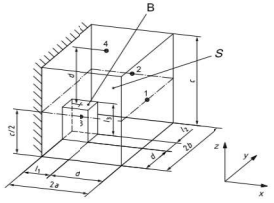
Determination of Microphone Arrays on Parallelepiped Measurement Surface



Key
- ● microphone positions
- d measurement distance

Figure C.1 — Microphone positions on a parallelepiped measurement surface

Parallelepiped Measurement Surface for Floor-standing Noise Sources Adjacent to Two Reflecting Plans



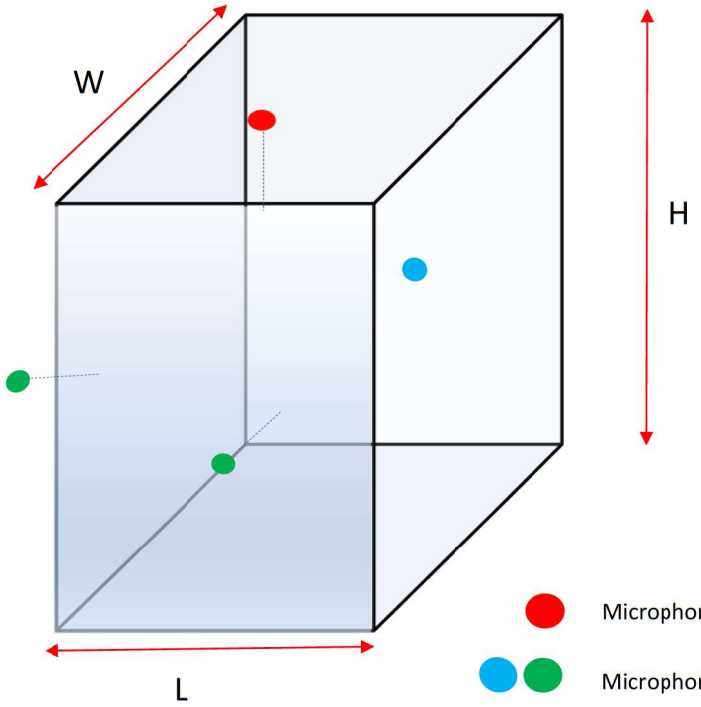
Key
- ● microphone positions (1, 2, 3, 4)
- B reference box
- $2a$ measurement surface length
- $2b$ measurement surface width
- c measurement surface height
- d measurement distance
- l_1 reference box length
- l_2 reference box width
- l_3 reference box height
- S measurement surface

$S = 2(2ab + bc + 2ca)$

A04 to A06

Sound Pressure Level of A04:

Sound Source	Overall, dB(A)	$10^{li/10}$
Side	63.4	2187761.6
	63.8	2398832.9
	62.6	1819700.9
Top	62.6	1819700.9
$L'_{pA(ST)}$ = Average SPL	63.1	



Microphone Position over the noise source

Microphone Position aside the noise source

Measurement Distance = 1m

Dimension of measurement Surface

	H (m)	L (m)	W (m)
=	1.43+1	0.94+1+1	0.32+1
=	2.43	2.94	1.32

Total Measurement Surface

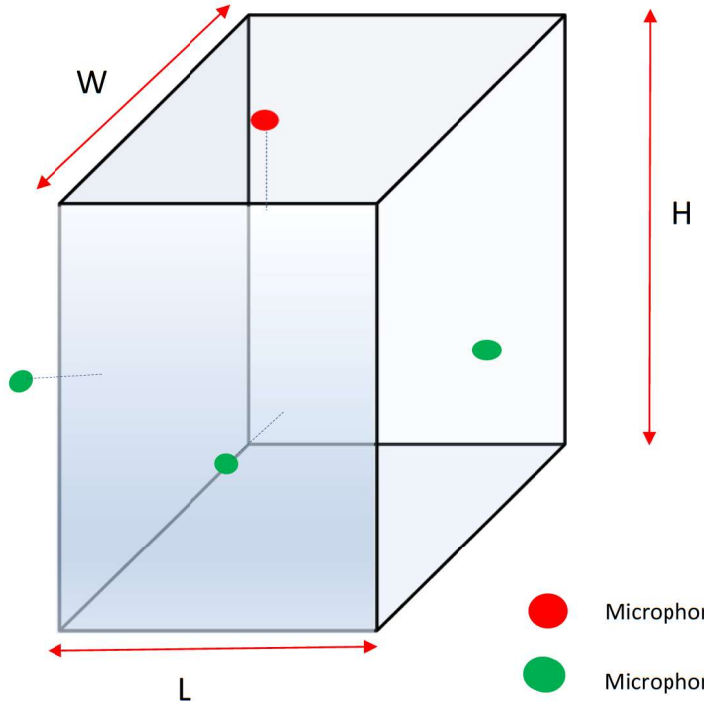
= 2.94*1.32 + 2*2.43*2.94 + 2.43*1.32

= **21.4** m2

A04 to A06

Sound Pressure Level of A05:

Sound Source	Overall, dB(A)	$10^{li/10}$
Side	64.1	2570395.8
	63.4	2187761.6
	63.0	1995262.3
Top	63.1	2041737.9
$L'_{pA(ST)}$ = Average SPL	63.4	



Measurement Distance = 1m

Dimension of measurement Surface

	H (m)	L (m)	W (m)
=	1.66+1	0.93+1	0.77+1+1
=	2.66	1.93	2.77

Total Measurement Surface

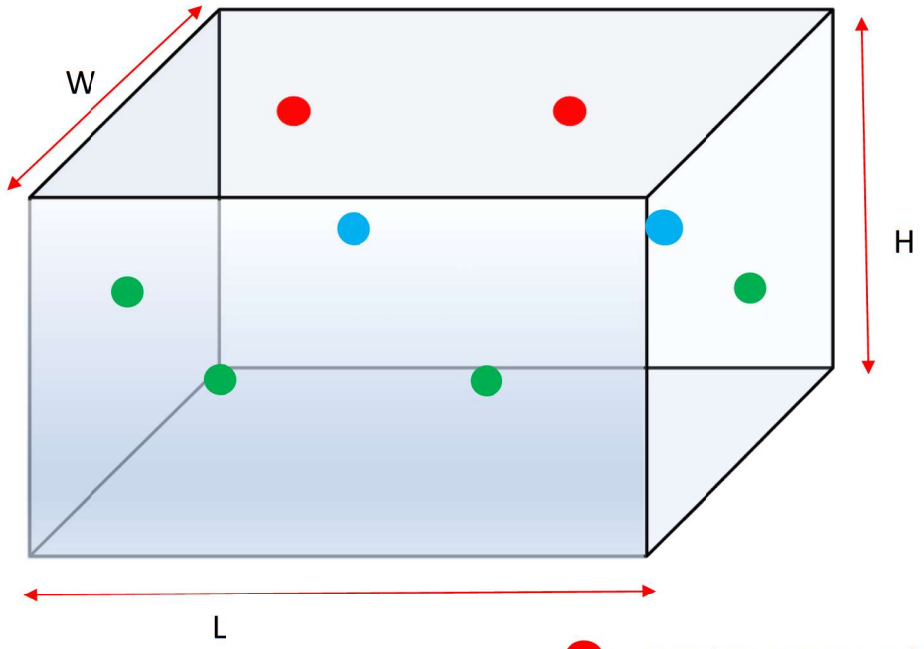
= 2.77*1.93 + 2.66*1.93 + 2*2.66*2.77

= **25.2** m2

A04 to A06

Sound Pressure Level of A06:

Sound Source	Overall, dB(A)	$10^{li/10}$
Side	67.1	5128613.8
	66.4	4385307.0
	66.0	3981071.7
	67.0	5011872.3
	67.8	6025595.9
	68.2	6606934.5
Top	67.1	5128613.8
	67.8	6025595.9
$L'_{pA(ST)}$ = Average SPL	67.2	



Microphone Position over the noise source

Microphone Position aside the noise source

Measurement Distance = 1m

Dimension of measurement Surface

	H (m)	L (m)	W (m)
=	1.33+1	2.05+1+1	1.06+1+1
=	2.33	4.05	3.06

Total Measurement Surface

= 3.06*4.05 + 2*2.33*4.05 + 2*2.33*3.06

= **45.5** m2

A01 & A02

Unparalleled efficiency

Ultimate in advanced condenser technology

The Ultima Compact Condenser is a high efficiency, compact, air-cooled single/ dual circuit condensing unit, which offers exceptional Energy Efficiency Ratios (EER) of up to 3.39 .

With DSH scroll compressors and optimised for R410A refrigerant, the Ultima Compact Condensing range has been engineered using the very best condenser technology and components to increase efficiency and deliver improved performance.

Developed with low sound levels as a key factor in its design, the Ultima Compact Condenser is ideally applicable to a variety of environments including including offices, retail, healthcare, leisure and data centres.

Key technical data

- 30 – 150kW nominal cooling capacity
- 30 models
- 5 case sizes
- Single and dual circuit variants
- Regular quiet and extra quiet sound variants
- 1-4 stages of cooling
- Designed and optimised for R410A refrigerant

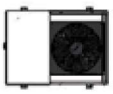
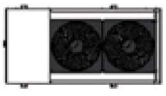
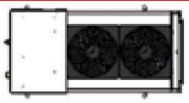
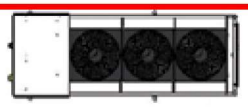


EER* of up to 3.42

Part load efficiencies are enhanced by sequenced scroll compressors and EC fans.

*Energy Efficiency Ratio

5 case sizes available

	H x W x L	Nominal Cooling*
	1450 x 1310 x 1650mm Single and Dual Circuit	30 - 40kW
	1450 x 1310 x 2500mm Single and Dual Circuit	30 - 75kW
	2000 x 1300 x 2800mm Dual Circuit Only	85 - 100kW
	2000 x 1300 x 3650mm Dual Circuit Only	100 - 150kW
	2000 x 1300 x 4500mm Dual Circuit Only	125 - 150kW

* 6°C evaporating temperature, 35°C ambient

A01 & A02

Specifications at a glance

Nomenclature explained U | CUR | 075 | D | R- | 2

U	Ultima
CUR	CUR = Condensing Unit R410A
xxx	Nominal Capacity (kW)
S D	Number of Circuits Single Circuit Dual Circuit
R- X-	Noise Variant Regular Quiet Extra Quiet
1-4	Number of Fans/Case size

Nominal capacity @ 6°C evaporating, 35°C ambient

EU F-Gas Regulations

This product range contains R410A fluorinated greenhouse gas with a GWP of 2088, weight range of 8.5 - 45.5kg, representing 17.7 - 95.0 equivalent tonnes of CO_2.

5 case sizes available



Model No.	Number of Circuits	Nom. Cooling Capacity (kW)[1]	Input (kW)[1]	EER[2]	Sound Pressure @ 10m dB(A)	Dimensions (HxWxD) mm	Operating Weight (kg)
Regular quiet							
UCUR030SR-10E0	1	31.6	10.1	3.13	44	1450 x 1310 x 1650	
UCUR040SR-10H0	1	39.4	14.5	2.72	44	1450 x 1310 x 1650	
UCUR040DR-10CC	2	39.4	14.5	2.72	44	1450 x 1310 x 1650	
UCUR050SR-20K0	1	57.2	17.6	3.25	47	1450 x 1310 x 2500	833
UCUR050DR-20DD	2	57.2	17.6	3.25	47	1450 x 1310 x 2500	804
UCUR060SR-20L0	1	63.6	20.1	3.16	47	1450 x 1310 x 2500	839
UCUR060DR-20EE	2	63.6	20.1	3.16	47	1450 x 1310 x 2500	812
UCUR070SR-20M0	1	71.1	23.6	3.01	47	1450 x 1310 x 2500	843
UCUR070DR-20FF	2	71.1	23.6	3.01	47	1450 x 1310 x 2500	816
UCUR075SR-20N0	1	78.1	27.3	2.86	48	1450 x 1310 x 2500	850
UCUR075DR-20GG	2	78.1	27.3	2.86	48	1450 x 1310 x 2500	823
UCUR085DR-20HJ	2	88.2	30.3	2.91	49	2000 x 1300 x 2800	1160
UCUR100DR-20JK	2	105.7	34.4	3.07	53	2000 x 1300 x 2800	1206
UCUR125DR-30LL	2	130.1	40.4	3.22	53	2000 x 1300 x 3650	1511
UCUR150DR-30NN	2	161.6	53.8	3.00	54	2000 x 1300 x 3650	1536
Extra quiet							
UCUR030SX-10E0	1	31.8	10.0	3.18	42	1450 x 1310 x 1650	560
UCUR040SX-10H0	1	39.7	14.4	2.76	42	1450 x 1310 x 1650	616
UCUR040DX-10CC	2	39.7	14.4	2.76	42	1450 x 1310 x 1650	650
UCUR050SX-20K0	1	57.4	17.4	3.30	45	1450 x 1310 x 2500	833
UCUR050DX-20DD	2	57.4	17.4	3.30	45	1450 x 1310 x 2500	804
UCUR060SX-20L0	1	63.9	19.9	3.21	45	1450 x 1310 x 2500	839
UCUR060DX-20EE	2	63.9	19.9	3.21	45	1450 x 1310 x 2500	812
UCUR070SX-20M0	1	71.5	23.3	3.07	45	1450 x 1310 x 2500	843
UCUR070DX-20FF	2	71.5	23.3	3.07	45	1450 x 1310 x 2500	816
UCUR075SX-20N0	1	78.6	26.9	2.92	46	1450 x 1310 x 2500	850
UCUR075DX-20GG	2	78.6	26.9	2.92	46	1450 x 1310 x 2500	823
UCUR085DX-20HJ	2	89.3	29.7	3.01	47	2000 x 1300 x 2800	1160
UCUR100DX-30JK	2	106.6	33.0	3.23	48	2000 x 1300 x 3650	1498
UCUR125DX-40LL	2	130.7	38.5	3.39	48	2000 x 1300 x 4500	1679
UCUR150DX-40NN	2	162.1	51.7	3.14	48	2000 x 1300 x 4500	1704

Sound power level is 81dB(A) when the measurement distance is 10m

1) Nominal cooling capacity at 6°C evaporating temperature, 35°C ambient temperature, EC fans

2) EER at 6°C evaporating temperature, 35°C ambient temperature, based on TOTAL input power of compressors and fans

A03

Technical Service Manual

V4 Plus

Individual Series VRF

Top Discharge Version



Model:

3 phase, 380-415V, 50Hz

MDV-252W/DRN1-i(B)
MDV-280W/DRN1-i(B)
MDV-335W/DRN1-i(B)
MDV-400W/DRN1-i(B)
MDV-450W/DRN1-i(B)
MDV-560W/DRN1-i(B)
MDV-615W/DRN1-i(B)
MDV-670W/DRN1-i(B)
MDV-730W/DRN1-i(B)
MDV-785W/DRN1-i(B)
MDV-850W/DRN1-i(B)
MDV-900W/DRN1-i(B)

A03

Model			MDV-400W/ DRN1-i(B)	MDV-450W/ DRN1-i(B)
Power supply		V-Ph-Hz	380-415/3/50	
Cooling	Capacity	kW	40.0	45.0
	Power input	kW	12.3	14.0
	EER		3.25	3.21
Heating	Capacity	kW	45.0	50.0
	Power input	kW	11.2	12.8
	COP		4.02	3.91
DC inverter compressor	Model		E405DHD-36D2YG	E405DHD-36D2YG
	Type		DC inverter	DC inverter
	Brand		HITACHI	HITACHI
	Quantity		1	1
	Capacity	kW	11.8	11.8
	Input	kW	3.665	3.665
	Crankcase heater	W	27.6	27.6
	Refrigerant oil type		FVC68D	FVC68D
	Refrigerant oil charge	ml	500	500
Fixed inverter compressor	Model		E605DH-59D2YG	E655DH-65D2YG(GC)
	Type		Scroll	Scroll
	Brand		HITACHI	HITACHI
	Quantity		2	2
	Capacity	kW	15.39	17.1
	Input	kW	5.13	5.74
	Crankcase heater	W	27.6	27.6
	Refrigerant oil type		FVC68D	FVC68D
	Refrigerant oil charge	ml	500	500
Outdoor fan motor	Model		WZDK450-38G	WZDK450-38G
	Type		DC	DC
	Quantity		2	2
	Brand		PANASONIC	PANASONIC
	Insulation class		IPX4	IPX4
	Safe class		E	E
	Input	W	505×2	505×2
	Output	W	450×2	450×2
	Rated current	A	3.28×2	3.28×2
Outdoor fan	Material		ASG20	ASG20
	Type		Axial fan	Axial fan
	Quantity		2	2
	Diameter	mm	560	560
	Height	mm	189	189
	ESP	Pa	0-20 (default)	0-20 (default)
		Pa	20-40 (customized)	20-40 (customized)

Outdoor coil	Number of rows		2	2
	Tube pitch(a)× row pitch(b)	mm	22×19	22×19
	Fin spacing	mm	1.6	1.6
	Fin type		Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside diameter	mm	Φ7.94	Φ7.94
	Tube type		innergroove tube	innergroove tube
	Coil dimension (W×H×D)	mm	2270×38×1232	2270×38×1232
	Number of circuits		inlet:22; outlet:20	inlet:22; outlet:20
Outdoor air flow		m^3/h	15000	15000
Sound pressure level		dB(A)	60	60
Connectable indoor unit	Total capacity	%	50-130	50-130
	Max. quantity		16	20
Outdoor unit	Net dimension (W×H×D)	mm	1250×1615×765	1250×1615×765
	Packing (W×H×D)	mm	1305×1790×820	1305×1790×820
	Net/Gross weight	mm	325/345	325/345
Refrigerant	Type		R410A	R410A
	Factory charged	kg	15	15
Throttle type			EXV	EXV
Design pressure (Hi/Lo)		MPa	4.4/2.6	4.4/2.6
Refrigerant piping	Liquid pipe	mm	15.9	15.9
	Gas pipe	mm	31.8	31.8
Ambient temp. range	Cooling	°C	-5~48	-5~48
	Heating	°C	-15~24	-15~24

Notes:

Capacities are based on the following conditions:

Cooling: Indoor temperature 27 °C DB/19 °C WB; Outdoor temperature 35 °C DB/24 °C WB.

Heating: Indoor temperature 20 °C DB/15 °C WB; Outdoor temperature 7 °C DB/6 °C WB.

Piping length: Interconnecting piping length 7.5m, level difference of zero.

Sound values are measured in a semi-anechoic room, at a position 1m in front of the unit and 1.3m above the floor.

The above data may be changed without notice for future improvement on quality and performance.

A04

VRV S 三管道智能化中央冷氣系統

返回

3匹 | 4匹 | 4匹 | 5匹 | 6匹 | 7匹 | 8匹 | 9匹 | 10匹 | 11匹 | 12匹 | 14匹 | 16匹

室外機 - RJZQ8AAY



A04

Sound power level is 64dB(A) when the measurement distance is 1m

型號	
室外機	RJZQ8AAY
製冷量	22.4kW kW
供暖量	25.0kW kW
電源	Y: 3Ø, 380V, 50Hz

室外機	
運轉音量 (高/低)	56dB(A)
尺寸 (高x闊x深)	1,430x940x320mm
機身重量	140kg
配管直徑(液態)	Ø9.5mm
配管直徑(氣態)	Ø19.1mm

描述

製冷量以室內溫度27°CDB，19°CWB及室外溫度35°CDB為基本量度環境

供暖量以室內溫度20°CDB 及室外溫度7°CDB，6°CWB為基本量度環境

TOP

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免責聲明 隱私條例

A05

Outdoor Units

VRV X (Cooling Only)

								
MODEL			**RXQ6ARY6**	**RXQ8ARY6**	**RXQ10ARY6**	**RXQ12ARY6**	**RXQ14ARY6**	**RXQ16ARY6**
Combination units			–	—	—	—	—	—
Power supply			3-phase, 380-415 V, 50 Hz					
Cooling capacity		Btu/h	54,600	76,400	95,500	1,14,000	1,36,000	1,54,000
		kW	16.0	22.4	28.0	33.5	40.0	45.0
Capacity control		%	25~100	20~100	13~100	12~100	11~100	10~100
Casing colour			Ivory white (5Y7.5/1)					
Compressor	Type		Hermetically Sealed Scroll Type					
	No. of compressor		1	1	1	1	1	2
Airflow rate		m^3/min	119	178		191	257	
Dimensions (HxWxD)		mm	1,657X930X765				1,657X1,240X765	
Machine weight		kg	165		175		220	260
Sound level		dB(A)	56	56	57	59	60	60
Operation range	Cooling	°CDB	10 ~ 49					
Refrigerant	Type		R410A					
	Charge	kg	5.9		6.7	6.8	7.4	8.2
Piping connections	Liquid	mm	ø 9.5				ø 12.7	
	Gas	mm	ø 19.1		ø 22.2		ø 28.6	

Note: Specifications are based on the following conditions:

- Cooling: Indoor temp.: 27°CDB, 19°CWB, Outdoor temp.: 35°CDB, Equivalent piping length: 7.5 m, Level difference: 0
- Sound level: Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

Physical data, 30RBS

A06 & A07

30RBS				039	045	050	060	070	080	090	100	120	140	160
Cooling														
Standard unit	C1	Nominal capacity	kW	40	44	51	58	67	79	87	97	114	135	156
Full load performances*	C1	EER	kW/kW	2.87	2.76	2.67	2.66	2.72	2.70	2.73	2.73	2.67	2.70	2.65
	C1	Eurovent class cooling		C	C	D	D	C	C	C	C	D	C	D
	C2	Nominal capacity	kW	53	59	69	81	85	98	114	126	151	171	194
	C2	EER	kW/kW	3.44	3.32	3.12	3.31	2.97	3.06	3.18	3.09	3.10	2.99	3.01
Full load performances**	C1	Gross nominal capacity	kW	40	44	52	59	68	80	87	98	115	136	157
	C1	Gross EER	kW/kW	2.95	2.84	2.75	2.74	2.80	2.78	2.79	2.79	2.73	2.77	2.72
	C2	Gross nominal capacity	kW	54	59	69	82	86	99	115	127	152	173	196
	C2	Gross EER	kW/kW	3.59	3.47	3.26	3.47	3.08	3.19	3.28	3.19	3.21	3.09	3.12
Seasonal efficiency*	C1	ESEER	kW/kW	3.75	3.88	3.95	3.80	3.62	3.67	3.91	3.94	3.83	3.68	3.87
Seasonal efficiency**	C1	Gross ESEER	kW/kW	3.97	4.14	4.22	4.06	3.84	3.90	4.16	4.18	4.08	3.94	4.16
IPLV			kW/kW	4.54	4.71	4.81	4.58	4.26	4.39	4.55	4.53	4.55	4.29	4.64
Sound levels														
Standard unit														
Sound power level(1)			dB(A)	80	81	81	81	87	87	84	84	84	90	90
Sound pressure level at 10 m(2)			dB(A)	49	49	49	49	55	55	52	52	52	58	58
Unit with option 15LS														
Sound power level(1)			dB(A)	79	80	80	80	80	80	83	83	83	83	83
Sound pressure level at 10 m(2)			dB(A)	48	48	48	48	48	48	51	51	51	51	51
Dimensions														
Length			mm	1061	1061	1061	1061	1061	1061	2258	2258	2258	2258	2258
Width			mm	2050	2050	2050	2050	2050	2050	2050	2050	2050	2050	2050
Height			mm	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330
Operating weight with MCHE coil (3)														
Standard unit without hydronic module			kg	429	436	442	454	454	471	766	776	789	896	928
Standard unit with hydronic module														
Single high-pressure pump			kg	459	466	472	484	484	501	798	808	825	935	967
Dual high-pressure pump			kg	484	492	497	510	510	527	843	853	873	972	1004
Compressors				Hermetic scroll compressors, 48.3 r/s										
Circuit A				2	2	2	2	2	2	3	3	3	2	2
Circuit B				-	-	-	-	-	-	-	-	-	2	2
No of control stages				2	2	2	2	2	2	3	3	3	4	4
Refrigerant charge with MCHE coil(3)				R-410A										
Circuit A			kg	4.7	5.3	5.9	6.7	6.2	7.3	10.7	10.8	11.4	6.5	7.4
			teqCO_2	9.8	11.1	12.3	14.0	12.9	15.2	22.3	22.6	23.8	13.6	15.5
Circuit B			kg	-	-	-	-	-	-	-	-	-	6.5	7.4
			teqCO_2	-	-	-	-	-	-	-	-	-	13.6	15.5
Capacity control				Touch Pilot Junior										
Minimum capacity			%	50	50	50	50	50	50	33	33	33	25	25
Condensers				All-aluminium microchannel heat exchanger (MCHE)										
Fans				Axial Flying Bird IV with rotating shroud										
Quantity				1	1	1	1	1	1	2	2	2	2	2
Maximum total air flow			l/s	3885	3883	3687	3908	5013	5278	6940	6936	7370	10026	10556
Maximum rotation speed			r/s	12	12	12	12	16	16	12	12	12	16	16
Evaporator				Direct expansion, plate heat exchanger										
Water volume			l	2.6	3.0	3.3	4.0	4.8	5.6	8.7	9.9	11.3	12.4	14.7
Without hydronic module (option)														
Max. water-side operating pressure			kPa	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
With hydronic module (option)														
Single or dual pump (as selected)				Pump, Victaulic screen filter, relief valve, expansion tank, purge valves (water + air), pressure sensors										
Expansion tank volume			l	12	12	12	12	12	12	35	35	35	35	35
Expansion tank pressure (4)			bar	1	1	1	1	1	1	1.5	1.5	1.5	1.5	1.5
Max. water-side operating pressure			kPa	400	400	400	400	400	400	400	400	400	400	400
Water connections with/without hydronic module				Victaulic										
Diameter			in	2	2	2	2	2	2	2	2	2	2	2
Outside tube diameter			mm	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3
Chassis paint colour				Colour code: RAL7035										

* In accordance with standard EN14511-3:2013

** Not in accordance with standard EN14511-3:2013.These performances do not take into account the correction for the proportionnal heating capacity and power input generated by the water pump to overcome the internal pressure drop in the heat exchanger.

C1 Cooling mode conditions: evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C, evaporator fooling factor 0 m^2.K/W

C2 Cooling mode conditions: evaporator water entering/leaving temperature 23°C/18°C, outside air temperature 35°C, evaporator fooling factor 0 m^2.K/W

IPLV Calculations according to standard performances (in accordance with AHRI 550-590)

(1) In dB ref=10-12 W, (A) weighting. Declared dualnumber noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). Measured in accordance with ISO 9614-1 and certified by Eurovent.

(2) In dB ref 20µPa, (A) weighting. Declared dualnumber noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). For information, calculated from the sound power level Lw(A).

(3) Values shown are a guideline only. Please refer to the unit nameplate

(4) When delivered, the standard pre-inflation of the tank is not necessarily the optimal value for the system. To permit changing the water volume, change the inflation pressure to a pressure that is close to the static head of the system. Fill the system with water (purging the air) to a pressure value that is 10 to 20 kPa higher than the pressure in the tank

Eurovent certified values

Appendix 4.4

Detailed Calculations of Fixed Noise Impact Assessment

Proposed Development in To Kwa Wan area

Predicted Industrial Noise Level at selected NSRs (Daytime/Evening)

NSRs: **N01** X coordinate = 837334.3

Y coordinate = 819801.6

Noise Source ID	Location	Noise Source	SWL	X coor.	Y coor.	Dist for apply correction (m)	Distance Correction, dB(A)	Screen Correctopm by building/barrier (-10dB(A)) [1]	Façade Correction, dB(A)	CNL dB(A)
V01	roof of BMW House	VRVs	68.0	837420.6	819770.7	91.7	-47.2	0	3	24
V02			68.0	837421.8	819770.2	93.0	-47.4	0	3	24
V03			68.0	837423.1	819769.6	94.4	-47.5	0	3	23
V04			68.0	837424.3	819768.9	95.8	-47.6	0	3	23
V05			68.0	837420.1	819769.5	91.6	-47.2	0	3	24
V06			68.0	837421.3	819768.9	92.9	-47.4	0	3	24
V07			68.0	837422.5	819768.4	94.3	-47.5	0	3	24
V08			68.0	837423.8	819767.7	95.7	-47.6	0	3	23
V09			64.0	837419.6	819768.5	91.5	-47.2	0	3	20
V10			64.0	837420.8	819767.9	92.8	-47.4	0	3	20
V11			64.0	837422.0	819767.3	94.2	-47.5	0	3	20
V12			64.0	837423.3	819766.7	95.6	-47.6	0	3	19
V13			68.0	837419.1	819767.5	91.4	-47.2	0	3	24
V14			68.0	837420.3	819766.9	92.8	-47.3	0	3	24
V15			68.0	837421.5	819766.3	94.2	-47.5	0	3	24
V16			68.0	837422.8	819765.7	95.5	-47.6	0	3	23
V17			64.0	837419.8	819765.8	92.7	-47.3	0	3	20
V18			64.0	837421.0	819765.2	94.1	-47.5	0	3	20
V19			64.0	837422.3	819764.6	95.5	-47.6	0	3	19
C01	Roof of To Kwa Wan Complex and Government Offices	Chillers	87.9	837421.2	819784.4	88.6	-47.0	0	3	44
C02			87.9	837425.9	819794.9	91.9	-47.3	0	3	44
C03			87.9	837426.2	819782.0	94.0	-47.5	0	3	43
C04			87.9	837430.8	819792.7	96.9	-47.7	0	3	43
C05		VRV	68.0	837432.5	819787.2	99.3	-47.9	0	3	23
A01	Roof of To Kwa Wan Market	Chiller	81.0	837432.6	819825.3	101.1	-48.1	0	3	36
A02		Chiller	81.0	837431.0	819821.8	98.8	-47.9	0	3	36
A03		VRV	68.0	837429.3	819818.3	96.5	-47.7	0	3	23
A04		VRV	73.4	837424.9	819807.3	90.8	-47.2	0	3	29
A05		VRV	74.4	837427.7	819806.0	93.5	-47.4	0	3	30
A06		Chiller	81.0	837432.1	819802.0	97.9	-47.8	0	3	36
A07		Chiller	81.0	837438.4	819800.9	104.1	-48.4	0	3	36
VS-TKW-1	To Kwa Wan MTR Station Exit D	TVL	87.0	837398.7	819579.5	231.2	-55.3	0	3	35
VS-TKW-2		TVL	90.0	837407.9	819581.6	232.0	-55.3	0	3	38
VS-TKW-3		TVL	87.0	837405.5	819572.2	240.3	-55.6	0	3	34
VS-TKW-4		SVL	81.0	837401.9	819571.9	239.5	-55.6	0	3	28
VS-TKW-5		SVL	85.0	837399.6	819571.9	238.9	-55.6	0	3	32
VS-TKW-6		SVL	81.0	837398.7	819586.0	225.1	-55.0	0	3	29
VS-TKW-7		TVL	91.0	837404.9	819590.1	223.0	-55.0	0	3	39
VS-TKW-8		TVL	85.0	837398.9	819579.6	231.3	-55.3	0	3	33
VS-TKW-9		SVL	80.0	837398.7	819585.9	225.2	-55.0	0	3	28
VS-TKW-22		SVL	95.0	837411.5	819582.8	232.1	-55.3	0	3	43
VS-TKW-27-L		SVL	78.0	837398.0	819608.5	203.4	-54.2	0	3	27
VS-TKW-27-R		SVL	82.0	837397.8	819598.8	212.5	-54.5	0	3	30
VS-TKW-27A-L		SVL	82.0	837397.9	819601.3	210.2	-54.5	0	3	31
VS-TKW-27A-R		SVL	89.0	837397.8	819599.7	211.7	-54.5	0	3	37
VS-TKW-28		SVL	85.0	837404.7	819617.1	197.5	-53.9	0	3	34
VS-TKW-48	Ventilation Shaft (Next to To Kwa Wan Market)	TVL	87.0	837394.1	819842.1	72.2	-45.2	0	3	45
VS-TKW-49		SVL	82.0	837394.9	819844.2	74.0	-45.4	0	3	40
VS-TKW-50		TVL	96.0	837400.7	819842.1	77.8	-45.8	0	3	53
VS-TKW-51		TVL	94.0	837399.2	819835.6	73.3	-45.3	0	3	52
VS-TKW-52		TVL	88.0	837407.8	819839.1	82.6	-46.3	0	3	45
VS-TKW-53		TVL	81.0	837404.6	819838.7	79.5	-46.0	0	3	38
VS-TKW-54		SVL	84.0	837407.3	819835.3	80.4	-46.1	0	3	41
VS-TKW-55		SVL	87.0	837407.3	819833.7	79.7	-46.0	0	3	44
VS-TKW-56		SVL	92.0	837407.4	819833.7	79.8	-46.0	0	3	49
VS-TKW-57		SVL	81.0	837406.3	819832.7	78.5	-45.9	0	3	38
VS-TKW-57A		SVL	90.0	837406.3	819832.5	78.4	-45.9	0	3	47
VS-TKW-58		SVL	90.0	837393.9	819839.2	70.5	-45.0	0	3	48
VS-TKW-59		TVL	84.0	837394.6	819840.5	71.8	-45.1	0	3	42
VS-TKW-60		TVL	85.0	837394.3	819841.3	72.0	-45.1	0	3	43
VS-TKW-61	To Kwa Wan MTR Station Exit A	SVL	77.0	837387.4	819884.8	98.7	-47.9	0	3	32
VS-TKW-64		SVL	79.0	837403.8	819872.3	99.1	-47.9	0	3	34
VS-TKW-65		SVL	80.0	837393.3	819888.1	104.6	-48.4	0	3	35
VS-TKW-67		SVL	88.0	837397.3	819875.2	96.9	-47.7	0	3	43
VS-TKW-68		SVL	79.0	837387.1	819884.5	98.3	-47.8	0	3	34
VS-TKW-71		SVL	79.0	837404.0	819879.1	104.2	-48.4	0	3	34
CT-TKW-001		Cooling Tower	97.0	837401.6	819600.7	211.9	-54.5	0	3	45
CT-TKW-002		Cooling Tower	97.0	837401.3	819609.5	203.5	-54.2	0	3	46
									Total	**60**
									Standard for ASR of B	**65**
									Standard for ASR of C	**70**
									Complied?	**Yes**

Note:

[1] A negative correction of 10 dB(A) can be adopted to the direction facing of the ventilation shaft totally screened by buildings. As a worst case assessment, this correction is not applied.

Proposed Development in To Kwa Wan area

Predicted Industrial Noise Level at selected NSRs (Night-time)

NSRs: **N01** X coordinate = 837334.3

Y coordinate = 819801.6

Noise Source ID	Location	Noise Source	SWL	X coor.	Y coor.	Dist for apply correction (m)	Distance Correction, dB(A)	Screen Correctopm by building/barrier (-10dB(A)) [1]	Façade Correction, dB(A)	CNL dB(A)
V01	roof of BMW House	VRVs	0.0	837420.6	819770.7	91.7	-47.2	0	3	NA
V02			0.0	837421.8	819770.2	93.0	-47.4	0	3	NA
V03			0.0	837423.1	819769.6	94.4	-47.5	0	3	NA
V04			0.0	837424.3	819768.9	95.8	-47.6	0	3	NA
V05			0.0	837420.1	819769.5	91.6	-47.2	0	3	NA
V06			0.0	837421.3	819768.9	92.9	-47.4	0	3	NA
V07			0.0	837422.5	819768.4	94.3	-47.5	0	3	NA
V08			0.0	837423.8	819767.7	95.7	-47.6	0	3	NA
V09			0.0	837419.6	819768.5	91.5	-47.2	0	3	NA
V10			0.0	837420.8	819767.9	92.8	-47.4	0	3	NA
V11			0.0	837422.0	819767.3	94.2	-47.5	0	3	NA
V12			0.0	837423.3	819766.7	95.6	-47.6	0	3	NA
V13			0.0	837419.1	819767.5	91.4	-47.2	0	3	NA
V14			0.0	837420.3	819766.9	92.8	-47.3	0	3	NA
V15			0.0	837421.5	819766.3	94.2	-47.5	0	3	NA
V16			0.0	837422.8	819765.7	95.5	-47.6	0	3	NA
V17			0.0	837419.8	819765.8	92.7	-47.3	0	3	NA
V18			0.0	837421.0	819765.2	94.1	-47.5	0	3	NA
V19			0.0	837422.3	819764.6	95.5	-47.6	0	3	NA
C01	Roof of To Kwa Wan Complex and Government Offices	Chillers	0.0	837421.2	819784.4	88.6	-47.0	0	3	NA
C02			0.0	837425.9	819794.9	91.9	-47.3	0	3	NA
C03			0.0	837426.2	819782.0	94.0	-47.5	0	3	NA
C04			0.0	837430.8	819792.7	96.9	-47.7	0	3	NA
C05		VRV	0.0	837432.5	819787.2	99.3	-47.9	0	3	NA
A01	Roof of To Kwa Wan Market	Chiller	0.0	837432.6	819825.3	101.1	-48.1	0	3	NA
A02		Chiller	0.0	837431.0	819821.8	98.8	-47.9	0	3	NA
A03		VRV	0.0	837429.3	819818.3	96.5	-47.7	0	3	NA
A04		VRV	0.0	837424.9	819807.3	90.8	-47.2	0	3	NA
A05		VRV	0.0	837427.7	819806.0	93.5	-47.4	0	3	NA
A06		Chiller	0.0	837432.1	819802.0	97.9	-47.8	0	3	NA
A07		Chiller	0.0	837438.4	819800.9	104.1	-48.4	0	3	NA
VS-TKW-1	To Kwa Wan MTR Station Exit D	TVL	77.0	837398.7	819579.5	231.2	-55.3	0	3	25
VS-TKW-2		TVL	80.0	837407.9	819581.6	232.0	-55.3	0	3	28
VS-TKW-3		TVL	77.0	837405.5	819572.2	240.3	-55.6	0	3	24
VS-TKW-4		SVL	71.0	837401.9	819571.9	239.5	-55.6	0	3	18
VS-TKW-5		SVL	75.0	837399.6	819571.9	238.9	-55.6	0	3	22
VS-TKW-6		SVL	71.0	837398.7	819586.0	225.1	-55.0	0	3	19
VS-TKW-7		TVL	81.0	837404.9	819590.1	223.0	-55.0	0	3	29
VS-TKW-8		TVL	75.0	837398.9	819579.6	231.3	-55.3	0	3	23
VS-TKW-9		SVL	70.0	837398.7	819585.9	225.2	-55.0	0	3	18
VS-TKW-22		SVL	85.0	837411.5	819582.8	232.1	-55.3	0	3	33
VS-TKW-27-L		SVL	68.0	837398.0	819608.5	203.4	-54.2	0	3	17
VS-TKW-27-R		SVL	72.0	837397.8	819598.8	212.5	-54.5	0	3	20
VS-TKW-27A-L		SVL	72.0	837397.9	819601.3	210.2	-54.5	0	3	21
VS-TKW-27A-R		SVL	79.0	837397.8	819599.7	211.7	-54.5	0	3	27
VS-TKW-28		SVL	75.0	837404.7	819617.1	197.5	-53.9	0	3	24
VS-TKW-48	Ventilation Shaft (Next to To Kwa Wan Market)	TVL	81.0	837394.1	819842.1	72.2	-45.2	0	3	39
VS-TKW-49		SVL	76.0	837394.9	819844.2	74.0	-45.4	0	3	34
VS-TKW-50		TVL	88.0	837400.7	819842.1	77.8	-45.8	0	3	45
VS-TKW-51		TVL	88.0	837399.2	819835.6	73.3	-45.3	0	3	46
VS-TKW-52		TVL	82.0	837407.8	819839.1	82.6	-46.3	0	3	39
VS-TKW-53		TVL	74.0	837404.6	819838.7	79.5	-46.0	0	3	31
VS-TKW-54		SVL	78.0	837407.3	819835.3	80.4	-46.1	0	3	35
VS-TKW-55		SVL	81.0	837407.3	819833.7	79.7	-46.0	0	3	38
VS-TKW-56		SVL	86.0	837407.4	819833.7	79.8	-46.0	0	3	43
VS-TKW-57		SVL	75.0	837406.3	819832.7	78.5	-45.9	0	3	32
VS-TKW-57A		SVL	84.0	837406.3	819832.5	78.4	-45.9	0	3	41
VS-TKW-58		SVL	84.0	837393.9	819839.2	70.5	-45.0	0	3	42
VS-TKW-59		TVL	78.0	837394.6	819840.5	71.8	-45.1	0	3	36
VS-TKW-60		TVL	79.0	837394.3	819841.3	72.0	-45.1	0	3	37
VS-TKW-61	To Kwa Wan MTR Station Exit A	SVL	76.0	837387.4	819884.8	98.7	-47.9	0	3	31
VS-TKW-64		SVL	73.0	837403.8	819872.3	99.1	-47.9	0	3	28
VS-TKW-65		SVL	79.0	837393.3	819888.1	104.6	-48.4	0	3	34
VS-TKW-67		SVL	87.0	837397.3	819875.2	96.9	-47.7	0	3	42
VS-TKW-68		SVL	77.0	837387.1	819884.5	98.3	-47.8	0	3	32
VS-TKW-71		SVL	73.0	837404.0	819879.1	104.2	-48.4	0	3	28
CT-TKW-001		Cooling Tower	87.0	837401.6	819600.7	211.9	-54.5	0	3	35
CT-TKW-002		Cooling Tower	87.0	837401.3	819609.5	203.5	-54.2	0	3	36
									Total	**53**
									Standard for ASR of B	**55**
									Standard for ASR of C	**60**
									Complied?	**Yes**

Note:

[1] A negative correction of 10 dB(A) can be adopted to the direction facing of the ventilation shaft totally screened by buildings. As a worst case assessment, this correction is not applied.

Proposed Development in To Kwa Wan area

Predicted Industrial Noise Level at selected NSRs (Daytime/Evening)

NSRs: **N02** X coordinate = 837335.1

Y coordinate = 819641.1

Noise Source ID	Location	Noise Source	SWL	X coor.	Y coor.	Dist for apply correction (m)	Distance Correction, dB(A)	Screen Correctopm by building/barrier (-10dB(A)) [1]	Façade Correction, dB(A)	CNL dB(A)
V01	roof of BMW House	VRVs	68.0	837420.6	819770.7	155.3	-51.8	0	3	19
V02			68.0	837421.8	819770.2	155.5	-51.8	0	3	19
V03			68.0	837423.1	819769.6	155.7	-51.8	0	3	19
V04			68.0	837424.3	819768.9	155.9	-51.9	0	3	19
V05			68.0	837420.1	819769.5	154.0	-51.7	0	3	19
V06			68.0	837421.3	819768.9	154.2	-51.8	0	3	19
V07			68.0	837422.5	819768.4	154.4	-51.8	0	3	19
V08			68.0	837423.8	819767.7	154.6	-51.8	0	3	19
V09			64.0	837419.6	819768.5	152.9	-51.7	0	3	15
V10			64.0	837420.8	819767.9	153.0	-51.7	0	3	15
V11			64.0	837422.0	819767.3	153.2	-51.7	0	3	15
V12			64.0	837423.3	819766.7	153.4	-51.7	0	3	15
V13			68.0	837419.1	819767.5	151.7	-51.6	0	3	19
V14			68.0	837420.3	819766.9	151.9	-51.6	0	3	19
V15			68.0	837421.5	819766.3	152.1	-51.6	0	3	19
V16			68.0	837422.8	819765.7	152.3	-51.7	0	3	19
V17			64.0	837419.8	819765.8	150.7	-51.6	0	3	15
V18			64.0	837421.0	819765.2	151.0	-51.6	0	3	15
V19			64.0	837422.3	819764.6	151.2	-51.6	0	3	15
C01	Roof of To Kwa Wan Complex and Government Offices	Chillers	87.9	837421.2	819784.4	167.2	-52.5	0	3	38
C02			87.9	837425.9	819794.9	178.6	-53.0	0	3	38
C03			87.9	837426.2	819782.0	167.8	-52.5	0	3	38
C04			87.9	837430.8	819792.7	179.2	-53.1	0	3	38
C05		VRV	68.0	837432.5	819787.2	175.6	-52.9	0	3	18
A01	Roof of To Kwa Wan Market	Chiller	81.0	837432.6	819825.3	208.4	-54.4	0	3	30
A02		Chiller	81.0	837431.0	819821.8	204.6	-54.2	0	3	30
A03		VRV	68.0	837429.3	819818.3	200.7	-54.0	0	3	17
A04		VRV	73.4	837424.9	819807.3	188.9	-53.5	0	3	23
A05		VRV	74.4	837427.7	819806.0	189.2	-53.5	0	3	24
A06		Chiller	81.0	837432.1	819802.0	187.9	-53.5	0	3	31
A07		Chiller	81.0	837438.4	819800.9	190.3	-53.6	0	3	30
VS-TKW-1	To Kwa Wan MTR Station Exit D	TVL	87.0	837398.7	819579.5	88.5	-46.9	0	3	43
VS-TKW-2		TVL	90.0	837407.9	819581.6	94.0	-47.5	0	3	46
VS-TKW-3		TVL	87.0	837405.5	819572.2	98.5	-47.9	0	3	42
VS-TKW-4		SVL	81.0	837401.9	819571.9	96.2	-47.7	0	3	36
VS-TKW-5		SVL	85.0	837399.6	819571.9	94.6	-47.5	0	3	40
VS-TKW-6		SVL	81.0	837398.7	819586.0	84.2	-46.5	0	3	37
VS-TKW-7		TVL	91.0	837404.9	819590.1	86.5	-46.7	0	3	47
VS-TKW-8		TVL	85.0	837398.9	819579.6	88.7	-47.0	0	3	41
VS-TKW-9		SVL	80.0	837398.7	819585.9	84.2	-46.5	0	3	36
VS-TKW-22		SVL	95.0	837411.5	819582.8	96.1	-47.7	0	3	50
VS-TKW-27-L		SVL	78.0	837398.0	819608.5	70.9	-45.0	0	3	36
VS-TKW-27-R		SVL	82.0	837397.8	819598.8	75.6	-45.6	0	3	39
VS-TKW-27A-L		SVL	82.0	837397.9	819601.3	74.4	-45.4	0	3	40
VS-TKW-27A-R		SVL	89.0	837397.8	819599.7	75.1	-45.5	0	3	46
VS-TKW-28		SVL	85.0	837404.7	819617.1	73.6	-45.3	0	3	43
VS-TKW-48	Ventilation Shaft (Next to To Kwa Wan Market)	TVL	87.0	837394.1	819842.1	209.5	-54.4	0	3	36
VS-TKW-49		SVL	82.0	837394.9	819844.2	211.7	-54.5	0	3	30
VS-TKW-50		TVL	96.0	837400.7	819842.1	211.4	-54.5	0	3	44
VS-TKW-51		TVL	94.0	837399.2	819835.6	204.8	-54.2	0	3	43
VS-TKW-52		TVL	88.0	837407.8	819839.1	211.0	-54.5	0	3	37
VS-TKW-53		TVL	81.0	837404.6	819838.7	209.5	-54.4	0	3	30
VS-TKW-54		SVL	84.0	837407.3	819835.3	207.1	-54.3	0	3	33
VS-TKW-55		SVL	87.0	837407.3	819833.7	205.6	-54.3	0	3	36
VS-TKW-56		SVL	92.0	837407.4	819833.7	205.7	-54.3	0	3	41
VS-TKW-57		SVL	81.0	837406.3	819832.7	204.4	-54.2	0	3	30
VS-TKW-57A		SVL	90.0	837406.3	819832.5	204.2	-54.2	0	3	39
VS-TKW-58		SVL	90.0	837393.9	819839.2	206.7	-54.3	0	3	39
VS-TKW-59		TVL	84.0	837394.6	819840.5	208.1	-54.4	0	3	33
VS-TKW-60		TVL	85.0	837394.3	819841.3	208.8	-54.4	0	3	34
VS-TKW-61	To Kwa Wan MTR Station Exit A	SVL	77.0	837387.4	819884.8	249.3	-55.9	0	3	24
VS-TKW-64		SVL	79.0	837403.8	819872.3	241.2	-55.6	0	3	26
VS-TKW-65		SVL	80.0	837393.3	819888.1	253.7	-56.1	0	3	27
VS-TKW-67		SVL	88.0	837397.3	819875.2	242.3	-55.7	0	3	35
VS-TKW-68		SVL	79.0	837387.1	819884.5	248.9	-55.9	0	3	26
VS-TKW-71		SVL	79.0	837404.0	819879.1	247.8	-55.9	0	3	26
CT-TKW-001		Cooling Tower	97.0	837401.6	819600.7	77.8	-45.8	0	3	54
CT-TKW-002		Cooling Tower	97.0	837401.3	819609.5	73.4	-45.3	0	3	55
									Total	**60**
									Standard for ASR of B	**65**
									Standard for ASR of C	**70**
									Complied?	**Yes**

Note:

[1] A negative correction of 10 dB(A) can be adopted to the direction facing of the ventilation shaft totally screened by buildings. As a worst case assessment, this correction is not applied.

Proposed Development in To Kwa Wan area

Predicted Industrial Noise Level at selected NSRs (Night-time)

NSRs: **N02** X coordinate = 837335.1

Y coordinate = 819641.1

Noise Source ID	Location	Noise Source	SWL	X coor.	Y coor.	Dist for apply correction (m)	Distance Correction, dB(A)	Screen Correctopm by building/barrier (-10dB(A)) [1]	Façade Correction, dB(A)	CNL dB(A)
V01	roof of BMW House	VRVs	0.0	837420.6	819770.7	155.3	-51.8	0	3	NA
V02			0.0	837421.8	819770.2	155.5	-51.8	0	3	NA
V03			0.0	837423.1	819769.6	155.7	-51.8	0	3	NA
V04			0.0	837424.3	819768.9	155.9	-51.9	0	3	NA
V05			0.0	837420.1	819769.5	154.0	-51.7	0	3	NA
V06			0.0	837421.3	819768.9	154.2	-51.8	0	3	NA
V07			0.0	837422.5	819768.4	154.4	-51.8	0	3	NA
V08			0.0	837423.8	819767.7	154.6	-51.8	0	3	NA
V09			0.0	837419.6	819768.5	152.9	-51.7	0	3	NA
V10			0.0	837420.8	819767.9	153.0	-51.7	0	3	NA
V11			0.0	837422.0	819767.3	153.2	-51.7	0	3	NA
V12			0.0	837423.3	819766.7	153.4	-51.7	0	3	NA
V13			0.0	837419.1	819767.5	151.7	-51.6	0	3	NA
V14			0.0	837420.3	819766.9	151.9	-51.6	0	3	NA
V15			0.0	837421.5	819766.3	152.1	-51.6	0	3	NA
V16			0.0	837422.8	819765.7	152.3	-51.7	0	3	NA
V17			0.0	837419.8	819765.8	150.7	-51.6	0	3	NA
V18			0.0	837421.0	819765.2	151.0	-51.6	0	3	NA
V19			0.0	837422.3	819764.6	151.2	-51.6	0	3	NA
C01	Roof of To Kwa Wan Complex and Government Offices	Chillers	0.0	837421.2	819784.4	167.2	-52.5	0	3	NA
C02			0.0	837425.9	819794.9	178.6	-53.0	0	3	NA
C03			0.0	837426.2	819782.0	167.8	-52.5	0	3	NA
C04			0.0	837430.8	819792.7	179.2	-53.1	0	3	NA
C05		VRV	0.0	837432.5	819787.2	175.6	-52.9	0	3	NA
A01	Roof of To Kwa Wan Market	Chiller	0.0	837432.6	819825.3	208.4	-54.4	0	3	NA
A02		Chiller	0.0	837431.0	819821.8	204.6	-54.2	0	3	NA
A03		VRV	0.0	837429.3	819818.3	200.7	-54.0	0	3	NA
A04		VRV	0.0	837424.9	819807.3	188.9	-53.5	0	3	NA
A05		VRV	0.0	837427.7	819806.0	189.2	-53.5	0	3	NA
A06		Chiller	0.0	837432.1	819802.0	187.9	-53.5	0	3	NA
A07		Chiller	0.0	837438.4	819800.9	190.3	-53.6	0	3	NA
VS-TKW-1	To Kwa Wan MTR Station Exit D	TVL	77.0	837398.7	819579.5	88.5	-46.9	0	3	33
VS-TKW-2		TVL	80.0	837407.9	819581.6	94.0	-47.5	0	3	36
VS-TKW-3		TVL	77.0	837405.5	819572.2	98.5	-47.9	0	3	32
VS-TKW-4		SVL	71.0	837401.9	819571.9	96.2	-47.7	0	3	26
VS-TKW-5		SVL	75.0	837399.6	819571.9	94.6	-47.5	0	3	30
VS-TKW-6		SVL	71.0	837398.7	819586.0	84.2	-46.5	0	3	27
VS-TKW-7		TVL	81.0	837404.9	819590.1	86.5	-46.7	0	3	37
VS-TKW-8		TVL	75.0	837398.9	819579.6	88.7	-47.0	0	3	31
VS-TKW-9		SVL	70.0	837398.7	819585.9	84.2	-46.5	0	3	26
VS-TKW-22		SVL	85.0	837411.5	819582.8	96.1	-47.7	0	3	40
VS-TKW-27-L		SVL	68.0	837398.0	819608.5	70.9	-45.0	0	3	26
VS-TKW-27-R		SVL	72.0	837397.8	819598.8	75.6	-45.6	0	3	29
VS-TKW-27A-L		SVL	72.0	837397.9	819601.3	74.4	-45.4	0	3	30
VS-TKW-27A-R		SVL	79.0	837397.8	819599.7	75.1	-45.5	0	3	36
VS-TKW-28		SVL	75.0	837404.7	819617.1	73.6	-45.3	0	3	33
VS-TKW-48	Ventilation Shaft (Next to To Kwa Wan Market)	TVL	81.0	837394.1	819842.1	209.5	-54.4	0	3	30
VS-TKW-49		SVL	76.0	837394.9	819844.2	211.7	-54.5	0	3	24
VS-TKW-50		TVL	88.0	837400.7	819842.1	211.4	-54.5	0	3	36
VS-TKW-51		TVL	88.0	837399.2	819835.6	204.8	-54.2	0	3	37
VS-TKW-52		TVL	82.0	837407.8	819839.1	211.0	-54.5	0	3	31
VS-TKW-53		TVL	74.0	837404.6	819838.7	209.5	-54.4	0	3	23
VS-TKW-54		SVL	78.0	837407.3	819835.3	207.1	-54.3	0	3	27
VS-TKW-55		SVL	81.0	837407.3	819833.7	205.6	-54.3	0	3	30
VS-TKW-56		SVL	86.0	837407.4	819833.7	205.7	-54.3	0	3	35
VS-TKW-57		SVL	75.0	837406.3	819832.7	204.4	-54.2	0	3	24
VS-TKW-57A		SVL	84.0	837406.3	819832.5	204.2	-54.2	0	3	33
VS-TKW-58		SVL	84.0	837393.9	819839.2	206.7	-54.3	0	3	33
VS-TKW-59		TVL	78.0	837394.6	819840.5	208.1	-54.4	0	3	27
VS-TKW-60		TVL	79.0	837394.3	819841.3	208.8	-54.4	0	3	28
VS-TKW-61	To Kwa Wan MTR Station Exit A	SVL	76.0	837387.4	819884.8	249.3	-55.9	0	3	23
VS-TKW-64		SVL	73.0	837403.8	819872.3	241.2	-55.6	0	3	20
VS-TKW-65		SVL	79.0	837393.3	819888.1	253.7	-56.1	0	3	26
VS-TKW-67		SVL	87.0	837397.3	819875.2	242.3	-55.7	0	3	34
VS-TKW-68		SVL	77.0	837387.1	819884.5	248.9	-55.9	0	3	24
VS-TKW-71		SVL	73.0	837404.0	819879.1	247.8	-55.9	0	3	20
CT-TKW-001		Cooling Tower	87.0	837401.6	819600.7	77.8	-45.8	0	3	44
CT-TKW-002		Cooling Tower	87.0	837401.3	819609.5	73.4	-45.3	0	3	45
									Total	**51**
									Standard for ASR of B	**55**
									Standard for ASR of C	**60**
									Complied?	**Yes**

Note:

[1] A negative correction of 10 dB(A) can be adopted to the direction facing of the ventilation shaft totally screened by buildings. As a worst case assessment, this correction is not applied.

Proposed Development in To Kwa Wan area

Predicted Industrial Noise Level at selected NSRs (Daytime/Evening)

NSRs: **N03** X coordinate = 837333.8

Y coordinate = 819875.5

Noise Source ID	Location	Noise Source	SWL	X coor.	Y coor.	Dist for apply correction (m)	Distance Correction, dB(A)	Screen Correctopm by building/barrier (-10dB(A)) [1]	Façade Correction, dB(A)	CNL dB(A)
V01	roof of BMW House	VRVs	68.0	837420.6	819770.7	136.1	-50.7	0	3	20
V02			68.0	837421.8	819770.2	137.3	-50.8	0	3	20
V03			68.0	837423.1	819769.6	138.5	-50.8	0	3	20
V04			68.0	837424.3	819768.9	139.8	-50.9	0	3	20
V05			68.0	837420.1	819769.5	136.7	-50.7	0	3	20
V06			68.0	837421.3	819768.9	137.9	-50.8	0	3	20
V07			68.0	837422.5	819768.4	139.1	-50.9	0	3	20
V08			68.0	837423.8	819767.7	140.4	-50.9	0	3	20
V09			64.0	837419.6	819768.5	137.1	-50.7	0	3	16
V10			64.0	837420.8	819767.9	138.4	-50.8	0	3	16
V11			64.0	837422.0	819767.3	139.6	-50.9	0	3	16
V12			64.0	837423.3	819766.7	140.9	-51.0	0	3	16
V13			68.0	837419.1	819767.5	137.7	-50.8	0	3	20
V14			68.0	837420.3	819766.9	138.9	-50.9	0	3	20
V15			68.0	837421.5	819766.3	140.1	-50.9	0	3	20
V16			68.0	837422.8	819765.7	141.4	-51.0	0	3	20
V17			64.0	837419.8	819765.8	139.4	-50.9	0	3	16
V18			64.0	837421.0	819765.2	140.6	-51.0	0	3	16
V19			64.0	837422.3	819764.6	141.9	-51.0	0	3	16
C01	Roof of To Kwa Wan Complex and Government Offices	Chillers	87.9	837421.2	819784.4	126.3	-50.0	0	3	41
C02			87.9	837425.9	819794.9	122.4	-49.8	0	3	41
C03			87.9	837426.2	819782.0	131.5	-50.4	0	3	41
C04			87.9	837430.8	819792.7	127.5	-50.1	0	3	41
C05		VRV	68.0	837432.5	819787.2	132.4	-50.4	0	3	21
A01	Roof of To Kwa Wan Market	Chiller	81.0	837432.6	819825.3	110.8	-48.9	0	3	35
A02		Chiller	81.0	837431.0	819821.8	111.0	-48.9	0	3	35
A03		VRV	68.0	837429.3	819818.3	111.3	-48.9	0	3	22
A04		VRV	73.4	837424.9	819807.3	113.8	-49.1	0	3	27
A05		VRV	74.4	837427.7	819806.0	116.8	-49.3	0	3	28
A06		Chiller	81.0	837432.1	819802.0	122.8	-49.8	0	3	34
A07		Chiller	81.0	837438.4	819800.9	128.5	-50.2	0	3	34
VS-TKW-1	To Kwa Wan MTR Station Exit D	TVL	87.0	837398.7	819579.5	303.0	-57.6	0	3	32
VS-TKW-2		TVL	90.0	837407.9	819581.6	303.1	-57.6	0	3	35
VS-TKW-3		TVL	87.0	837405.5	819572.2	311.7	-57.9	0	3	32
VS-TKW-4		SVL	81.0	837401.9	819571.9	311.2	-57.9	0	3	26
VS-TKW-5		SVL	85.0	837399.6	819571.9	310.7	-57.8	0	3	30
VS-TKW-6		SVL	81.0	837398.7	819586.0	296.7	-57.4	0	3	27
VS-TKW-7		TVL	91.0	837404.9	819590.1	294.1	-57.4	0	3	37
VS-TKW-8		TVL	85.0	837398.9	819579.6	303.0	-57.6	0	3	30
VS-TKW-9		SVL	80.0	837398.7	819585.9	296.8	-57.4	0	3	26
VS-TKW-22		SVL	95.0	837411.5	819582.8	302.9	-57.6	0	3	40
VS-TKW-27-L		SVL	78.0	837398.0	819608.5	274.7	-56.8	0	3	24
VS-TKW-27-R		SVL	82.0	837397.8	819598.8	284.0	-57.1	0	3	28
VS-TKW-27A-L		SVL	82.0	837397.9	819601.3	281.7	-57.0	0	3	28
VS-TKW-27A-R		SVL	89.0	837397.8	819599.7	283.1	-57.0	0	3	35
VS-TKW-28		SVL	85.0	837404.7	819617.1	267.9	-56.6	0	3	31
VS-TKW-48	Ventilation Shaft (Next to To Kwa Wan Market)	TVL	87.0	837394.1	819842.1	68.9	-44.8	0	3	45
VS-TKW-49		SVL	82.0	837394.9	819844.2	68.6	-44.7	0	3	40
VS-TKW-50		TVL	96.0	837400.7	819842.1	74.8	-45.5	0	3	54
VS-TKW-51		TVL	94.0	837399.2	819835.6	76.6	-45.7	0	3	51
VS-TKW-52		TVL	88.0	837407.8	819839.1	82.5	-46.3	0	3	45
VS-TKW-53		TVL	81.0	837404.6	819838.7	79.8	-46.0	0	3	38
VS-TKW-54		SVL	84.0	837407.3	819835.3	83.7	-46.5	0	3	41
VS-TKW-55		SVL	87.0	837407.3	819833.7	84.5	-46.5	0	3	43
VS-TKW-56		SVL	92.0	837407.4	819833.7	84.7	-46.6	0	3	48
VS-TKW-57		SVL	81.0	837406.3	819832.7	84.2	-46.5	0	3	37
VS-TKW-57A		SVL	90.0	837406.3	819832.5	84.3	-46.5	0	3	46
VS-TKW-58		SVL	90.0	837393.9	819839.2	70.2	-44.9	0	3	48
VS-TKW-59		TVL	84.0	837394.6	819840.5	70.1	-44.9	0	3	42
VS-TKW-60		TVL	85.0	837394.3	819841.3	69.5	-44.8	0	3	43
VS-TKW-61	To Kwa Wan MTR Station Exit A	SVL	77.0	837387.4	819884.8	54.4	-42.7	0	3	37
VS-TKW-64		SVL	79.0	837403.8	819872.3	70.1	-44.9	0	3	37
VS-TKW-65		SVL	80.0	837393.3	819888.1	60.8	-43.7	0	3	39
VS-TKW-67		SVL	88.0	837397.3	819875.2	63.5	-44.1	0	3	47
VS-TKW-68		SVL	79.0	837387.1	819884.5	54.0	-42.7	0	3	39
VS-TKW-71		SVL	79.0	837404.0	819879.1	70.2	-44.9	0	3	37
CT-TKW-001		Cooling Tower	97.0	837401.6	819600.7	283.1	-57.0	0	3	43
CT-TKW-002		Cooling Tower	97.0	837401.3	819609.5	274.4	-56.8	0	3	43
									Total	**60**
									Standard for ASR of B	**65**
									Standard for ASR of C	**70**
									Complied?	**Yes**

Note:

[1] A negative correction of 10 dB(A) can be adopted to the direction facing of the ventilation shaft totally screened by buildings. As a worst case assessment, this correction is not applied.

Proposed Development in To Kwa Wan area

Predicted Industrial Noise Level at selected NSRs (Night-time)

NSRs: **N03** X coordinate = 837333.8

Y coordinate = 819875.5

Noise Source ID	Location	Noise Source	SWL	X coor.	Y coor.	Dist for apply correction (m)	Distance Correction, dB(A)	Screen Correctopm by building/barrier (-10dB(A)) [1]	Façade Correction, dB(A)	CNL dB(A)
V01	roof of BMW House	VRVs	0.0	837420.6	819770.7	136.1	-50.7	0	3	NA
V02			0.0	837421.8	819770.2	137.3	-50.8	0	3	NA
V03			0.0	837423.1	819769.6	138.5	-50.8	0	3	NA
V04			0.0	837424.3	819768.9	139.8	-50.9	0	3	NA
V05			0.0	837420.1	819769.5	136.7	-50.7	0	3	NA
V06			0.0	837421.3	819768.9	137.9	-50.8	0	3	NA
V07			0.0	837422.5	819768.4	139.1	-50.9	0	3	NA
V08			0.0	837423.8	819767.7	140.4	-50.9	0	3	NA
V09			0.0	837419.6	819768.5	137.1	-50.7	0	3	NA
V10			0.0	837420.8	819767.9	138.4	-50.8	0	3	NA
V11			0.0	837422.0	819767.3	139.6	-50.9	0	3	NA
V12			0.0	837423.3	819766.7	140.9	-51.0	0	3	NA
V13			0.0	837419.1	819767.5	137.7	-50.8	0	3	NA
V14			0.0	837420.3	819766.9	138.9	-50.9	0	3	NA
V15			0.0	837421.5	819766.3	140.1	-50.9	0	3	NA
V16			0.0	837422.8	819765.7	141.4	-51.0	0	3	NA
V17			0.0	837419.8	819765.8	139.4	-50.9	0	3	NA
V18			0.0	837421.0	819765.2	140.6	-51.0	0	3	NA
V19			0.0	837422.3	819764.6	141.9	-51.0	0	3	NA
C01	Roof of To Kwa Wan Complex and Government Offices	Chillers	0.0	837421.2	819784.4	126.3	-50.0	0	3	NA
C02			0.0	837425.9	819794.9	122.4	-49.8	0	3	NA
C03			0.0	837426.2	819782.0	131.5	-50.4	0	3	NA
C04			0.0	837430.8	819792.7	127.5	-50.1	0	3	NA
C05		VRV	0.0	837432.5	819787.2	132.4	-50.4	0	3	NA
A01	Roof of To Kwa Wan Market	Chiller	0.0	837432.6	819825.3	110.8	-48.9	0	3	NA
A02		Chiller	0.0	837431.0	819821.8	111.0	-48.9	0	3	NA
A03		VRV	0.0	837429.3	819818.3	111.3	-48.9	0	3	NA
A04		VRV	0.0	837424.9	819807.3	113.8	-49.1	0	3	NA
A05		VRV	0.0	837427.7	819806.0	116.8	-49.3	0	3	NA
A06		Chiller	0.0	837432.1	819802.0	122.8	-49.8	0	3	NA
A07		Chiller	0.0	837438.4	819800.9	128.5	-50.2	0	3	NA
VS-TKW-1	To Kwa Wan MTR Station Exit D	TVL	77.0	837398.7	819579.5	303.0	-57.6	0	3	22
VS-TKW-2		TVL	80.0	837407.9	819581.6	303.1	-57.6	0	3	25
VS-TKW-3		TVL	77.0	837405.5	819572.2	311.7	-57.9	0	3	22
VS-TKW-4		SVL	71.0	837401.9	819571.9	311.2	-57.9	0	3	16
VS-TKW-5		SVL	75.0	837399.6	819571.9	310.7	-57.8	0	3	20
VS-TKW-6		SVL	71.0	837398.7	819586.0	296.7	-57.4	0	3	17
VS-TKW-7		TVL	81.0	837404.9	819590.1	294.1	-57.4	0	3	27
VS-TKW-8		TVL	75.0	837398.9	819579.6	303.0	-57.6	0	3	20
VS-TKW-9		SVL	70.0	837398.7	819585.9	296.8	-57.4	0	3	16
VS-TKW-22		SVL	85.0	837411.5	819582.8	302.9	-57.6	0	3	30
VS-TKW-27-L		SVL	68.0	837398.0	819608.5	274.7	-56.8	0	3	14
VS-TKW-27-R		SVL	72.0	837397.8	819598.8	284.0	-57.1	0	3	18
VS-TKW-27A-L		SVL	72.0	837397.9	819601.3	281.7	-57.0	0	3	18
VS-TKW-27A-R		SVL	79.0	837397.8	819599.7	283.1	-57.0	0	3	25
VS-TKW-28		SVL	75.0	837404.7	819617.1	267.9	-56.6	0	3	21
VS-TKW-48	Ventilation Shaft (Next to To Kwa Wan Market)	TVL	81.0	837394.1	819842.1	68.9	-44.8	0	3	39
VS-TKW-49		SVL	76.0	837394.9	819844.2	68.6	-44.7	0	3	34
VS-TKW-50		TVL	88.0	837400.7	819842.1	74.8	-45.5	0	3	46
VS-TKW-51		TVL	88.0	837399.2	819835.6	76.6	-45.7	0	3	45
VS-TKW-52		TVL	82.0	837407.8	819839.1	82.5	-46.3	0	3	39
VS-TKW-53		TVL	74.0	837404.6	819838.7	79.8	-46.0	0	3	31
VS-TKW-54		SVL	78.0	837407.3	819835.3	83.7	-46.5	0	3	35
VS-TKW-55		SVL	81.0	837407.3	819833.7	84.5	-46.5	0	3	37
VS-TKW-56		SVL	86.0	837407.4	819833.7	84.7	-46.6	0	3	42
VS-TKW-57		SVL	75.0	837406.3	819832.7	84.2	-46.5	0	3	31
VS-TKW-57A		SVL	84.0	837406.3	819832.5	84.3	-46.5	0	3	40
VS-TKW-58		SVL	84.0	837393.9	819839.2	70.2	-44.9	0	3	42
VS-TKW-59		TVL	78.0	837394.6	819840.5	70.1	-44.9	0	3	36
VS-TKW-60		TVL	79.0	837394.3	819841.3	69.5	-44.8	0	3	37
VS-TKW-61	To Kwa Wan MTR Station Exit A	SVL	76.0	837387.4	819884.8	54.4	-42.7	0	3	36
VS-TKW-64		SVL	73.0	837403.8	819872.3	70.1	-44.9	0	3	31
VS-TKW-65		SVL	79.0	837393.3	819888.1	60.8	-43.7	0	3	38
VS-TKW-67		SVL	87.0	837397.3	819875.2	63.5	-44.1	0	3	46
VS-TKW-68		SVL	77.0	837387.1	819884.5	54.0	-42.7	0	3	37
VS-TKW-71		SVL	73.0	837404.0	819879.1	70.2	-44.9	0	3	31
CT-TKW-001		Cooling Tower	87.0	837401.6	819600.7	283.1	-57.0	0	3	33
CT-TKW-002		Cooling Tower	87.0	837401.3	819609.5	274.4	-56.8	0	3	33
									Total	**53**
									Standard for ASR of B	**55**
									Standard for ASR of C	**60**
									Complied?	**Yes**

Note:

[1] A negative correction of 10 dB(A) can be adopted to the direction facing of the ventilation shaft totally screened by buildings. As a worst case assessment, this correction is not applied.

Appendix 4.5

Extracted pages of Fixed Plant Noise Audit Report (Batch 1 – To Kwa Wan Station), pursuant to Condition 2.32 of the Environmental Permit (EP-438/2012/K)

AECOM

MTR Corporation Limited

Consultancy Agreement No. C11033

Shatin to Central Link - Tai Wai to Hung Hom Section [SCL(TAW – HUH)] and Stabling Sidings at Hung Hom Freight Yard [SCL(HHS)]

Fixed Plant Noise Audit Report (Batch 1 – To Kwa Wan Station (TKW))

March 2019

	Name	Signature
Prepared & Checked:	Isaac Chu	
Reviewed & Approved:	Josh Lam	

Version:	A	Date: 14 March 2019

This Report is prepared for MTR Corporation Limited and is given for its sole benefit in relation to and pursuant to Consultancy Agreement No. C11033 and may not be disclosed to, quoted to or relied upon by any person other than MTR Corporation Limited without our prior written consent. No person (other than MTR Corporation Limited) into whose possession a copy of this Report comes may rely on this Report without our express written consent and MTR Corporation Limited may not rely on it for any purpose other than as described above.

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1 INTRODUCTION

1.1 Background

1.1.1 The Shatin to Central Link (SCL) is a 17km extension of the existing Ma On Shan Line (MOL) and East Rail Line (EAL) comprising (i) The East-West Corridor which extends the MOL from Tai Wai to Hung Hom via East Kowloon to connect with the West Rail Line (WRL) at Hung Hom Station (HUH) and Stabling Sidings at Hung Hom Freight Yard (HHS); and (ii) The North-South Corridor which is an extension of the EAL at Hung Hom across the harbour to Admiralty Station (ADM).

1.1.2 Environmental Impact Assessment (EIA) Reports for SCL – Tai Wai to Hung Hom Section [SCL (TAW-HUH)] (Register No. AEIAR-167/2012) and SCL Stabling Sidings at Hung Hom Freight Yard [SCL (HHS)] (Register No. AEIAR-164/2012) (hereinafter referred to as "the EIA Reports") were approved on 17 February 2012 under the Environmental Impact Assessment Ordinance (EIAO). Following the approval of the EIA Reports, the Environmental Permit (EP) (EP No: EP-438/2012), covering the construction of both SCL (TAW-HUH) and SCL (HHS) (hereinafter referred to as "the Project"), was granted on 22 March 2012. Variations of Environmental Permit (VEP) were subsequently applied for EP-438/2012 and the latest Environmental Permit (EP No: EP-438/2012/K) was issued by Director of Environmental Protection (DEP) on 4 October 2016.

1.1.3 Pursuant to EP Condition 2.32, at least one month before commencement of operation of the Project, the Permit Holder, MTR Corporation Ltd (MTR), shall carry out fixed plant noise audit and deposit with the Director four hardcopies and one electronic copy of an audit report showing the design of the fixed plant noise sources associated with the Project complies with the maximum sound power levels determined in the approved SCL(TAW-HUH) EIA Report (Register No. AEIAR-167/2012) and SCL(HHS) EIA Report (Register No. AEIAR-164/2012) and all relevant documents in the Register, or otherwise approved by the Director in compliance with the requirements in Technical Memorandum on Environmental Impact Assessment Process having due regard to the characteristics of tonality, impulsiveness and intermittency.

1.1.4 Since the installation of fixed plant along the SCL (TAW-HUH) and SCL (HHS) would be completed in stages, the fixed plant noise audit will be conducted in stages according to the testing and commissioning programmes in each area.

1.1.5 AECOM Asia Co. Ltd was commissioned by the MTR to prepare the fixed plant noise audit report to check the compliance of the maximum sound power levels (SWLs) and to undertake noise measurement at the representative Noise Sensitive Receivers (NSRs) for investigation of any characteristics of tonality, impulsiveness and intermittency from the fixed plant noise sources associated with the Project.

1.1.6 Based on the latest design information, the maximum allowable SWLs of fixed plant items has been updated to reflect the latest design of the Project, and therefore Proposals were prepared to present the updated maximum allowable sound power levels (SWLs) of the fixed plant items at different stations of the Project. The Proposal for Updating Maximum Allowable Sound Power Levels of Louvers (Batch 1 – To Kwa Wan Station (TKW)) (hereinafter referred to as "the Proposal (Batch 1 – TKW)") (**Appendix A** refers) was approved by DEP on 13 March 2019.

1.1.7 This Fixed Plant Noise Audit Report (Batch 1 – To Kwa Wan Station (TKW)) (hereinafter referred to as "the FPNAR (Batch 1 - TKW") presents the noise measurement methodology and measurement results at the fixed plant noise sources of TKW and at the representative NSRs near TKW, for checking compliance with the maximum allowable sound power levels (SWLs) determined in the Proposal (Batch 1 – TKW).

2 UPDATED SOUND POWER LEVELS OF FIXED PLANT NOISE SOURCES

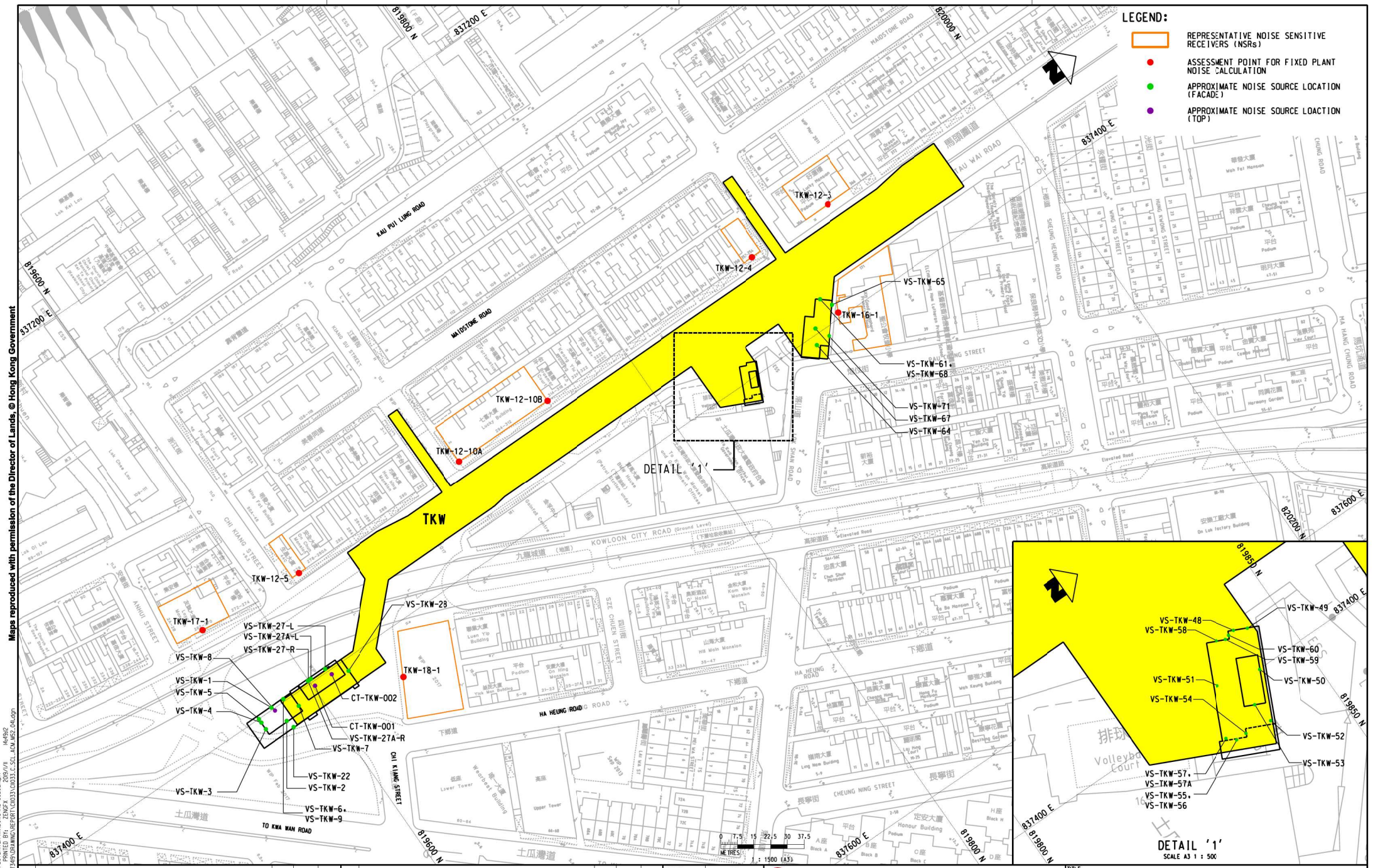
2.1.1 The updated maximum allowable SWL of fixed plant noise sources at TKW are extracted from the Proposal (Batch 1 – TKW) and are summarised in **Table 2.1**. The updated fixed plant noise sources locations at TKW are shown in **Figure No. C1103/C/SCL/ACM/M52/041**. The measured noise level of fixed plant noise sources during the commissioning test shall comply with the maximum allowable SWLs as summarised in **Table 2.1**. Appropriate corrections in tonal, impulsive or intermittent characteristics should be applied, where applicable, in accordance with the IND-TM during the commissioning test conducted at the representative NSRs.

Table 2.1 Summary of Updated Maximum Allowable SWLs for Fixed Plant Noise Sources at TKW

Location	Fixed Plant ID. (1)	Fixed Plant Source	Maximum Allowable SWL, dB(A)	
			Daytime/Evening (2)	Night-time (2)
TKW	VS-TKW-1	Tunnel Ventilation Louver	87	77
	VS-TKW-2	Tunnel Ventilation Louver	90	80
	VS-TKW-3	Tunnel Ventilation Louver	87	77
	VS-TKW-4	Station Ventilation Louver	81	71
	VS-TKW-5	Station Ventilation Louver	85	75
	VS-TKW-6	Station Ventilation Louver	81	71
	VS-TKW-7	Tunnel Ventilation Louver	91	81
	VS-TKW-8	Tunnel Ventilation Louver	85	75
	VS-TKW-9	Station Ventilation Louver	80	70
	VS-TKW-22	Station Ventilation Louver	95	85
	VS-TKW-27-L	Station Ventilation Louver	78	68
	VS-TKW-27-R	Station Ventilation Louver	82	72
	VS-TKW-27A-L	Station Ventilation Louver	82	72
	VS-TKW-27A-R	Station Ventilation Louver	89	79
	VS-TKW-28	Station Ventilation Louver	85	75
	VS-TKW-48	Tunnel Ventilation Louver	87	81
	VS-TKW-49	Station Ventilation Louver	82	76
	VS-TKW-50	Tunnel Ventilation Louver	96	88
	VS-TKW-51	Tunnel Ventilation Louver	94	88
	VS-TKW-52	Tunnel Ventilation Louver	88	82
	VS-TKW-53	Tunnel Ventilation Louver	81	74
	VS-TKW-54	Station Ventilation Louver	84	78
	VS-TKW-55	Station Ventilation Louver	87	81
	VS-TKW-56	Station Ventilation Louver	92	86
	VS-TKW-57	Station Ventilation Louver	81	75
	VS-TKW-57A	Station Ventilation Louver	90	84
	VS-TKW-58	Station Ventilation Louver	90	84
	VS-TKW-59	Tunnel Ventilation Louver	84	78
	VS-TKW-60	Tunnel Ventilation Louver	85	79
	VS-TKW-61	Station Ventilation Louver	77	76
	VS-TKW-64	Station Ventilation Louver	79	73
	VS-TKW-65	Station Ventilation Louver	80	79
	VS-TKW-67	Station Ventilation Louver	88	87

Location	Fixed Plant ID. (1)	Fixed Plant Source	Maximum Allowable SWL, dB(A)	
			Daytime/Evening (2)	Night-time (2)
	VS-TKW-68	Station Ventilation Louver	79	77
	VS-TKW-71	Station Ventilation Louver	79	73
	CT-TKW-001	Cooling Tower	97	87
	CT-TKW-002	Cooling Tower	97	87

Notes:
(1) Ma Tau Wai Station as named in the EIA Reports have been recently renamed as To Kwa Wan Station (TKW). The fixed plant ID. are therefore updated from VS-MTW-XX to VS-TKW-XX to match with existing naming.
(2) Day: 0700 to 1900 hours, Evening: 1900 to 2300 hours, Night: 2300 to 0700 hours.



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MTR

SHATIN TO CENTRAL LINK

ORIGINATOR

AECOM

CADD REF. C11033_C_SCL_ACM_M52_041.dgn

TITLE

C11033
SCL (TAW-HUH)
LOCATIONS OF NSRs AND FIXED PLANT NOISE SOURCES AT TKW

SCALE 1 : 1500 (A3)

FIGURE NO. C11033/C/SCL/ACM/M52/041

REV. –

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FILENAME:

Sewerage Impact Assessment
(SIA)



Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

Sewerage Impact Assessment

Prepared for:

Urban Renewal Authority

Prepared by:
Ramboll Hong Kong Limited

Date:
October 2022

Reference Number:
R6775_v2.0

Prepared by: _____

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Appendices

Appendix A Layout Plans
Appendix B Detailed Sewerage Impact Assessment Calculations
Appendix C Arrangement of New Sewers Pipes for the Adjacent Developments
Appendix D Extracted Pages from the SIA report for URA project KC-016

1. Introduction

1.1 Background

1.1.1 The Urban Renewal Authority (URA) commenced the Kau Pui Lung Road / Chi Kiang Street Development Scheme (the Scheme) (CBS-2:KC) on 22 May 2020, as a development scheme under section 25 of the Urban Renewal Authority Ordinance (URAO). A Sewage Impact Assessment (SIA) is required to be prepared to support the submission of the draft Development Scheme Plan (DSP) of the Scheme to the Town Planning Board (TPB) for consideration.

1.1.2 Ramboll Hong Kong Limited has been commissioned by the URA to conduct this SIA to assess whether the capacity of the existing sewerage network serving the site is sufficient to cope with the sewage flow from the proposed redevelopment and existing development in the vicinity.

1.1.3 A draft DSP together with planning proposal and technical assessments were submitted to the TPB at commencement of the Scheme in May 2020. During public consultation, most of the comments and concerns were related to CBS issues, especially on the land matters of the undissolved CBS. The URA, after consultation with different Government Bureaux / Departments, has addressed the related comments and concerns. In this connection, the URA has taken the opportunity to review the draft DSP to respond to the new policy directives of entrusting the URA to provide more Starter Home (SH) units. Opportunity is also sought to enhance the Scheme to achieve wider planning gains to the community.

1.1.4 With the above consideration and changes, a revised Draft DSP, with revised notional design of providing private housing units and about 950 SH units (the "Revised Design 2022") are prepared and its necessary TAs are updated for TPB consideration.

1.2 The Site

1.2.1 The site is bounded by Ma Tau Wai Road to the east, Chi Kiang Street to the south, Kau Pui Lung Road to the west and Lok Shan Road to the north.

1.2.2 The Scheme area remains unchanged as commenced in May 2020 and will be considered as one site to be developed by the URA or its joint venture partner(s) (**Figure 1**). Under the current notional design, the Scheme area will be divided into two sites, i.e. the Northern Site and the Southern Site, for private housing development and provision of SH units respectively. The site boundary between the Northern Site and the Southern Site is indicative and the location of the SH units are subject to change.

1.3 Proposed Development

1.3.1 The site covers a Scheme Area of approximately 16,500m^2. Under the revised draft DSP, the existing structure will be demolished for redevelopment. The site will be redeveloped for high-density residential development with the provision of Government, Institution or Community (GIC) facilities, commercial use, and underground public vehicle park.

1.3.2 Under notional layout of the Revised Design 2022, the Northern Site consists of five residential towers providing 1374 residential units, clubhouses (about 3,435m^2), retail (about

8,587m^2) and community facilities (about 500m^2). The Southern Site consists of two residential towers providing 950 residential units, clubhouses (about 2,755m^2), retail (about 6,888m^2) and community facilities (about 2,000m^2). A block plan of the notional layout is provided in **Appendix A**.

1.3.3 The population intake year for the proposed development is planned to be in year 2033.

1.4 Objectives

1.4.1 To address the above changes in the draft DSP, it is considered necessary to revise the SIA to support the re-submission to TPB for consideration. In this SIA, apart from the proposed development parameters, internal boundary between the sites, and the types of housings, the calculation assumption, methodology, catchment area adopted in the last SIA (ref. no.: R6775_v1.5 dated January 2022) remain unchanged.

1.4.2 The last version of SIA (ref. no.: R6775_v1.5 dated January 2022), was submitted to the TPB in March 2022 in support of the draft DSP submission. The Environmental Protection Department (EPD) then has no objection to the previously submitted draft DSP based on the findings of the submitted Environmental Assessment (EA) and SIA, understanding that the URA has committed to carry out further reviews on noise impact, sewerage impact and land contamination issues at detailed design stage.

2. Sewerage Impact Assessment

2.1 Scope of Work

2.1.1 The aim of this study is to assess whether the capacity of the existing sewerage network serving the Subject Site is sufficient to cope with the sewage flow from the proposed redevelopment and existing development in the vicinity. Information from the Drainage Records were adopted for this SIA.

2.2 Existing Sewerage System

2.2.1 According to the Drainage Records, there are a group of existing sewers with diameter of 150mm to 225mm running within and around the Subject Site, and then connecting to the existing trunk sewer network (600mm diameter) along Chi Kiang Street.

2.2.2 The existing sewer network along Ma Tau Wai Road, Kau Pui Lung Road and Chi Kiang Street is also connected to adjoining residential clusters in the To Kwa Wan Area, such as Lok Man Sun Chuen, and are included as catchment areas as shown in **Figure 3**.

2.3 Assessment Criteria and Methodology

2.3.1 Environmental Protection Department's (EPD's) Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning, Version 1 (GESF) is referred to estimate the quantity of the sewage generated from the proposed development and the existing development. Sewage flow parameters and global peaking factors in this document are adopted.

2.3.2 According to the Table T-1 of GESF, the unit flow factor of Domestic Flow – Private R2 is 0.27 m^3/day.

2.3.3 According to the Table T-2 of GESF, the unit flow factor of J4 – Wholesale & Retail is 0.20 m^3/day and the flow of commercial employee is 0.08 m^3/day.

2.3.4 According to the Table T-2 of GESF, the unit flow factor of J10 – Restaurant and Hotel is 1.50 m^3/day and the flow of commercial employee is 0.08 m^3/day.

2.3.5 According to the Table T-2 of GESF, the unit flow factor of J11 – Community, Social & Personal Services is 0.20 m^3/day and the flow of commercial employee is 0.08 m^3/day.

2.3.6 According to the Table T-2 of GESF, the unit flow factor of School Student is 0.04 m^3/day.

2.3.7 According to the Table T-3 of GESF, the unit flow factor of Industrial Flow (Central Kowloon) is 0.55 m^3/day.

2.3.8 According to the Table T-4 of GESF, the catchment inflow factor (Central Kowloon) is 1.

2.4 Wastewater Generated by the Proposed Development

2.4.1 Wastewater arising from the proposed development will be primarily contributed by the residents, and commercial employees of the clubhouse, community facilities and retail.

2.4.2 As a conservative assessment, it is assumed Northern Site provides 1450 residential units, clubhouses (about 3,900m^2), retail (about 9,100m^2) and community facilities (about 500m^2).

2.4.3 It is also assumed that Southern Site provides 960 residential units, clubhouses (about 3,000m^2), retail (about 7,000m^2) and community facilities (about 2,000m^2).

2.4.4 The usage of the retail for both Northern Site and Southern Site has yet been confirmed. As a conservative approach, the area of retail for restaurant : shop is assumed as 1:4 for this assessment.

2.4.5 A Person-per-Flat (PPF) of 2.3 is assumed for the area, which has made reference to HKPSG and adopted a more conservative assumption than HKPSG recommendation. In order to assess the sewer capacities, a sensitivity test adding 22% is adopted to assess the adequacy of the sewer capacities (i.e. PPF 2.3 x 122%).

2.5 Assessment of Sewerage Impact

2.5.1 After the redevelopment, sewage generated from Northern Site is proposed to be discharged to the existing sewerage system along Kau Pui Lung Road to manhole S1 (FMH4024246). Sewage generated from Southern Site is proposed to be discharged to the existing sewerage system along Chi Kiang Street to manhole S5 (FMH4024250), as shown in **Figure 2**.

2.5.2 The sewage generation rate of the proposed development is summarized in **Table 1** below and the detailed calculation is shown in **Table 1 of Appendix B**.

Table 1 Estimated Average and Peak Flow Rate from the Proposed Development

	Northern Site	Southern Site	Total
Average Flow Rate (m^3/day)	1354.9	939.7	-
Peak Flow Rate (L/s)	78.41	65.25	143.66

2.5.3 **Table 2 of Appendix B** shows the detailed calculation on the estimated hydraulic capacity of the existing sewer sections. According to **Table 4 of Appendix B**, it is found that the existing sewerage system has sufficient capacity to cater the sewage generated from the proposed development and the catchment, except 3 existing sewer segments S14-S17 (manhole no. FMH4024258 - FMH4025856) along Chi Kiang Street.

2.5.4 The 3 existing sewer segments S14-S17 are proposed to be upgraded from 600mm dia. to 750mm dia. The material for the proposed sewer pipe is slimed clayware. The project proponent (URA), or its joint venture partner(s), or its assignee will be responsible for the necessary upgrades prior to the sewer connection works from the proposed development to public sewerage.

2.6 Arrangement of New Sewers Pipes for the Adjacent Developments

2.6.1 According to the Drainage Records shown in **Appendix C**, some existing sewers connecting the residential developments pass though the Subject Site. It is intended to divert sewer pipes for 3 adjacent residential buildings (Morning Joy Building, City 151 and 80 Maidstone Road).

2.6.2 As shown in **Figure 4**, 7 new sewer pipes (A3-A4, A5-A4, A4-A6, A6-A7, A7-A8, A8-A9, A9-S2) with 300mm dia. are proposed and ultimately reconnected to the existing public sewer manhole S2 (manhole no. FMH4024247) at Kau Pui Lung Road.

2.6.3 **Table C3 of Appendix C** shows the new sewerage system can cater the sewerage generation from the 3 buildings. The material for the proposed sewer pipe is slimed clayware. The project proponent (URA), or its joint venture partner(s), or its assignee will be responsible for the necessary upgrades prior to the sewer connection works from the proposed development to public sewerage.

2.6.4 The exact dimension and alignment of the proposed new sewer pipes will be reviewed in the detailed design stage. If the proposed alignment would be modified, update of the SIA will be conducted accordingly.

3. Overall Conclusion

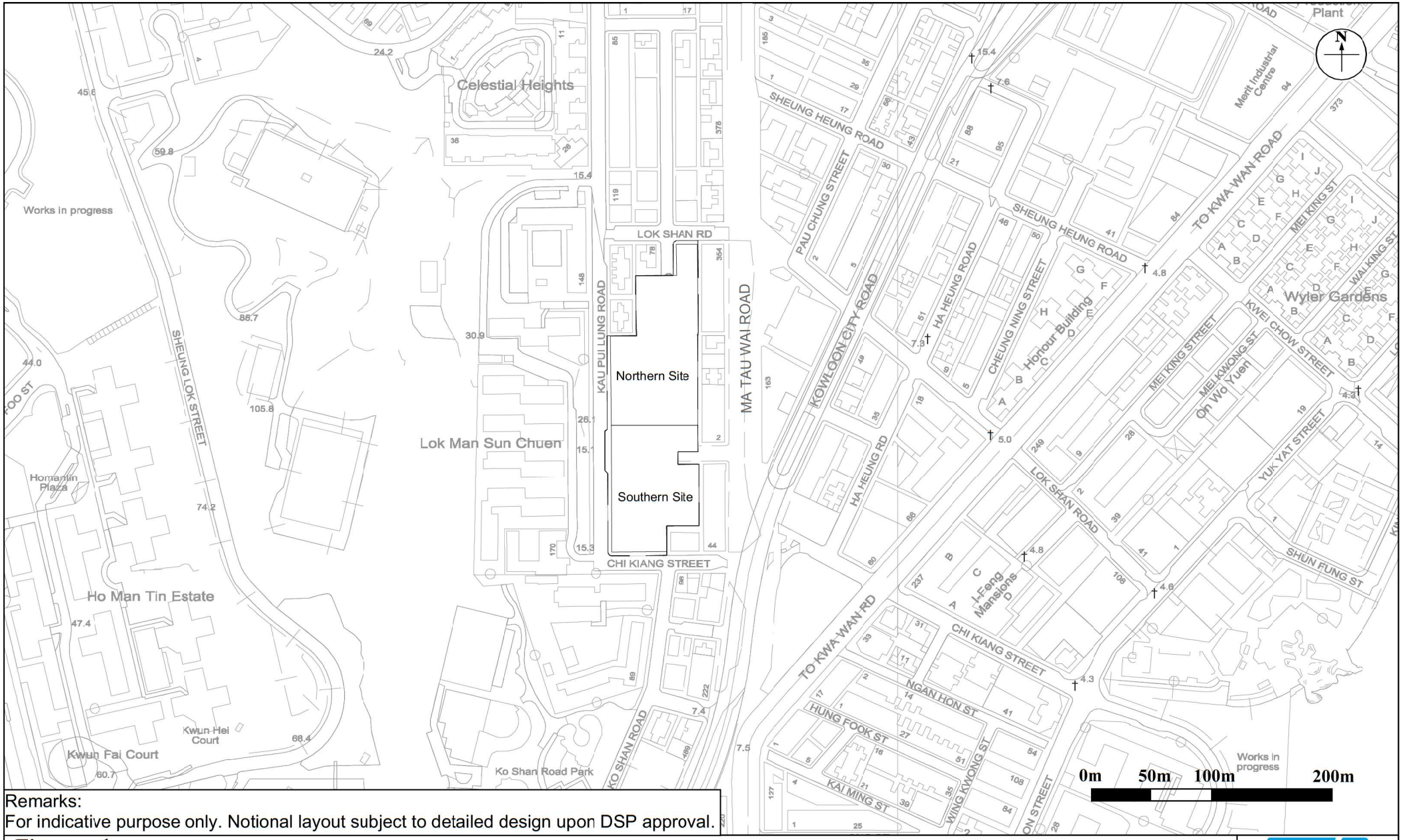
3.1.1 Sewerage impact assessments was conducted based on the latest proposed development parameters for the redevelopment project at Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC) in To Kwa Wan.

3.1.2 Based on the sewerage impact assessment results, it is found that the capacity of the existing sewerage system serving the area would be sufficient to cater for the sewage generation from the proposed development, except 3 existing sewer segments are required to be upgraded. After upgrading work, the capacity of the concerned sewer network will be capable to collect sewage from the Proposed Development and the existing buildings upstream of the Proposed Development.

3.1.3 Seven (7) new sewer pipes are proposed for the proposed development, which will be connected to the existing public sewer manhole S2 (manhole no. FMH4024247) at Kau Pui Lung Road. Besides, diversion works for some existing sewer pipes serving the adjoining existing residential developments and currently passing through the subject site will be made at implementation.

3.1.4 With the above assessment and proposed diversion/upgrading measures, this SIA confirms that there are no unacceptable sewerage impacts as a result of the proposed development.

FIGURES



Remarks:
For indicative purpose only. Notional layout subject to detailed design upon DSP approval.

Figure: 1

Title: Location of the Subject Site and Its Environs

Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

RAMBOLL

Drawn by:	KW
Checked by:	TC
Rev.:	2.0
Date:	Sep 2022

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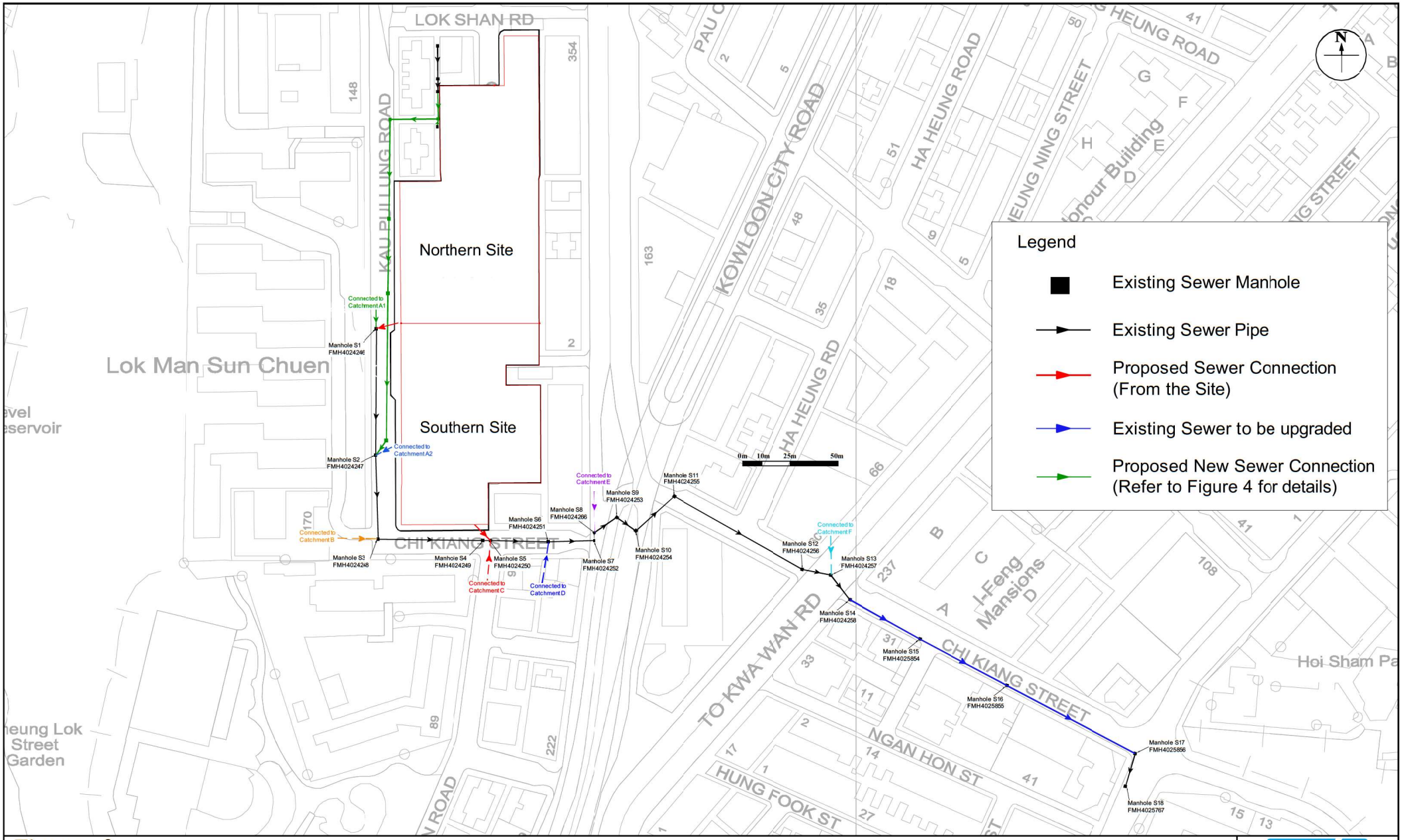

Figure: 2

Title: Existing Sewerage System in Vicinity of the Subject Site

Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

RAMBOLL

Drawn by:	KW
Checked by:	TC
Rev.:	2.0
Date:	Sep 2022

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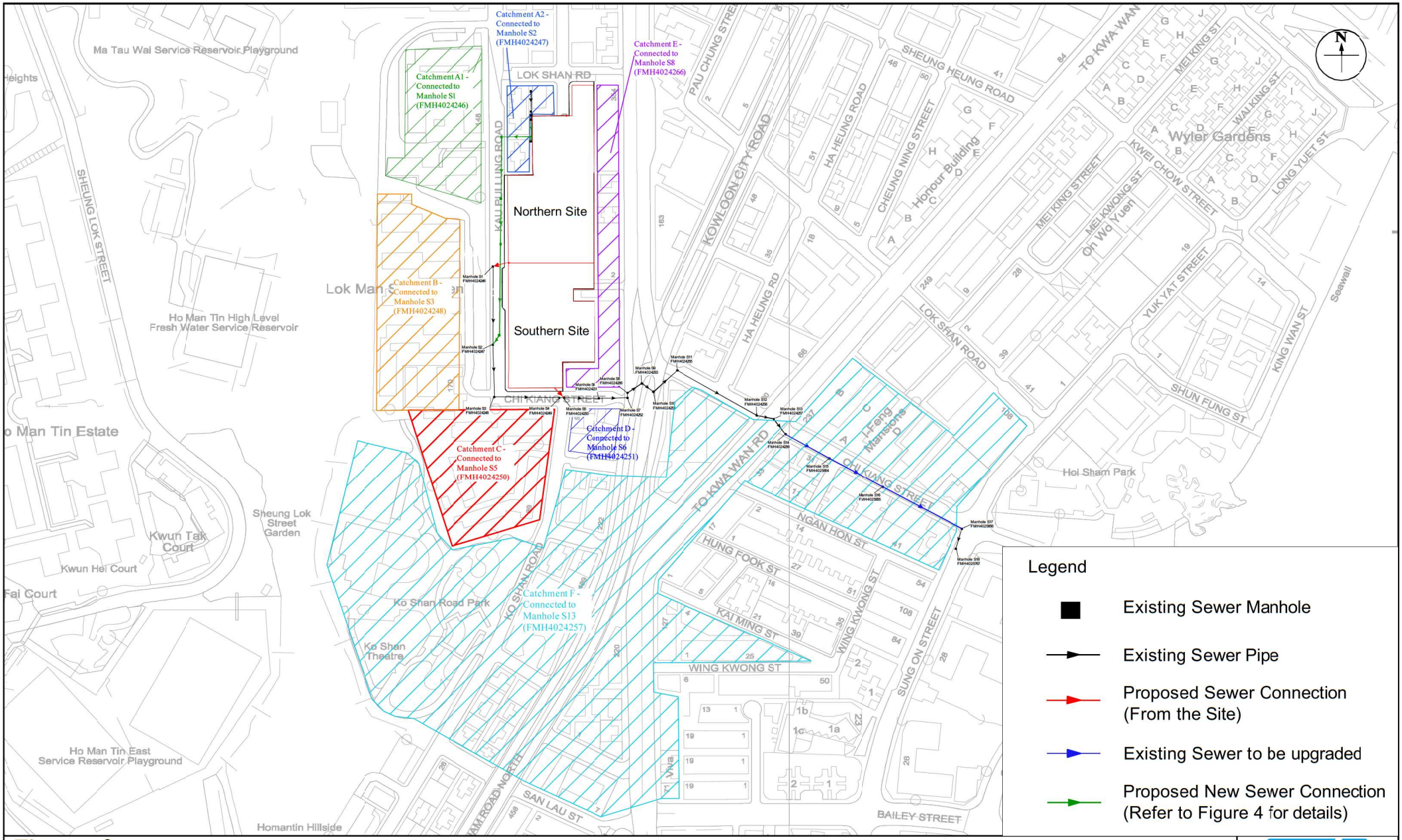

Figure: 3

Title: Existing Sewerage System and Catchment Areas in the Vicinity of the Subject Site

Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

RAMBOLL

Drawn by:	KW
Checked by:	TC
Rev.:	2.0
Date:	Sep 2022

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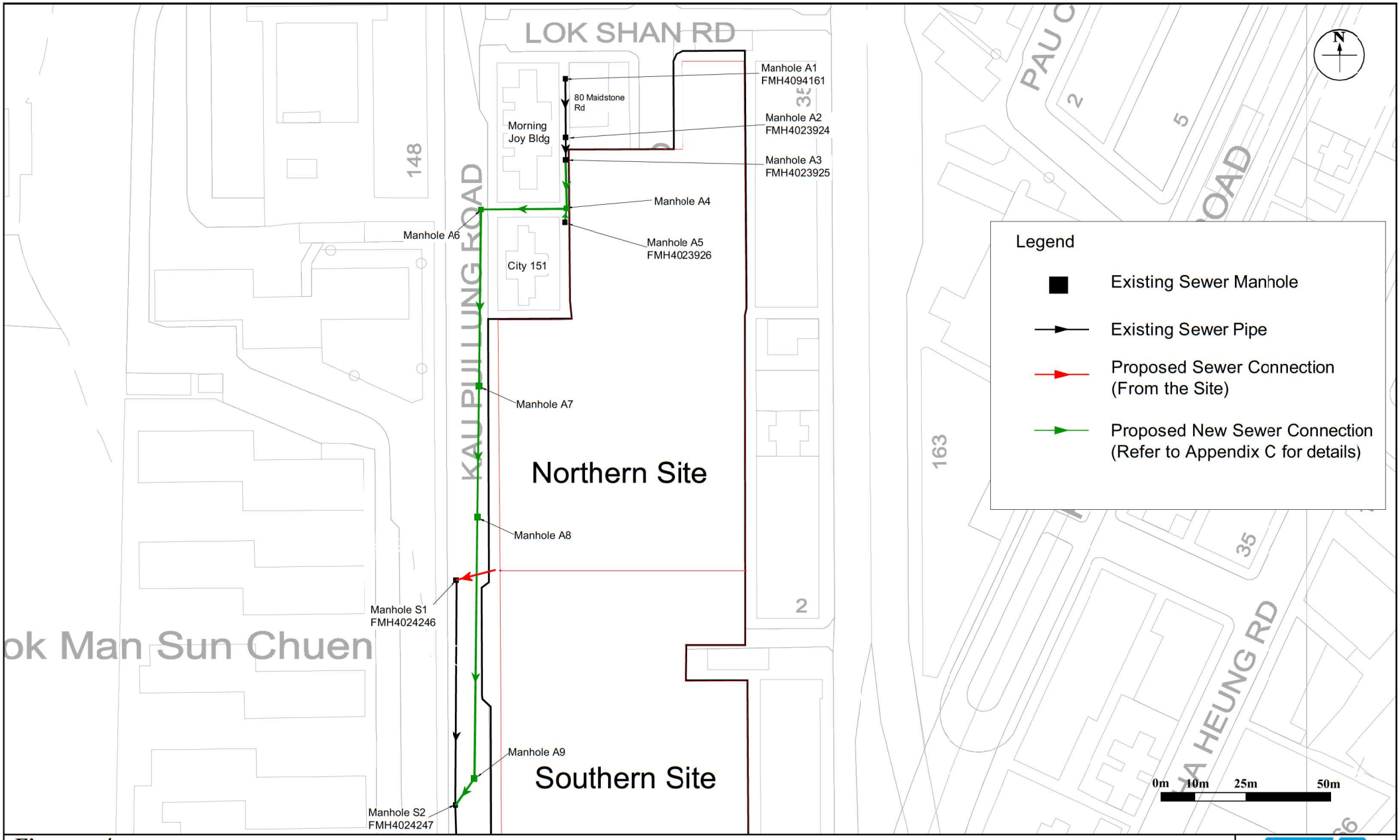

Figure: 4	RAMBOLL
Title: Arrangement of New Sewers Pipes for the 3 Adjacent Developments (Morning Joy Building, City 151 and 80 Maidstone Road)	Drawn by: KW Checked by: TC
Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Rev.: 2.0 Date: Sep 2022

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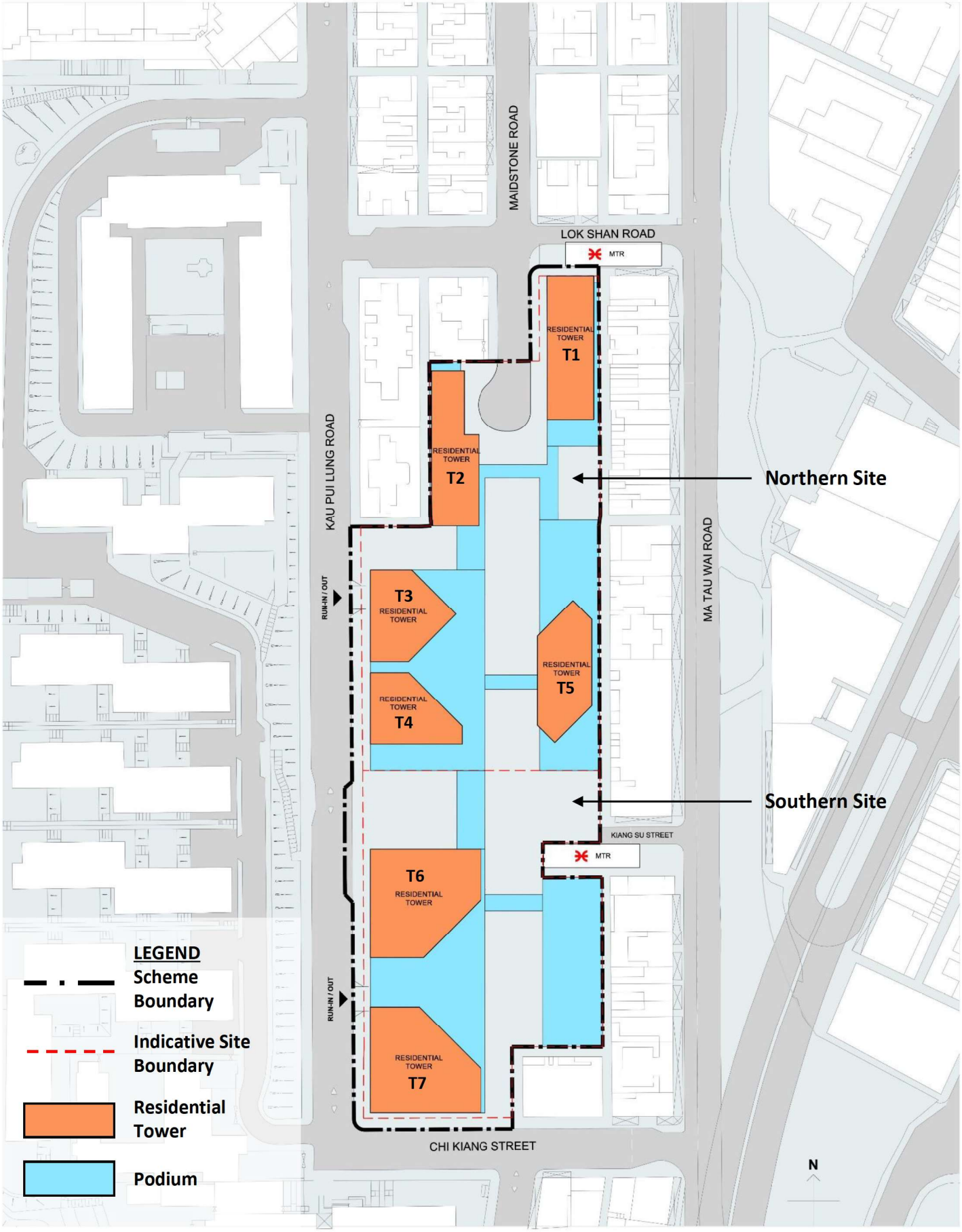
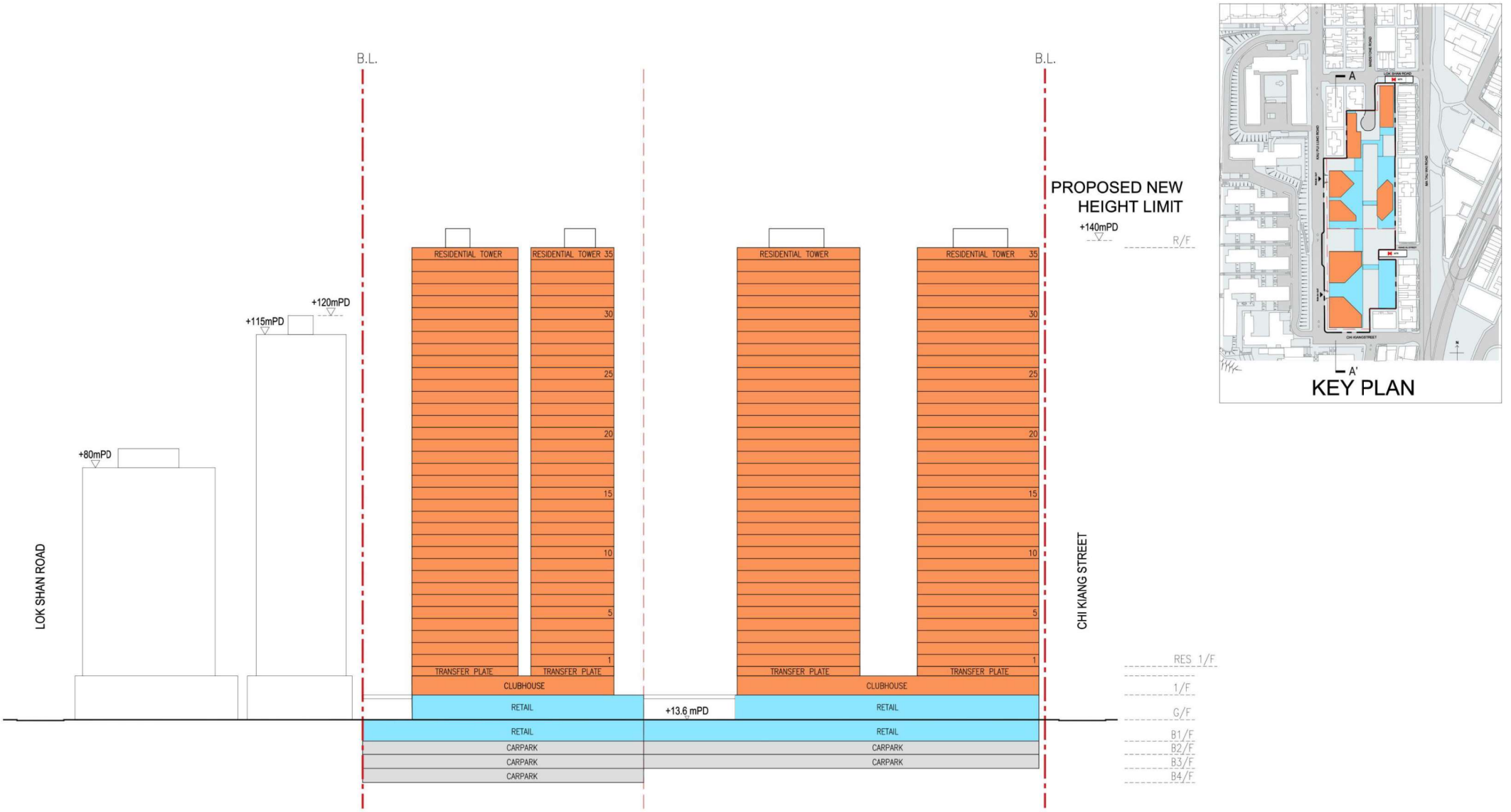
APPENDIX A:
LAYOUT PLANS



(Remarks: For indicative purpose only. Notional layout subject to detailed design upon DSP approval.)

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Notional Design – Indicative Block Plan	**Figure 1.1**



(Remarks: For indicative purpose only. Notional layout subject to detailed design upon DSP approval.)

URBAN RENEWAL AUTHORITY 市區重建局

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

Notional Design – Schematic Section AA'

Figure 1.2

APPENDIX B:
DETAILED SEWERAGE IMPACT ASSESSMENT CALCULATIONS

Table 1 Calculation for Sewage Generation Rate of the Proposed Development at the Subject Site

Northern Site

1. Residential Tower

1a. Total number of residential units	=	1450	units
1b. Total number of residents	=	4060	people -- (2016 Population Census: Average Household Size of 2.8)
1c. Design flow	=	0.27	m^3/person/day -- (Private R2 in Table T-1 of GESF)
1d. Sewage Generation rate	=	**1096.2**	m^3/day

2. Clubhouse

2a. Assumed Area	=	3900	m^2
2b. Assumed floor area per employee	=	30.3	m^2 per worker -- (refer to Table 8 of CIFSUS - Community, Social & Personal Services)
2c. Total number of employees	=	129	employees
2d. Design flow for commercial activities	=	0.28	m^3/employee/day -- (refer to Table T-2 of GESF - J11)
2e. Sewage Generation rate	=	**36.0**	m^3/day

3. Community Facilities

3a. Assumed Area	=	500	m^2
3b. Assumed floor area per employee	=	30.3	m^2 per worker -- (refer to Table 8 of CIFSUS - Community, Social & Personal Services)
3c. Total number of employees	=	17	employees
3d. Design flow for commercial activities and employee	=	0.28	m^3/employee/day -- (refer to Table T-2 of GESF - J11)
3e. Sewage Generation rate	=	**4.6**	m^3/day

4. Retail (Restaurant)

4a. Assumed Area (1/5 of total area of Retail)	=	1820	m^2
4b. Assumed floor area per employee	=	19.6	m^2 per worker -- (refer to Table 8 of CIFSUS - Restaurants)
4c. Total number of employees	=	93	employees
4d. Design flow for commercial activities and employee	=	1.58	m^3/employee/day -- (refer to Table T-2 of GESF - J10)
4e. Sewage Generation rate	=	**146.7**	m^3/day

5. Retail (Shop)

5a. Assumed Area (4/5 of total area of Retail)	=	7280	m^2
5b. Assumed floor area per employee	=	28.6	m^2 per worker -- (refer to Table 8 of CIFSUS - Retail Trade)
5c. Total number of employees	=	255	employees
5d. Design flow for commercial activities and employee	=	0.28	m^3/employee/day -- (refer to Table T-2 of GESF - J11)
5e. Sewage Generation rate	=	**71.3**	m^3/day

Total Flow from Proposed Development (Northern Site), connected to Manhole S1 (FMH4024246)

Flow Rate	=	1354.9	m^3/day
Contributing Population	=	5018	people
Peaking factor	=	5	Refer to Table T-5 of GESF for population 1,000-5,000 incl. stormwater allowance
Peak Flow	=	**78.41**	litre/sec

Table 1 Calculation for Sewage Generation Rate of the Proposed Development at the Subject Site

Southern Site

1. Residential Tower

1a. Total number of residential units	=	960	units
1b. Total number of residents	=	2688	people -- (2016 Population Census: Average Household Size of 2.8)
1c. Design flow	=	0.27	m^3/person/day -- (Private R2 in Table T-1 of GESF)
1d. Sewage Generation rate	=	**725.8**	m^3/day

2. Community Facilities

2a. Assumed Area	=	2000	m^2
2b. Assumed floor area per employee	=	30.3	m^2 per worker -- (refer to Table 8 of CIFSUS - Community, Social & Personal Services)
2c. Total number of employees	=	66	employees
2d. Design flow for commercial activities and employee	=	0.28	m^3/employee/day -- (refer to Table T-2 of GESF - J11)
2e. Sewage Generation rate	=	**18.5**	m^3/day

3. Retail (Restaurant)

3a. Assumed Area (1/5 of total area of Retail)	=	1400	m^2
3b. Assumed floor area per employee	=	19.6	m^2 per worker -- (refer to Table 8 of CIFSUS - Restaurants)
3c. Total number of employees	=	71	employees
3d. Design flow for commercial activities and employee	=	1.58	m^3/employee/day -- (refer to Table T-2 of GESF - J10)
3e. Sewage Generation rate	=	**112.8**	m^3/day

4. Retail (Shop)

4a. Assumed Area (4/5 of total area of Retail)	=	5600	m^2
4b. Assumed floor area per employee	=	28.6	m^2 per worker -- (refer to Table 8 of CIFSUS - Retail Trade)
4c. Total number of employees	=	196	employees
4d. Design flow for commercial activities and employee	=	0.28	m^3/employee/day -- (refer to Table T-2 of GESF - J11)
4e. Sewage Generation rate	=	**54.9**	m^3/day

5. Clubhouse

5a. Assumed Area	=	3000	m^2
5b. Assumed floor area per employee	=	30.3	m^2 per worker -- (refer to Table 8 of CIFSUS - Community, Social & Personal Services)
5c. Total number of employees	=	99	employees
5d. Design flow for commercial activities	=	0.28	m^3/employee/day -- (refer to Table T-2 of GESF - J11)
5e. Sewage Generation rate	=	**27.7**	m^3/day

Total Flow from Proposed Development (Southern Site), connected to Manhole S5 (FMH4024250)

Flow Rate	=	939.7	m^3/day
Contributing Population	=	3480	people
Peaking factor	=	6	Refer to Table T-5 of GESF for population 1,000-5,000 incl. stormwater allowance
Peak Flow	=	**65.25**	litre/sec

Table 2 Hydraulic Capacity of Existing Sewers

Segment	Manhole Reference	Manhole Reference	Pipe Dia.	Pipe Length	Upstream Invert Level	Downstream Invert Level	g	k_s	s	v	V	Area	Q	Estimated Capacity
			mm	m	mPD	mPD	m/s^2	m		m^2/s	m/s	m^2	m^3/s	L/s
S1-S2	FMH4024246	FMH4024247	375	66.2	12.10	11.63	9.81	0.00060	0.007	0.000001	1.52	0.11	0.17	168.4
S2-S3	FMH4024247	FMH4024248	450	44.1	11.63	11.39	9.81	0.00060	0.005	0.000001	1.50	0.16	0.24	238.0
S3-S4	FMH4024248	FMH4024249	450	54.5	11.39	9.11	9.81	0.00060	0.042	0.000001	4.17	0.16	0.66	663.5
S4-S5	FMH4024249	FMH4024250	450	4.0	9.11	8.89	9.81	0.00060	0.055	0.000001	4.79	0.16	0.76	761.1
S5-S6	FMH4024250	FMH4024251	450	30.1	8.89	7.10	9.81	0.00060	0.059	0.000001	4.98	0.16	0.79	791.5
S6-S7	FMH4024251	FMH4024252	450	24.1	7.10	6.26	9.81	0.00060	0.035	0.000001	3.81	0.16	0.61	605.5
S7-S8	FMH4024252	FMH4024266	600	4.0	5.82	5.45	9.81	0.00060	0.093	0.000001	7.43	0.28	2.10	2101.8
S8-S9	FMH4024266	FMH4024253	600	14.5	5.44	5.24	9.81	0.00060	0.014	0.000001	2.86	0.28	0.81	809.3
S9-S10	FMH4024253	FMH4024254	600	12.3	5.24	4.99	9.81	0.00060	0.020	0.000001	3.48	0.28	0.98	983.3
S10-S11	FMH4024254	FMH4024255	600	27.1	4.99	4.60	9.81	0.00060	0.014	0.000001	2.92	0.28	0.83	826.8
S11-S12	FMH4024255	FMH4024256	600	77.1	4.60	3.33	9.81	0.00060	0.016	0.000001	3.13	0.28	0.88	884.8
S12-S13	FMH4024256	FMH4024257	600	15.1	3.33	2.58	9.81	0.00060	0.050	0.000001	5.44	0.28	1.54	1539.1
S13-S14	FMH4024257	FMH4024258	600	16.1	2.58	2.07	9.81	0.00060	0.032	0.000001	4.34	0.28	1.23	1228.4
S14-S15	FMH4024258	FMH4025854	600	42.4	1.86	1.68	9.81	0.00060	0.004	0.000001	1.58	0.28	0.45	447.4
S15-S16	FMH4025854	FMH4025855	600	51.3	1.68	1.43	9.81	0.00060	0.005	0.000001	1.70	0.28	0.48	479.6
S16-S17	FMH4025855	FMH4025856	600	76.1	1.43	1.11	9.81	0.00060	0.004	0.000001	1.57	0.28	0.45	445.3
S17-S18	FMH4025856	FMH4025767	600	17.7	1.11	-1.20	9.81	0.00060	0.131	0.000001	8.83	0.28	2.50	2497.2

Remarks: (1) g=gravitational acceleration; k_s=equivalent sand roughness; s=gradient; v=kinematic viscosity of water; V=mean velocity

(2a) The value of k_s = 0.6mm is adopted for slimed clayware sewer with V of approximately 1.2m/s, poor condition (based on Table 5: Recommended roughness values in Sewerage Manual)

(2b) The value of k_s = 3.0mm is adopted for slimed clayware sewer with V of approximately 0.75m/s, poor condition (based on Table 5: Recommended roughness values in Sewerage Manual)

(3) The value of velocity (V) is referred to the Tables for the hydraulic design of pipes, sewers and channels (8th edition)

(4) Equation used: $$V=-\sqrt{(8gDs)}\log\left(\frac{k_s}{3.7D}+\frac{2.51v}{D\sqrt{(2gDs)}}\right)$$

Table 2a Hydraulic Capacity of Proposed Upgraded Sewers

Segment	Manhole Reference	Manhole Reference	Pipe Dia.	Pipe Length	Upstream Invert Level	Downstream Invert Level	g	k_s	s	v	V	Area	Q	Estimated Capacity
			mm	m	mPD	mPD	m/s^2	m		m^2/s	m/s	m^2	m^3/s	L/s
S14-S15	FMH4024258	FMH4025854	750	42.4	1.86	1.68	9.81	0.00060	0.004	0.000001	1.82	0.44	0.80	803.6
S15-S16	FMH4025854	FMH4025855	750	51.3	1.68	1.43	9.81	0.00060	0.005	0.000001	1.95	0.44	0.86	861.4
S16-S17	FMH4025855	FMH4025856	750	76.1	1.43	1.11	9.81	0.00060	0.004	0.000001	1.81	0.44	0.80	799.8

Table 3-1a Calculation for Sewage Generation Rate of the Existing Surrounding Building (Catchment A1)

Catchment A1

1. Residential (Lok Man Sun Chuen (Block F & G))

1a. Total number of units	=	1223	units (refer to Table 5 for the breakdown of units)
1b. Total number of residents	=	3424	people -- (average household size of 2.8 from 2016 Population Census)
1c. Design flow	=	0.27	m^3/person/day -- (Private R2 in Table T-1 of GESF)
1d. Sewage Generation rate	=	**924.6**	m^3/day

Sub-total Catchment A1

Flow Rate	=	924.6	m^3/day

Total Flow at Manhole S1 (FMH4024246), including Proposed Development (Northern Site) and Catchment A1

Flow Rate	=	2279.4	m^3/day (Northern Site + Catchment A1)
Contributing Population	=	8442	people
Peaking factor	=	5	Refer to Table T-5 of GESF for population 5,000-10,000 incl. stormwater allowance
Peak Flow	=	**131.91**	litre/sec

Table 3-1b Calculation for Sewage Generation Rate of the Existing Surrounding Building (Catchment A2)

Catchment A2

1. Residential (City 151, Morning Joy Bldg and 80 Maidstone Road)

1a. Total number of units	=	329	units (refer to Table 5 for the breakdown of units)
1b. Total number of residents	=	921	people -- (average household size of 2.8 from 2016 Population Census)
1c. Design flow	=	0.27	m^3/person/day -- (Private R2 in Table T-1 of GESF)
1d. Sewage Generation rate	=	**248.7**	m^3/day

Sub-total Catchment A2

Flow Rate	=	248.7	m^3/day

Total Flow at Manhole S2 (FMH4024247), including Proposed Development (Northern Site) and Catchment A1+A2

Flow Rate	=	2528.2	m^3/day (Northern Site + Catchment A1+A2)
Contributing Population	=	9364	people
Peaking factor	=	5	Refer to Table T-5 of GESF for population 5,000-10,000 incl. stormwater allowance
Peak Flow	=	**146.31**	litre/sec

Table 3-2 Calculation for Sewage Generation Rate of the Existing Surrounding Building (Catchment B)

Catchment B

1. Residential (Lok Man Sun Chuen (Block A to E)

1a. Total number of units	=	1542	units (refer to Table 5 for the breakdown of units)
1b. Total number of residents	=	4318	people -- (average household size of 2.8 from 2016 Population Census)
1c. Design flow	=	0.27	m^3/person/day -- (Private R2 in Table T-1 of GESF)
1d. Sewage Generation rate	=	**1165.8**	m^3/day

2. C.C.C WanChai Church Kei To Primary School (Kowloon City) *(https://ktkc.edu.hk/)*

2a. Total number of teachers & staff	=	37	teachers & staff
2c. Design flow for teachers & staff	=	0.28	m3/employee/day -- (refer to Table T-2 of GESF - J11)
2b. Total number of students	=	450	students
2d. Design flow for students	=	0.04	m^3/person/day (refer to Table T-2, School Student)
2e. Sewage Generation rate	=	**28.4**	m^3/day

Sub-total Catchment B

Flow Rate	=	1194.1	m^3/day

Total Flow at Manhole S3 (FMH4024248), including Proposed Development (Northern Site) and Catchment A1+A2+B

Flow Rate	=	3722.3	m^3/day (Northern Site + Catchment A1+A2+B)
Contributing Population	=	13786	people
Peaking factor	=	4	Refer to Table T-5 of GESF for population 10,000-50,000 incl. stormwater allowance
Peak Flow	=	**172.33**	litre/sec

Table 3-3 Calculation for Sewage Generation Rate of the Existing Surrounding Building (Catchment C)

Catchment C

1. Residential (Lok Man Sun Chuen (Block H & I)

1a. Total number of units	=	896	units (refer to Table 5 for the breakdown of units)
1b. Total number of residents	=	2509	people -- (average household size of 2.8 from 2016 Population Census)
1c. Design flow	=	0.27	m^3/person/day -- (Private R2 in Table T-1 of GESF)
1d. Sewage Generation rate	=	**677.4**	m^3/day

Sub-total Catchment C

Flow Rate	=	677.4	m^3/day

Total Flow at Manhole S5 (FMH4024250), including Proposed Development (Northern Site + Southern Site) and Catchment A1+A2+B+C

Flow Rate	=	5339.3	m^3/day (Northern Site + Southern Site + Catchment A1+A2+B+C)
Contributing Population	=	19775	people
Peaking factor	=	4	Refer to Table T-5 of GESF for population 10,000-50,000 incl. stormwater allowance
Peak Flow	=	**247.19**	litre/sec

Table 3-4 Calculation for Sewage Generation Rate of the Existing Surrounding Building (Catchment D)

Catchment D

1. Existing Residential Developments within Catchment Area

1a. Total number of units	=	204	units (refer to Table 5 for the breakdown of units)
1b. Total number of residents	=	571	people -- (average household size of 2.8 from 2016 Population Census)
1c. Design flow	=	0.27	m^3/person/day -- (Private R2 in Table T-1 of GESF)
1d. Sewage Generation rate	=	**154.2**	m^3/day

2. Commercial (Hop Shing Commercial Building)

2a. Assumed Area	=	2200	m^2 (20 storeys * ~110m2 per storey)
2b. Assumed floor area per employee	=	28.6	m^2 per worker -- (refer to Table 8 of CIFSUS - Retail Trade)
2c. Total number of employees	=	77	employees
2d. Design flow for commercial activities	=	0.28	m^3/employee/day -- (refer to Table T-2 of GESF - J11)
2e. Sewage Generation rate	=	**21.5**	m^3/day

Sub-total Catchment D

Flow Rate	=	175.8	m^3/day

Total Flow at Manhole S6 (FMH4024251), including Proposed Development (Northern Site + Southern Site) and Catchment A1+A2+B+C+D

Flow Rate	=	5515.1	m^3/day (Northern Site + Southern Site + Catchment A1+A2+B+C+D)
Contributing Population	=	20426	people
Peaking factor	=	4	Refer to Table T-5 of GESF for population 10,000-50,000 incl. stormwater allowance
Peak Flow	=	**255.33**	litre/sec

Table 3-5 Calculation for Sewage Generation Rate of the Existing Surrounding Building (Catchment E)

Catchment E

1. Existing Residential Developments within Catchment Area

1a. Total number of units	=	639	units (refer to Table 5 for the breakdown of units)
1b. Total number of residents	=	1789	people -- (average household size of 2.8 from 2016 Population Census)
1c. Design flow	=	0.27	m^3/person/day -- (Private R2 in Table T-1 of GESF)
1d. Sewage Generation rate	=	**483.1**	m^3/day

Sub-total Catchment E

Flow Rate	=	483.1	m^3/day

Total Flow at Manhole S8 (FMH4024266), including Proposed Development (Northern Site + Southern Site) and Catchment A1+A2+B+C+D+E

Flow Rate	=	5998.2	m^3/day (Northern Site + Southern Site + Catchment A1+A2+B+C+D+E)
Contributing Population	=	22215	people
Peaking factor	=	4	Refer to Table T-5 of GESF for population 10,000-50,000 incl. stormwater allowance
Peak Flow	=	**277.69**	litre/sec

Table 3-6 Calculation for Sewage Generation Rate of the Existing Surrounding Building (Catchment F)

Catchment F

1. Existing Residential Developments within Catchment Area

1a. Total number of units	=	3582	units (refer to Table 5 for the breakdown of units)
1b. Total number of residents	=	10030	people -- (average household size of 2.8 from 2016 Population Census)
1c. Design flow	=	0.27	m^3/person/day -- (Private R2 in Table T-1 of GESF)
1d. Sewage Generation rate	=	**2708.0**	m^3/day

2. Existing Factory / Industrial Buildings

2a. Assumed Area	=	35070	m^2 (refer to Table 6 for the breakdown)
2b. Assumed floor area per employee	=	43.5	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing)
2c. Total number of employees	=	806	employees
2d. Design flow for industrial employee	=	0.63	m^3/employee/day -- (refer to Table T-3 of GESF - Central Kowloon)
2e. Sewage Generation rate	=	**507.9**	m^3/day

3. The Church of the God Shepherd

3a. Assumed area	=	700	m^2 (2 storeys * ~350m2 per storey)
3b. Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Community, Social & Personal
3c. Total number of employees	=	23	employees
3d. Design flow for commercial activities	=	0.28	m^3/employee/day -- (refer to Table T-2 of GESF - J11)
3e. Sewage Generation rate	=	**6.5**	m^3/day

4. Ko Shan Theatre

4a. Assumed area	=	18900	m^2 (refer to Table 6 for the breakdown)
4b. Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Community, Social & Personal
4c. Assumed employees	=	624	employees
4d. Design flow for commercial activities	=	0.28	m^3/employee/day -- (refer to Table T-2 of GESF - J11)
4e. Sewage Generation rate	=	**174.6**	m^3/day

5. Planned URA Residential Developments, from Tower 2 of KC-016 (Catchment T2) and KC-012/013 (Catchment B) (Refer to Appendix D for the details)

5a. Sewage Generation rate	=	**738.2**	m^3/day

Sub-total Catchment F

Flow Rate	=	4135.2	m^3/day

Total Flow at Manhole S13 (FMH40424257), including Proposed Development (Northern Site + Southern Site) and Catchment A1+A2+B+C+D+E+F

Flow Rate	=	10133.4	m^3/day (Northern Site + Southern Site + Catchment A1+A2+B+C+D+E+F)
Contributing Population	=	37531	people
Peaking factor	=	4	Refer to Table T-5 of GESF for population 10,000-50,000 incl. stormwater allowance
Peak Flow	=	**469.14**	litre/sec

Table 4 Comparision of the Hydraulic Capacity of Existing Sewers for Sewerage generated from the Proposed Development and Surrounding Catchment Areas

Segment	Pipe Dia. (mm)	Pipe Length (m)	Gradient	Estimated Capacity (L/s)	Peak Flow from the Proposed Development only (L/s)	Contribution from the Proposed Development only (%)	Status	Included Catchment Area	Peak Flow from the Proposed Development and Catchment Areas (L/s)	Contribution from the Proposed Development and the Surrounding Catchment Areas (%)	Status *
S1-S2	375	66.2	0.007	168.4	78.41	46.6%	OK	A1	131.91	78.3%	OK
S2-S3	450	44.1	0.005	238.0	78.41	32.9%	OK	A1 + A2	146.31	61.5%	OK
S3-S4	450	54.5	0.042	663.5	78.41	11.8%	OK	A1 + A2 + B	172.33	26.0%	OK
S4-S5	450	4.0	0.055	761.1	78.41	10.3%	OK	A1 + A2 + B	172.33	22.6%	OK
S5-S6	450	30.1	0.059	791.5	143.66	18.2%	OK	A1 + A2 + B + C	247.19	31.2%	OK
S6-S7	450	24.1	0.035	605.5	143.66	23.7%	OK	A1 + A2 + B + C + D	255.33	42.2%	OK
S7-S8	600	4.0	0.093	2101.8	143.66	6.8%	OK	A1 + A2 + B + C + D	255.33	12.1%	OK
S8-S9	600	14.5	0.014	809.3	143.66	17.8%	OK	A1 + A2 + B + C + D + E	277.69	34.3%	OK
S9-S10	600	12.3	0.020	983.3	143.66	14.6%	OK	A1 + A2 + B + C + D + E	277.69	28.2%	OK
S10-S11	600	27.1	0.014	826.8	143.66	17.4%	OK	A1 + A2 + B + C + D + E	277.69	33.6%	OK
S11-S12	600	77.1	0.016	884.8	143.66	16.2%	OK	A1 + A2 + B + C + D + E	277.69	31.4%	OK
S12-S13	600	15.1	0.050	1539.1	143.66	9.3%	OK	A1 + A2 + B + C + D + E	277.69	18.0%	OK
S13-S14	600	16.1	0.032	1228.4	143.66	11.7%	OK	A1 + A2 + B + C + D + E + F	469.14	38.2%	OK
S14-S15	600	42.4	0.004	447.4	143.66	32.1%	OK	A1 + A2 + B + C + D + E + F	469.14	104.9%	Spill
S15-S16	600	51.3	0.005	479.6	143.66	30.0%	OK	A1 + A2 + B + C + D + E + F	469.14	97.8%	Spill
S16-S17	600	76.1	0.004	445.3	143.66	32.3%	OK	A1 + A2 + B + C + D + E + F	469.14	105.4%	Spill
S17-S18	600	17.7	0.131	2497.2	143.66	5.8%	OK	A1 + A2 + B + C + D + E + F	469.14	18.8%	OK

Table 4a Comparision of the Hydraulic Capacity of Existing Sewers for Sewerage generated from the Proposed Development and Surrounding Catchment Areas (After Upgrade)

Segment	Pipe Dia. (mm)	Pipe Length (m)	Gradient	Estimated Capacity (L/s)	Peak Flow from the Proposed Development only (L/s)	Contribution from the Proposed Development only (%)	Status	Included Catchment	Peak Flow from the Proposed Development and Catchment Areas (L/s)	Contribution from the Proposed Development and the Surrounding Catchment Areas (%)	Status *
S14-S15	750	42.4	0.004	803.6	143.66	17.9%	OK	A1 + A2 + B + C + D + E + F	469.14	58.4%	OK
S15-S16	750	51.3	0.005	861.4	143.66	16.7%	OK	A1 + A2 + B + C + D + E + F	469.14	54.5%	OK
S16-S17	750	76.1	0.004	799.8	143.66	18.0%	OK	A1 + A2 + B + C + D + E + F	469.14	58.7%	OK

Note: * "Spill" if the contribution is larger than 90%.

Table 5 Breakdown for the estimation of residential units within each catchment area

Catchment A1	Units
Lok Man Sun Chuen (Block F and G)	1223

Catchment A2	Units
City 151	71
Morning Joy Bldg	166
80 Maidstone Road	92
Total	**329**

Catchment B	Units
Lok Man Sun Chuen (Block A to E)	1542

Catchment C	Units
Lok Man Sun Chuen (Block H & I)	896

Catchment D	Units
Tai Tung Court	12
Fook Yue Mansion	30
Loyal Mansion	140
Chap On Building	12
4 & 6 Anhui Street	10
Total	**204**

Catchment E	Units
Ming Fat Building	83
Seng Cheong Building	10
On Chun Mansion	56
282 Ma Tau Wai Road	5
284 Ma Tau Wai Road	3
284A Ma Tau Wai Road	4
286 Ma Tau Wai Road	3
Pak Kin Building	28
Hau Hing Mansion	15
Wah On Court	9
Lucky Building	214
Braemar Court	48
Kwong Yiu Mansion	42
Mai Lok Building	27
324 Ma Tau Wai Road	4
326 Ma Tau Wai Road	6
328 Ma Tau Wai Road	5
330 Ma Tau Wai Road	8
332 Ma Tau Wai Road	8
334 Ma Tau Wai Road	5
336 Ma Tau Wai Road	5
338 Ma Tau Wai Road	5
340 Ma Tau Wai Road	5
342 Ma Tau Wai Road	5
344 Ma Tau Wai Road	2
346 Ma Tau Wai Road	7
348 Ma Tau Wai Road	5
350 Ma Tau Wai Road	5
352-354 Ma Tau Wai Road	17
Total	**639**

Catchment F	Units
I-Feng Mansions	823
Tung Shun Hing Building	182
L-harbour 18	84
Wang Fung Building	152
Ngan Hon Mansion	78
Po Teck Mansion	180
Lung Teck Mansion	180
Sunrise Villa	180
Eiver House	0
4-18 Kai Min Street	0
1-27 Wing Kwong Street	0
111-127 Ma Tau Wai Road	0
Wing Kwong Mansion	0
Wan Tat House	0
2-4 Wing Kwong Street	0
71-73 Ma Tau Wai Road	12
Viva	75
95-109 Ma Tau Wai Road	42
Sin Hua Mansion	37
Fuk Shing Mansion	50
1-19 Wan Fat Street	0
2-20 Wan Hing Street	0
1-19 Wan Hing Street	0
2-20 Wan Lok Street	0
1-19 Wan Lok Street	0
3-21 Bailey Street	0
Chat Ma Mansion	65
204-206 Ma Tau Wai Road	26
Axis	120
Honour Court	36

Catchment F	Units
Morning Ray Mansion	22
Co-tack Building	56
1-9 Shek Tong Street	15
480, 482, 494 Chatham Road North	9
Cheong Shing Court	120
Tsun Kit House	20
470-478 Chatham Road North	37
90-92 Ko Shan Road	12
Kar Shun Building	44
222- 236 Ma Tau Wai Road	28
Faerie Court	156
On Hang Building	35
Chatham Mansion	23
Lee Wing Building (3 Shansi Street)	87
Comfort House	75
The City Culture	19
Fortuna Building	72
Wing Wo Building	84
Lung Wah Court	21
Wealthy Court	72
Wing Lam Mansion	92
Po Fai Building	48
75 Ma Tau Wai Road	2
Planned use for 18-24 Ko Shan Rd	60
Planned use for 3 San Lau Street	51
Total	**3582**

Note:

The existing buildings will be redeveloped to URA Project KC-009, they will not be included in Catchment F

The existing buildings will be redeveloped to URA Project KC-012/013, their sewage generation is calculated seperately in Table 3-6, Item 5

The existing buildings will be redeveloped to URA Project KC-016, their sewage generation is calculated seperately in Table 3-6, Item 5

Table 6 Breakdown for the estimation of Area of Industrial Buildings and Ko Shan Theatre within catchment area F

Catchment F	**Estimated Gross Floor Area (m2) / Storey**	**Storey**	**Total Estimated Gross Floor Area (m2)**
Industrial Buildings			
Gee Chang Industrial Building	1400	9	12600
Fook Shing Industrial Building	700	12	8400
Man Shun Factory Building	315	11	3465
The World Wide Industrial Building	315	12	3780
Fung Yu Industrial Building	525	13	6825
		Total	**35070**
Ko Shan Theatre			
Ko Shan Theatre	1900	3	5700
Ko Shan Theatre New Wing	2200	6	13200
		Total	**18900**

APPENDIX C:
ARRANGEMENT OF NEW SEWERS PIPES FOR THE ADJACENT DEVELOPMENTS

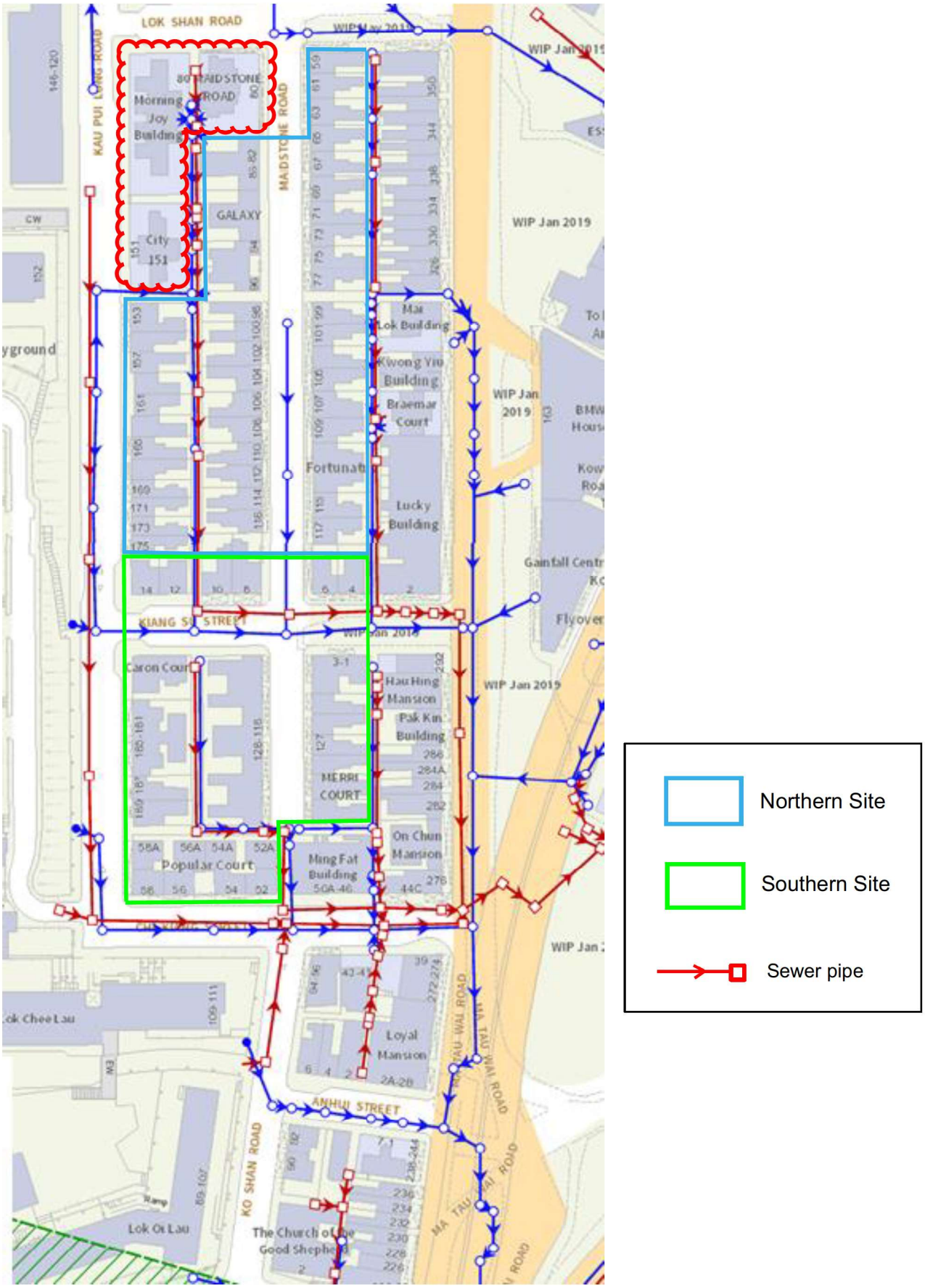

LOK SHAN ROAD
KAU PUI LUNG ROAD
MADSTONE ROAD
Morning Joy Building
GALAXY
City 151
Mai Lok Building
Kwong Yiu Building
Braemar Court
Fortunat
Lucky Building
KIANG SU STREET
Caron Court
Hau Hing Mansion
Pak Kin Building
MERRI COURT
Popular Court
Ming Fat Building
On Chun Mansion
Loyal Mansion
ANHUI STREET
KO SHAN ROAD
MA TAU WAI ROAD
Lok Chee Lau
Lok Oi Lau
The Church of the Good Shepherd
WIP Jan 2019
Northern Site
Southern Site
Sewer pipe

Table C1 Calculation for Sewage Generation Rate of the Existing Surrounding Building (Catchment A2)

Catchment A2

1. Residential (Morning Joy Bldg and 80 Maidstone Road)

1a. Total number of units	=	258	units
1b. Total number of residents	=	722	people -- (average household size of 2.8 from 2016 Population Census)
1c. Design flow	=	0.27	m^3/person/day -- (Private R2 in Table T-1 of GESF)
1d. Sewage Generation rate	=	195.0	m^3/day
1e. Contributing Population	=	722	people
1f. Peaking factor	=	8	Refer to Table T-5 of GESF for population <1,000 incl. stormwater allowance
1g. Peak Flow	=	**18.06**	litre/sec

2. Residential (City 151)

2a. Total number of units	=	71	units
2b. Total number of residents	=	199	people -- (average household size of 2.8 from 2016 Population Census)
2c. Design flow	=	0.27	m^3/person/day -- (Private R2 in Table T-1 of GESF)
2d. Sewage Generation rate	=	53.7	m^3/day
2e. Contributing Population	=	199	people
2f. Peaking factor	=	8	Refer to Table T-5 of GESF for population <1,000 incl. stormwater allowance
2g. Peak Flow	=	**4.97**	litre/sec

Table C2 Hydraulic Capacity of Existing and New Sewers

Segment	Manhole Reference	Manhole Reference	Pipe Dia.	Pipe Length	Upstream Invert Level	Downstream Invert Level	g	k_s	s	v	V	Area	Q	Estimated Capacity
			mm	m	mPD	mPD	m/s^2	m		m^2/s	m/s	m^2	m^3/s	L/s
A1-A2	FMH4094161	FMH4023924	225	17.4	13.17	13.02	9.81	0.00060	0.009	0.000001	1.21	0.04	0.05	48.2
A2-A3	FMH4023924	FMH4023925	150	6.6	12.72	12.51	9.81	0.00060	0.032	0.000001	1.80	0.02	0.03	31.8
A3-A4	FMH4023925	A4	300	14.0	12.51	12.35	9.81	0.00060	0.011	0.000001	1.68	0.07	0.12	118.9
A5-A4	FMH4023926	A4	300	3.5	12.45	12.35	9.81	0.00060	0.029	0.000001	2.67	0.07	0.19	188.5
A4-A6	A4	A6	300	25.0	12.35	12.25	9.81	0.00300	0.004	0.000001	0.79	0.07	0.06	55.5
A6-A7	A6	A7	300	52.0	12.25	12.10	9.81	0.00300	0.003	0.000001	0.67	0.07	0.05	47.1
A7-A8	A7	A8	300	39.0	12.10	11.90	9.81	0.00060	0.005	0.000001	1.12	0.07	0.08	79.3
A8-A9	A8	A9	300	77.0	11.90	11.70	9.81	0.00300	0.003	0.000001	0.63	0.07	0.04	44.7
A9-S2	A9	FMH4024247	300	9.8	11.70	11.63	9.81	0.00060	0.007	0.000001	1.33	0.07	0.09	93.8

Remarks: (1) g=gravitational acceleration; k_s=equivalent sand roughness; s=gradient; v=kinematic viscosity of water; V=mean velocity

(2a) The value of k_s = 0.6mm is adopted for slimed clayware sewer with V of approximately 1.2m/s, poor condition (based on Table 5: Recommended roughness values in Sewerage Manual)

(2b) The value of k_s = 3.0mm is adopted for slimed clayware sewer with V of approximately 0.75m/s, poor condition (based on Table 5: Recommended roughness values in Sewerage Manual)

(3) The value of velocity (V) is referred to the Tables for the hydraulic design of pipes, sewers and channels (8th edition)

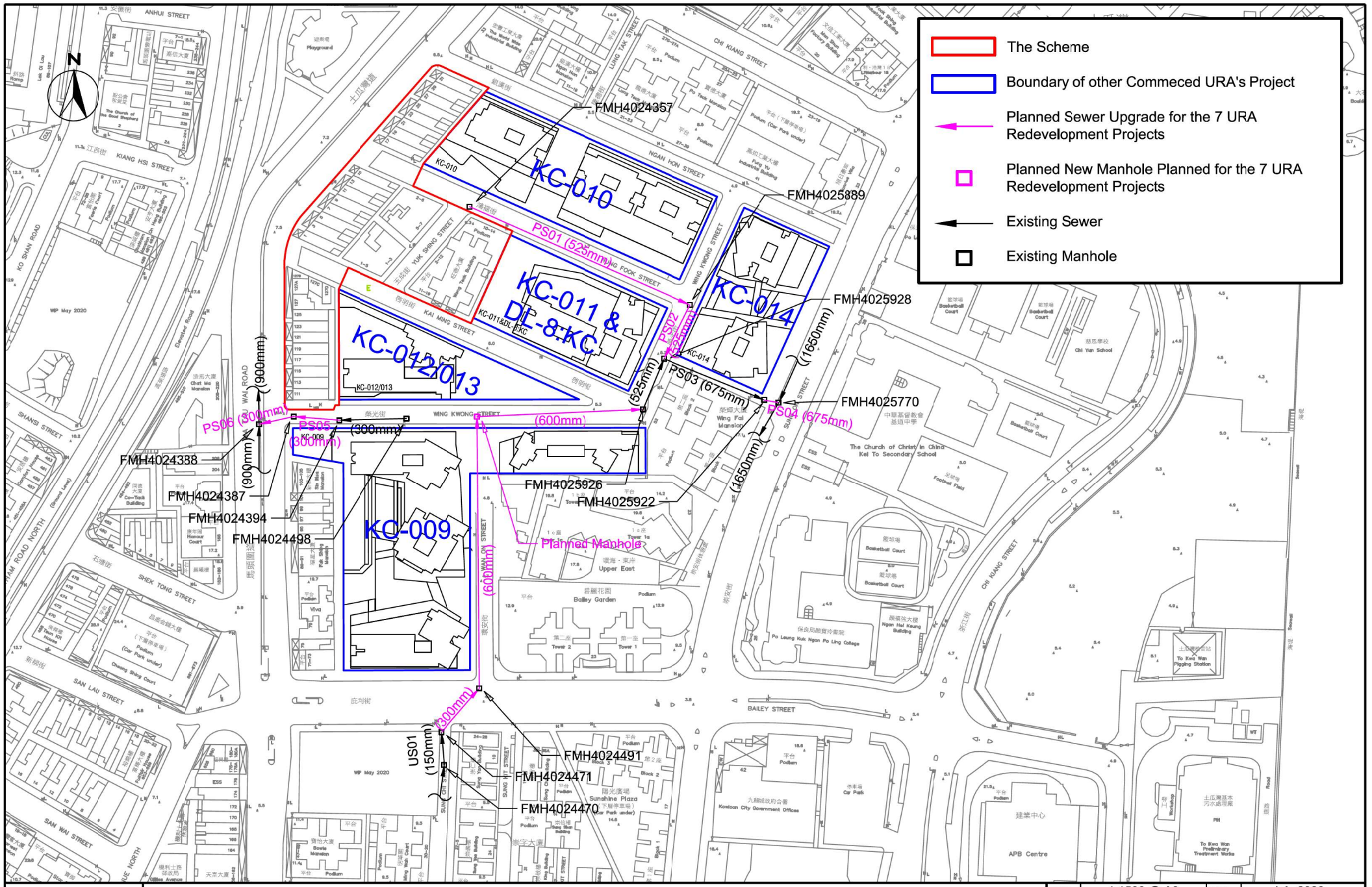
(4) Equation used: $$V = -\sqrt{(8gDs)}\log\left(\frac{k_s}{3.7D} + \frac{2.51\nu}{D\sqrt{(2gDs)}}\right)$$

Table C3 Comparision of the Hydraulic Capacity of Existing and Propsoed Sewers for Sewerage generated from Catchment A2

Segment	Manhole Reference	Manhole Reference	Pipe Dia. (mm)	Pipe Length (m)	Gradient	Estimated Capacity (L/s)	Peak Flow from the Catchment (L/s)	Contribution from Catchment A2 only (%)	Status
A1-A2	FMH4094161	FMH4023924	225	17.4	0.009	48.2	18.06	37.4%	OK
A2-A3	FMH4023924	FMH4023925	150	6.6	0.032	31.8	18.06	56.7%	OK
A3-A4	FMH4023925	A4	300	14.0	0.011	118.9	18.06	15.2%	OK
A5-A4	FMH4023926	A4	300	3.5	0.029	188.5	4.97	2.6%	OK
A4-A6	A4	A6	300	25.0	0.004	55.5	23.03	41.5%	OK
A6-A7	A6	A7	300	52.0	0.003	47.1	23.03	48.9%	OK
A7-A8	A7	A8	300	39.0	0.005	79.3	23.03	29.0%	OK
A8-A9	A8	A9	300	77.0	0.003	44.7	23.03	51.5%	OK
A9-S2	A9	FMH4024247	300	9.8	0.007	93.8	23.03	24.6%	OK

Note: * "Spill" if the contribution is larger than 90%.

APPENDIX D:
EXTRACTED PAGES FROM
THE SIA REPORT FOR URA PROJECT KC-016



CINOTECH
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Urban Renewal Authority Development Scheme To Kwa Wan Road / Wing Kwong Street (KC-016)

Planned Sewer Upgrade for the 7 URA Redevelopment Projects and the Neighborhood

SCALE	1:1500 @ A3	DATE	July 2020
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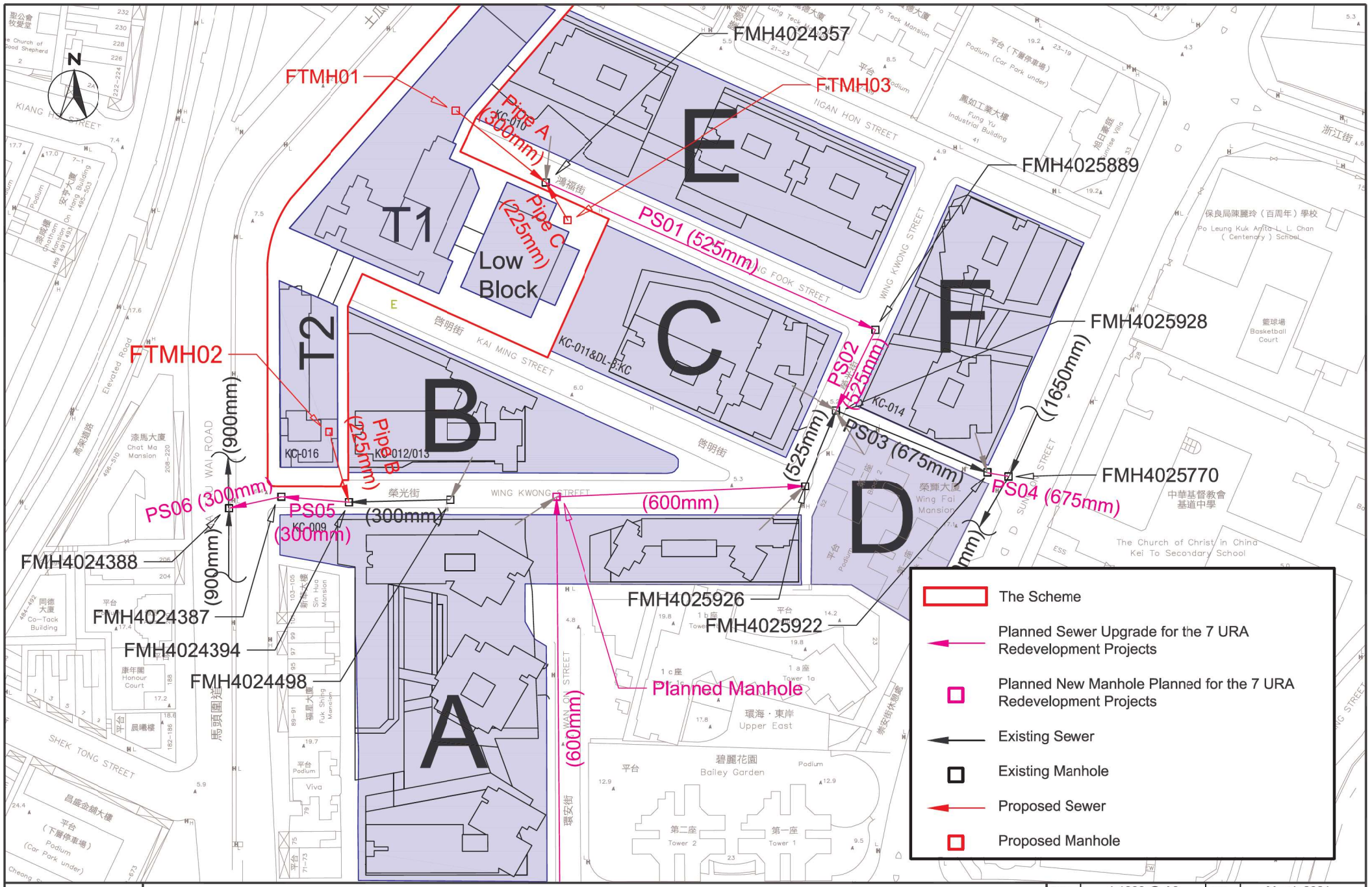
JOB No.	IA19021-KCAA101	DRAWING No.	2-2
		REV	-



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Urban Renewal Authority Development Scheme To Kwa Wan Road / Wing Kwong Street (KC-016)

Sewage Catchments in the Vicinity with the Scheme

SCALE	1:1000 @ A3	DATE	March 2021
CHECK	TL	DRAWN	CC
JOB No.	IA19021-KCAA101	DRAWING No.	3-2
		REV	-

Appendix III

Table B - Proportion of Peak Flow to Full Capacity without the Scheme

Segment	Upstream Manhole	Downstream Manhole	Full Capacity (L/s)	Catchment	Total Daily Flow (m^3/day)[5]	Contribution Population [1]	Peaking Factor [2]	Peak Flow (L/s) [3][5]	Inflow factor [4]	Peak Flow with Inflow factor (L/s)	% of full capacity
PS01	FMH4024357	FMH4025889	396.6	Site Area - Northern Portion + E	1141.3	4227	6	79.3	1.3	103.0	26.0%
PS02	FMH4025889	FMH4025928	392.4	Site Area - Northern Portion + E	1141.3	4227	6	79.3	1.3	103.0	26.3%
PS03	FMH4025928	FMH4025922	735.1	Site Area - Northern Portion + A + C + D + E + US01	3076.9	11396	4	156.5	1.3	203.5	27.7%
PS04	FMH4025922	FMH4025770	756.6	Site Area - Northern Portion + A + C + D + E + F + US01	3593.4	13309	4	180.4	1.3	234.6	31.0%
PS05	FMH4024394	FMH4024387	122.8	Site Area - Southern Portion + B	596.1	2208	6	41.4	1.3	53.8	43.8%
PS06	FMH4024387	FMH4024388	113.4	Site Area - Southern Portion + B	596.1	2208	6	41.4	1.3	53.8	47.5%

Table C - Proportion of Peak Flow to Full Capacity with the Scheme

Segment	Upstream Manhole	Downstream Manhole	Full Capacity (L/s)	Catchment	Total Daily Flow (m^3/day)[5]	Contribution Population [1]	Peaking Factor [2]	Peak Flow (L/s) [3]	Inflow factor [4]	Peak Flow with Inflow factor (L/s)	% of full capacity
PS01	FMH4024357	FMH4025889	396.6	T1 + Low Block + E	1721.3	6375	5	99.6	1.3	129.5	32.7%
PS02	FMH4025889	FMH4025928	392.4	T1 + Low Block + E	1721.3	6375	5	99.6	1.3	129.5	33.0%
PS03	FMH4025928	FMH4025922	735.1	T1 + Low Block + A + C + D + E + US01	3657.0	13544	4	183.4	1.3	238.4	32.4%
PS04	FMH4025922	FMH4025770	756.6	T1 + Low Block + A + C + D + E + F + US01	4173.4	15457	4	207.3	1.3	269.5	35.6%
PS05	FMH4024394	FMH4024387	122.8	T2 + B	738.2	2734	6	51.3	1.3	66.6	54.3%
PS06	FMH4024387	FMH4024388	113.4	T2 + B	738.2	2734	6	51.3	1.3	66.6	58.8%

Note:

1 The contribution population is total flow rate (m^3/day) / 0.27 (m^3/day/person)

2 - Peaking Factor of 8 for contributing population < 1,000 ;
- Peaking Factor of 6 for contributing population 1,000 - 5,000.
- Peaking Factor of 4 for contributing population 10,000 - 50,000.
are adopted.

3 The peak flow is total flow rate of each pipe segment * peaking factor.

4 Catchment inflow factor of 1.3 for North West Kowloon, instead of Central kowloon, according to EPD's Guidelines for Estimating Sewage Flows Table T-4 has been adopted as suggested by EPD.

5 The discharge from the upsteam sewer US01 is not included in the daily flow. Instead, the capacity of US01 has been added to Peak flow directly for conservative assessment.

Air Ventilation Assessment (AVA)

Prepared for

Urban Renewal Authority

Prepared by

Ramboll Hong Kong Limited

FEASIBILITY STUDY FOR CBS-2: KC

QUANTITATIVE AIR VENTILATION ASSESSMENT

Date	**1 November 2022**
Prepared by	**Echo Cao** **Environmental Consultant**
Signed	
Approved by	**Tony Cheung** **Senior Manager**
Signed	
Project Reference	**URACBS02EI00**
Document No.	**R6917_v2.0b**

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1. INTRODUCTION

1.1 Background

1.1.1 The Urban Renewal Authority (URA) commenced the Kau Pui Lung Road / Chi Kiang Street Development Scheme (the Scheme) (CBS-2:KC) on 22 May 2020, as a development scheme under section 25 of the Urban Renewal Authority Ordinance (URAO). An Air Ventilation Assessment (AVA) is required to be prepared to support the submission of the draft Development Scheme Plan (DSP) of the Scheme to the Town Planning Board (TPB) for consideration.

1.1.2 Ramboll Hong Kong Limited has been commissioned to undertake this AVA for the Scheme. This AVA contains a quantitative Computational Fluid Dynamics (CFD) assessment to evaluate the potential ventilation impact of the proposed development on the surrounding future pedestrian wind environment.

1.1.3 A draft DSP together with planning proposal and technical assessments were submitted to the TPB at commencement of the Scheme in May 2020. During public consultation, most of the comments and concerns were related to CBS issues, especially on the land matters of the undissolved CBS. The URA, after consultation with different Government Bureaux / Departments, has addressed the related comments and concerns. In this connection, the URA has taken the opportunity to review the draft DSP to respond to the new policy directives of entrusting the URA to provide more Starter Home (SH) units. Opportunity is also sought to enhance the Scheme to achieve wider planning gains to the community.

1.1.4 With the above consideration and changes, a revised Draft DSP, with revised notional design of providing private housing units and about 950 SH units (the "Revised Design 2022") are prepared and its necessary TAs are updated for TPB consideration.

1.2 Subject Site and its Environs

1.2.1 The site is bounded by Ma Tau Wai Road to the east, Chi Kiang Street to the south, Kau Pui Lung Road to the west and Lok Shan Road to the north.

1.2.2 The Scheme area remains unchanged as commenced in May 2020 and will be considered as one site to be developed by the URA or its joint venture partner(s) (**Figure 1**). Under the current notional design, the Scheme area will be divided into two sites, i.e. the Northern Site and the Southern Site, for private housing development and provision of SH units respectively. The site boundary between the Northern Site and the Southern Site is indicative and the location of the SH units are subject to change.

1.3 Proposed Development

1.3.1 The site covers a Scheme Area of approximately 16,500m^2. Under the revised draft DSP, the existing structure will be demolished for redevelopment. The site will be redeveloped for high-density residential development with the provision of Government, Institution or Community (GIC) facilities, commercial use, and underground public vehicle park.

1.3.2 Under notional layout of the Revised Design 2022, the Northern Site consists of five residential towers providing 1374 residential units, clubhouses (about 3,435m^2), retail (about 8,587m^2) and community facilities (about 500m^2). The Southern Site consists of two residential towers providing 950 residential units, clubhouses (about 2,755m^2), retail (about 6,888m^2) and community facilities (about 2,000m^2). A block plan of the notional layout is provided in Appendix A.

1.3.3 The population intake year for the proposed development is planned to be in year 2033.

1.4 Objectives

1.4.1 To address the above changes in the draft DSP, it is considered necessary to revise the AVA to support the re-submission to TPB for consideration. In this AVA, apart from the proposed development parameters, internal boundary between the sites and the types of housings, the methodology adopted in the last AVA (ref. no.: R6917_v1.5 dated February 2022) remain unchanged.

1.5 Future/ Committed Development

1.5.1 It is noted that there are several future/ committed developments in the nearby area. Furthermore, referring to the GeoInfo Map from Lands Department and site visit on 02 September 2022, there are several "work-in-progress" (WIP) sites in the area. **Figure 2** illustrated the locations of these future/ committed development and **Figure 3** shows the building block with building height assumed in the CFD simulation.

1.5.2 Following sites are under construction and almost completed. Therefore, building bulk could be observed during site visit or from the sale brochure.

1. No. 10 Maidstone Road
2. 41, 43 and 45 Pau Chung Street
3. Public Housing Development at Ko Shan Road
4. Proposed Residential Redevelopment at 470-478 Chatham Road North

1.5.3 Following are future re-development site for Urban Renewal Authority (URA), the building information was provided by URA.

5. KC-016
6. KC-010
7. KC-011
8. KC-014
9. DL-8KC
10. KC-013
11. KC-012
12. KC-009

1.5.4 The East Kowloon Corridor is the major elevated structure within the surrounding area.

1.5.5 There are two To Kwa Wan Station entrances/ exits located on Kiang Su Street and Lok Shan Road for MTR Tuen Ma Line, respectively. One storey structure for both entrances/ exits is included in the assessment.

1.6 Baseline Scheme

1.6.1 **Appendix 1** shows that the layout of the Baseline Scheme for assessment purposes. The Baseline Scheme comprises of 7 residential towers on top of three storeys podium. The main roof level is not more than 120 mPD. It is noted that the Baseline Scheme complies with the stipulated OZP development restrictions and SBD guidelines.

1.6.2 The following mitigation measures have been identified in the Baseline Scheme.

- 15m building separation at grade along Maidstone Road;
- 18m breezeway along Kiang Su Street at the direction of E-W;
- 31m building separation at Tower between T1 and T5; and
- At least 22m building separation at Tower between T2 and T5

1.7 Proposed Scheme

1.7.1 The Proposed Scheme comprises of 7 residential towers on top of 2 storeys podium and 4 storeys basement of carpark and retail. The main roof level is not more than 140 mPD. All the towers are located along the eastern and western boundary. However, it must be noted that this Proposed Scheme is for indicative purpose only that the notional layout is subject to detailed design upon DSP approval.

1.7.2 The following are the building separation proposed in the Proposed Scheme.

- At least 17m building separation at grade along the N-S pedestrianised avenue (i.e. existing Maidstone Road), including 17m between T1 and T2, 19m between T3/ T4 and T5 and 17m between T6/ T7 and GIC block;
- 23m gap between the podia along Kiang Su Street at the direction of E-W;
- 58m building separation at Tower between T1 and T5;
- 13m building separation between T2 and T3;
- 25m building separation at Tower between T4 and T5; and
- 33m building separation at Tower between T4 and T6 at the direction of E-W.

1.7.3 In addition, there are several permeable elevated footbridges on the podium level at about 20.1 mPD to connect among different towers in both Northern Site and Southern Site.

1.7.4 **Appendix 2** shows the MLP of the Proposed Scheme.

1.8 Comparison of the Baseline Scheme and Proposed Scheme

1.8.1 The building height and GFA are higher in the Proposed Scheme compared to the Baseline Scheme. The building height of each building of both the Baseline Scheme and the Proposed Scheme has been indicated on the MLPs in **Appendix 1 and 2**. Comparison table of the development parameter proposed for two schemes is listed in **Table 1.1** below.

1.8.2 In both schemes, there is a N-S building separation; and the effective width is ~15m and 17m for the Baseline Scheme and the Proposed Scheme respectively.

1.8.3 In addition, the building separation aligned with Kiang Su Street is 33m for the Proposed Scheme, which is much larger than that of 18m in the Baseline Scheme.

1.8.4 The building separation between T1 and T5 has been enlarged from 31m to 58m.

1.8.5 Compared with the continuous bulky podia between T2 and T3 as well as T1 and T5 in the Baseline Scheme, smaller podia with additional separation of 13m width and 22m width is provided in the design of the podia under the Proposed Scheme. In addition, the podium under T6 is reduced, and the separation between it and Ming Fat Building is increased from 3m to 11m in the Proposed Scheme.

1.8.6 The footprint of T6 has been reduced and T7 has been moved to the southwest corner of the Subject Site in the Proposed Scheme, namely T6 and T7 in Southern Site.

Table 1.1 Development Parameter of the Baseline Scheme and Proposed Scheme

	Baseline Scheme	Proposed Scheme
Building Height Restriction	120 mPD	140 mPD
Towers Height	Varies from 105 -120 mPD	140 mPD

	Baseline Scheme			**Proposed Scheme**		
Net Site Area	11,369 sqm *			15,475 sqm		
Proposed Total GFA	102,321 sqm			123,800 sqm		
	Northern	Southern	Overall	#Northern	#Southern	Overall
Proposed Domestic PR	7.5	7.5	7.5	8.0	8.0	8.0
Proposed Non-domestic PR	1.5	1.5	1.5	1.0	1.0	1.0
Proposed Total PR	9.0	9.0	9.0	9.0	9.0	9.0

* All the public road like Kiang Su Road and Maidstone Road are excluded in the site area under the Baseline Scheme.

The Site boundaries between Northern Site and Southern Site in the Proposed Scheme is indicative and subject to change.

2. SITE WIND AVAILABILITY

2.1 Site Wind Availability Data

2.1.1 According to the Planning Department's website, a meso-scale Regional Atmospheric Modeling System (RAMS) has been used to produce a simulated 10-year wind climate at the horizontal resolution of 0.5 km x 0.5 km covering the whole territory of Hong Kong. The simulated wind data represents the annual, winter and summer wind condition at various levels, i.e. 200 m, 300 m, and 500 m above terrain.

2.1.2 It is considered acceptable to use the simulated RAMS data for site wind availability. The use of RAMS data (grid: 083, 042) is preferred over measurement data at Waglan Island as it can reflect the effect of topography on wind availability.

2.1.3 The relevant annual windrose for the concerned district has been extracted from the Planning Department's website for site wind availability data. Figure 4 shows the relevant windrose diagram (at 500 m) representing the frequency and wind speed distribution of the concerned district for both summer and annual conditions.

2.1.4 The windroses results illustrate the wind environment is affected by topography and buildings. Table 2.1 below sets out a summary of the simulated site wind availability data including the probability of occurrence. In this quantitative AVA a CFD software has been used. According to the Technical Guide, simplification of wind data for the initial study has been adopted. The wind directions with highest probability of occurrence are selected for AVA purpose. A total of 11 wind directions has been selected (as highlighted in Table 2.1) with overall frequency of occurrence equivalent to 78.8 % and 81.9 % respectively of the time in a year (for both annual and summer conditions).

Table 2.1 Summary of RAMS Data and Wind Direction

Wind Direction	Probability for Annual Condition (%)	Probability for Summer Condition (%)
N	2.3	0.9
NNE	6.4	1.1
NE	7.8	1.4
ENE	12.3	2.6
E	22.3	9.1
ESE	11.8	9.9
SE	5.9	8.1
SSE	4.1	7.3
S	4.4	9.1
SSW	6	13.5
SW	6.3	15.1
WSW	3.9	9.8
W	2.6	5.7
WNW	1.4	2.8
NW	1.2	2.3
NNW	1.2	1.2

2.2 Topography and Building Morphology

Topography

2.2.1 The waterfront is located 500m to the east of the Subject Site. The topography close to the Subject Site is generally flat to the east. The ground elevation increases gradually to about 80 mPD from the Kau Pui Lung Road towards west. The Ho Man Tin area with elevation up to 70 mPD is located to 150m to the southwest of the Subject Site.

Building Morphology

2.2.2 The Subject Site is immediately surrounded by mid- to high- rise developments. The building height information of these identified developments is extracted from Geo-Reference Database (BG1000) provided by Survey and Mapping Office/ Lands Department.

2.2.3 Table 2.2 highlightes the building height of the surrounding developments.

Table 2.2 Surrounding Development

Name of Development	Building Height mPD	Location relative to the Application Site
324 – 354 Ma Tau Wai Road	~31 - ~40	East
Mai Lok Building	~48	East
Kong Yiu Mansion	~64	East
Braemar Court	~84	East
Lucky Building	~70	East
Wah On Court	~43	East
Hau Hing Mansion	~31	East
Pak Kin Building	~58	East
278 – 286 Ma Tau Wai Road	~25	East
On Chun Mansion	~56	East
Seng Cheong Building	~45	East
Ming Fat Building	~78	South
C.C.C. Wanchai Church Kei To Primary School	~36	Southwest
Lok Man Sun Chuen	~62 - ~81	South and West
Fu Yu Court	~47	North
Maxim Mansion	~46	North
1A – 1C Lok Shan Road	~32	North
356 Ma Tau Wai Road	~31	Northeast

3. QUANTITATIVE ASSESSMENT METHODOLOGY

3.1 Atmospheric Conditions

3.1.1 Simulated wind profile curves are extracted from the Planning Department's website using RAMS site wind availability data and is directly adopted for this quantitative AVA. Figure 5 shows the wind profile curves for grid X:083, Y:042.

3.1.2 Wind profile curves 0, 1 and 2 would be utilized for quantitative AVA according to the selected wind directions in Table 2.1.

3.1.3 For elevation from 0 to 10 m where wind profile information is not available, the wind speed is assumed based on fitted Log Law and measured wind speed value at 10 m from the RAMS site wind availability data for each wind profile curve.

3.1.4 The wind profile of 0 m to 10 m is interpolated and then combined with the wind profile curves on RAMS site wind availability data.

3.2 CFD Code and Major Parameters

3.2.1 A quantitative assessment based on requirement for Initial Study stipulated in the relevant Technical Guide has been conducted for the purpose of comparing the air ventilation performance between the Proposed and the Baseline Schemes.

3.2.2 The quantitative assessment is conducted by using a commercial CFD code, FLUENT. FLUENT model had been widely applied for various AVA research and studies worldwide. The accuracy level of the FLUENT model is well-accepted by the industry for AVA application.

3.2.3 Realizable K-epsilon turbulence providing better prediction of separation and vortexes has been adopted for air ventilation assessment as recommended in COST action C14.

3.2.4 Generally, the assessment area is determined by the height (H = 160m) of the highest building within the surrounding area. The domain covers the model area of over 320m. The surrounding area is determined by 2 times of the assessment area from the project site boundary. It is confirmed that all major noise barriers, elevated structures, and planned / committed / existing developments as discussed in section 1.3 and 2.2 have been modelled in the simulation. Figure 6 indicated the assessment area and surrounding area of the CFD model.

3.2.5 The domain dimension is about 5500m x 5700m and with an elevation of 1500m. More than 11,900,000 grid cells has been defined to simulate the air flow. Given the large domain adopted in this assessment and the physical limitation on the computational resources of the CFD model, the horizontal and vertical grid size employed in the CFD model in the vicinity of the Project Area is taken as a global minimum size of 2m and increase for the grid cells further away from the Project Area at a growth ratio of 1.3. The global maximum size of cells is 32m and smaller cell size up to 0.5m was used. Besides, four layers of prism cells (each layer of 0.5m thick) are employed above the terrain of Subejct Site. The blockage ratio is less than 3%.

3.2.6 The windward boundary is defined as inflow with the wind profile defined. The leeward boundary is defined as outflow. The sky and lateral boundaries are defined as symmetric boundary condition.

3.2.7 Appendix 3 shows the domain size and the CFD model in different views. Figure 5 shows the wind profile curve adopted.

3.2.8 The advection terms of the momentum and viscous terms are resolved with the second order numerical schemes. The scaled residuals are converged to an order of magnitude of at least 1 x 10-4 as recommended in COST action C14.

3.3 Important Areas

3.3.1 The important surrounding areas that the public would often access have been identified as follows:

(1)	Lok Man Sun Chuen	(14)	Anhui Street
(2)	Kau Pui Lung Road	(15)	Ko Shan Road Park
(3)	Maidstone Road	(16)	Kau Pui Lung Road Playground
(4)	Lok Shan Road	(17)	C. C. C. Wanchai Church Kei To Primary School (Kowloon City)
(5)	Ma Tau Wai Road	(18)	Po Leung Kuk Madam Chan Wai Chow Memorial School
(6)	Sheung Heung Road	(19)	Po Leung Kuk Lam Man Chan English Primary School
(7)	Pau Chung Street	(20)	E.L.C.H.K. Hung Hom Lutheran Primary School
(8)	Kowloon City Road	(21)	S.K.H. Good Shepherd Primary School
(9)	Sze Chuen Street	(22)	Ball Court on rooftop of To Kwa Wan Market
(10)	Ha Heung Road	(23)	Kiang Su Street
(11)	Chi Kiang Street	(24)	Ma Tau Wai Road/ To Kwa Wan Road Garden
(12)	Ko Shan Road	(25)	To Kwa Wan Road
(13)	Kiang His Street		

3.4 Test Point Location

3.4.1 A total of 176 test points (including 30 numbers of perimeter test points defined along the boundary of the Application Site, 139 numbers of overall test points and 7 numbers of special test points) have been selected for quantitative air ventilation assessment. The overall test points generally representing important pedestrian areas are listed in section 3.3. All test points are located at 2 m above ground level.

3.4.2 **Figures 8** shows the location of test points for quantitative air ventilation assessment.

4. KEY FINDINGS

4.1 Spatial Average Wind Velocity Ratios

4.1.1 The velocity ratio under a specific wind direction at a test point is calculated by dividing the simulated wind speed at the test point under this wind direction with the velocity at gradient height under the same wind direction. All test points are located at 2 m above ground level.

4.1.2 Table 4.1 shows the Site spatial average velocity ratio (SVR), local spatial average velocity ratio (LVR) and average wind velocity ratio along surrounding air sensitive area during annual condition and summer condition (for the Baseline Scheme (BS) and Proposed Scheme (PS)).

4.1.3 The wind velocity ratios of individual test points are shown in **Figure 10a** and **Figure 11a** for annual condition of the Baseline Scheme and Proposed Scheme respectively, and **Figure 10b** and **Figure 11b** for summer condition of the Baseline Scheme and Proposed Scheme respectively. **Appendix 4** shows detailed simulation results of the Baseline Scheme and the Proposed Scheme respectively.

Table 4.1 Summary of Spatial Average Wind Velocity Ratios (VR) – Annual and Summer Condition

Location	Tests Point	Annual Condition		Summer Condition	
		BS	PS	BS	PS
SVR	P01-P30	0.07	**0.08**	0.07	**0.08**
LVR	P01-P30, T01-T139	0.08	0.08	0.09	0.09
Lok Man Sun Chuen	T01-T13, T88-T91, T105-T111, T125-T132	0.06	**0.08**	0.08	0.08
Kau Pui Lung Road	T14-T24, P17, P19, P21, P23, P25	0.13	0.13	**0.15**	0.14
Maidstone Road	T27-T31, S01-S05, P01, P14-P15, P30	0.07	**0.08**	0.07	**0.09**
Lok Shan Road	P01, T32-T38	0.06	**0.07**	0.07	**0.08**
Ma Tau Wai Road	T39-T50, T33-T34, T77, T116-T119	0.07	0.07	0.07	0.07
Sheung Heung Road	T40, T52-T53	0.07	**0.08**	0.06	0.06
Pau Chung Street	T35, T53-T55	**0.08**	0.07	0.06	0.06
Kowloon City Road	T37, T56-T61	0.08	0.08	**0.06**	0.05
Sze Chuen Street	T59, T62-T63	0.05	**0.06**	0.04	**0.05**
Ha Heung Road	T63-T66	0.06	**0.07**	0.06	**0.07**
Chi Kiang Street	P15-P17, T66-T70, T48	0.09	**0.11**	0.09	**0.10**
Ko Shan Road	T67, T71-T75	0.08	**0.09**	0.13	**0.14**
Kiang His Street	T74, T76-T77	0.14	0.14	0.18	0.18
Anhui Street	T50, T72, T78	0.11	0.11	0.09	0.09
Ko Shan Road Park	T79-T87	0.10	0.10	0.16	0.16
Kau Pui Lung Road Playground	T25-T26, T51	**0.11**	0.09	**0.13**	0.12
C.C.C. Wanchai Church Kei To Primary School (Kowloon City)	T88-T91	0.03	0.03	**0.06**	0.05

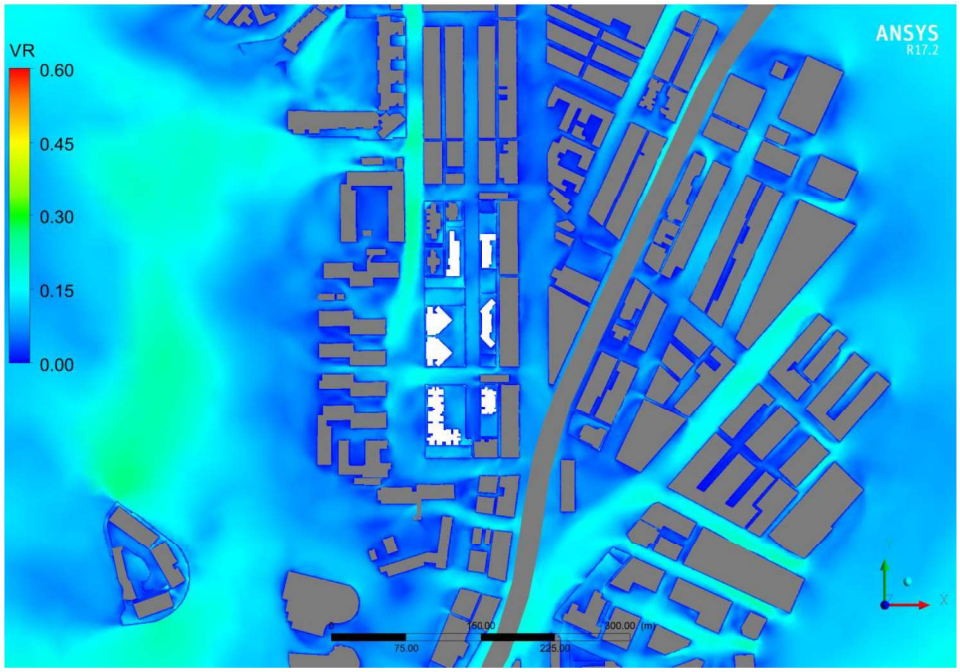
Location	Tests Point	Annual Condition		Summer Condition	
		BS	PS	BS	PS
Po Leung Kuk Madam Chan Wai Chow Memorial School	T92-T94	0.03	0.03	0.04	0.04
Po Leung Kuk Lam Man Chan English Primary School	T95-T97	0.01	0.01	0.02	0.02
E.L.C.H.K. Hung Hom Lutheran Primary School	T42, T98-T100	0.03	0.03	0.03	0.03
S.K.H. Good Shepherd Primary School	T101-T104	0.02	0.02	0.03	0.03
Ball Court on rooftop of To Kwa Wan Market	T112-T115	0.05	0.05	0.04	0.04
Kiang Su Street	P10, P11, P21, S04, S06	**0.10**	0.09	**0.09**	0.08
Ma Tau Wai Road/ To Kwa Wan Playground	T120-T124	0.11	0.11	**0.13**	0.12
To Kwa Wan Road	T70, T124, T133-T139	0.13	0.13	0.14	0.14
Pedestrianised Avenue	S01-S05	0.08	**0.09**	0.07	**0.10**

Note: Highlighted in **red** where VR is higher in the Proposed Scheme

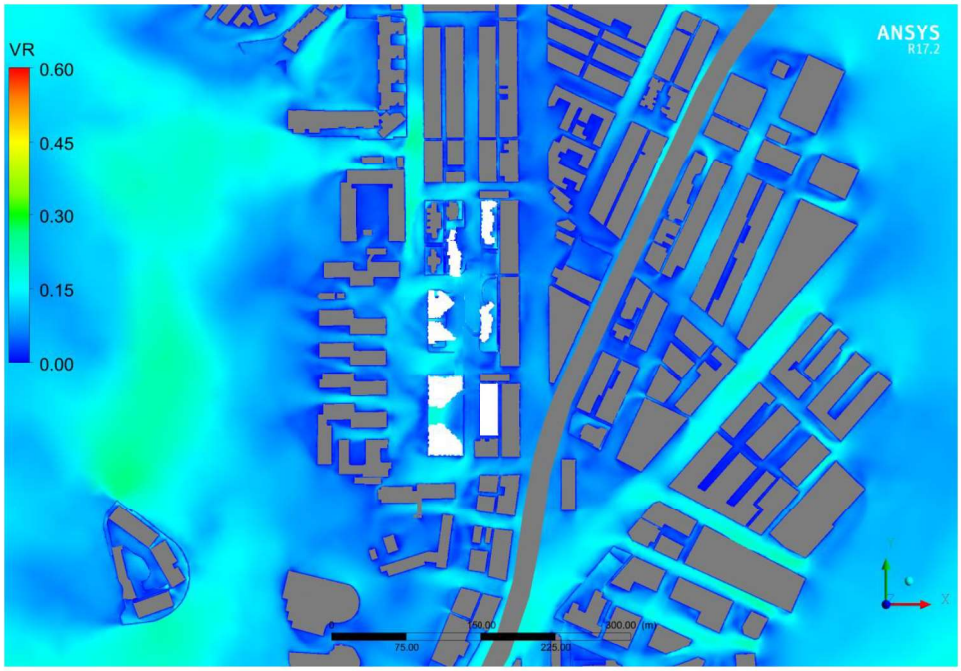
Highlighted in **blue** where VR is higher in the Baseline Scheme

4.2 Annual and Summer Weighted Average Contour

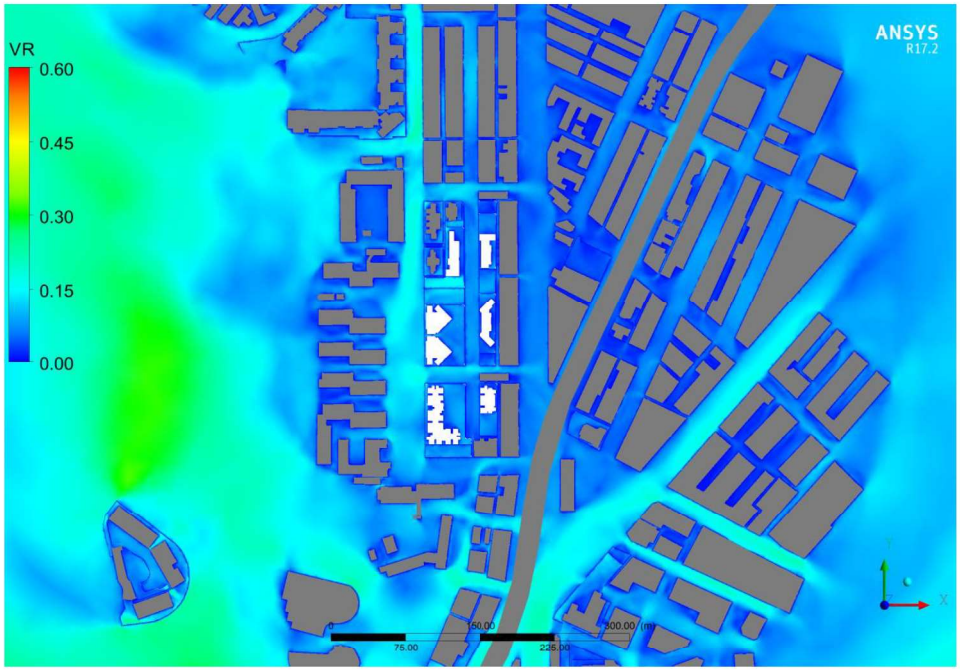
4.2.1 The annual and summer weighted average contour extracted below.



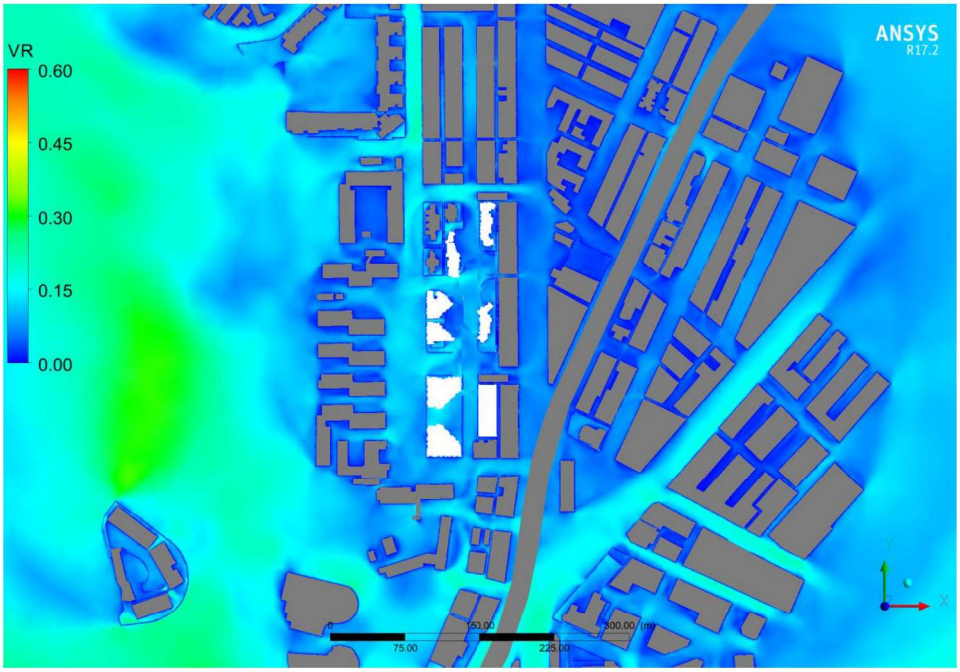
Annual Weighted Average Contour plot for Baseline Scheme



Annual Weighted Average Contour plot for Proposed Scheme



Summer Weighted Average Contour plot for Baseline Scheme



Summer Weighted Average Contour plot for Proposed Scheme

4.3 Discussion on Air Ventilation Performance

4.3.1 According to Table 4.1 and the weighted average contour above, it is noted that the LVR is similar between the Proposed Scheme and Baseline Scheme under both annual and summer condition. The SVR is slightly better in the Proposed Scheme, compared to the Baseline Scheme, under both annual and summer condition. Based on the result, the increase in building height would not induce a significant impact to the nearby area in air ventilation term under both annual and summer condition.

4.3.2 There are some variations in VR between two schemes. Under the annual condition, the VR of some areas is higher under the Proposed Scheme, including Lok Man Sun Chuen, Maidstone Road, Lok Shan Road, Sheung Heung Road, Sze Chuen Street, Ha Heung Road, Chi Kiang Street and Ko Shan Road. However, VR is lower at Pau Chung Street, Kau Pui Lung Road Playground and Kiang Su Street under the Proposed Scheme.

4.3.3 Under the summer condition, the areas with higher VR under the Proposed Scheme are Maidstone Road, Lok Shan Road, Sze Chuen Street, Ha Heung Road, Chi Kiang Street and Ko Shan Road. However, the areas with higher VR under the Baseline Scheme are Kau Pui Lung Road, Kowloon City Road, Kau Pui Lung Road Playground, C.C.C. Wanchai Church Kei To Primary School (Kowloon City), Kiang Su Street and Ma Tau Wai Road/ To Kwa Wan Playground.

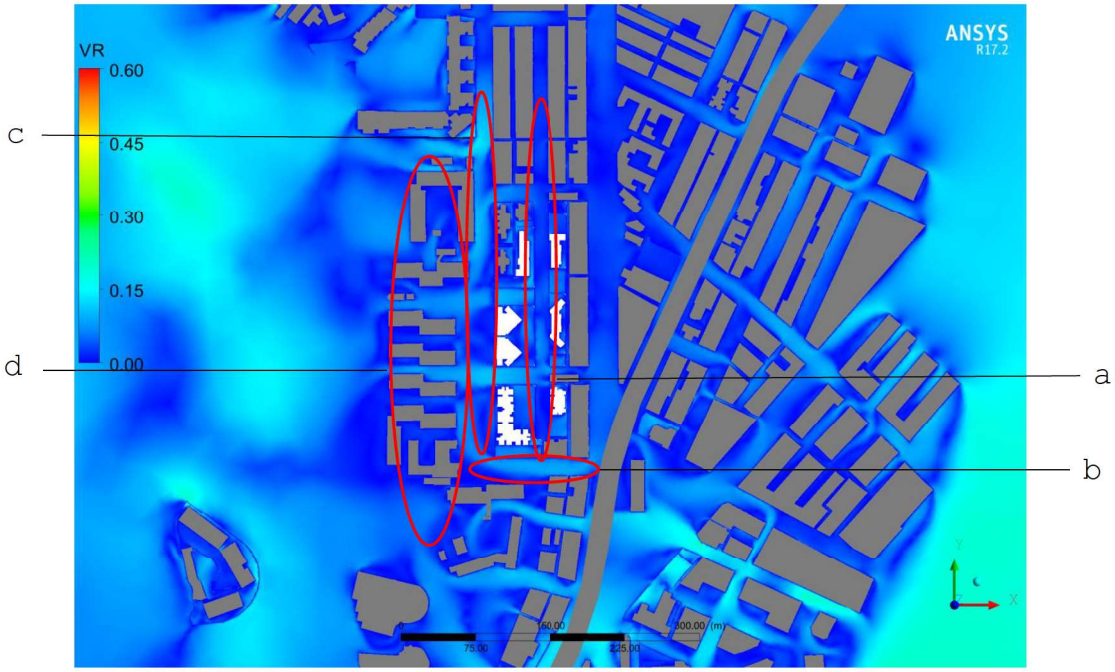
4.4 Wind Enhancement Features

4.4.1 Overall speaking, the Proposed Scheme and Baseline Scheme are comparable in performance in air ventilation terms.

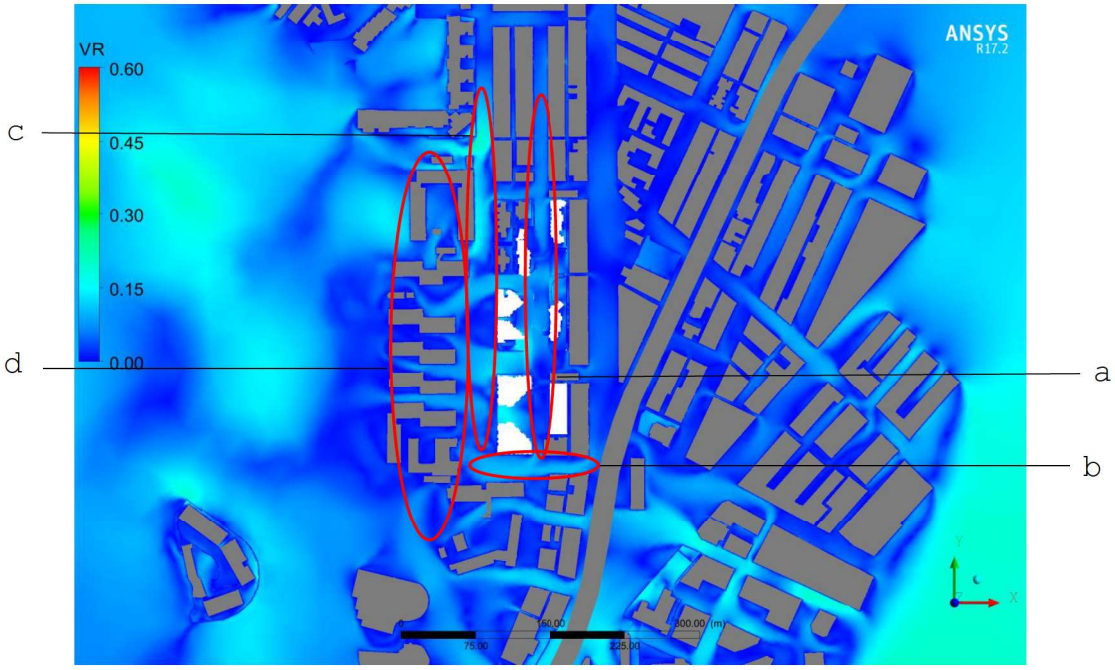
4.4.2 The Proposed Scheme offers one north-south building separation along Maidstone Road at the Subject Site. Also, the reduced podium extent under the Proposed Scheme improved the east-west wind penetration. Thus, it enhanced the internal ventilation and the immediate nearby area.

4.5 Directional Analysis

Wind performance under wind direction of NNE



Contour plot for Baseline Scheme



Contour plot for Proposed Scheme

4.5.1 Under NNE wind, the wind would mainly flow from Ma Tau Wai Road and To Kwa Wan Road to reach the Subject Site.

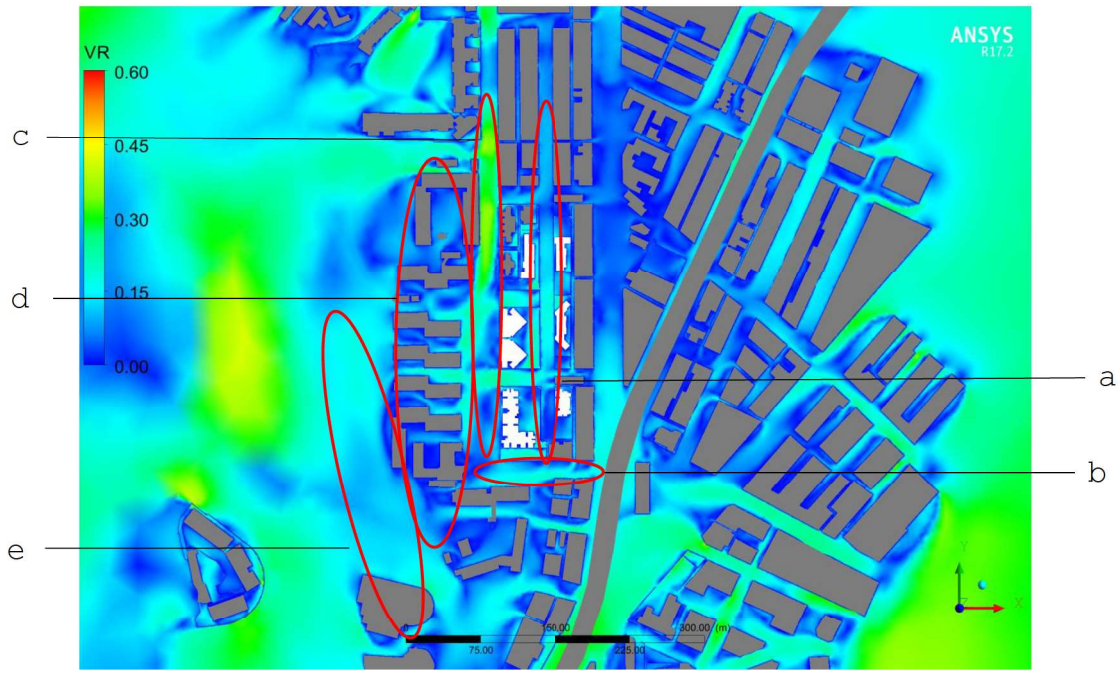
a. The wider building separation along Maidstone Road/ future pedestrianised avenue within the Subject Site in the Proposed Scheme enhanced the north-south wind penetration. Therefore, the VR is slightly higher at Maidstone Road/ future pedestrianised avenue.

b. The upcoming wind flows along Chi Kiang Street from east to west. Since the building disposition of T7 in Southern Site of the Proposed Scheme is closer to the southern boundary, the air flow at part of Chi Kiang Street to the south of the Subject Site is accelerated due to the channelling effect.

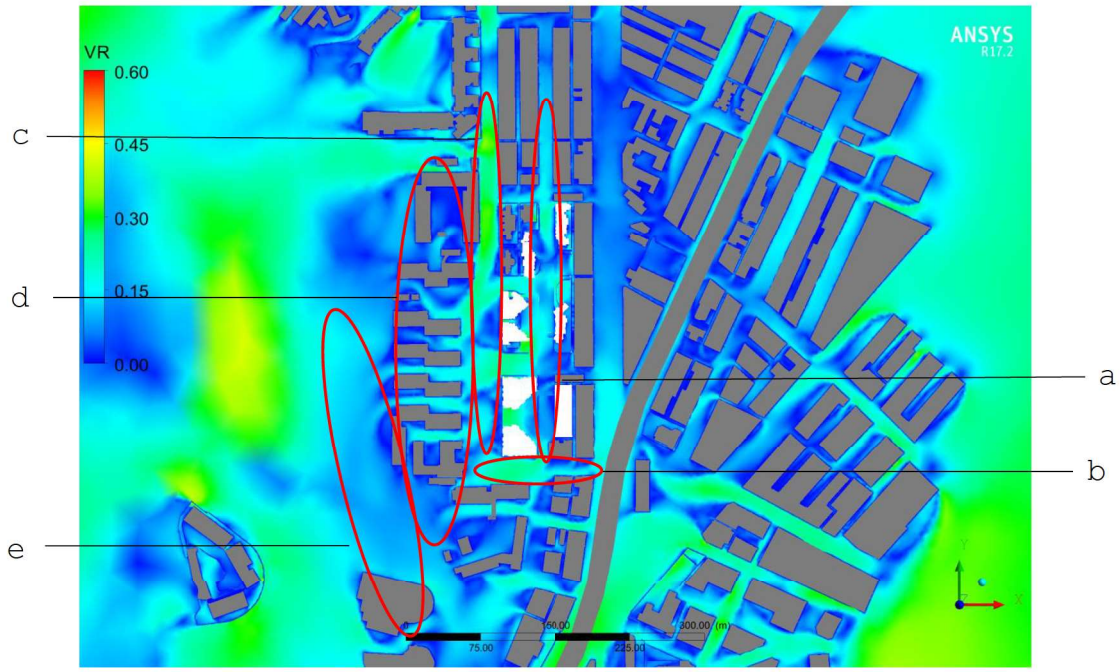
c. The wider building separation along Kiang Su Street and the split podia between T2 and T3 at ~13m distance in the Proposed Scheme enhanced the east-west wind penetration in the area. The same wind enhancement is created between T4 and T6 with about 33m building separation and 23m gap between podia in the Proposed Scheme. The enhanced wind flows continuous toward west and benefit Kau Pui Lung Road under the Proposed Scheme.

d. Better E-W direction flows within the Subject Site and Kau Pui Lung Road continuously flows towards west and benefits Lok Man Sun Chuen under the Proposed Scheme.

Wind performance under wind direction of NE



Contour plot for Baseline Scheme



Contour plot for Proposed Scheme

4.5.2 Under NE wind, the wind would mainly flow from Ma Tau Wai Road and To Kwa Wan Road to reach the Subject Site.

a. The larger podium separation along Maidstone Road/ future pedestrianised avenue within the Subject Site from north to south direction in the Proposed Scheme enhances the north-south wind penetration. Therefore, the VR is higher at Maidstone Road/ future pedestrianised avenue under the Proposed Scheme.

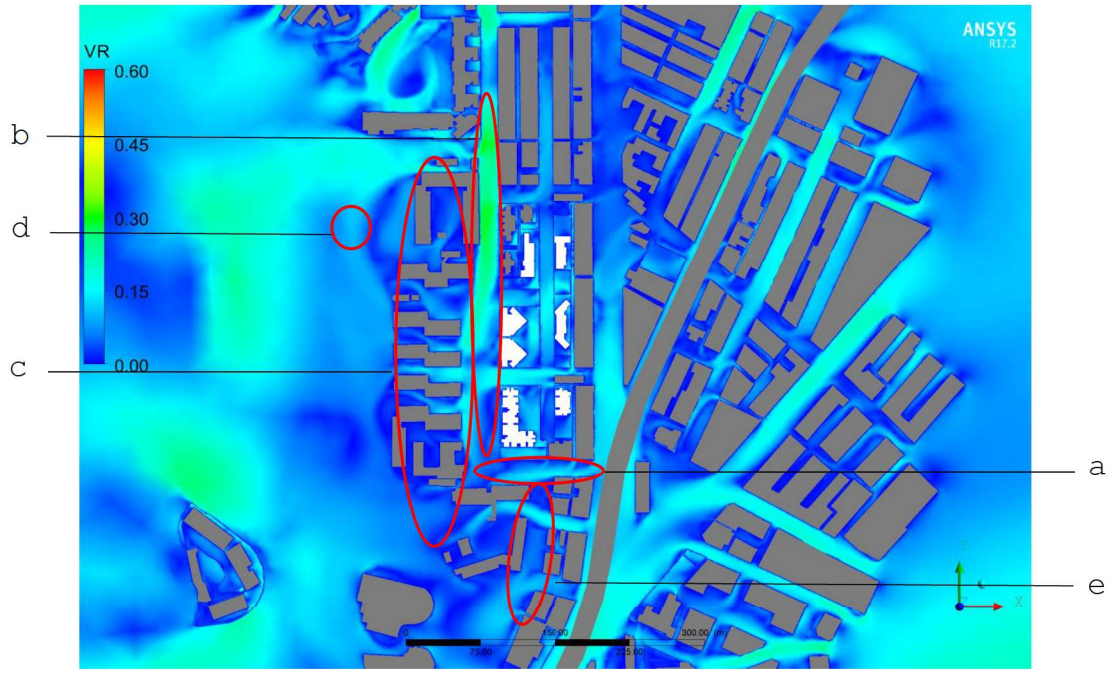
b. On the other hand, the upcoming wind flows along Chi Kiang Street from east to west. Since the building disposition of T7 in Southern Site of the Proposed Scheme is closer to the southern boundary, the air flow at part of Chi Kiang Street to the south of the Subject Site has better wind performance due to the channelling effect.

c. The wider building separation along Kiang Su Street and the split podia between T2 and T3 at ~13m distance in the Proposed Scheme enhanced the east-west wind penetration in the area. The same wind enhancement is created between T4 and T6 with about 33m building separation and 23m gap between podia in the Proposed Scheme. The enhanced wind flows continuous toward west and benefit Kau Pui Lung Road under the Proposed Scheme.

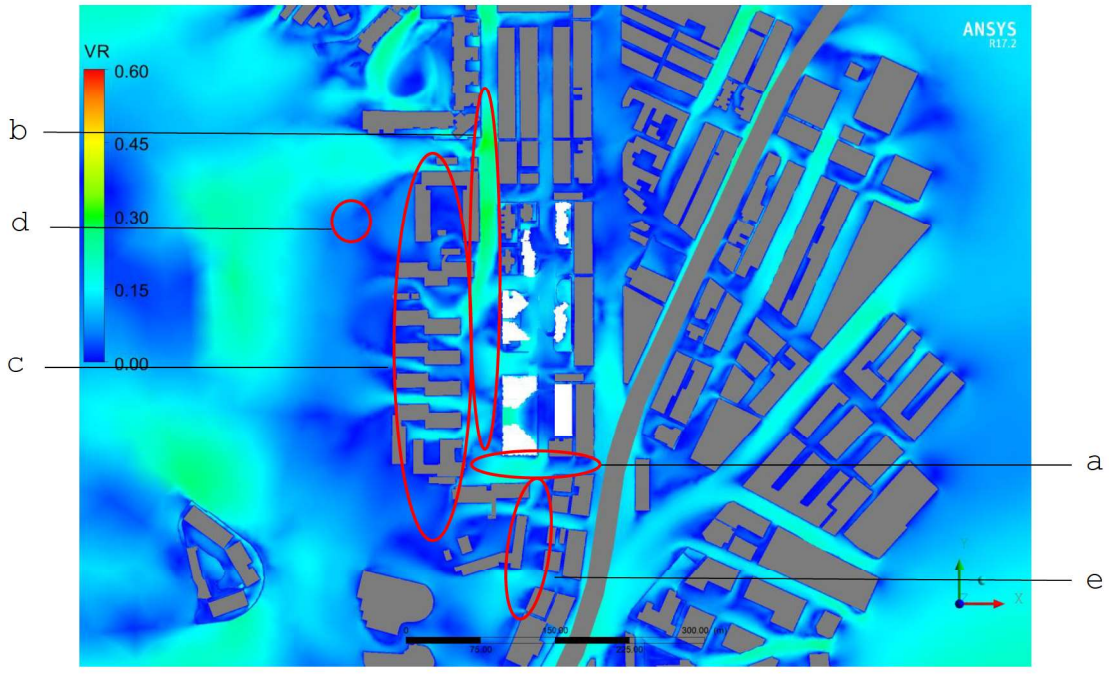
d. The more diverted wind flow from Kiang Su Street and the wider building separation of about 58m between T1 and T5 in the Proposed Scheme continuously flows toward the west and benefits the Lok Man Sun Chuen.

e. Upcoming NE wind flows along the private road to the north of Lok Seen Lau and continuously flows towards south due to the slope to the immediate west of Lok Man Sun Chuen. The stronger wind flow within Lok Man Sun Chuen from east to west along the building separations counter with the abovementioned flow which leads to lower VR in Ko Shan Road Park and the hillside to the west of the Subject Site under the Proposed Scheme.

Wind performance under wind direction of ENE



Contour plot for Baseline Scheme



Contour plot for Proposed Scheme

4.5.3 Under ENE wind, the wind would mainly flow from To Kwa Wan Road to reach the Subject Site.

a. The upcoming wind flows along Chi Kiang Street from east to west. Since the building disposition of T7 in Southern Site of the Proposed Scheme is closer to the southern boundary, the air flow at part of Chi Kiang Street to the south of the Subject Site is accelerated due to the channelling effect.

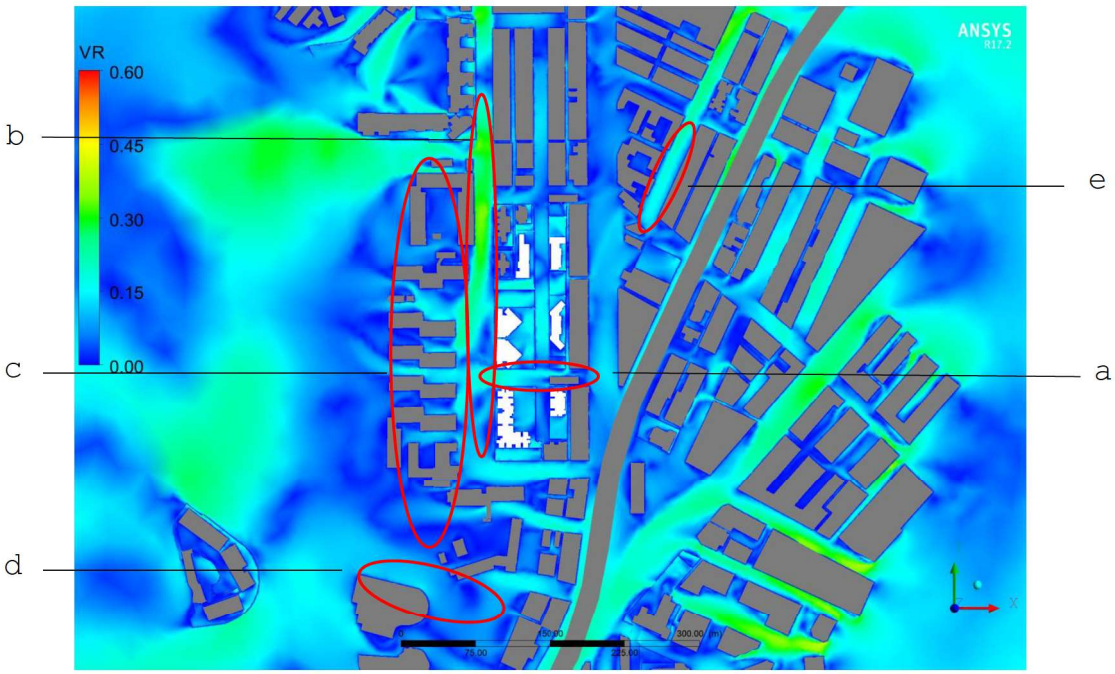
b. The building separation at tower level between T1 and T5 is much larger than that of the Baseline Scheme. In addition, podium between T2 and T3 is split with ~13m width in the Proposed Scheme, which allows more wind penetration through the Subject Site. While the podium at this location is continuous in the Baseline Scheme which would block the wind passing via the site, the smaller podia with separation in between would facilitate better wind flow to the inner area of the Site as well as passing through via the site towards hillside. Furthermore, the gap between the podia of Northern Site and Southern Site in the Proposed Scheme is larger than that in the Baseline Scheme, which also facilitates more wind flowing from east to west. Thus, the VR in Kau Pui Lung Road is higher under the Proposed Scheme.

c. The diverted wind flow from Kiang Su Street and the building separation between T1 and T5 in the Proposed Scheme continuously flows toward the west and benefits the Lok Man Sun Chuen.

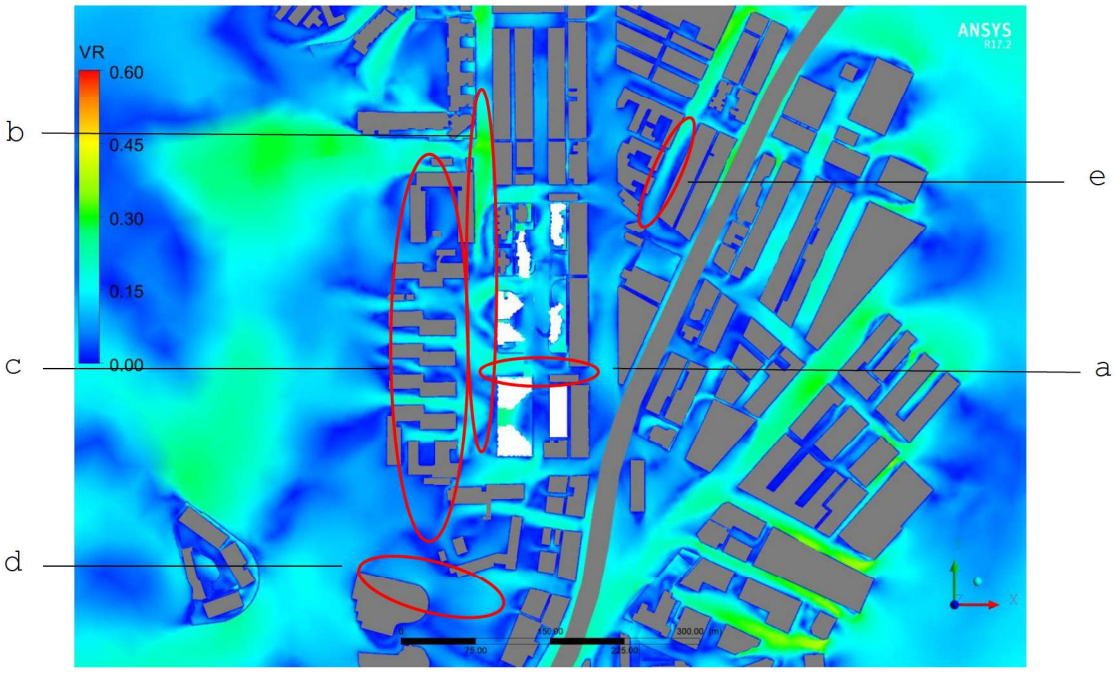
d. The upcoming ENE wind flows along the private road to the north of Lok Seen Lau and diverts towards south along the area between Lok Man Sun Chuen and the slope to the immediate west. The stronger wind flow within the building separations aligned to E-W direction counters with the diverted wind. Thus, the VR is lower at Kau Pui Lung Road Playground under the Proposed Scheme.

e. The stronger wind along Chi Kiang Street to the south of the Subject Site due to channelling effect continuously flows towards south at Ko Shan Street. Therefore, the VR at Ko Shan Road is higher under the Proposed Scheme.

Wind performance under wind direction of E



Contour plot for Baseline Scheme



Contour plot for Proposed Scheme

4.5.4 Under E wind, the wind penetrates through the building clusters in To Kwa Wan area and reach the Subject Site.

a. The upcoming E wind skims over the building clusters to the east of Ma Tau Wai Road and passes through Kiang Su Street. Although the podium gap between the podia of Northern Site and Southern Site is wider, the building outline of T6 in Southern Site is shifted towards north, which means it is closer to Kiang Su Street. Thus, the VR is slightly lower in Kiang Su Street under the Proposed Scheme.

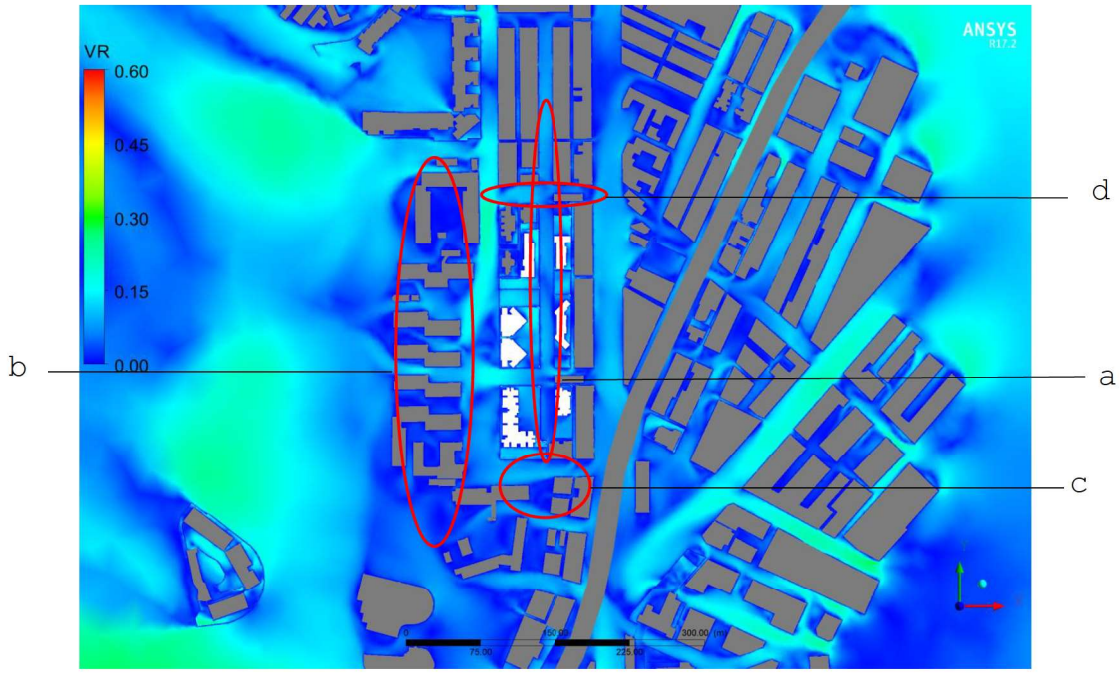
b. Despite the lower wind speed along Kiang Su Street, there is additional at grade gap between the podium under T2 and T3, and the original T6 in the Baseline Scheme is split into two blocks with 15m separation, there are more wind penetration via the Subject Site from east to west. The more penetrated air counters with the flow along Kau Pui Lung Road, which leads to lower VR at Kau Pui Lung Road under the Proposed Scheme.

c. However, the abovementioned more wind flow from east to west allows the wind to flow continuously to Lok Man Sun Chuen.

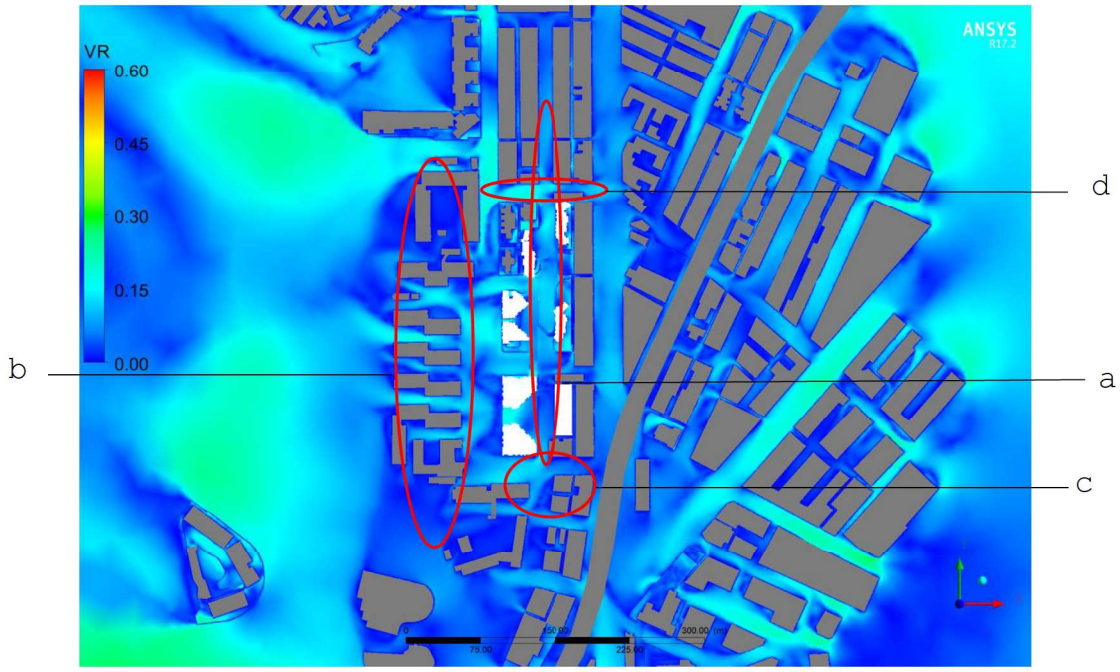
d. The E wind passes through the private road to the north of Lok Seen Lau and was diverted towards south along the slope to the west of Lok Man Sun Chuen. The higher penetration among the blocks under the Proposed Scheme counters with the diverted wind and reduces the air to flow towards Ko Shan Road Park. However, Kiang Hsi Street is one important path to facilitate E wind to reach the downwind area Ko Shan Park. The stronger diverted air flow from north under the Baseline Scheme counters the flow from Kiang Hsi Street, thus, the VR at Ko Shan Road Park is slightly higher under the Proposed Scheme.

e. It is noted the disposition of T1 is closer to the northern boundary of the Subject Site. Not only the disposition but also the additional building height cause the downwash effect and slows down the wind speed of part of Pau Chung Street.

Wind performance under wind direction of ESE



Contour plot for Baseline Scheme



Contour plot for Proposed Scheme

4.5.5 Under ESE wind, the wind penetrates through the building clusters in To Kwa Wan area and reach the Subject Site.

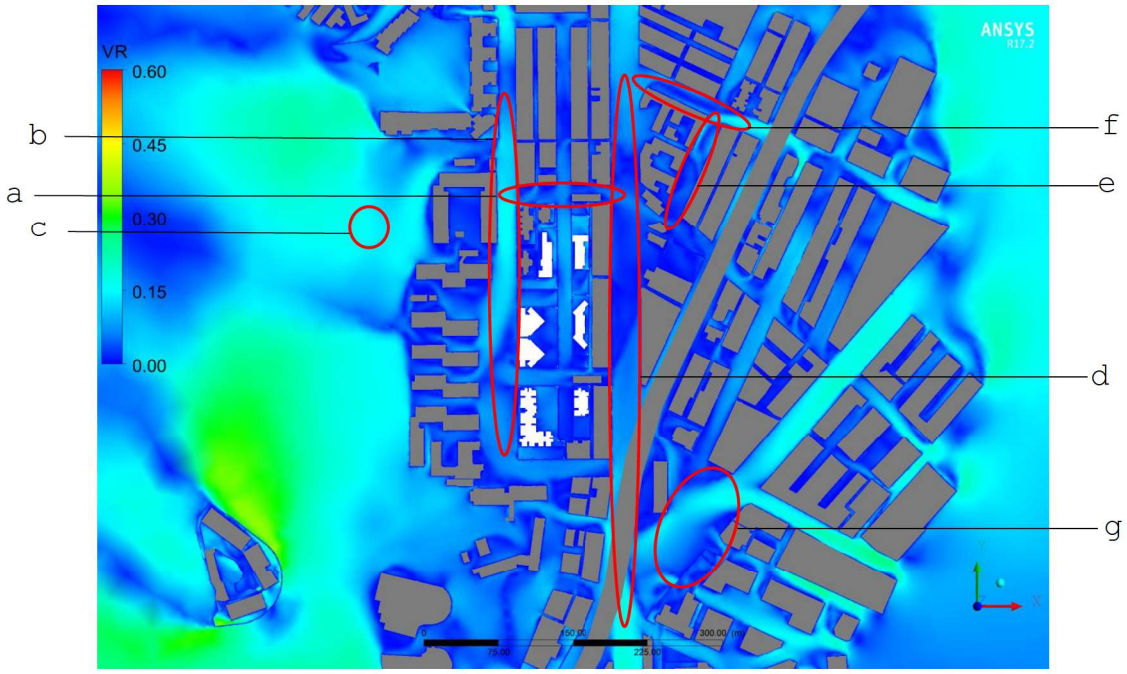
a. Under the Baseline Scheme, the high-level ESE wind flows from east to west along Kiang Su Street, hits the high-rise tower and flows to the pedestrian level due to the downwash effect. While for the Proposed Scheme, the building separation at tower level between T1 and T5 is much larger and allows much wind to penetrate. Also, the building height of the Proposed Scheme is taller. More high-level wind is captured and diverted to the pedestrian level. The air flow along Maidstone Road / future pedestrianised avenue within the Subject Site is thus stronger under the Proposed Scheme.

b. The larger building separation along Kiang Su Street, between T1 and T5 and the additional at grade separation between podia under T2 and T3 in the Proposed Scheme enhanced the east-west wind penetration in the area. The enhanced wind flows continuously towards the west and benefits Lok Man Sun Chuen in the Proposed Scheme.

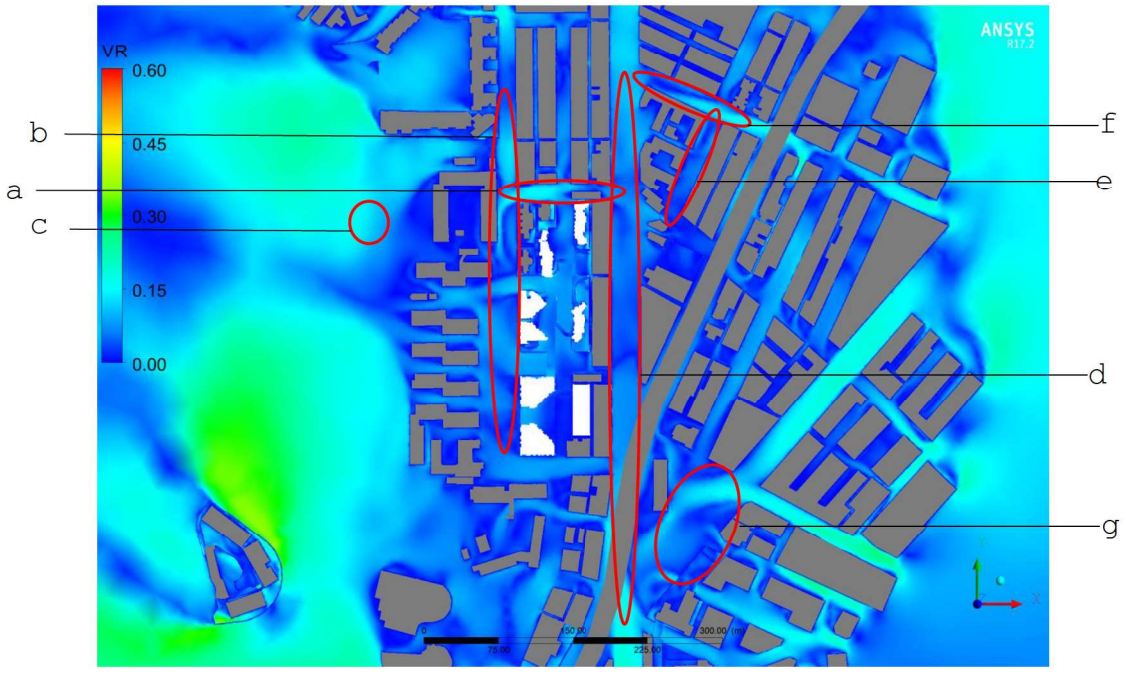
c. The stronger air flow towards south along Maidstone Road under the Proposed Scheme continuously moves and benefits Chi Kiang Street. Therefore, the VR at Chi Kiang Street is slightly higher under the Proposed Scheme.

d. The taller building height and closer distance between Tower 1 and the northern site boundary in the Proposed Scheme induces a stronger channelized wind along the northern boundary. Thus, the VR is slightly higher along Lok Shan Road under the Proposed Scheme.

Wind performance under wind direction of SE



Contour plot for Baseline Scheme



Contour plot for Proposed Scheme

4.5.6 Under SE wind, the wind penetrates through the building cluster in To Kwa Wan area and Chi Kiang Street to reach the Subject Site.

a. Due to the different disposition of T1 under the two schemes, the upcoming SE wind skims over the podium under T1 in Baseline Scheme near the northern site boundary and hits on the high-rise of 80 Maidstone Road, then the downwash air flows towards south along Maidstone Road. On the other hand, since the T5 under the Proposed Scheme has been moved towards north, the upcoming SE wind pass through the separation and hit on T2, the downwash wind splits to two directions, in which one is towards north along Maidstone Road, together with the flow from east to west along Lok Shan Road, causes air acceleration at Lok Shan Road to the immediate north of the site boundary.

b. The additional separation between podia under T1 and T5, together with the wider separation along Kiang Su Road, enhance the wind penetration within the site along E-W direction. The stronger penetrated wind flow counters with the wind along Kau Pui Lung Road from north to south and reduces the wind velocity along Kau Pui Lung Road under the Proposed Scheme.

c. The upcoming wind flows along the private road to the north of Lok Seen Lau and was diverted to south along the hillside to the immediate west of Lok Man Sun Chuen. Under the Proposed Scheme, better penetration on E-W direction due to the larger building separations causes some counter flow towards north direction at the west of Lok Seen Lau. The turbulence slows down the wind speed at Kau Pui Lung Playground.

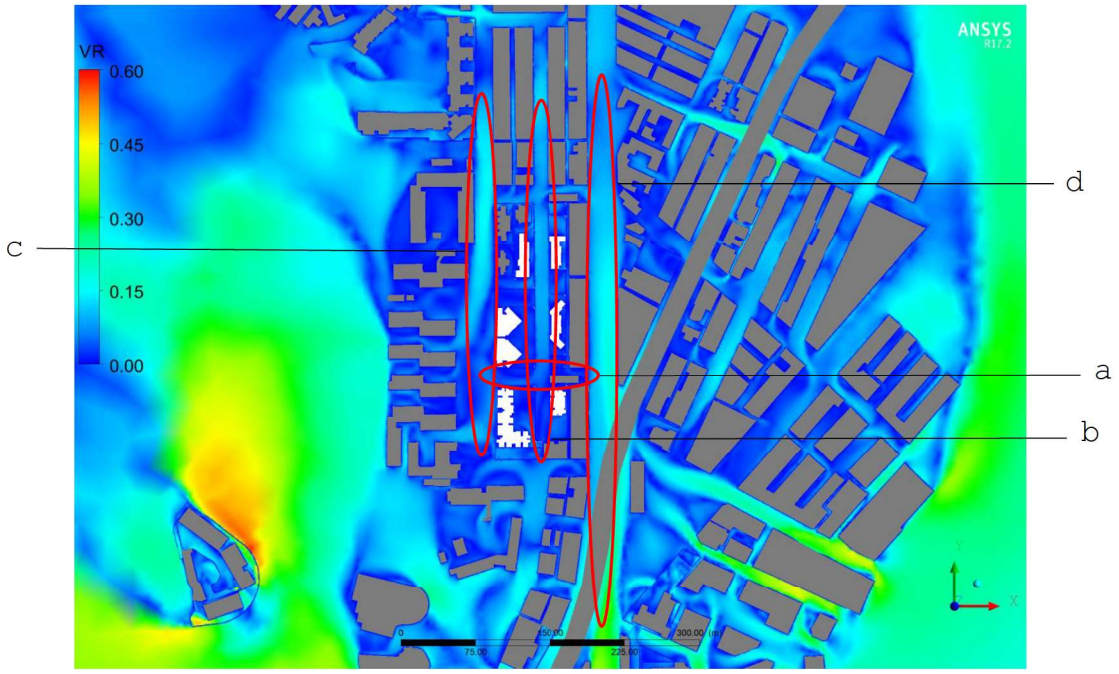
d. The taller building height in the Proposed Scheme induce a stronger downwash wind at Ma Tau Wai Road. Therefore, the VR is slightly higher under the Proposed Scheme at Ma Tau Wai Road.

e. The abovementioned stronger downwash wind continuously flows towards north and benefits Pau Chung Road under the Proposed Scheme.

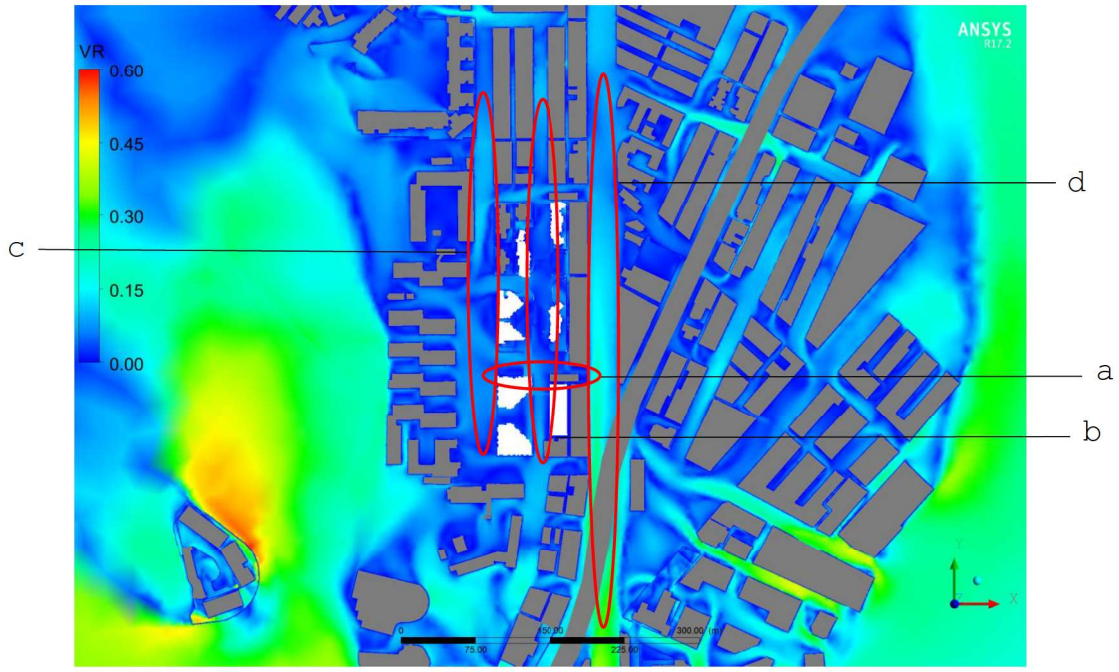
f. The stronger flow along Pau Chung Road joins the upcoming wind along Sheung Heung Road and accelerates the velocity at Sheung Heung Road under the Proposed Scheme.

g. The stronger downwash wind towards south along Ma Tau Wai Road counters with the upcoming wind from Chi Kiang Street and Kai Ming Street, slows down the wind speed at Ma Tau Wai Road/ To Kwa Wan Playground and To Kwa Wan Road as well.

Wind performance under wind direction of SSE



Contour plot for Baseline Scheme



Contour plot for Proposed Scheme

4.5.7 Under SSE wind, the building cluster in To Kwa Wan area reduce the wind flow to reach the Subject Site.

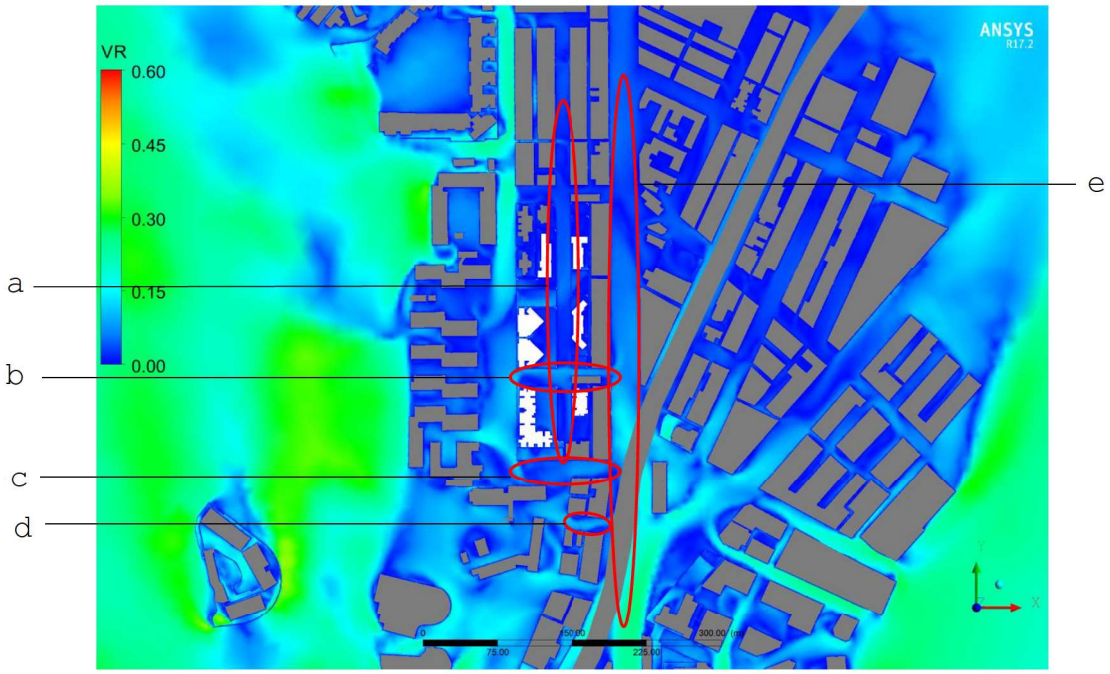
a. The podium under T6 and T7 is reduced so that the separation between the podium and Ming Fat Building is widened in the Proposed Scheme. It allows the wind to penetrate into the site. Therefore, the VR at Kiang Su Street is slightly higher under the Proposed Scheme.

b. The upcoming SSE wind skims over the clusters in To Kwa Wan area, hits on the high-rise buildings and induces the downwash effect to the pedestrian level from north to south along Maidstone Road. However, under the Proposed Scheme, due to the wider separation of the podium and Ming Fat Building, more wind could penetrate into the site along N-S direction, which counters with the downwash flow. Thus, the VR is slightly lower at Maidstone Road / future pedestrianised avenue within the Subject Site under the Proposed Scheme.

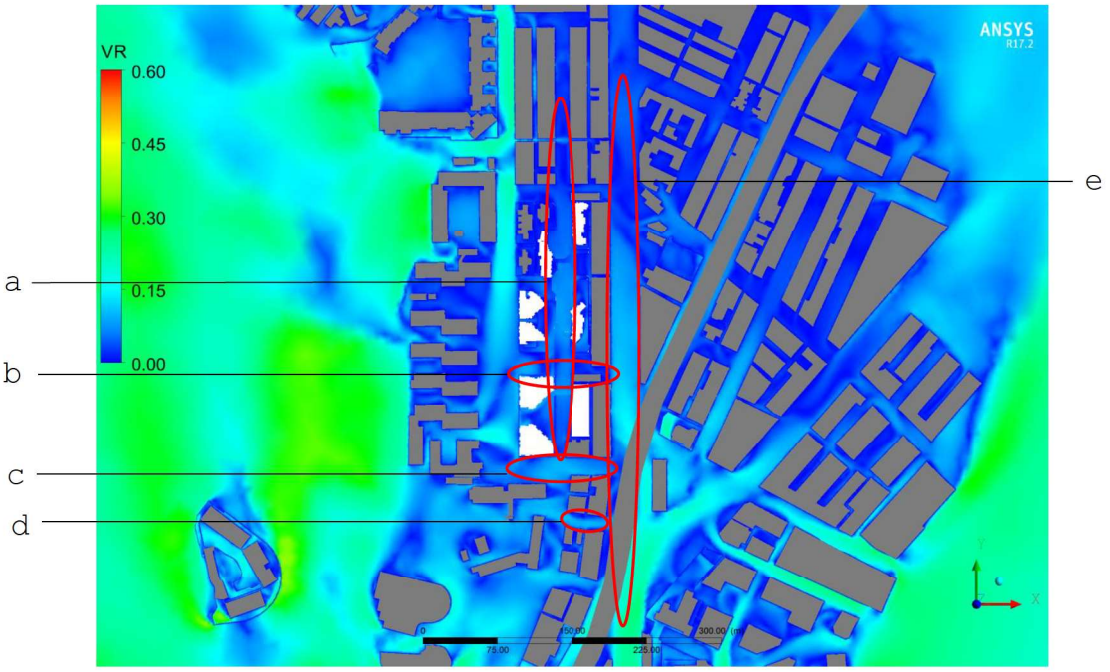
c. The additional separation between podia under T1 and T5, together with the wider separation along Kiang Su Road, enhances the wind penetration within the site along E-W direction. The stronger penetrated wind flow counters with the wind along Kau Pui Lung Road from north to south and reduces the wind velocity along Kau Pui Lung Road under the Proposed Scheme.

d. The upcoming wind flows from south to north along Ma Tau Wai Road. Since the podium T6 in the Baseline Scheme is larger and closer to Ming Fat Building than the Proposed Scheme, part of the upwind from Ko Shan Road was diverted to east and west along Chi Kiang Road. The diverted wind to east would reach and counter with the upcoming flow at Ma Tau Wai Road, which slows down the wind velocity on Ma Tau Wai Road. Moreover, T7 in the Baseline Scheme is moved to the southwest corner of the site, which is less unlikely to cause downwash effect and affect the wind flow on Ma Tau Wai Road. Thus, the VR is slightly higher on Ma Tau Wai Road under the Proposed Scheme.

Wind performance under wind direction of S



Contour plot for Baseline Scheme



Contour plot for Proposed Scheme

4.5.8 Under S wind, the wind would mainly flow from Ma Tau Wai Road to reach inland area.

a. The wider separation between the podium under T6 & 7 and Ming Fat Building in the Proposed Scheme allows more wind to penetrate from south to north inside the Subject Site. Therefore, the VR is higher at Maidstone Road under the Proposed Scheme.

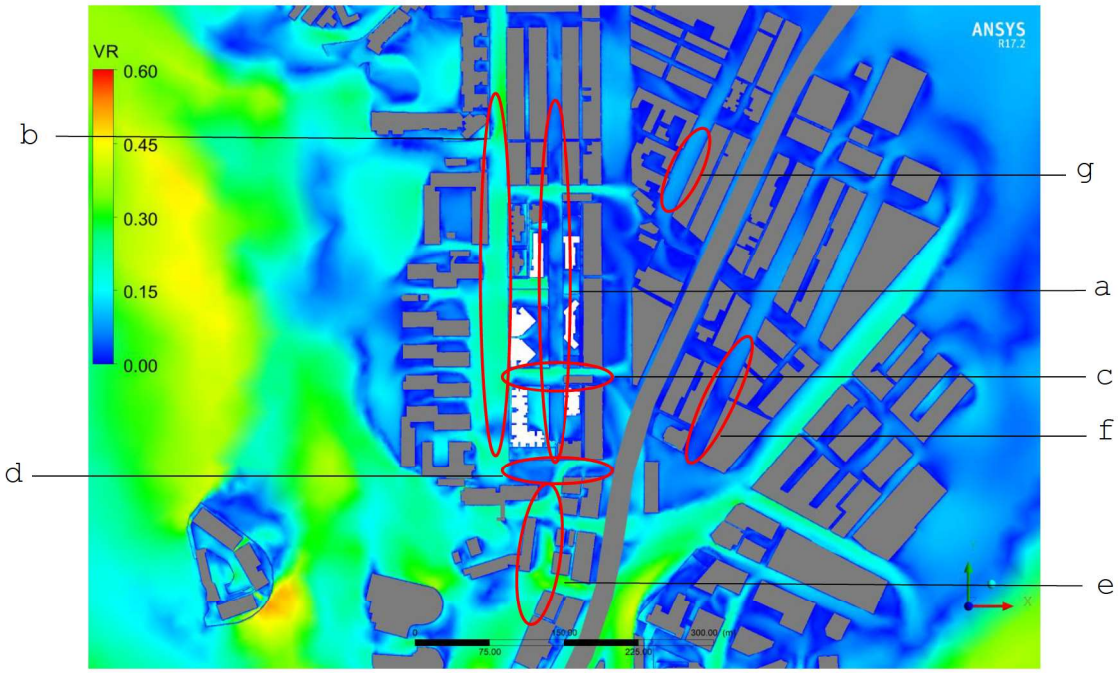
b. Although the building separation between Northern Site and Southern Site is enlarged, Lucky Building which abuts Kiang Su Street would still block parts of the flow penetration at E-W direction. In addition, compared with T6 in the Baseline Scheme, T6 of Southern Site in the Proposed Scheme is shifted towards north and closer to Kiang Su Street. Thus, the VR is slightly lower at Kiang Su Street.

c. The upcoming S wind passes through the building gap between Lok Kei Lau and The Church of Christ in China Wanchai Church Kei To Primary School (Kowlooon City) and hits on the high-rise building of the Subject Site. Part of the downwash air flows along Chi Kiang Street. Due to the taller building height and the disposition of T7 under the Proposed Scheme, the VR along Chi Kiang Road under the Proposed Scheme is slightly higher.

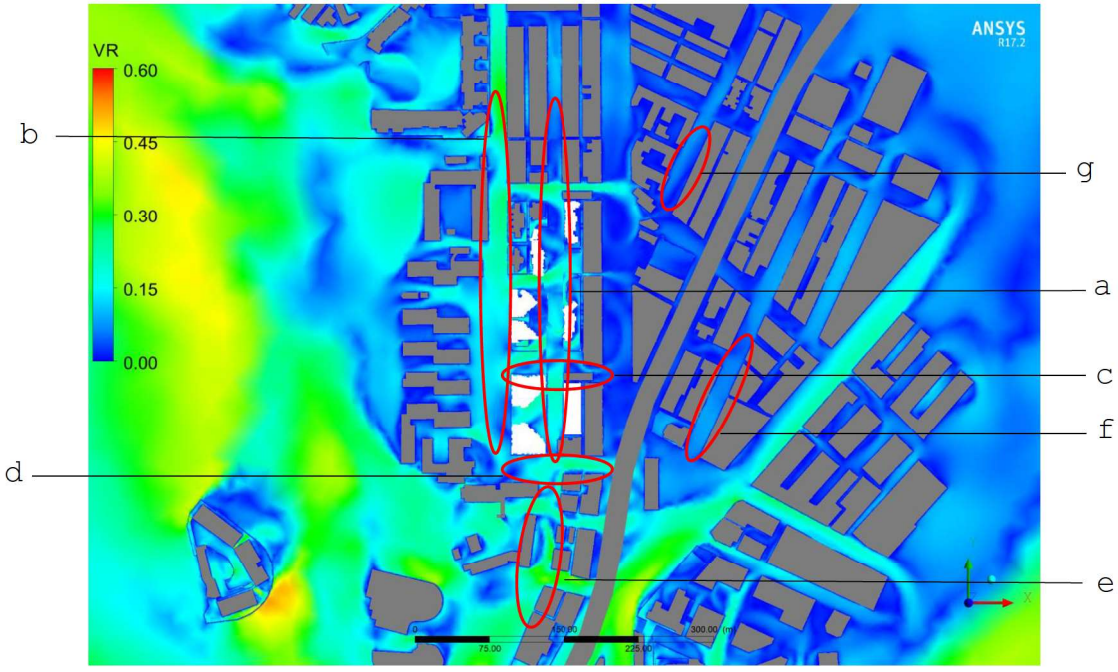
d. The stronger downwash wind continuously flows along Ko Shan Road, reaches Anhui Street and benefits Anhui Street.

e. The taller buildings in the Proposed Scheme would induce stronger downwash wind and benefit Ma Tau Wai Road.

Wind performance under wind direction of SSW



Contour plot for Baseline Scheme



Contour plot for Proposed Scheme

4.5.9 Under SSW wind, the wind would mainly flow from Ho Man Tin Area to reach inland area.

a. The wider separation at pedestrianised avenue in the Proposed Scheme allows more wind to penetrate from south to north inside the Subject Site. Therefore, the VR is higher at Maidstone Road / future pedestrianised avenue within the Subject Site under the Proposed Scheme.

b. The upcoming SSW wind skims over Lok Man Sun Chuen and flows along Kau Pui Lung Road to north. Due to the taller building height of the Proposed Scheme, stronger downwash wind would be induced and creates wake area to the west of the Subject Site. Thus, the VR at Kau Pui Lung Road is lower under the Proposed Scheme.

c. Although the building separation between Northern Site and Southern Site is enlarged, Lucky Building which abuts Kiang Su Street would still block parts of the flow penetration at E-W direction. In addition, compared with T6 in the Baseline Scheme, T6 of Southern Site in the Proposed Scheme is shifted and closer to Kiang Su Street. Thus, the VR is slightly lower at Kiang Su Street.

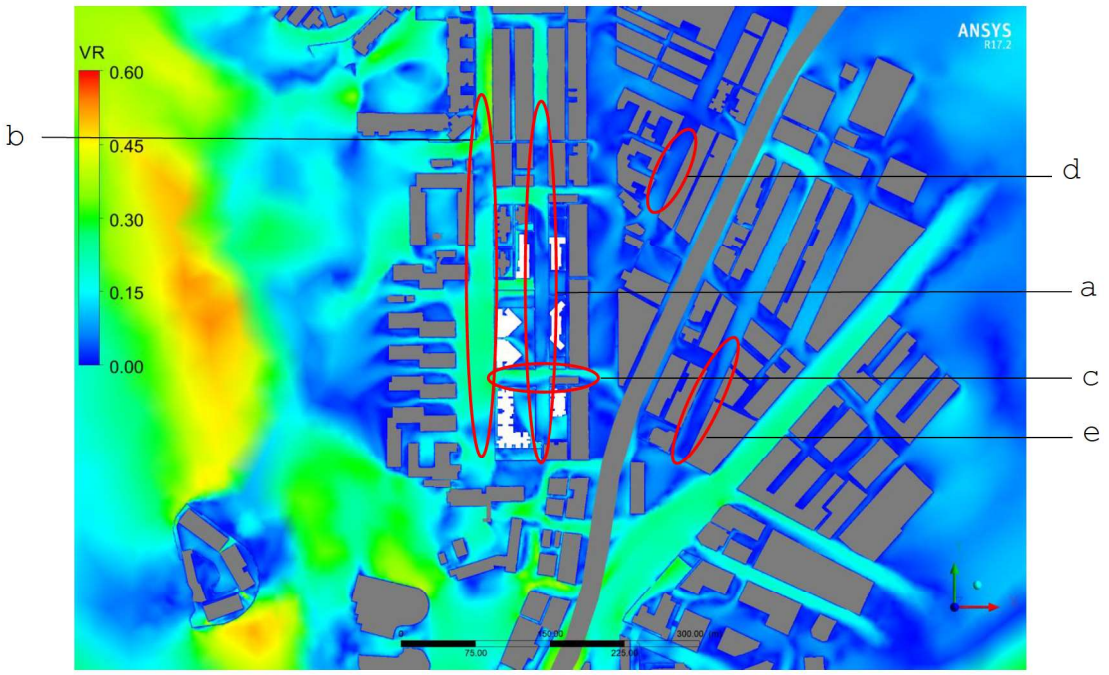
d. The upcoming SSW wind passes through the building gap between Lok Chee Lau and Lok Oi Lau and channelized along Ko Shan Road to reach Chi Kiang Road and Anhui Street Part of the downwash air flows along Chi Kiang Street. On the other hand, the air flows from the south of Lok Kei Lau hits on the high-rise building of the Subject Site and channelized to the Chi Kiang Road effected by downwash effect. Due to the taller building height in the Proposed Scheme, the wind speed is higher along Chi Kiang Road under the Proposed Scheme.

e. The reduced podium under T7 & B widen the separation between the podium and Ming Fat Building. More upcoming wind from Ko Shan Road could be penetrate into the Subject Site along Maidstone Road. Thus, the VR at Ko Shan Road is better under the Proposed Scheme.

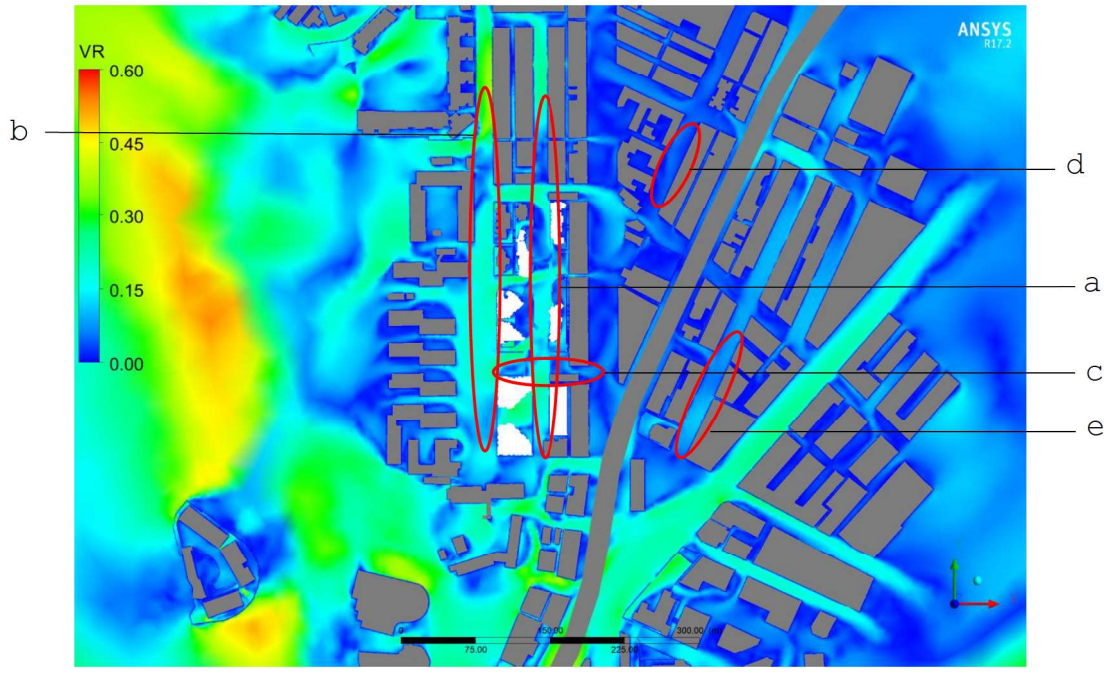
f. The accelerated air flow along Chi Kiang Road continuously moves towards east and joins the upcoming wind from Ma Tau Wai Road. Therefore, the VR at Ha Heung Road is higher under the Proposed Scheme.

g. The disposition of T1 is shifted to the northern site boundary, the building separation between T1 and T5 is much wider in the Proposed Scheme. This allows more wind to penetrate along the building separation towards east and reach Ma Tau Wai Road. This flow would counter with the upcoming wind from north along Pau Chung Steet, so slightly lower VR is observed along under the Proposed Scheme at Pau Chung Street.

Wind performance under wind direction of SW



Contour plot for Baseline Scheme



Contour plot for Proposed Scheme

4.5.10 Under SW wind, the wind would mainly flow from Ho Man Tin Area to reach inland area.

a. The wider separation at pedestrianised avenue in the Proposed Scheme allows more wind to penetrate from south to north inside the Subject Site. Therefore, the VR is higher at Maidstone Road under the Proposed Scheme.

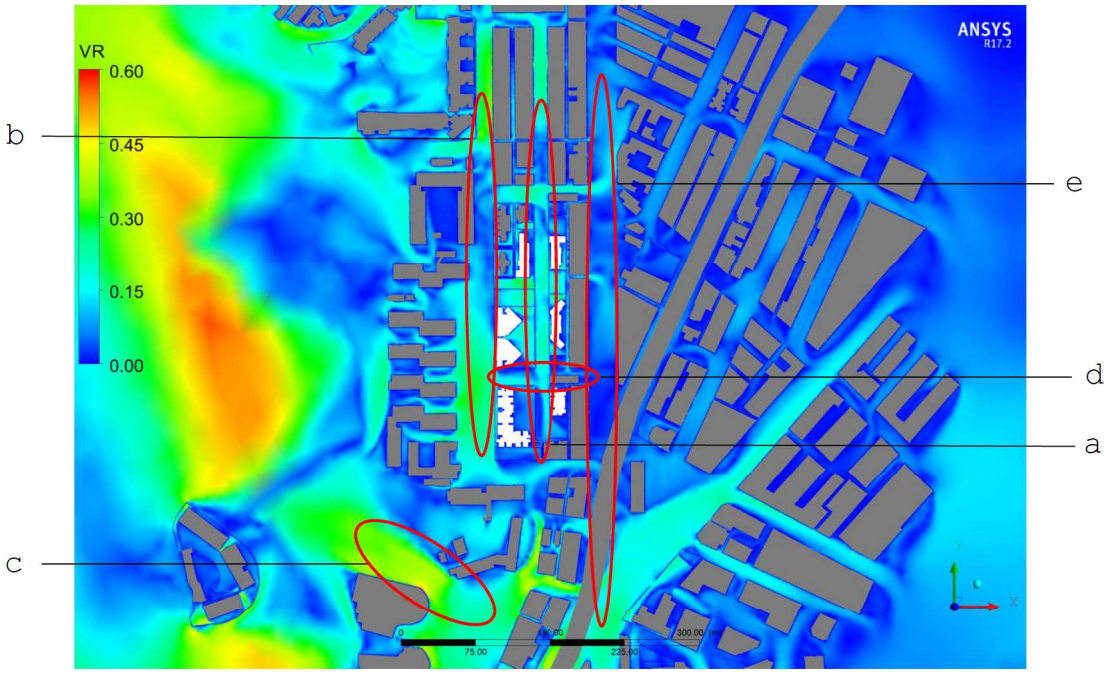
b. The upcoming SSW wind skims over Lok Man Sun Chuen and flows along Kau Pui Lung Road to north. Due to the taller building height of the Proposed Scheme, stronger downwash wind would be induced and creates wake area to the west of the Subject Site. Thus, the VR at Kau Pui Lung Road is lower under the Proposed Scheme.

c. Although the building separation between Northern Site and Southern Site is enlarged, Lucky Building which abuts Kiang Su Street would still block parts of the flow penetration at E-W direction. In addition, compared with T6 in the Baseline Scheme, T6 of Southern Site in the Proposed Scheme is closer to Kiang Su Street. Thus, lower VR is observed at Kiang Su Street.

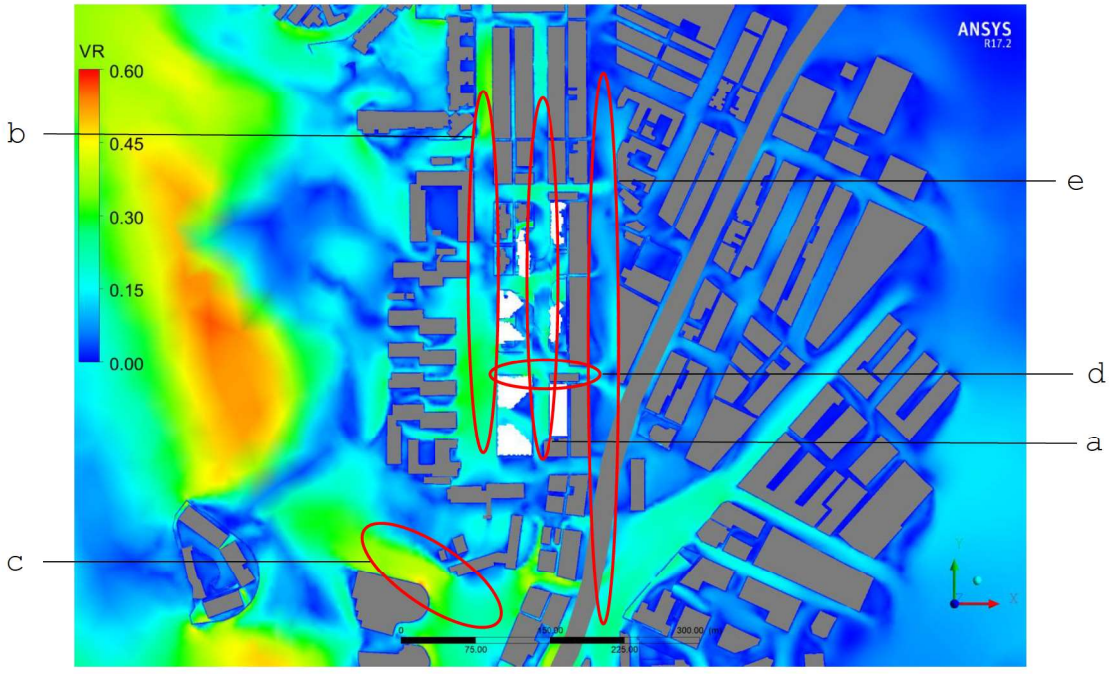
d. The disposition of T1 is much closer to the northern site boundary, which may accelerate the wind speed of air flowing along part of Lok Shan Road near the site boundary. Part of this flow would counteract with the coming flow from north along Pau Chung Street, so the VR is slightly lower along under the Proposed Scheme at Pau Chung Street.

e. The taller building height and the tower disposition of T7 in the Proposed Scheme causes stronger downwash effect at part of Chi Kiang Street near the southern boundary. As such, the wind velocity is higher along Chi Kiang Street towards east. This stronger flow joints the SW wind from upwind area, i.e. Ma Tau Wai Road and benefits part of Ha Heung Road under the Proposed Scheme.

Wind performance under wind direction of WSW



Contour plot for Baseline Scheme



Contour plot for Proposed Scheme

4.5.11 Under WSW wind, the wind would mainly flow from Ho Man Tin Area to reach inland area.

a. The upcoming WSW wind skims over Lok Man Sun Chuen, hits on the high-rise buildings in the Subject Site and diverted to south and north along Kau Pui Lung Street. Under the Baseline Scheme, the wind could penetrate to the site through Kiang Su Street and reaches Maidstone Street. On the other hand, under the Proposed Scheme, the wider gap between T4 and T6 and the split podium under T2 and T3 could facilitate more wind to penetrate into the site. Thus, the VR is slightly higher at Maidstone Road / future pedestrianised avenue within the Subject Site under the Proposed Scheme.

b. Lok Man Sun Chuen which is located to the upwind side would block most of the wind to reach Kau Pui Lung Road. On the other hand, the upcoming wind from hillside is diverted to north and south direction along Kau Pui Lung Road due to the downwash effect caused by City 151 as well as T3 and T4 of the Subject Site. The increased building height of the Proposed Scheme induces stronger downwash flow and accelerate the wind speed along Kau Pui Lung Road.

c. The wind coming from hillside flows along the east side of Ko Shan Theatre and passes through the building separation between Lok Oi Lau and Ko Shan Theatre New Wing. Larger wake area is generated as stronger wind flows from north along Kau Pui Lung Road. Therefore, the VR of Ko Shan Road Park is slightly lower under the Proposed Scheme.

d. The enlarged building separation between the Northern Site and Southern Site at both tower and ground level allows more wind to flow through Kiang Su Street. Thus, it is observed that the VR of Kiang Su Road is higher under the Proposed Scheme.

e. Not only Kiang Su Road, but also the split podia under T2 and T3 enhance the air penetration at E-W direction. Ma Tau Wai Road, which is located at the downwind area of the Subject Site, also is benefited and thus shows higher VR under the Proposed Scheme.

5. CONCLUSION

5.1.1 The proposed development located in To Kwa Wan area has been evaluated from an air ventilation perspective.

5.1.2 In order to mitigate the potential adverse impact including by taller building height, the Proposed Scheme has provided 3 main enhancement features:

(a) 17m building separation along the N-S pedestrianised avenue for N-S wind flow;

(b) 13m building separation at Tower between T2 and T3 for E-W wind flow; and

(c) 23m breezeway between podia along Kiang Su Street for E-W wind flow.

5.1.3 According to Section 4.3, it is noted that the LVR is similar between the Proposed Scheme and Baseline Scheme under both annual and summer condition. The SVR is slightly better in the Proposed Scheme, compared to the Baseline Scheme, under both annual and summer condition.

5.1.4 There are some variations in VR between two schemes. Under the annual condition, the VR of some areas is higher under the Proposed Scheme, including Lok Man Sun Chuen, Maidstone Road, Lok Shan Road, Sheung Heung Road, Sze Chuen Street, Ha Heung Road, Chi Kiang Street and Ko Shan Road. However, VR is lower at Pau Chung Street, Kau Pui Lung Road Playground and Kiang Su Street under the Proposed Scheme.

5.1.5 Under the summer condition, the areas with higher VR under the Proposed Scheme are Maidstone Road, Lok Shan Road, Sze Chuen Street, Ha Heung Road, Chi Kiang Street and Ko Shan Road. However, the areas with higher VR under the Baseline Scheme are Kau Pui Lung Road, Kowloon City Road, Kau Pui Lung Road Playground, C.C.C. Wanchai Church Kei To Primary School (Kowloon City), Kiang Su Street and Ma Tau Wai Road/ To Kwa Wan Playground.

5.1.6 It is observed that the increase in building height would not induce significant impact to the To Kwa Wan area in air ventilation term under both annual and summer condition. With the wind enhancement features discussed in Section 4.4, the Proposed Scheme could slightly enhance the wind flow in the Subject Site and nearby area.

Figures

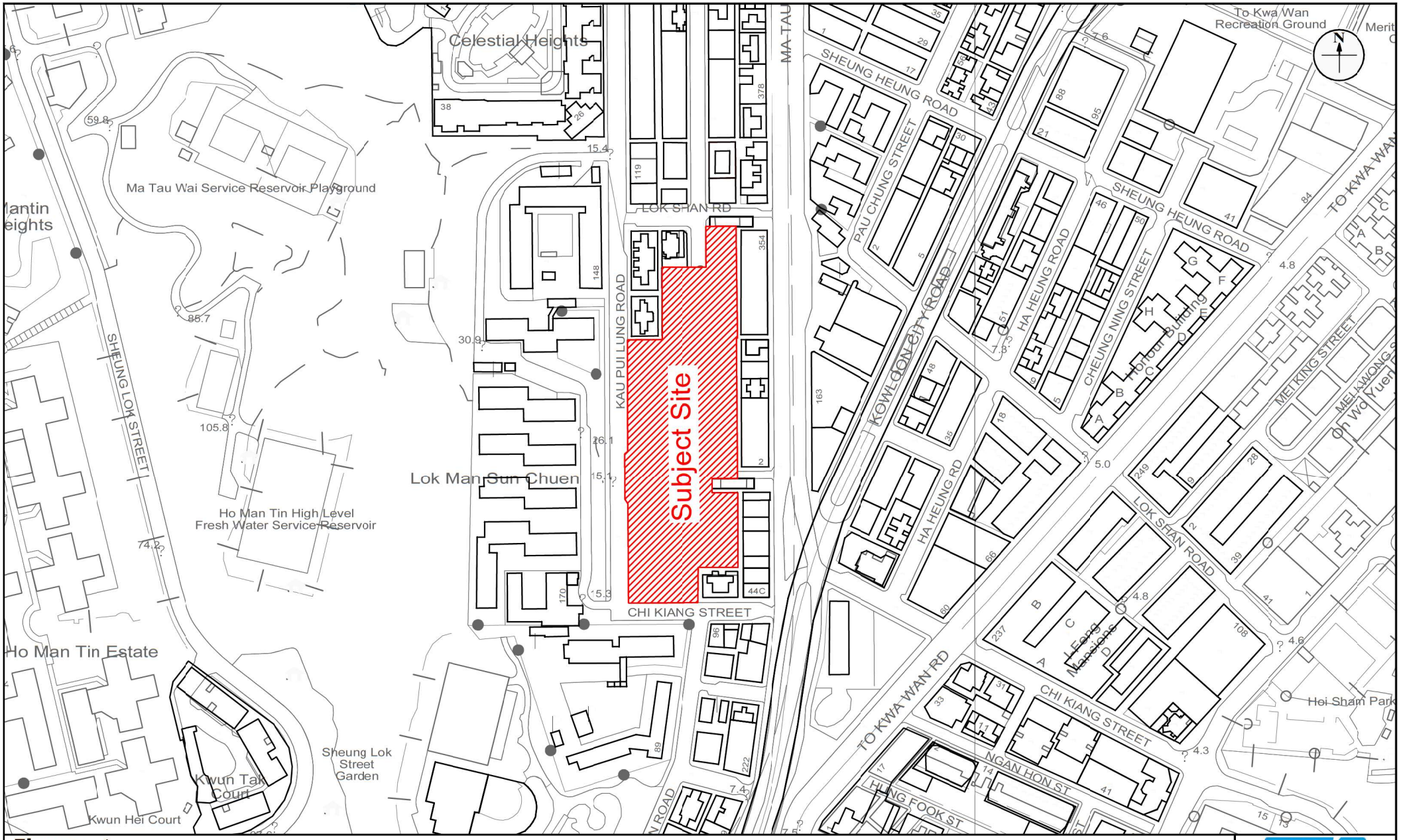


Figure: 1

Title: Location of Site and its Environs

Project: URA Kau Pui Lung Road/ Chi Kiang Street (CBS-2: KC) Development Scheme

RAMBOLL

Drawn by:	WT
Checked by:	EC
Rev.:	1.3
Date:	Sept 2022

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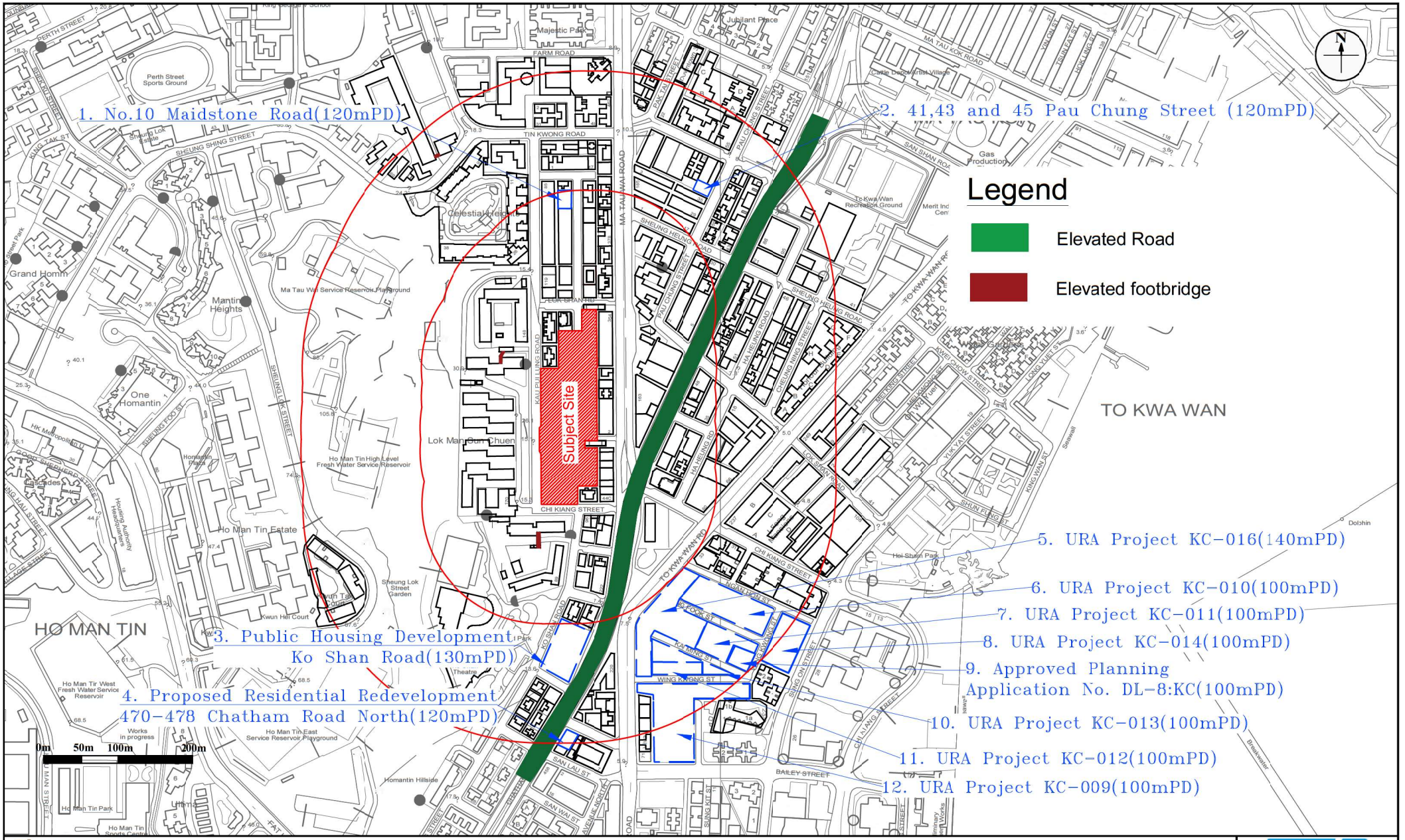

Figure: 2

Title: Location of Surrounding Future/ Committed Development

Project: URA Kau Pui Lung Road/ Chi Kinag Street (CBS-2:KC) Development Scheme

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Drawn by:	WT
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Rev.:	1.0
Date:	Oct 2022

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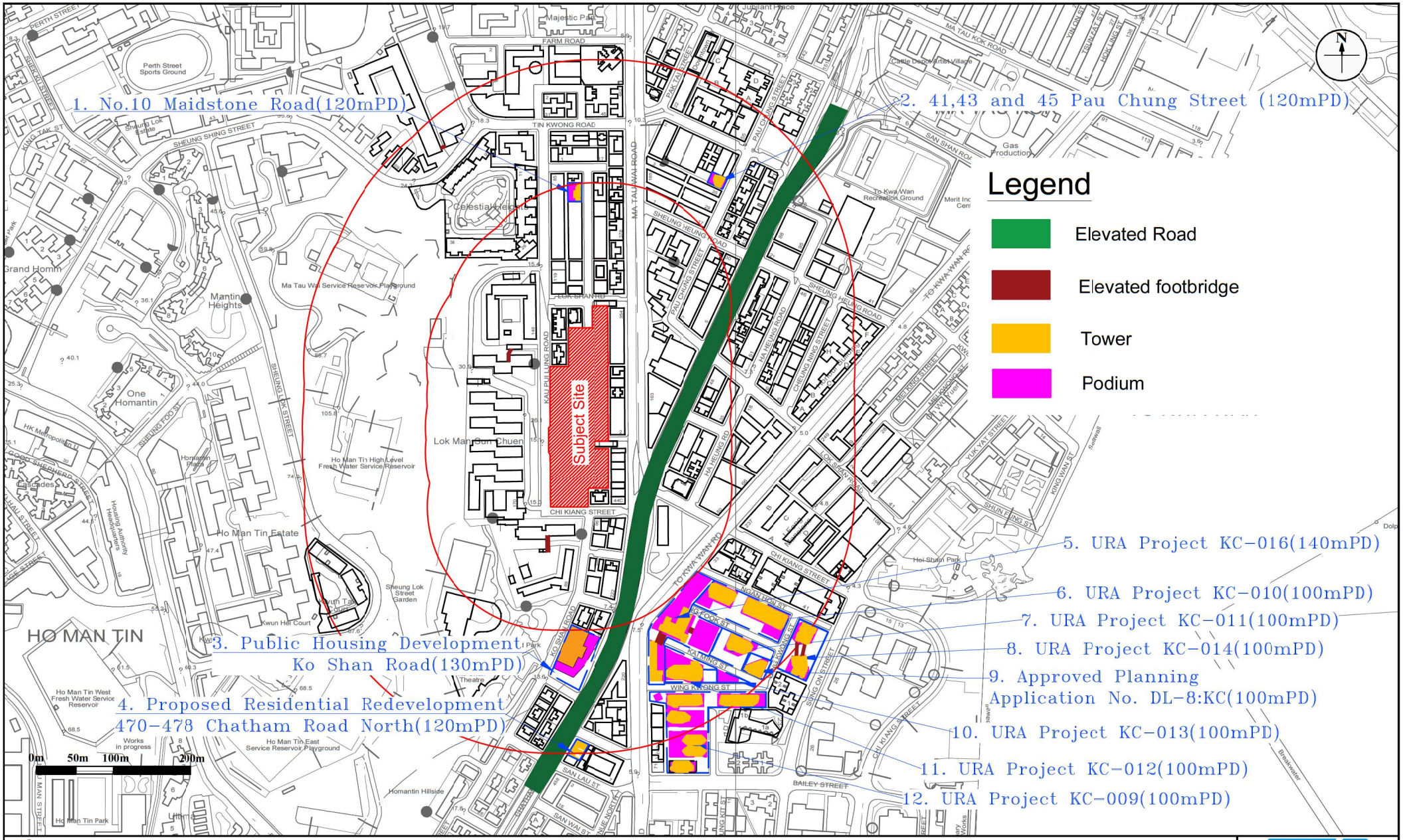

Figure: 3

Title: Building Blocks of the Surrounding Future/ Committed Development Assumed in the CFD Model

Project: URA Kau Pui Lung Road/ Chi Kinag Street (CBS-2:KC) Development Scheme

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Date:	Oct 2022

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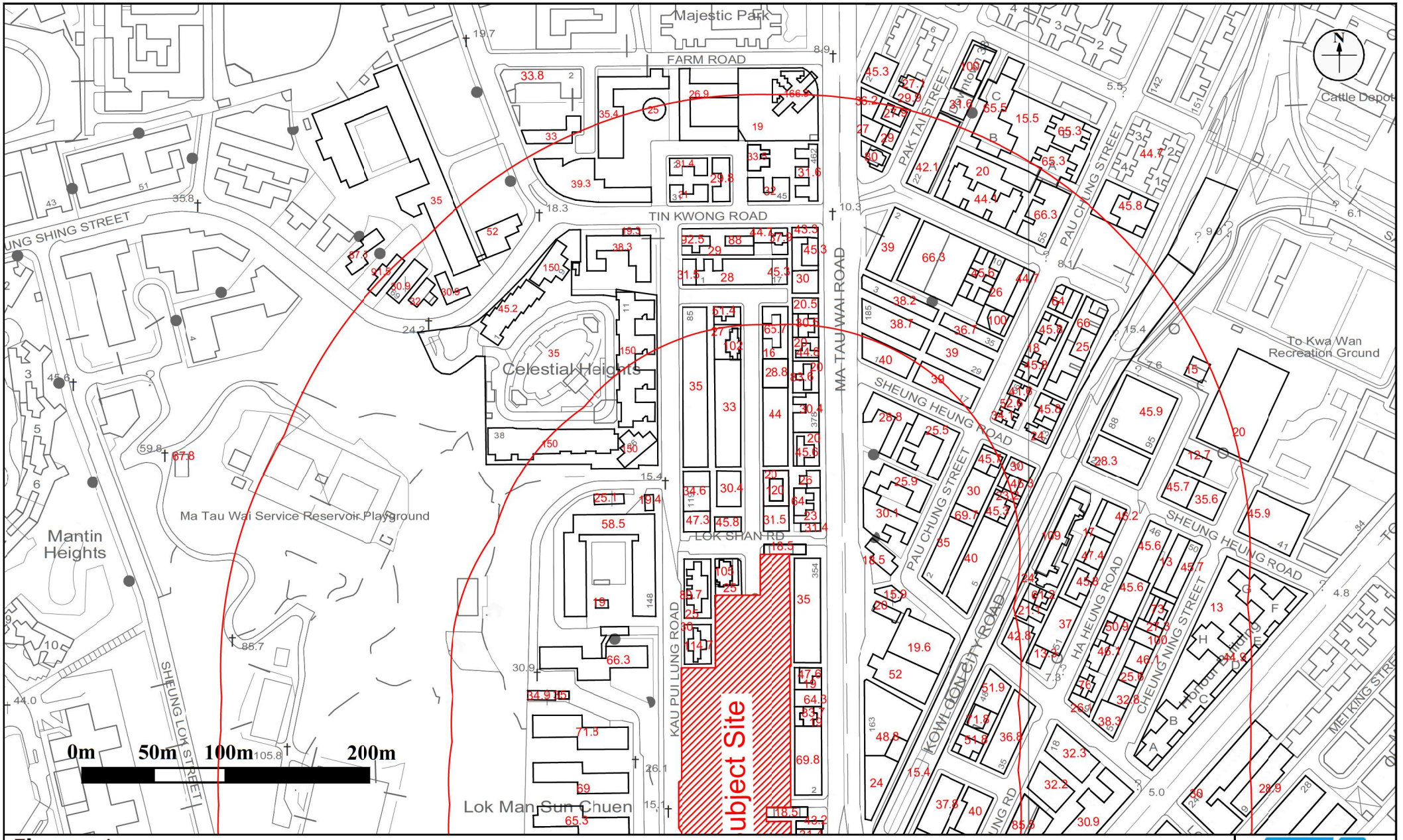

Figure: 4 a

Title: Building Height of the Existing Development in the Immediate Vicinity of the Subject Site (Northern Part)

Project: URA Kau Pui Lung Road/ Chi Kiang Street (CBS-2:KC) Development Scheme

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Rev.:	1.0
Date:	Sept 2022

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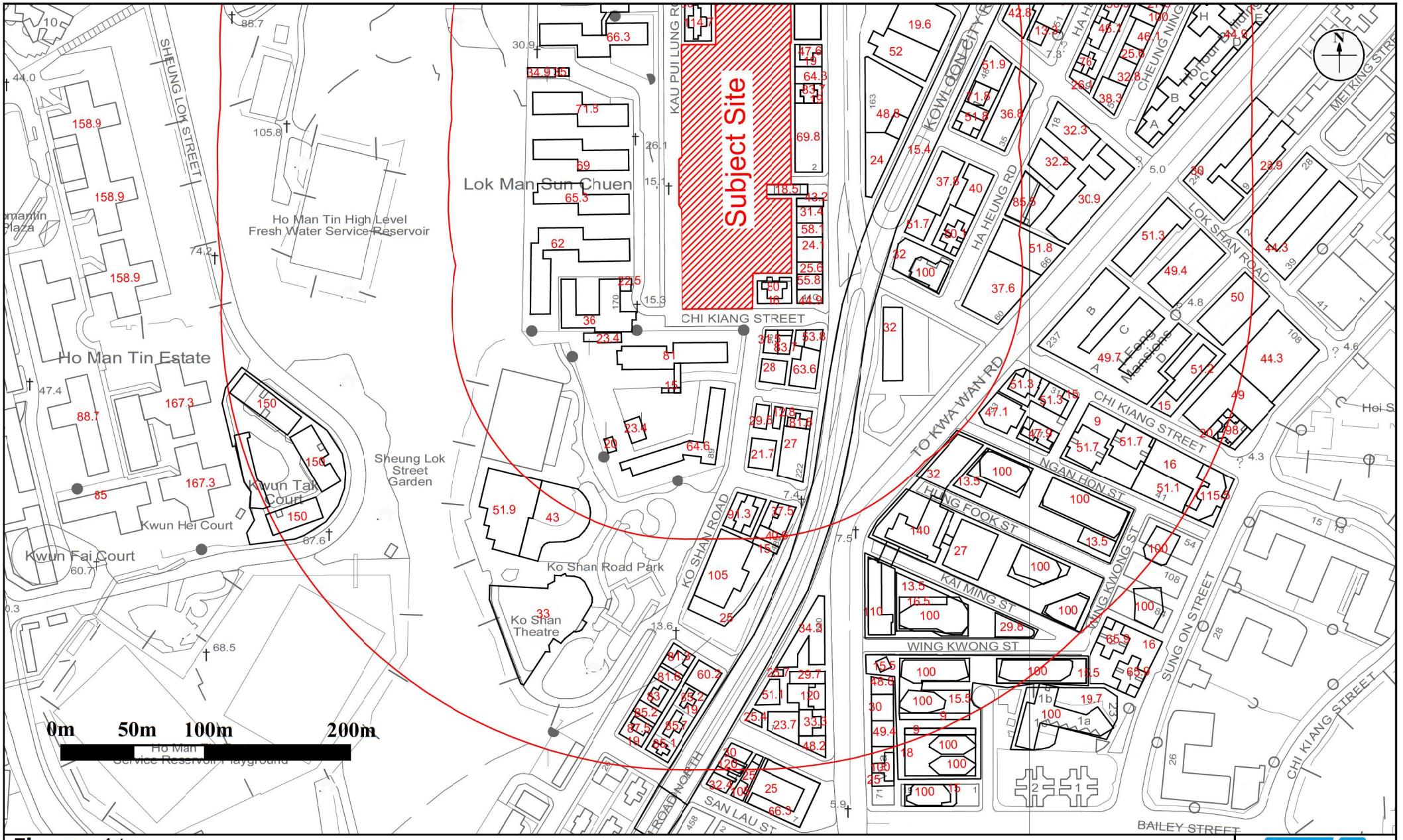

Figure: 4 b

Title: Building Height of the Existing Development in the Immediate Vicinity of the Subject Site (Southern Part)

Project: URA Kau Pui Lung Road/ Chi Kiang Street (CBS-2:KC) Development Scheme

RAMBOLL

Drawn by:	WT
Checked by:	EC
Rev.:	1.0
Date:	Sept 2022

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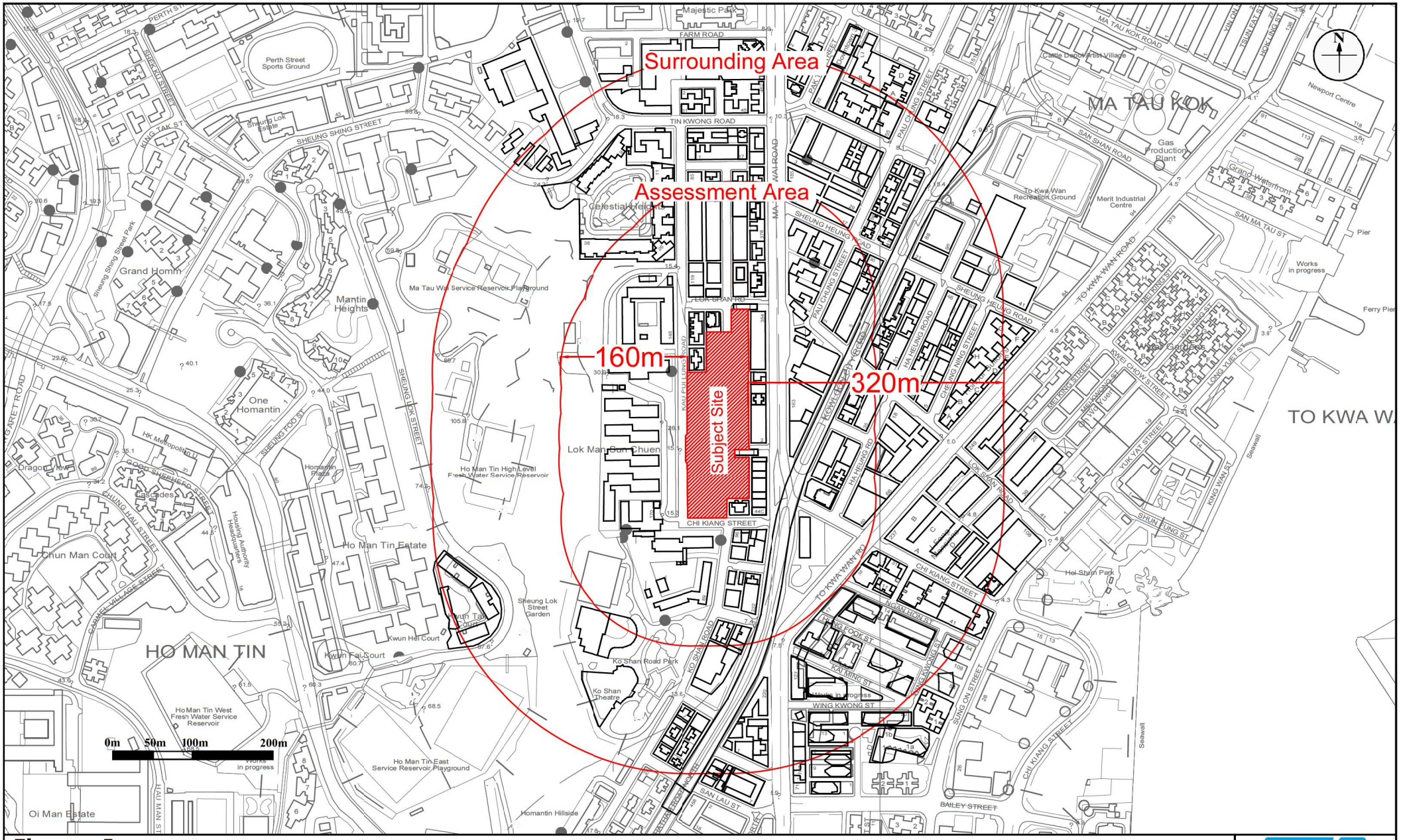

Figure: 5

Title: Assessment Area and Surrounding Area of the CFD model

Project: URA Kau Pui Lung Road/ Chi Kiang Street (CBS-2: KC) Development Scheme

RAMBOLL

Drawn by:	WT
Checked by:	EC
Rev.:	1.3
Date:	Sept 2022

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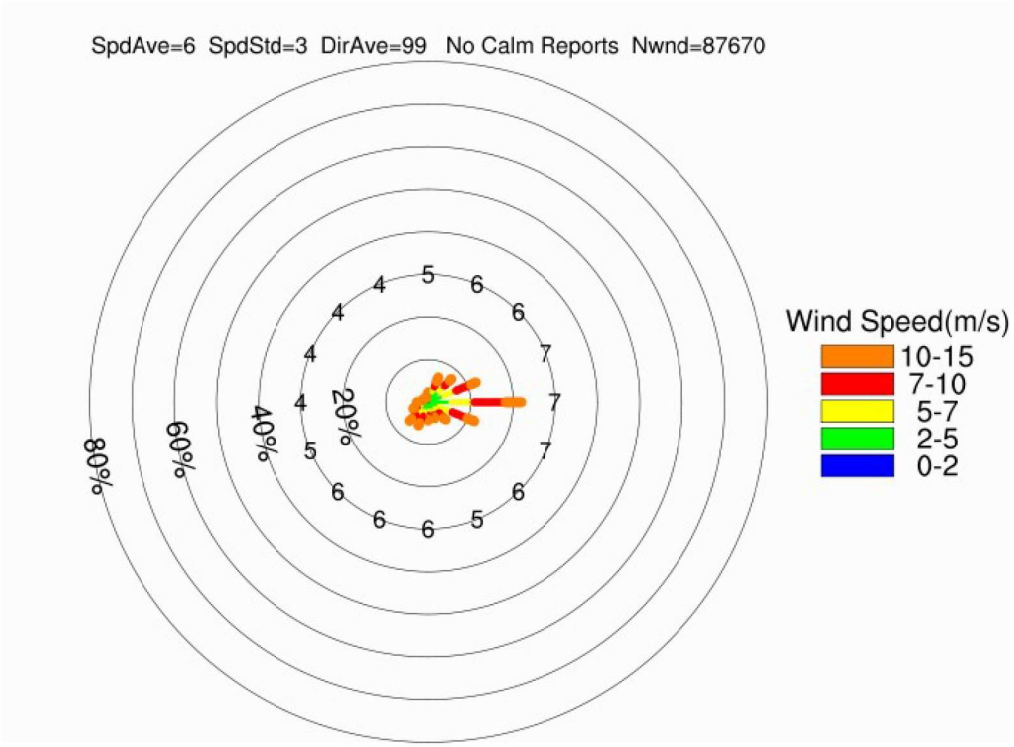
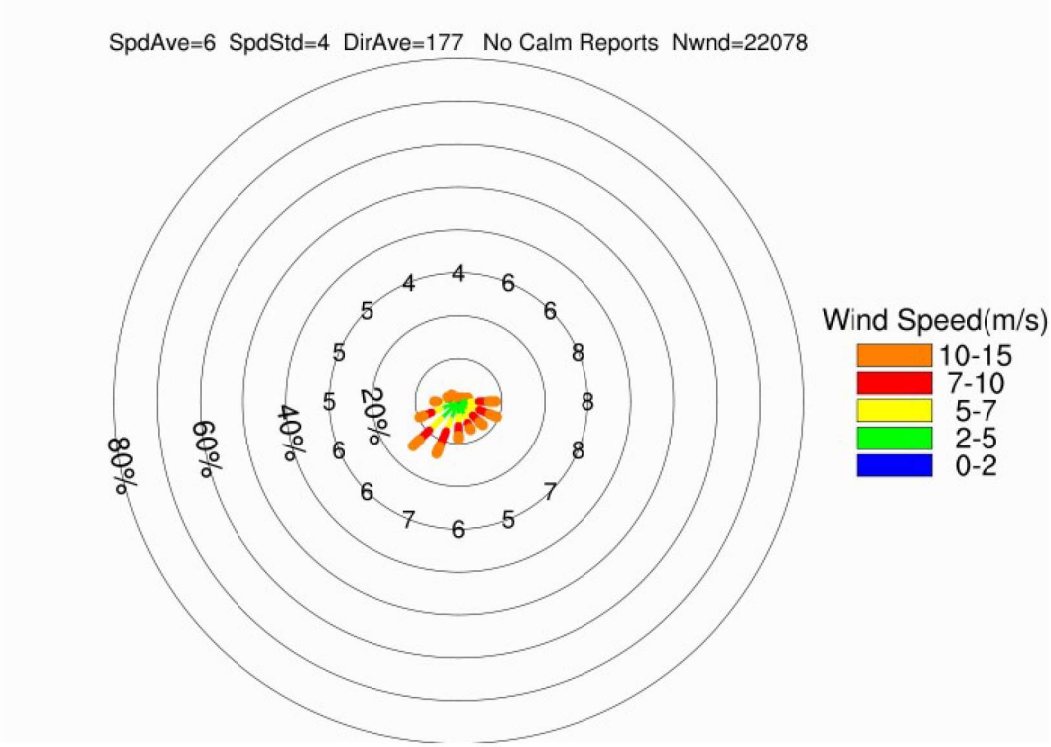


Annual Condition



Summer Condition

Figure:	**6**	RAMBOLL
Title:	**Windrose Diagram representing V∞ of the Area under Concern**	Drawn by: EC Checked by: SL
Project:	**URA Kau Pui Lung Road/ Chi Kiang Street (CBS-2:KC) Development Scheme**	Rev.: 1.2 Date: Sept 2019

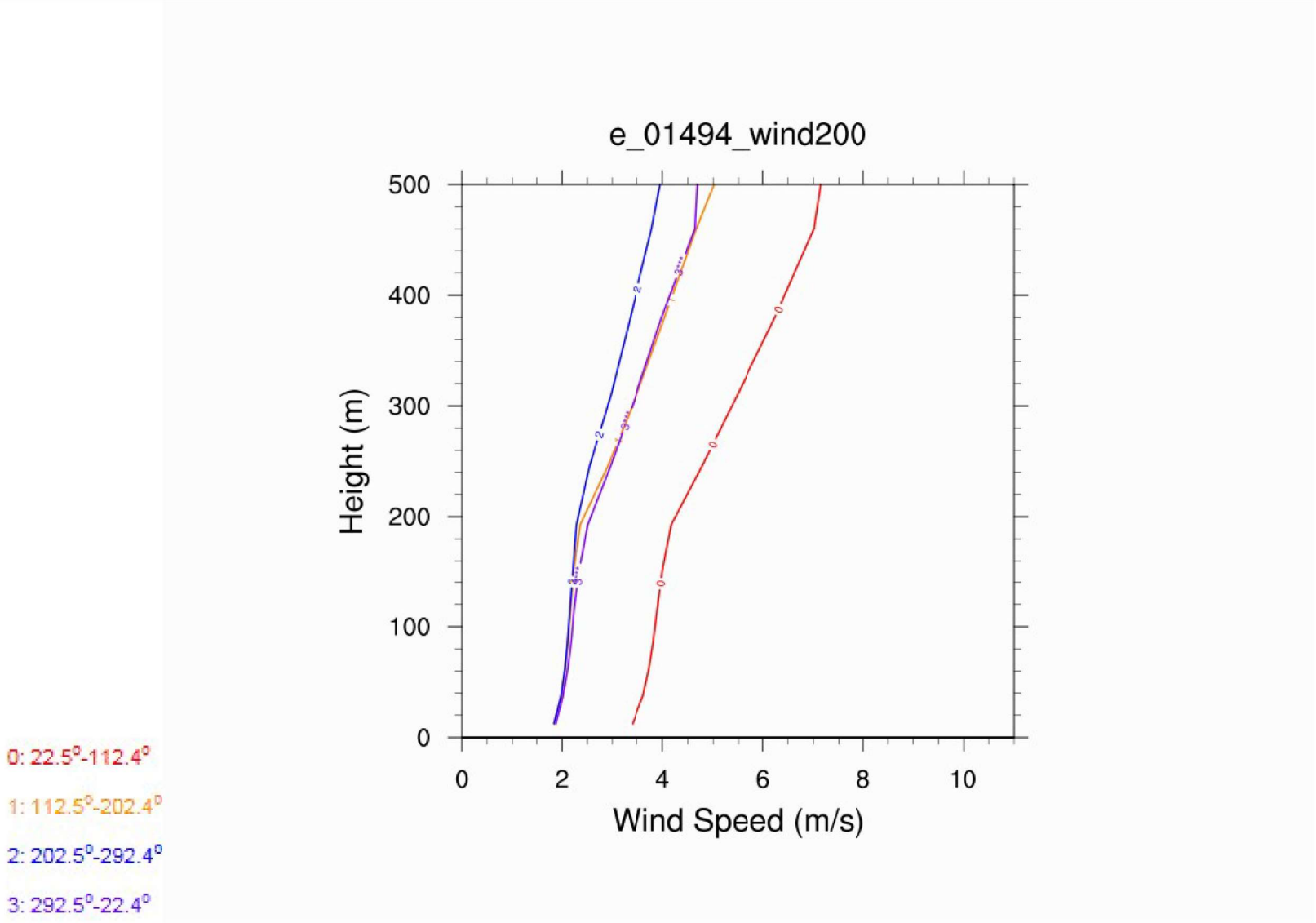


Figure: 7	RAMBOLL
Title: Wind Profile Curve for Grid X:083, Y:042	Drawn by: EC Checked by: SL
Project: URA Kau Pui Lung Road/Chi Kiang Street (CBS-2:KC) Development Scheme	Rev.: 1.2 Date: Sept 2019

Q:\Projects\URACBS02EI00\04 Deliverables\03 AVA Report\Figures\20220902\Fig 7_Windprofilecurve.doc

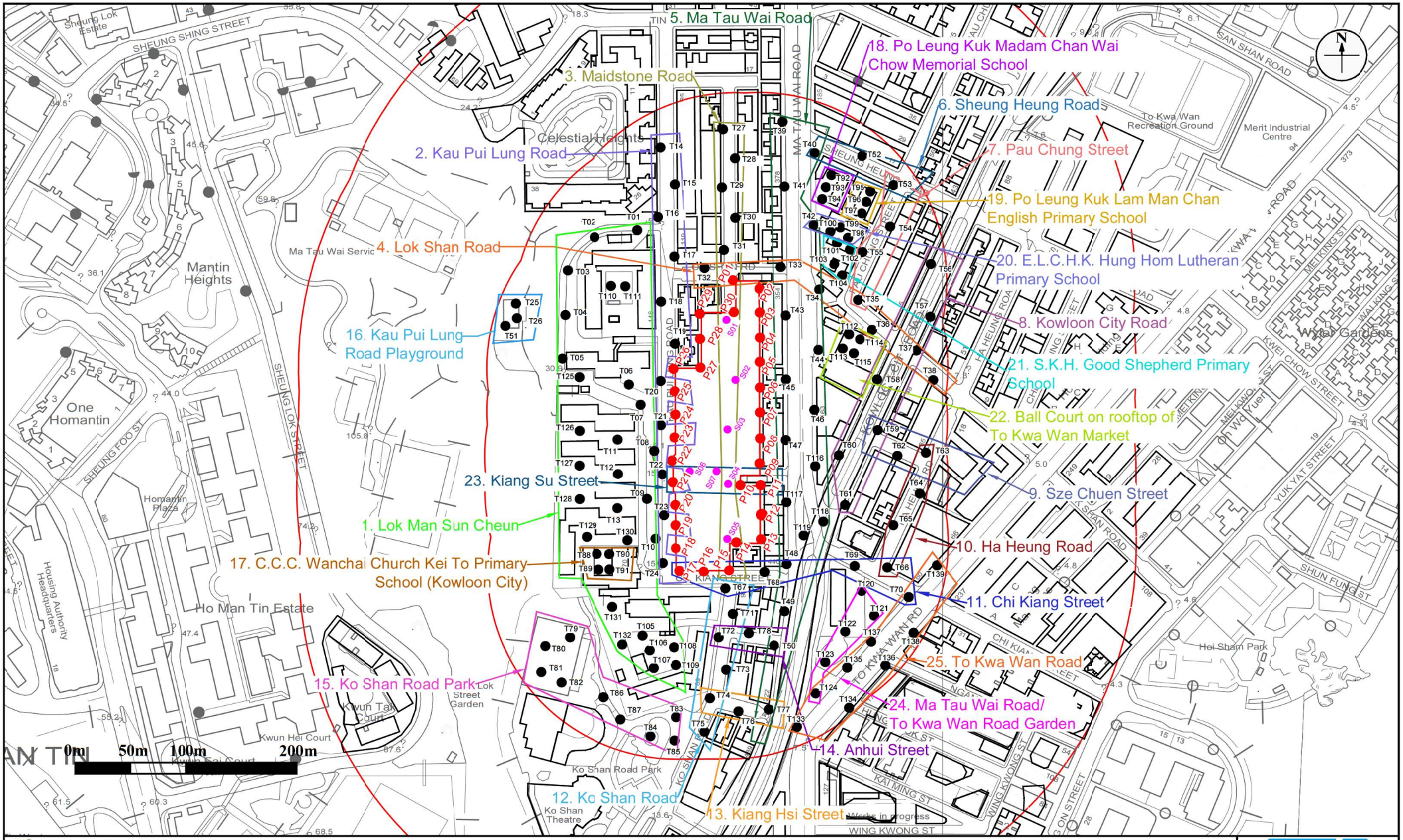


Figure: 8

Title: Test Points Selected for Quantitative Air Ventilation Assessment

Project: URA Kau Pui Lung Road/ Chi Kiang Street (CBS-2:KC) Development Scheme

RAMBOLL

Drawn by:	WT
Checked by:	EC
Rev.:	1.0
Date:	Sept 2022

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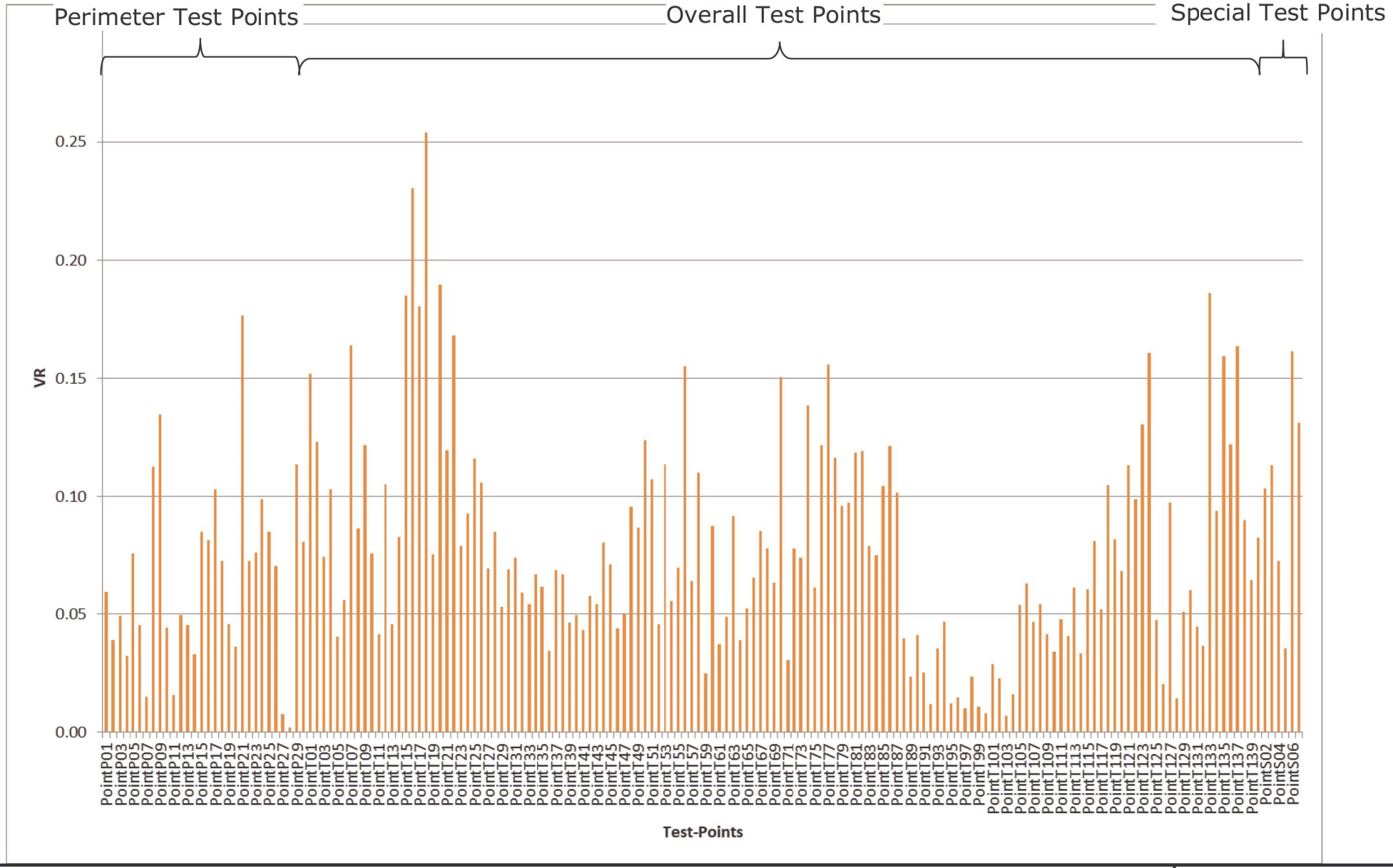

Figure: 10a

Title: Wind Velocity Ratios of Individual Test Points for Baseline Scheme (Annual)

Project: URA Kau Pui Lung Road/ Chi Kiang Street (CBS-2: KC) Development Scheme

RAMBOLL

Drawn by:	WT
Checked by:	EC
Rev.:	1.0
Date:	Oct 2022

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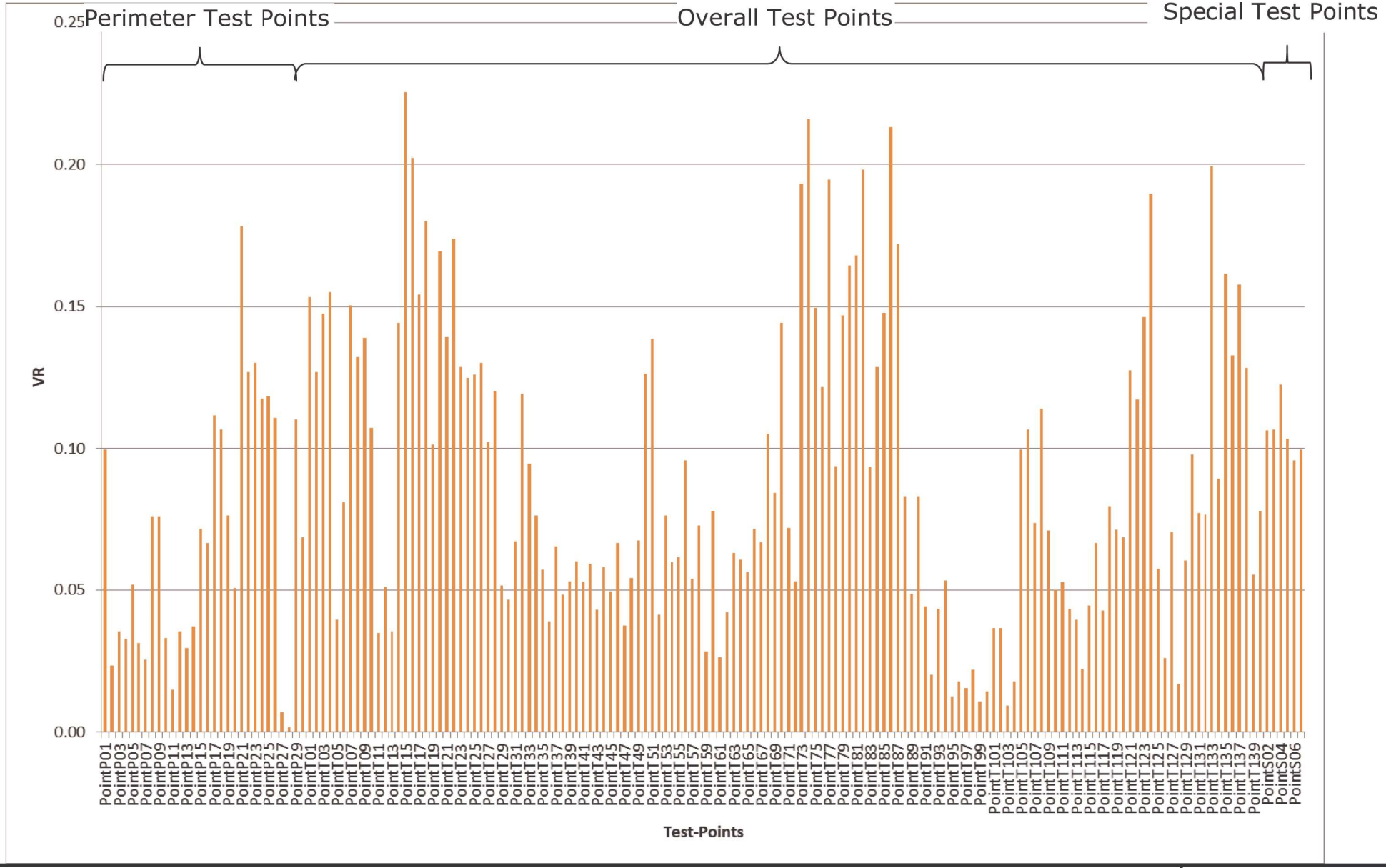

Figure: 10b	RAMBOLL
Title: Wind Velocity Ratios of Individual Test Points for Baseline Scheme (Summer)	Drawn by: WT Checked by: EC
Project: URA Kau Pui Lung Road/ Chi Kiang Street (CBS-2: KC) Development Scheme	Rev.: 1.0 Date: Oct 2022

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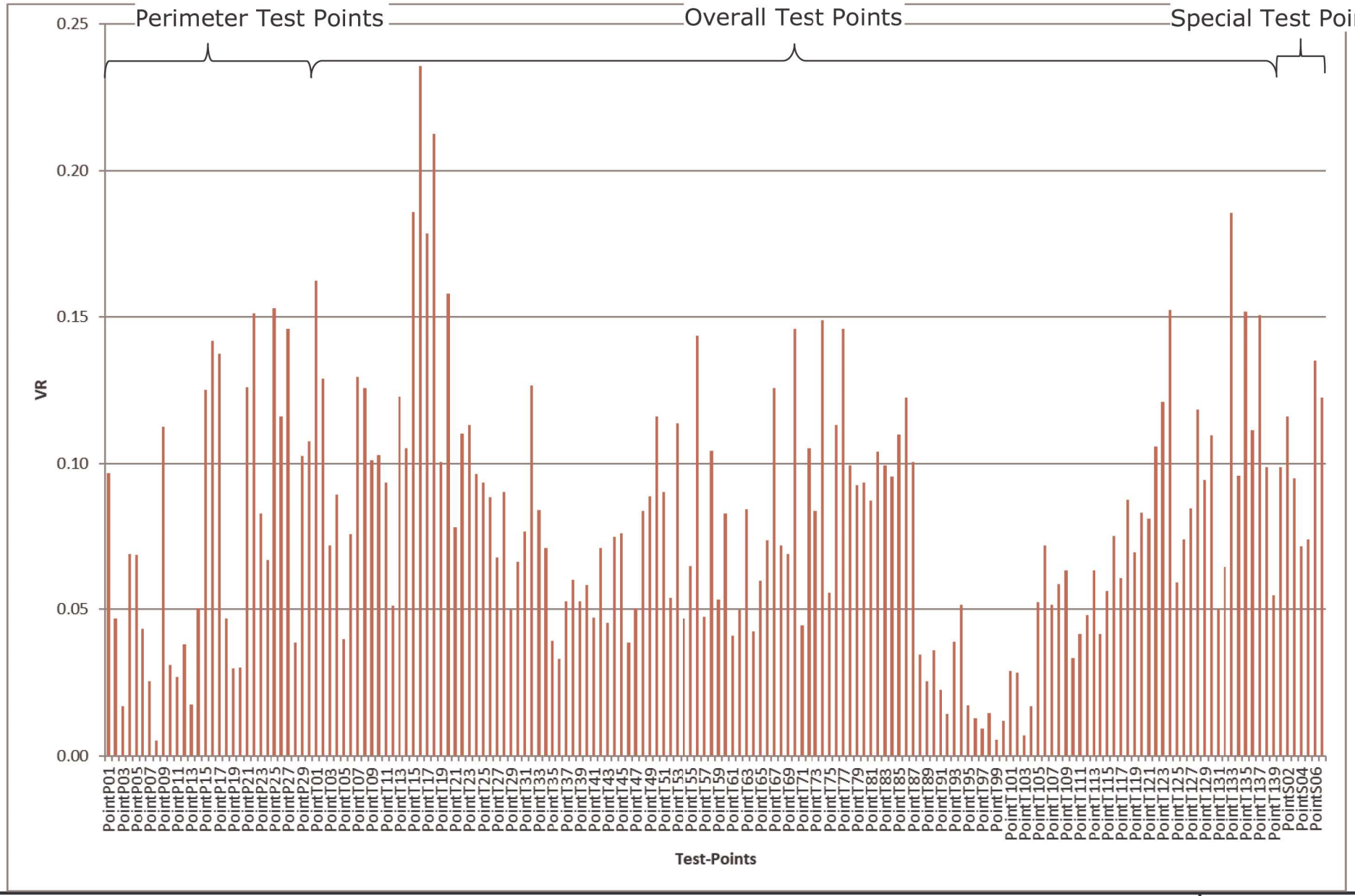

Figure: 11a	RAMBOLL
Title: Wind Velocity Ratios of Individual Test Points for Proposed Scheme (Annual)	Drawn by: WT Checked by: EC
Project: URA Kau Pui Lung Road/ Chi Kiang Street (CBS-2: KC) Development Scheme	Rev.: 1.0 Date: Oct 2022

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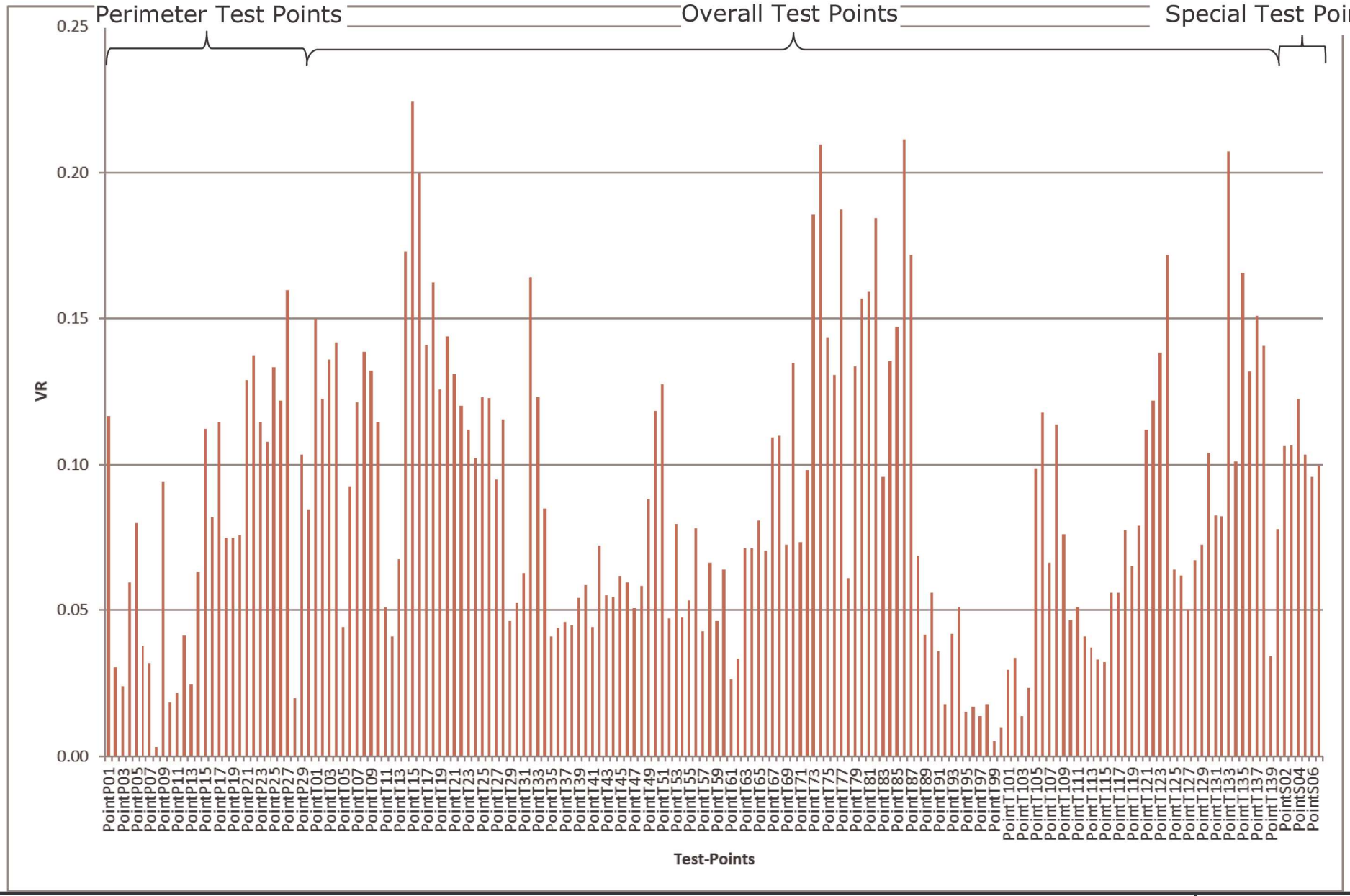

Figure: 11b

Title: Wind Velocity Ratios of Individual Test Points for Proposed Scheme (Summer)

Project: URA Kau Pui Lung Road/ Chi Kiang Street (CBS-2: KC) Development Scheme

RAMBOLL

Drawn by:	WT
Checked by:	EC
Rev.:	1.0
Date:	Oct 2022

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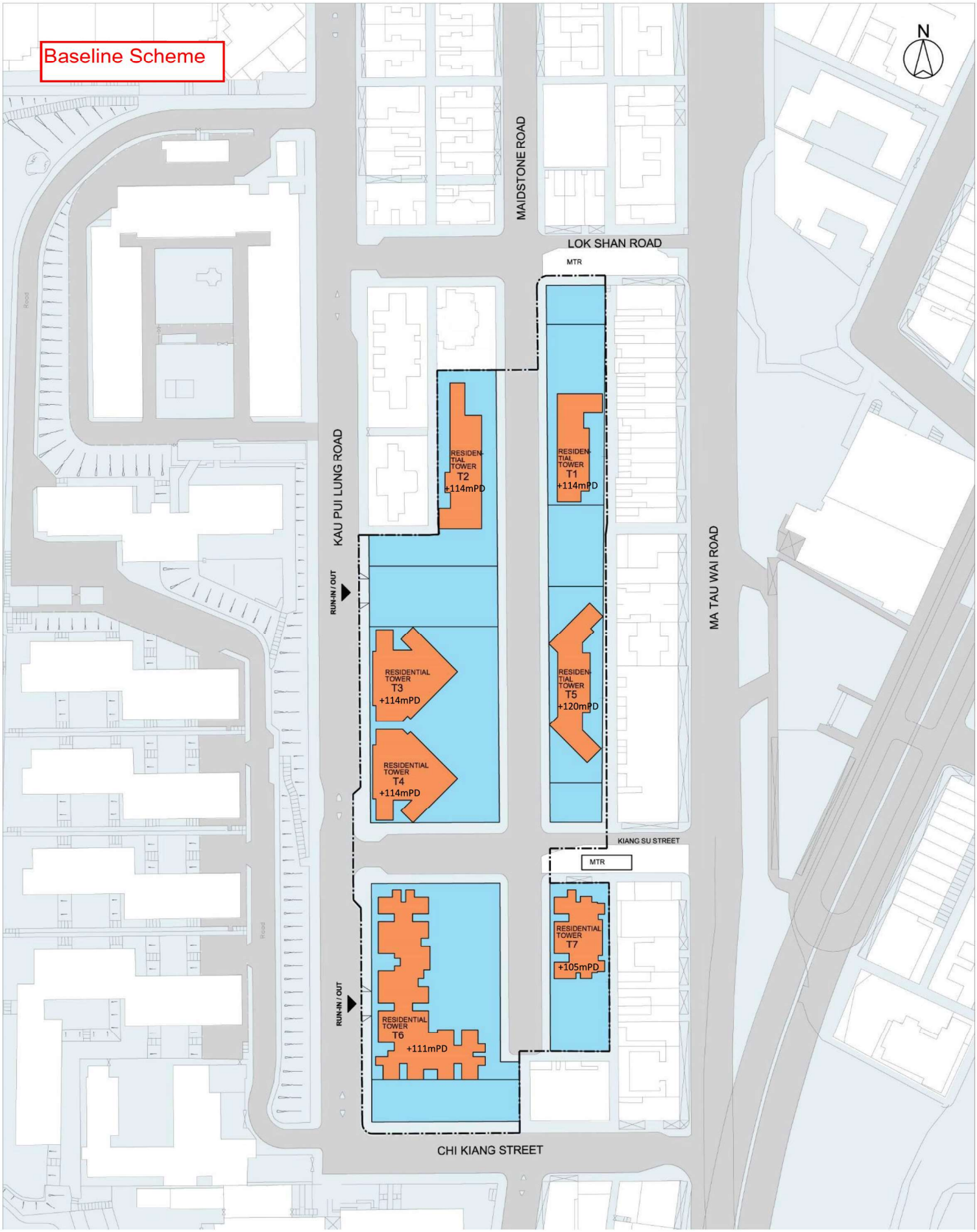
Appendix 1

Master Layout Plan for Baseline Scheme



(Notional layout subject to detailed design upon DSP approval.)

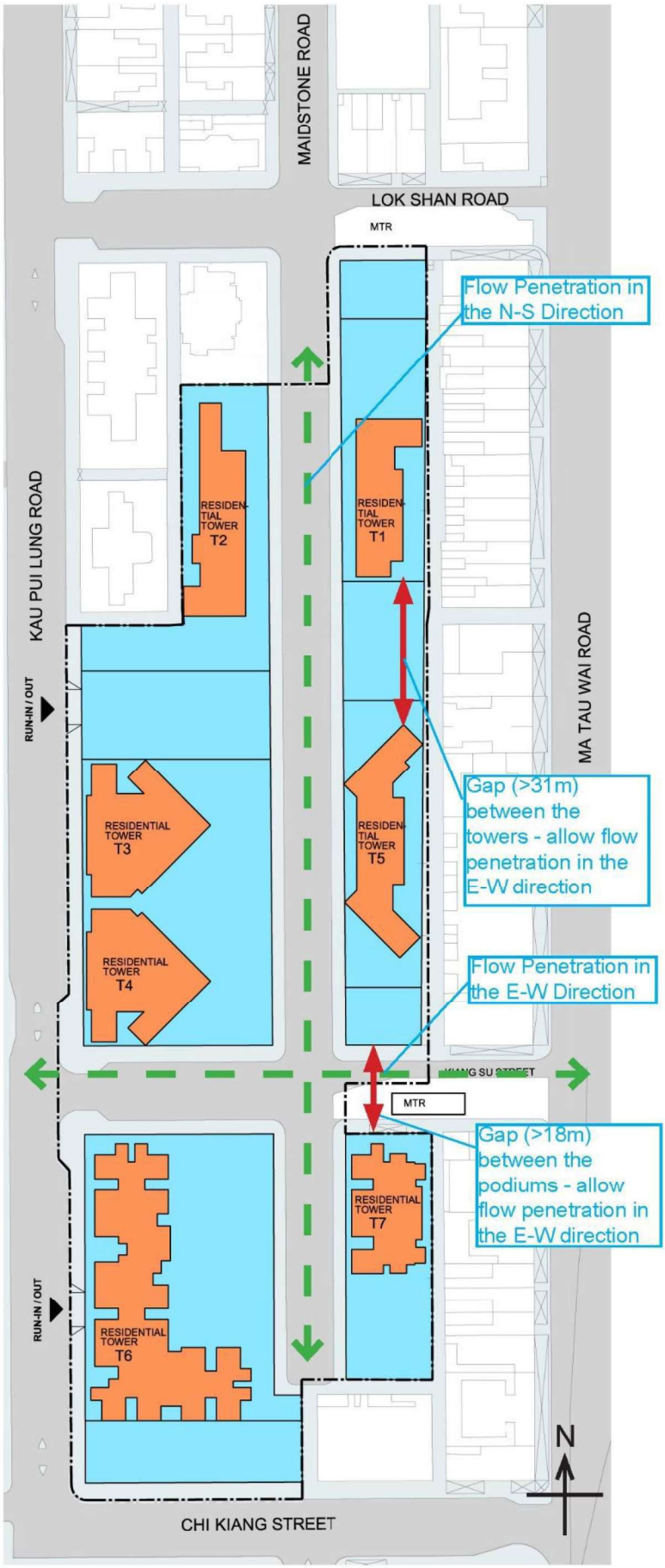
URBAN RENEWAL AUTHORITY 市區重建局

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

120mPD Scheme – Layout Plan 1:1500

Figure 01

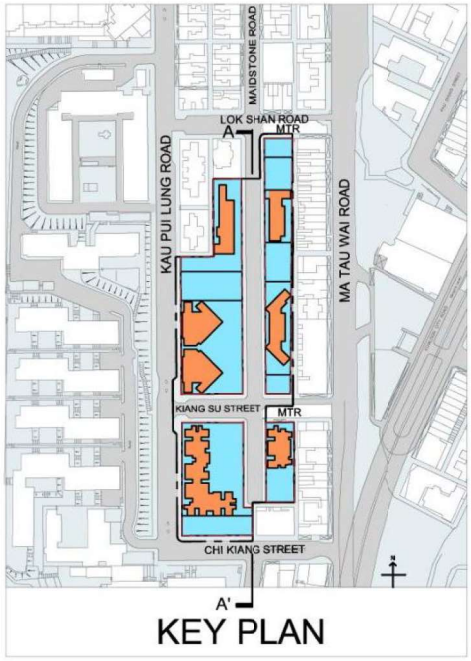
Baseline Scheme

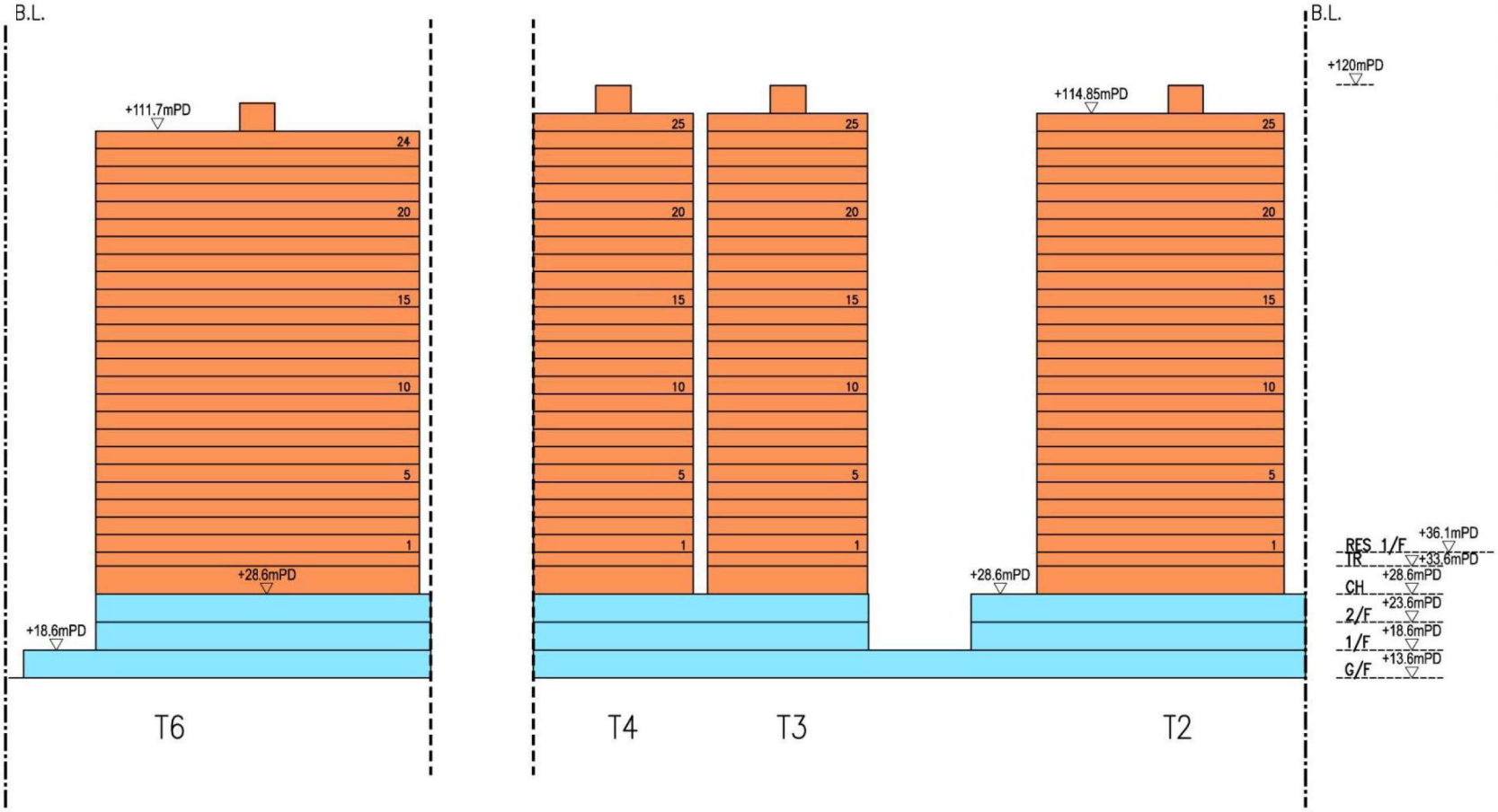


(Notional layout subject to detailed design upon DSP approval.)

市區重建局 URBAN RENEWAL AUTHORITY	URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	120mPD Scheme – ventilation diagram 1:1500	**Figure 02**

Baseline Scheme





(Notional layout subject to detailed design upon DSP approval.)

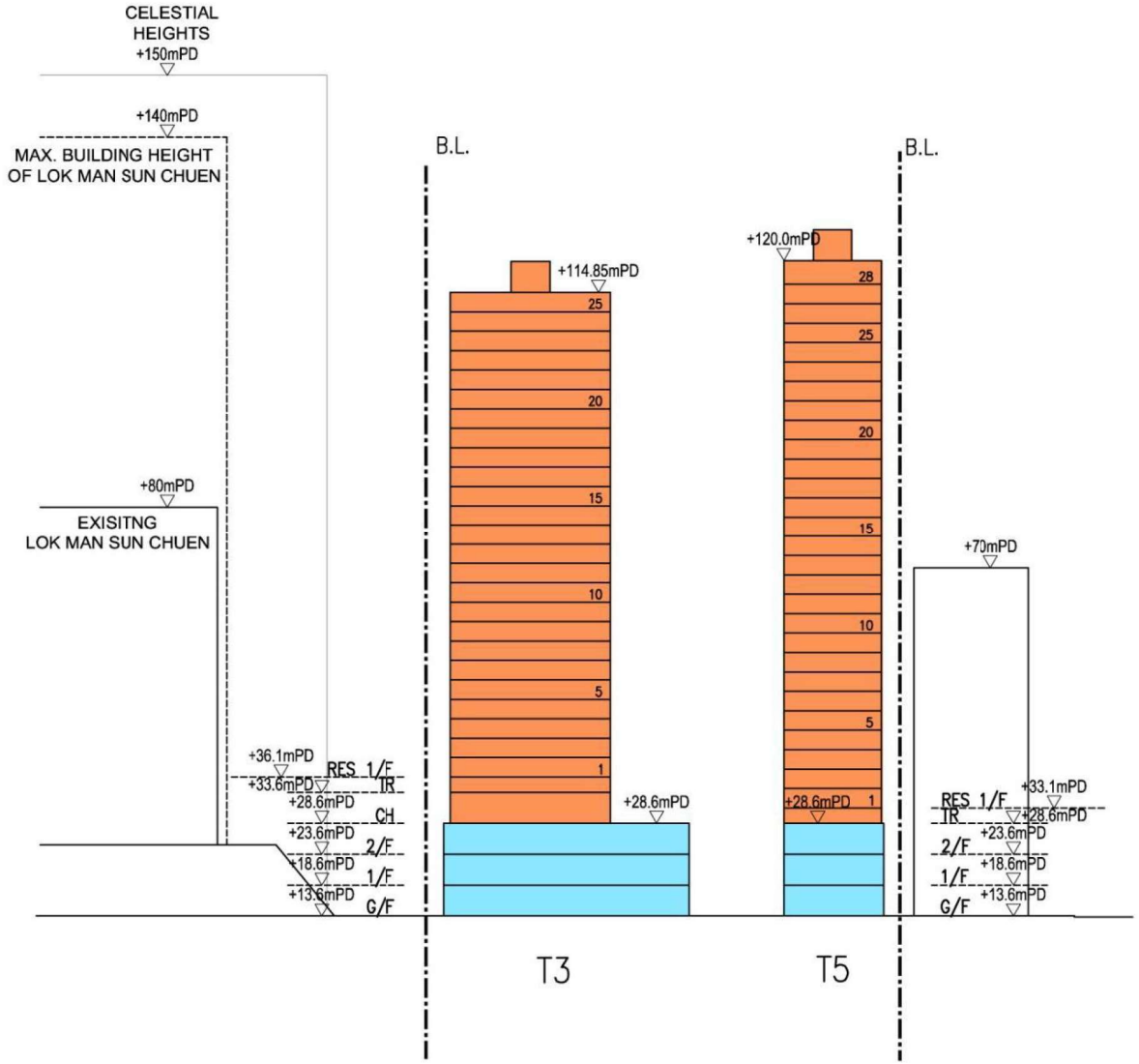
URBAN RENEWAL AUTHORITY 市區重建局

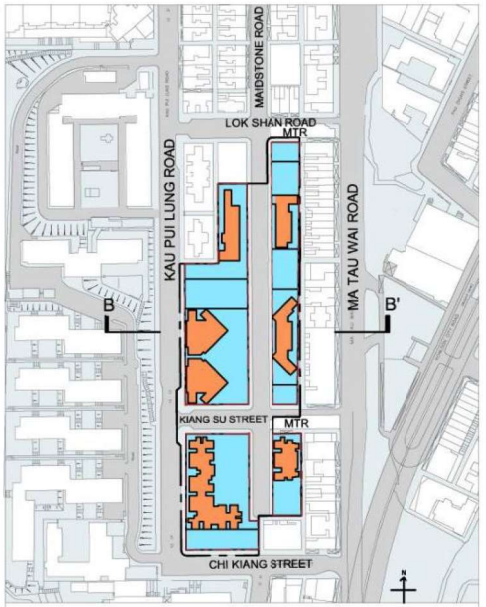
URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

120mPD Scheme – Block Section A-A' 1:1500

Figure 03

Baseline Scheme





KEY PLAN

(Notional layout subject to detailed design upon DSP approval.)

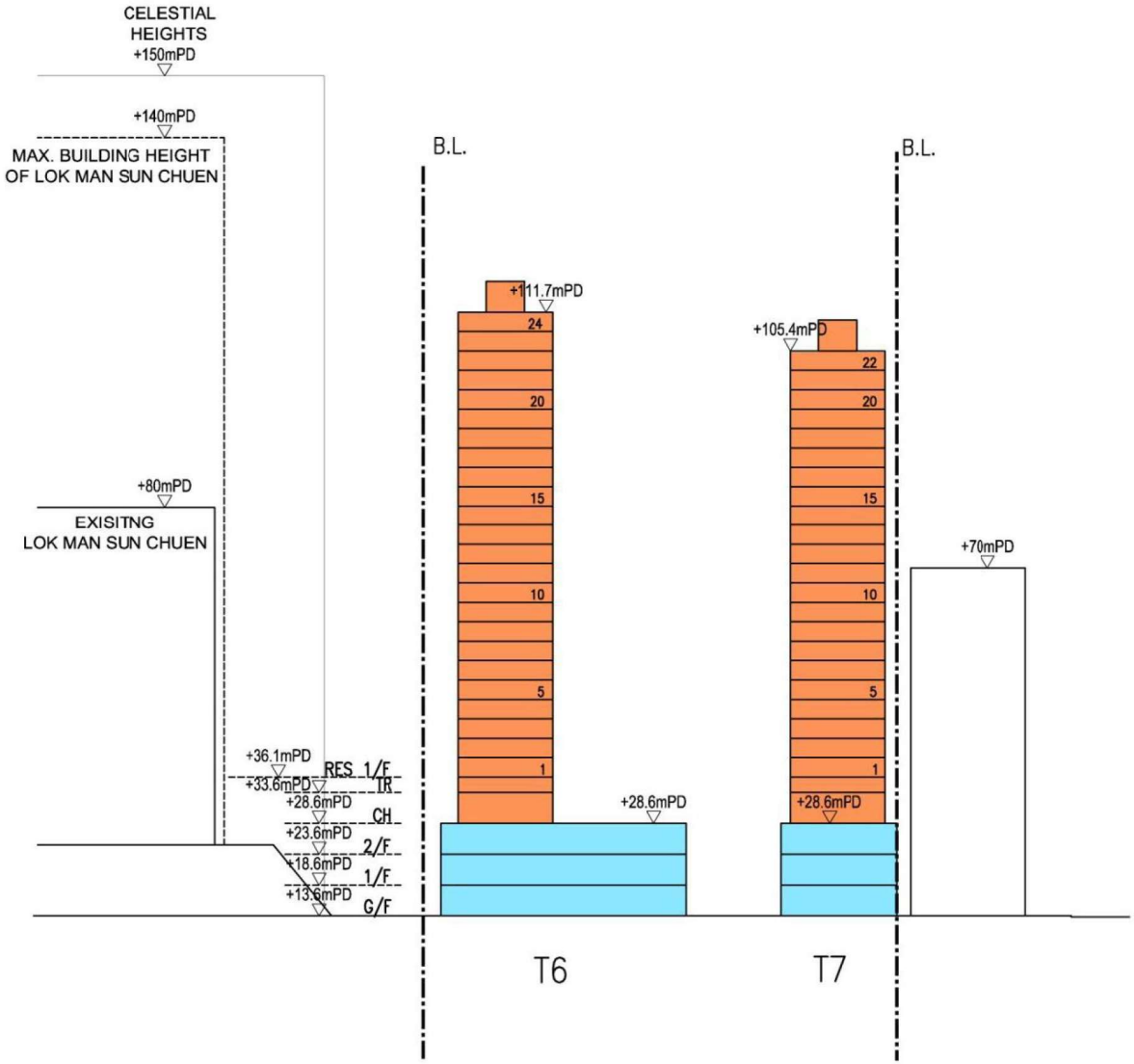
URBAN RENEWAL AUTHORITY 市區重建局

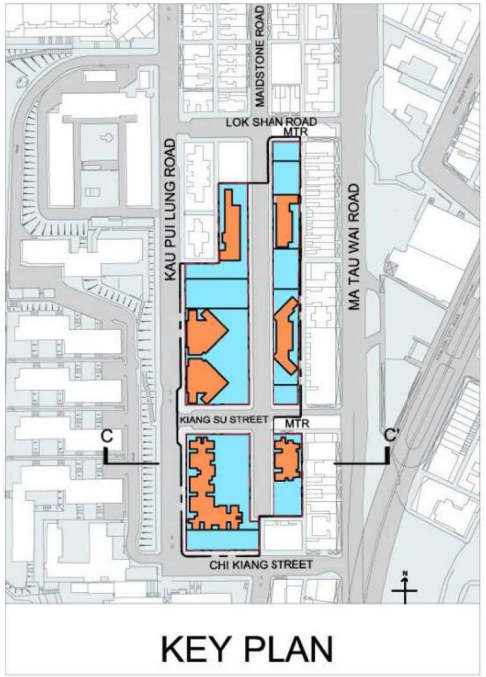
URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

120mPD Scheme – Block Section B-B' 1:1500

Figure 04

Baseline Scheme





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URBAN RENEWAL AUTHORITY 市區重建局

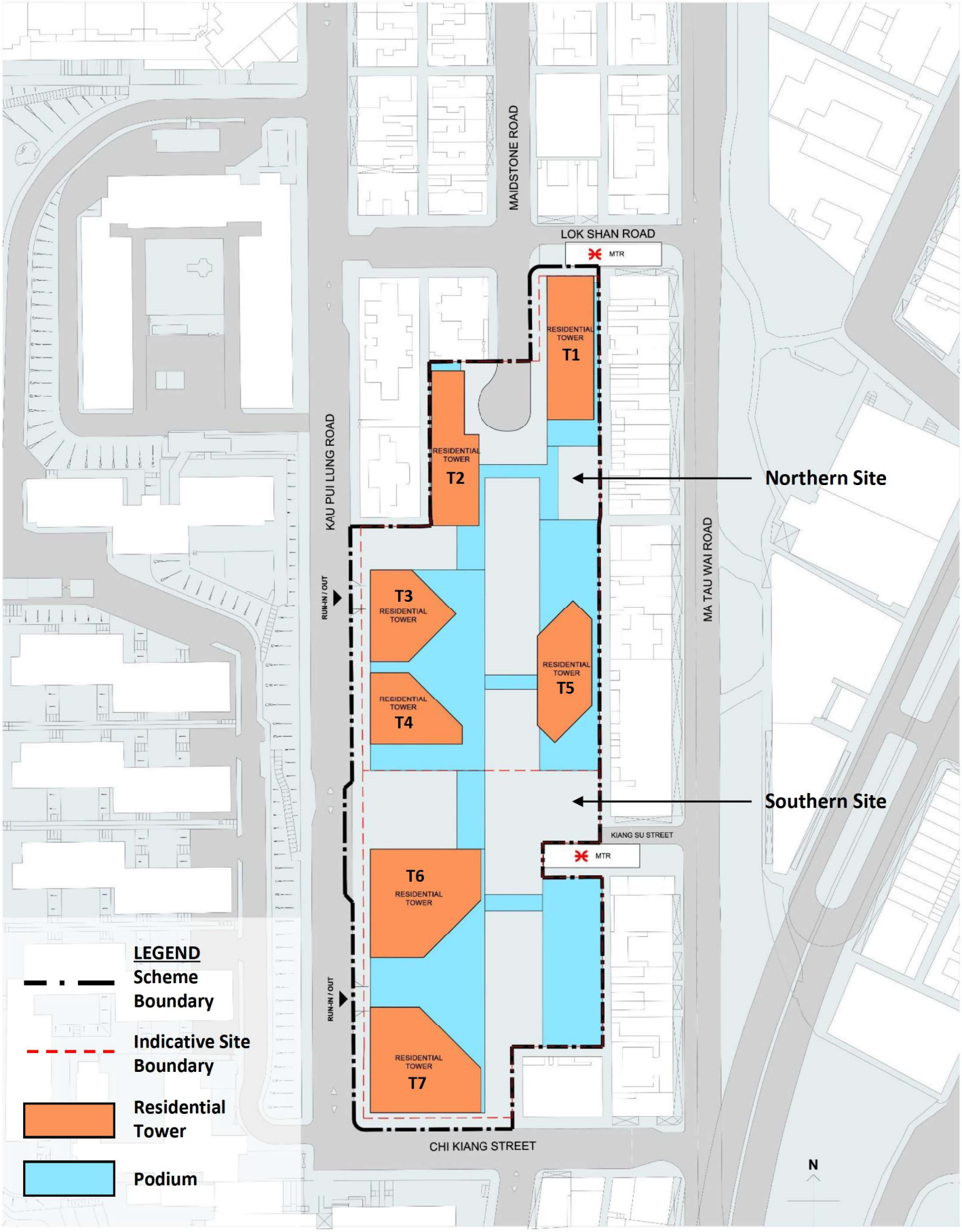
URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

120mPD Scheme – Block Section C-C'
1:1500

Figure 05

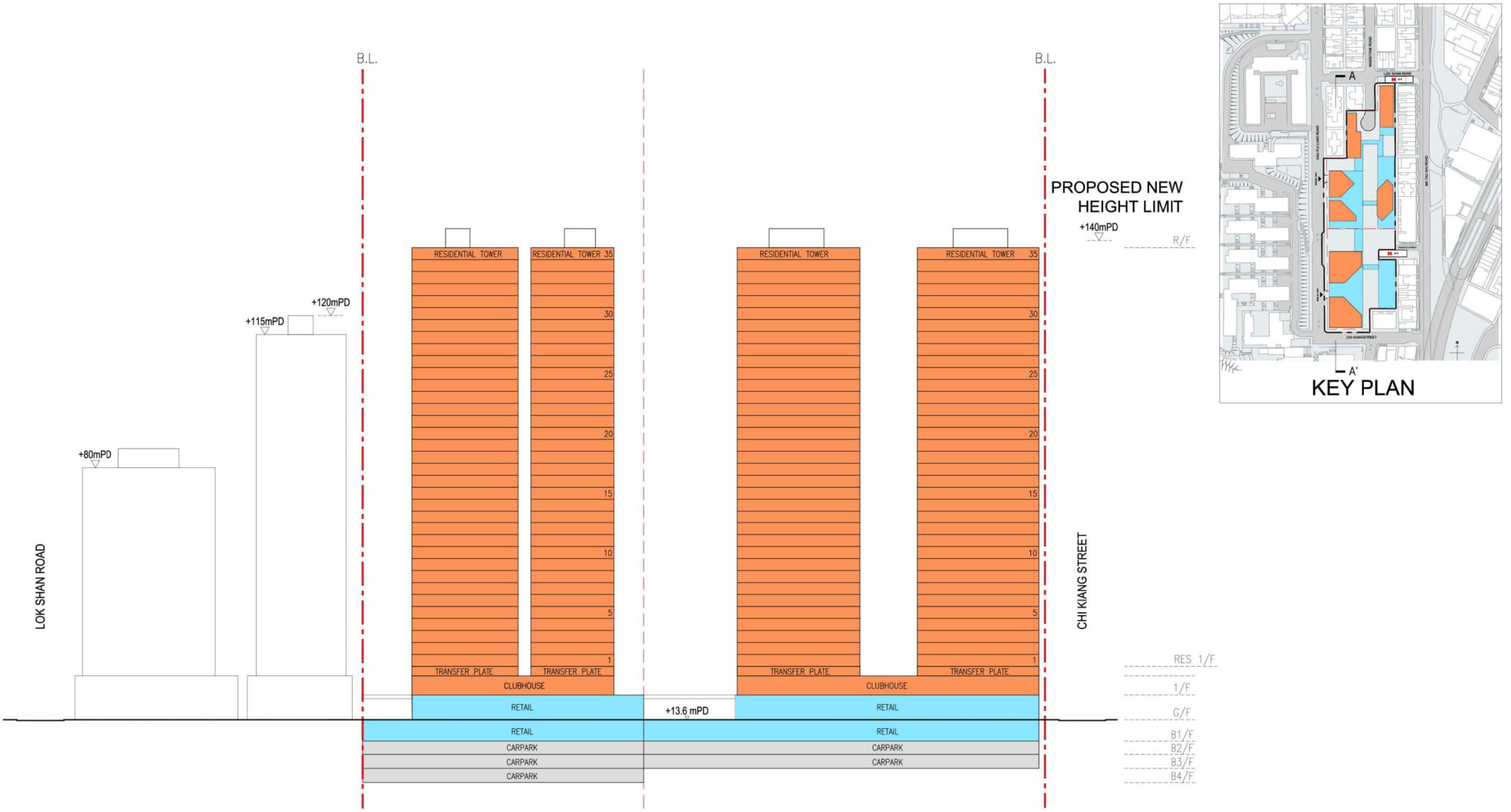
Appendix 2

Master Layout Plan for Proposed Scheme



(Remarks: For indicative purpose only. Notional layout subject to detailed design upon DSP approval.)

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Notional Design – Indicative Block Plan	**Figure 1.1**



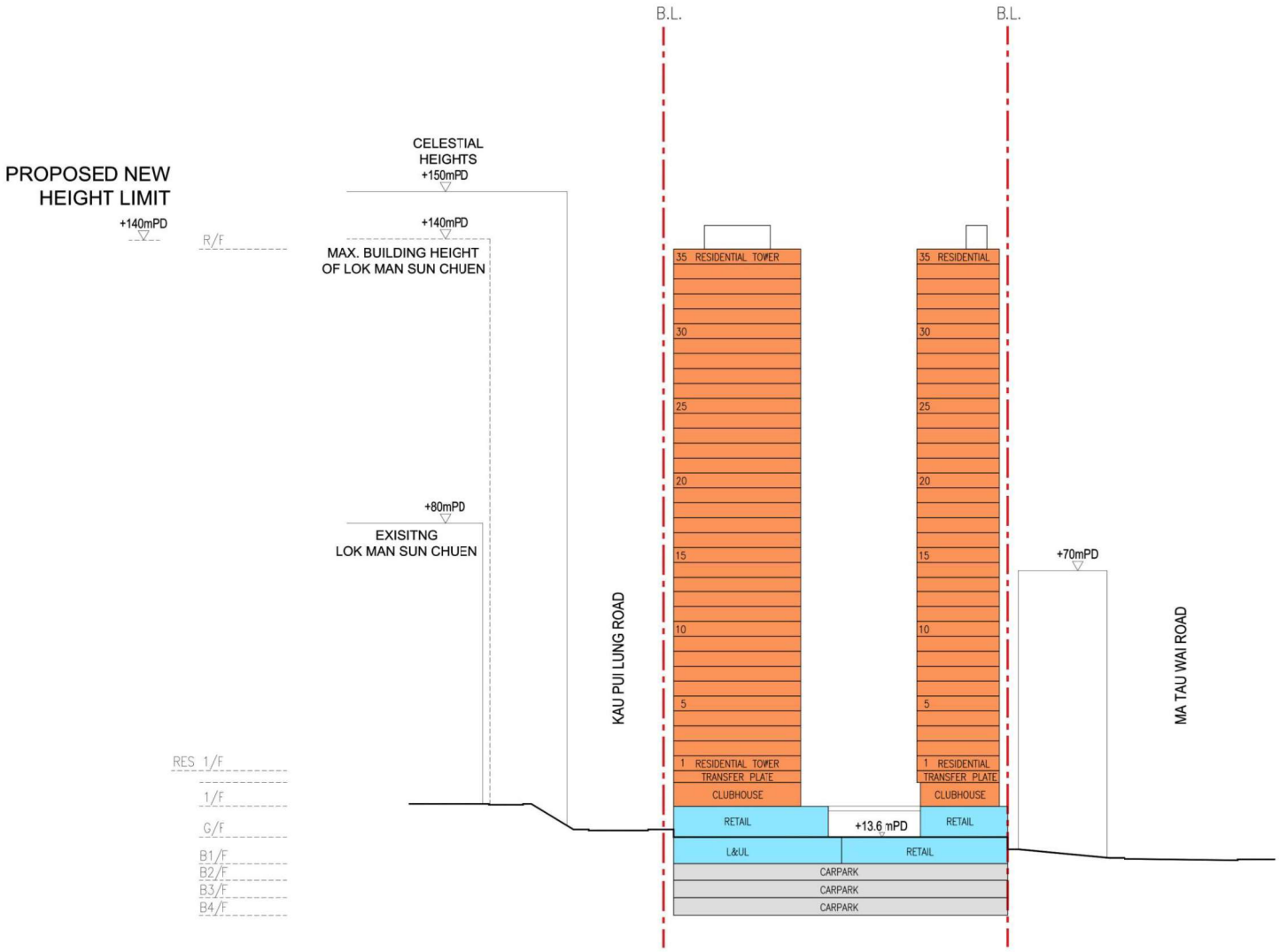
(Remarks: For indicative purpose only. Notional layout subject to detailed design upon DSP approval.)

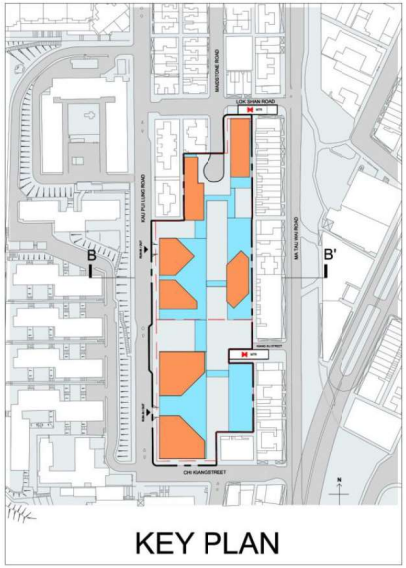
URBAN RENEWAL AUTHORITY 市區重建局

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

Notional Design – Schematic Section AA'

Figure 1.2





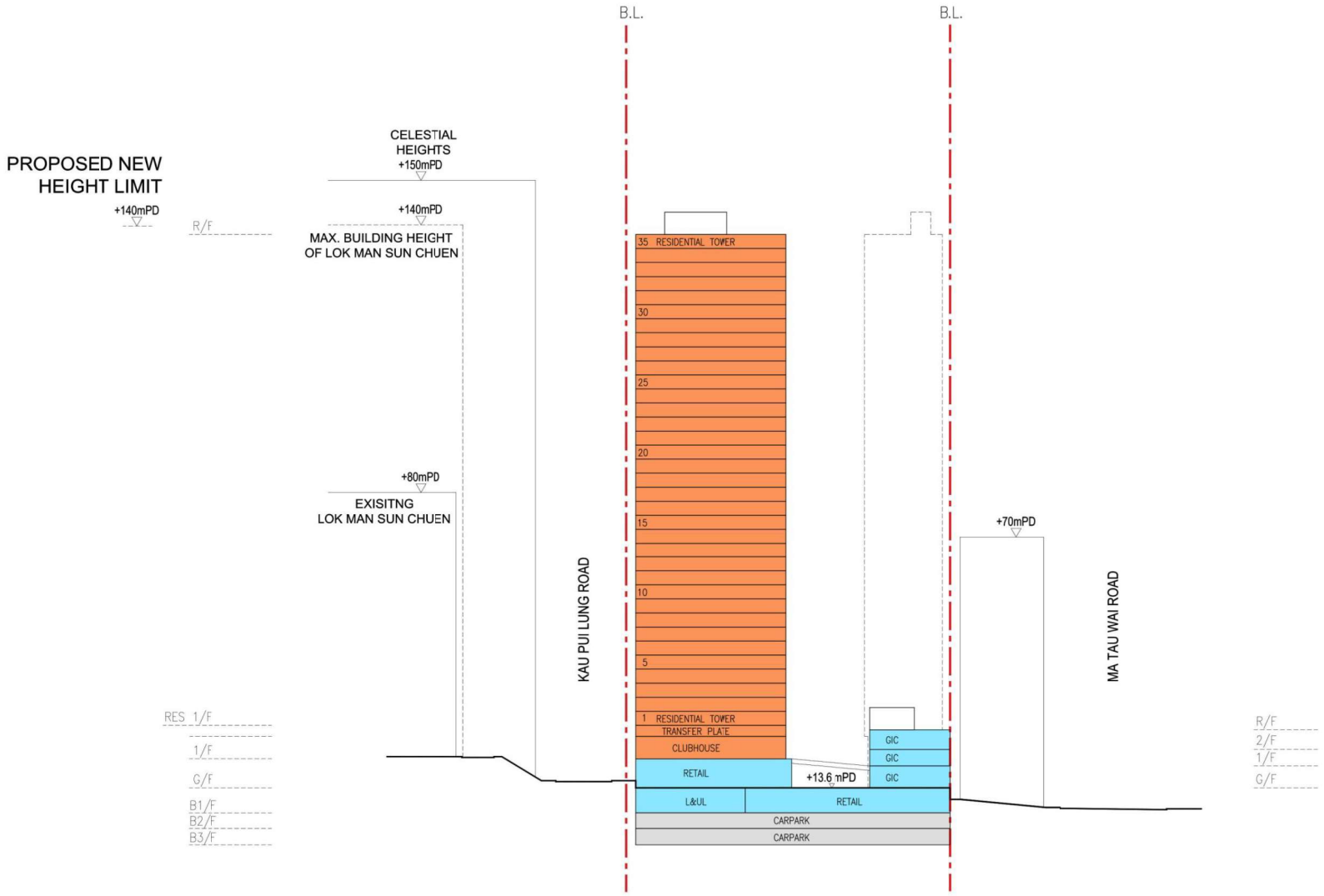
(Remarks: For indicative purpose only. Notional layout subject to detailed design upon DSP approval.)

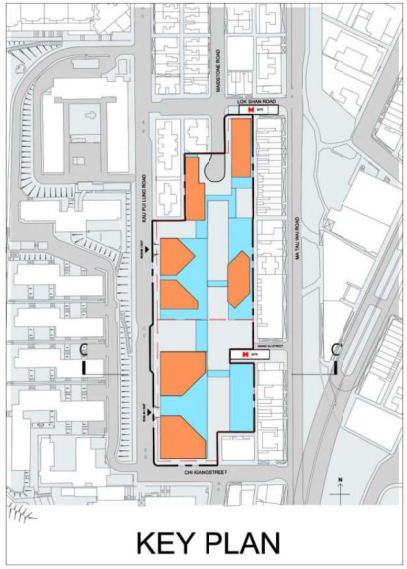
URBAN RENEWAL AUTHORITY 市區重建局

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

Notional Design – Schematic Section BB'

Figure 1.3





(Remarks: For indicative purpose only. Notional layout subject to detailed design upon DSP approval.)

URBAN RENEWAL AUTHORITY 市區重建局

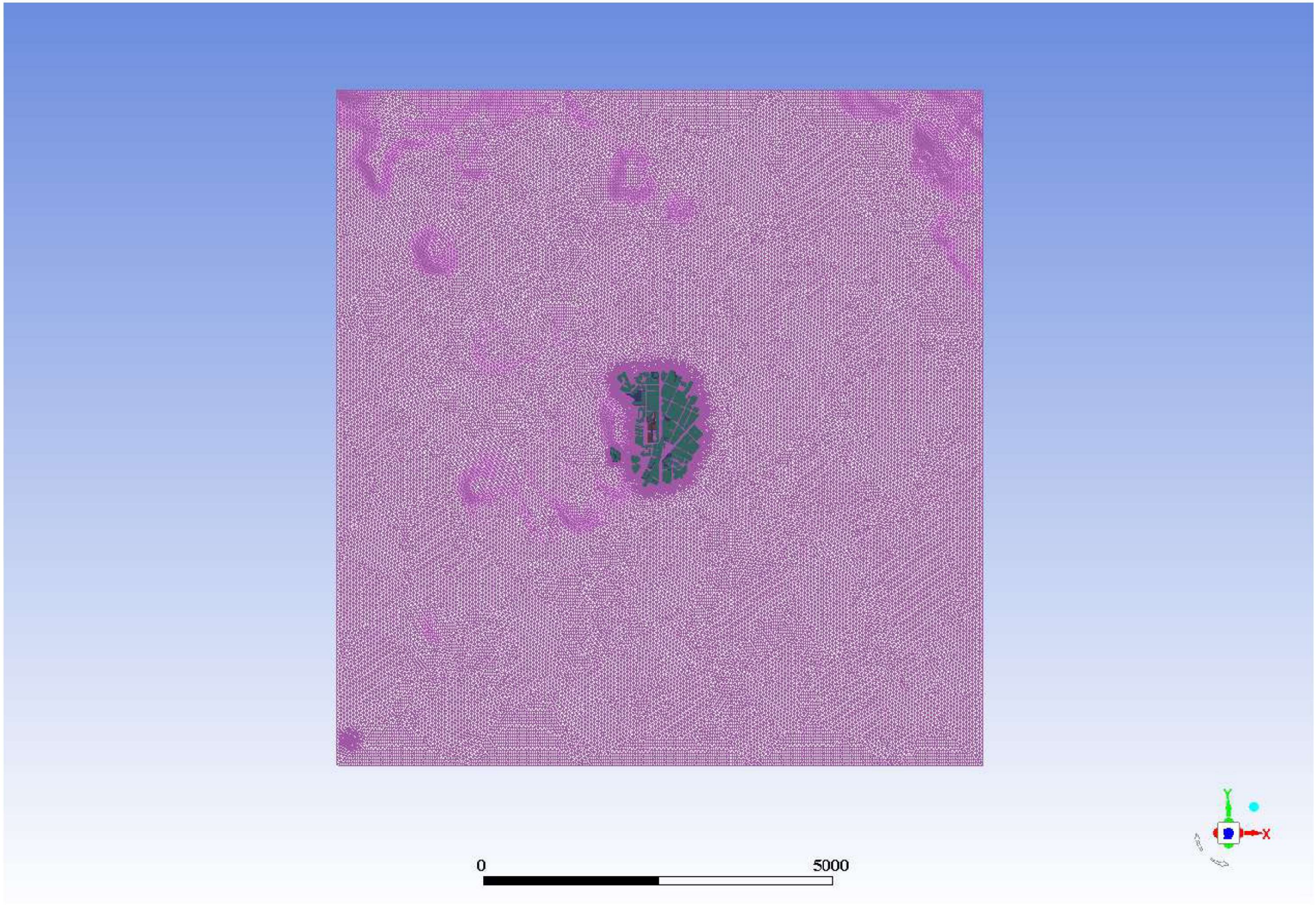
URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

Notional Design – Schematic Section CC'

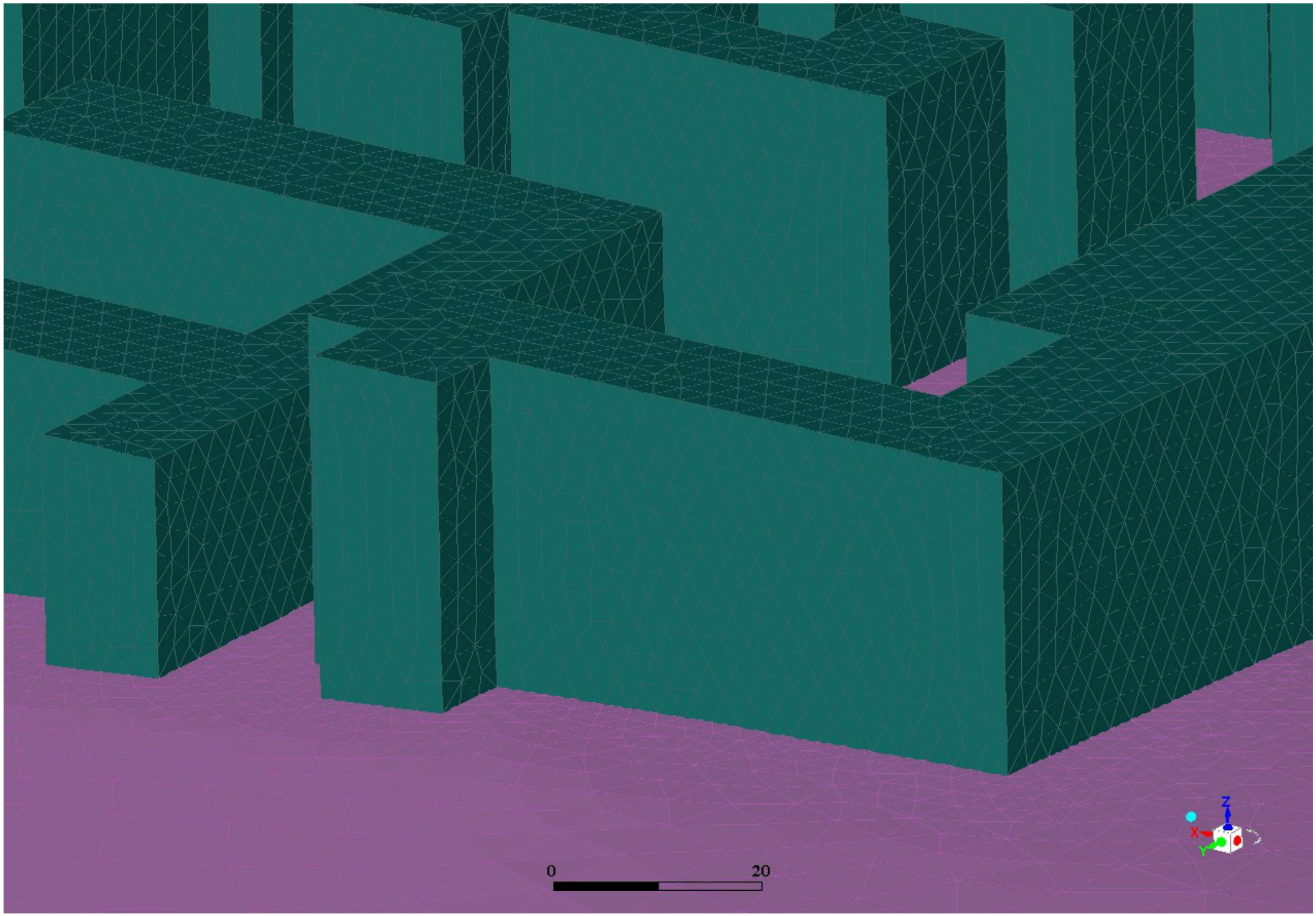
Figure 1.4

Appendix 3

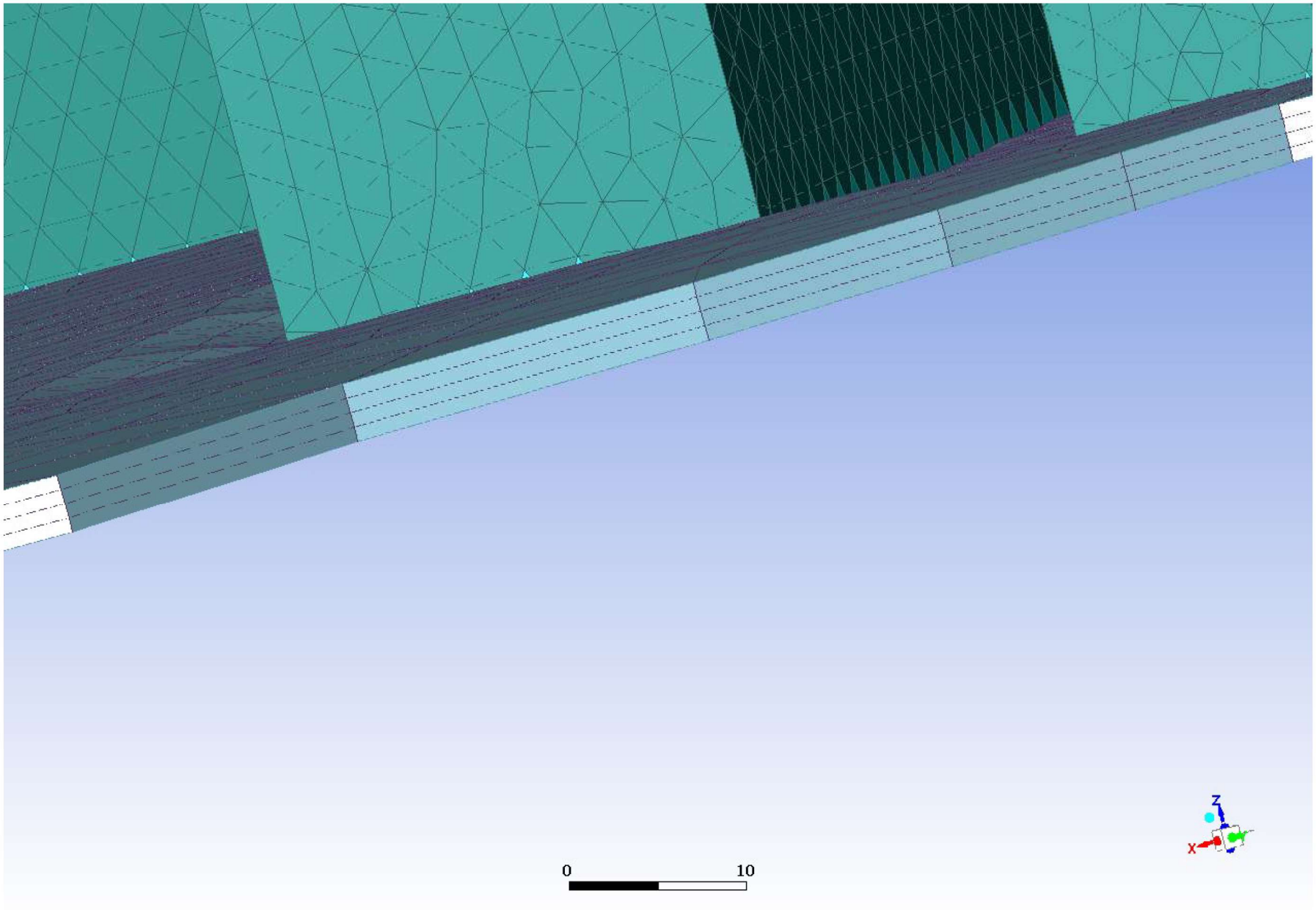
Captured Pictures of the CFD Model



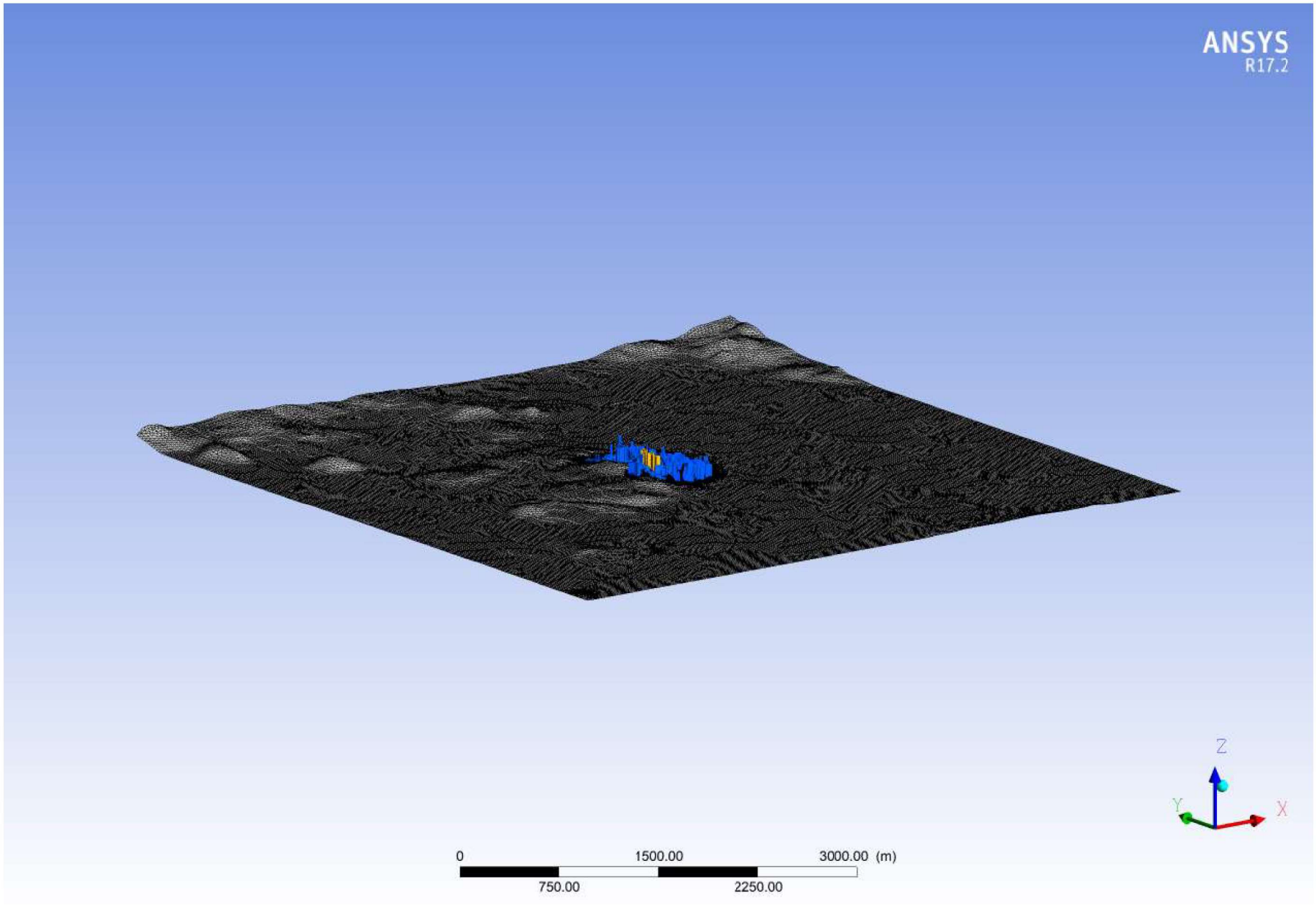
Domain



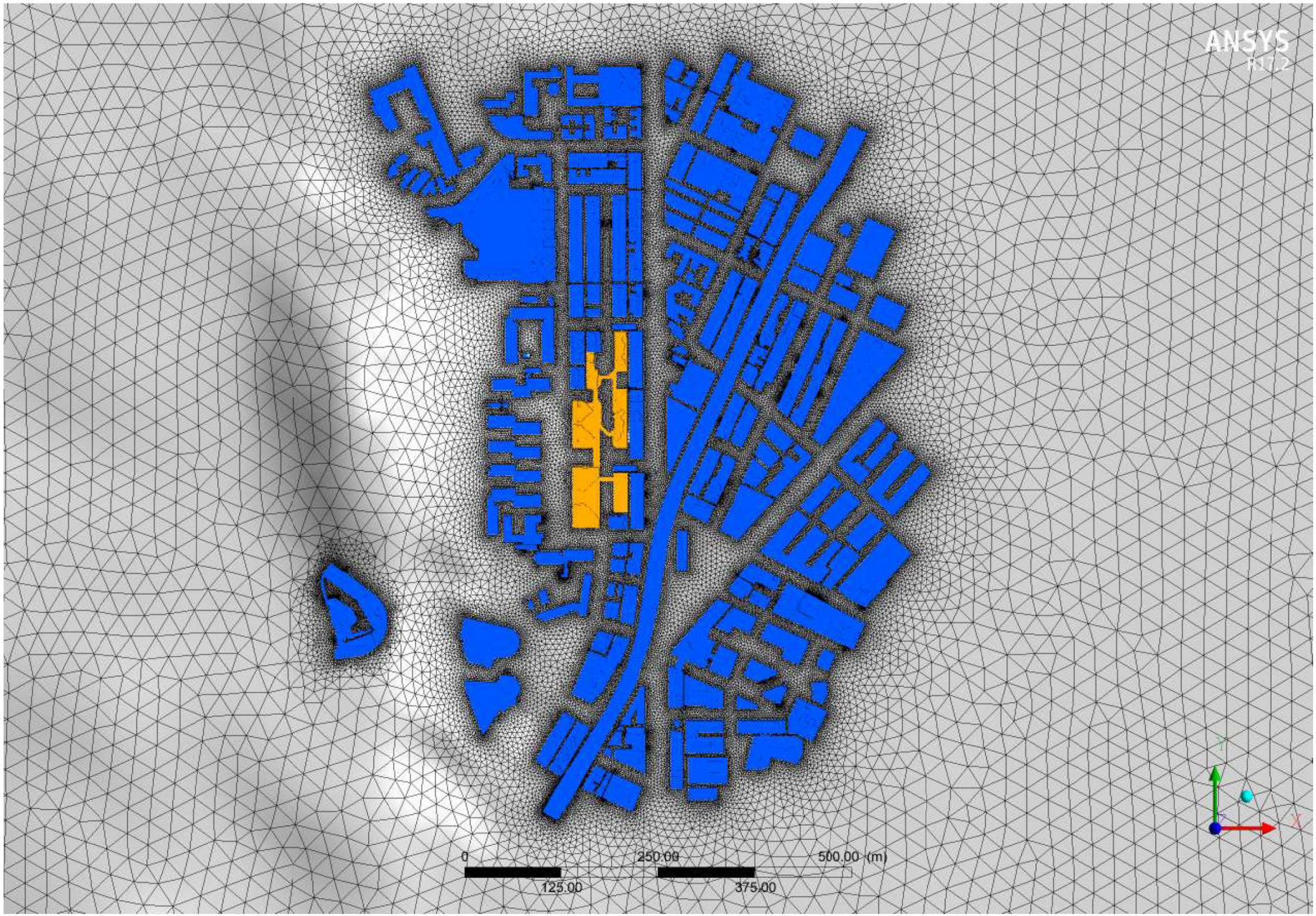
Surface Mesh in the Model



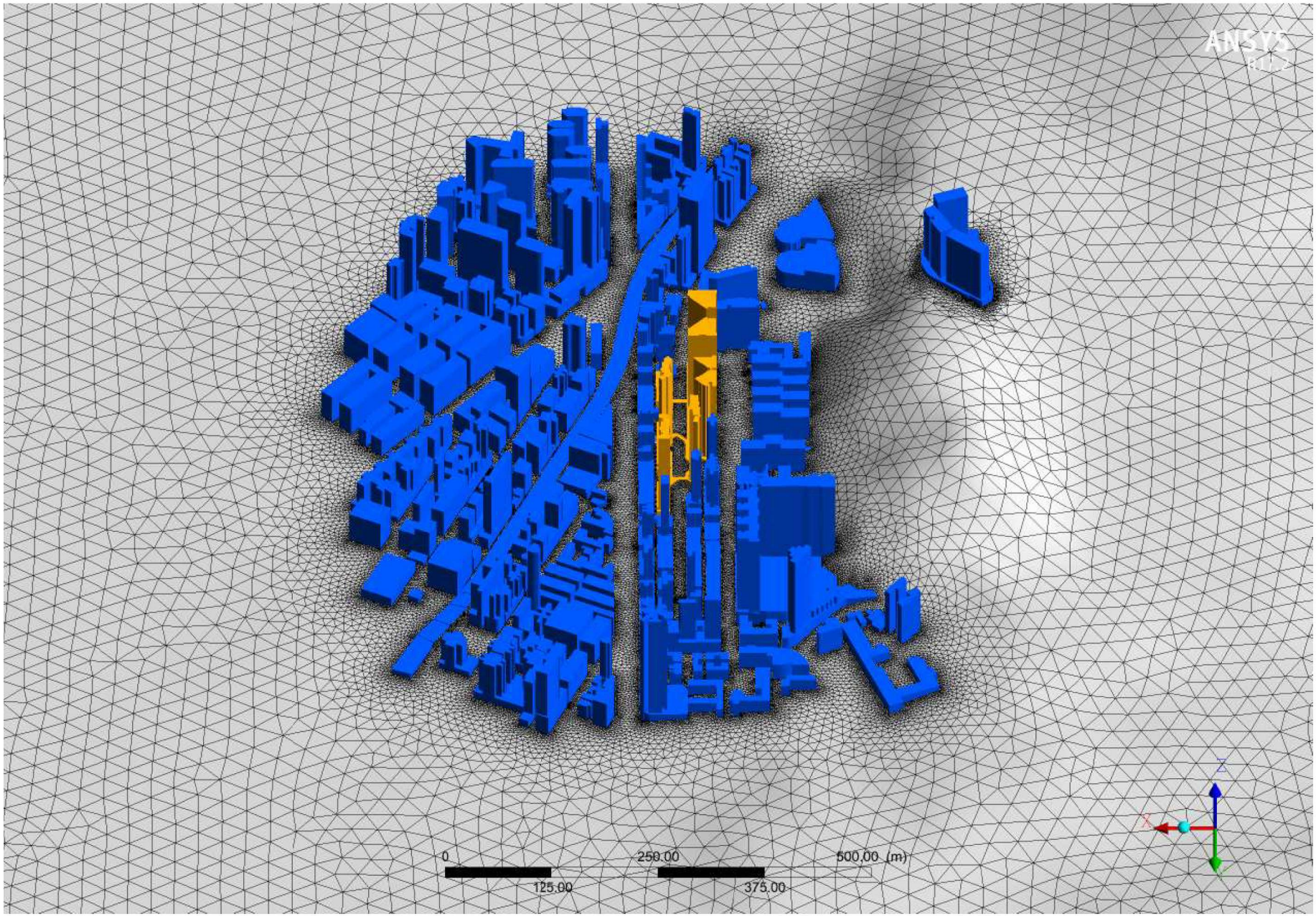
4 Layers Prism



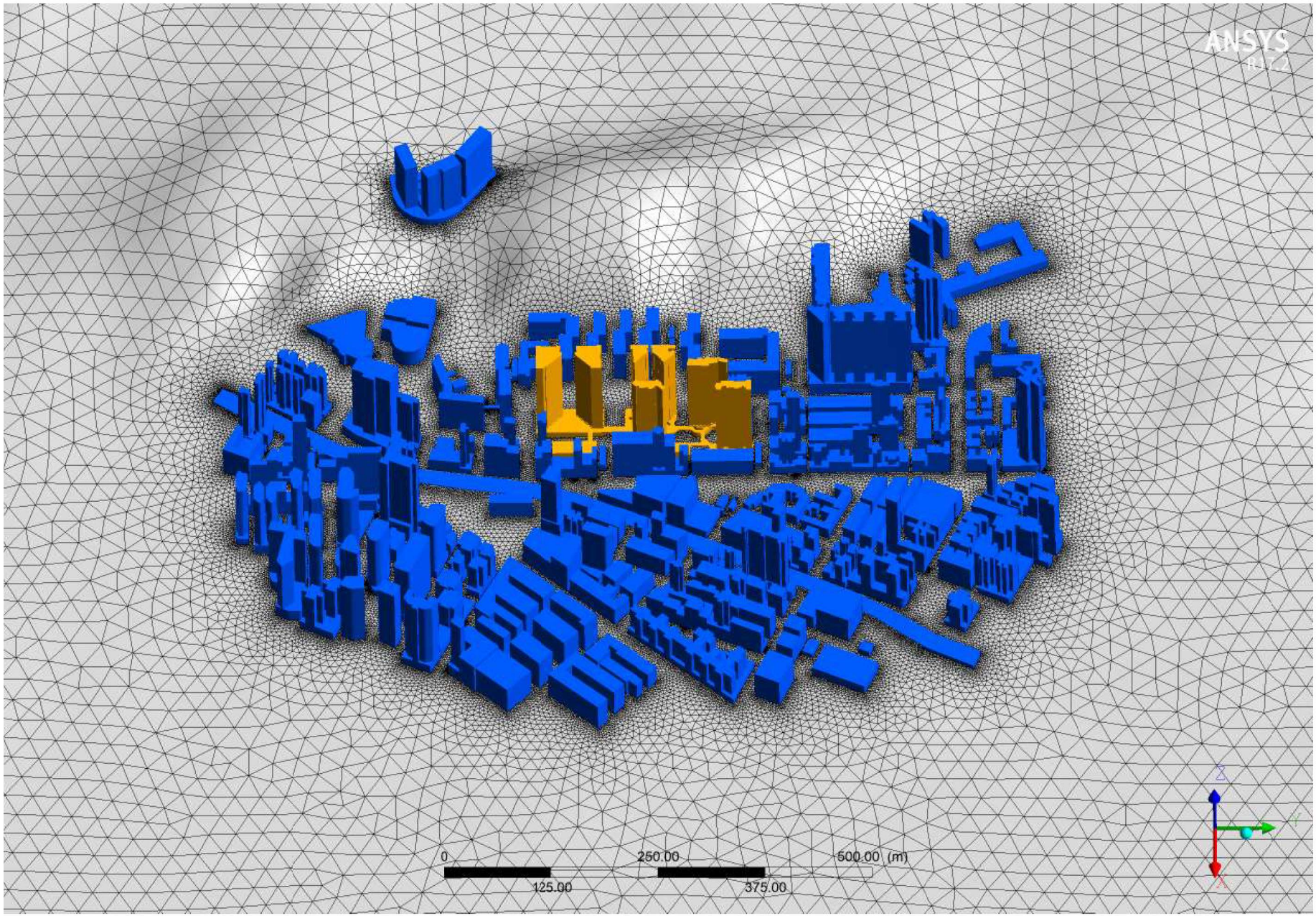
Topography



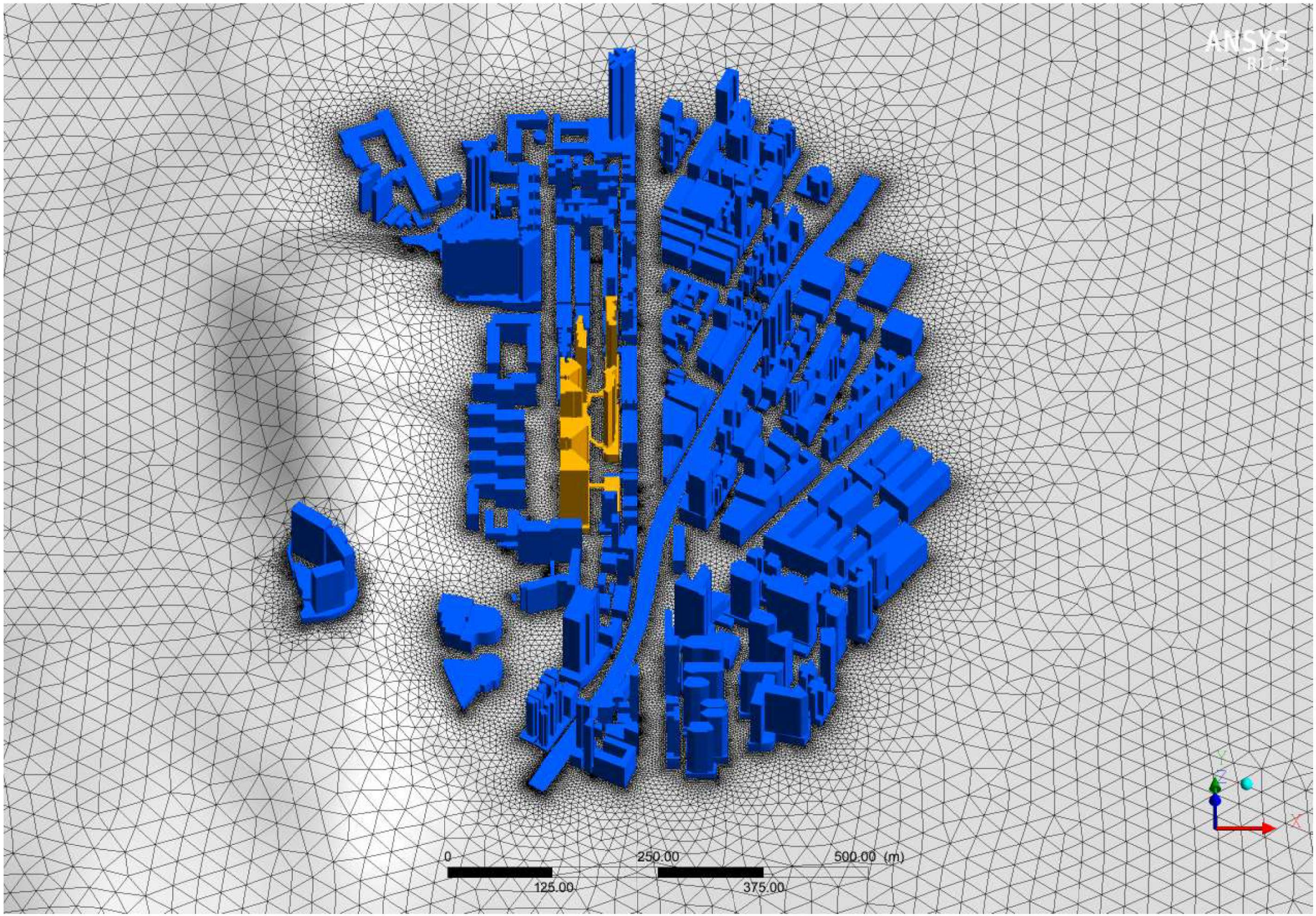
Surroundings - Top View



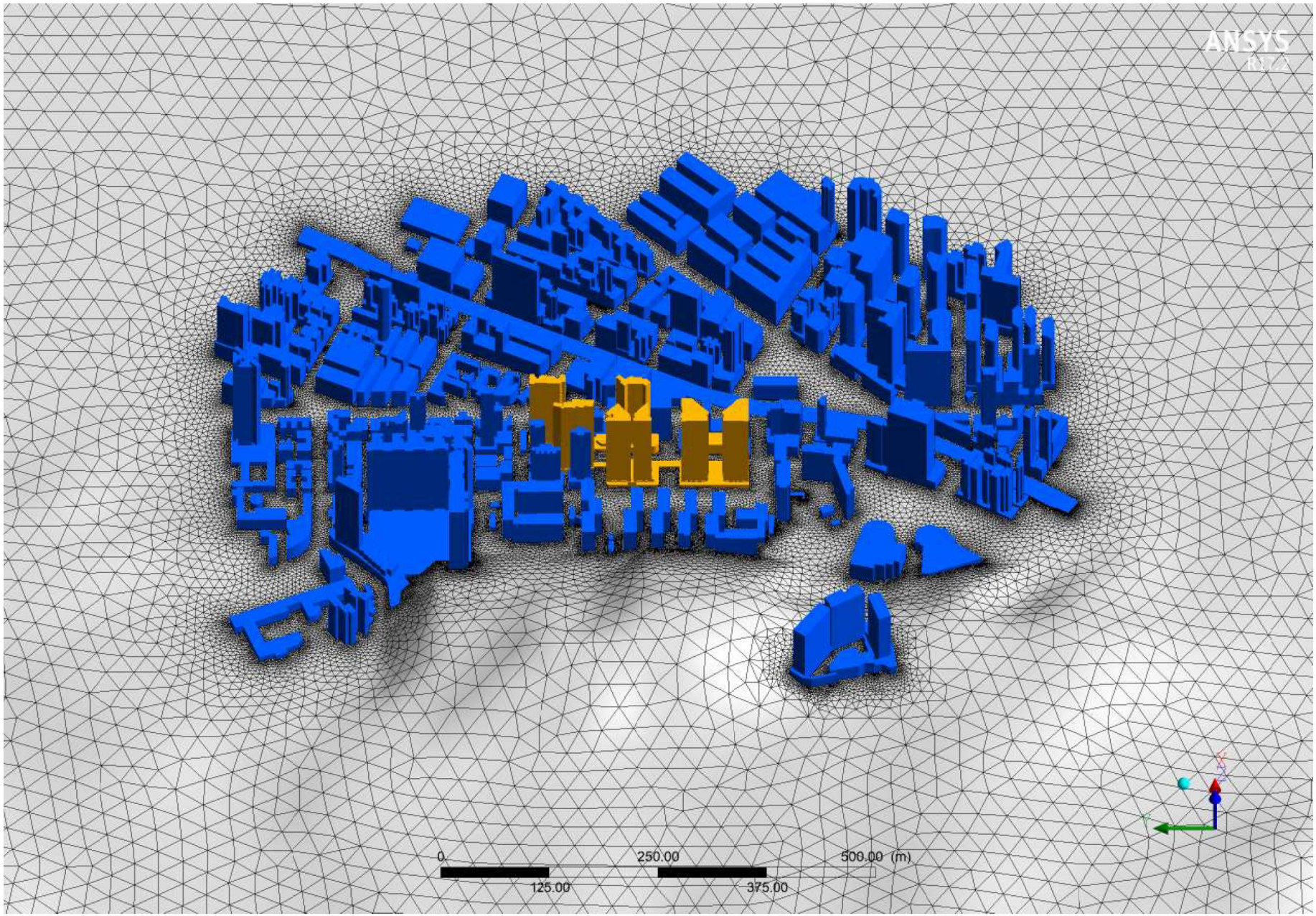
Surroundings - North View



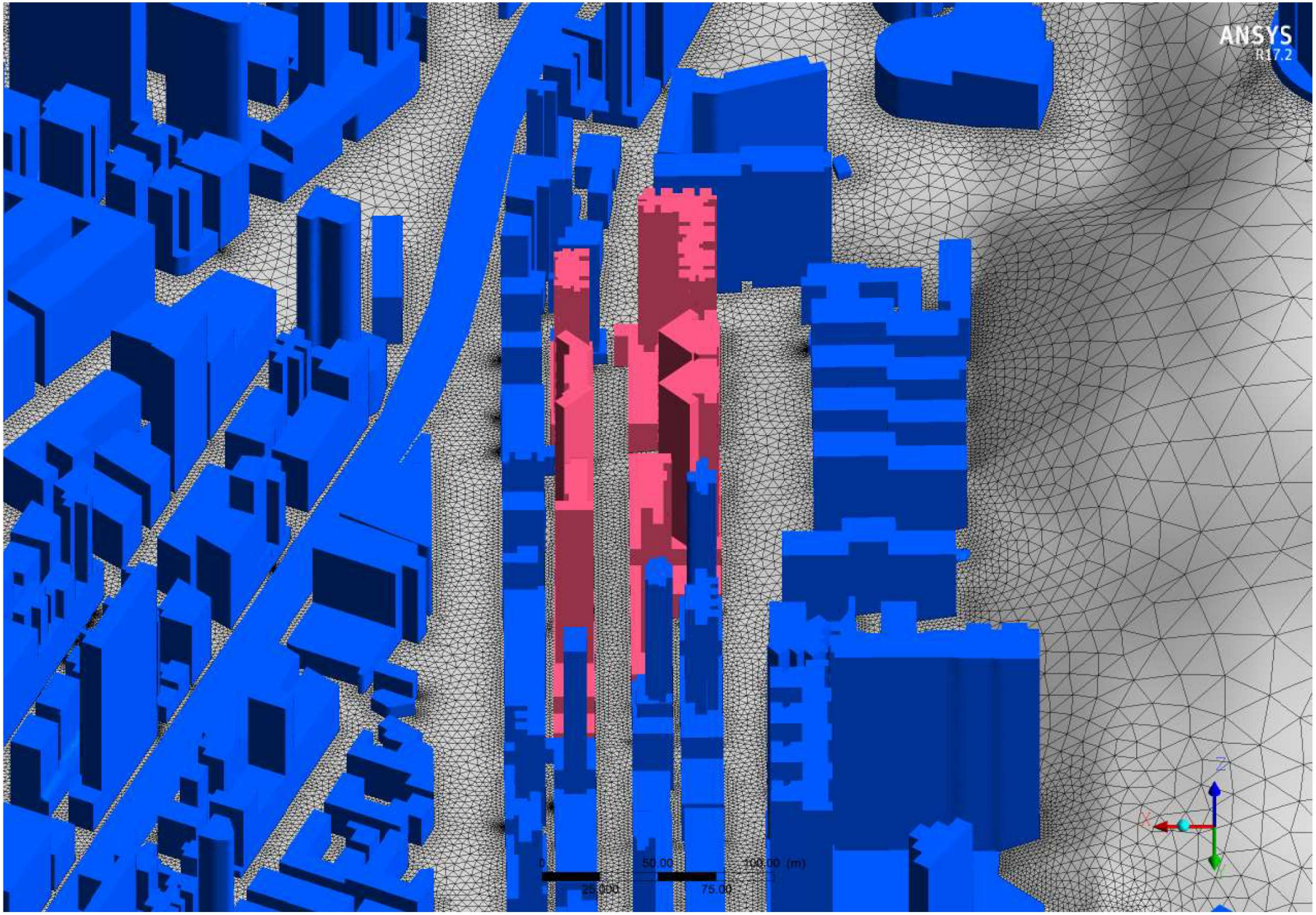
Surroundings - East View



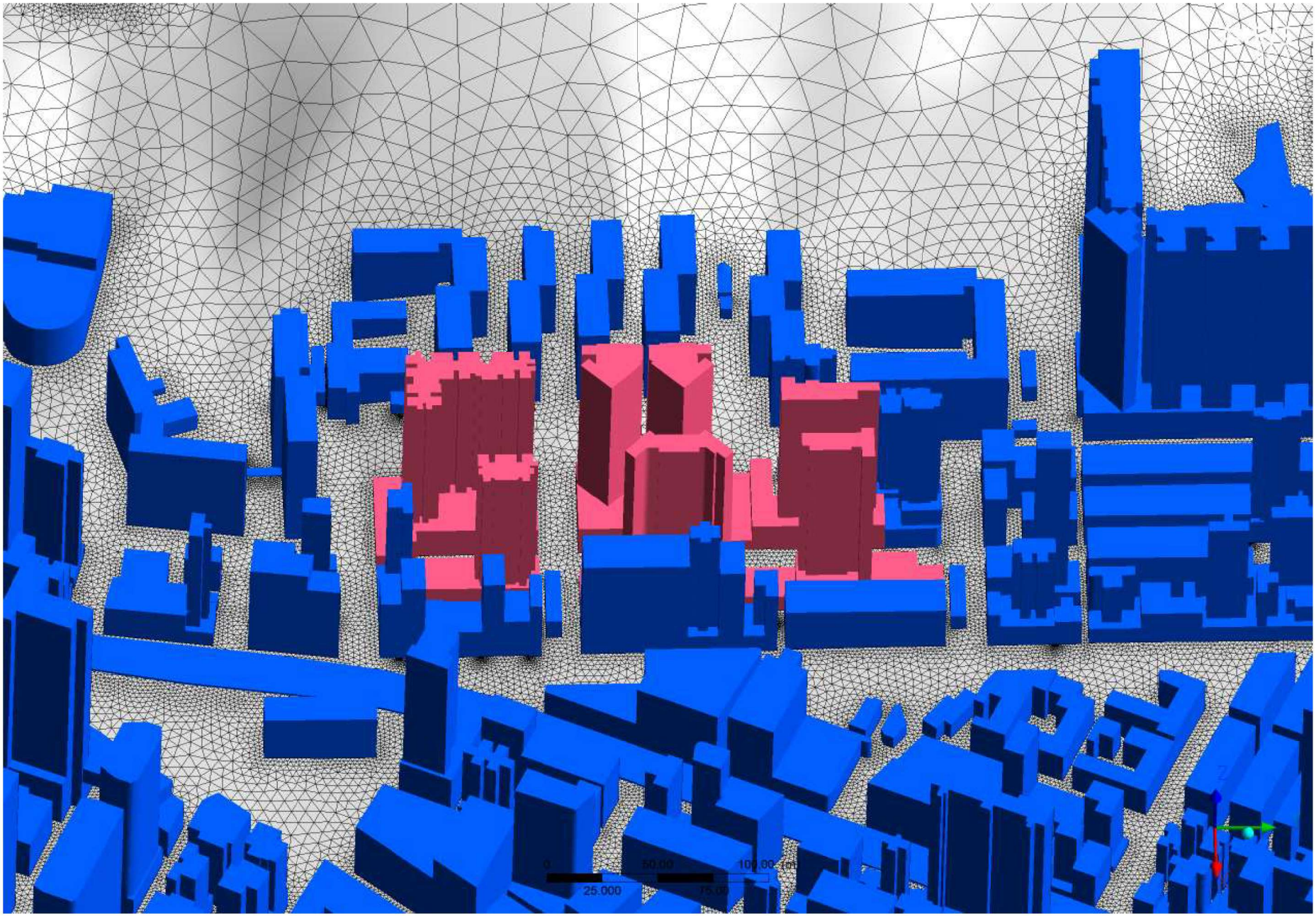
Surroundings - South View



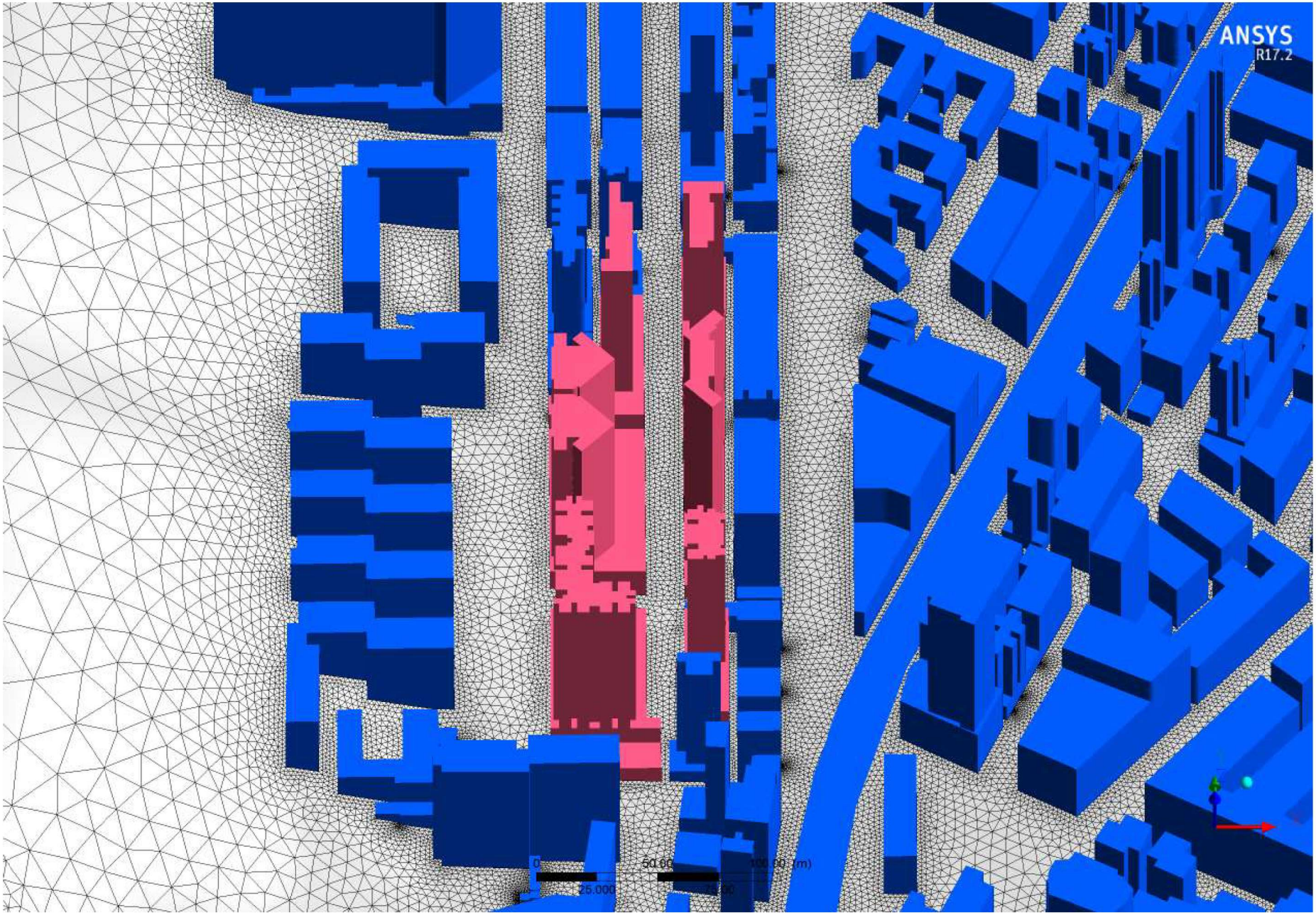
Surroundings - West View



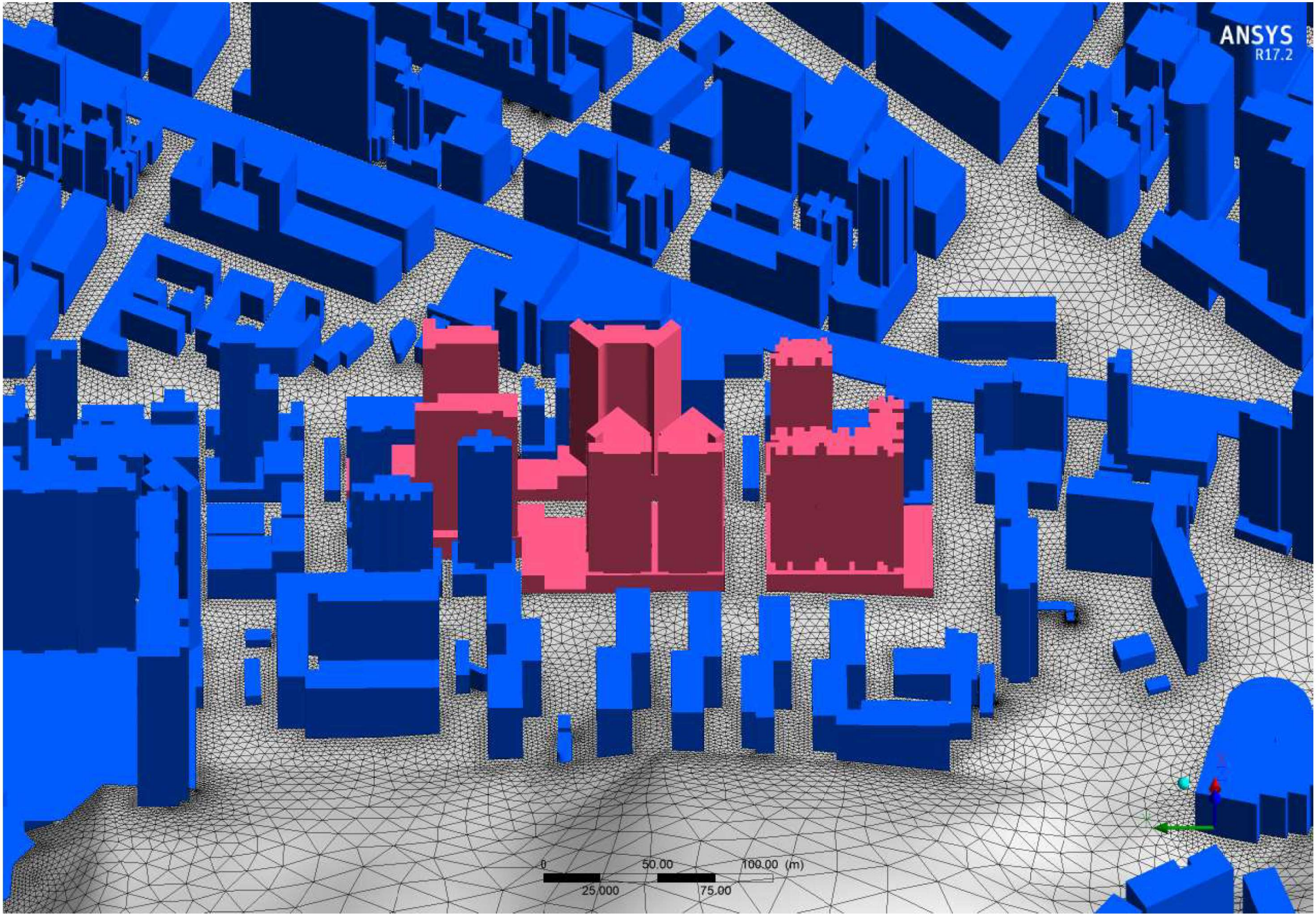
Baseline Scheme - N



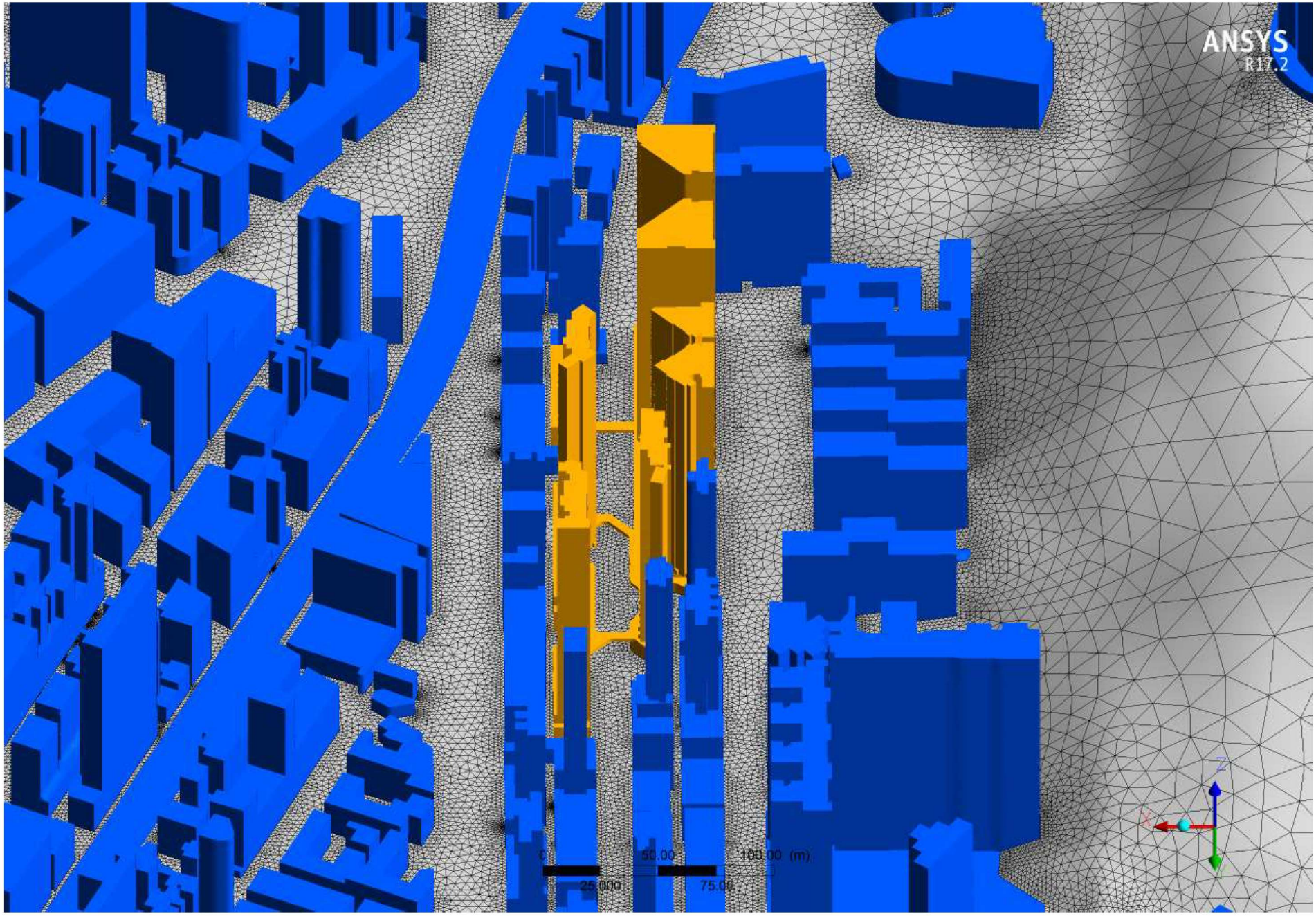
Baseline Scheme - E



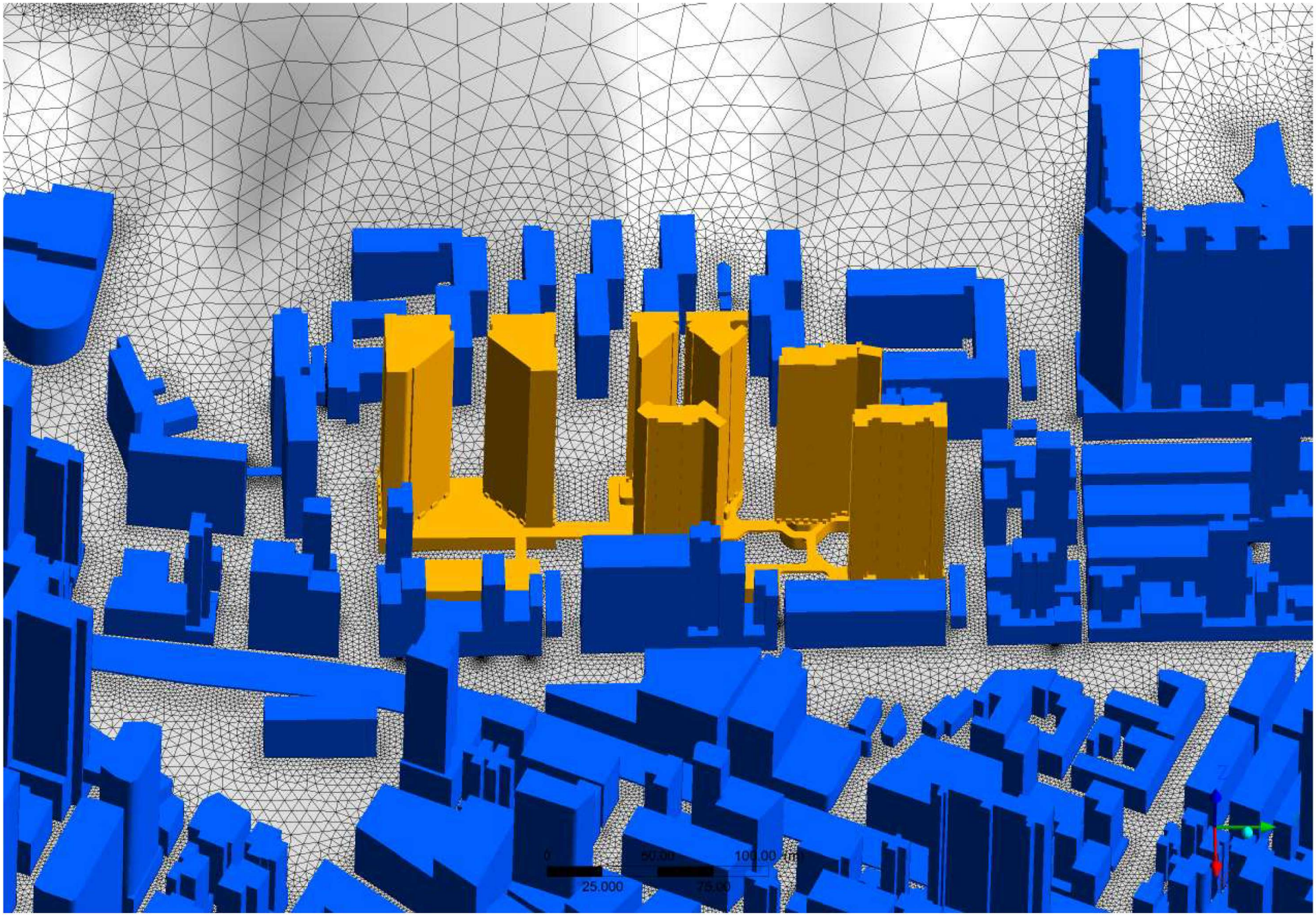
Baseline Scheme - S



Baseline Scheme - W



Proposed Scheme - N



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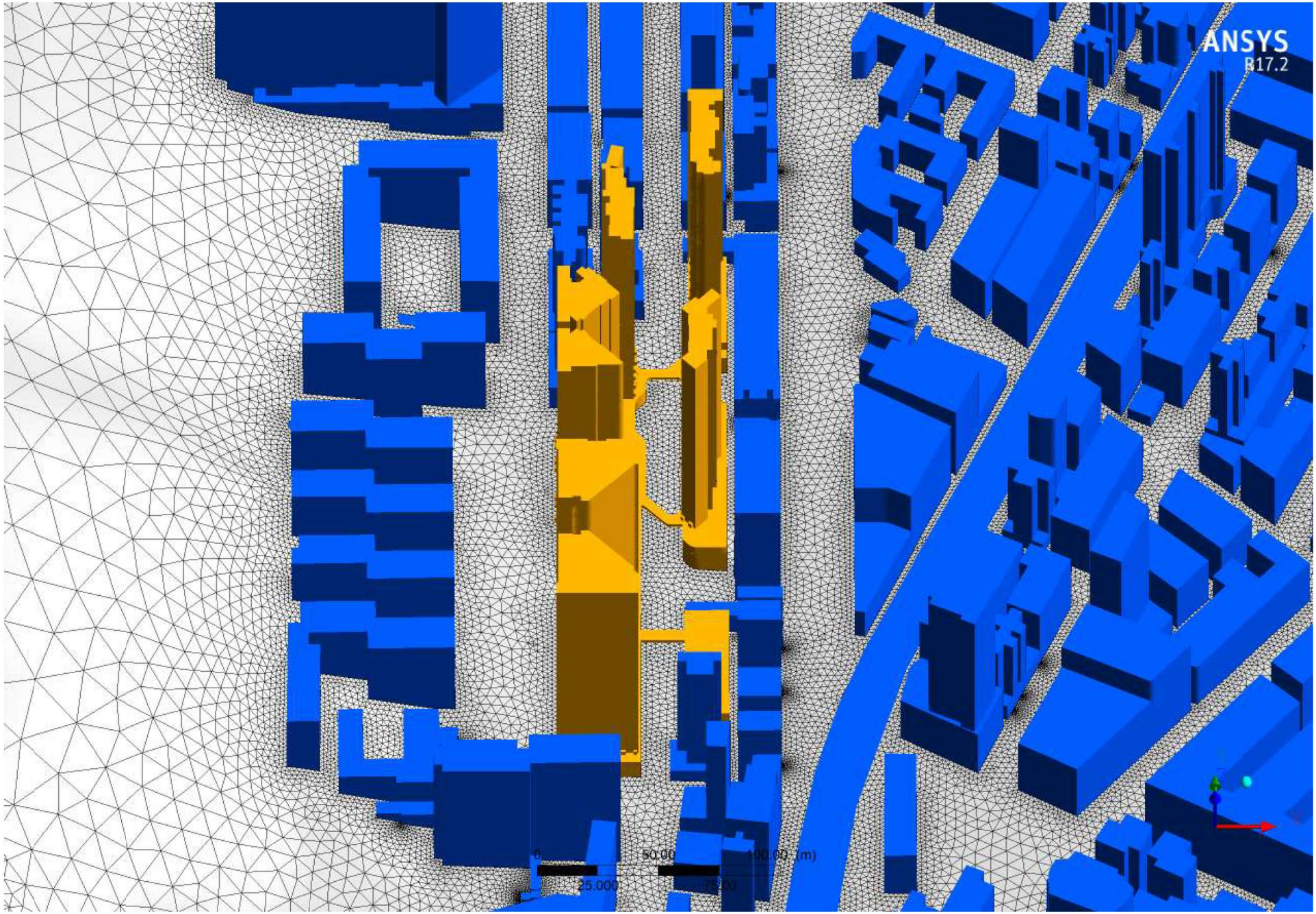
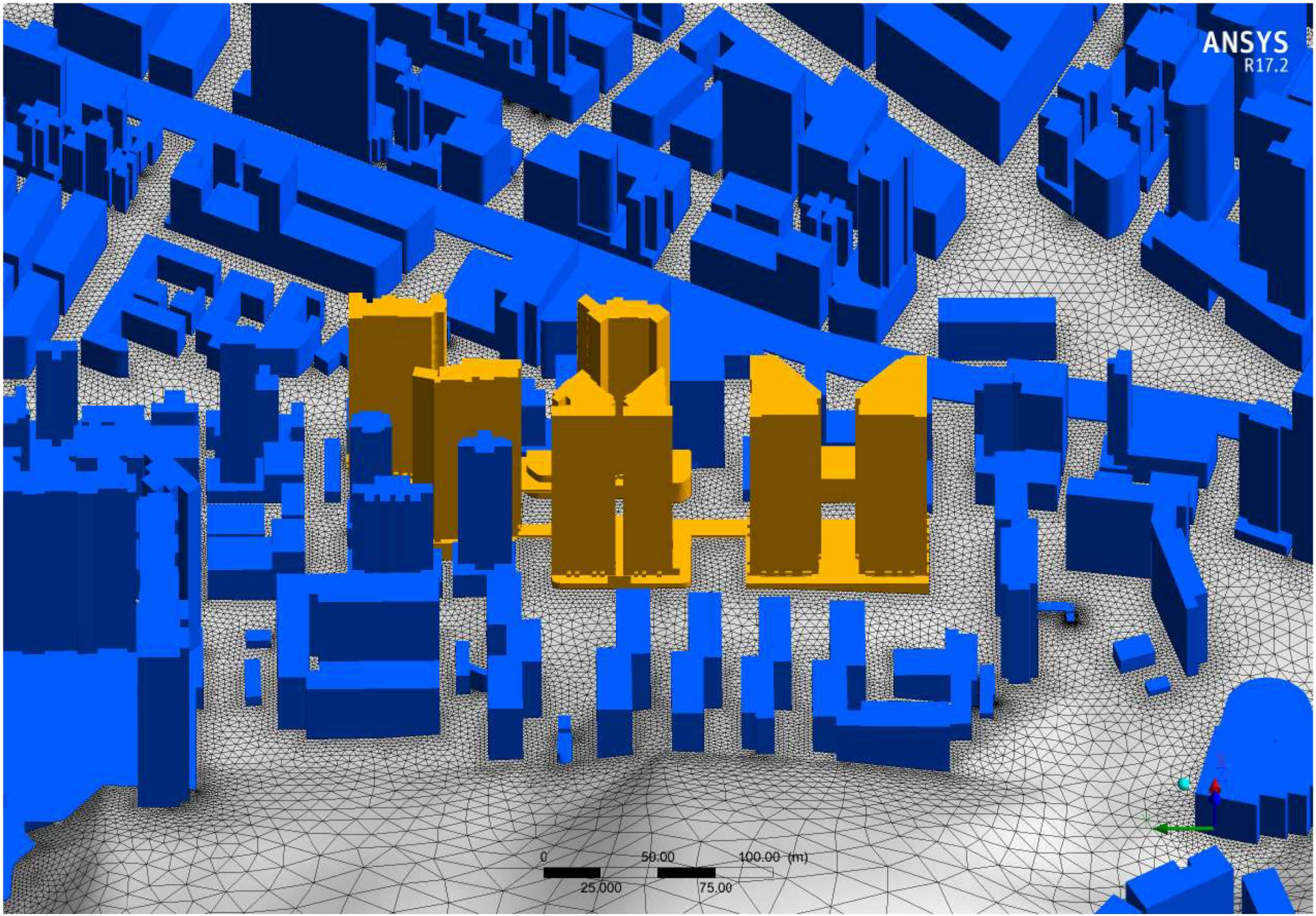


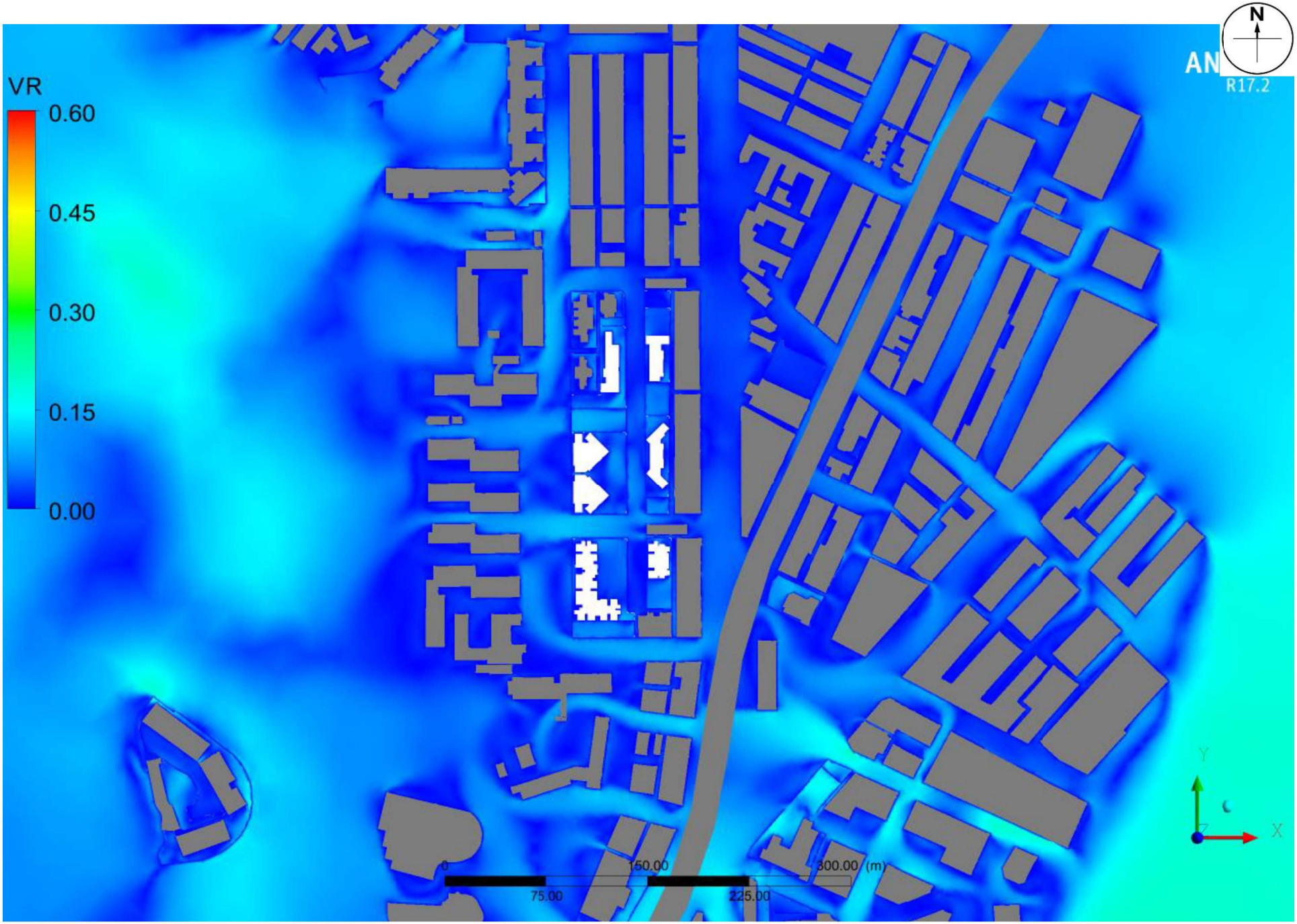
Proposed Scheme - S



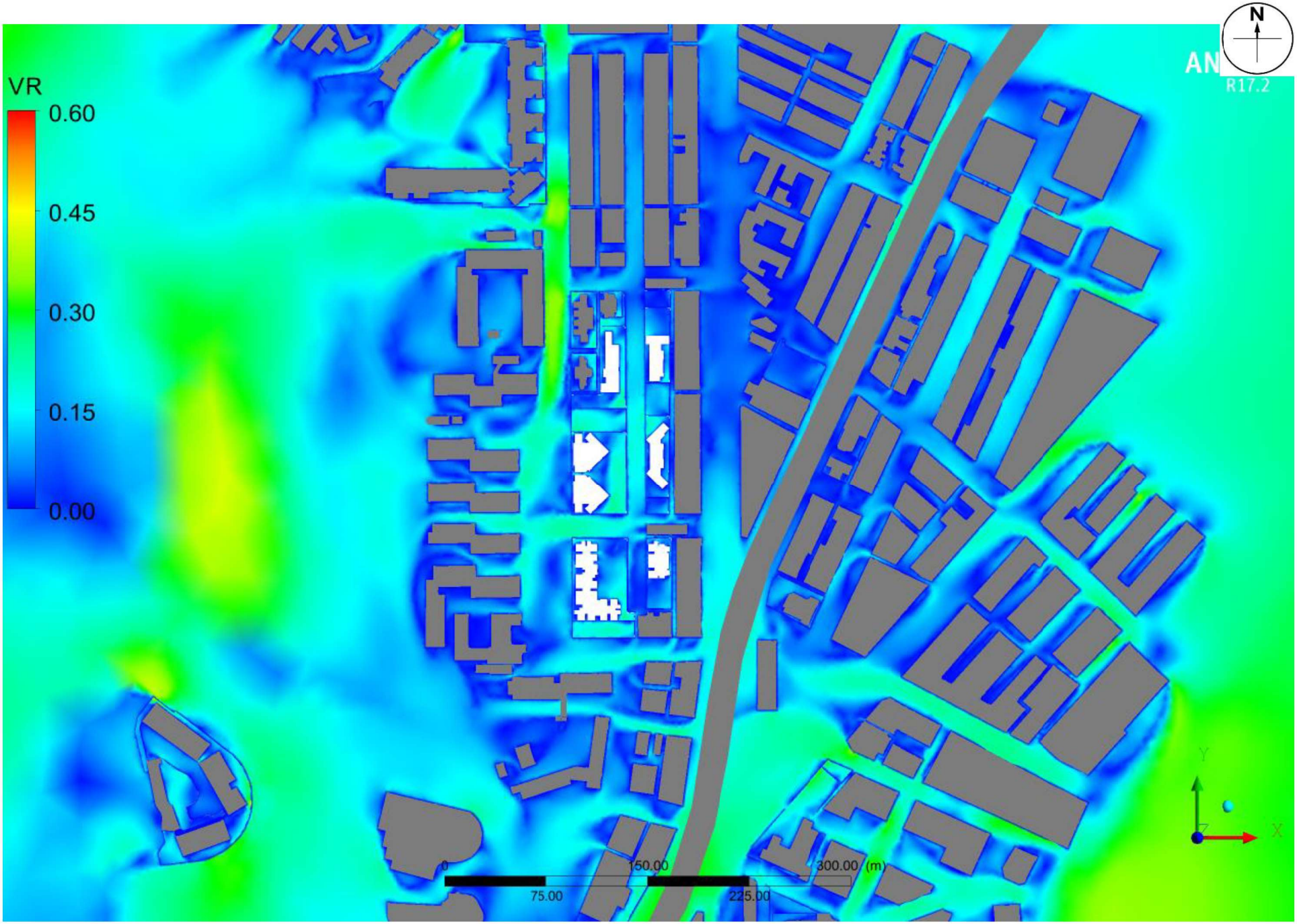
Proposed Scheme - W

Appendix 4

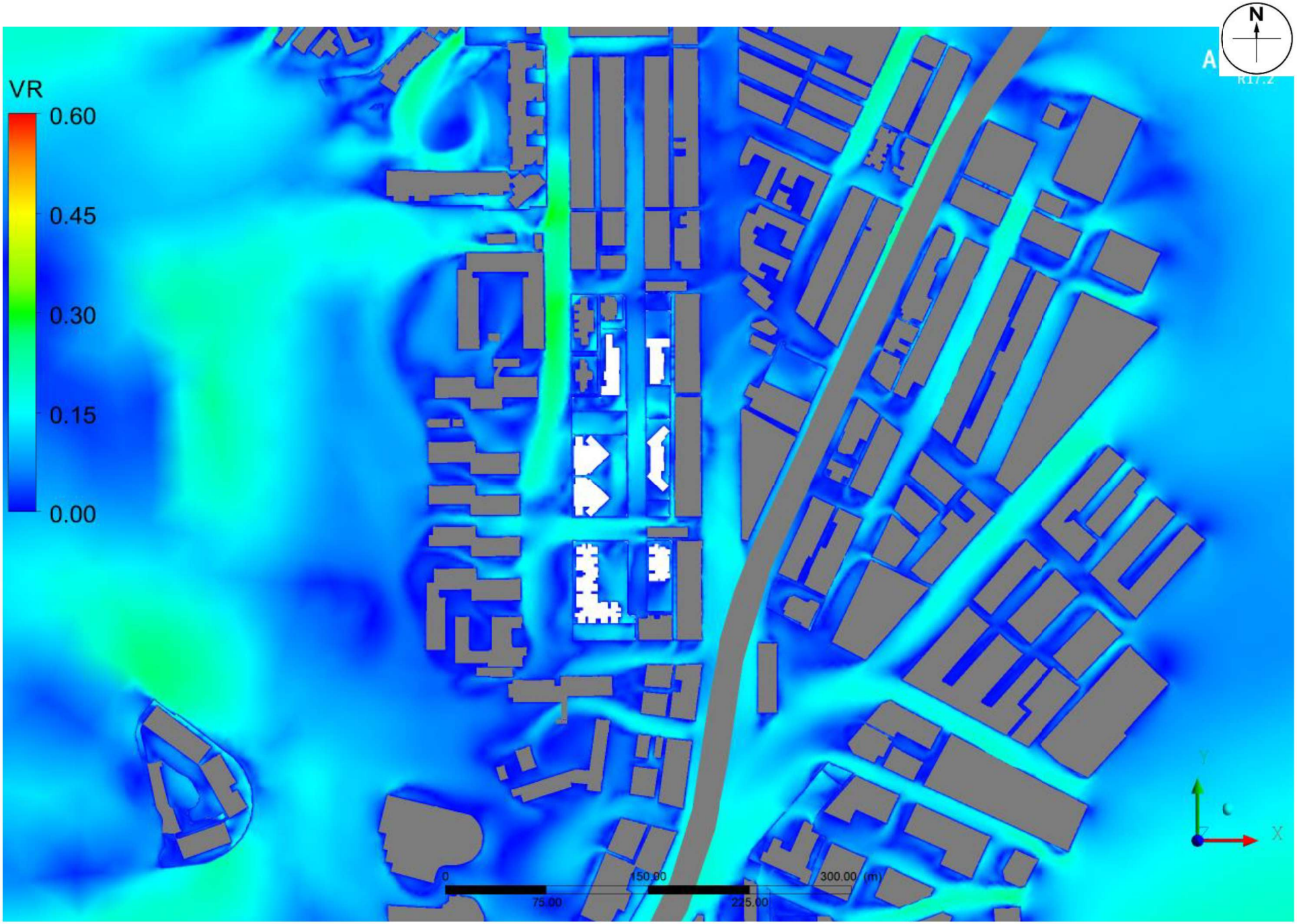
Contour and Vector Plot for CFD Simulation



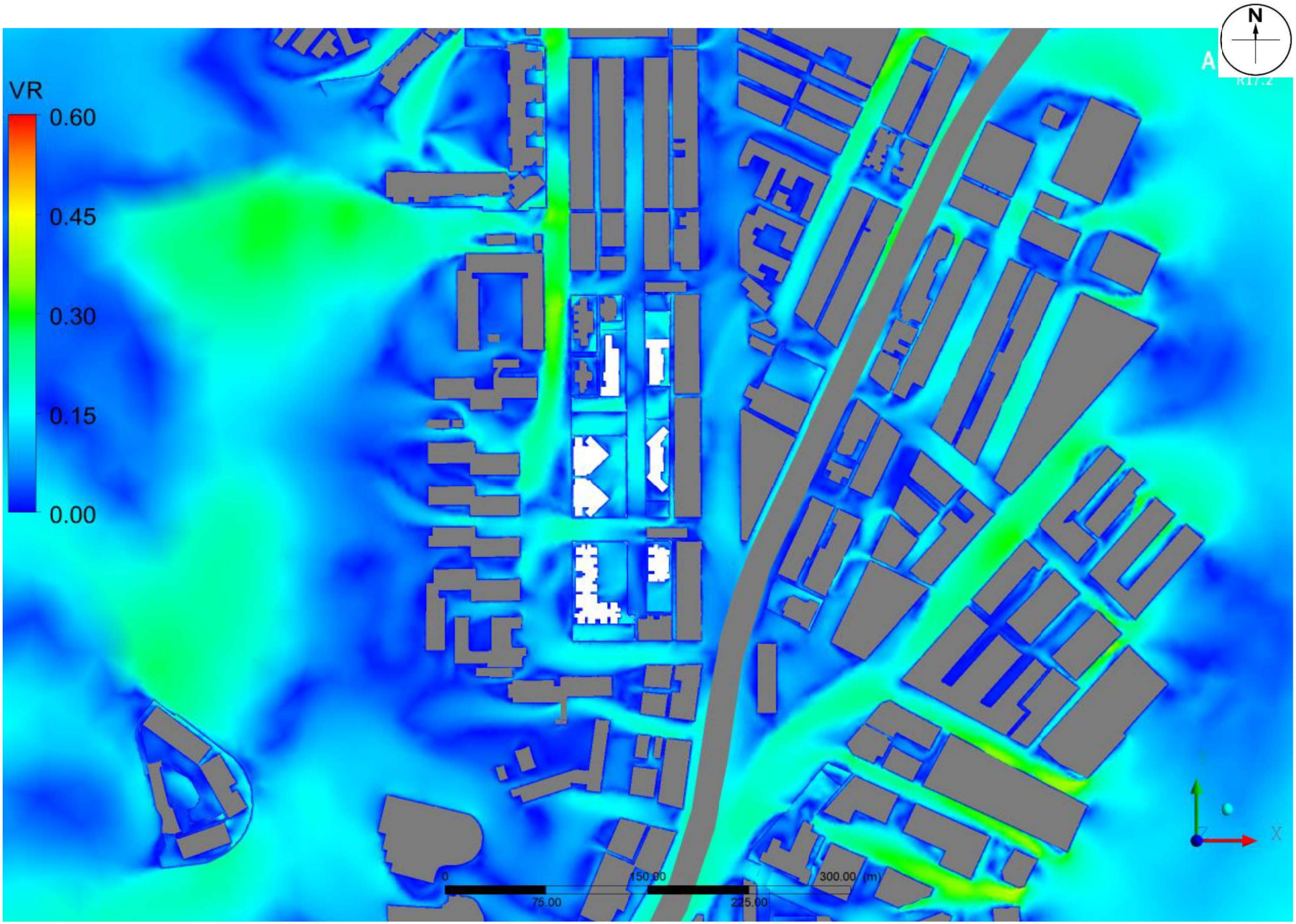
Baseline Scheme - Contour plot at pedestrian level under NNE Wind



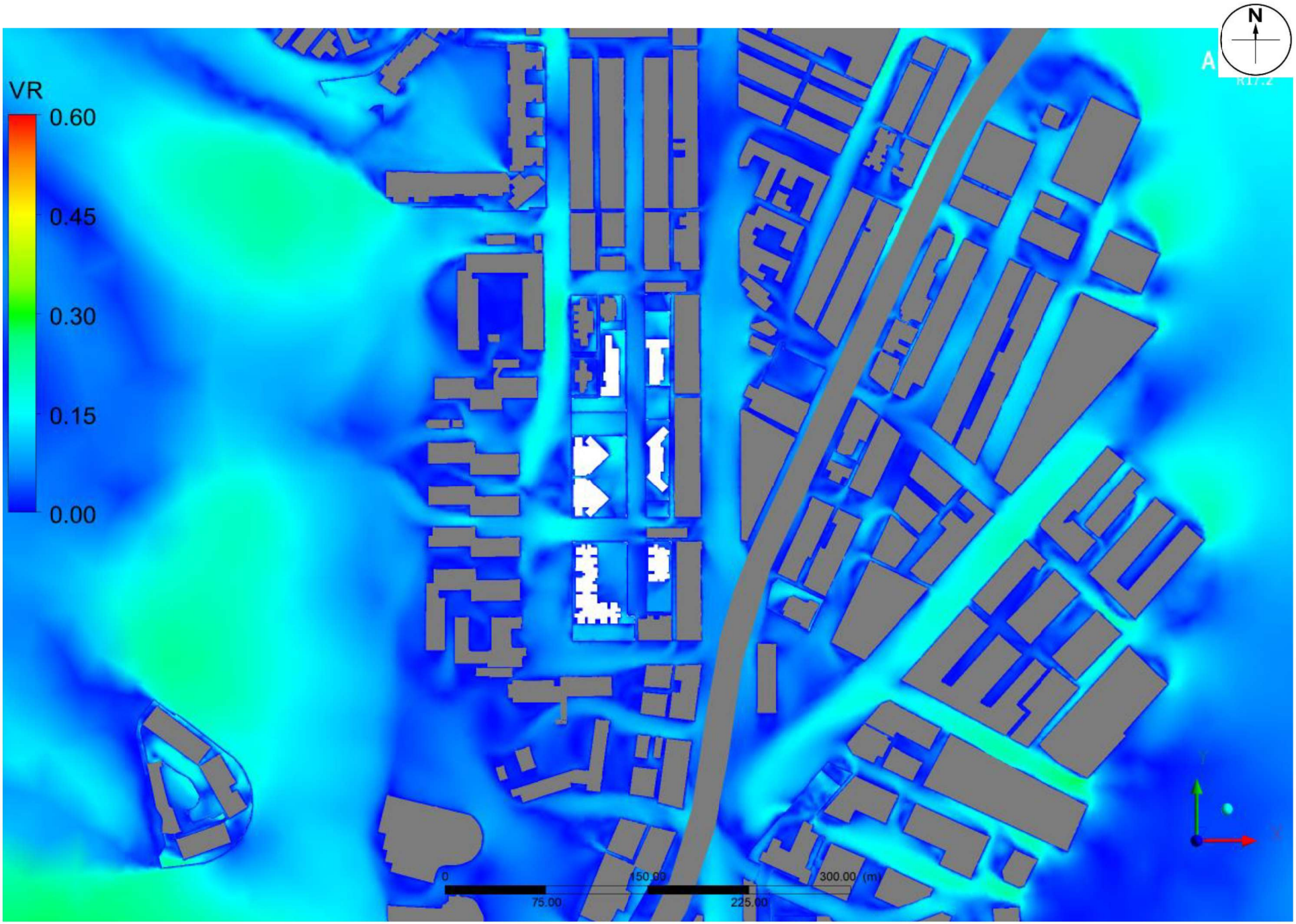
Baseline Scheme - Contour plot at pedestrian level under NE Wind



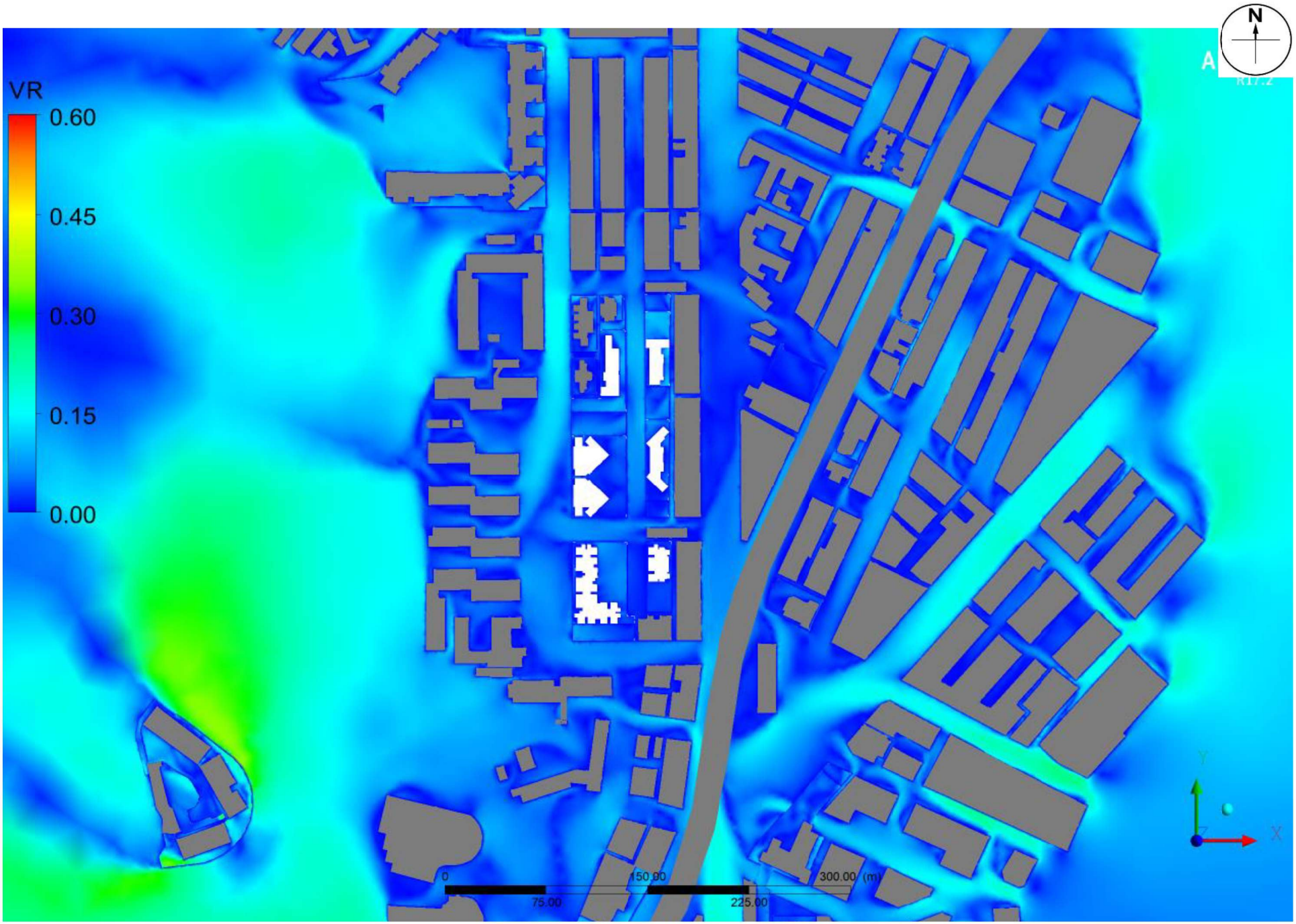
Baseline Scheme - Contour plot at pedestrian level under ENE Wind



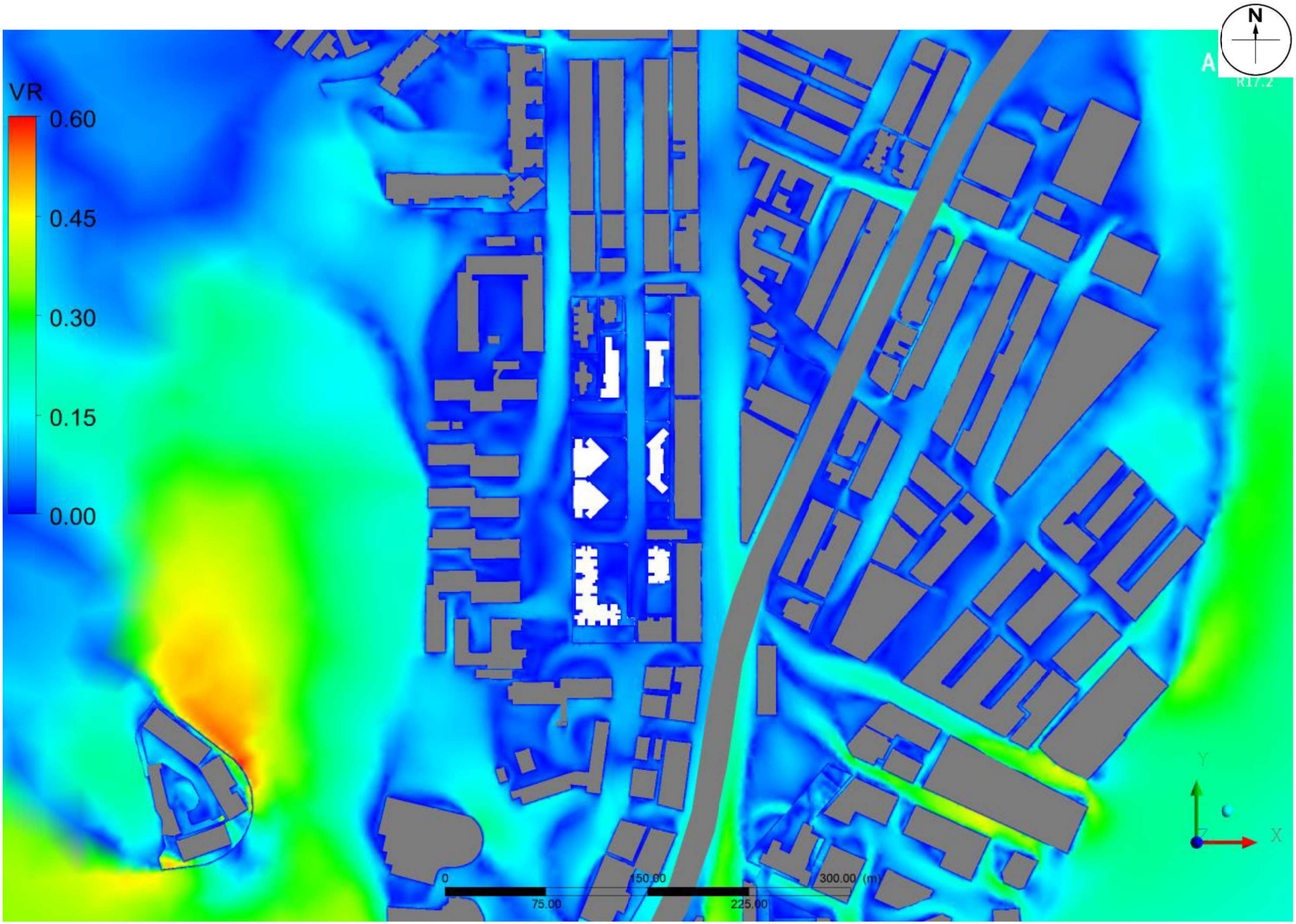
Baseline Scheme - Contour plot at pedestrian level under E Wind



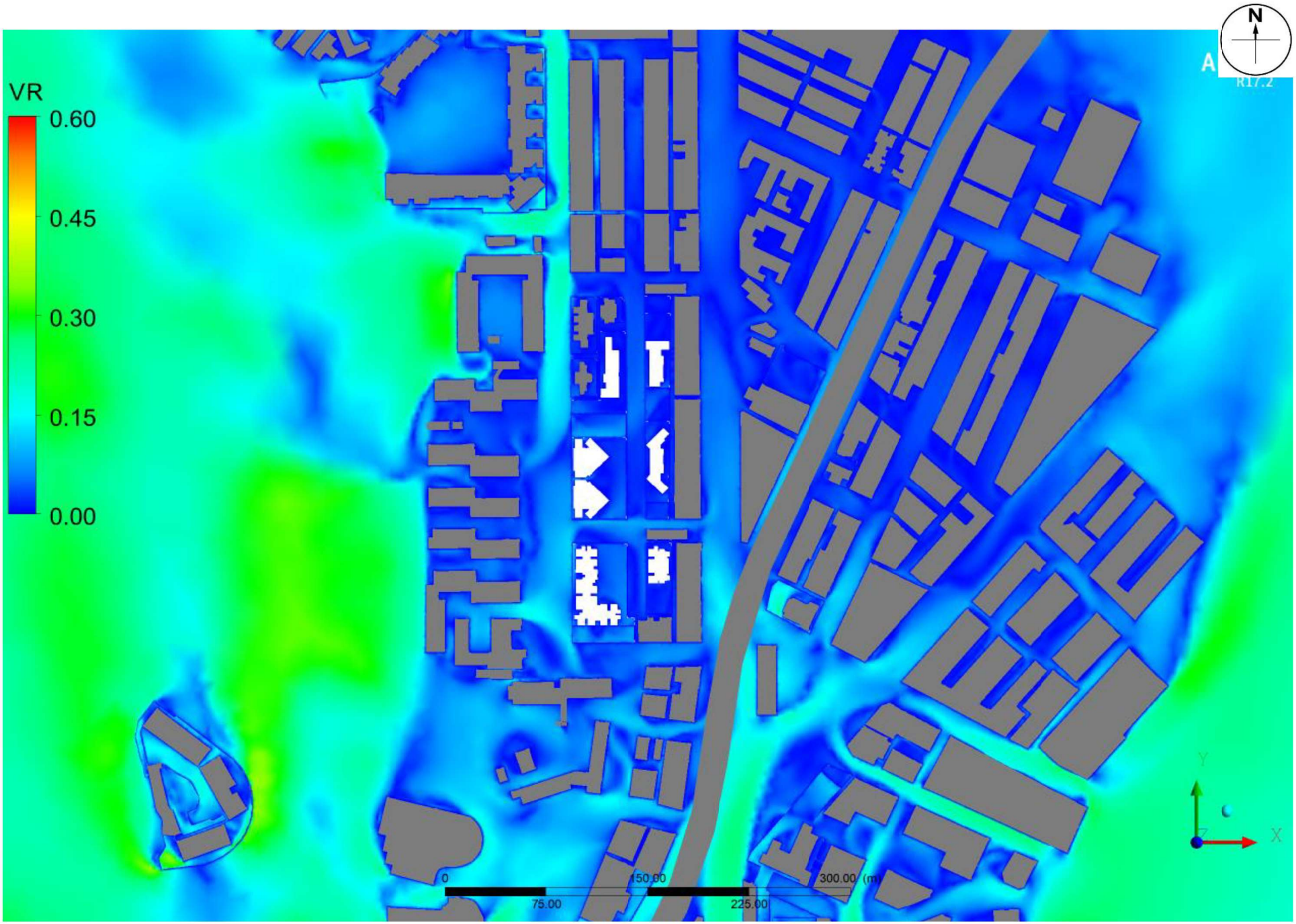
Baseline Scheme - Contour plot at pedestrian level under ESE Wind



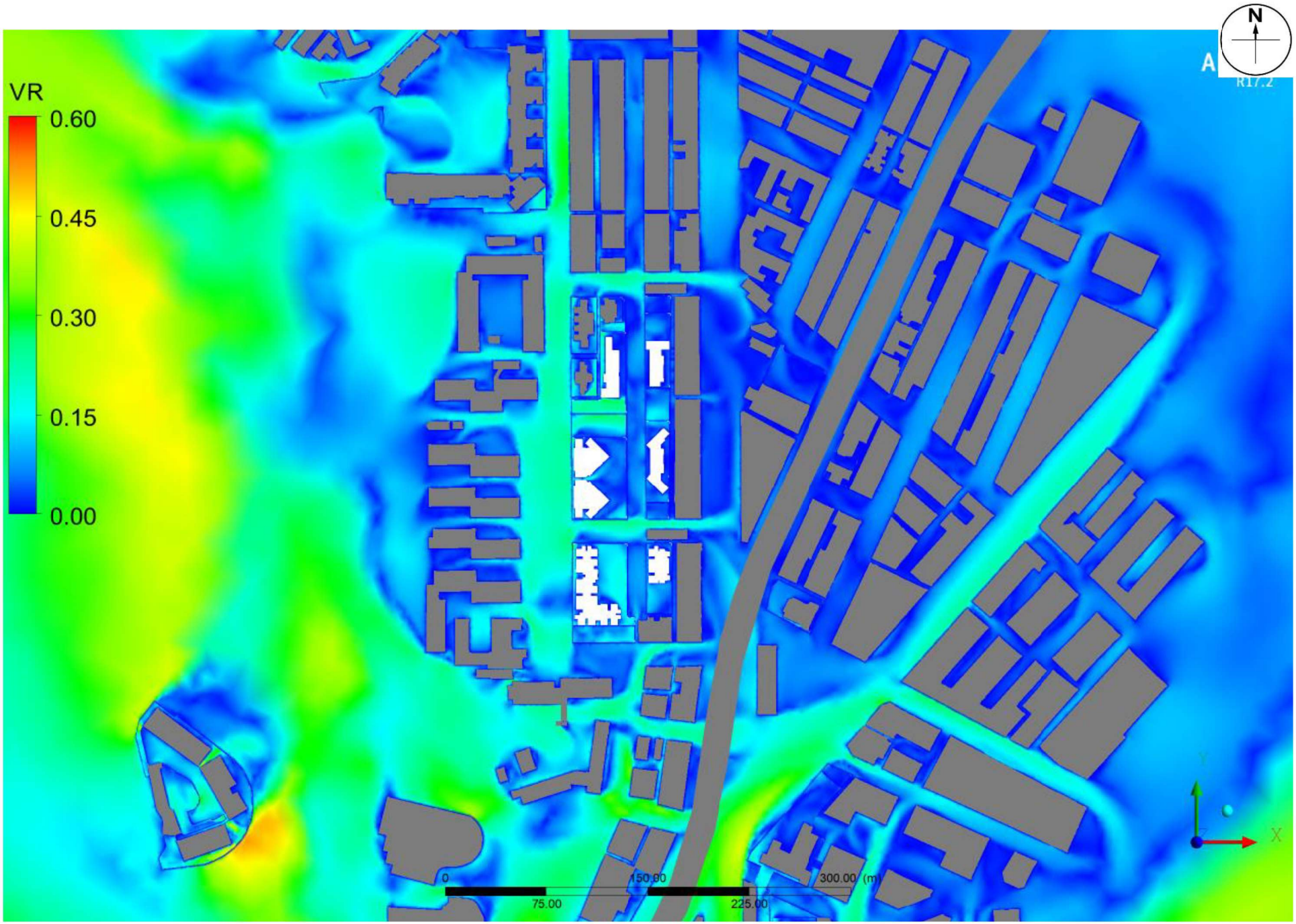
Baseline Scheme - Contour plot at pedestrian level under SE Wind



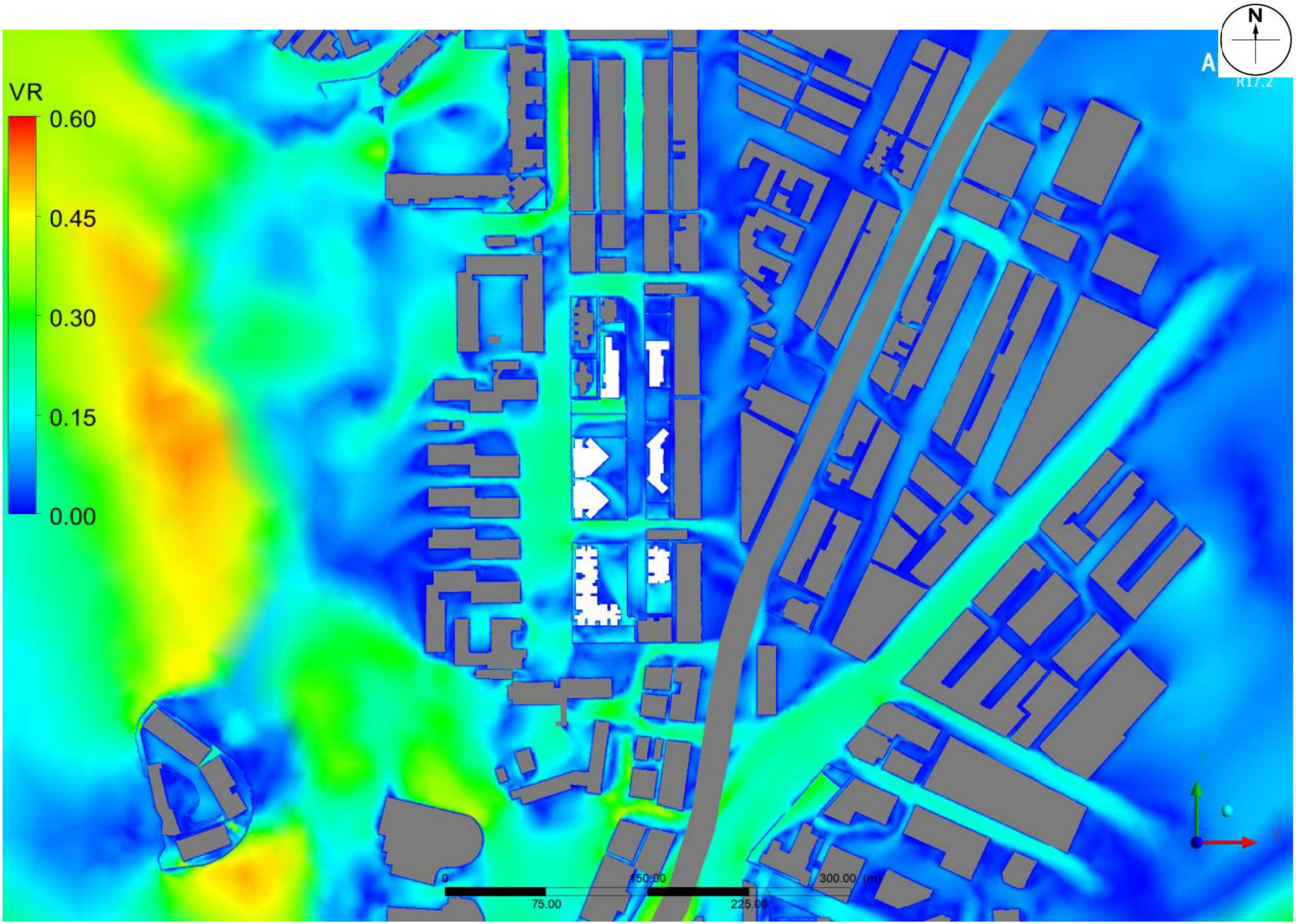
Baseline Scheme - Contour plot at pedestrian level under SSE Wind



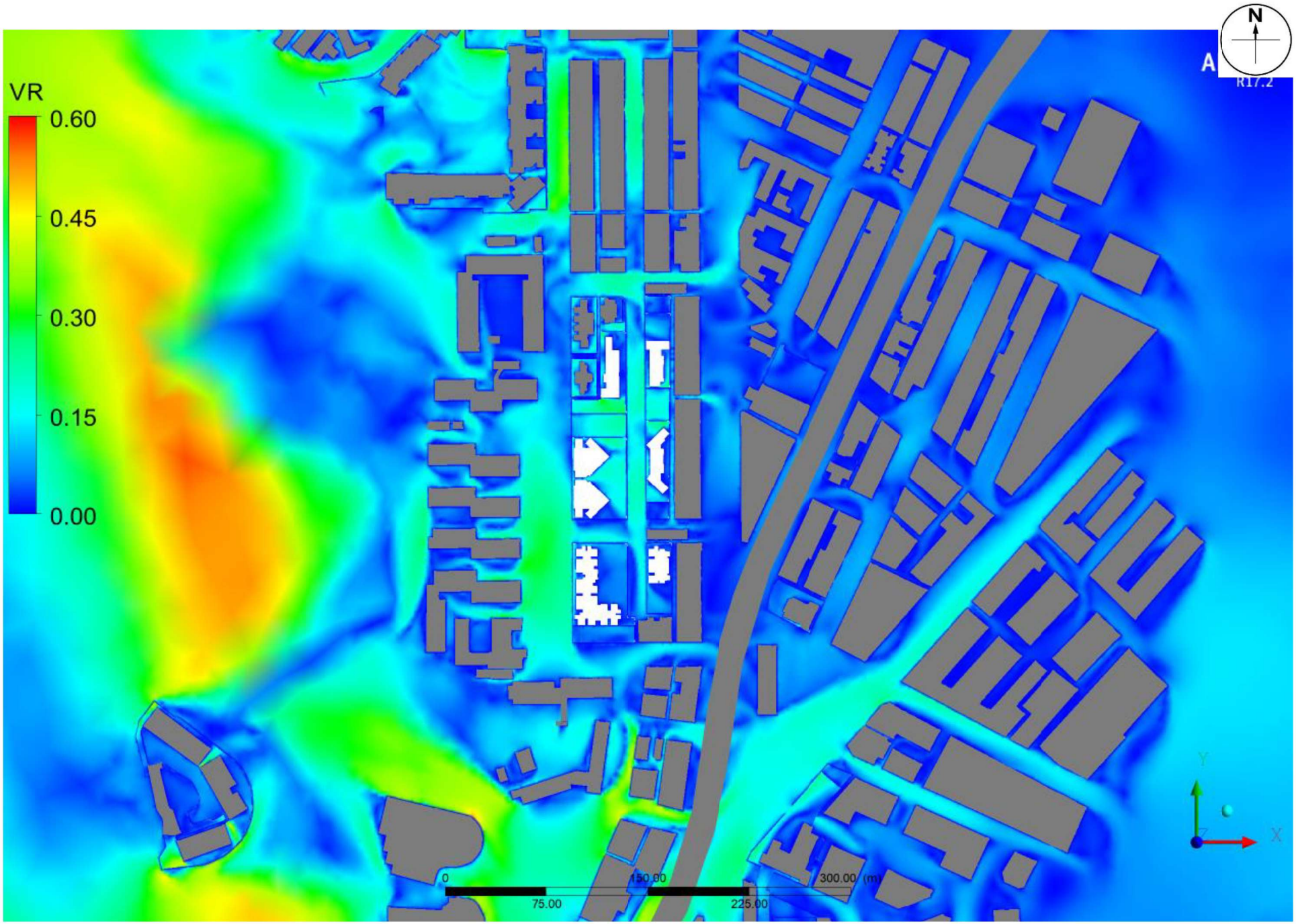
Baseline Scheme - Contour plot at pedestrian level under S Wind



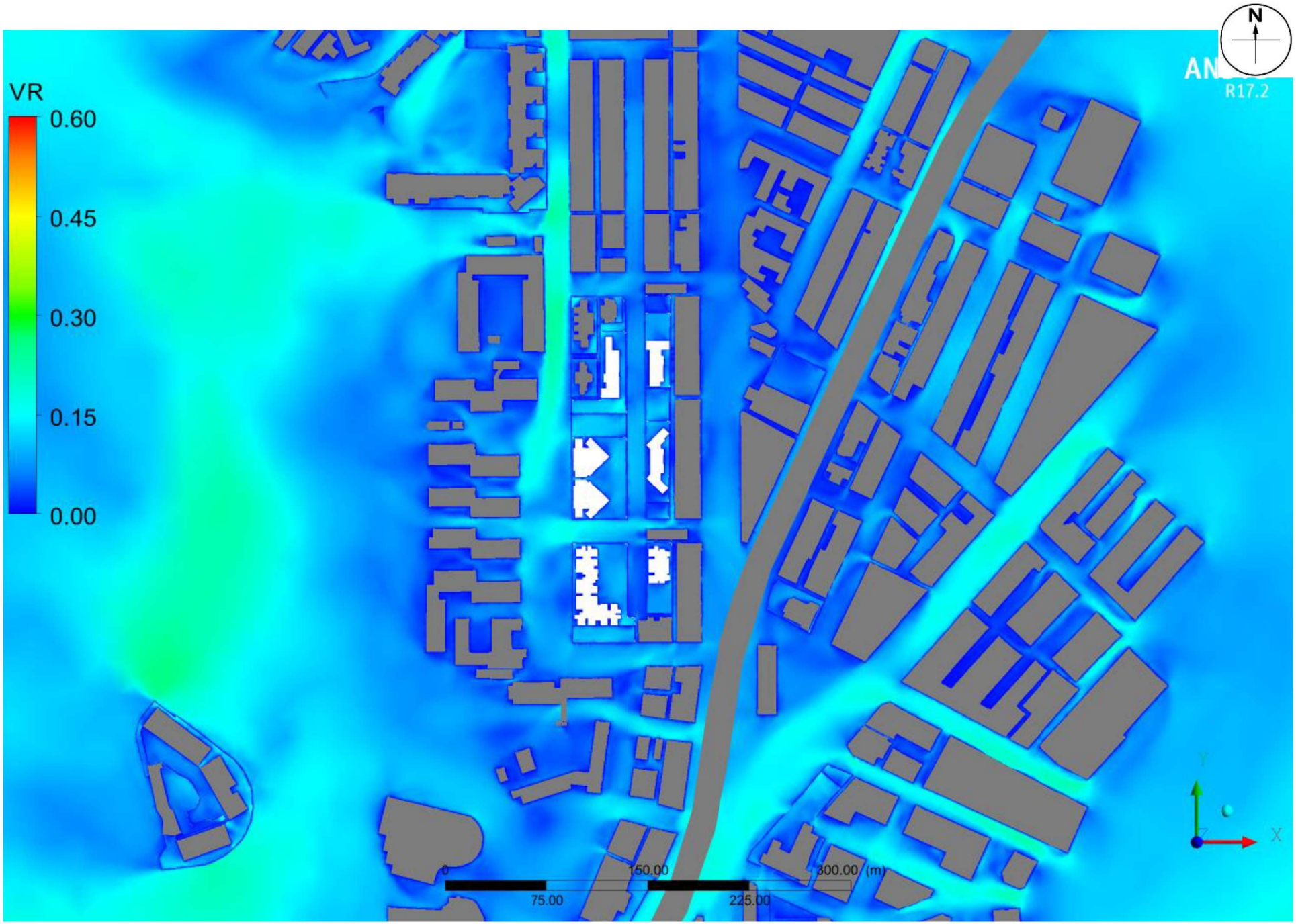
Baseline Scheme - Contour plot at pedestrian level under SSW Wind



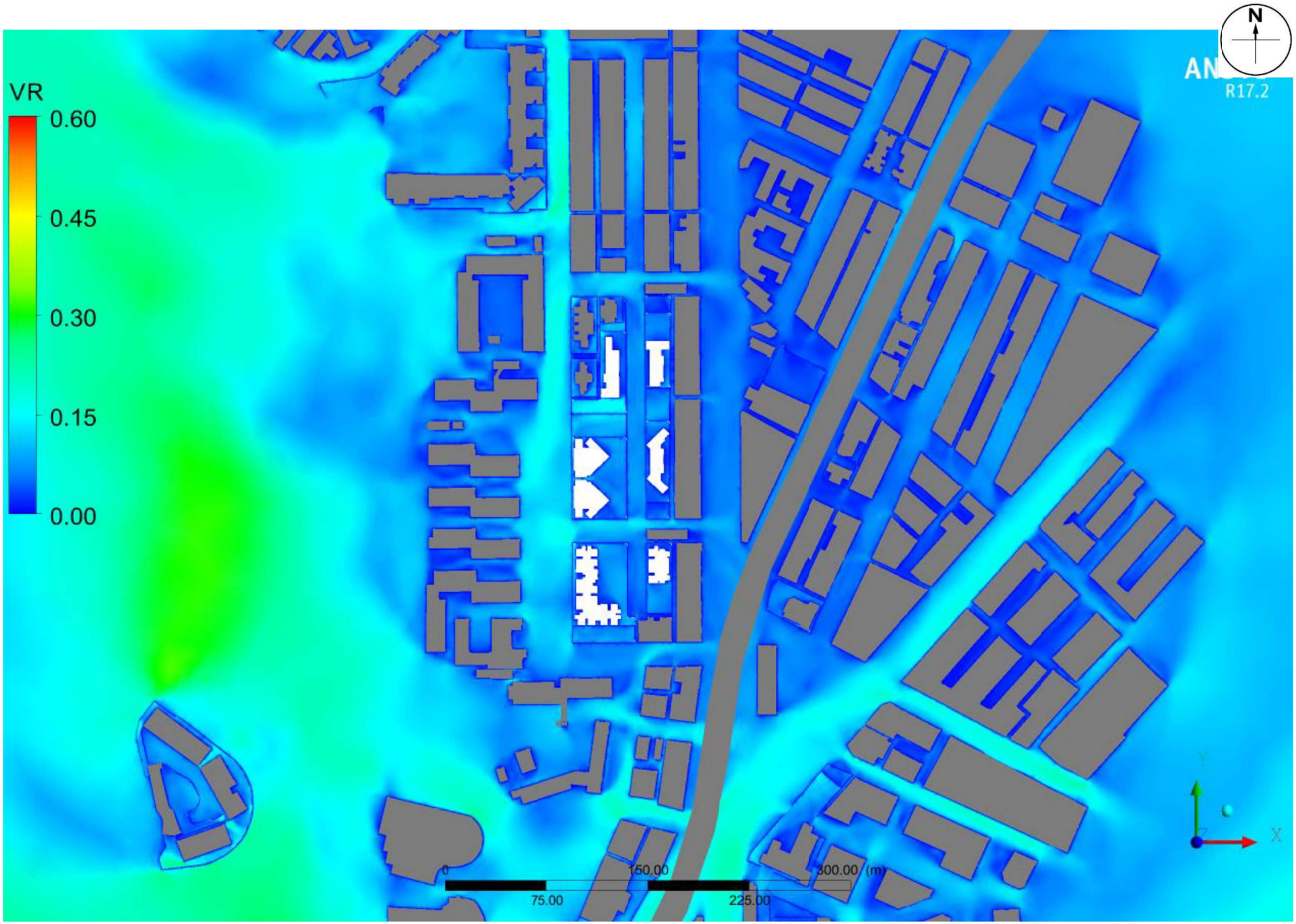
Baseline Scheme - Contour plot at pedestrian level under SW Wind



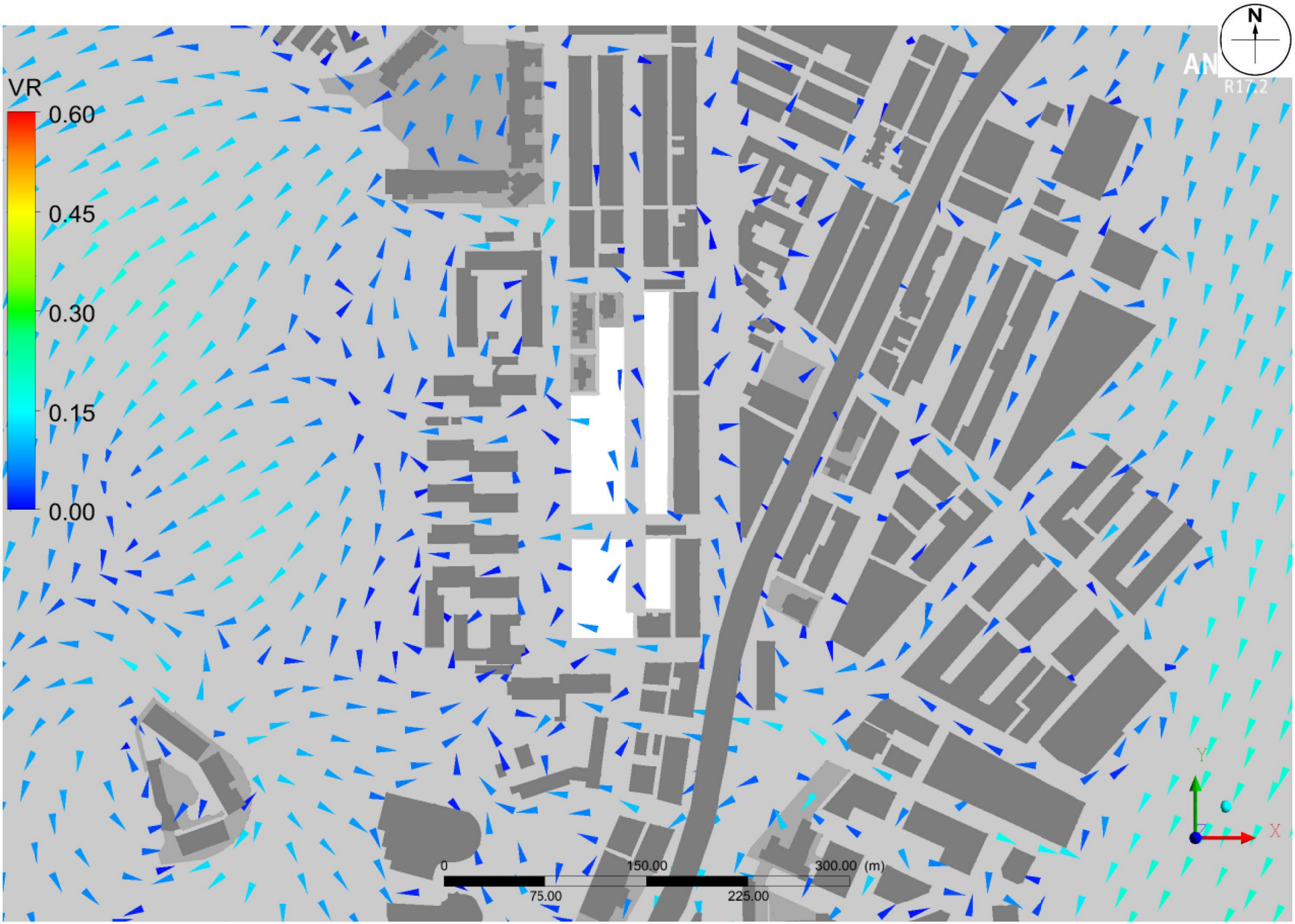
Baseline Scheme - Contour plot at pedestrian level under WSW Wind



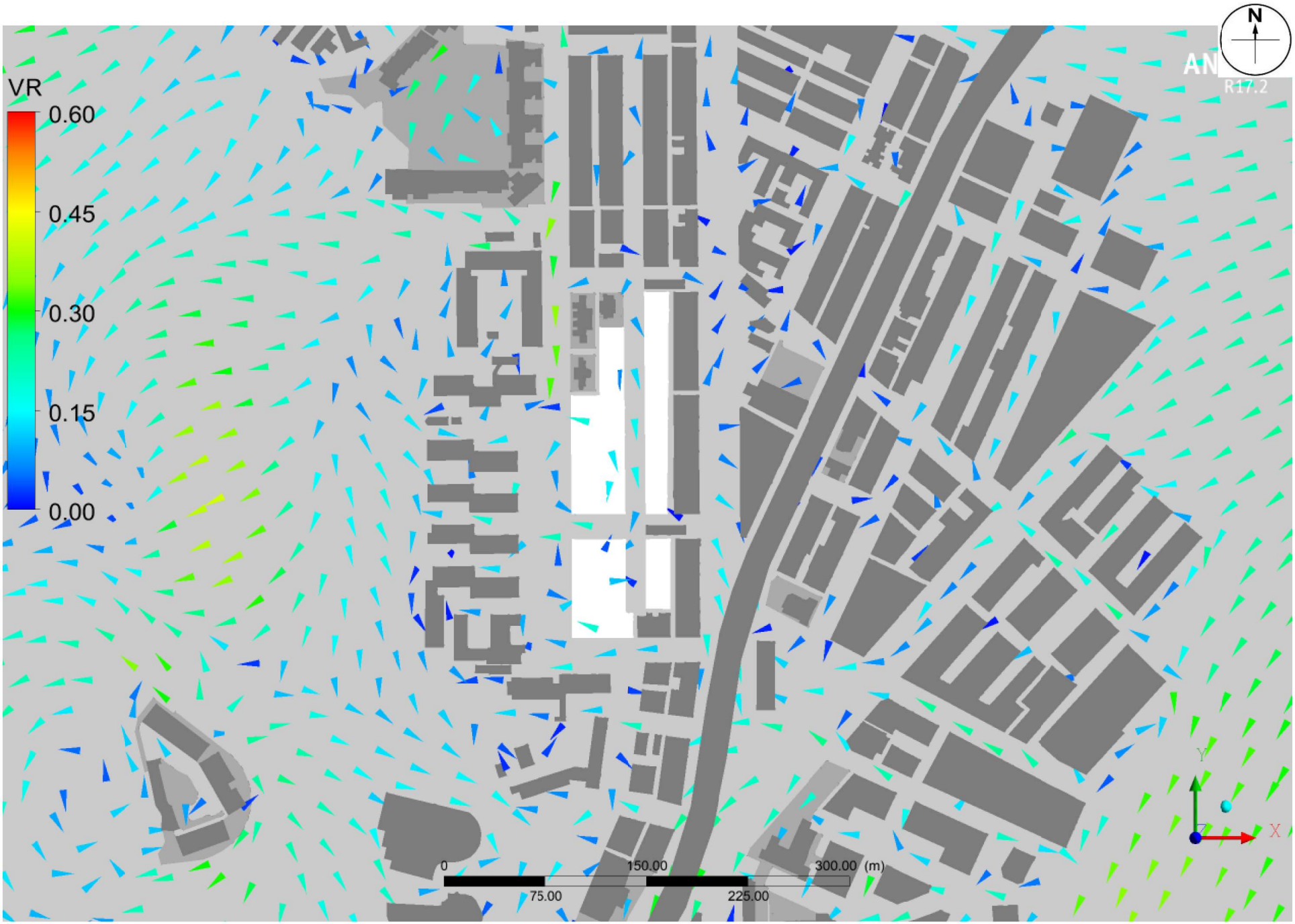
Baseline Scheme - Annual weighted wind speed colour at pedestrian level



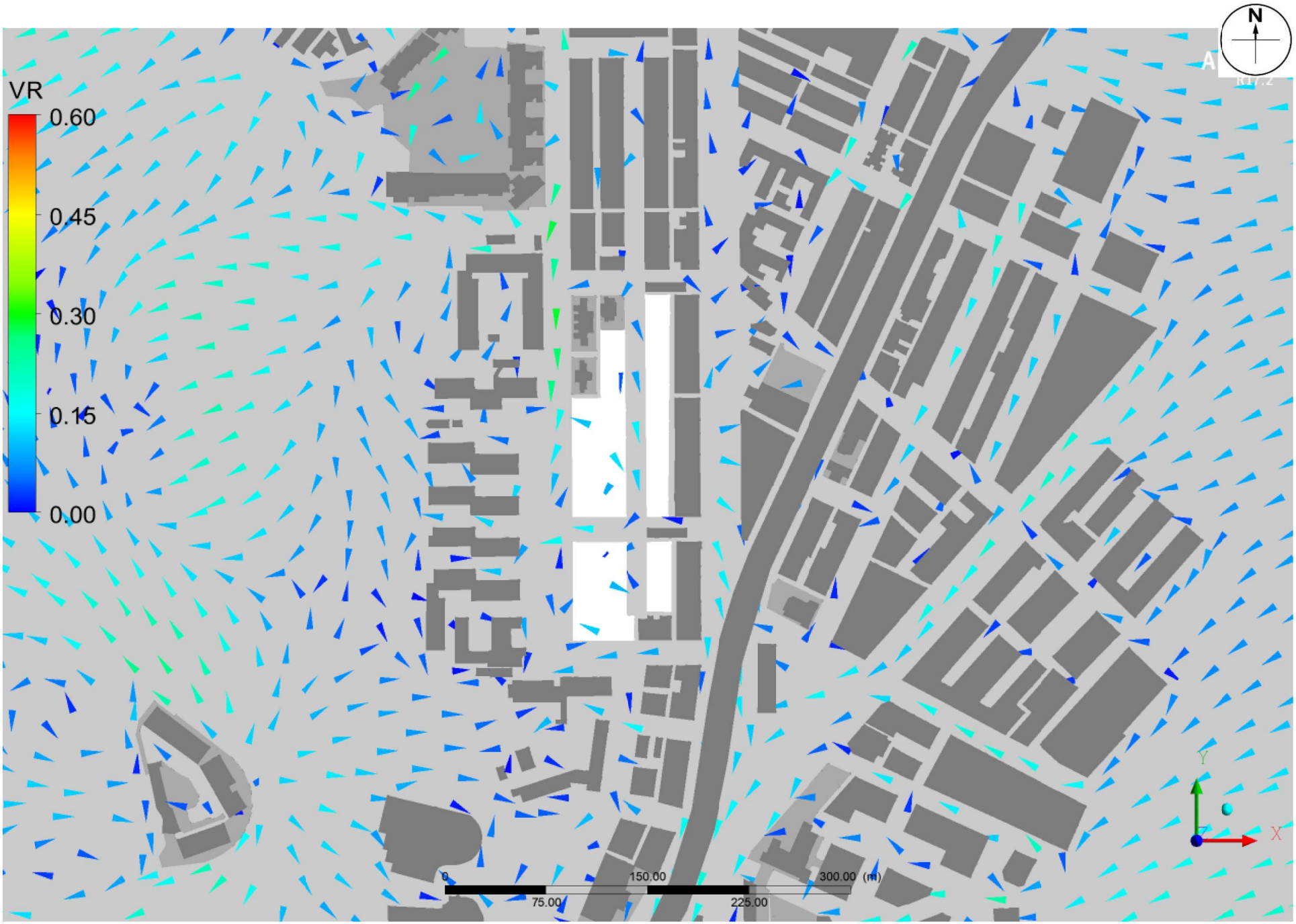
Baseline Scheme - Summer weighted wind speed colour at pedestrian level



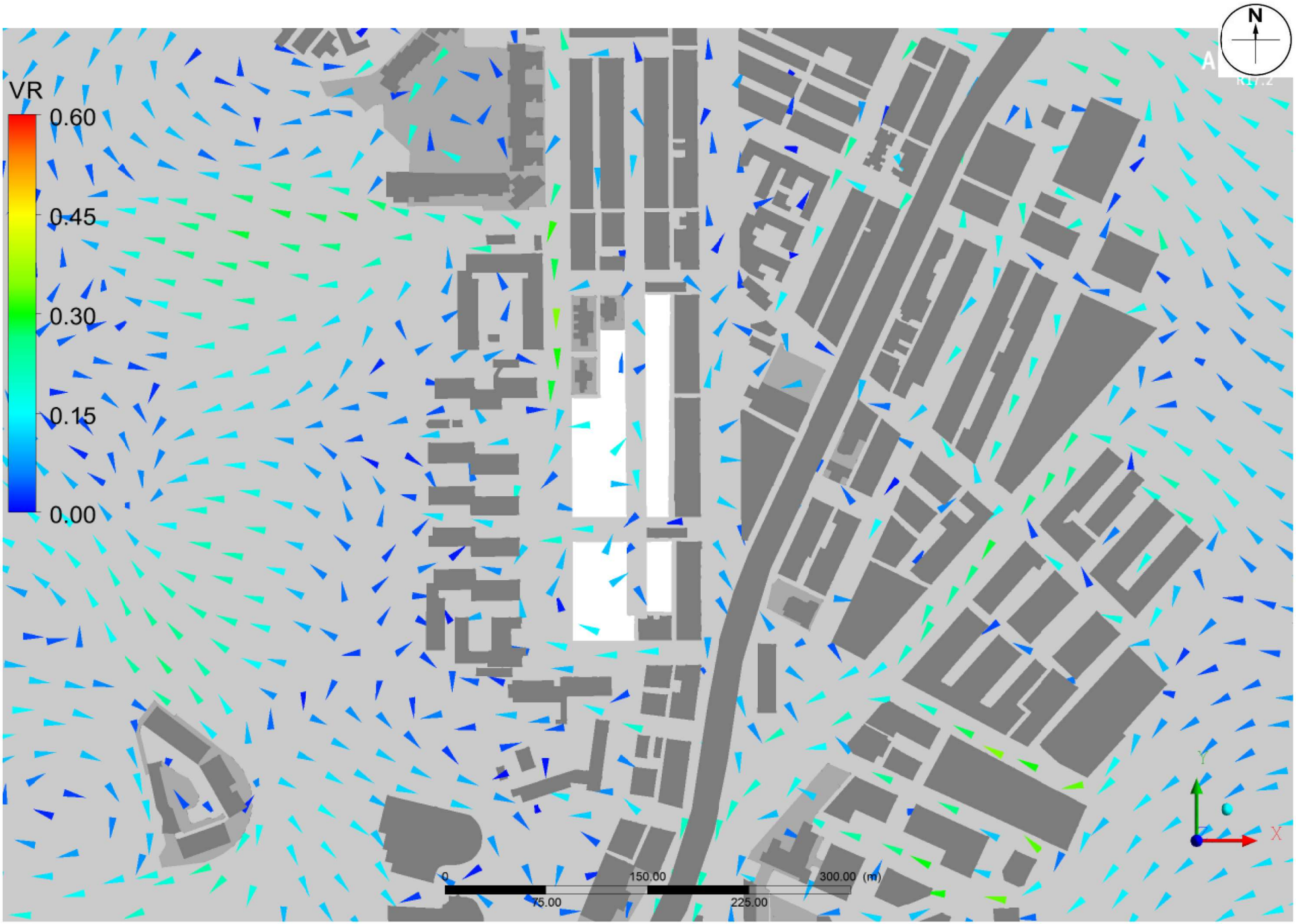
Baseline Scheme - Vector plot at pedestrian level under NNE Wind



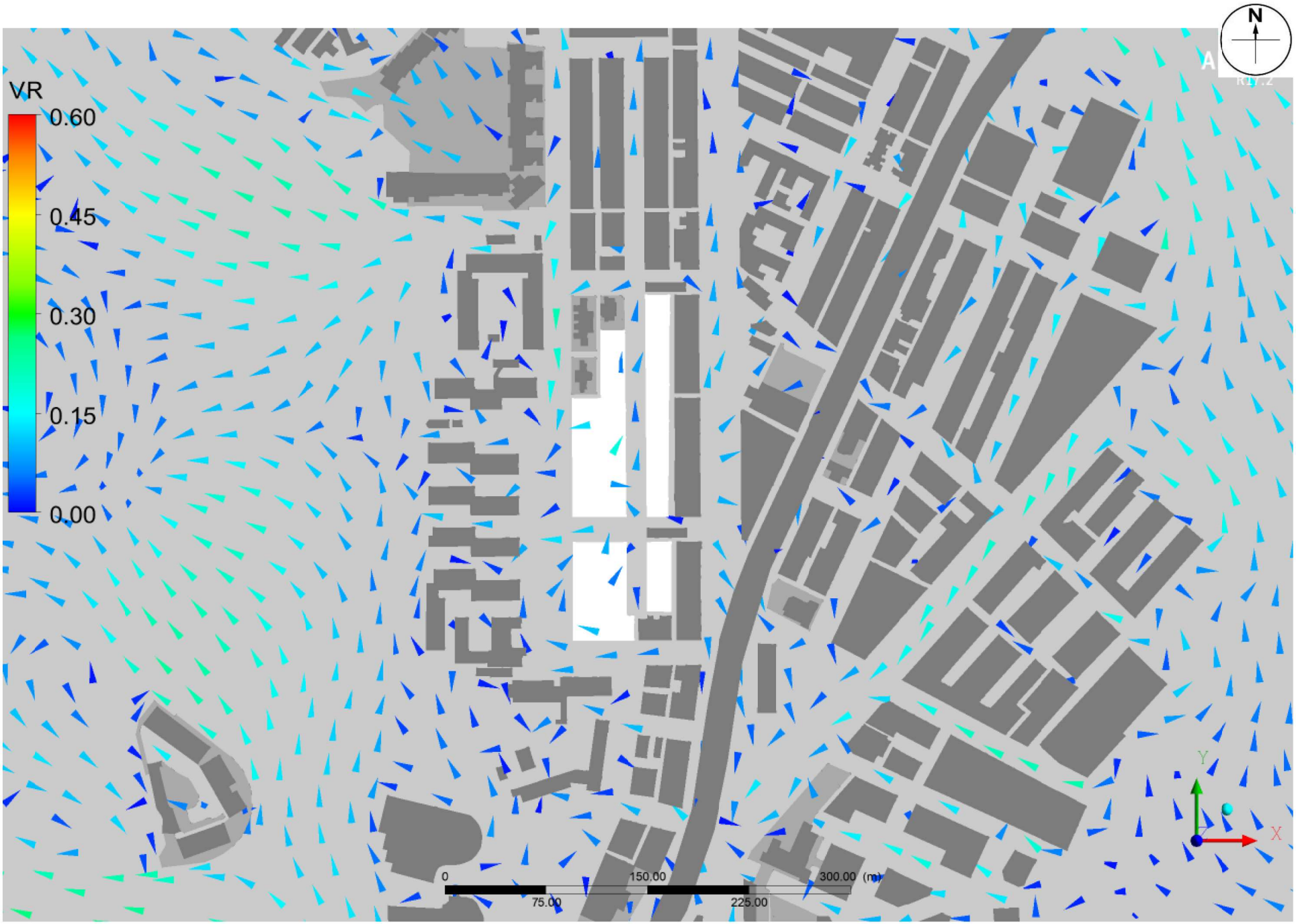
Baseline Scheme - Vector plot at pedestrian level under NE Wind



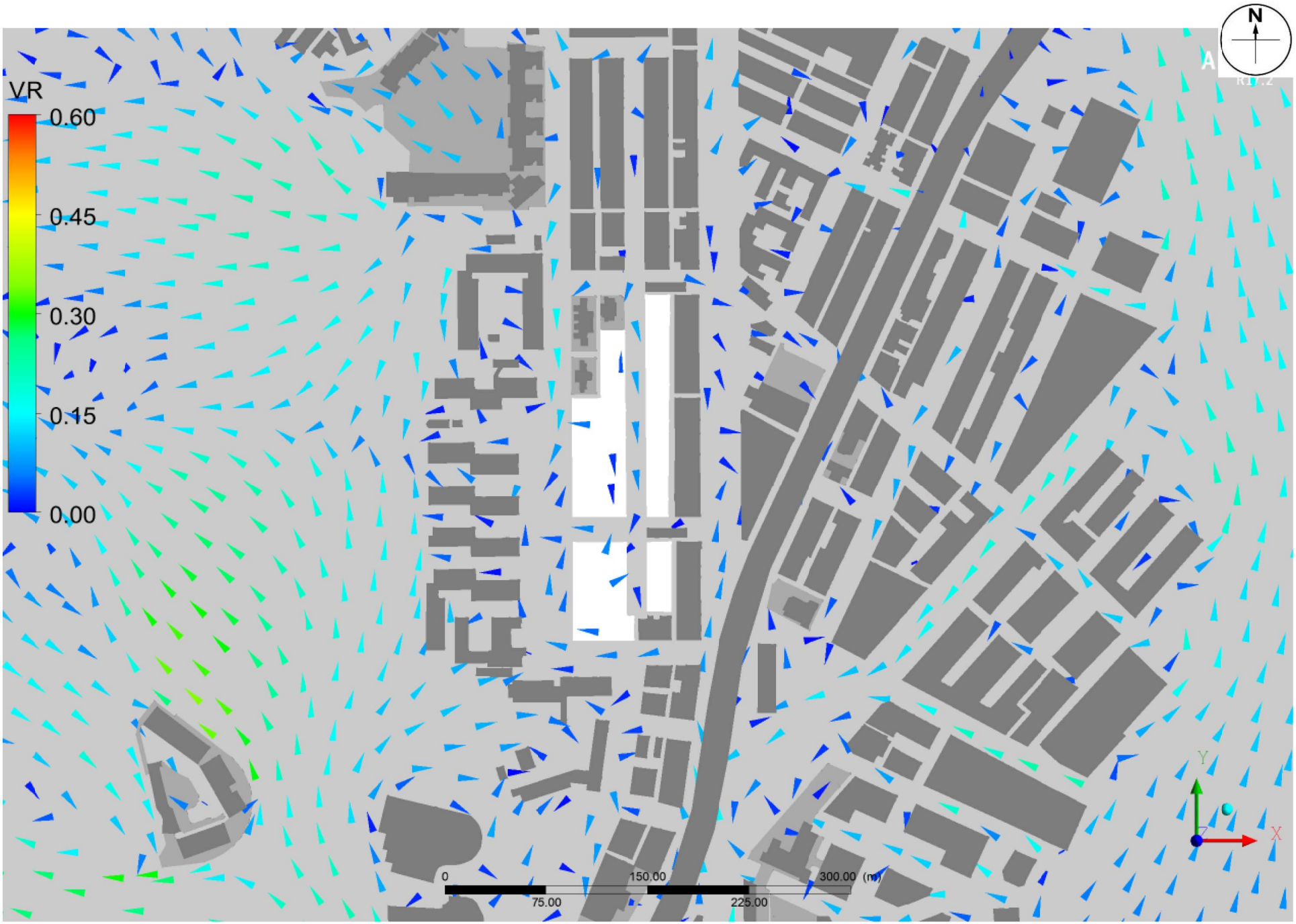
Baseline Scheme - Vector plot at pedestrian level under ENE Wind



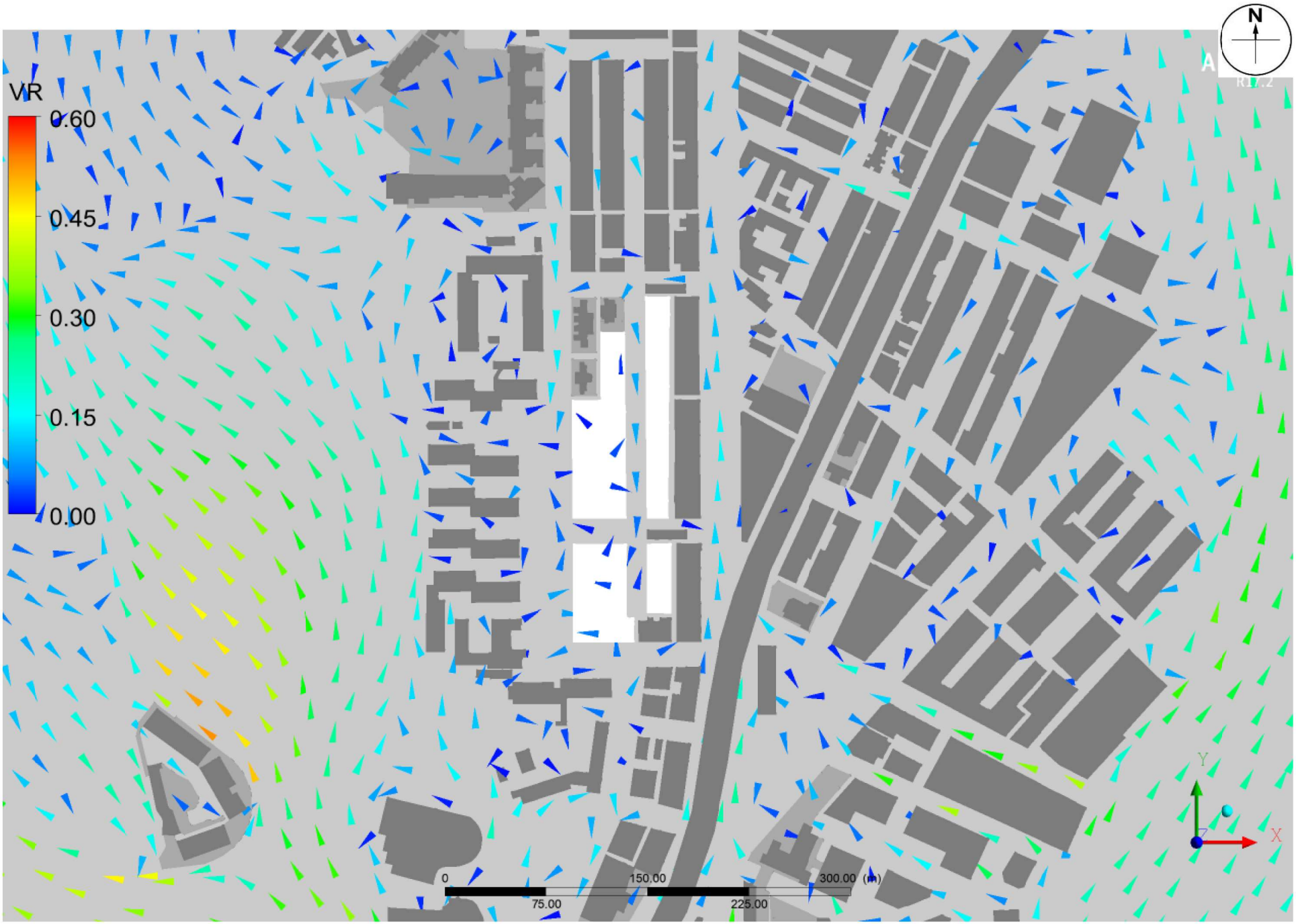
Baseline Scheme - Vector plot at pedestrian level under E Wind



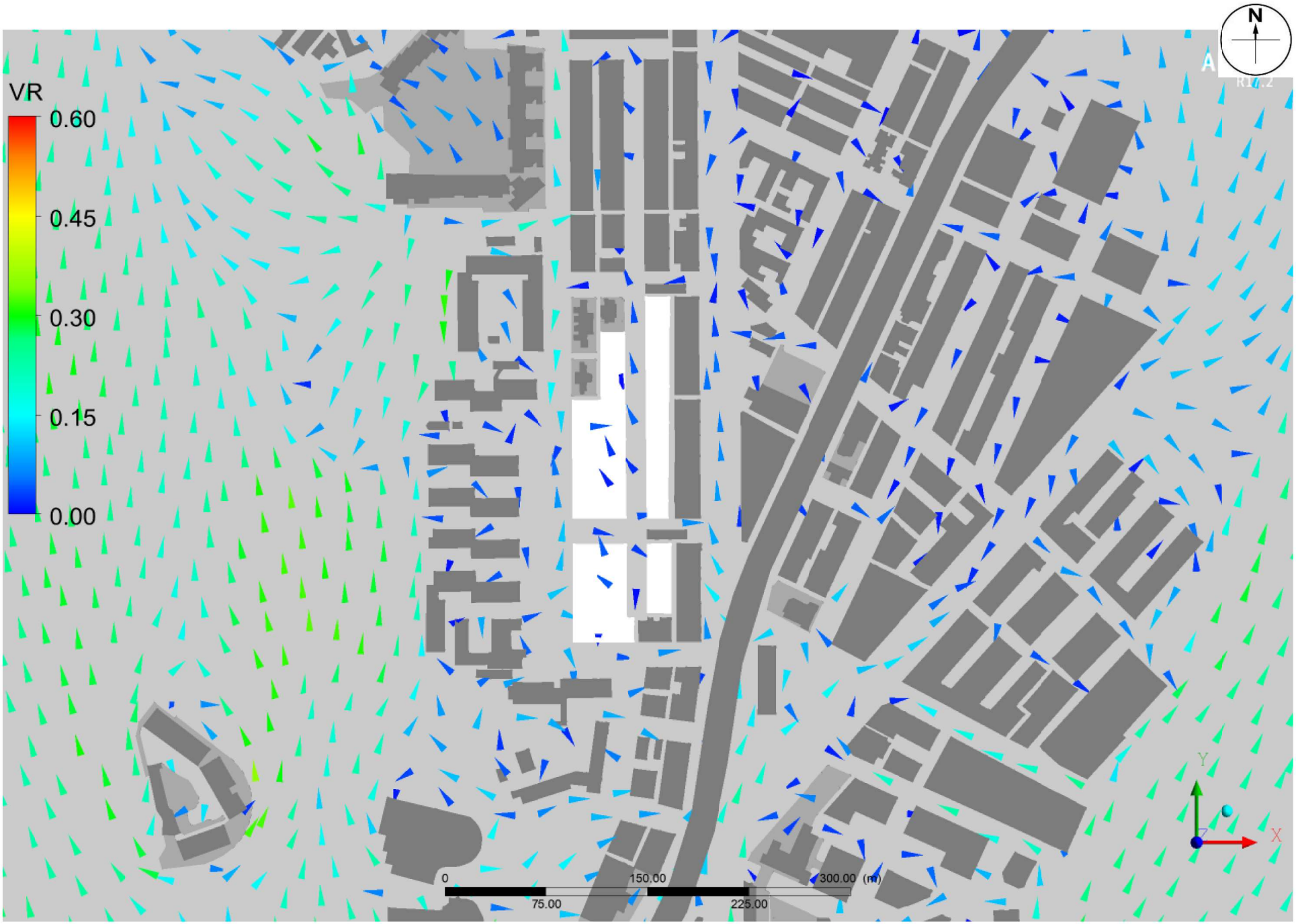
Baseline Scheme - Vector plot at pedestrian level under ESE Wind



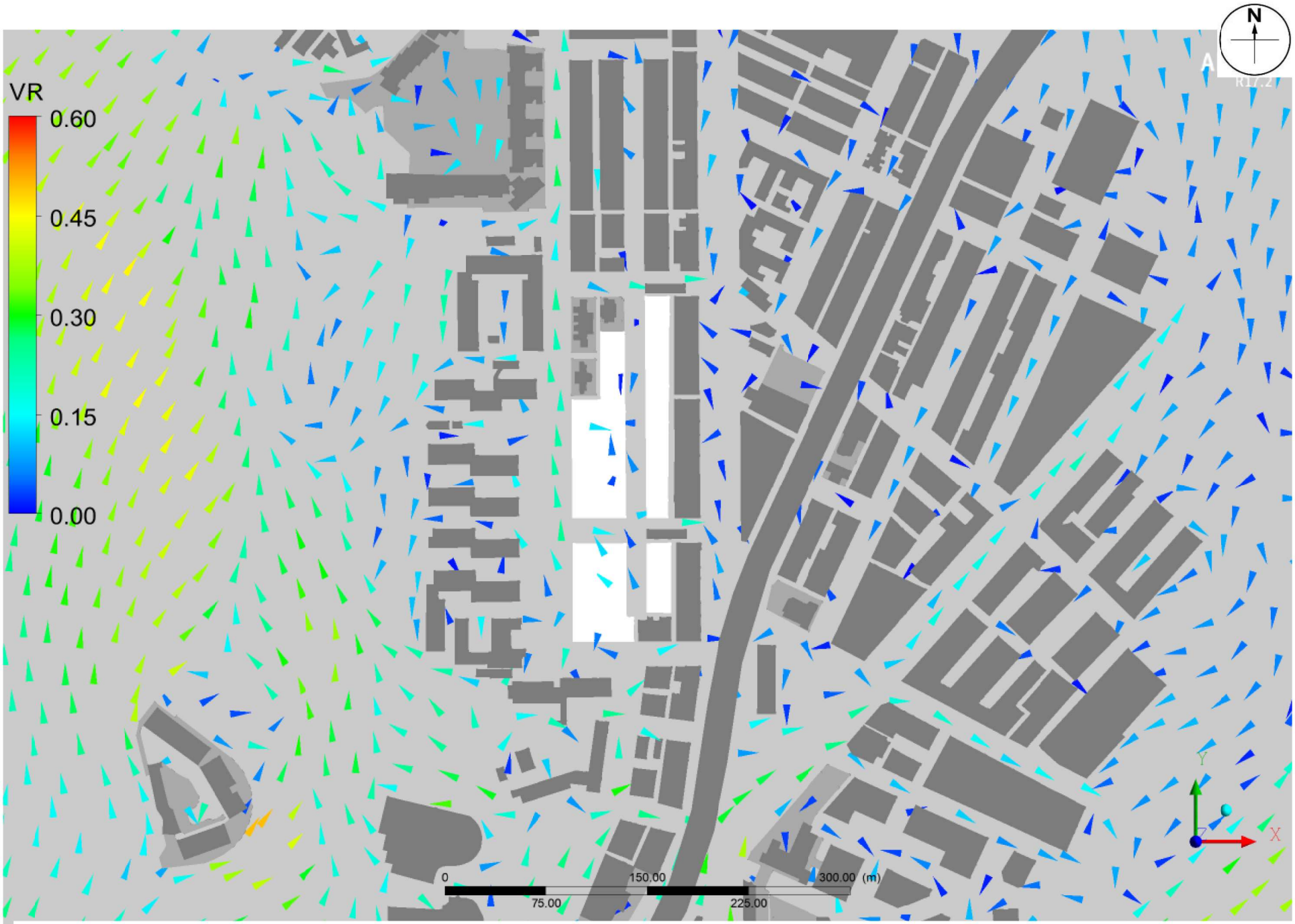
Baseline Scheme - Vector plot at pedestrian level under SE Wind



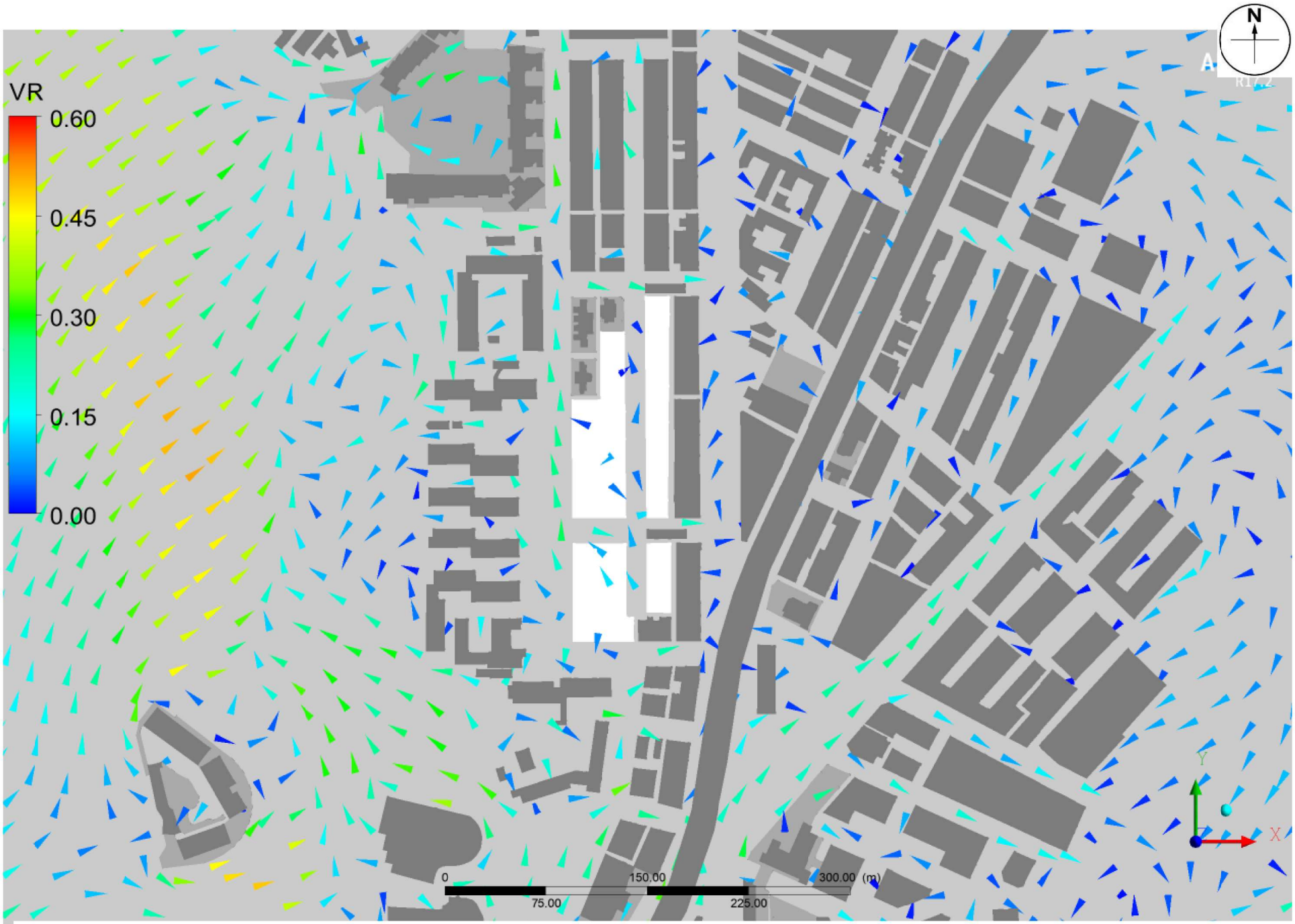
Baseline Scheme - Vector plot at pedestrian level under SSE Wind



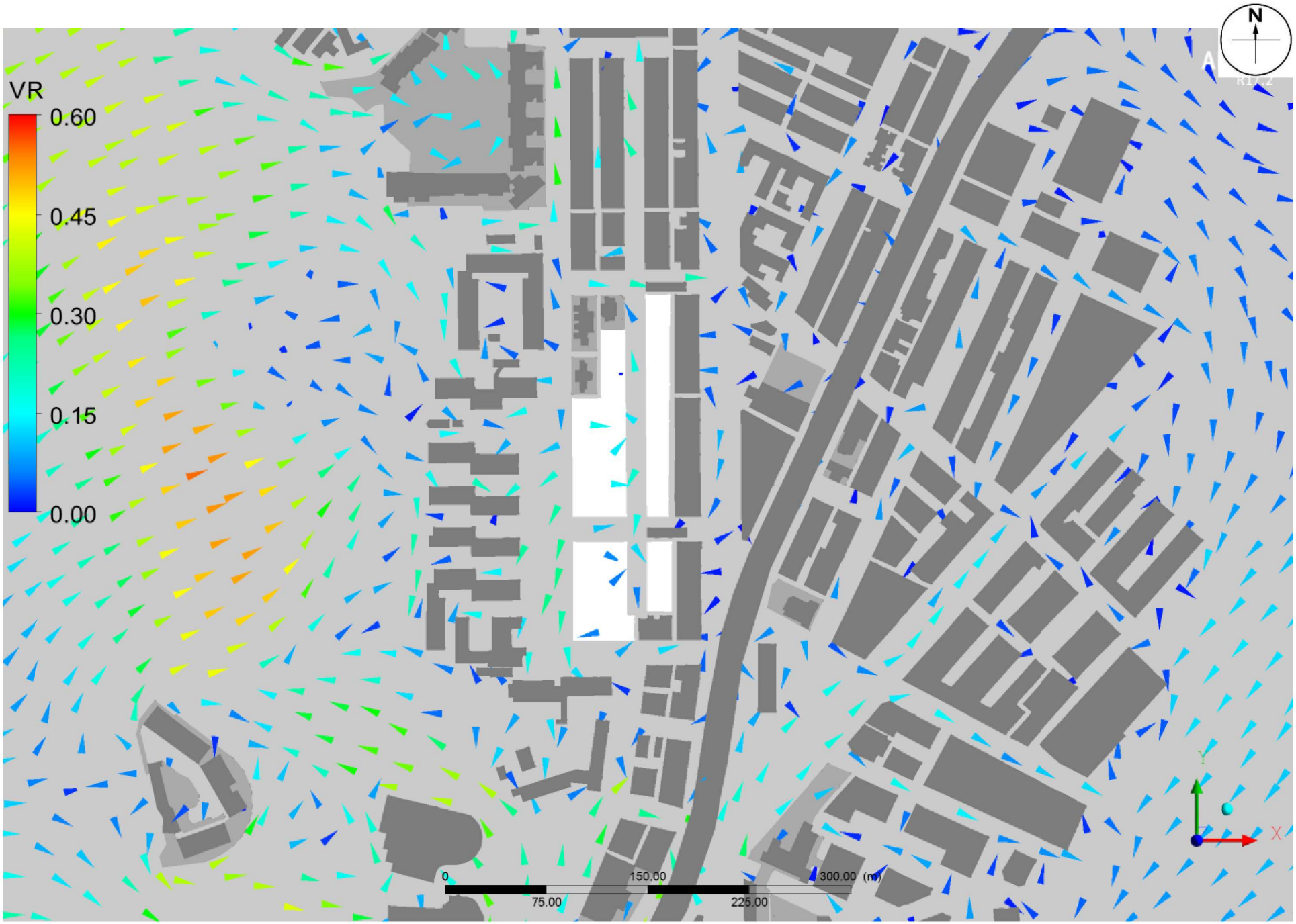
Baseline Scheme - Vector plot at pedestrian level under S Wind



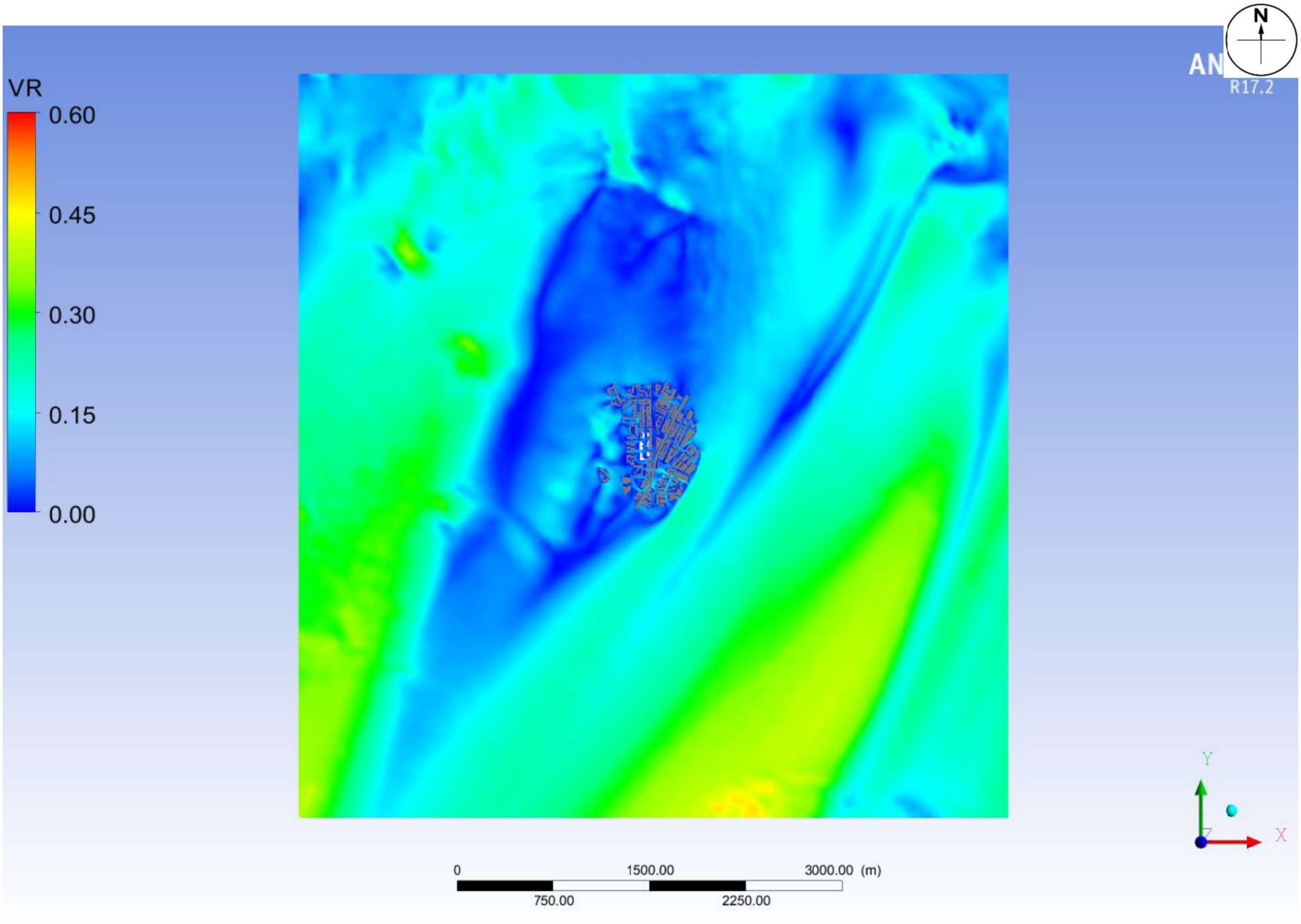
Baseline Scheme - Vector plot at pedestrian level under SSW Wind



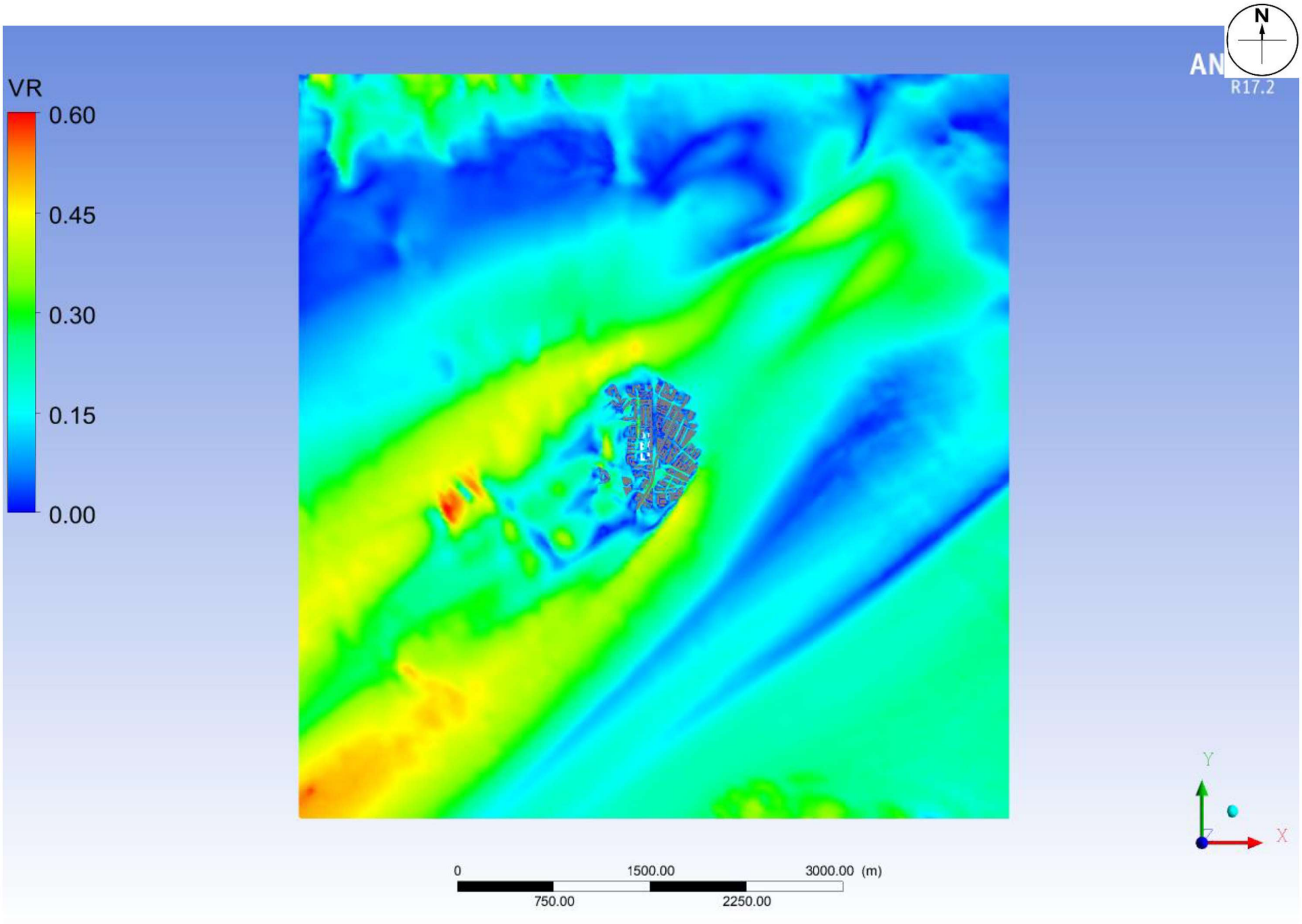
Baseline Scheme - Vector plot at pedestrian level under SW Wind



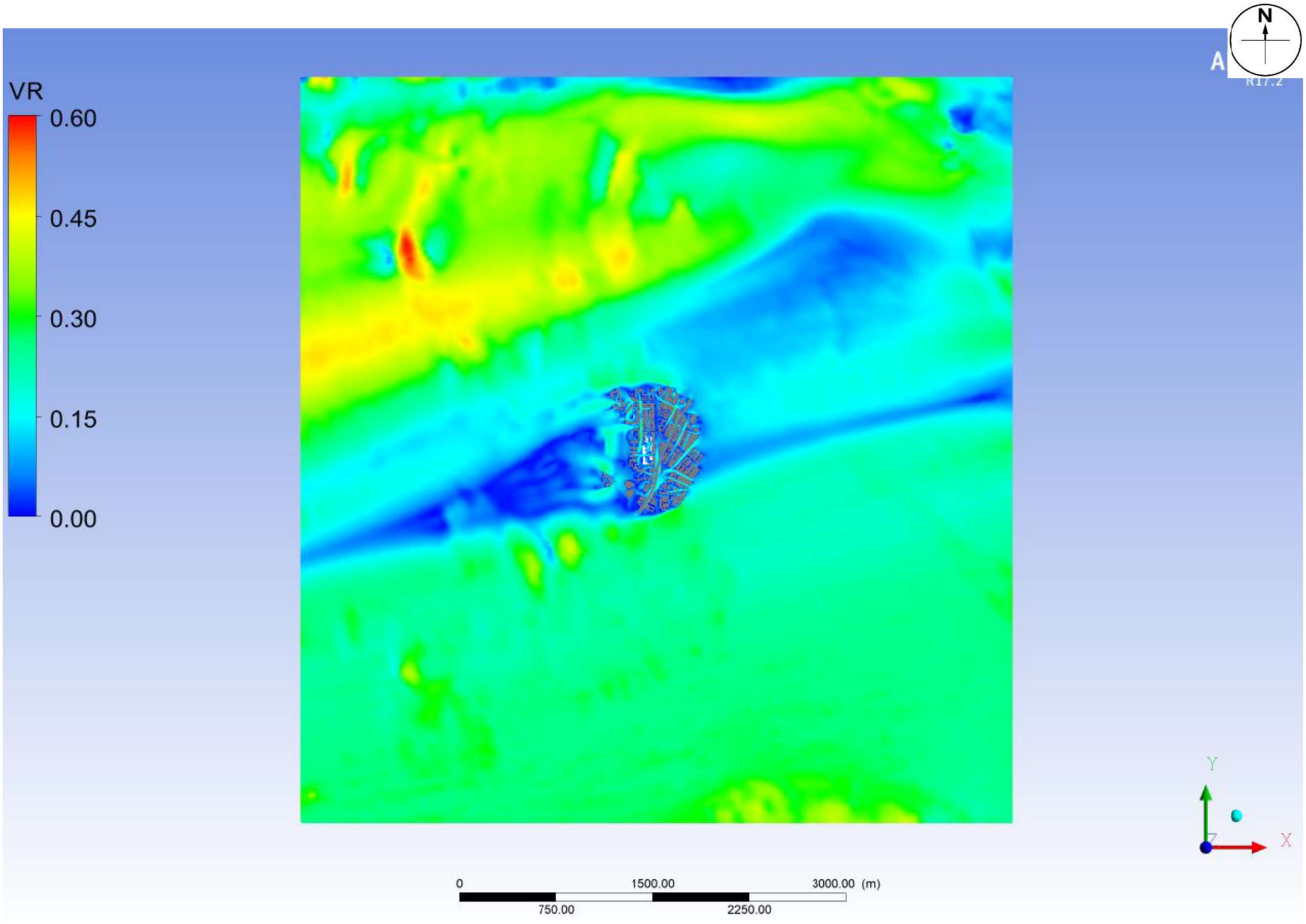
Baseline Scheme - Vector plot at pedestrian level under WSW Wind



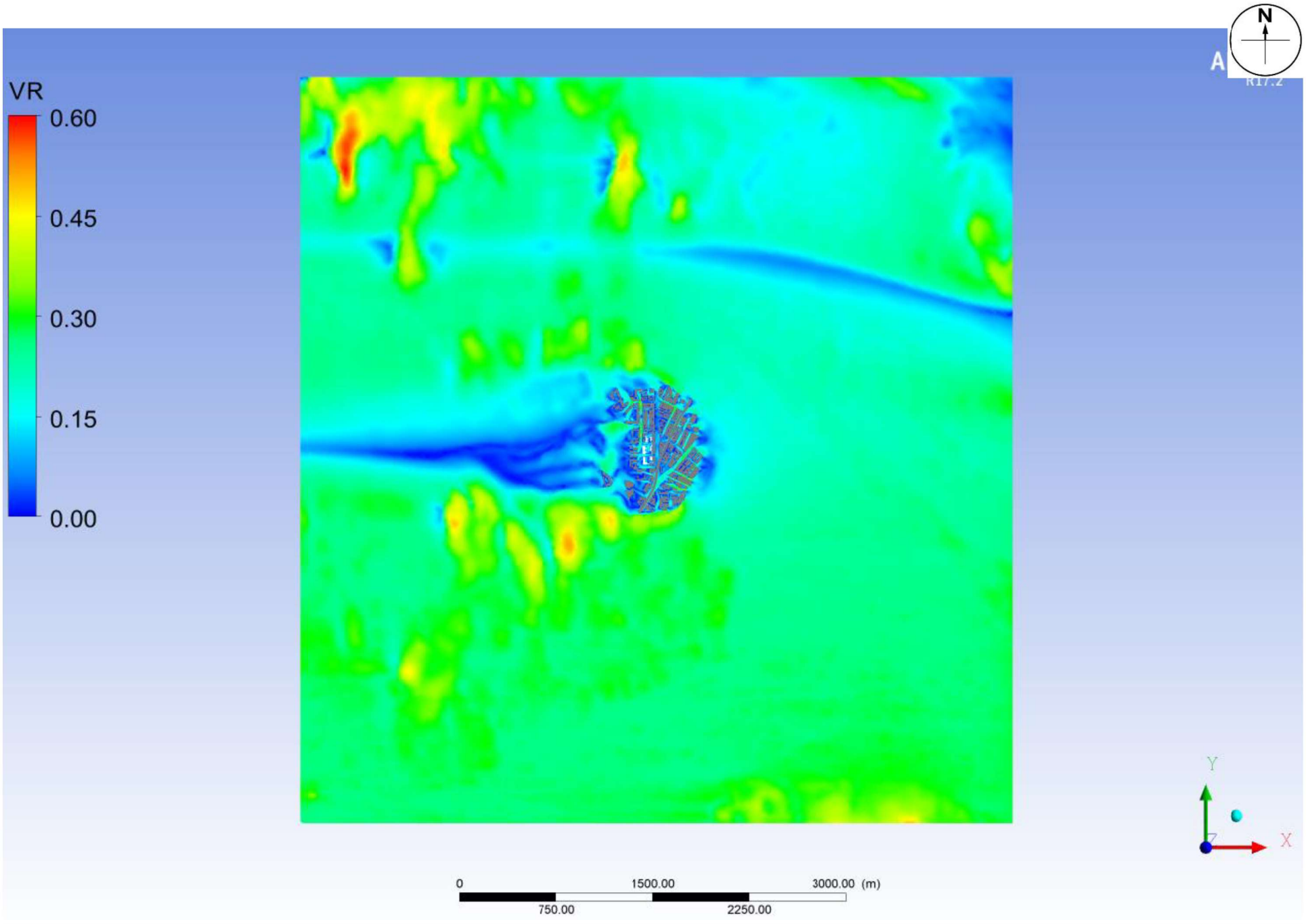
Baseline Scheme - Domain Contour plot at pedestrian level under NNE Wind



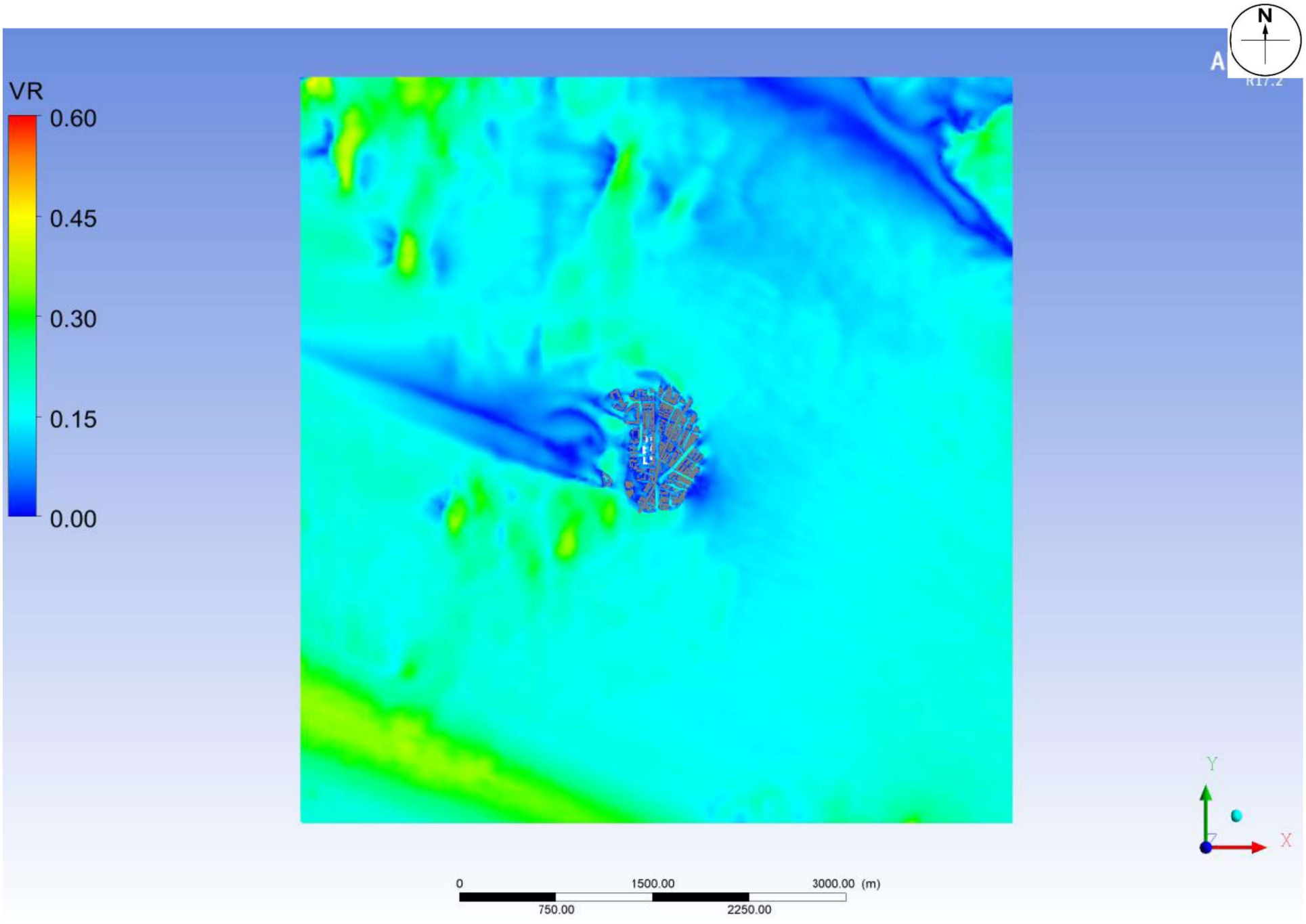
Baseline Scheme - Domain Contour plot at pedestrian level under NE Wind



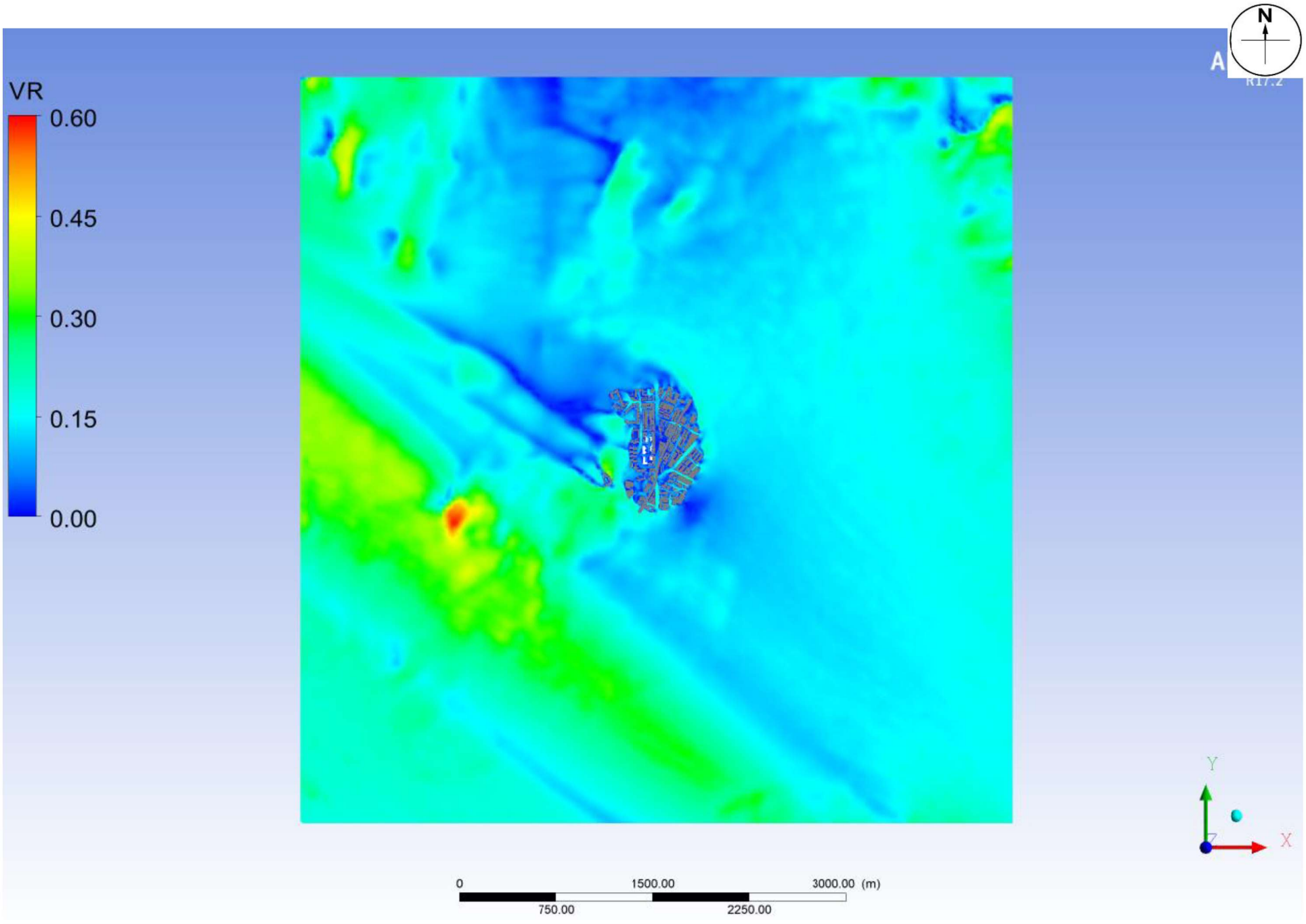
Baseline Scheme - Domain Contour plot at pedestrian level under ENE Wind



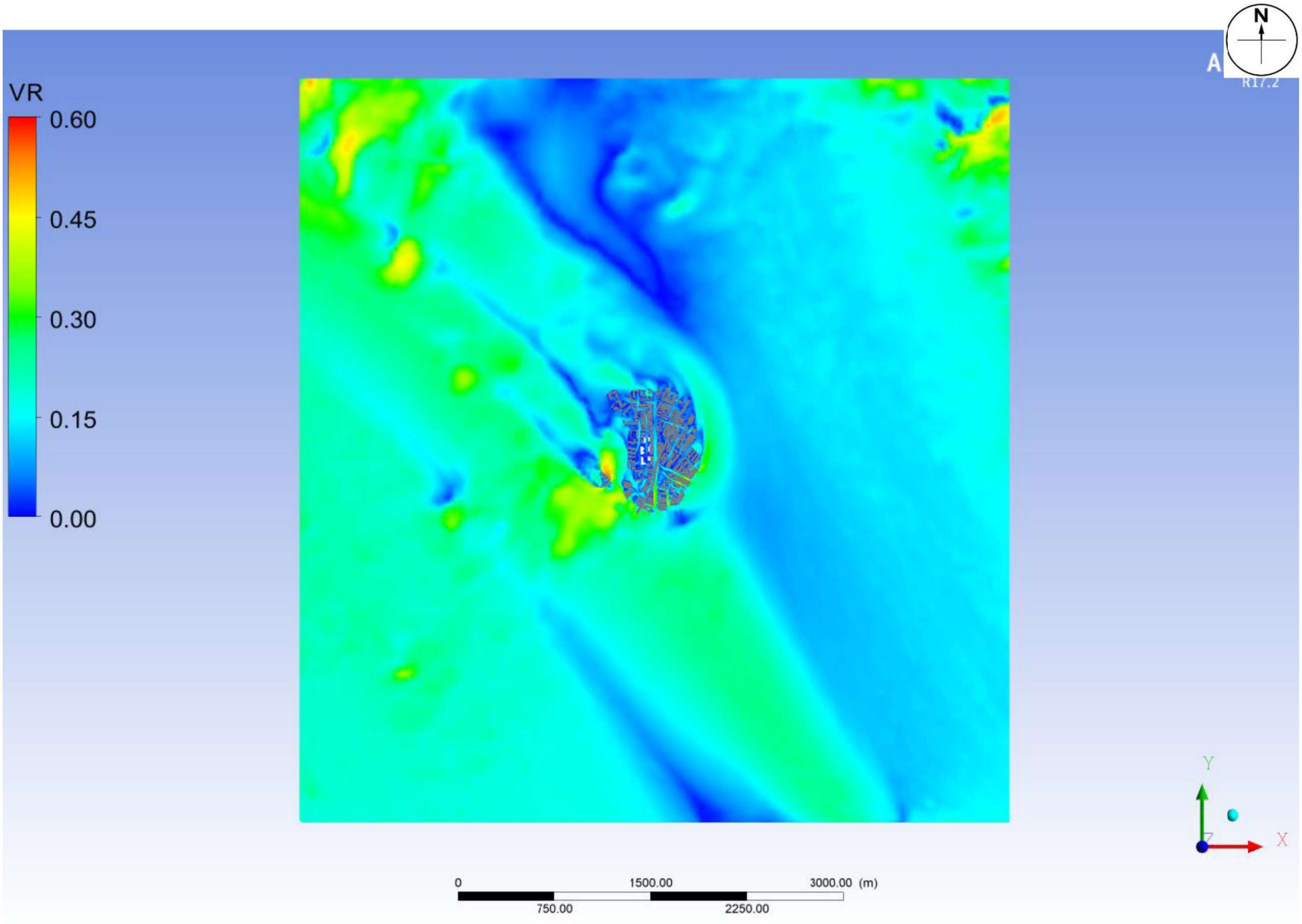
Baseline Scheme - Domain Contour plot at pedestrian level under E Wind



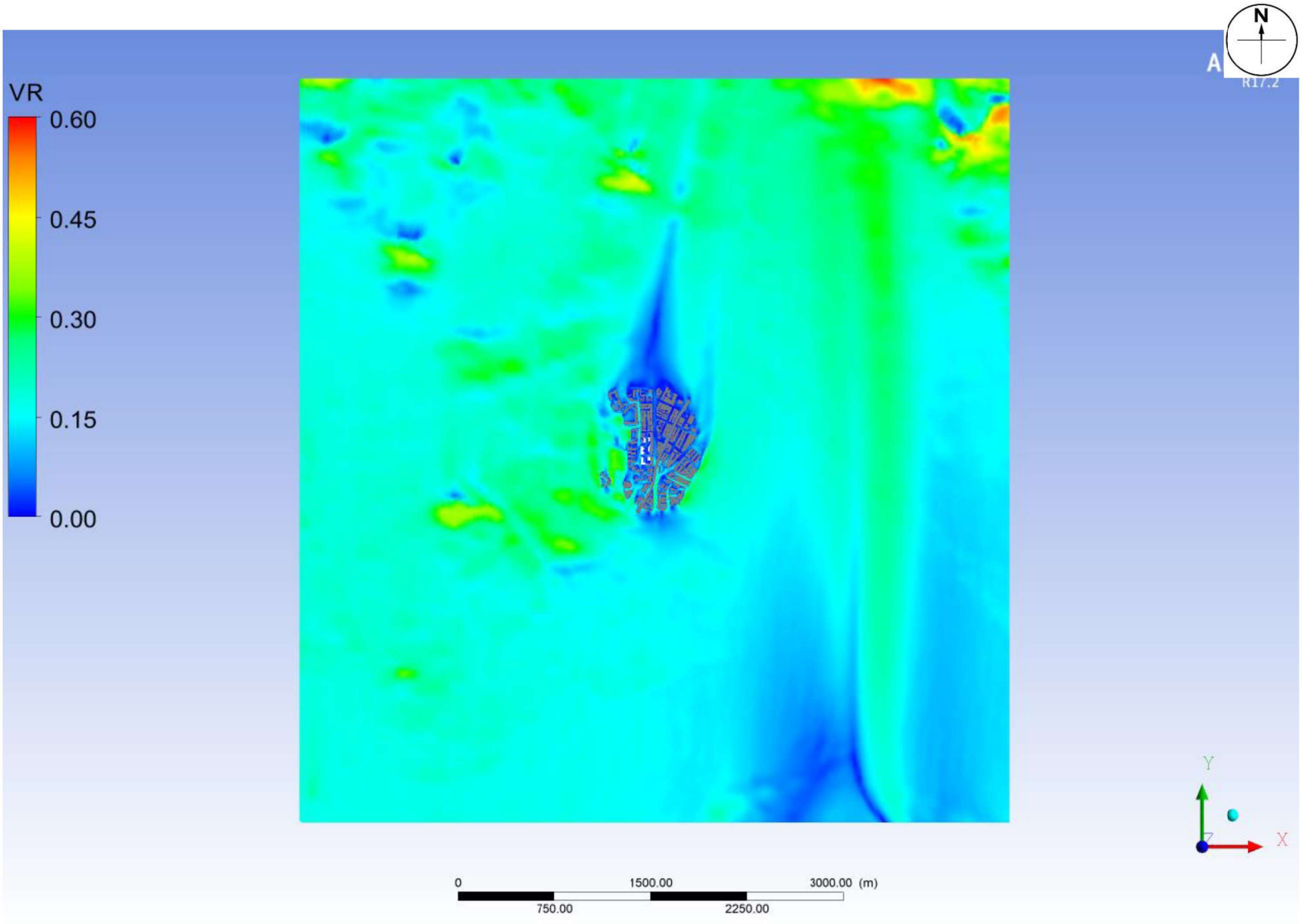
Baseline Scheme - Domain Contour plot at pedestrian level under ESE Wind



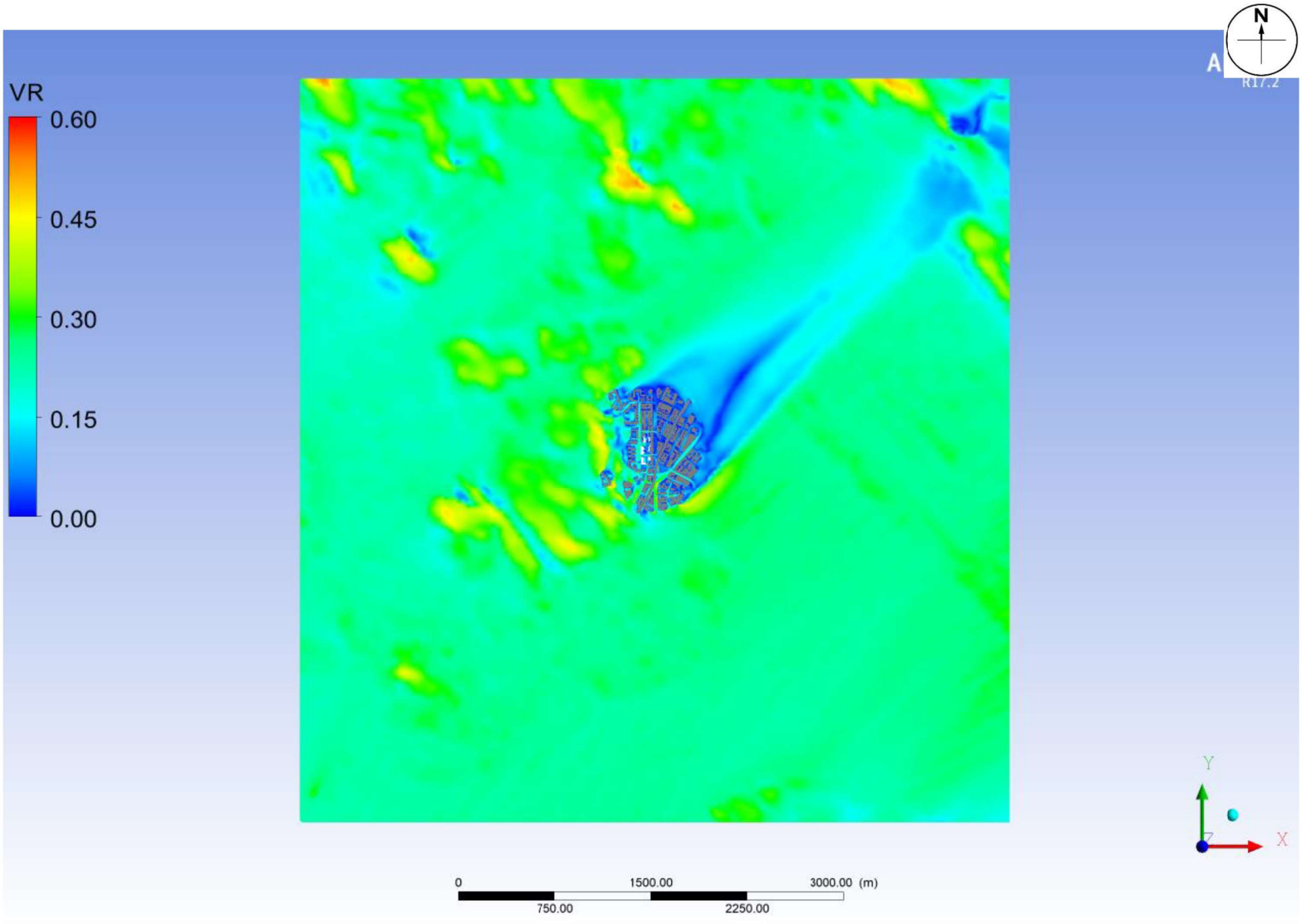
Baseline Scheme - Domain Contour plot at pedestrian level under SE Wind



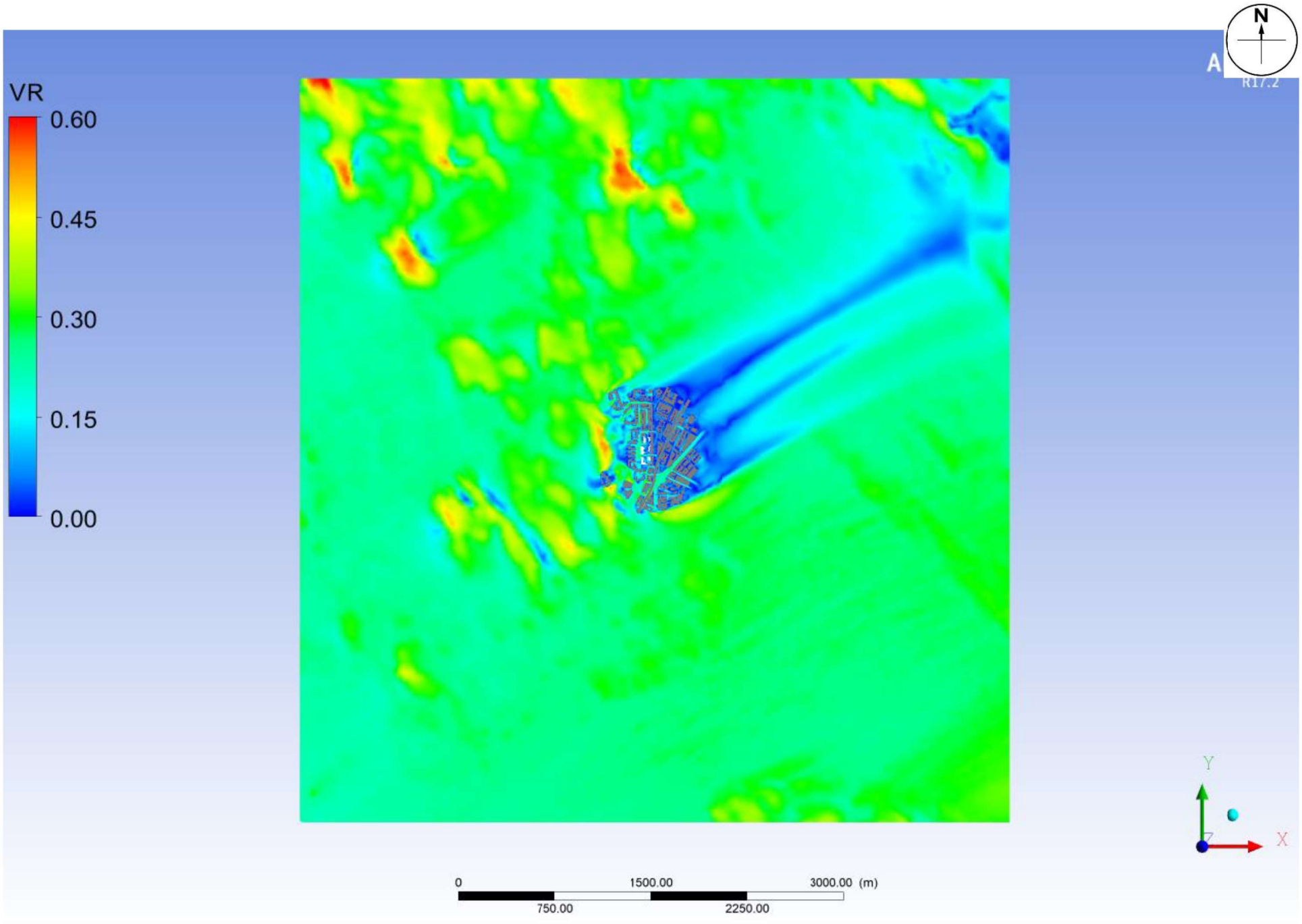
Baseline Scheme - Domain Contour plot at pedestrian level under SSE Wind



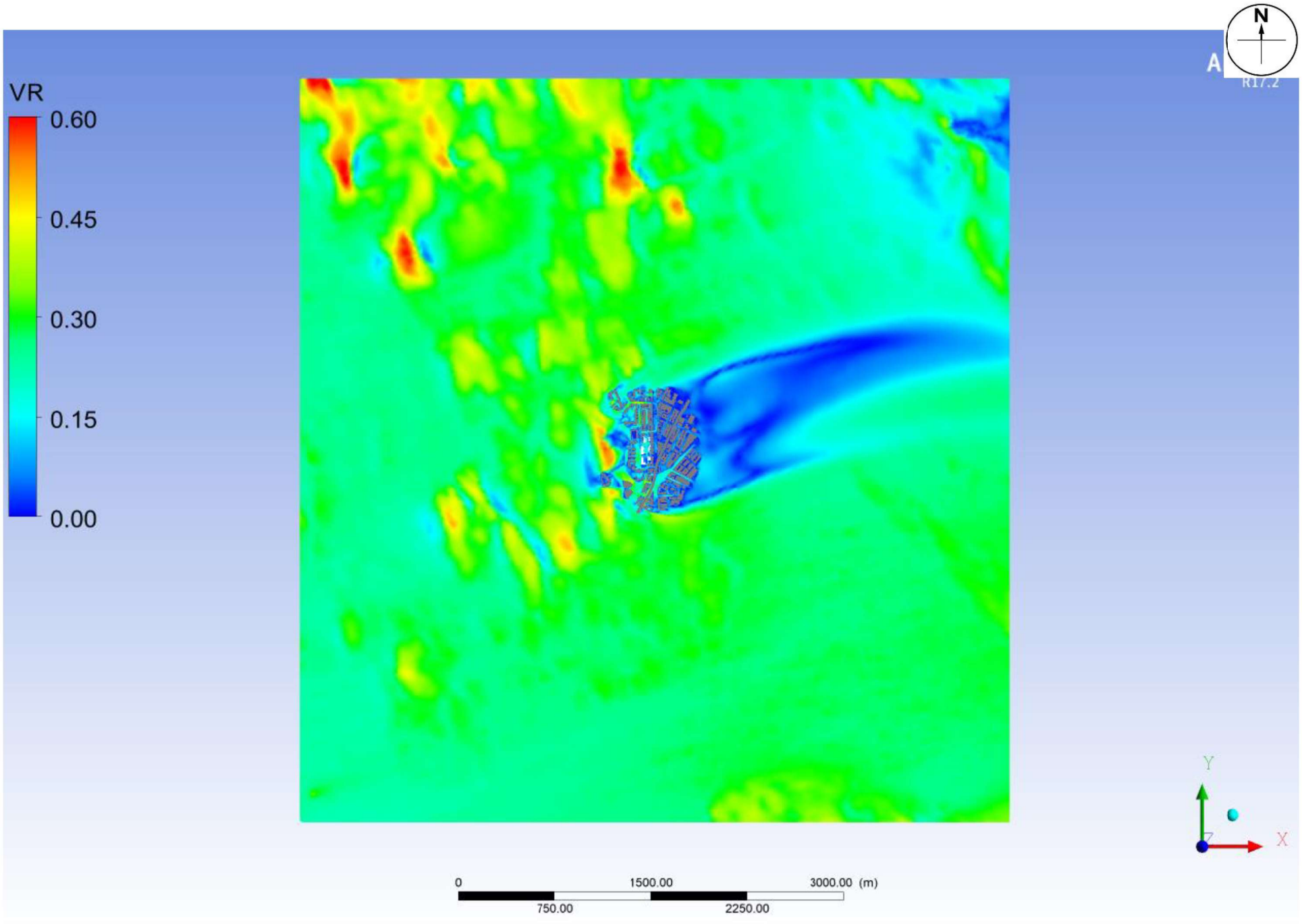
Baseline Scheme - Domain Contour plot at pedestrian level under S Wind



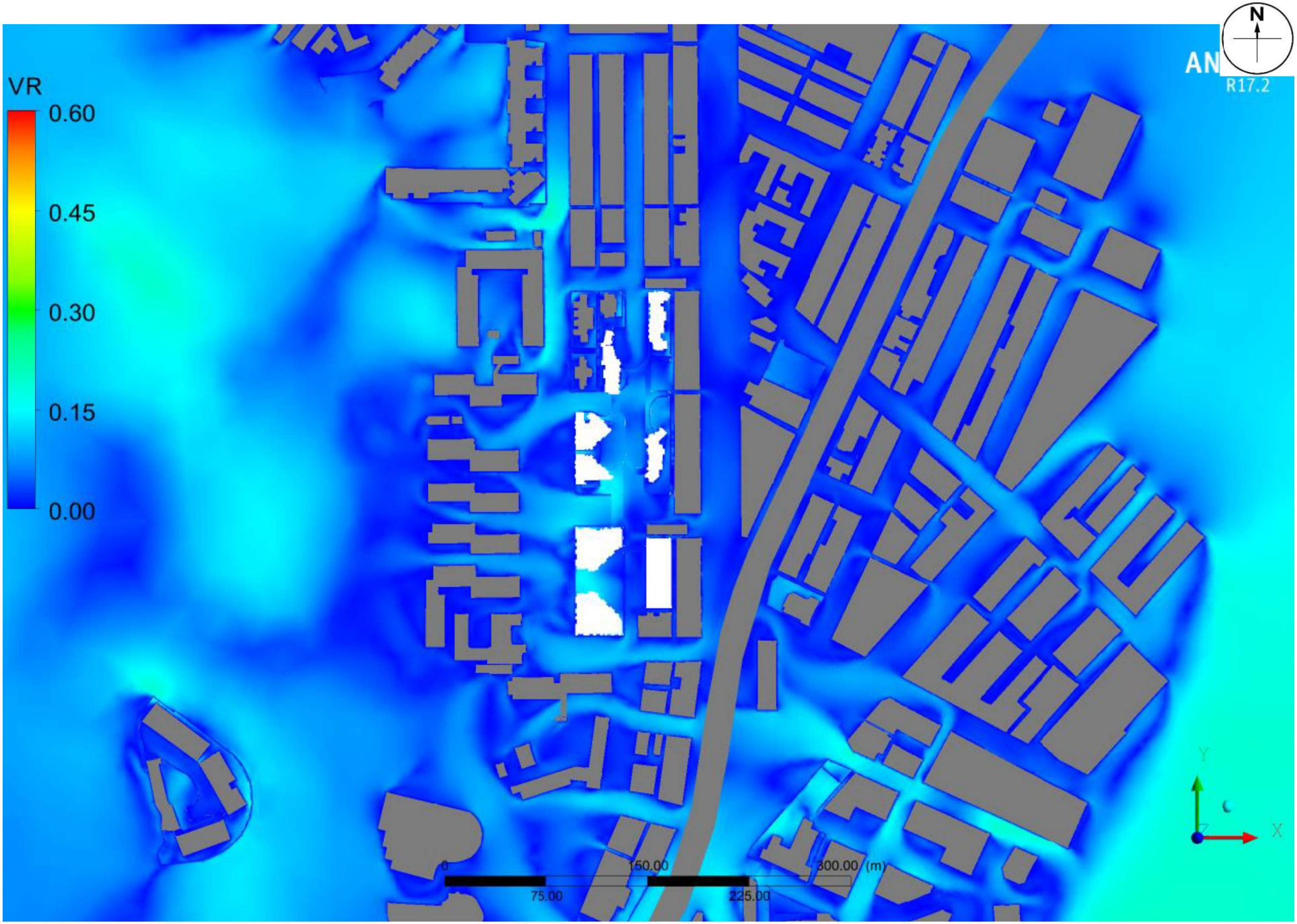
Baseline Scheme - Domain Contour plot at pedestrian level under SSW Wind



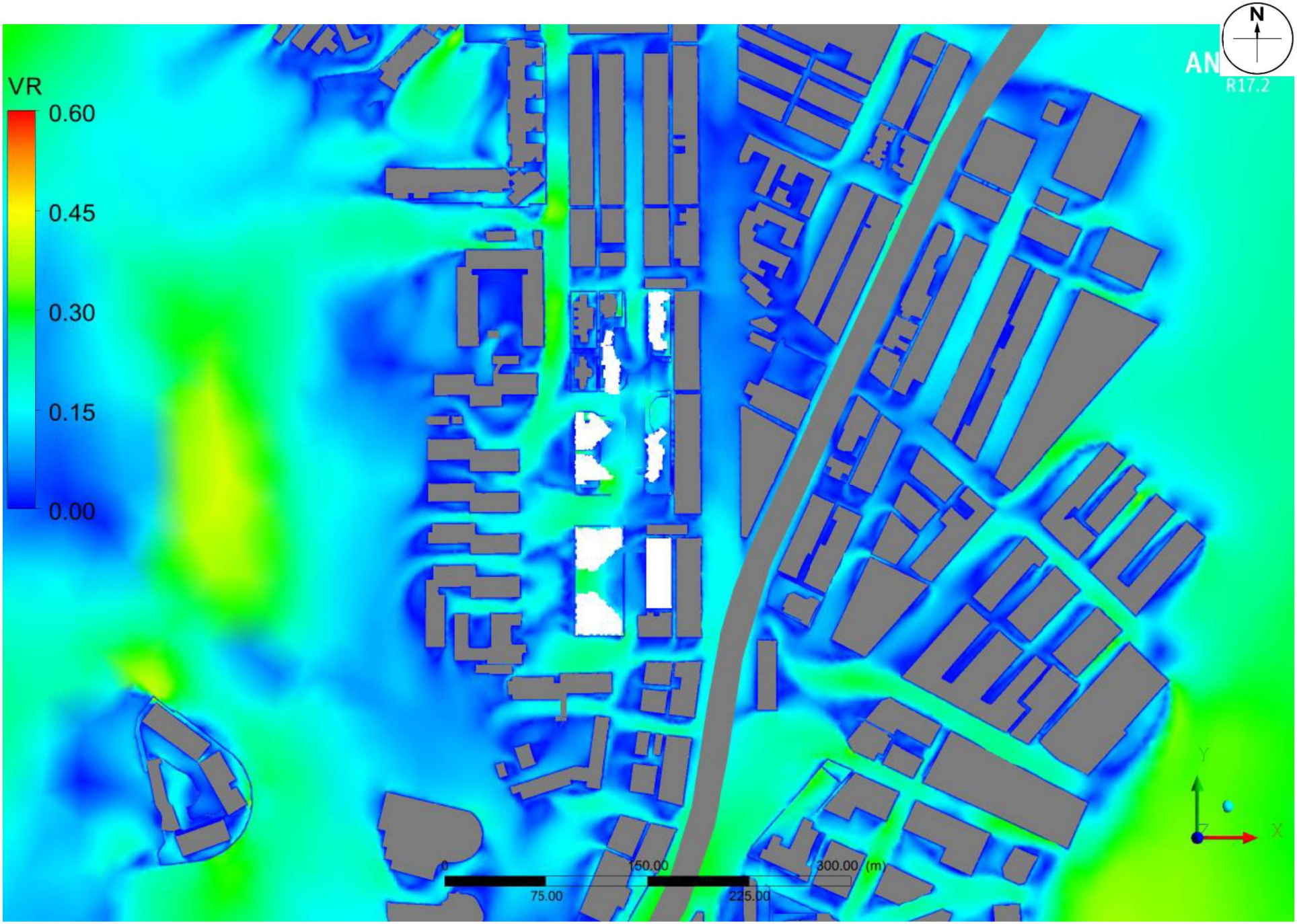
Baseline Scheme - Domain Contour plot at pedestrian level under SW Wind



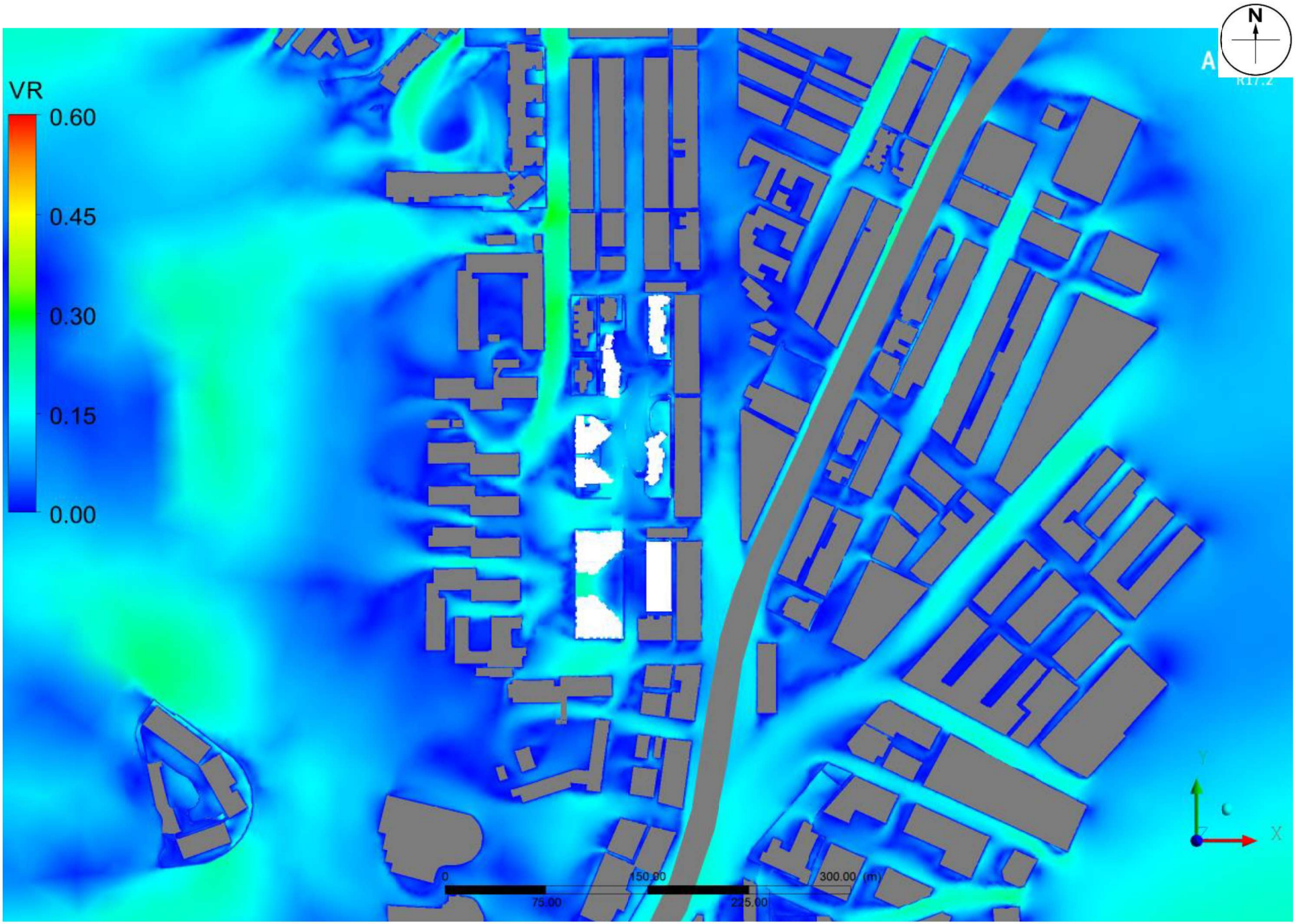
Baseline Scheme - Domain Contour plot at pedestrian level under WSW Wind



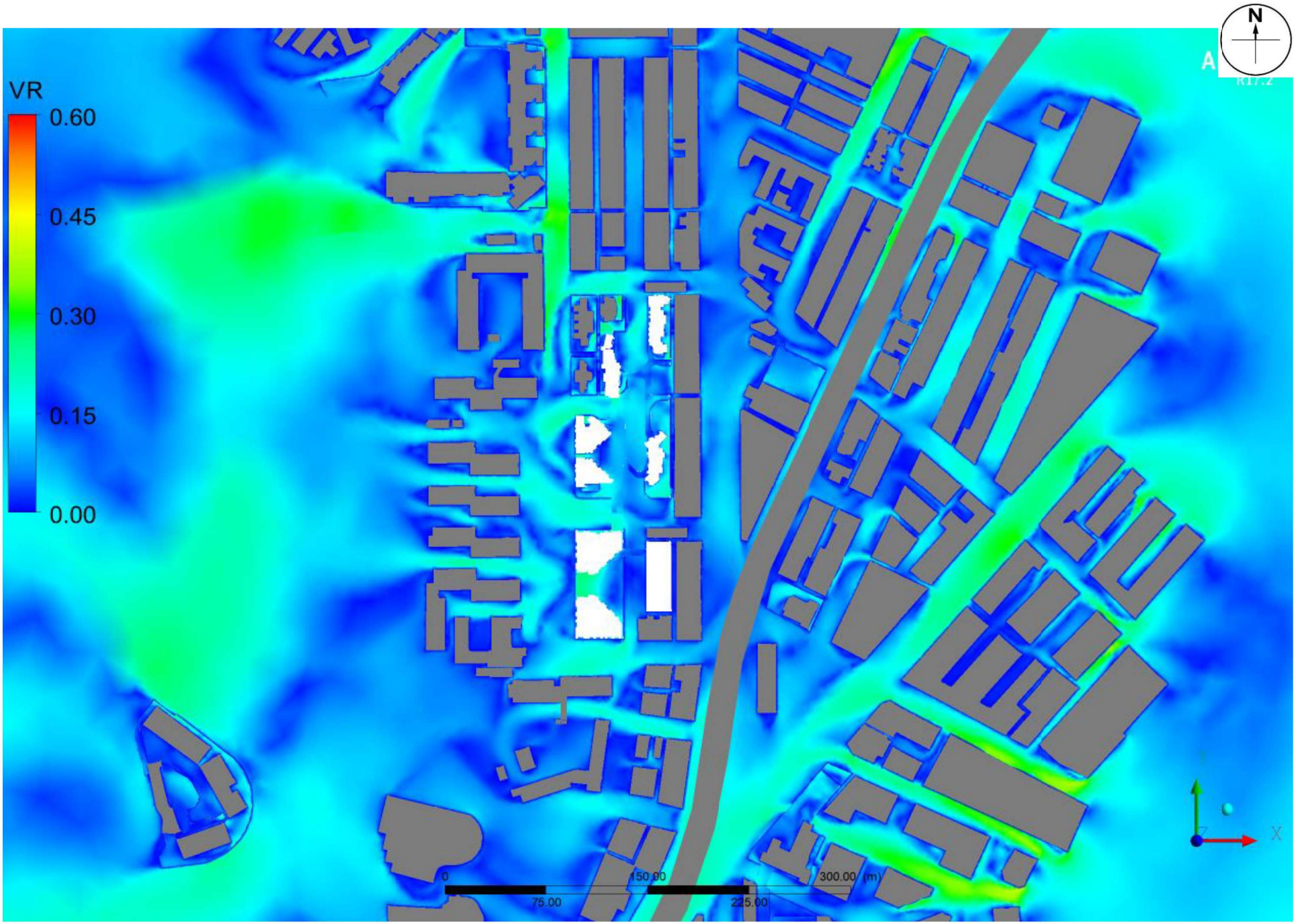
Proposed Scheme - Contour plot at pedestrian level under NNE Wind



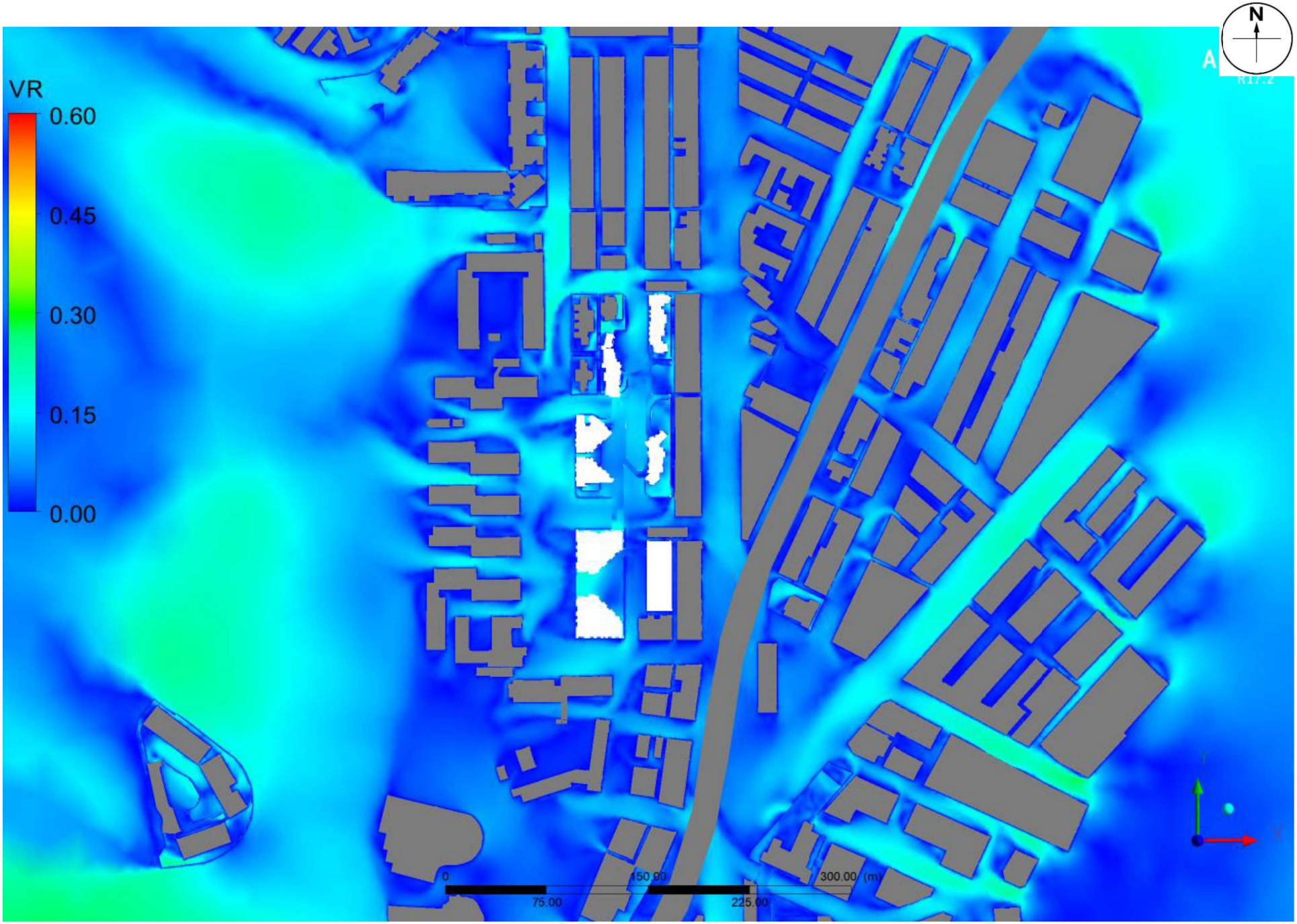
Proposed Scheme - Contour plot at pedestrian level under NE Wind



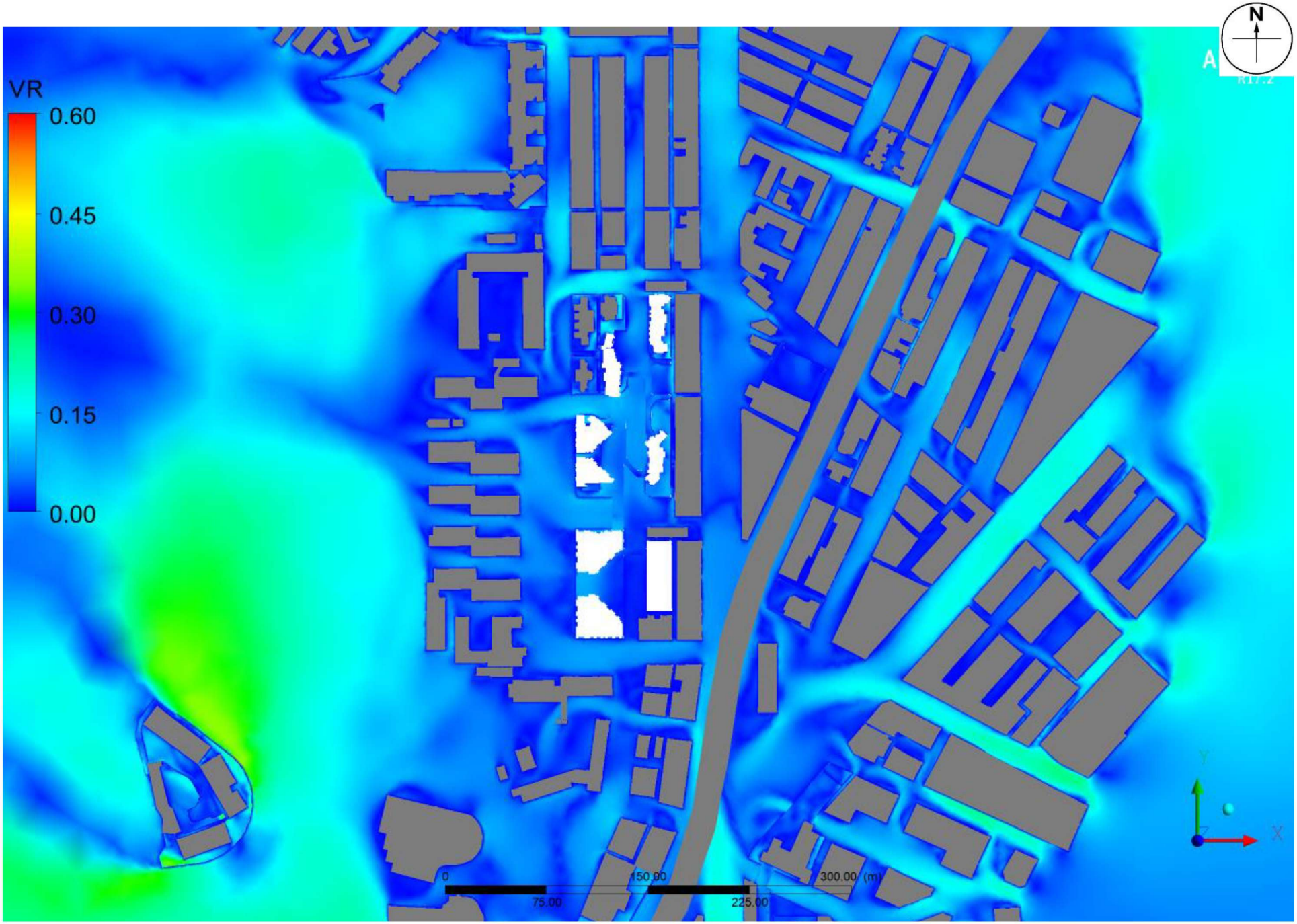
Proposed Scheme - Contour plot at pedestrian level under ENE Wind



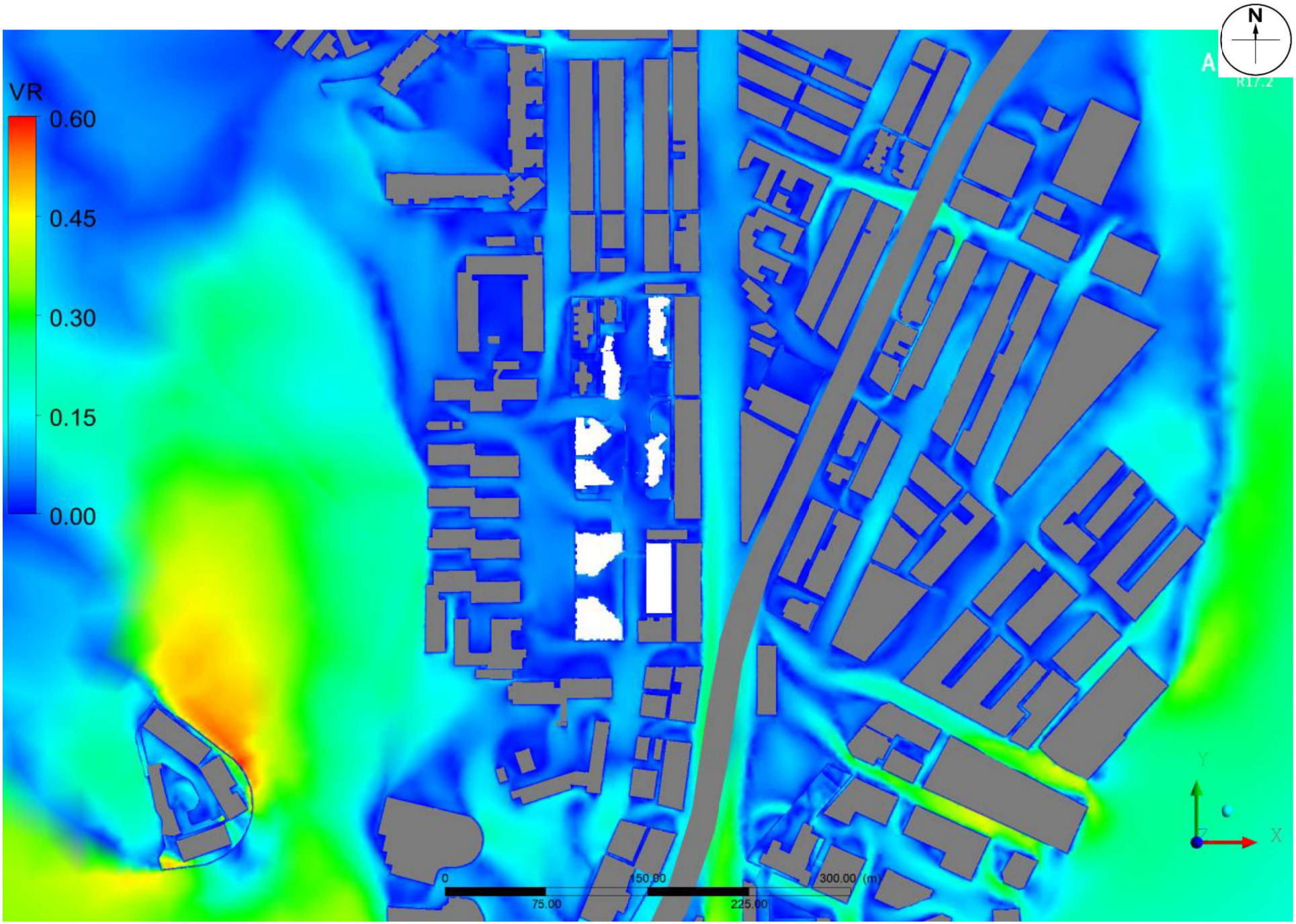
Proposed Scheme - Contour plot at pedestrian level under E Wind



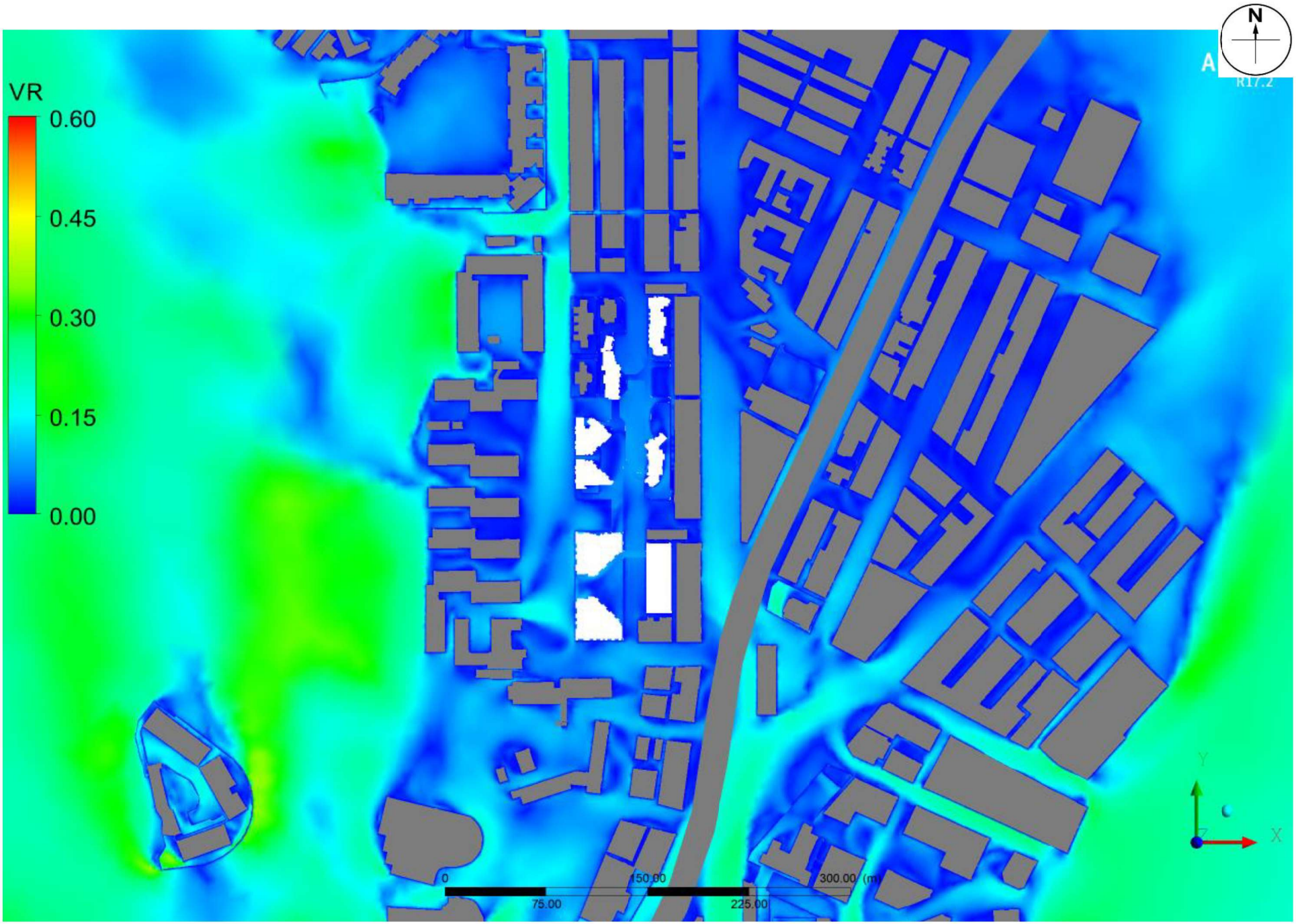
Proposed Scheme - Contour plot at pedestrian level under ESE Wind



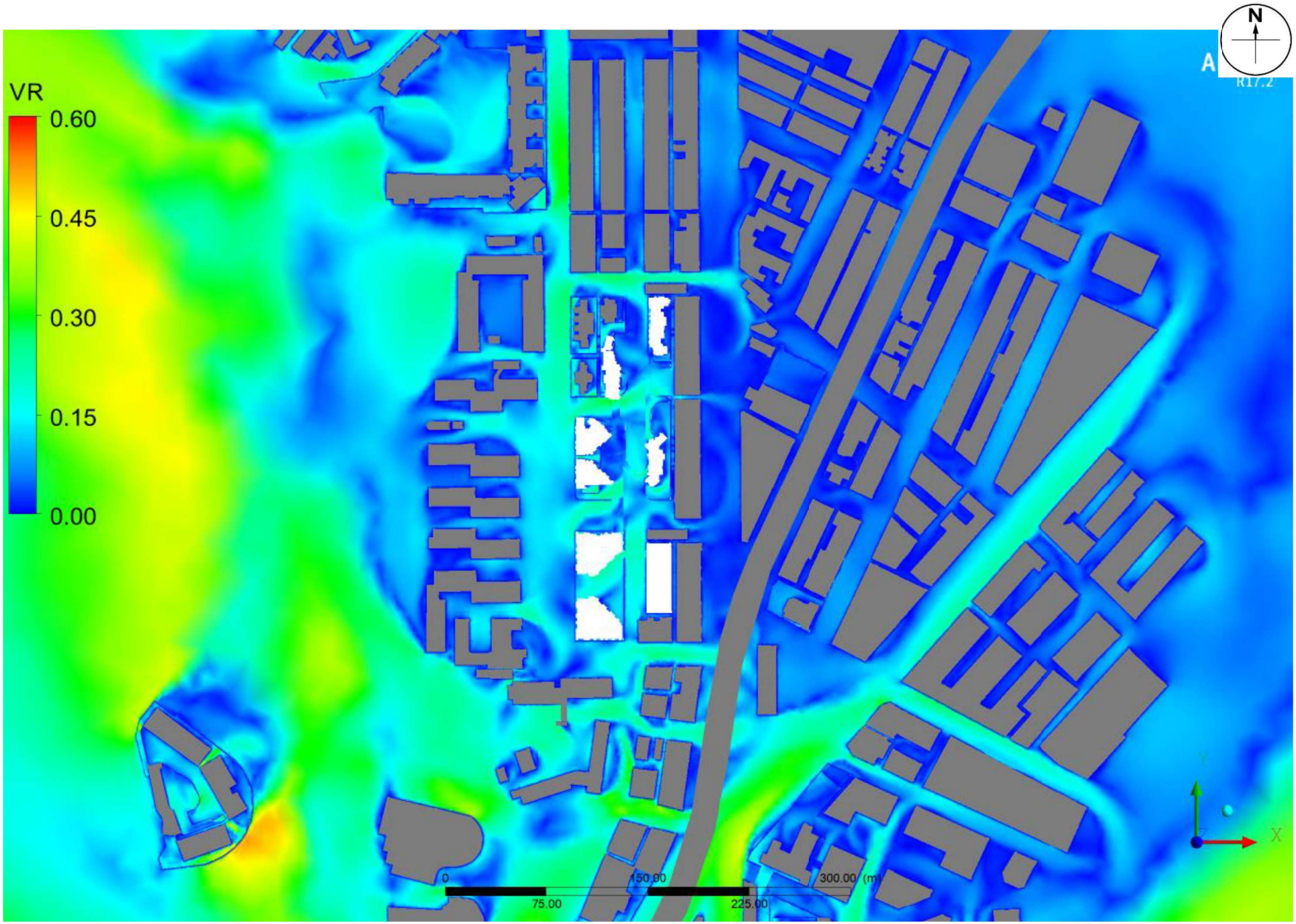
Proposed Scheme - Contour plot at pedestrian level under SE Wind



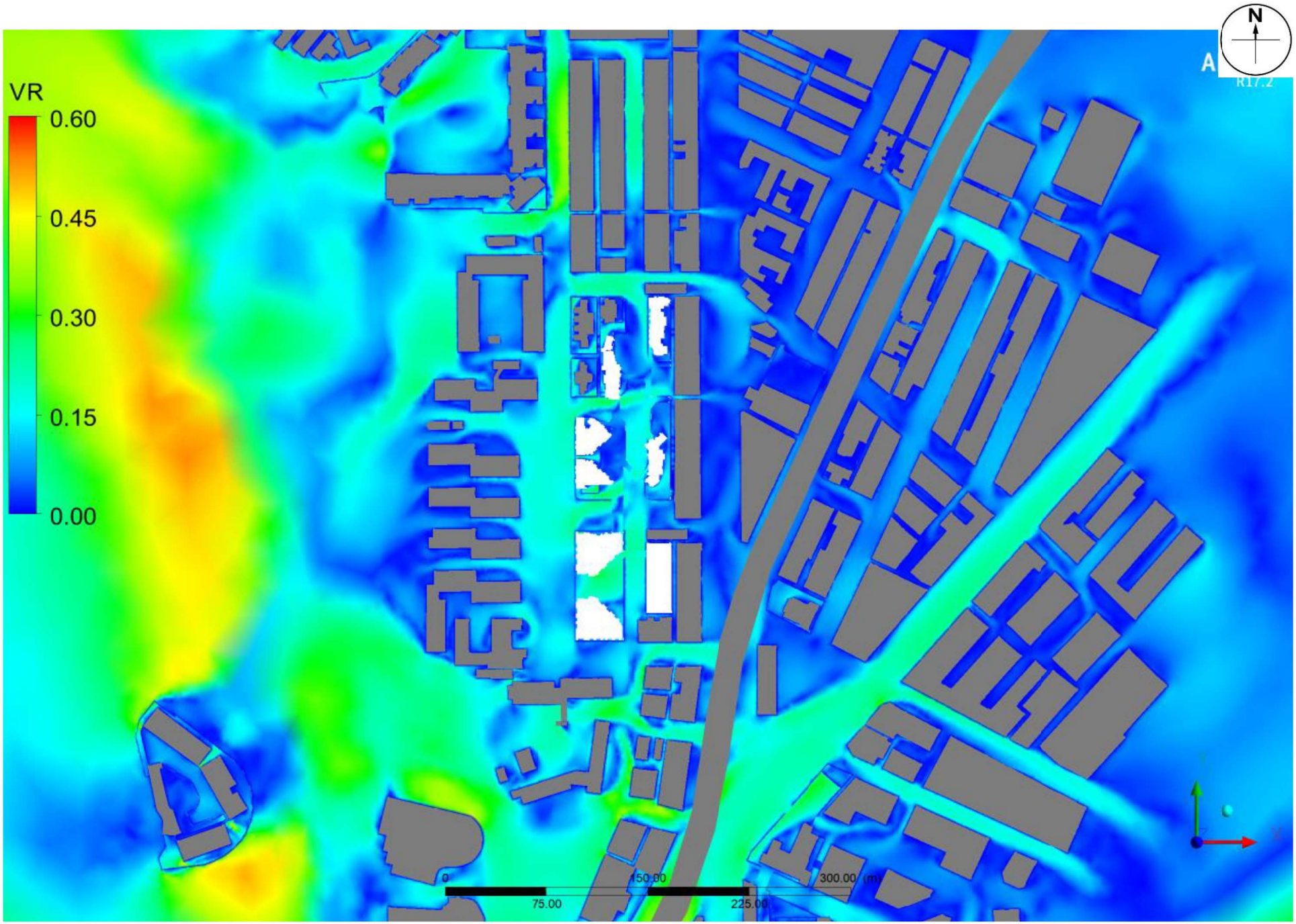
Proposed Scheme - Contour plot at pedestrian level under SSE Wind



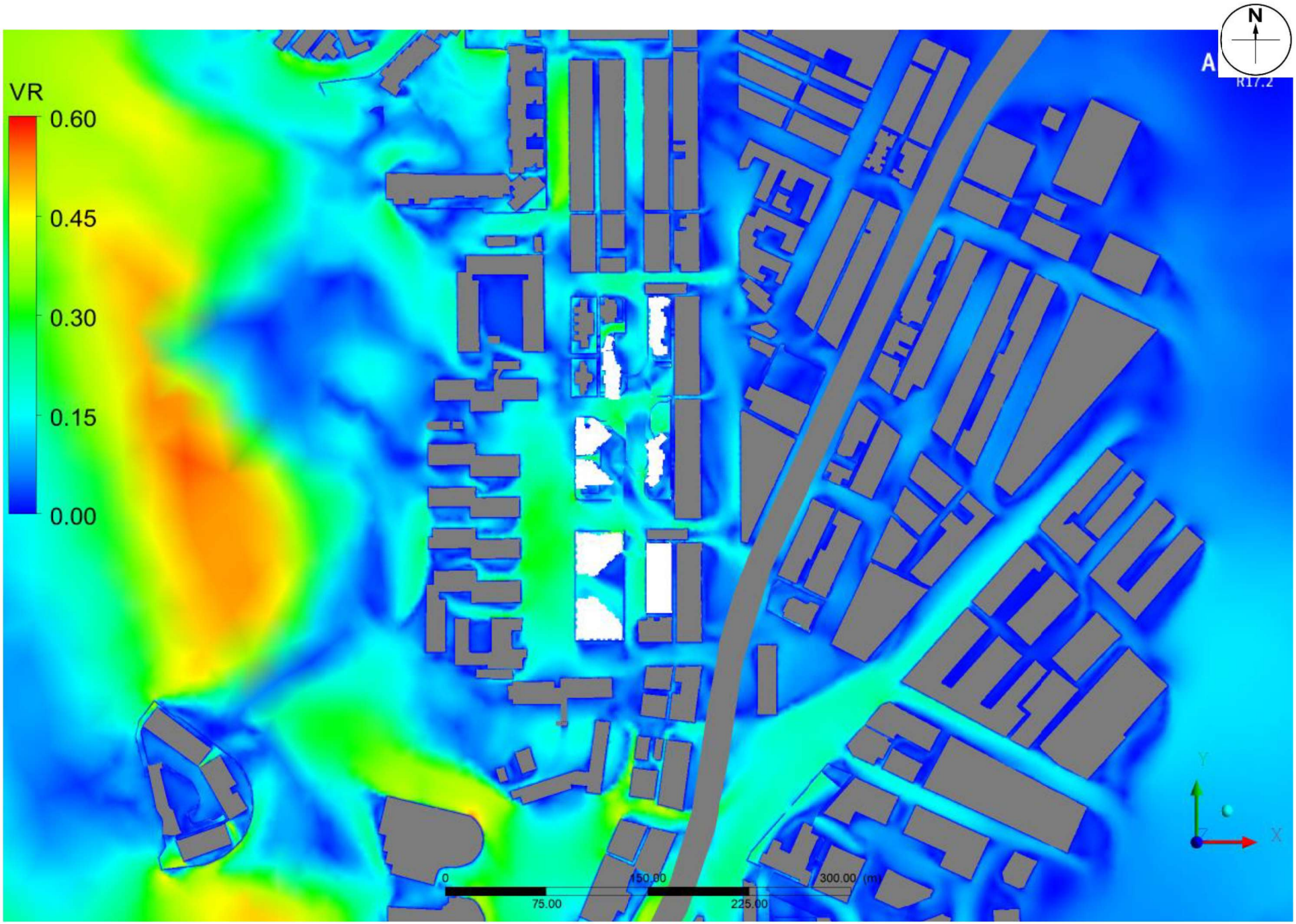
Proposed Scheme - Contour plot at pedestrian level under S Wind



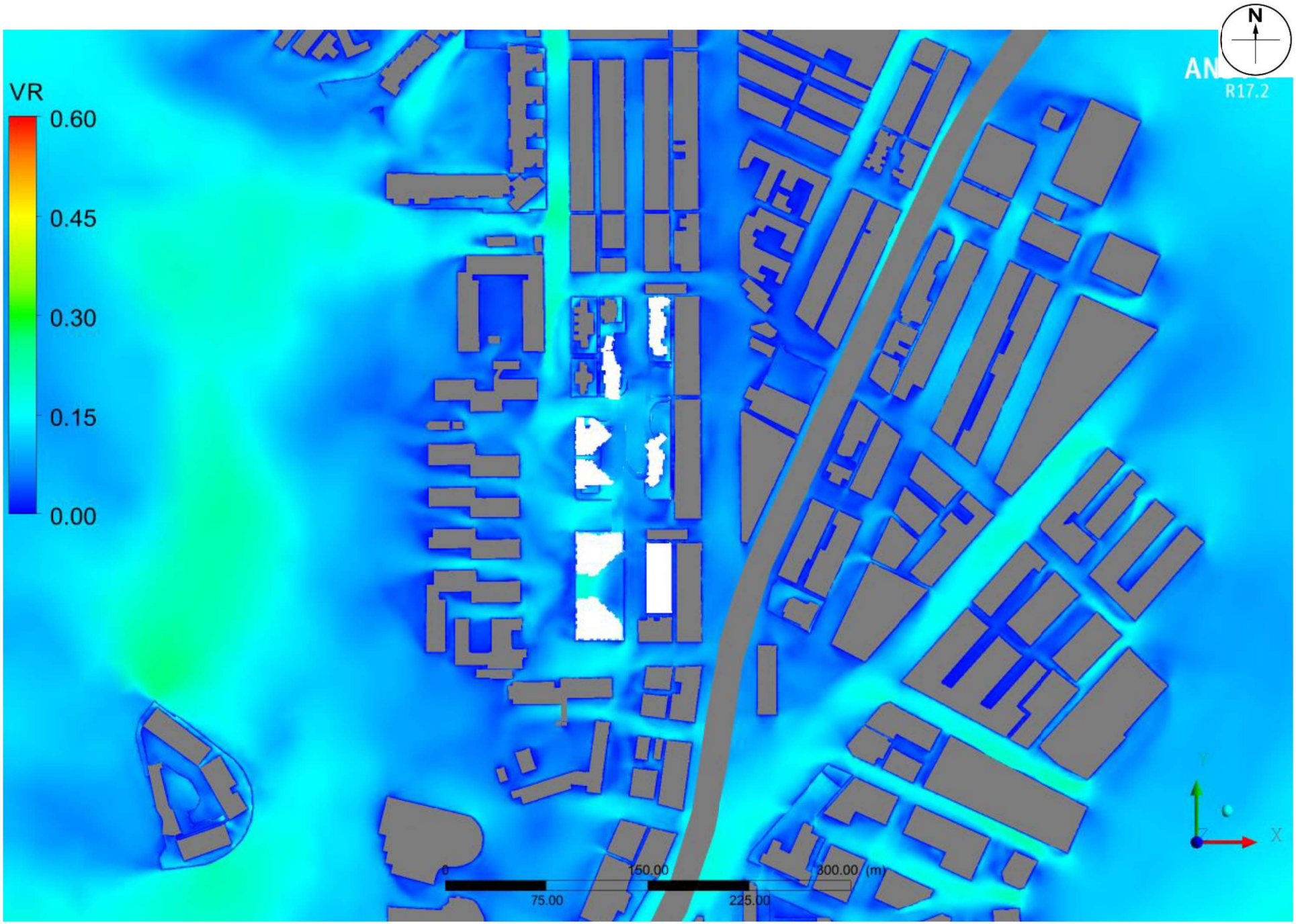
Proposed Scheme - Contour plot at pedestrian level under SSW Wind



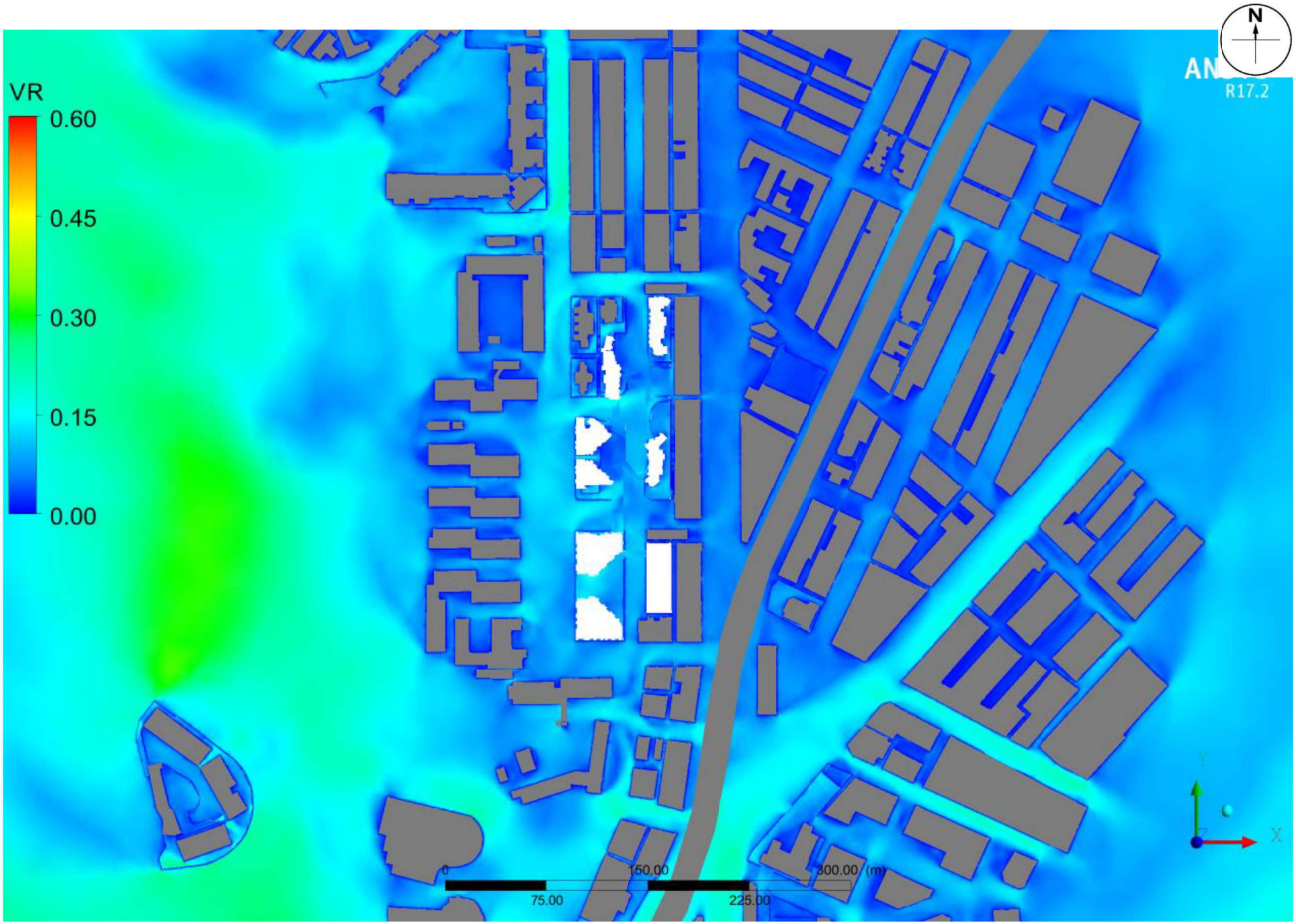
Proposed Scheme - Contour plot at pedestrian level under SW Wind



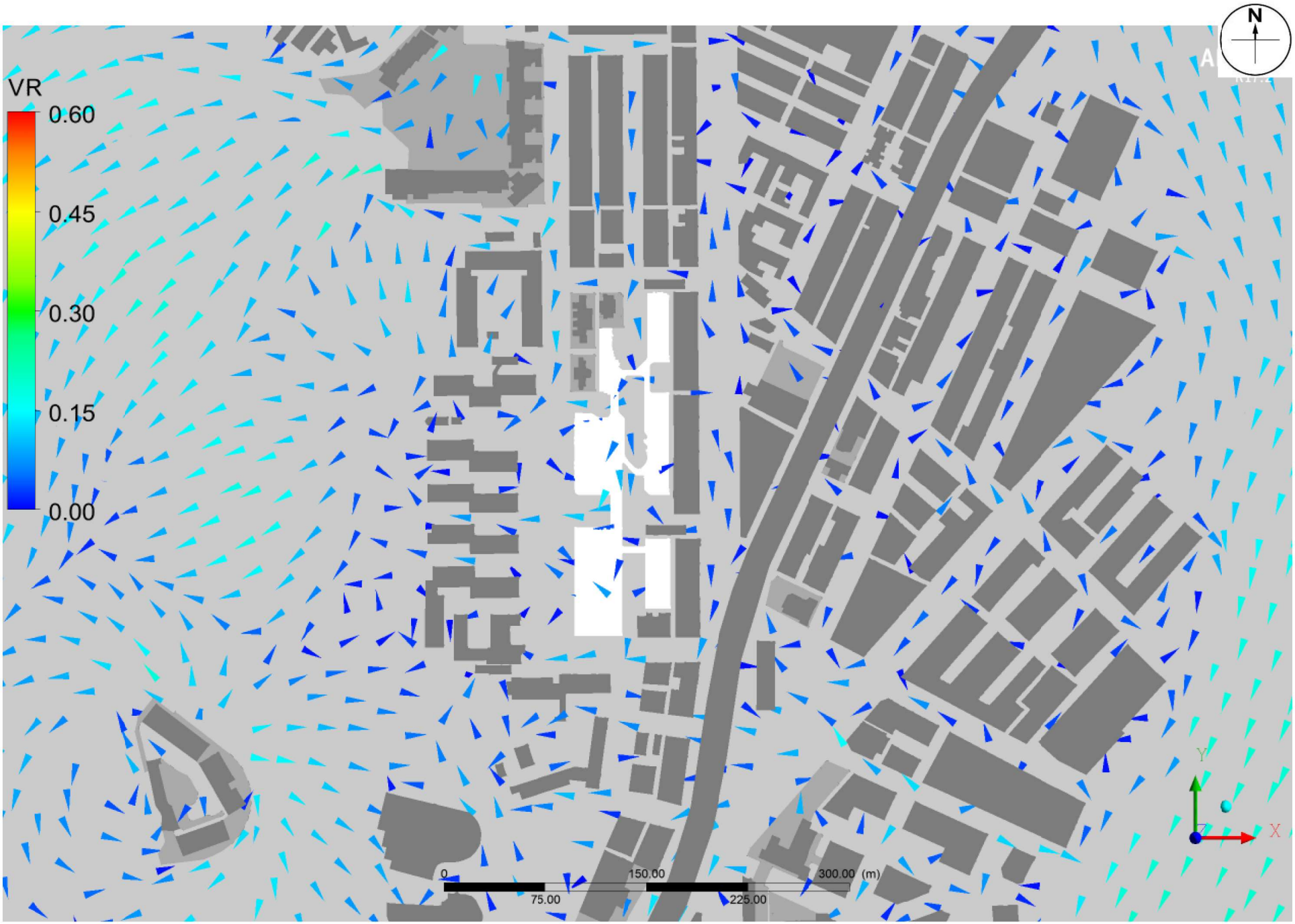
Proposed Scheme - Contour plot at pedestrian level under WSW Wind



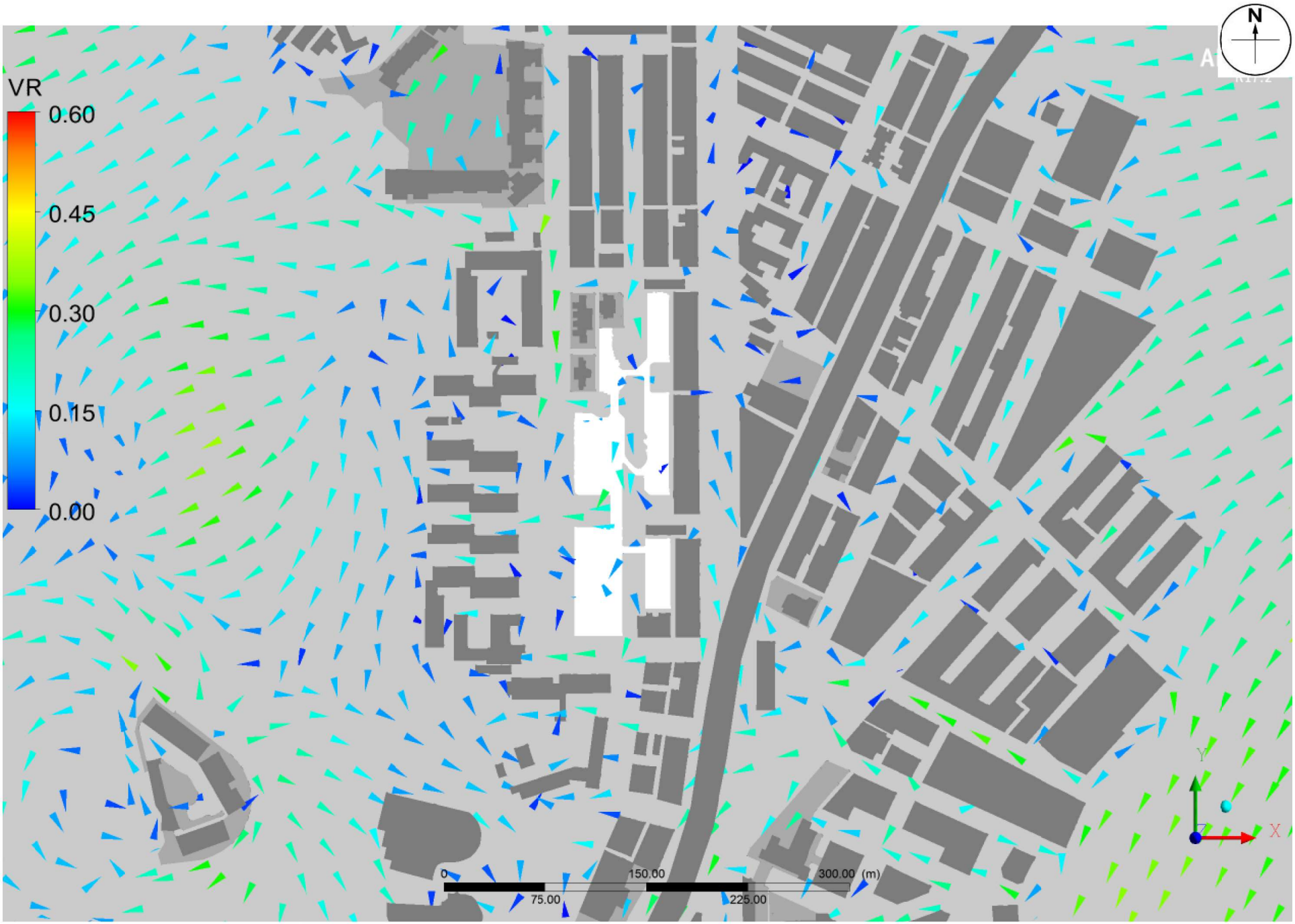
Proposed Scheme - Annual weighted wind speed colour at pedestrian level



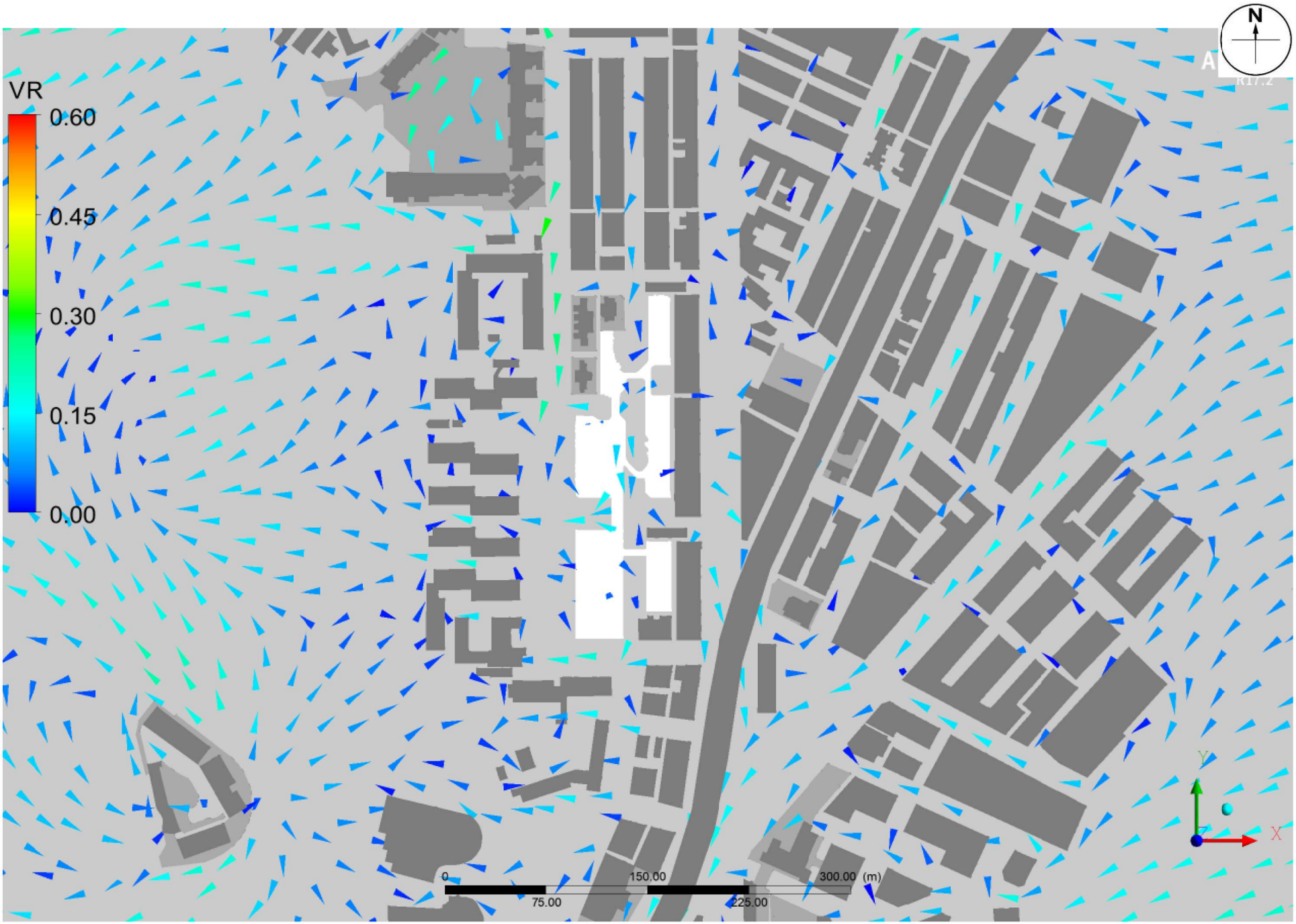
Proposed Scheme - Summer weighted wind speed colour at pedestrian level



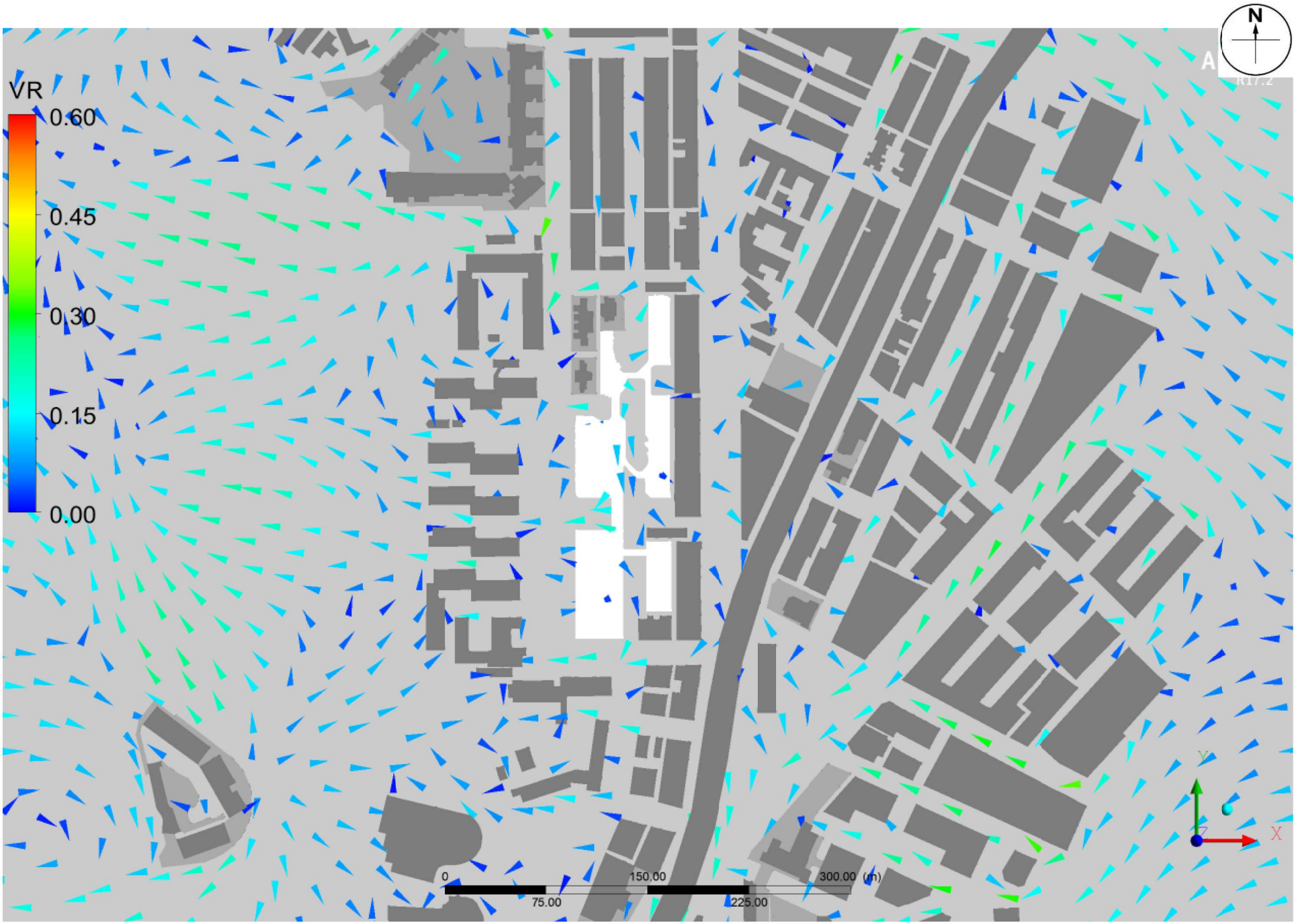
Proposed Scheme - Vector plot at pedestrian level under NNE Wind



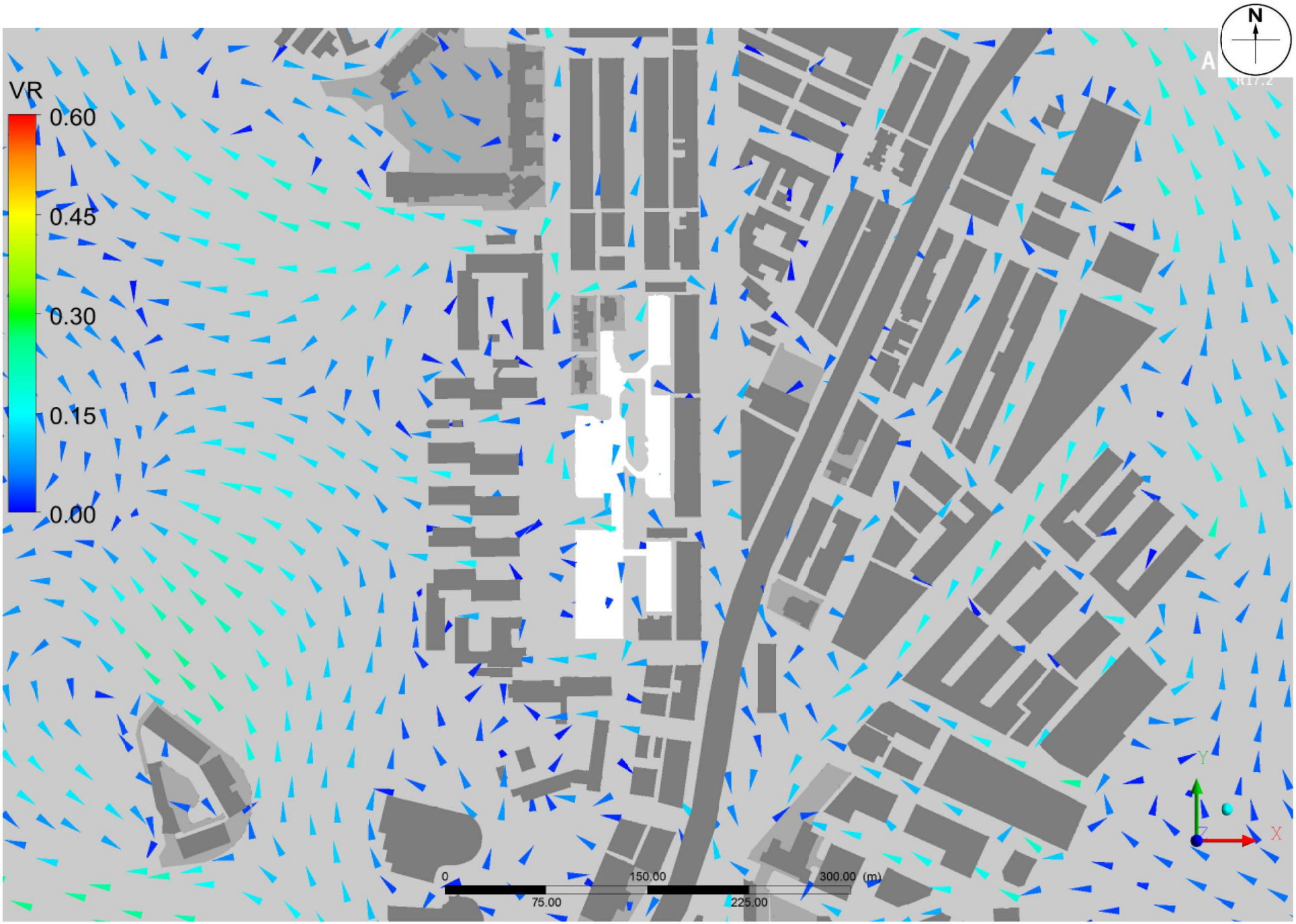
Proposed Scheme - Vector plot at pedestrian level under NE Wind



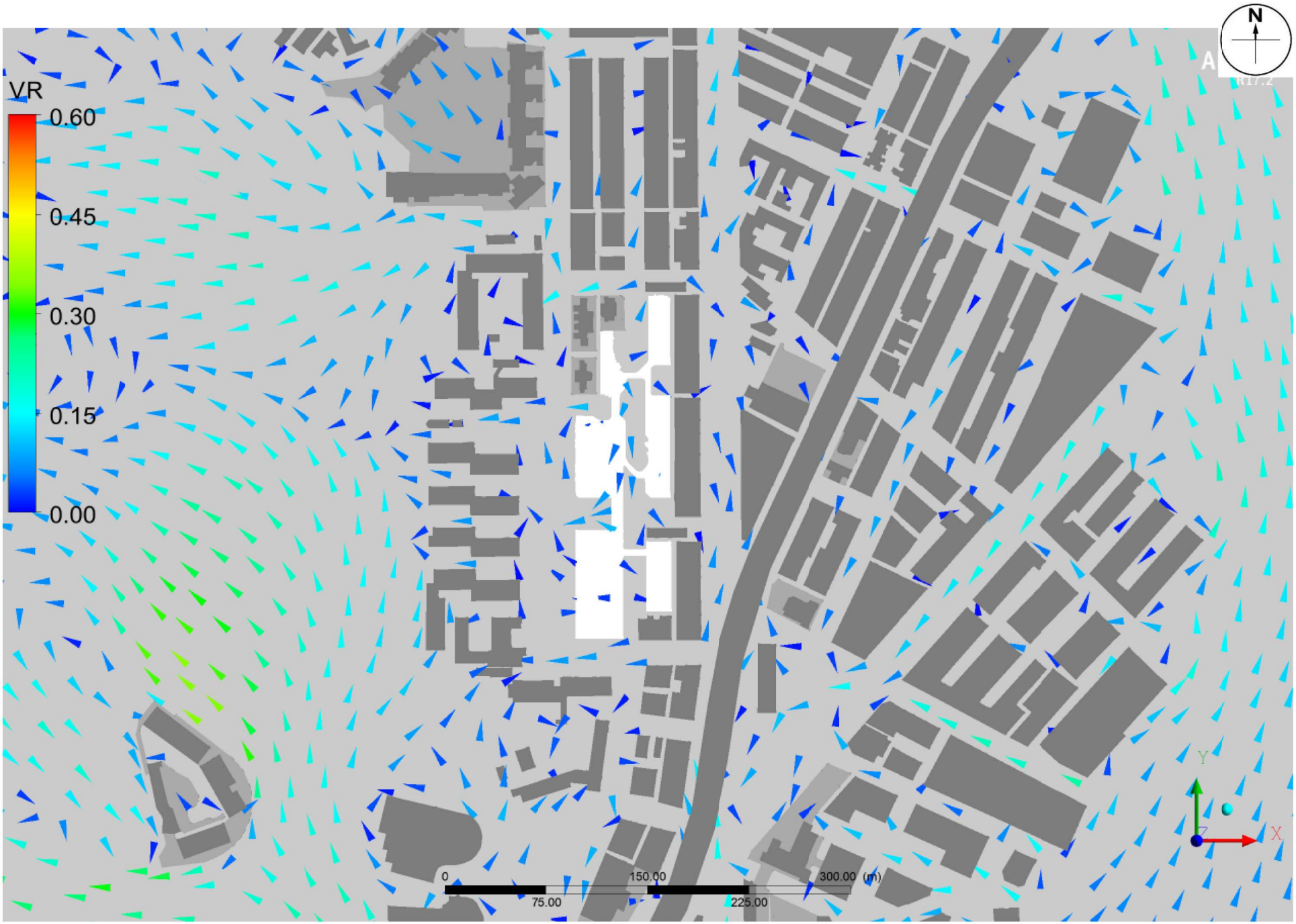
Proposed Scheme - Vector plot at pedestrian level under ENE Wind



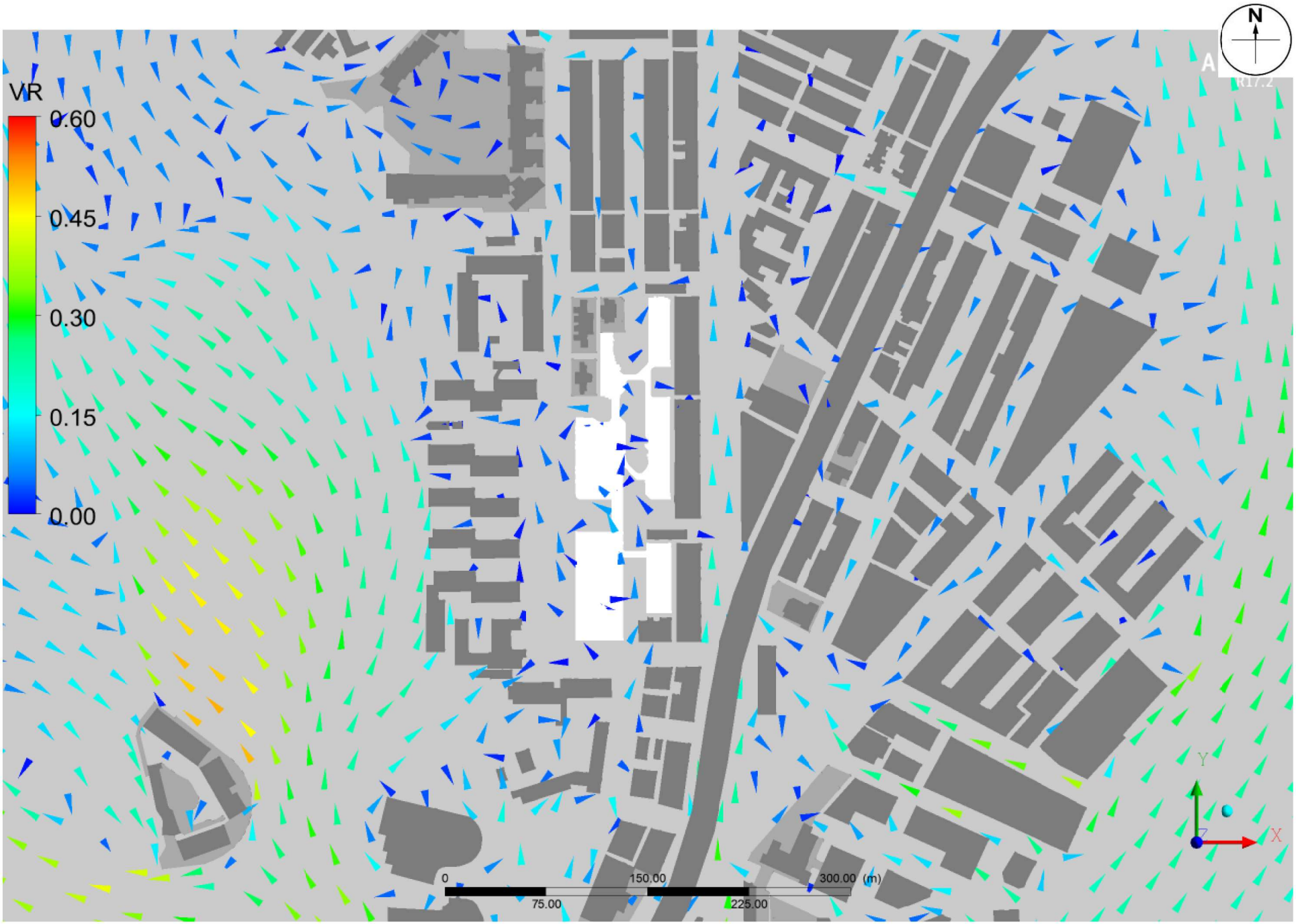
Proposed Scheme - Vector plot at pedestrian level under E Wind



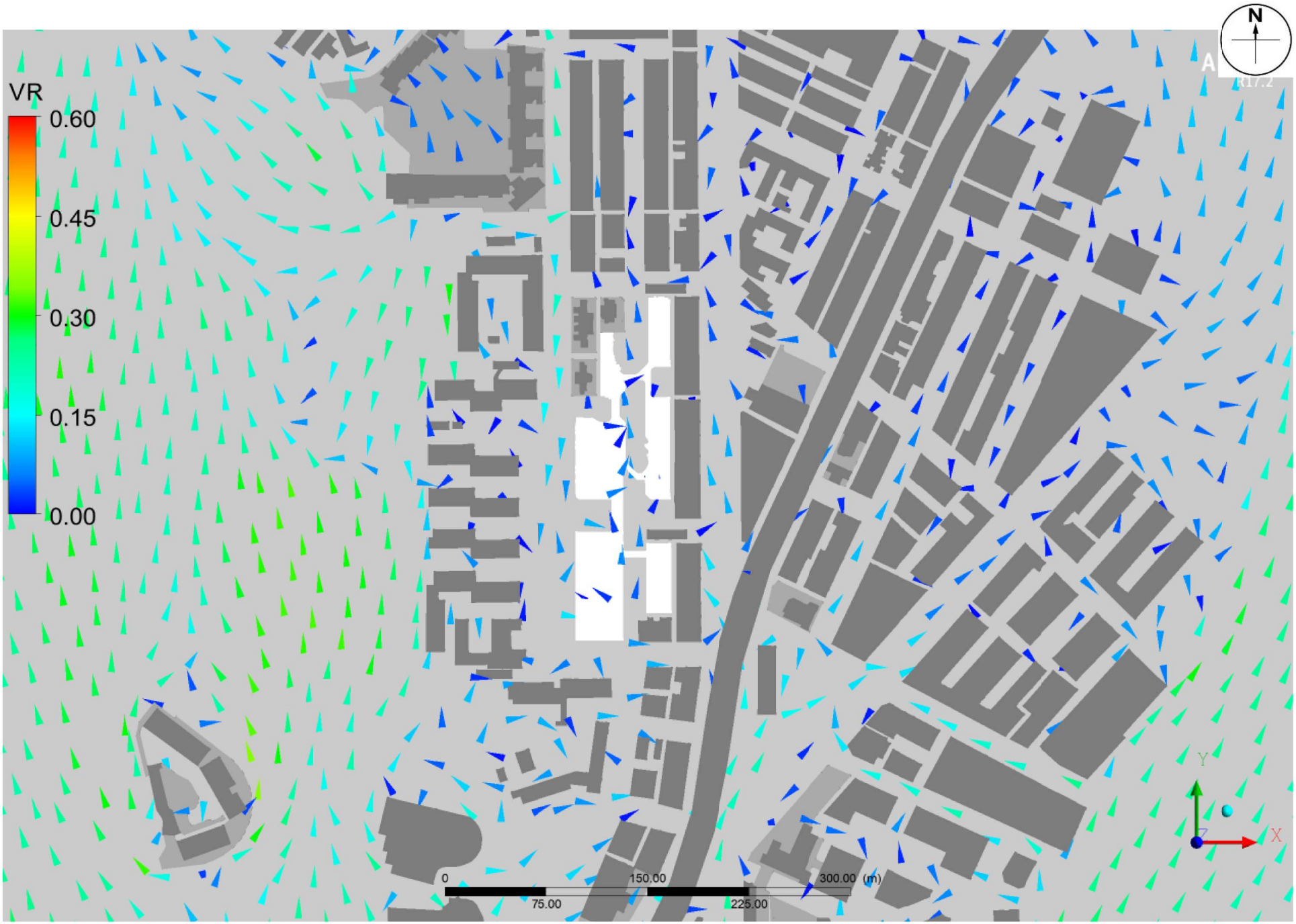
Proposed Scheme - Vector plot at pedestrian level under ESE Wind



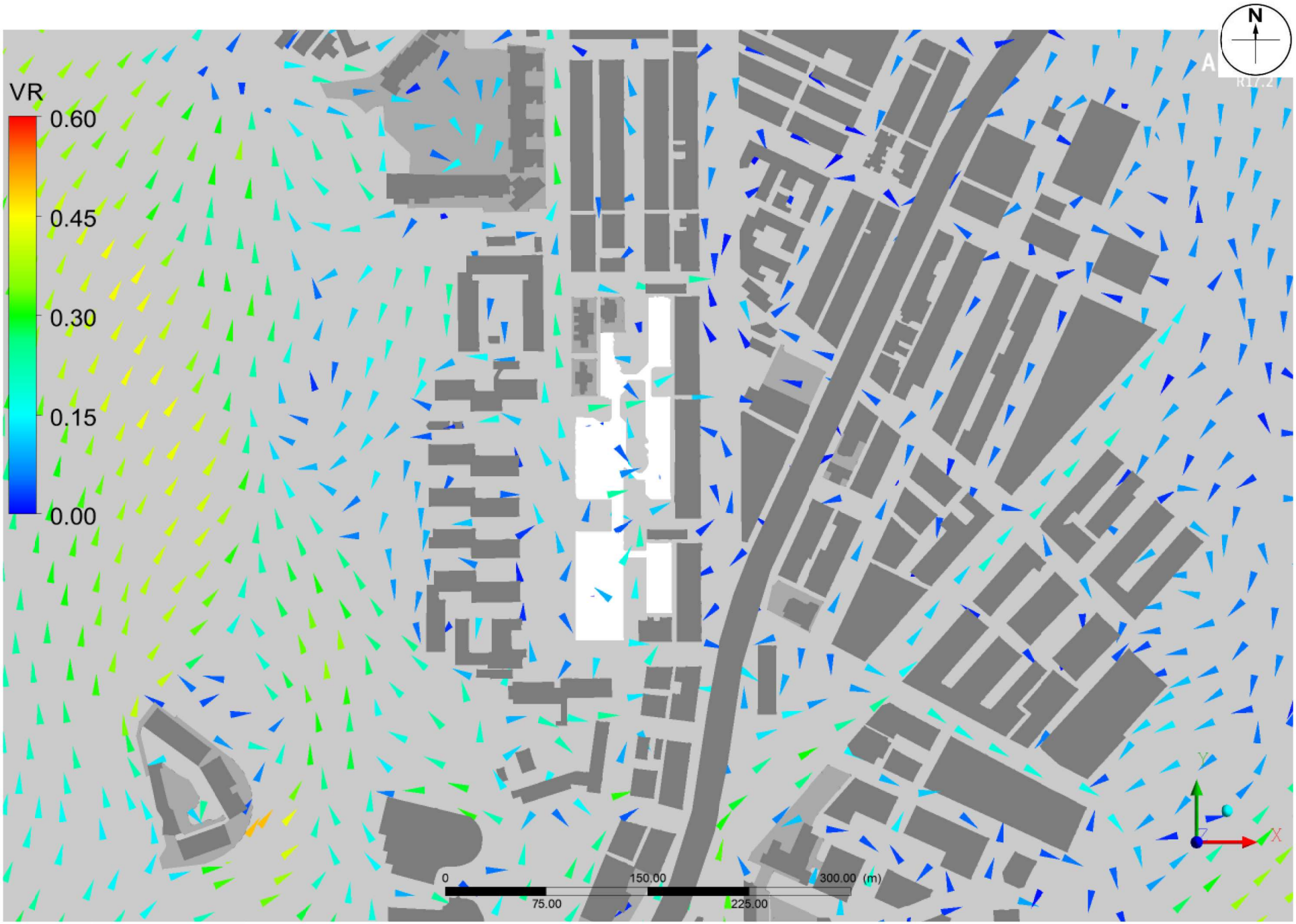
Proposed Scheme - Vector plot at pedestrian level under SE Wind



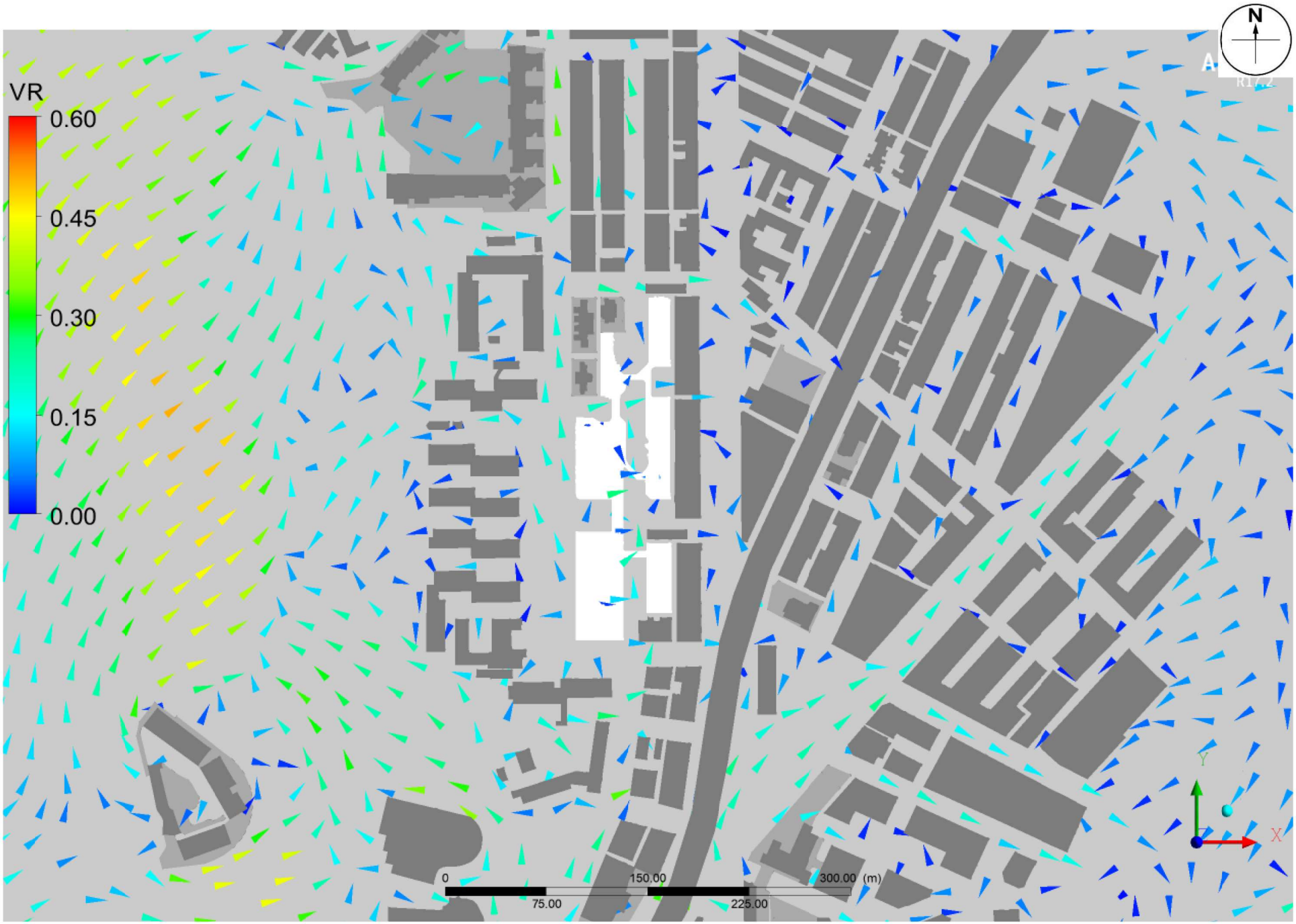
Proposed Scheme - Vector plot at pedestrian level under SSE Wind



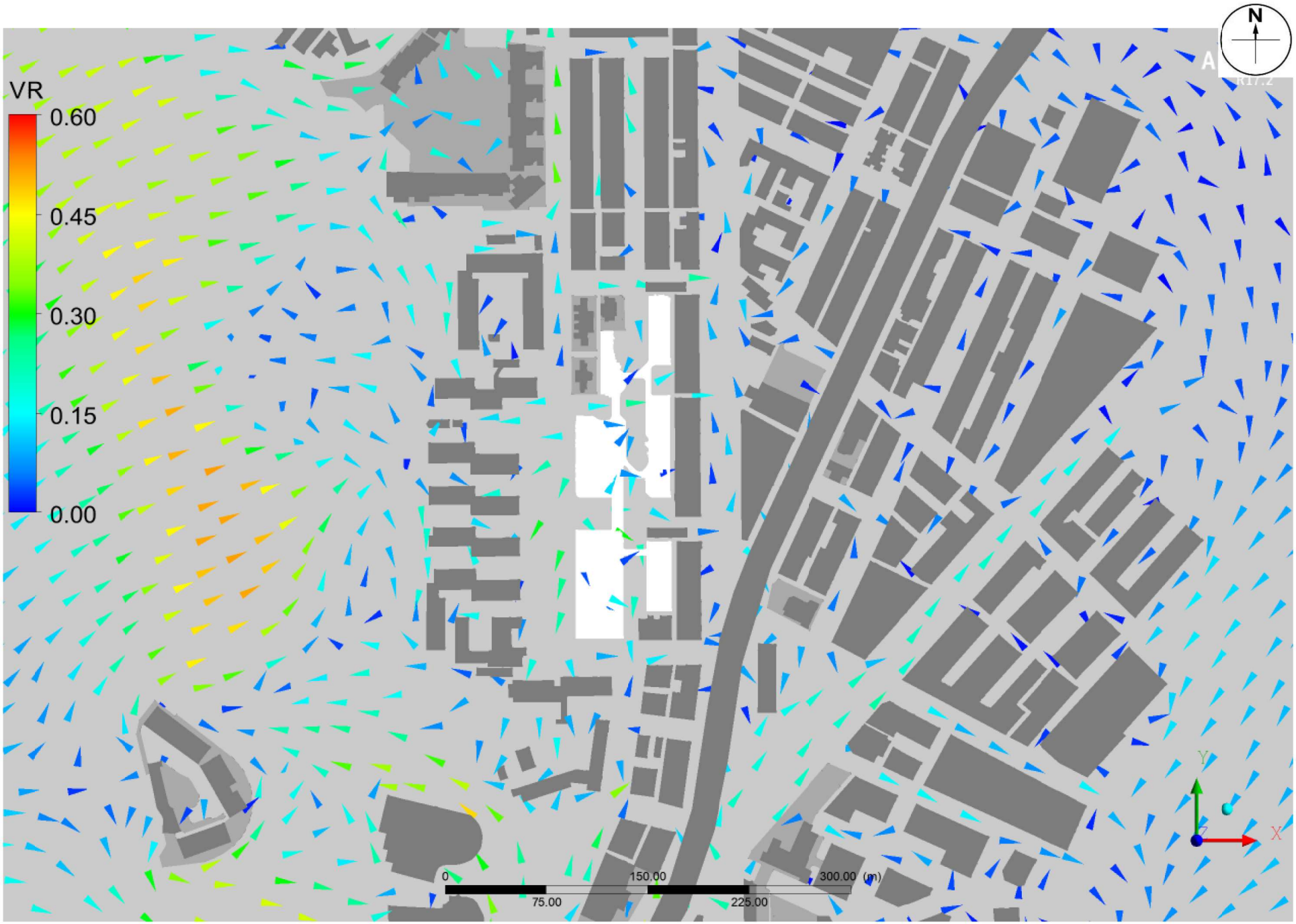
Proposed Scheme - Vector plot at pedestrian level under S Wind



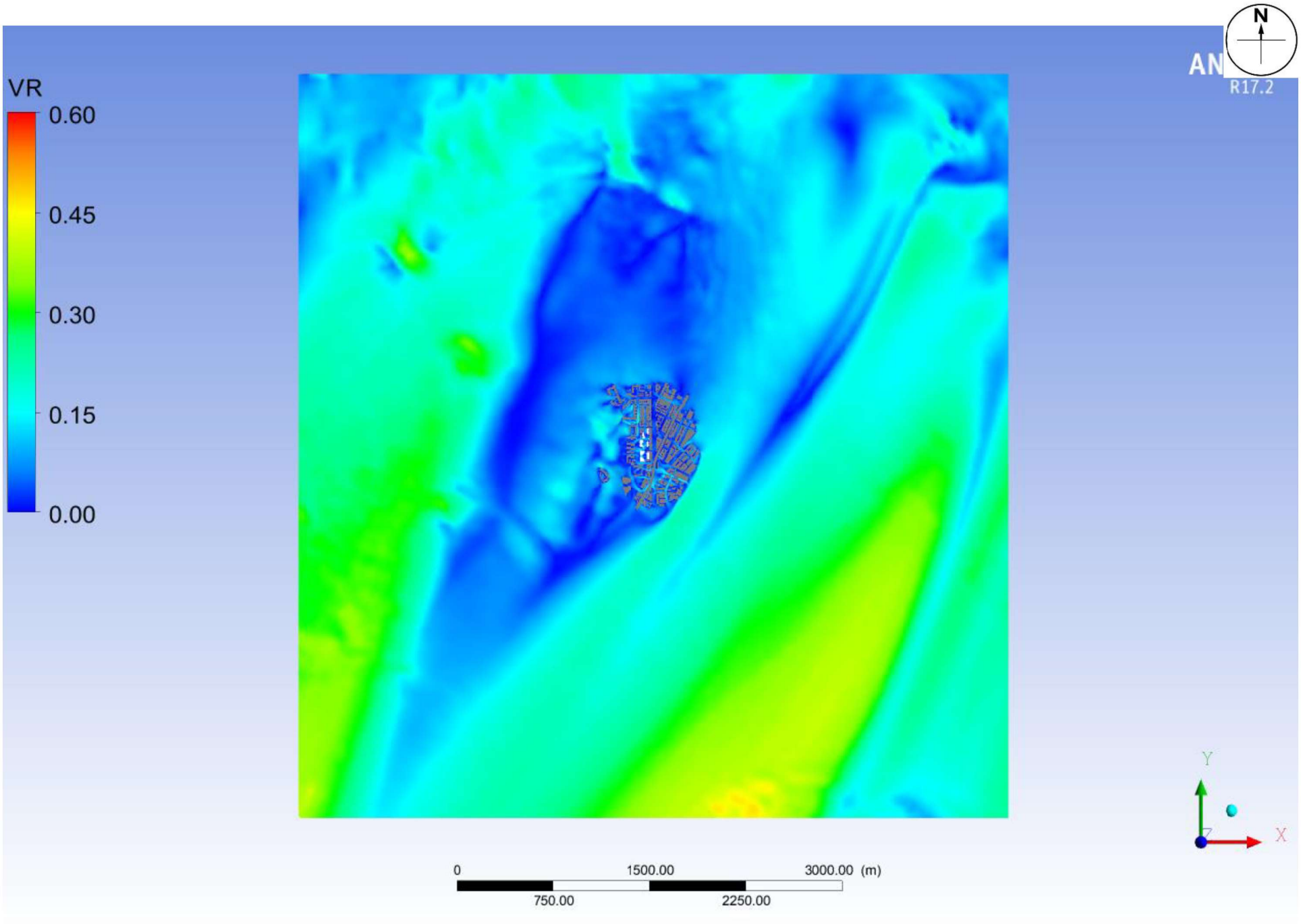
Proposed Scheme - Vector plot at pedestrian level under SSW Wind



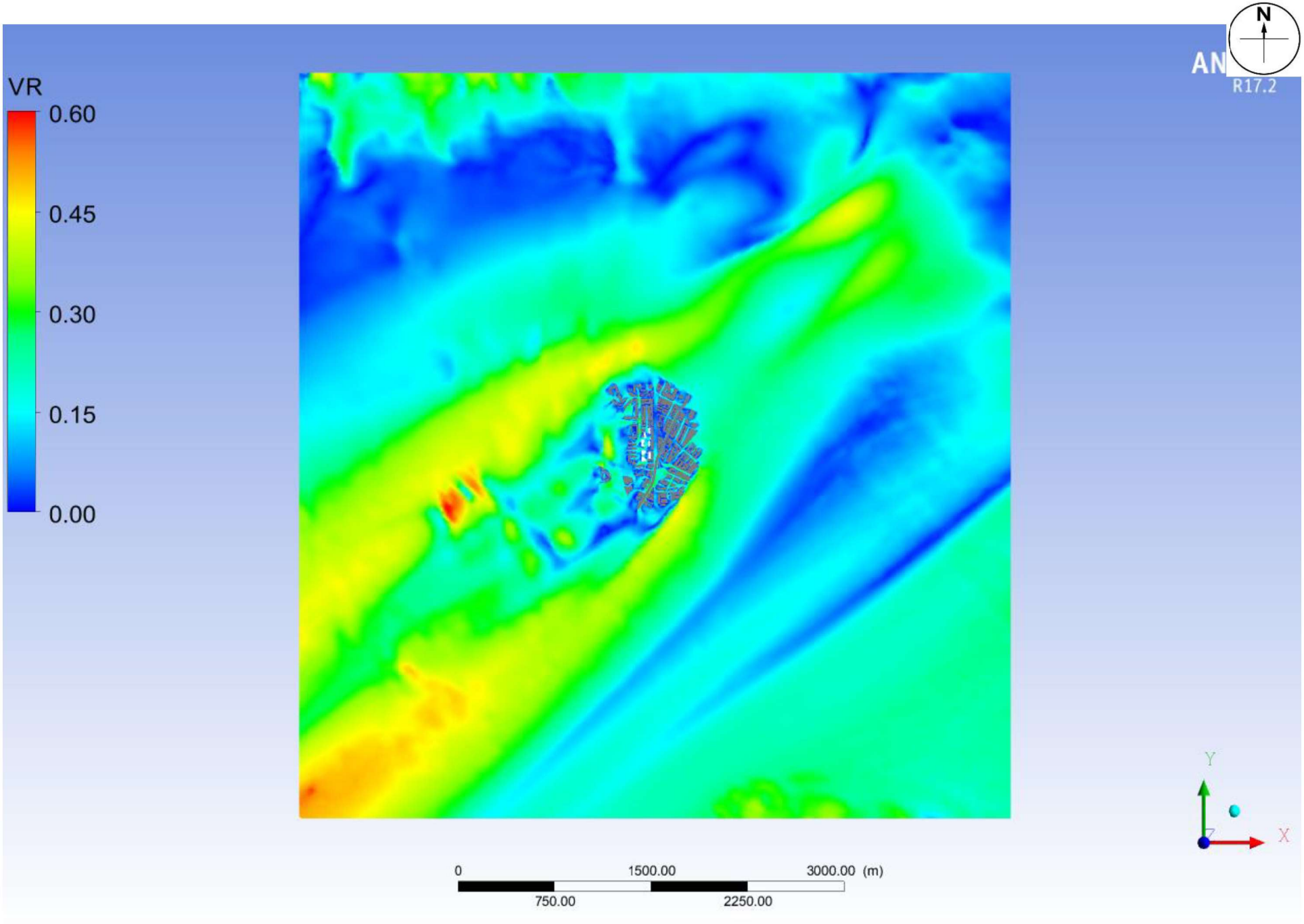
Proposed Scheme - Vector plot at pedestrian level under SW Wind



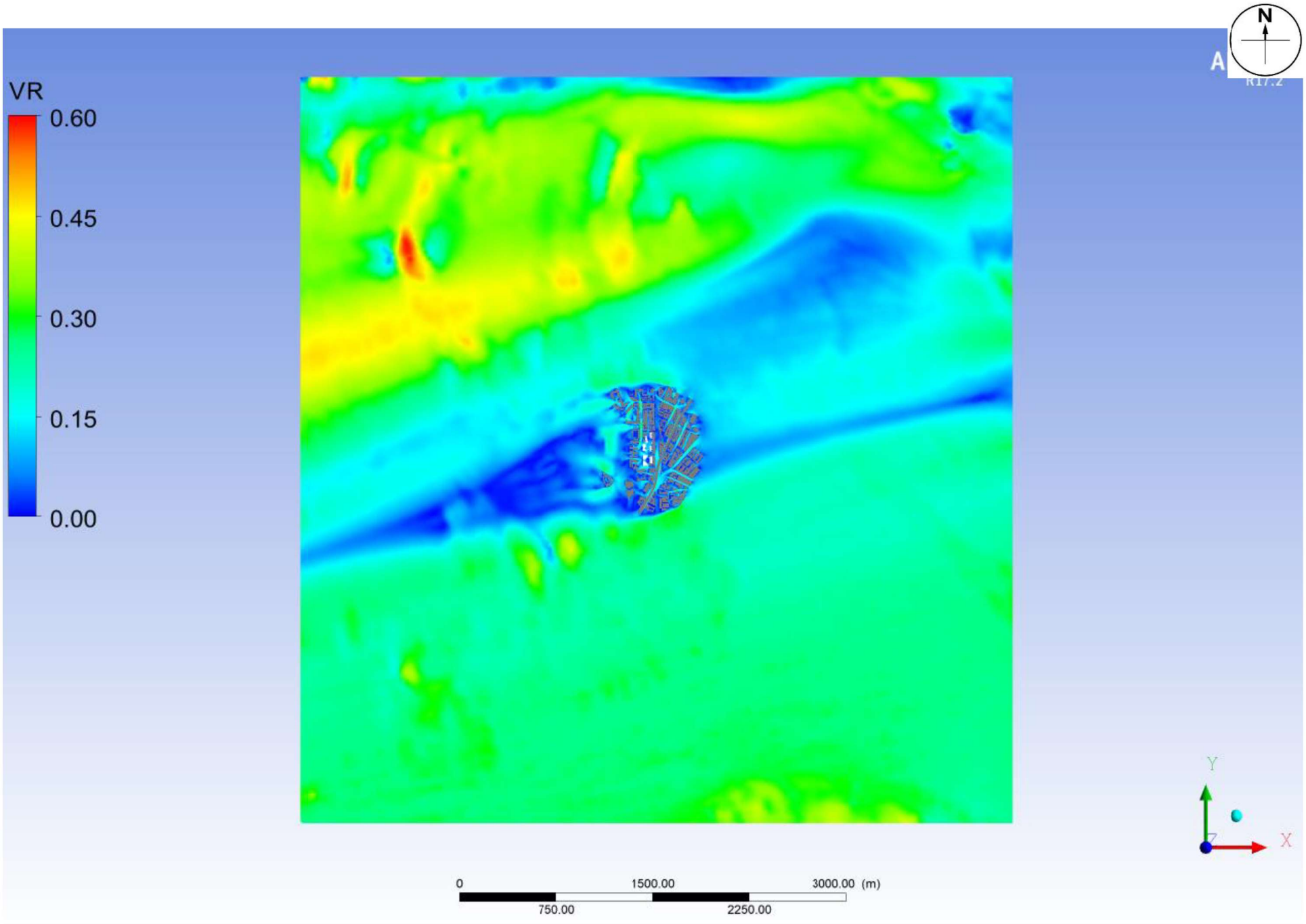
Proposed Scheme - Vector plot at pedestrian level under WSW Wind



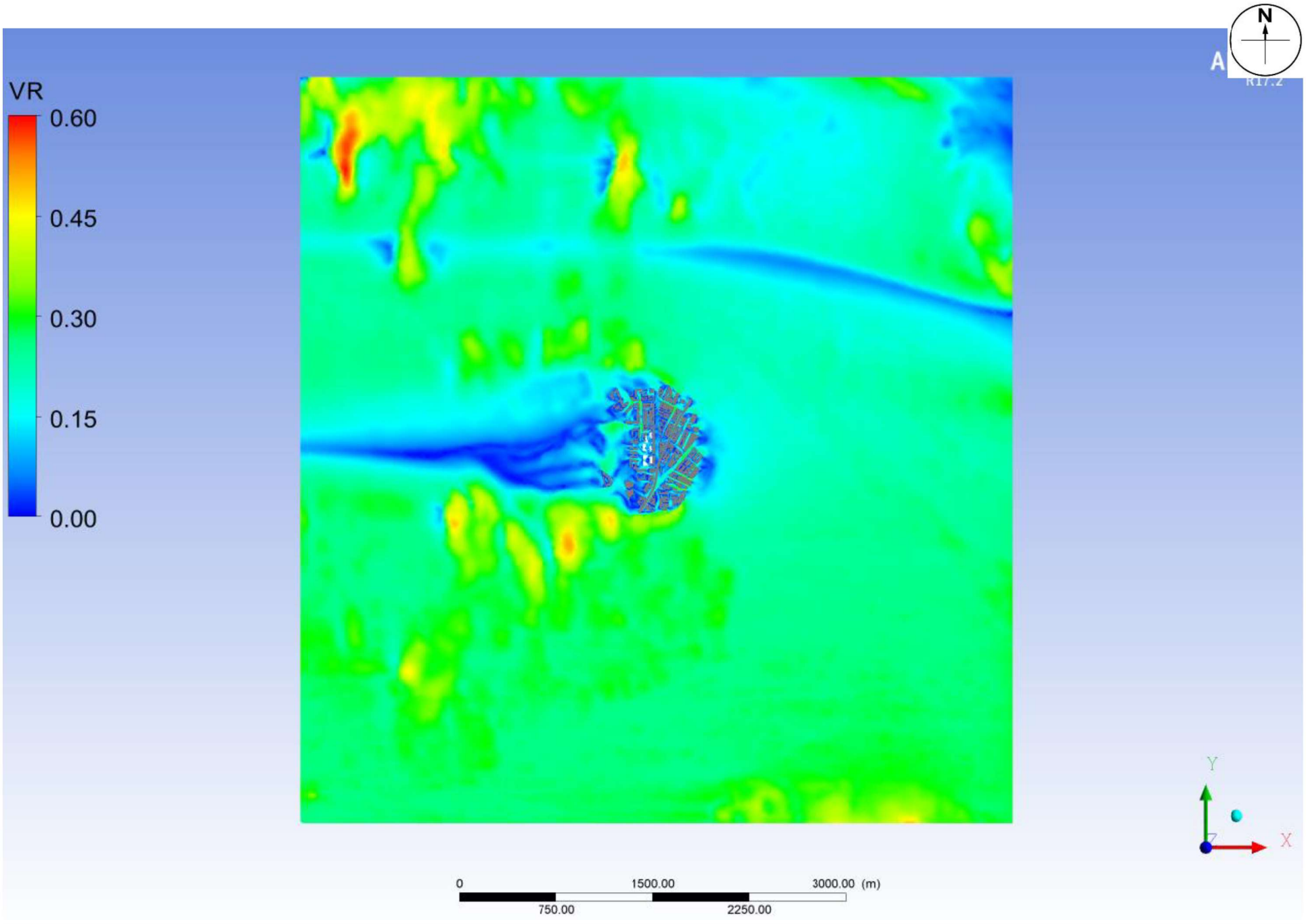
Proposed Scheme - Domain Contour plot at pedestrian level under NNE Wind



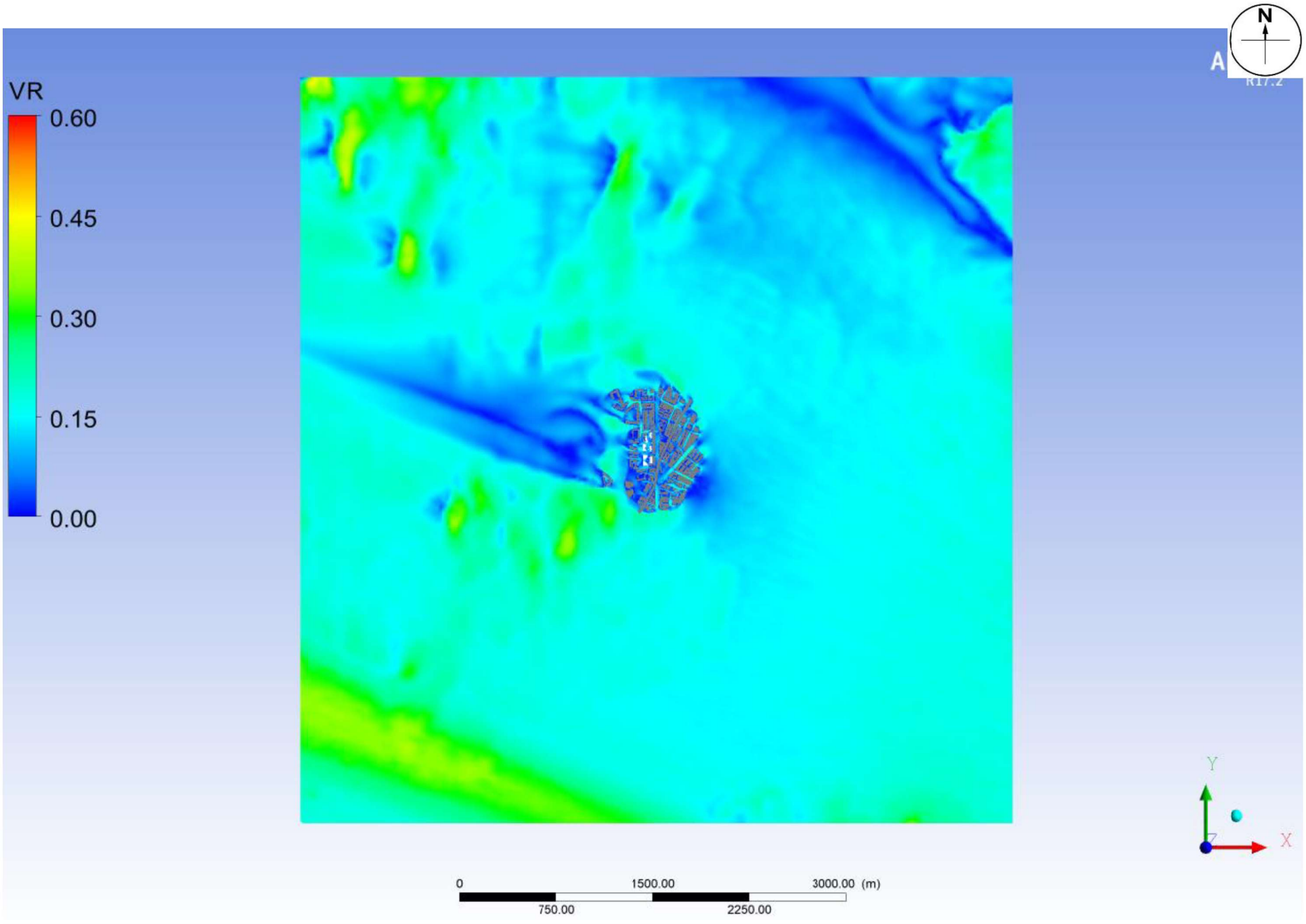
Proposed Scheme - Domain Contour plot at pedestrian level under NE Wind



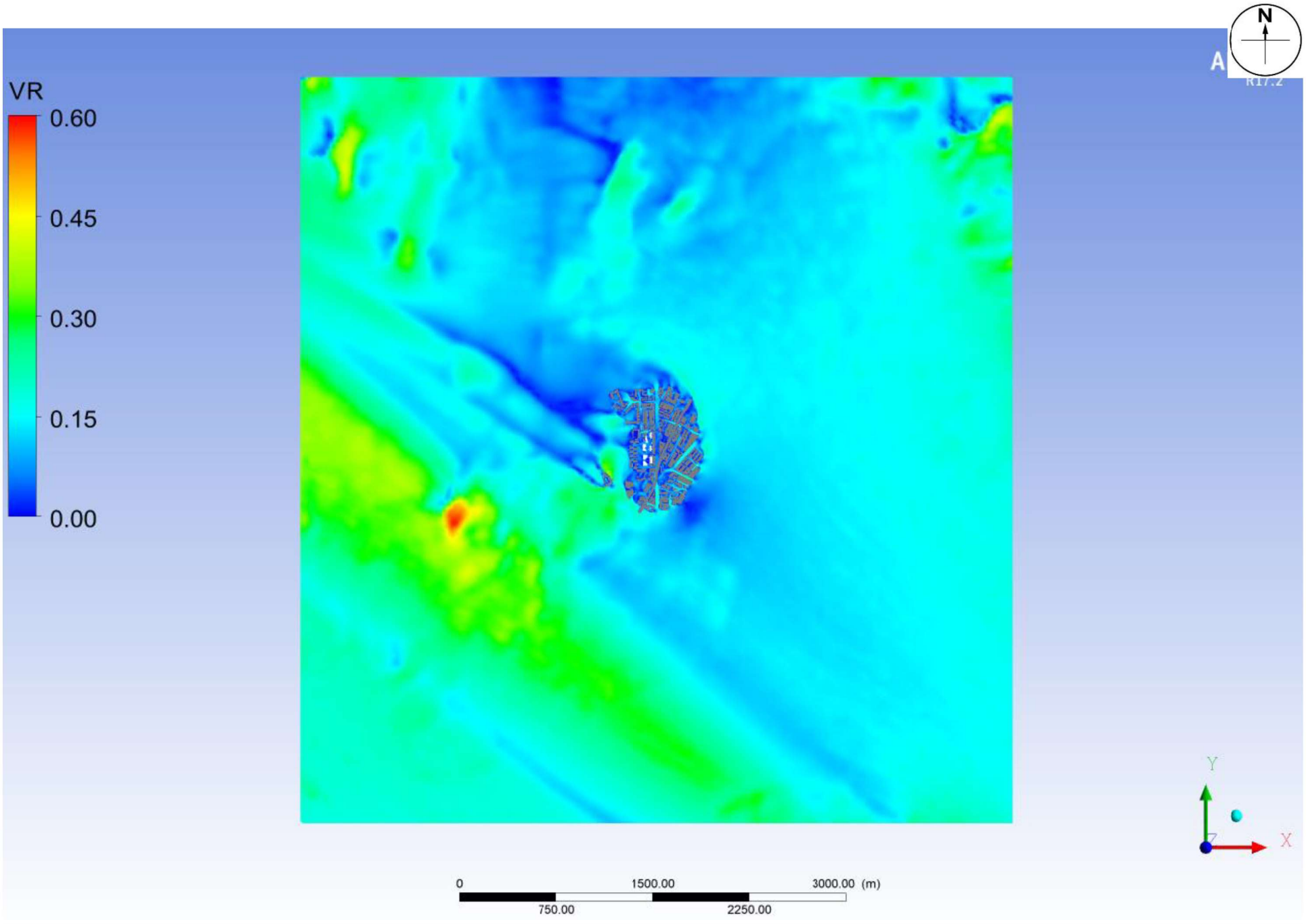
Proposed Scheme - Domain Contour plot at pedestrian level under ENE Wind



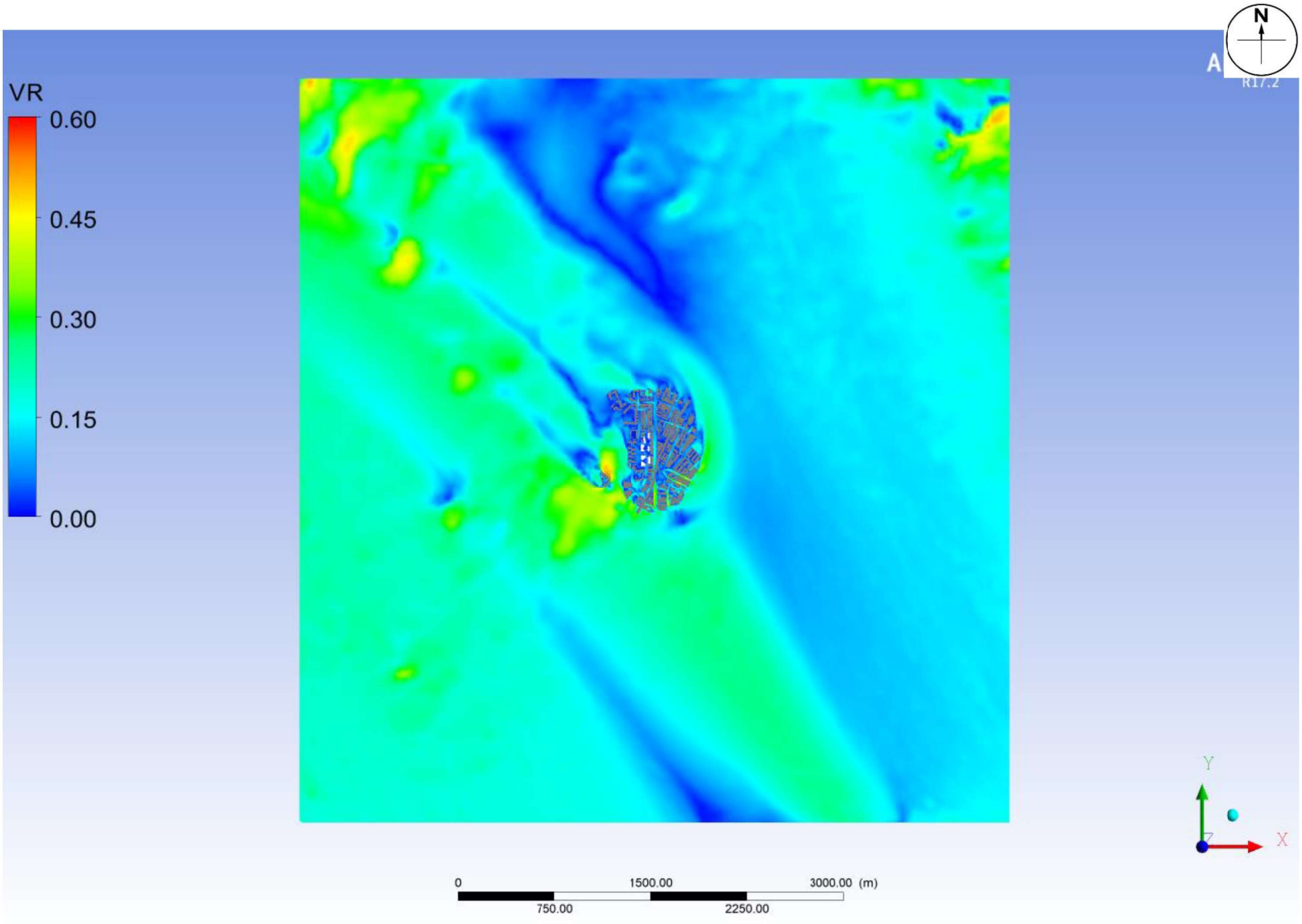
Proposed Scheme - Domain Contour plot at pedestrian level under E Wind



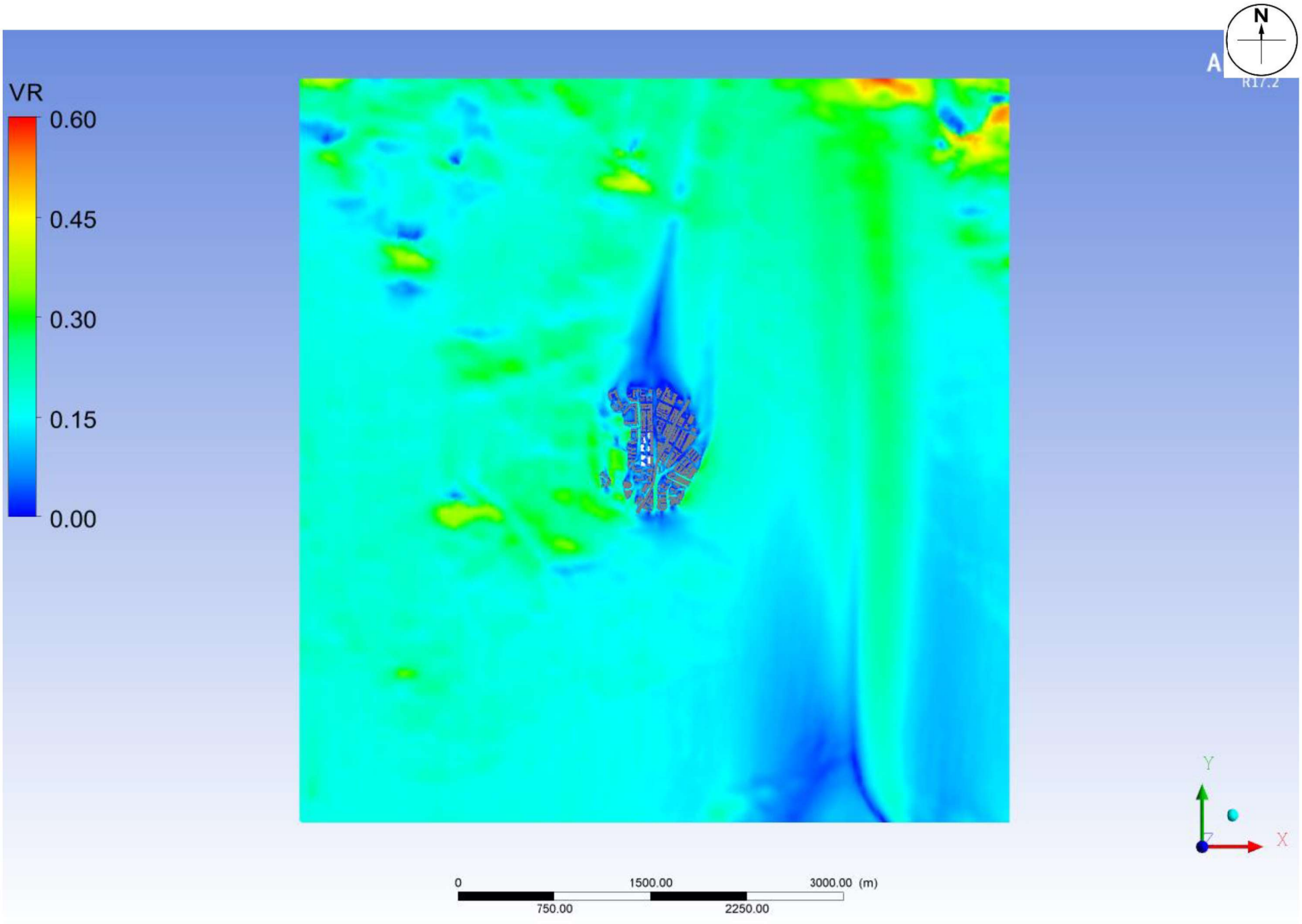
Proposed Scheme - Domain Contour plot at pedestrian level under ESE Wind



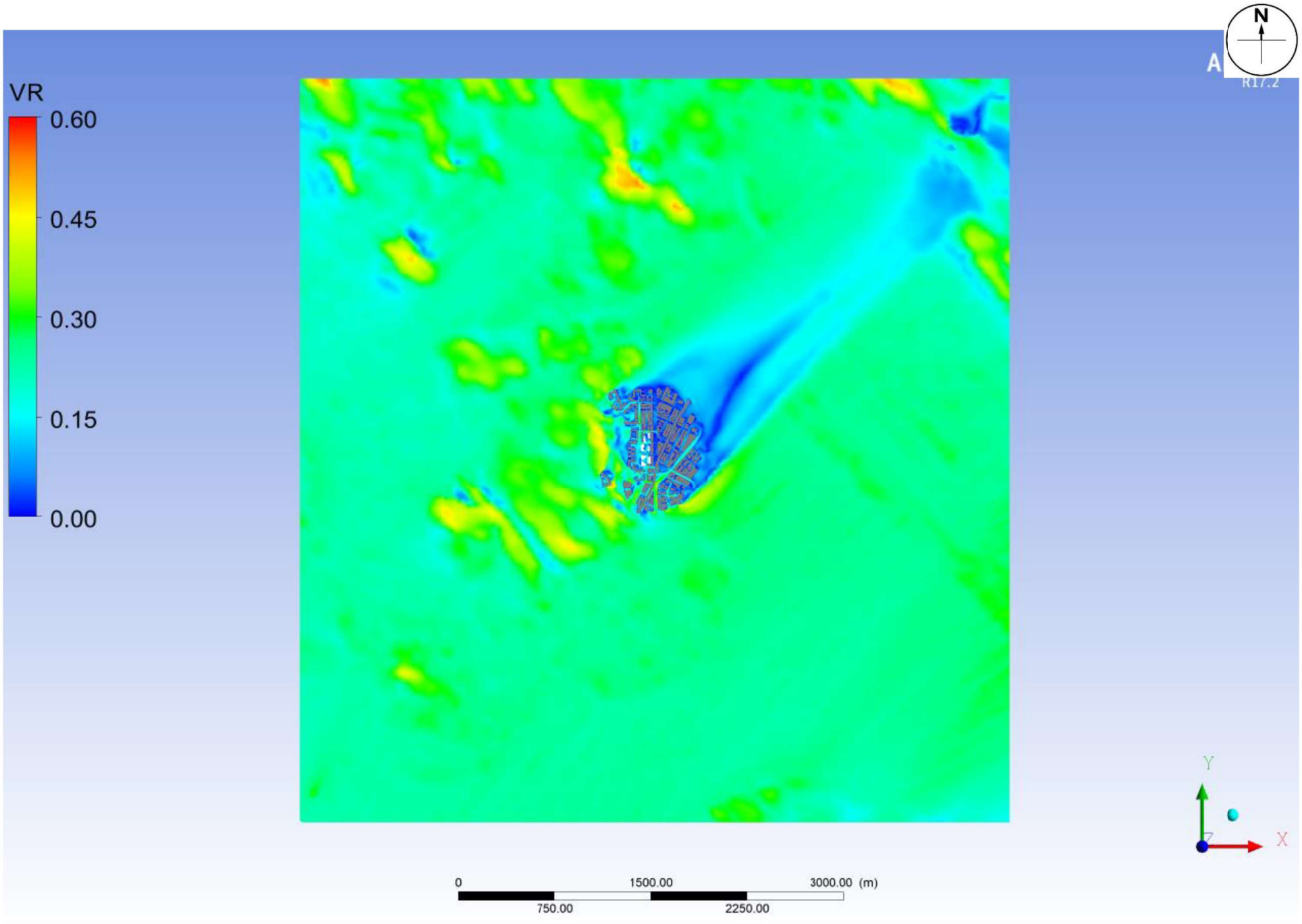
Proposed Scheme - Domain Contour plot at pedestrian level under SE Wind



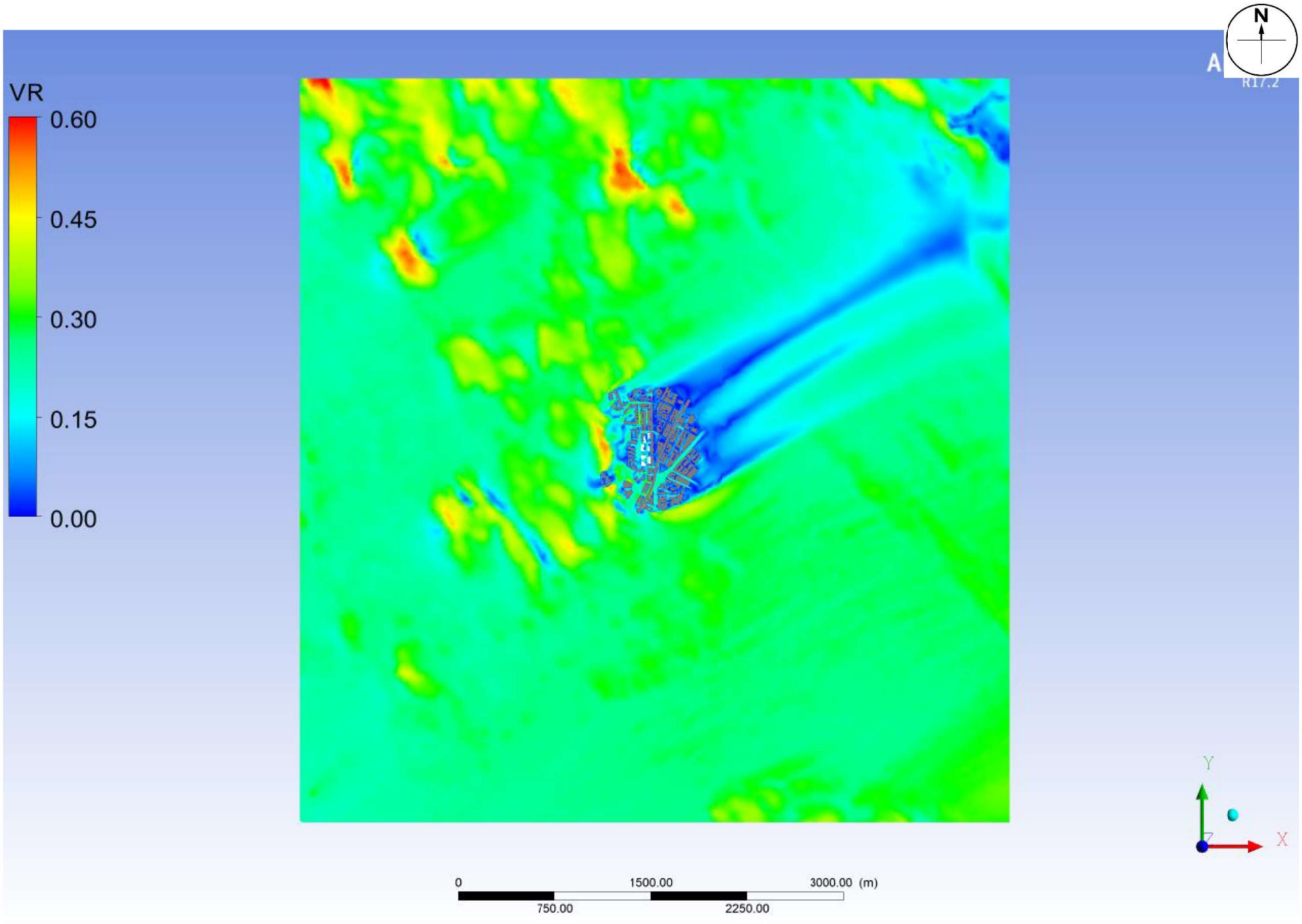
Proposed Scheme - Domain Contour plot at pedestrian level under SSE Wind



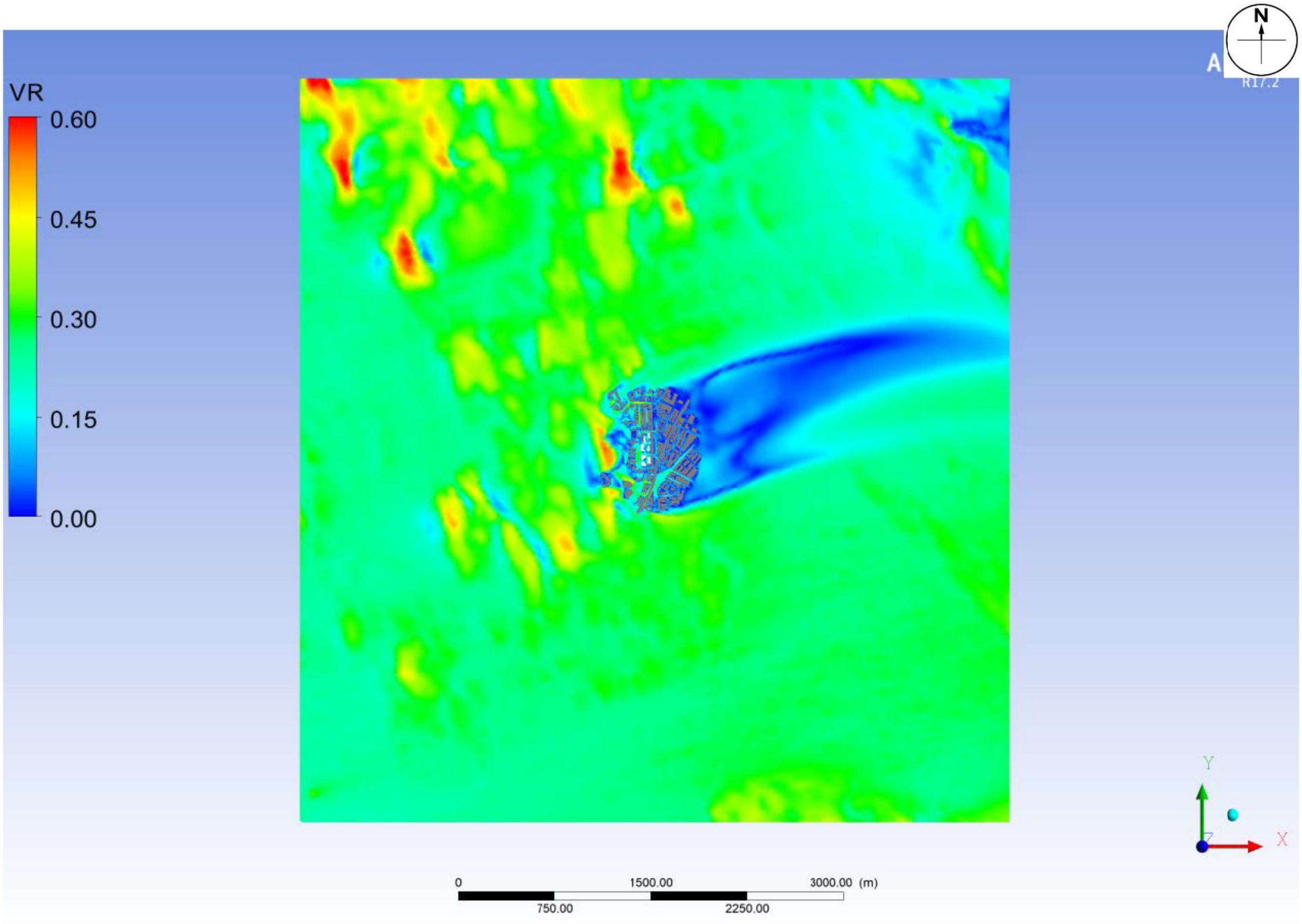
Proposed Scheme - Domain Contour plot at pedestrian level under S Wind



Proposed Scheme - Domain Contour plot at pedestrian level under SSW Wind



Proposed Scheme - Domain Contour plot at pedestrian level under SW Wind



Proposed Scheme - Domain Contour plot at pedestrian level under WSW Wind

Appendix 5

Detailed CFD Simulation Result for Selected Test Points

Baseline Scheme(VR)													
Test Point	**NNE**	**NE**	**ENE**	**E**	**ESE**	**SE**	**SSE**	**S**	**SSW**	**SW**	**WSW**	**Annual**	**Summer**
PointP01	0.03	0.05	0.04	0.03	0.04	0.05	0.04	0.03	0.15	0.19	0.17	0.06	0.10
PointP02	0.02	0.04	0.05	0.06	0.04	0.02	0.01	0.00	0.02	0.01	0.03	0.04	0.02
PointP03	0.02	0.04	0.07	0.07	0.05	0.03	0.02	0.01	0.03	0.03	0.05	0.05	0.04
PointP04	0.01	0.01	0.11	0.02	0.01	0.01	0.00	0.02	0.06	0.00	0.12	0.03	0.03
PointP05	0.01	0.04	0.13	0.11	0.08	0.06	0.03	0.02	0.04	0.02	0.08	0.08	0.05
PointP06	0.01	0.08	0.12	0.03	0.01	0.06	0.02	0.02	0.02	0.02	0.09	0.05	0.03
PointP07	0.01	0.03	0.03	0.00	0.00	0.04	0.02	0.02	0.00	0.02	0.10	0.02	0.03
PointP08	0.04	0.12	0.15	0.16	0.11	0.09	0.04	0.02	0.01	0.07	0.13	0.11	0.08
PointP09	0.04	0.16	0.19	0.19	0.13	0.10	0.04	0.00	0.02	0.03	0.14	0.13	0.08
PointP10	0.03	0.06	0.06	0.05	0.03	0.02	0.00	0.01	0.05	0.05	0.03	0.04	0.03
PointP11	0.02	0.02	0.02	0.01	0.02	0.00	0.01	0.00	0.01	0.03	0.02	0.02	0.01
PointP12	0.03	0.07	0.07	0.06	0.04	0.01	0.01	0.01	0.03	0.06	0.04	0.05	0.04
PointP13	0.03	0.07	0.06	0.05	0.04	0.02	0.01	0.02	0.03	0.04	0.03	0.05	0.03
PointP14	0.02	0.03	0.04	0.05	0.03	0.01	0.01	0.03	0.02	0.03	0.11	0.03	0.04
PointP15	0.07	0.09	0.07	0.12	0.06	0.06	0.05	0.04	0.09	0.07	0.06	0.08	0.07
PointP16	0.08	0.08	0.04	0.12	0.06	0.06	0.07	0.03	0.07	0.08	0.02	0.08	0.07
PointP17	0.08	0.12	0.04	0.15	0.09	0.08	0.08	0.12	0.10	0.11	0.16	0.10	0.11
PointP18	0.02	0.09	0.07	0.05	0.08	0.06	0.06	0.08	0.14	0.12	0.22	0.07	0.11
PointP19	0.04	0.09	0.04	0.03	0.04	0.04	0.06	0.07	0.06	0.07	0.23	0.05	0.08
PointP20	0.01	0.05	0.03	0.04	0.02	0.00	0.04	0.05	0.07	0.07	0.09	0.04	0.05
PointP21	0.11	0.22	0.15	0.19	0.15	0.07	0.05	0.11	0.24	0.26	0.22	0.18	0.18
PointP22	0.02	0.08	0.02	0.08	0.03	0.01	0.03	0.08	0.21	0.22	0.22	0.07	0.13
PointP23	0.01	0.04	0.05	0.07	0.03	0.03	0.04	0.07	0.23	0.25	0.16	0.08	0.13
PointP24	0.02	0.05	0.08	0.11	0.07	0.05	0.05	0.02	0.22	0.24	0.04	0.10	0.12
PointP25	0.03	0.05	0.03	0.09	0.07	0.07	0.01	0.09	0.20	0.22	0.08	0.08	0.12
PointP26	0.01	0.03	0.05	0.05	0.06	0.09	0.04	0.11	0.18	0.20	0.07	0.07	0.11
PointP27	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01
PointP28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PointP29	0.05	0.14	0.10	0.13	0.07	0.07	0.03	0.01	0.18	0.16	0.13	0.11	0.11
PointP30	0.03	0.10	0.07	0.12	0.06	0.09	0.09	0.04	0.05	0.05	0.07	0.08	0.07
Average SVR	**0.03**	**0.07**	**0.07**	**0.07**	**0.05**	**0.04**	**0.03**	**0.04**	**0.09**	**0.09**	**0.10**	**0.07**	**0.07**
PointT01	0.10	0.20	0.15	0.18	0.10	0.03	0.05	0.20	0.13	0.26	0.19	0.15	0.15
PointT02	0.05	0.16	0.11	0.15	0.10	0.10	0.06	0.15	0.10	0.18	0.14	0.12	0.13
PointT03	0.04	0.05	0.06	0.05	0.03	0.16	0.10	0.30	0.22	0.14	0.15	0.07	0.15
PointT04	0.08	0.09	0.08	0.08	0.05	0.15	0.02	0.29	0.21	0.22	0.13	0.10	0.16
PointT05	0.03	0.11	0.02	0.02	0.05	0.07	0.02	0.05	0.02	0.03	0.05	0.04	0.04
PointT06	0.05	0.09	0.05	0.03	0.02	0.02	0.03	0.02	0.14	0.15	0.16	0.06	0.08
PointT07	0.07	0.21	0.10	0.22	0.14	0.08	0.05	0.01	0.20	0.23	0.16	0.16	0.15
PointT08	0.01	0.11	0.07	0.06	0.05	0.05	0.02	0.05	0.20	0.24	0.24	0.09	0.13
PointT09	0.02	0.15	0.14	0.14	0.05	0.06	0.02	0.04	0.19	0.21	0.29	0.12	0.14
PointT10	0.05	0.06	0.07	0.09	0.08	0.07	0.11	0.14	0.07	0.08	0.25	0.08	0.11
PointT11	0.02	0.02	0.04	0.04	0.08	0.04	0.04	0.01	0.01	0.02	0.05	0.04	0.03
PointT12	0.08	0.20	0.13	0.13	0.09	0.03	0.03	0.03	0.02	0.03	0.05	0.10	0.05
PointT13	0.02	0.09	0.08	0.05	0.02	0.02	0.02	0.05	0.02	0.03	0.08	0.05	0.04
PointT14	0.05	0.09	0.09	0.06	0.02	0.04	0.02	0.17	0.18	0.27	0.27	0.08	0.14
PointT15	0.09	0.24	0.20	0.20	0.08	0.07	0.10	0.23	0.29	0.35	0.34	0.19	0.23
PointT16	0.13	0.31	0.25	0.29	0.15	0.11	0.08	0.23	0.19	0.29	0.20	0.23	0.20
PointT17	0.01	0.24	0.21	0.26	0.14	0.11	0.14	0.19	0.14	0.13	0.15	0.18	0.15
PointT18	0.10	0.35	0.29	0.33	0.21	0.15	0.13	0.17	0.23	0.16	0.05	0.25	0.18
PointT19	0.00	0.03	0.13	0.02	0.09	0.10	0.06	0.10	0.16	0.17	0.05	0.08	0.10
PointT20	0.03	0.20	0.23	0.23	0.15	0.12	0.12	0.13	0.20	0.22	0.12	0.19	0.17
PointT21	0.01	0.13	0.15	0.12	0.04	0.07	0.04	0.04	0.23	0.25	0.18	0.12	0.14
PointT22	0.10	0.21	0.14	0.19	0.15	0.06	0.05	0.09	0.21	0.25	0.28	0.17	0.17
PointT23	0.01	0.02	0.02	0.11	0.08	0.06	0.05	0.10	0.14	0.16	0.26	0.08	0.13
PointT24	0.06	0.05	0.04	0.11	0.07	0.06	0.02	0.05	0.20	0.19	0.19	0.09	0.12
PointT25	0.06	0.12	0.11	0.11	0.12	0.15	0.03	0.22	0.16	0.11	0.08	0.12	0.13
PointT26	0.06	0.10	0.10	0.09	0.11	0.15	0.07	0.22	0.16	0.13	0.10	0.11	0.13
PointT27	0.01	0.07	0.06	0.07	0.07	0.03	0.05	0.03	0.06	0.21	0.23	0.07	0.10
PointT28	0.02	0.06	0.06	0.10	0.08	0.04	0.11	0.03	0.07	0.23	0.24	0.08	0.12
PointT29	0.01	0.05	0.05	0.08	0.05	0.02	0.07	0.01	0.02	0.08	0.08	0.05	0.05
PointT30	0.02	0.09	0.09	0.10	0.06	0.03	0.08	0.03	0.03	0.04	0.03	0.07	0.05
PointT31	0.01	0.08	0.09	0.08	0.09	0.05	0.06	0.02	0.03	0.10	0.09	0.07	0.07
PointT32	0.05	0.02	0.01	0.01	0.10	0.01	0.02	0.02	0.21	0.22	0.21	0.06	0.12
PointT33	0.02	0.05	0.02	0.05	0.02	0.04	0.07	0.02	0.17	0.12	0.19	0.05	0.09
PointT34	0.02	0.02	0.04	0.09	0.07	0.06	0.06	0.02	0.11	0.10	0.06	0.07	0.08
PointT35	0.04	0.03	0.05	0.10	0.05	0.02	0.03	0.04	0.06	0.08	0.06	0.06	0.06
PointT36	0.01	0.02	0.02	0.06	0.02	0.03	0.04	0.02	0.03	0.07	0.03	0.03	0.04
PointT37	0.04	0.01	0.02	0.13	0.05	0.07	0.08	0.05	0.04	0.09	0.02	0.07	0.07
PointT38	0.04	0.08	0.05	0.11	0.04	0.07	0.06	0.02	0.03	0.05	0.02	0.07	0.05
PointT39	0.03	0.07	0.05	0.03	0.03	0.09	0.10	0.03	0.08	0.04	0.03	0.05	0.05
PointT40	0.02	0.02	0.03	0.05	0.06	0.09	0.04	0.03	0.07	0.06	0.06	0.05	0.06
PointT41	0.01	0.05	0.04	0.05	0.02	0.05	0.04	0.04	0.11	0.03	0.06	0.04	0.05
PointT42	0.02	0.03	0.05	0.08	0.10	0.03	0.06	0.02	0.04	0.02	0.15	0.06	0.06
PointT43	0.03	0.05	0.04	0.07	0.11	0.03	0.07	0.04	0.03	0.01	0.01	0.05	0.04

Baseline Scheme(VR)													
Test Point	**NNE**	**NE**	**ENE**	**E**	**ESE**	**SE**	**SSE**	**S**	**SSW**	**SW**	**WSW**	**Annual**	**Summer**
PointT44	0.03	0.06	0.09	0.11	0.13	0.02	0.08	0.02	0.03	0.04	0.04	0.08	0.06
PointT45	0.02	0.06	0.11	0.10	0.09	0.01	0.09	0.05	0.02	0.04	0.02	0.07	0.05
PointT46	0.01	0.03	0.05	0.04	0.05	0.05	0.13	0.06	0.10	0.01	0.11	0.04	0.07
PointT47	0.03	0.07	0.09	0.05	0.03	0.02	0.05	0.02	0.03	0.06	0.03	0.05	0.04
PointT48	0.07	0.18	0.13	0.10	0.08	0.08	0.08	0.06	0.02	0.03	0.02	0.10	0.05
PointT49	0.03	0.14	0.09	0.11	0.05	0.11	0.09	0.04	0.06	0.07	0.02	0.09	0.07
PointT50	0.09	0.20	0.09	0.12	0.07	0.04	0.03	0.02	0.22	0.23	0.14	0.12	0.13
PointT51	0.04	0.10	0.09	0.10	0.12	0.16	0.14	0.20	0.14	0.15	0.10	0.11	0.14
PointT52	0.03	0.02	0.04	0.07	0.02	0.07	0.06	0.02	0.01	0.07	0.02	0.05	0.04
PointT53	0.03	0.08	0.15	0.20	0.09	0.07	0.14	0.03	0.06	0.01	0.07	0.11	0.08
PointT54	0.02	0.04	0.03	0.08	0.08	0.08	0.09	0.03	0.06	0.04	0.06	0.06	0.06
PointT55	0.02	0.01	0.07	0.14	0.03	0.01	0.06	0.01	0.08	0.06	0.08	0.07	0.06
PointT56	0.02	0.21	0.20	0.26	0.05	0.11	0.12	0.07	0.08	0.07	0.04	0.16	0.10
PointT57	0.03	0.07	0.03	0.11	0.03	0.02	0.01	0.04	0.06	0.10	0.02	0.06	0.05
PointT58	0.05	0.13	0.13	0.17	0.09	0.06	0.03	0.10	0.03	0.07	0.05	0.11	0.07
PointT59	0.04	0.02	0.03	0.02	0.01	0.03	0.02	0.03	0.03	0.03	0.06	0.02	0.03
PointT60	0.03	0.09	0.09	0.14	0.05	0.08	0.14	0.11	0.07	0.02	0.07	0.09	0.08
PointT61	0.02	0.07	0.08	0.03	0.01	0.03	0.01	0.02	0.00	0.05	0.05	0.04	0.03
PointT62	0.05	0.03	0.04	0.07	0.05	0.06	0.06	0.04	0.03	0.02	0.03	0.05	0.04
PointT63	0.05	0.10	0.14	0.12	0.08	0.08	0.11	0.02	0.06	0.02	0.06	0.09	0.06
PointT64	0.03	0.03	0.03	0.05	0.02	0.08	0.12	0.08	0.04	0.04	0.09	0.04	0.06
PointT65	0.00	0.11	0.06	0.06	0.06	0.02	0.07	0.11	0.04	0.04	0.08	0.05	0.06
PointT66	0.02	0.07	0.03	0.09	0.09	0.05	0.02	0.11	0.03	0.09	0.09	0.07	0.07
PointT67	0.03	0.17	0.11	0.10	0.07	0.04	0.08	0.05	0.03	0.05	0.13	0.08	0.07
PointT68	0.06	0.06	0.04	0.09	0.03	0.07	0.05	0.07	0.12	0.21	0.13	0.08	0.11
PointT69	0.05	0.07	0.06	0.06	0.05	0.08	0.13	0.11	0.08	0.09	0.09	0.06	0.08
PointT70	0.08	0.20	0.15	0.18	0.11	0.13	0.19	0.11	0.07	0.23	0.12	0.15	0.14
PointT71	0.01	0.03	0.00	0.01	0.00	0.00	0.09	0.05	0.14	0.16	0.03	0.03	0.07
PointT72	0.02	0.16	0.05	0.12	0.08	0.04	0.09	0.04	0.02	0.03	0.06	0.08	0.05
PointT73	0.01	0.03	0.03	0.03	0.02	0.03	0.07	0.12	0.33	0.34	0.40	0.07	0.19
PointT74	0.10	0.11	0.06	0.14	0.09	0.09	0.15	0.15	0.31	0.31	0.35	0.14	0.22
PointT75	0.01	0.03	0.02	0.03	0.02	0.07	0.14	0.07	0.21	0.27	0.28	0.06	0.15
PointT76	0.11	0.19	0.08	0.12	0.10	0.04	0.05	0.02	0.23	0.16	0.16	0.12	0.12
PointT77	0.09	0.21	0.11	0.15	0.12	0.08	0.14	0.07	0.27	0.28	0.33	0.16	0.19
PointT78	0.11	0.05	0.12	0.15	0.07	0.10	0.05	0.03	0.17	0.11	0.02	0.12	0.09
PointT79	0.05	0.11	0.07	0.05	0.05	0.10	0.12	0.08	0.24	0.30	0.10	0.10	0.15
PointT80	0.06	0.12	0.08	0.06	0.03	0.11	0.09	0.07	0.21	0.28	0.32	0.10	0.16
PointT81	0.06	0.13	0.10	0.11	0.04	0.10	0.09	0.01	0.22	0.30	0.34	0.12	0.17
PointT82	0.03	0.13	0.07	0.10	0.05	0.07	0.12	0.09	0.28	0.35	0.35	0.12	0.20
PointT83	0.04	0.16	0.07	0.09	0.01	0.05	0.03	0.09	0.11	0.13	0.19	0.08	0.09
PointT84	0.01	0.12	0.05	0.05	0.05	0.06	0.12	0.13	0.15	0.19	0.22	0.08	0.13
PointT85	0.05	0.16	0.11	0.09	0.03	0.05	0.09	0.14	0.24	0.21	0.23	0.10	0.15
PointT86	0.07	0.18	0.03	0.10	0.07	0.05	0.19	0.12	0.31	0.33	0.38	0.12	0.21
PointT87	0.06	0.16	0.03	0.08	0.08	0.08	0.21	0.09	0.20	0.26	0.31	0.10	0.17
PointT88	0.02	0.01	0.01	0.03	0.01	0.04	0.05	0.11	0.15	0.16	0.04	0.04	0.08
PointT89	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.06	0.08	0.08	0.04	0.02	0.05
PointT90	0.01	0.02	0.02	0.02	0.02	0.02	0.07	0.11	0.15	0.15	0.04	0.04	0.08
PointT91	0.01	0.02	0.02	0.02	0.02	0.02	0.04	0.06	0.07	0.07	0.02	0.03	0.04
PointT92	0.01	0.03	0.01	0.00	0.01	0.02	0.02	0.02	0.00	0.02	0.06	0.01	0.02
PointT93	0.02	0.04	0.02	0.04	0.05	0.05	0.06	0.02	0.01	0.03	0.11	0.04	0.04
PointT94	0.02	0.04	0.03	0.06	0.07	0.06	0.07	0.02	0.03	0.02	0.12	0.05	0.05
PointT95	0.00	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01
PointT96	0.01	0.02	0.02	0.01	0.01	0.03	0.02	0.01	0.02	0.02	0.03	0.01	0.02
PointT97	0.01	0.01	0.00	0.01	0.01	0.02	0.01	0.00	0.02	0.02	0.04	0.01	0.02
PointT98	0.01	0.02	0.01	0.04	0.02	0.03	0.05	0.00	0.01	0.02	0.02	0.02	0.02
PointT99	0.00	0.01	0.01	0.02	0.01	0.02	0.02	0.00	0.01	0.01	0.01	0.01	0.01
PointT100	0.00	0.01	0.01	0.00	0.00	0.03	0.03	0.00	0.01	0.02	0.01	0.01	0.01
PointT101	0.01	0.02	0.02	0.03	0.02	0.05	0.07	0.00	0.03	0.07	0.02	0.03	0.04
PointT102	0.01	0.01	0.01	0.02	0.01	0.03	0.09	0.01	0.02	0.09	0.01	0.02	0.04
PointT103	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.00	0.01	0.01
PointT104	0.03	0.01	0.01	0.01	0.03	0.02	0.00	0.04	0.01	0.02	0.01	0.02	0.02
PointT105	0.02	0.01	0.02	0.04	0.03	0.07	0.05	0.08	0.19	0.14	0.12	0.05	0.10
PointT106	0.06	0.04	0.05	0.02	0.04	0.05	0.05	0.03	0.20	0.21	0.14	0.06	0.11
PointT107	0.05	0.05	0.04	0.02	0.03	0.04	0.02	0.04	0.09	0.17	0.11	0.05	0.07
PointT108	0.01	0.05	0.02	0.02	0.02	0.07	0.07	0.07	0.19	0.20	0.15	0.05	0.11
PointT109	0.01	0.08	0.04	0.02	0.03	0.03	0.06	0.06	0.11	0.10	0.12	0.04	0.07
PointT110	0.02	0.05	0.02	0.03	0.01	0.02	0.01	0.07	0.06	0.13	0.02	0.03	0.05
PointT111	0.01	0.08	0.05	0.05	0.01	0.02	0.02	0.06	0.07	0.11	0.02	0.05	0.05
PointT112	0.03	0.03	0.05	0.05	0.03	0.02	0.05	0.02	0.06	0.06	0.06	0.04	0.04
PointT113	0.02	0.05	0.09	0.11	0.02	0.00	0.05	0.01	0.03	0.05	0.03	0.06	0.04
PointT114	0.02	0.02	0.04	0.06	0.02	0.02	0.01	0.02	0.01	0.03	0.01	0.03	0.02
PointT115	0.02	0.04	0.08	0.10	0.03	0.01	0.06	0.02	0.04	0.05	0.04	0.06	0.04
PointT116	0.03	0.09	0.11	0.09	0.07	0.06	0.11	0.06	0.05	0.08	0.00	0.08	0.07
PointT117	0.04	0.09	0.10	0.04	0.03	0.07	0.09	0.10	0.02	0.02	0.02	0.05	0.04

Baseline Scheme(VR)													
Test Point	**NNE**	**NE**	**ENE**	**E**	**ESE**	**SE**	**SSE**	**S**	**SSW**	**SW**	**WSW**	**Annual**	**Summer**
PointT118	0.03	0.15	0.13	0.13	0.09	0.09	0.18	0.03	0.04	0.08	0.04	0.10	0.08
PointT119	0.04	0.16	0.14	0.06	0.07	0.07	0.13	0.15	0.08	0.03	0.02	0.08	0.07
PointT120	0.06	0.12	0.04	0.09	0.06	0.02	0.05	0.11	0.07	0.07	0.08	0.07	0.07
PointT121	0.05	0.13	0.15	0.13	0.02	0.14	0.09	0.16	0.06	0.23	0.17	0.11	0.13
PointT122	0.13	0.21	0.12	0.04	0.01	0.11	0.05	0.15	0.16	0.20	0.14	0.10	0.12
PointT123	0.08	0.21	0.12	0.12	0.06	0.12	0.01	0.21	0.16	0.24	0.17	0.13	0.15
PointT124	0.06	0.22	0.14	0.20	0.09	0.06	0.17	0.24	0.28	0.22	0.19	0.16	0.19
PointT125	0.04	0.05	0.04	0.05	0.02	0.01	0.02	0.02	0.05	0.15	0.08	0.05	0.06
PointT126	0.01	0.04	0.03	0.01	0.02	0.03	0.01	0.05	0.04	0.03	0.01	0.02	0.03
PointT127	0.04	0.11	0.09	0.13	0.11	0.04	0.03	0.03	0.06	0.09	0.04	0.10	0.07
PointT128	0.02	0.01	0.01	0.01	0.01	0.05	0.01	0.01	0.01	0.01	0.04	0.01	0.02
PointT129	0.02	0.05	0.03	0.08	0.03	0.04	0.03	0.08	0.08	0.04	0.10	0.05	0.06
PointT130	0.01	0.04	0.00	0.09	0.02	0.03	0.08	0.12	0.16	0.15	0.08	0.06	0.10
PointT131	0.03	0.03	0.02	0.02	0.02	0.09	0.04	0.08	0.12	0.15	0.04	0.04	0.08
PointT132	0.02	0.01	0.01	0.01	0.02	0.08	0.03	0.05	0.17	0.08	0.12	0.04	0.08
PointT133	0.11	0.27	0.17	0.20	0.09	0.17	0.22	0.20	0.31	0.20	0.16	0.19	0.20
PointT134	0.05	0.17	0.13	0.08	0.06	0.03	0.04	0.03	0.08	0.18	0.14	0.09	0.09
PointT135	0.07	0.21	0.11	0.18	0.13	0.08	0.09	0.04	0.27	0.22	0.17	0.16	0.16
PointT136	0.08	0.18	0.10	0.13	0.07	0.02	0.07	0.02	0.23	0.21	0.19	0.12	0.13
PointT137	0.14	0.24	0.07	0.19	0.14	0.08	0.03	0.06	0.23	0.23	0.18	0.16	0.16
PointT138	0.05	0.06	0.04	0.10	0.06	0.01	0.04	0.04	0.22	0.23	0.19	0.09	0.13
PointT139	0.01	0.05	0.09	0.07	0.07	0.06	0.02	0.00	0.06	0.08	0.06	0.06	0.06
Average LVR	**0.04**	**0.09**	**0.07**	**0.08**	**0.06**	**0.06**	**0.06**	**0.06**	**0.10**	**0.12**	**0.11**	**0.08**	**0.09**
PointS01	0.03	0.12	0.08	0.12	0.08	0.10	0.10	0.04	0.05	0.01	0.11	0.08	0.08
PointS02	0.05	0.17	0.15	0.13	0.04	0.09	0.09	0.05	0.06	0.07	0.18	0.10	0.11
PointS03	0.06	0.16	0.12	0.15	0.10	0.07	0.08	0.02	0.07	0.07	0.19	0.11	0.11
PointS04	0.05	0.11	0.11	0.08	0.05	0.03	0.04	0.05	0.06	0.05	0.13	0.07	0.12
PointS05	0.01	0.03	0.03	0.04	0.05	0.02	0.01	0.01	0.04	0.04	0.01	0.04	0.10
PointS06	0.10	0.20	0.16	0.17	0.13	0.06	0.01	0.07	0.21	0.26	0.02	0.16	0.10
PointS07	0.08	0.10	0.14	0.14	0.08	0.06	0.02	0.08	0.24	0.25	0.05	0.13	0.10

Proposed Scheme(VR)													
Test Point	**NNE**	**NE**	**ENE**	**E**	**ESE**	**SE**	**SSE**	**S**	**SSW**	**SW**	**WSW**	**Annual**	**Summer**
PointP01	0.04	0.11	0.06	0.10	0.09	0.06	0.04	0.03	0.17	0.18	0.18	0.10	0.12
PointP02	0.02	0.05	0.04	0.07	0.06	0.04	0.03	0.01	0.03	0.02	0.01	0.05	0.03
PointP03	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.03	0.04	0.04	0.02	0.02
PointP04	0.03	0.08	0.05	0.09	0.07	0.05	0.04	0.02	0.06	0.06	0.08	0.07	0.06
PointP05	0.03	0.11	0.06	0.06	0.04	0.07	0.07	0.04	0.11	0.11	0.10	0.07	0.08
PointP06	0.03	0.08	0.06	0.04	0.02	0.00	0.02	0.03	0.07	0.06	0.03	0.04	0.04
PointP07	0.04	0.07	0.01	0.01	0.00	0.02	0.02	0.03	0.06	0.06	0.02	0.03	0.03
PointP08	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
PointP09	0.06	0.10	0.14	0.14	0.10	0.07	0.07	0.03	0.12	0.10	0.10	0.11	0.09
PointP10	0.03	0.06	0.05	0.02	0.04	0.01	0.01	0.01	0.01	0.02	0.04	0.03	0.02
PointP11	0.03	0.04	0.04	0.02	0.03	0.01	0.01	0.01	0.02	0.02	0.05	0.03	0.02
PointP12	0.00	0.08	0.04	0.02	0.03	0.01	0.01	0.02	0.06	0.08	0.05	0.04	0.04
PointP13	0.01	0.04	0.01	0.01	0.02	0.01	0.00	0.02	0.03	0.05	0.04	0.02	0.02
PointP14	0.01	0.07	0.04	0.06	0.05	0.01	0.01	0.03	0.07	0.07	0.18	0.05	0.06
PointP15	0.06	0.16	0.15	0.14	0.09	0.07	0.08	0.09	0.19	0.11	0.09	0.13	0.11
PointP16	0.07	0.22	0.19	0.18	0.10	0.07	0.06	0.05	0.10	0.06	0.04	0.14	0.08
PointP17	0.08	0.21	0.17	0.16	0.09	0.08	0.07	0.09	0.10	0.14	0.18	0.14	0.11
PointP18	0.02	0.03	0.05	0.06	0.03	0.02	0.02	0.10	0.05	0.08	0.21	0.05	0.07
PointP19	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.09	0.06	0.09	0.23	0.03	0.07
PointP20	0.01	0.04	0.04	0.02	0.01	0.03	0.08	0.10	0.04	0.08	0.25	0.03	0.08
PointP21	0.14	0.27	0.17	0.07	0.05	0.05	0.06	0.04	0.18	0.22	0.26	0.13	0.13
PointP22	0.11	0.22	0.16	0.19	0.08	0.08	0.05	0.06	0.13	0.19	0.26	0.15	0.14
PointP23	0.02	0.06	0.05	0.08	0.14	0.06	0.05	0.07	0.08	0.16	0.23	0.08	0.11
PointP24	0.02	0.05	0.01	0.05	0.10	0.04	0.03	0.08	0.14	0.20	0.13	0.07	0.11
PointP25	0.08	0.21	0.16	0.20	0.07	0.04	0.01	0.10	0.20	0.22	0.12	0.15	0.13
PointP26	0.08	0.11	0.07	0.13	0.11	0.08	0.07	0.12	0.17	0.16	0.07	0.12	0.12
PointP27	0.09	0.16	0.11	0.15	0.12	0.07	0.07	0.05	0.27	0.25	0.17	0.15	0.16
PointP28	0.03	0.04	0.04	0.06	0.04	0.03	0.01	0.00	0.01	0.01	0.01	0.04	0.02
PointP29	0.05	0.13	0.10	0.11	0.07	0.05	0.05	0.02	0.15	0.14	0.17	0.10	0.10
PointP30	0.07	0.17	0.03	0.17	0.13	0.08	0.05	0.05	0.03	0.06	0.14	0.11	0.08
Average SVR	**0.04**	**0.10**	**0.07**	**0.08**	**0.06**	**0.04**	**0.04**	**0.05**	**0.09**	**0.10**	**0.12**	**0.08**	**0.08**
PointT01	0.15	0.22	0.17	0.19	0.12	0.03	0.05	0.19	0.12	0.24	0.18	0.16	0.15
PointT02	0.09	0.16	0.11	0.15	0.11	0.09	0.03	0.14	0.12	0.16	0.14	0.13	0.12
PointT03	0.10	0.09	0.06	0.03	0.03	0.04	0.08	0.28	0.23	0.17	0.16	0.07	0.14
PointT04	0.13	0.10	0.08	0.06	0.02	0.02	0.07	0.28	0.20	0.24	0.14	0.09	0.14
PointT05	0.05	0.07	0.03	0.04	0.05	0.02	0.05	0.11	0.02	0.04	0.04	0.04	0.04
PointT06	0.03	0.08	0.07	0.08	0.05	0.08	0.06	0.03	0.12	0.13	0.16	0.08	0.09
PointT07	0.07	0.23	0.19	0.08	0.12	0.08	0.07	0.02	0.15	0.18	0.20	0.13	0.12
PointT08	0.08	0.14	0.11	0.16	0.08	0.07	0.06	0.10	0.12	0.18	0.28	0.13	0.14
PointT09	0.06	0.03	0.08	0.14	0.11	0.06	0.07	0.10	0.12	0.14	0.29	0.10	0.13
PointT10	0.04	0.16	0.13	0.11	0.10	0.01	0.04	0.16	0.12	0.09	0.26	0.10	0.11
PointT11	0.01	0.14	0.09	0.16	0.10	0.05	0.05	0.05	0.01	0.02	0.01	0.09	0.05
PointT12	0.07	0.15	0.06	0.01	0.04	0.05	0.04	0.01	0.05	0.04	0.07	0.05	0.04
PointT13	0.08	0.16	0.15	0.17	0.11	0.06	0.03	0.05	0.08	0.02	0.04	0.12	0.07
PointT14	0.12	0.11	0.09	0.08	0.01	0.03	0.04	0.18	0.26	0.30	0.30	0.11	0.17
PointT15	0.16	0.22	0.20	0.18	0.09	0.06	0.07	0.23	0.30	0.35	0.34	0.19	0.22
PointT16	0.20	0.31	0.26	0.29	0.17	0.09	0.08	0.22	0.18	0.27	0.22	0.24	0.20
PointT17	0.02	0.21	0.21	0.25	0.16	0.10	0.09	0.19	0.16	0.13	0.04	0.18	0.14
PointT18	0.14	0.32	0.28	0.24	0.17	0.07	0.12	0.17	0.23	0.14	0.13	0.21	0.16
PointT19	0.02	0.04	0.04	0.14	0.08	0.05	0.04	0.12	0.21	0.19	0.06	0.10	0.13
PointT20	0.10	0.20	0.17	0.17	0.13	0.10	0.07	0.15	0.16	0.18	0.14	0.16	0.14
PointT21	0.02	0.05	0.04	0.04	0.16	0.07	0.06	0.12	0.13	0.18	0.22	0.08	0.13
PointT22	0.11	0.22	0.12	0.10	0.04	0.03	0.06	0.05	0.14	0.19	0.28	0.11	0.12
PointT23	0.08	0.13	0.12	0.15	0.10	0.05	0.06	0.07	0.08	0.11	0.27	0.11	0.11
PointT24	0.04	0.13	0.11	0.11	0.05	0.06	0.03	0.02	0.14	0.15	0.19	0.10	0.10
PointT25	0.12	0.04	0.03	0.09	0.13	0.10	0.09	0.22	0.18	0.11	0.04	0.09	0.12
PointT26	0.11	0.04	0.04	0.09	0.12	0.10	0.12	0.22	0.15	0.10	0.08	0.09	0.12
PointT27	0.04	0.06	0.06	0.06	0.04	0.01	0.03	0.03	0.09	0.22	0.17	0.07	0.10
PointT28	0.07	0.10	0.05	0.09	0.08	0.04	0.09	0.03	0.10	0.23	0.18	0.09	0.12
PointT29	0.03	0.07	0.05	0.06	0.04	0.03	0.05	0.01	0.02	0.08	0.06	0.05	0.05
PointT30	0.05	0.12	0.08	0.06	0.05	0.05	0.06	0.03	0.03	0.07	0.06	0.07	0.05
PointT31	0.05	0.12	0.09	0.05	0.11	0.09	0.03	0.02	0.05	0.07	0.07	0.08	0.06
PointT32	0.02	0.05	0.03	0.16	0.15	0.13	0.01	0.04	0.27	0.22	0.21	0.13	0.16
PointT33	0.02	0.03	0.02	0.10	0.11	0.06	0.06	0.03	0.21	0.15	0.20	0.08	0.12
PointT34	0.02	0.06	0.03	0.09	0.05	0.08	0.02	0.03	0.12	0.13	0.11	0.07	0.08
PointT35	0.03	0.01	0.03	0.07	0.03	0.03	0.06	0.07	0.02	0.05	0.02	0.04	0.04
PointT36	0.04	0.01	0.02	0.03	0.03	0.02	0.05	0.04	0.06	0.06	0.04	0.03	0.04
PointT37	0.03	0.04	0.01	0.10	0.05	0.07	0.01	0.06	0.03	0.03	0.03	0.05	0.05
PointT38	0.01	0.08	0.03	0.11	0.05	0.04	0.03	0.02	0.05	0.04	0.03	0.06	0.04
PointT39	0.01	0.04	0.06	0.05	0.06	0.09	0.08	0.04	0.06	0.03	0.03	0.05	0.05
PointT40	0.01	0.02	0.05	0.08	0.06	0.10	0.08	0.04	0.07	0.02	0.04	0.06	0.06
PointT41	0.01	0.05	0.08	0.04	0.04	0.07	0.03	0.04	0.07	0.02	0.04	0.05	0.04
PointT42	0.02	0.04	0.07	0.09	0.10	0.09	0.08	0.02	0.05	0.04	0.14	0.07	0.07
PointT43	0.02	0.06	0.05	0.03	0.08	0.06	0.10	0.05	0.04	0.03	0.08	0.05	0.06

Proposed Scheme(VR)													
Test Point	**NNE**	**NE**	**ENE**	**E**	**ESE**	**SE**	**SSE**	**S**	**SSW**	**SW**	**WSW**	**Annual**	**Summer**
PointT44	0.02	0.06	0.07	0.11	0.11	0.05	0.04	0.01	0.02	0.06	0.04	0.07	0.05
PointT45	0.01	0.07	0.09	0.12	0.08	0.05	0.12	0.08	0.03	0.03	0.02	0.08	0.06
PointT46	0.02	0.07	0.03	0.04	0.04	0.03	0.09	0.09	0.03	0.03	0.16	0.04	0.06
PointT47	0.04	0.07	0.08	0.06	0.03	0.04	0.10	0.09	0.04	0.03	0.05	0.05	0.05
PointT48	0.08	0.18	0.12	0.08	0.05	0.07	0.18	0.03	0.03	0.04	0.03	0.08	0.06
PointT49	0.01	0.15	0.09	0.11	0.06	0.11	0.24	0.04	0.08	0.07	0.05	0.09	0.09
PointT50	0.10	0.20	0.09	0.11	0.07	0.03	0.04	0.04	0.19	0.21	0.13	0.12	0.12
PointT51	0.11	0.04	0.03	0.11	0.10	0.10	0.16	0.20	0.14	0.11	0.13	0.09	0.13
PointT52	0.00	0.07	0.04	0.07	0.07	0.06	0.03	0.02	0.04	0.02	0.08	0.05	0.05
PointT53	0.01	0.10	0.14	0.19	0.07	0.12	0.13	0.02	0.05	0.04	0.07	0.11	0.08
PointT54	0.02	0.05	0.05	0.03	0.10	0.07	0.07	0.01	0.03	0.02	0.07	0.05	0.05
PointT55	0.01	0.03	0.08	0.12	0.04	0.04	0.06	0.02	0.06	0.02	0.09	0.06	0.05
PointT56	0.01	0.21	0.22	0.24	0.03	0.11	0.10	0.08	0.04	0.05	0.02	0.14	0.08
PointT57	0.00	0.06	0.03	0.08	0.03	0.07	0.06	0.06	0.01	0.04	0.01	0.05	0.04
PointT58	0.03	0.14	0.16	0.15	0.08	0.03	0.04	0.08	0.04	0.05	0.07	0.10	0.07
PointT59	0.02	0.14	0.08	0.05	0.02	0.05	0.05	0.05	0.02	0.05	0.09	0.05	0.05
PointT60	0.04	0.08	0.13	0.11	0.06	0.05	0.00	0.10	0.02	0.09	0.07	0.08	0.06
PointT61	0.01	0.11	0.10	0.01	0.01	0.07	0.01	0.02	0.02	0.05	0.02	0.04	0.03
PointT62	0.02	0.03	0.06	0.08	0.06	0.04	0.04	0.01	0.01	0.02	0.04	0.05	0.03
PointT63	0.04	0.12	0.11	0.09	0.09	0.07	0.12	0.07	0.01	0.08	0.06	0.08	0.07
PointT64	0.01	0.02	0.03	0.03	0.04	0.08	0.13	0.10	0.08	0.08	0.04	0.04	0.07
PointT65	0.03	0.12	0.01	0.06	0.06	0.06	0.05	0.12	0.09	0.10	0.08	0.06	0.08
PointT66	0.03	0.10	0.04	0.11	0.10	0.04	0.07	0.11	0.04	0.05	0.06	0.07	0.07
PointT67	0.06	0.18	0.13	0.16	0.09	0.05	0.10	0.08	0.14	0.12	0.11	0.13	0.11
PointT68	0.03	0.04	0.02	0.08	0.02	0.08	0.02	0.06	0.20	0.21	0.09	0.07	0.11
PointT69	0.04	0.08	0.09	0.08	0.05	0.06	0.08	0.12	0.06	0.05	0.10	0.07	0.07
PointT70	0.09	0.27	0.13	0.17	0.12	0.13	0.17	0.13	0.08	0.14	0.17	0.15	0.13
PointT71	0.03	0.04	0.04	0.02	0.01	0.00	0.10	0.05	0.14	0.15	0.02	0.04	0.07
PointT72	0.03	0.16	0.11	0.13	0.07	0.02	0.10	0.03	0.14	0.13	0.11	0.11	0.10
PointT73	0.02	0.06	0.05	0.05	0.01	0.03	0.08	0.10	0.32	0.33	0.37	0.08	0.19
PointT74	0.11	0.16	0.12	0.13	0.09	0.10	0.16	0.12	0.30	0.31	0.33	0.15	0.21
PointT75	0.01	0.02	0.01	0.02	0.01	0.08	0.13	0.06	0.21	0.25	0.27	0.06	0.14
PointT76	0.12	0.16	0.05	0.10	0.10	0.03	0.04	0.02	0.26	0.19	0.18	0.11	0.13
PointT77	0.10	0.21	0.08	0.14	0.11	0.08	0.13	0.05	0.28	0.26	0.31	0.15	0.19
PointT78	0.11	0.09	0.11	0.15	0.07	0.09	0.06	0.03	0.02	0.03	0.06	0.10	0.06
PointT79	0.05	0.08	0.05	0.09	0.03	0.05	0.14	0.04	0.24	0.28	0.08	0.09	0.13
PointT80	0.05	0.08	0.06	0.09	0.03	0.08	0.18	0.11	0.18	0.26	0.23	0.09	0.16
PointT81	0.06	0.09	0.04	0.08	0.03	0.02	0.11	0.05	0.20	0.27	0.37	0.09	0.16
PointT82	0.04	0.09	0.06	0.08	0.04	0.04	0.05	0.06	0.29	0.35	0.36	0.10	0.18
PointT83	0.05	0.14	0.13	0.12	0.05	0.03	0.07	0.08	0.09	0.11	0.18	0.10	0.10
PointT84	0.03	0.09	0.11	0.11	0.04	0.05	0.17	0.10	0.15	0.18	0.22	0.10	0.14
PointT85	0.06	0.15	0.12	0.11	0.02	0.07	0.12	0.12	0.23	0.20	0.23	0.11	0.15
PointT86	0.10	0.13	0.07	0.09	0.07	0.08	0.15	0.13	0.31	0.31	0.40	0.12	0.21
PointT87	0.09	0.12	0.07	0.06	0.07	0.10	0.19	0.12	0.20	0.24	0.32	0.10	0.17
PointT88	0.02	0.04	0.01	0.01	0.01	0.03	0.05	0.10	0.14	0.11	0.03	0.03	0.07
PointT89	0.01	0.03	0.02	0.02	0.01	0.01	0.02	0.05	0.07	0.07	0.04	0.03	0.04
PointT90	0.02	0.05	0.03	0.03	0.03	0.01	0.06	0.11	0.14	0.03	0.02	0.04	0.06
PointT91	0.01	0.03	0.01	0.02	0.01	0.02	0.02	0.06	0.07	0.05	0.02	0.02	0.04
PointT92	0.00	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.05	0.01	0.02
PointT93	0.00	0.03	0.04	0.05	0.03	0.05	0.05	0.01	0.03	0.03	0.09	0.04	0.04
PointT94	0.01	0.04	0.05	0.07	0.06	0.08	0.07	0.01	0.02	0.02	0.11	0.05	0.05
PointT95	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02
PointT96	0.01	0.02	0.02	0.00	0.00	0.03	0.01	0.02	0.03	0.01	0.02	0.01	0.02
PointT97	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.03	0.01	0.03	0.01	0.01
PointT98	0.01	0.02	0.02	0.01	0.01	0.03	0.05	0.01	0.01	0.02	0.02	0.01	0.02
PointT99	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.01
PointT100	0.00	0.03	0.02	0.02	0.00	0.01	0.03	0.01	0.01	0.01	0.02	0.01	0.01
PointT101	0.01	0.03	0.03	0.05	0.00	0.03	0.07	0.01	0.01	0.02	0.06	0.03	0.03
PointT102	0.01	0.04	0.01	0.05	0.01	0.06	0.08	0.01	0.01	0.02	0.06	0.03	0.03
PointT103	0.00	0.00	0.00	0.01	0.01	0.01	0.03	0.02	0.01	0.01	0.02	0.01	0.01
PointT104	0.01	0.02	0.02	0.02	0.02	0.02	0.04	0.06	0.01	0.00	0.03	0.02	0.02
PointT105	0.05	0.01	0.04	0.03	0.03	0.01	0.04	0.09	0.20	0.15	0.13	0.05	0.10
PointT106	0.05	0.05	0.04	0.06	0.02	0.04	0.03	0.07	0.24	0.21	0.15	0.07	0.12
PointT107	0.02	0.06	0.05	0.06	0.02	0.04	0.00	0.05	0.09	0.10	0.12	0.05	0.07
PointT108	0.02	0.05	0.04	0.04	0.01	0.02	0.08	0.09	0.21	0.21	0.15	0.06	0.11
PointT109	0.03	0.09	0.06	0.07	0.02	0.03	0.04	0.05	0.12	0.10	0.12	0.06	0.08
PointT110	0.06	0.04	0.01	0.03	0.02	0.01	0.01	0.07	0.06	0.10	0.03	0.03	0.05
PointT111	0.04	0.01	0.02	0.07	0.02	0.01	0.02	0.08	0.06	0.09	0.03	0.04	0.05
PointT112	0.06	0.05	0.05	0.06	0.04	0.01	0.04	0.04	0.05	0.03	0.06	0.05	0.04
PointT113	0.07	0.05	0.09	0.11	0.02	0.01	0.02	0.03	0.05	0.01	0.05	0.06	0.04
PointT114	0.05	0.04	0.03	0.06	0.02	0.03	0.03	0.03	0.05	0.01	0.04	0.04	0.03
PointT115	0.06	0.04	0.07	0.10	0.02	0.01	0.02	0.04	0.04	0.01	0.02	0.06	0.03
PointT116	0.02	0.10	0.11	0.11	0.08	0.02	0.07	0.07	0.03	0.01	0.09	0.08	0.06
PointT117	0.03	0.11	0.12	0.04	0.05	0.07	0.17	0.10	0.01	0.04	0.03	0.06	0.06

Proposed Scheme(VR)													
Test Point	**NNE**	**NE**	**ENE**	**E**	**ESE**	**SE**	**SSE**	**S**	**SSW**	**SW**	**WSW**	**Annual**	**Summer**
PointT118	0.01	0.13	0.14	0.08	0.09	0.07	0.08	0.05	0.03	0.12	0.10	0.09	0.08
PointT119	0.02	0.16	0.14	0.04	0.06	0.07	0.12	0.15	0.03	0.03	0.06	0.07	0.06
PointT120	0.06	0.18	0.06	0.09	0.06	0.03	0.05	0.12	0.09	0.09	0.08	0.08	0.08
PointT121	0.05	0.11	0.12	0.06	0.04	0.11	0.11	0.15	0.03	0.19	0.18	0.08	0.11
PointT122	0.12	0.21	0.11	0.07	0.03	0.10	0.06	0.14	0.15	0.19	0.16	0.11	0.12
PointT123	0.06	0.20	0.13	0.11	0.05	0.10	0.05	0.21	0.16	0.20	0.16	0.12	0.14
PointT124	0.06	0.22	0.15	0.17	0.07	0.05	0.03	0.21	0.29	0.21	0.21	0.15	0.17
PointT125	0.04	0.07	0.06	0.02	0.10	0.06	0.05	0.03	0.07	0.11	0.04	0.06	0.06
PointT126	0.01	0.07	0.01	0.12	0.14	0.06	0.02	0.03	0.04	0.03	0.07	0.07	0.06
PointT127	0.06	0.11	0.13	0.10	0.07	0.07	0.04	0.05	0.02	0.05	0.02	0.08	0.05
PointT128	0.05	0.09	0.15	0.18	0.13	0.07	0.02	0.03	0.02	0.07	0.03	0.12	0.07
PointT129	0.01	0.15	0.12	0.13	0.07	0.04	0.02	0.07	0.08	0.05	0.13	0.09	0.07
PointT130	0.02	0.15	0.12	0.13	0.09	0.04	0.05	0.11	0.15	0.13	0.08	0.11	0.10
PointT131	0.02	0.06	0.03	0.04	0.03	0.03	0.08	0.08	0.12	0.16	0.07	0.05	0.08
PointT132	0.03	0.04	0.06	0.08	0.03	0.05	0.03	0.07	0.15	0.09	0.11	0.06	0.08
PointT133	0.11	0.28	0.17	0.20	0.11	0.17	0.32	0.19	0.32	0.19	0.16	0.19	0.21
PointT134	0.04	0.16	0.10	0.10	0.05	0.03	0.04	0.02	0.09	0.19	0.21	0.10	0.10
PointT135	0.05	0.21	0.12	0.17	0.10	0.07	0.06	0.11	0.30	0.22	0.18	0.15	0.17
PointT136	0.07	0.18	0.09	0.09	0.09	0.02	0.07	0.03	0.21	0.21	0.22	0.11	0.13
PointT137	0.13	0.22	0.10	0.18	0.10	0.03	0.02	0.11	0.24	0.21	0.20	0.15	0.15
PointT138	0.04	0.07	0.04	0.10	0.11	0.03	0.04	0.03	0.24	0.23	0.21	0.10	0.14
PointT139	0.03	0.06	0.08	0.07	0.07	0.01	0.05	0.03	0.02	0.03	0.01	0.05	0.03
Average LVR	**0.05**	**0.10**	**0.08**	**0.09**	**0.06**	**0.05**	**0.06**	**0.07**	**0.10**	**0.11**	**0.12**	**0.08**	**0.09**
PointS01	0.07	0.15	0.05	0.15	0.11	0.06	0.04	0.05	0.03	0.04	0.16	0.10	0.08
PointS02	0.06	0.12	0.12	0.13	0.12	0.08	0.04	0.07	0.10	0.15	0.12	0.12	0.11
PointS03	0.08	0.15	0.09	0.06	0.09	0.07	0.01	0.08	0.15	0.17	0.15	0.09	0.11
PointS04	0.04	0.04	0.04	0.06	0.02	0.03	0.07	0.07	0.22	0.25	0.12	0.07	0.12
PointS05	0.04	0.09	0.05	0.07	0.07	0.01	0.09	0.04	0.15	0.15	0.18	0.07	0.10
PointS06	0.11	0.23	0.15	0.16	0.12	0.08	0.01	0.10	0.06	0.06	0.18	0.14	0.10
PointS07	0.07	0.17	0.14	0.15	0.11	0.08	0.02	0.01	0.08	0.08	0.25	0.12	0.10

Appendix 6

Master Layout Plan of Future/Committed Development

1. No. 10 Maidstone Road





2. 41, 43 and 45 Pau Chung Street




佳明集團
GRAND MING GROUP
3706 9288
佳盛建築
WB
1404
Discovery



The Group acquired this parcel of land situated at No.1 Luen Fat Street, Fanling, the New Territories in January 2021, and intends to develop into a residential-cum-retail complex with a total gross floor area of approximately 36,000 square feet. Development plan had been approved by the Town Planning Board and the land exchange application to convert the use of land is under processing. Upon completion of the redevelopment of the site, the completed properties will be sold to generate revenue for the Group.

Pau Chung Street project

The site, located at No. 41, 43 and 45 Pau Chun Street in To Kwa Wan, Kowloon, was acquired by the Group in October 2021 and is being redeveloped into a 25-storey residential tower over two levels of shops with a gross floor area of approximately 31,000 square feet. Superstructure construction works are well underway and the development is scheduled to be completed in the first half of 2023. Upon completion of the redevelopment of the site, the completed properties will be sold to generate revenue for the Group.

Property Development–Mainland China

The Group acquired its first land parcel in Mainland China in July 2021 through government public auction. The land parcel is located at Guangxi-ASEAN Economic and Technological Development Zone, Wuming District, Nanning City, Guangxi Province. The site has an area of approximately 574,000 square feet, and is planned to be developed into a luxury residential project under the

Source: http://delaycontent.megahubhk.com/Fundamental/CompanyProfile.aspx?style=megahub&showStock=0&sid=01271&lang=en

3. Public Housing Development. Ko Shan Road



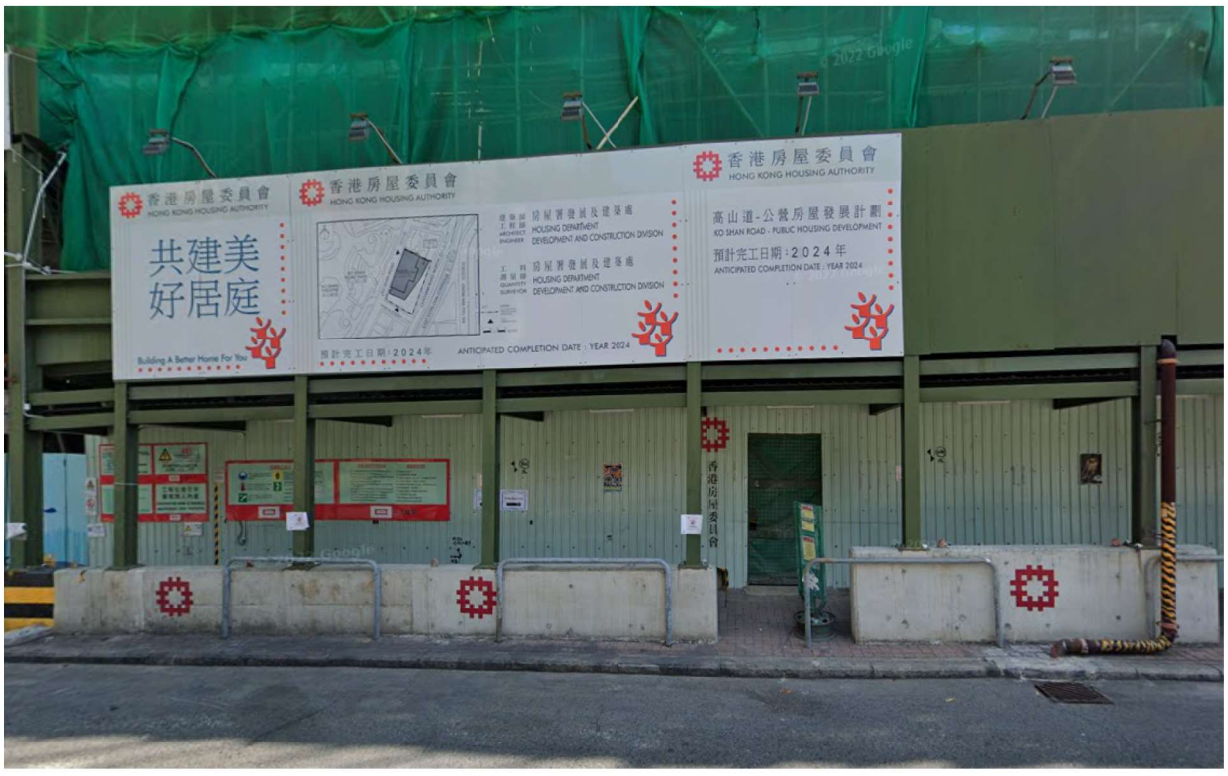
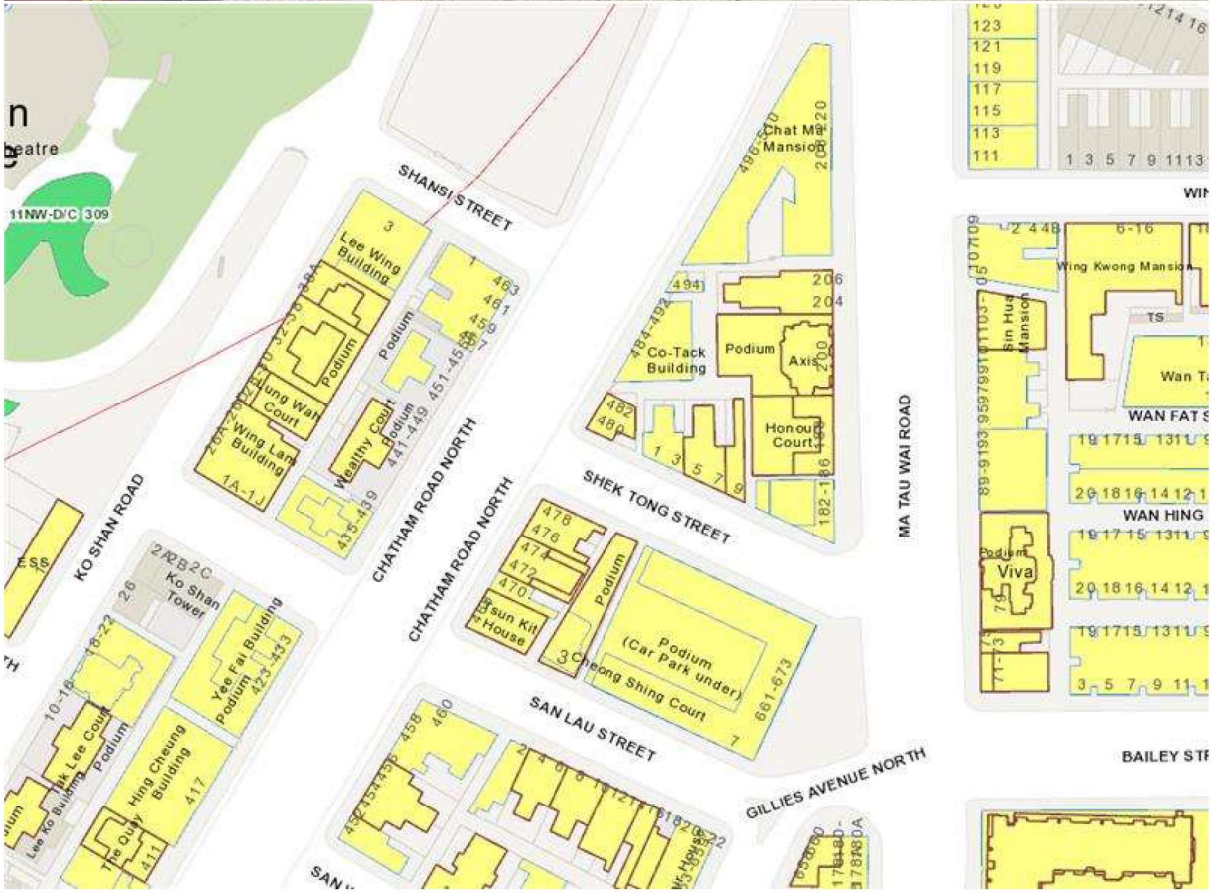


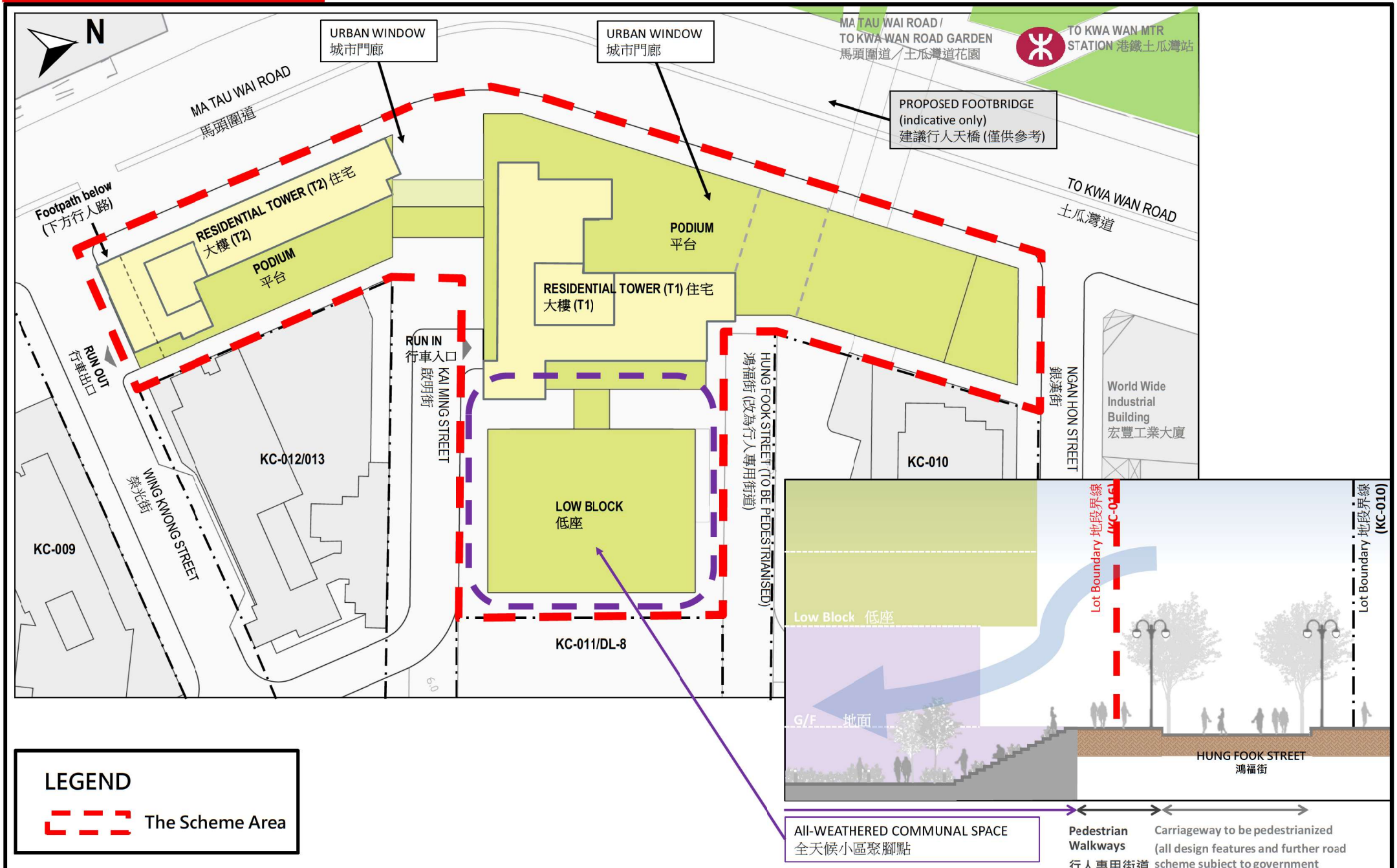
*Image captured from Google Earth Street View

4.. Proposed Residential Redevelopment, 470-478 Chatham Road North





5. URA Project KC-016 (MLP provided by URA)



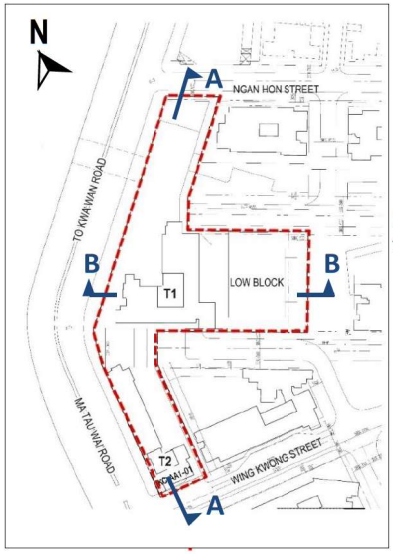
LEGEND

The Scheme Area

(Remarks: For indicative purpose only. KC-016 Notional layout subject to detailed design upon DSP approval.)

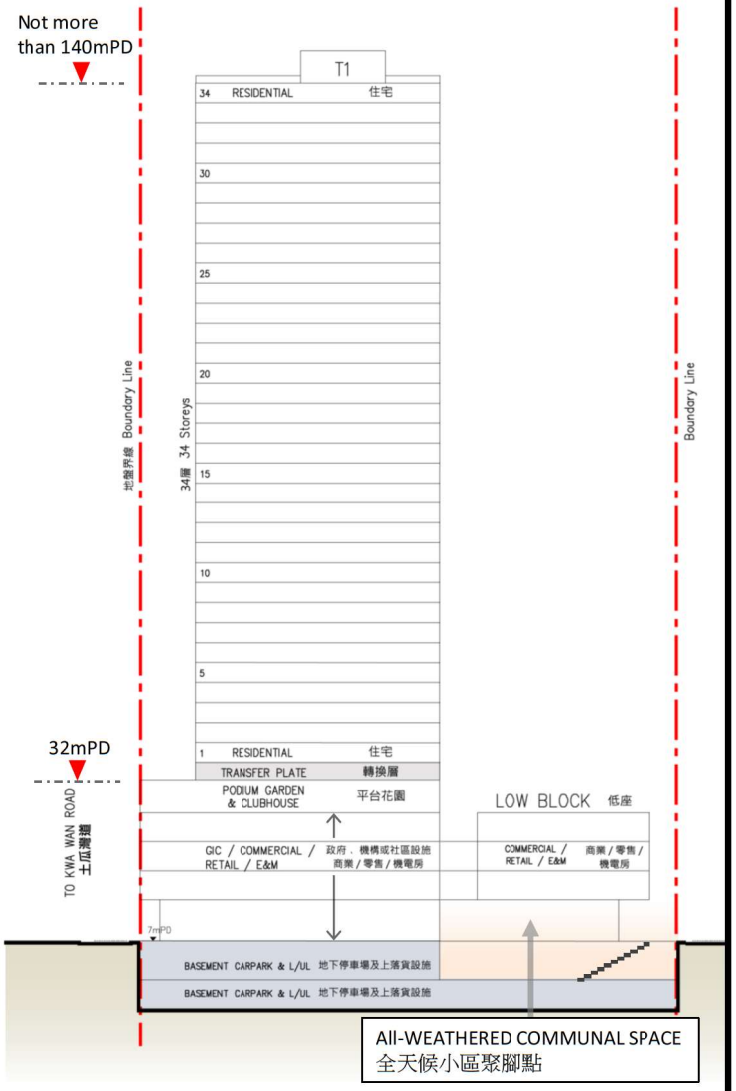
URBAN RENEWAL AUTHORITY 市區重建局	URA To Kwa Wan Road / Wing Kwong Street Development Scheme (KC-016)	Figure 1.2	**Notional Design – Block Plan**	Not drawn to scale Mar 2021

Key Plan



Section A

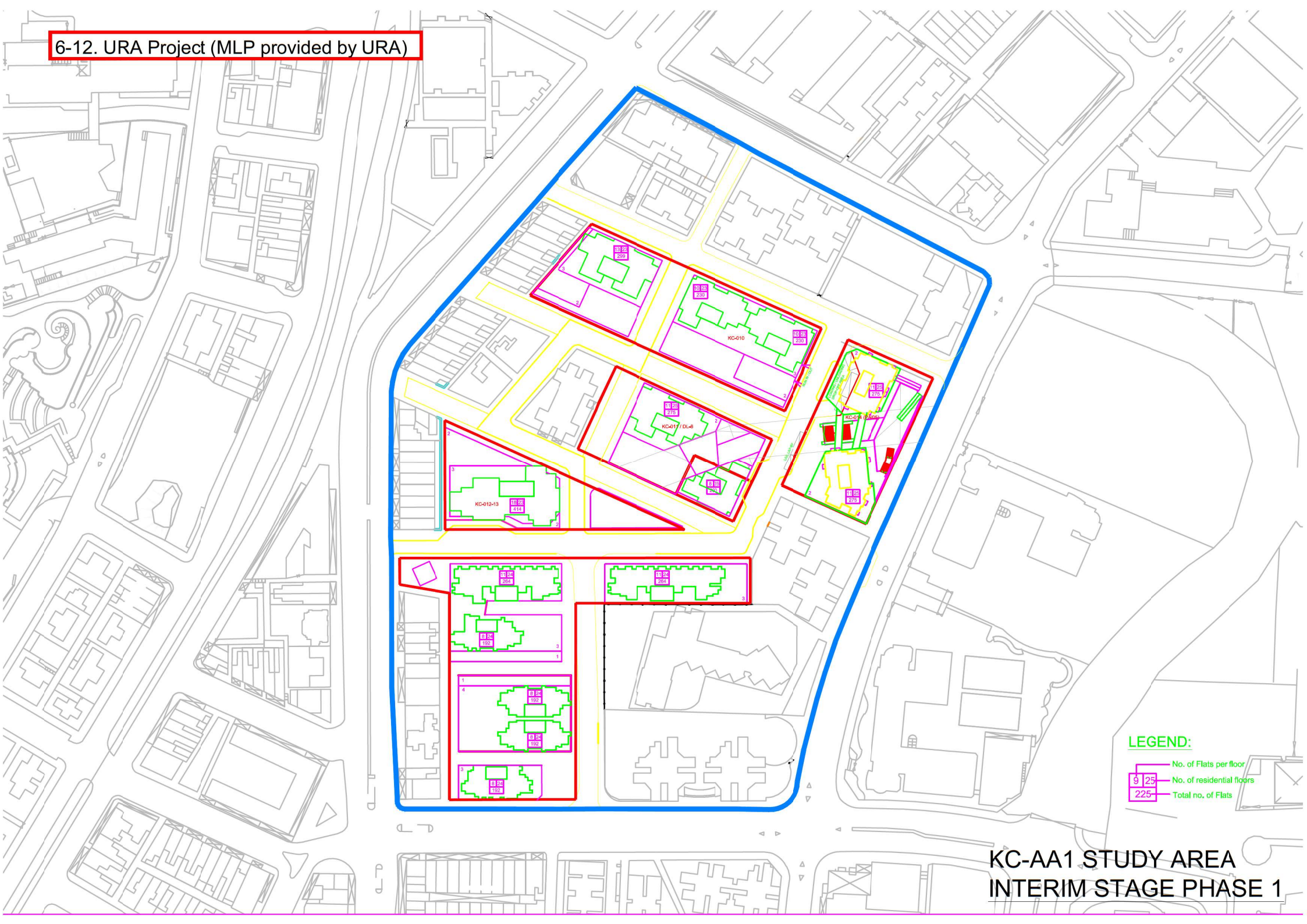
Section B



(Remarks: For indicative purpose only. KC-016 Notional layout subject to detailed design upon DSP approval.)

URBAN RENEWAL AUTHORITY 市區重建局	URA To Kwa Wan Road / Wing Kwong Street Development Scheme (KC-016)	Figure 1.3	**Notional Design – Schematic Section**	Not drawn to scale Mar 2021

6-12. URA Project (MLP provided by URA)



KC-AA1 STUDY AREA
INTERIM STAGE PHASE 1

Visual Impact Assessment
(VIA)

Visual Impact Assessment
for URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

November 2022

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1. Introduction

1.1. The Urban Renewal Authority (URA) commenced the Kau Pui Lung Road / Chi Kiang Street Development Scheme (the Scheme) (CBS-2:KC) on 22 May 2020, as a development scheme under section 25 of the Urban Renewal Authority Ordinance (URAO). A Viusal Impact Assessment (VIA) is required to be prepared to support the submission of the draft Development Scheme Plan (DSP) of the Scheme to the Town Planning Board (TPB) for consideration.

1.2. A draft DSP together with planning proposal and technical assessments were submitted to the TPB at commencement of the Scheme in May 2020. During public consultation, most of the comments and concerns were related to CBS issues, especially on the land matters of the undissolved CBS. The URA, after consultation with different Government Bureaux / Departments, has addressed the related comments and concerns. In this connection, the URA has taken the opportunity to review the draft DSP to respond to the new policy directives of entrusting the URA to provide more Starter Home (SH) units. Opportunity is also sought to enhance the Scheme to achieve wider planning gains to the community.

1.3. With the above consideration and changes, a revised Draft DSP, with revised notional design of providing private housing units and about 950 SH units (the "Revised Design 2022") are prepared and its necessary TAs are updated for TPB consideration.

1.4. The Scheme area remains unchanged as commenced in May 2020 and will be considered as one site to be developed by the URA or its joint venture partner(s) (**Figure 1**). Under the current notional design, the Scheme area will be divided into two sites, i.e. the Northern Site and the Southern Site, for private housing development and provision of SH units respectively. The site boundary between the Northern Site and the Southern Site is indicative and the location of the SH units are subject to change.

1.5. This VIA report is prepared in support of the submission of the revised draft DSP with its revised planning proposal involving the change of proposed types of housing, rezoning, and relaxation of building height restriction of the Scheme

area to the TPB for consideration. The VIA is prepared to assess the potential visual impact of the notional design of the Scheme in accordance with the TPB Guidelines No. 41 – Guidelines on submission of Visual Impact Assessment for Planning Applications to the TPB. Reference is also made to Chapter 11 of the Hong Kong Planning Standards and Guidelines (HKPSG) in preparing the VIA.

2. The Indicative Proposed Scheme and Baseline Scheme

2.1. The Scheme is located in Kowloon City District, which is broadly bounded by a row of buildings at Ma Tau Wai Road to the east, Chi Kiang Street to the south, Kau Pui Lung Road to the west and Lok Shan Road to the north. It has a gross site area of about approximately 16,473m^2, subject to site survey. It is currently zoned "Residential (Group A)" ("R(A)"), whilst the pavements, Maidstone Road and Kiang Su Street are shown as 'Road' on the Approved Ma Tau Kok Outline Zoning Plan (OZP) No. S/K10/28. The building height restriction under the current OZP is 120mPD. Under the revised draft DSP, the Scheme area is proposed to be zoned "R(A)" with the proposed relaxation of maximum building height restriction from 120mPD to 140mPD. The proposed overall plot ratio (PR) is 9.0, of which 8.0 is for domestic uses and the remaining PR of 1.0 is for non-domestic uses. In addition, about 2,500m^2 non-domestic gross floor area (GFA) is also proposed for GIC facilities in the Scheme area which is to be exempted from GFA / PR calculation.

2.2. Under the current notional design (the Proposed Scheme), the Proposed Scheme comprises 5 residential towers within the Northern Site and 2 residential towers within the Southern Site. All residential towers are proposed above the two-storey clubhouse / commercial / retail / GIC podia with basement retail and car parks. A section of Maidstone Road and Kiang Su Street are included as part of the Scheme area for the creation of a vehicular-free environment, and a pedestrianised avenue / plaza is proposed within the Scheme. The pedestrianised avenue / plaza will connect Lok Shan Road to the north and Chi Kiang Street to the south, and it will enhance the accessibility of the Scheme from adjoining streets and its visual openness to pedestrians along the main pedestrian circular routes. A layout of the notional design is shown in **Figure 2.1**.

2.3. An OZP-compliant Scheme (i.e. 120mPD) (the Baseline Scheme) (see **Figure 2.2**) has also been included for comparison purposes. To comply with the current OZP, the area shown as 'Road' is not included in this Baseline Scheme and the PR of 7.5 for domestic and 1.5 for non-domestic uses are adopted. The Baseline Scheme has adopted a similar tower layout as the Proposed Scheme with 5 and 2 residential towers above the podia within the northern and southern parts of the site respectively. The building height restriction of 120mPD as stated on the current OZP has been adopted. **Table 2.1** below highlights the comparison of the proposed development parameters of the Baseline and Proposed Schemes. Both Schemes have fulfilled the Sustainable Building Design Guidelines (i.e. building separation, building setback, site coverage of greenery) and the Proposed Scheme is subject to detailed design and general building plan submissions at a later stage if it is approved for implementation.

Table 2.1 – Comparison of Development Parameters of Baseline Scheme and Proposed Scheme

	Baseline Scheme	**Proposed Scheme**
Zonings	R(A), Road	R(A), Road
Building Height Restriction	120mPD	140mPD
Proposed Towers Heights	Vary from 105-120mPD	Vary from 137-138mPD
Total PR	9	9
Domestic PR	7.5	8
Non-domestic PR	1.5	1

3. Visual Impact Analysis

3.1. Area for Assessment

Identification of Assessment Area

3.1.1. The assessment area for the VIA is defined by the visual envelope of the Scheme area. The visual envelope ("VE") has taken 3 times of the

proposed building height of the Scheme (i.e. 140mPD x 3 = 420m) as an assumption.

3.1.2. As indicated in **Figure 3.1**, the assessment area extends to Hop Yat Road to the north, encroaches part of On Wo Yuen and Mei King Mansion Phase 1 to the east, Shek Tong Street to the south, and Sheung Lok Street to the west. Apart from the coverage of the assessment area, a strategic vantage point from across the Victoria Harbour has also been identified, namely from Hong Kong Convention & Exhibition Centre (**Figure 3.2**).

Visual Context of the Assessment Area

3.1.3. The visual context is shaped by the combined composition of all the visual elements which come into sight of the viewers. Presently the assessment area is predominantly built-up areas dominated by the following visual elements:

- The Scheme area includes a cluster of 30 CBS sites, separated by a section of Maidstone Road and Kiang Su Street, where the southern section of Maidstone Road is a dead-end. The buildings are 5-6 storeys high and all residential in nature, and there are no retail shops within the Scheme area.

- The Scheme area and its vicinity comprise predominantly residential buildings, including private residential buildings of CBS along Kau Pui Lung Road, Maidstone Road and Ko Shan Road, and Lok Man Sun Chuen (59-81mPD) to the south / west of the Scheme. Several high-rise residential buildings are situated to the northwest of the Scheme, including Morning Joy Building (81mPD), City 151 (115mPD), 80 Maidstone Road (122mPD) and Celestial Heights (150mPD).

- To the east of the Scheme across Ma Tau Wai Road is a cluster of GIC and commercial uses, including BMW House (49mPD), Gainfall Centre (24mPD), To Kwa Wan Market and Government Offices (20-52mPD) and a number of educational facilities (26-32mPD).

- Extending further to the east and southeast of the Scheme across East Kowloon Corridor are mainly low to medium-rise residential buildings with lower floors used for commercial uses such as retail shops, and some high-density residential / commercial / industrial uses, such as City Hub (118mPD), iclub Ma Tau Wai Hotel (84mPD) and Wearbest Building (38-52mPD) in the To Kwa Wan area.

- Apart from the major visual elements discussed above, there are recreation grounds such as Ko Shan Theatre and Ko Shan Road Park located further south of the Scheme, as well as some scattered public open spaces located within the assessment area.

Visual Quality of Proposed Scheme

3.1.4. The proposed residential towers of the Scheme have adopted carefully considered designs on block sizes, disposition and layout to take into account the building separation to enhance permeability. Under the notional design, with a proposed building height of 140mPD and non-domestic PR of 1, slimmer residential blocks on top of smaller building footprints and lower podia can be achieved, which can enhance the building permeability and reduce the visual bulkiness of the podia. In order to promote visual openness, two wider visual corridors have been proposed along the existing Maidstone Road and Kiang Su Street. The massing of buildings has been carefully designed to minimise site coverage, and would therefore result in a slight increase in the building height from 120mPD to 140mPD, which is compatible with the building height restriction of the adjacent Lok Man Sun Chuen under the OZP. With the proposed massing layout and visual corridors, two ventilation

corridors in north-south (N-S) and east-west (E-W) directions would be created to enhance ventilation.

3.1.5. As the pedestrianised avenue / plaza will be provided within the Scheme, there will be a podia setback from the pedestrianised avenue / plaza to allow visual openness in the dense urban context particularly at the pedestrian level, bringing more visual and spatial comfort for future pedestrians walking along the pedestrianised avenue / plaza.

3.2. Identification of Viewpoints

3.2.1. Within the VE, the following five local viewpoints ("VPs") have been selected to assess the visual impact of the Scheme, covering the main pedestrian / vehicular view corridors from different directions and existing / future pedestrian nodes. Their locations are shown in **Figure 3.1**.

Local Viewpoints

(1) VP 1: Junction of Maidstone Road and Maidstone Lane
(2) VP 2: Kau Pui Lung Road
(3) VP 3: Lok Man Sun Chuen
(4) VP 4: Junction of Ko Shan Road and Kiang Hsi Street
(5) VP 5: Junction of Ma Tau Wai Road and Kiang Su Street

3.2.2. Other than the five selected local VPs, two medium- to long-range VPs are also considered but not selected, as negligible visual change is expected. For the long-range VP at Tin Kwong Road Recreation Ground, Celestial Heights of 150mPD is a major visual obstruction blocking most of the developments at Maidstone Road, including the proposed development. For the medium-range VP at Ko Shan Road Park, the adjacent Lok Oi Lau of Lok Man Sun Chuen will fully screen the proposed development.

3.2.3. Apart from the selected local VPs, a strategic vantage point is also identified and indicated in **Figure 3.2**.

Strategic Viewing Point

(6) VP 6: Hong Kong Convention & Exhibition Centre (Strategic Viewing Point 5)

3.3. Appraisal of Visual Impacts

3.3.1. For the visual appraisal of the local VPs, photomontages of three development scenarios have been prepared for the comparison of the changes before and after the proposed development at the Scheme area, namely:

i. **Existing Condition** – Existing development condition of the VPs is illustrated.

ii. **Baseline Scheme** – This scenario is an OZP-compliant Scheme which adopted a similar tower layout as the Proposed Scheme with 5 and 2 residential towers on top of the podia in the northern and southern parts of the site respectively. The building height restriction of 120mPD is adopted as permitted under the "R(A)" zone under the prevailing Ma Tau Kok OZP.

iii. **Proposed Scheme** – This scenario refers to the notional design of the Proposed Scheme, with minor relaxation of maximum building height restriction from 120mPD to 140mPD for the Scheme area. A building height of 140mPD is adopted as proposed in the revised draft DSP.

3.3.2. For the strategic viewing point, a photomontage of the Proposed Scheme is prepared. The appraisal of the visual impacts of each VP is summarised in **Table 3.1** below. The corresponding photomontages are shown in **Figures 3.3** to **3.8**.

Table 3.1 – Appraisal of Visual Impacts of Selected Viewpoints

Location of Viewpoints (VPs)	Distance and Direction between the VPs and the Scheme	Key Visually Sensitive Receivers (VSRs)	Visual Composition	Visual Obstruction and Visual Permeability	Effect on Visual Elements and Resources	Effect on VSRs	Resultant Overall Visual Impact
VP 1: Junction of Maidstone Road and Maidstone Lane	About 300m to the north of the Scheme	***Medium*** Mainly local residents living nearby and pedestrians passing by. A low level of pedestrian activity and shorter duration of activity are observed and anticipated.	As shown in **Figure 3.3**, the view from VP 1 is mainly low to medium-rise residential buildings along Maidstone Road in the foreground, and a partially shielded sky view as well as a high-rise residential building (80 Maidstone Road) in the background.	The proposed development will be located behind the existing buildings at Maidstone Road, only part of the tower blocks of both the Baseline Scheme and Proposed Scheme will be visible resulting in slight changes in the visual composition; of which the visual obstruction of the Proposed Scheme will slightly increase.	Part of the tower blocks will be visible from this VP, reducing the sky view and visual openness of the existing environment under both the Baseline Scheme and Proposed Scheme. If compared with the Baseline Scheme, there is no significant change in visual composition between the two Schemes.	Given the proposed development will slightly affect the visual composition of this VP, the effect of visual changes on VSRs from this VP is considered as low.	Slightly adverse

Location of Viewpoints (VPs)	Distance and Direction between the VPs and the Scheme	Key Visually Sensitive Receivers (VSRs)	Visual Composition	Visual Obstruction and Visual Permeability	Effect on Visual Elements and Resources	Effect on VSRs	Resultant Overall Visual Impact
VP 2: Kau Pui Lung Road	About 220m to the northwest of the Scheme	***Medium*** Mainly local residents living nearby and pedestrians passing by. A low level of pedestrian activity and shorter duration of activity are observed and anticipated.	As shown in **Figure 3.4**, the view from VP 2 is mainly low to medium-rise residential buildings along Kau Pui Lung Road as well as some high-rise residential buildings (Celestial Heights) in the foreground, and a partially shielded sky view in the background.	The proposed development will be located behind the existing buildings at Kau Pui Lung Road, and only a portion of the tower blocks of both the Baseline Scheme and Proposed Scheme will be revealed behind the buildings. Partial blockage of view by the Proposed Scheme will slightly reduce visual permeability.	A portion of the tower blocks will be visible from this VP, which will slightly reduce the sky view and visual openness compared to the existing condition. If compared with the Baseline Scheme, the scale of the Proposed Scheme will slightly increase and part of the skyline will be slightly obstructed.	Given the proposed development will slightly affect the visual composition of this VP, the effect of visual changes on VSRs from this VP is considered as low.	Slightly adverse
VP 3: Lok Man Sun Chuen	About 80m to the west of the Scheme	***Medium*** Mainly local residents (including students of the Kei To Primary	As shown in **Figure 3.5**, the view from VP 3 is framed by low to medium-rise residential buildings in the foreground, and a partially shielded sky	Both the Baseline Scheme and Proposed Scheme will become the dominant visual element in the foreground by	The key visual resources from this VP are the existing built-up areas. With the proposed development, the	Given the local residents will be directly facing the proposed development which will be noticeable,	Moderately adverse

Location of Viewpoints (VPs)	Distance and Direction between the VPs and the Scheme	Key Visually Sensitive Receivers (VSRs)	Visual Composition	Visual Obstruction and Visual Permeability	Effect on Visual Elements and Resources	Effect on VSRs	Resultant Overall Visual Impact
		School) living nearby and pedestrians passing by. Considering that this VP is close to the Scheme area, a low level of pedestrian activity and shorter duration of activity are observed and anticipated.	view as well as a high-rise residential building (City Hub) and iclub Ma Tau Wai Hotel in the background.	replacing the buildings of CBS with a modern development. Due to its close proximity, the proposed development will result in some blockage of existing views and affect the existing visual permeability. However, the degree of visual obstruction and loss of views will be reduced through a larger building gap, lower podium level and open space provided by the Proposed Scheme as compared to the Baseline Scheme.	tower blocks will be the dominant visual element, reducing the sky view and visual openness and creating significant visual change to this VP. However, with the proposed massing layout and wider visual corridor along Kiang Su Street, the Proposed Scheme will have enhanced visual permeability at the pedestrian level along Kiang Su Street as compared with Baseline Scheme.	block some views and affect the visual composition of this VP, the perception of the VSRs from this VP will be affected. The effect on VSRs from this VP is considered as moderate.	

Location of Viewpoints (VPs)	Distance and Direction between the VPs and the Scheme	Key Visually Sensitive Receivers (VSRs)	Visual Composition	Visual Obstruction and Visual Permeability	Effect on Visual Elements and Resources	Effect on VSRs	Resultant Overall Visual Impact
VP 4: Junction of Ko Shan Road and Kiang Hsi Street	About 250m to the south of the Scheme	***Medium*** Mainly local residents living nearby and pedestrians passing by. A low level of pedestrian activity and shorter duration of activity are observed and anticipated.	As shown in **Figure 3.6**, the view from VP4 is framed by a low-rise and some high-rise residential buildings (Lok Man Sun Chuen) as well as the Church of the Good Shepherd along Ko Shan Road in the foreground, and a partially shielded sky view as well as a mix of low to high-rise residential buildings in the background.	The proposed development will be located behind the existing buildings at Ko Shan Road as a backdrop, only part of the tower blocks and podia of both the Baseline Scheme and Proposed Scheme will be visible, resulting in minor blockage of the sky view and slightly affecting the existing visual permeability. While the Proposed Scheme will provide less bulky podia design to enhance visual obstruction.	Part of the tower blocks and podia will be visible from this VP, slightly reducing the sky view and visual openness of the existing environment under both the Baseline Scheme and Proposed Scheme. With the proposed massing layout and wider visual corridor along Maidstone Road, the Proposed Scheme will have enhanced visual permeability at the pedestrian level as compared with Baseline Scheme.	Given the proposed development will slightly affect the visual composition of this VP, the effect of visual changes on VSRs from this VP is considered as low.	Slightly adverse

Location of Viewpoints (VPs)	Distance and Direction between the VPs and the Scheme	Key Visually Sensitive Receivers (VSRs)	Visual Composition	Visual Obstruction and Visual Permeability	Effect on Visual Elements and Resources	Effect on VSRs	Resultant Overall Visual Impact
VP 5: Junction of Ma Tau Wai Road and Kiang Su Street	About 100m to the east of the Scheme	***High*** Mainly local residents living nearby, business operators / workers from Gainfall Centre, and pedestrians passing by. This VP is close to the Scheme area and active pedestrian activities are anticipated with the operation of To Kwa Wan MTR Station.	As shown in **Figure 3.7**, the view from VP 5 is mainly low to medium-rise residential buildings in the foreground, and a partially shielded sky view in the background.	The proposed development will be located behind the existing buildings at Ma Tau Wai Road / Kiang Su Street as a backdrop, and only part of the tower blocks and podia of both the Baseline Scheme and Proposed Scheme will be visible, resulting in visual obstruction. The Proposed Scheme will affect the existing visual permeability along Kiang Su Street, but provide a wider building gap as compared with Baseline Scheme.	Part of the tower blocks and podia will be visible from this VP, reducing the sky view and visual openness of the existing environment under both the Baseline Scheme and Proposed Scheme. If compared with Baseline Scheme, the Proposed Scheme will affect the visual permeability along Kiang Su Street, however, the overall massing will create less adverse impacts on visual elements.	Given the Proposed Scheme will block the view corridor along Kiang Su Street and induce noticeable blockage of the sky view, the perception of the VSRs from this VP will be affected. The effect on VSRs from this VP is considered as moderate.	Moderately adverse

Location of Viewpoints (VPs)	**Distance and Direction between the VPs and the Scheme**	**Key Visually Sensitive Receivers (VSRs)**	**Visual Composition**	**Visual Obstruction and Visual Permeability**	**Effect on Visual Elements and Resources**	**Effect on VSRs**	**Resultant Overall Visual Impact**
VP 6: Hong Kong Convention & Exhibition Centre	About 4km to the southwest of the Scheme, on the opposite side of the Victoria Harbour	***Low*** Users in the Hong Kong Convention & Exhibition Centre, and along the Wan Chai waterfront promenade. Although active pedestrian activities are anticipated, this VP is far from the Scheme area and only a very limited and unnoticeable part of the proposed development will be visible.	As shown in **Figure 3.8**, the proposed development is outside of the photo extracted from the Strategic Viewing Points Webpage of the Planning Department. According to the skyline analysis by the 3D GIS software system, only a very limited part of the proposed development will be visible when viewed from the VP on the opposite side of the Victoria Harbour. In view of the substantial mass of development that surrounds the Scheme, the change in visual context is considered to be negligible.	Both the mountain ridgeline and the limit of the 20% building-free zone will not be interrupted by the Scheme. Given the Scheme is situated in the inland area, which is at least 2.2km away from the Victoria Harbour, no adverse impact on visual permeability from the VP is anticipated.	The main visual elements and attention of VSRs towards the Kowloon Peninsula will mainly focus on the Victoria Harbour in the foreground as well as the mountain backdrop and sky view in the background. In view of the non-protrusion of the proposed development towards the building-free zone and the ridgeline and the far distance of the Scheme away from the VP, the effect on visual elements is negligible.	The VP is considered far away from the Scheme and only a very limited part of the proposed development will be visible from this VP. The effect on VSRs is considered as low.	Negligible

4. Evaluation of Overall Visual Impact

4.1. This VIA evaluates the degree of visual impacts on VSRs from major public VPs due to the proposed development at the Scheme area.

4.2. By viewing from the five selected local VPs, the proposed development with 140mPD in the Scheme generally blends in with the surrounding built environment. It generally respects the stepped building height profile from the inland area towards the waterfront, i.e. with the residential developments across Kau Pui Lung Road and the Scheme of 140mPD, and gradually down to about 100mPD to 120mPD towards To Kwa Wan in the east.

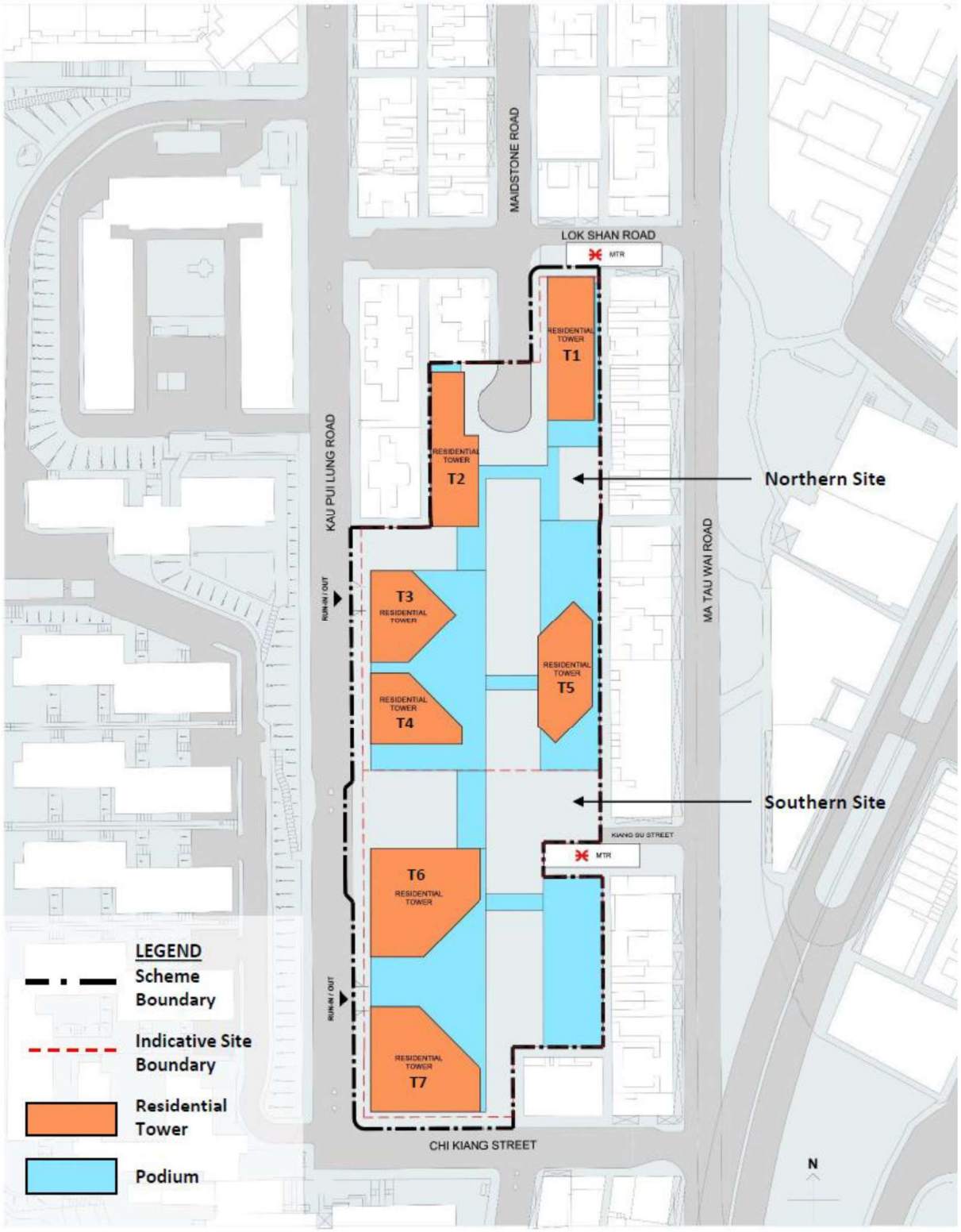
4.3. As compared with the maximum building height restriction capped at 120mPD under the Approved Ma Tau Kok OZP No. S/K10/28, the proposed increase of building height to 140mPD will facilitate greater design flexibility of the building blocks to enhance permeability and reduce the visual bulkiness of the podia. Given the Proposed Scheme and Baseline Scheme are visually similar, but only the Proposed Scheme can fulfil the objectives of the PAs to increase housing supply whilst providing more SH units in the Scheme area, the minor visual difference between the Proposed Scheme and Baseline Scheme is considered acceptable.

4.4. In addition, a section of Maidstone Road and Kiang Su Street have been included as part of the Scheme area for the creation of a vehicular-free environment, as a pedestrianised avenue / plaza is proposed within the Scheme. With the proposed massing layout and two proposed visual corridors in N-S and E-W directions, visual openness will be enhanced in the dense urban context, particularly at the pedestrian level, and more visual and spatial comfort will be brought to future pedestrians walking along the pedestrianised avenue / plaza.

4.5. In conclusion, the VIA demonstrates that the proposed development in the Scheme with 140mPD is considered visually compatible with the surrounding environment, and will not create any significant adverse impacts or blockage of

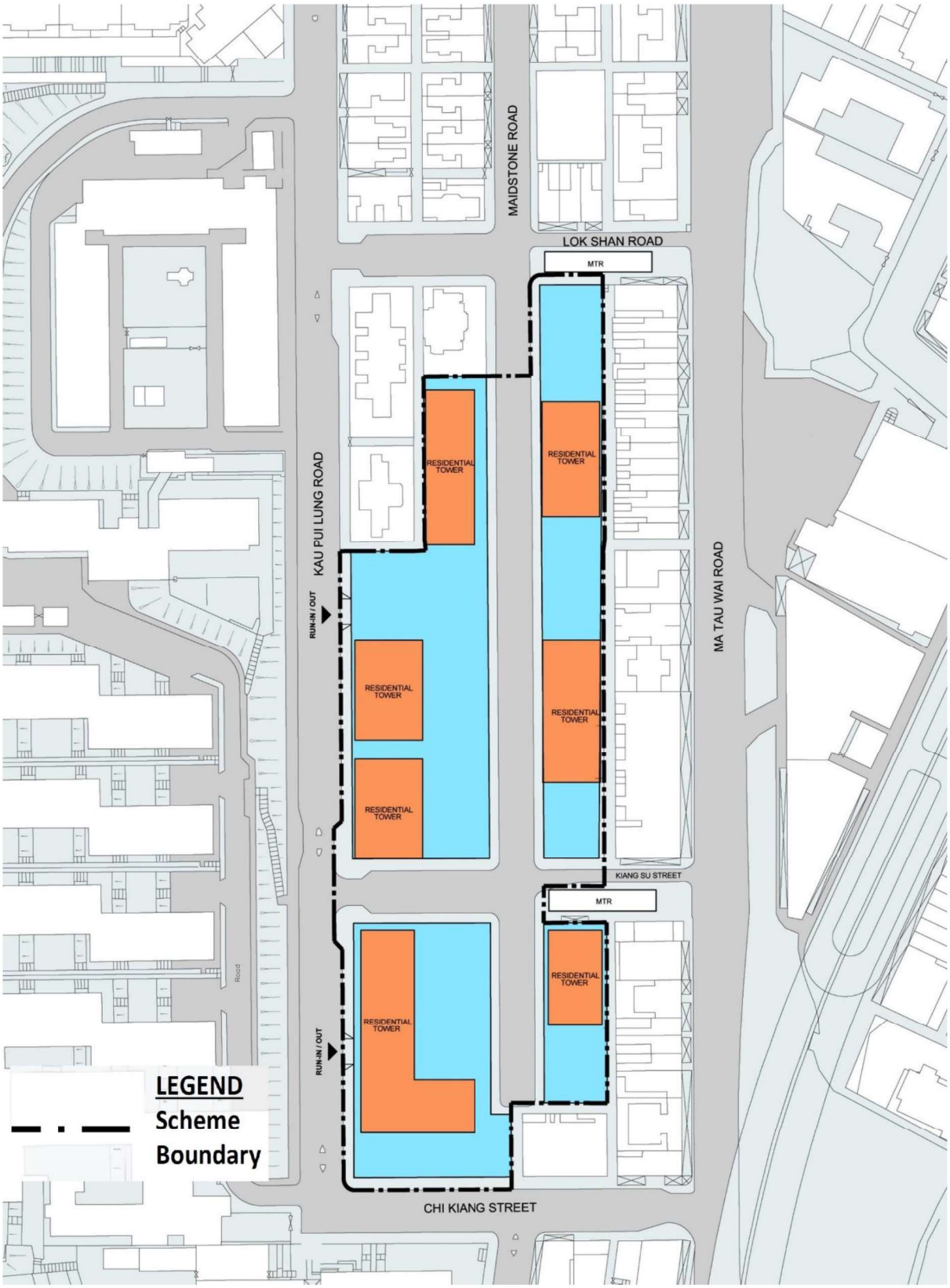
views from both the strategic VP as recommended in the HKPSG and the key local VPs.

URBAN RENEWAL AUTHORITY
November 2022



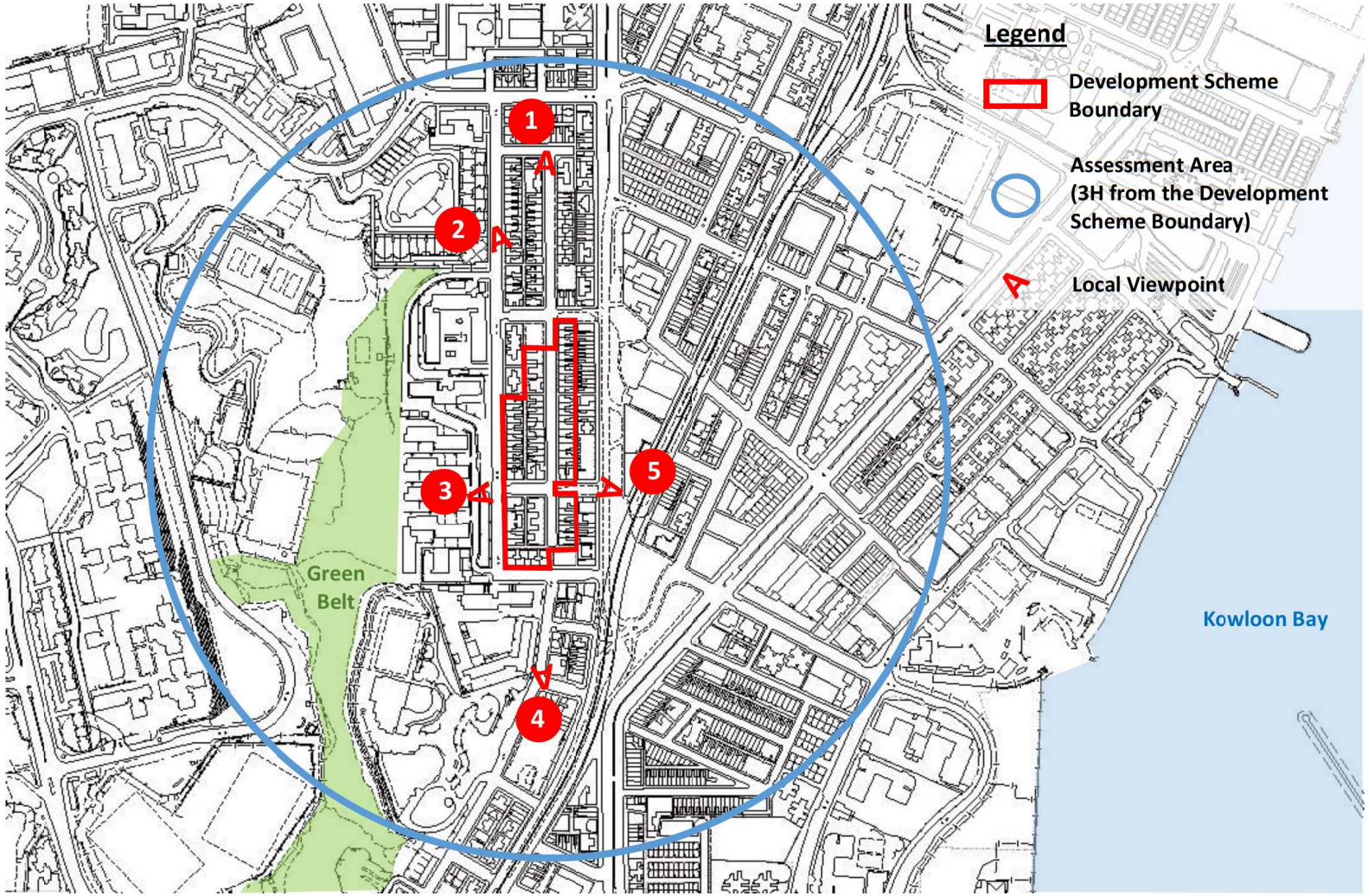
(Notional layout subject to detailed design upon DSP approval.)

市區重建局 URBAN RENEWAL AUTHORITY	URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Block Plan (Proposed Scheme - 140mPD)	Figure 2.1	Scale 1:1500 (A4)



(Notional layout subject to detailed design upon DSP approval.)

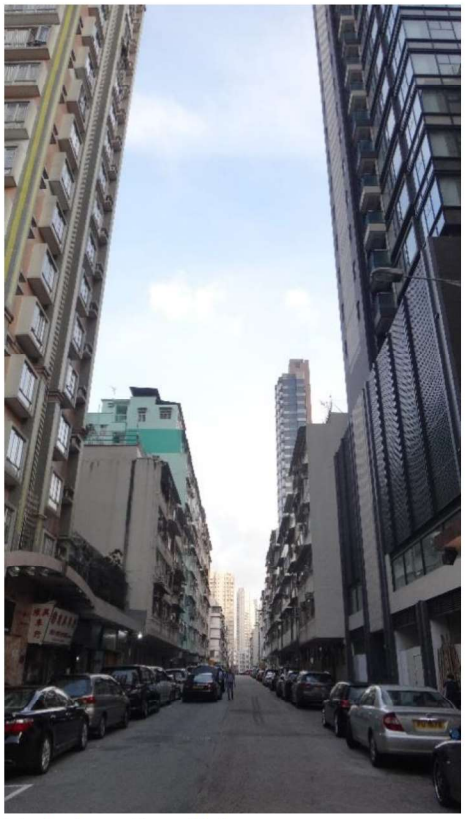
URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Block Plan (Baseline Scheme - 120mPD)	Figure 2.2	Scale 1:1500 (A4)



URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Site Plan (5 Local Viewpoints)	Figure 3.1	Not to Scale



URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Site Plan (Strategic Viewing Point 5) – Hong Kong Convention & Exhibition Centre	Figure 3.2



Existing Condition



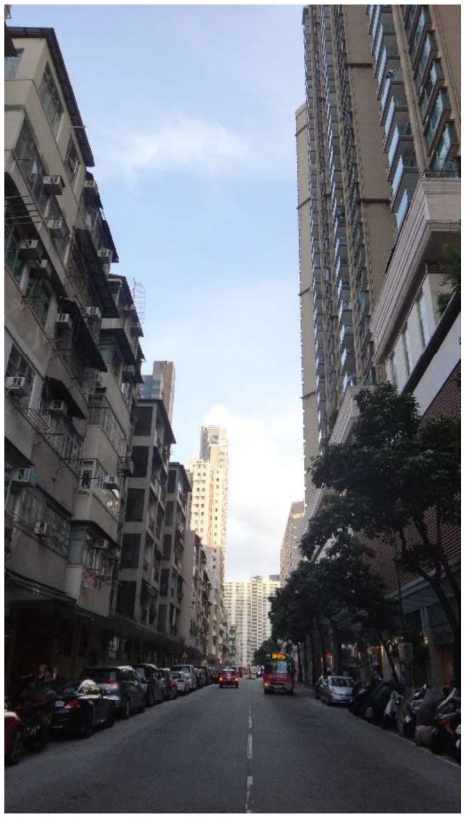
Index Plan



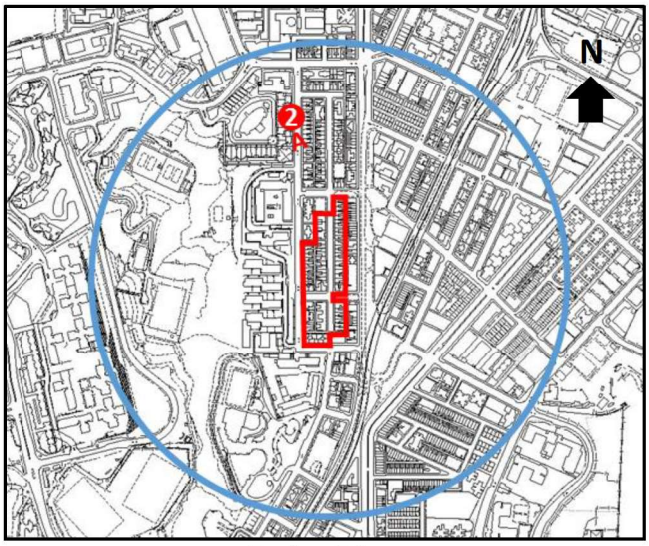
Baseline Scheme (120mPD)



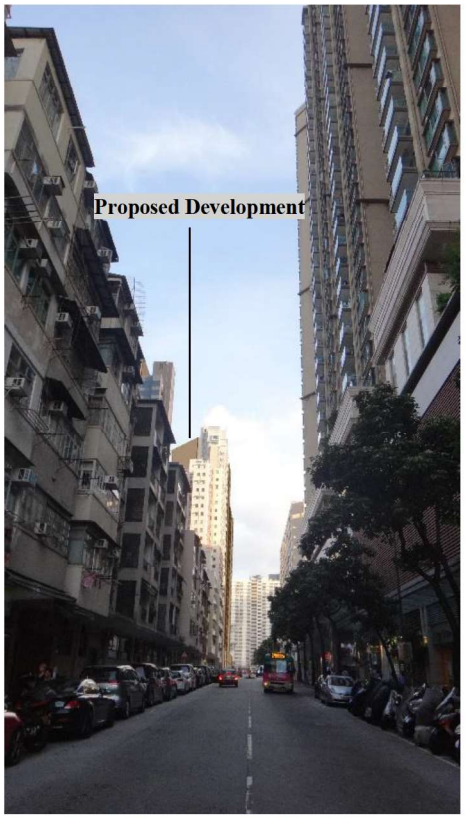
Proposed Scheme (140mPD)



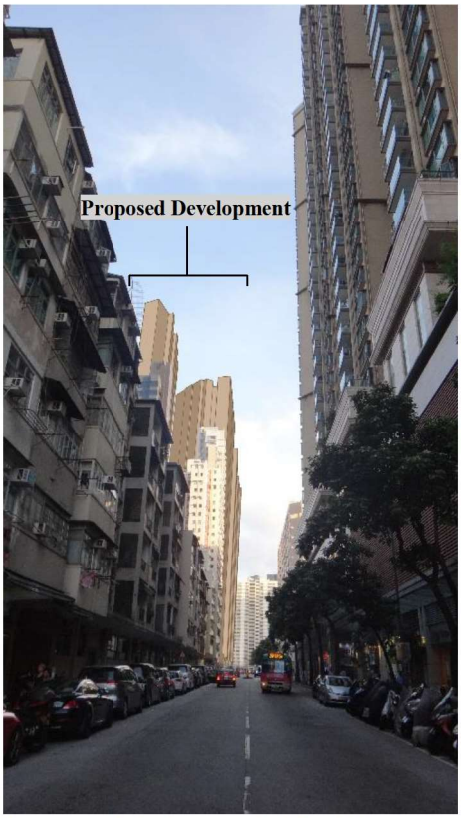
Existing Condition



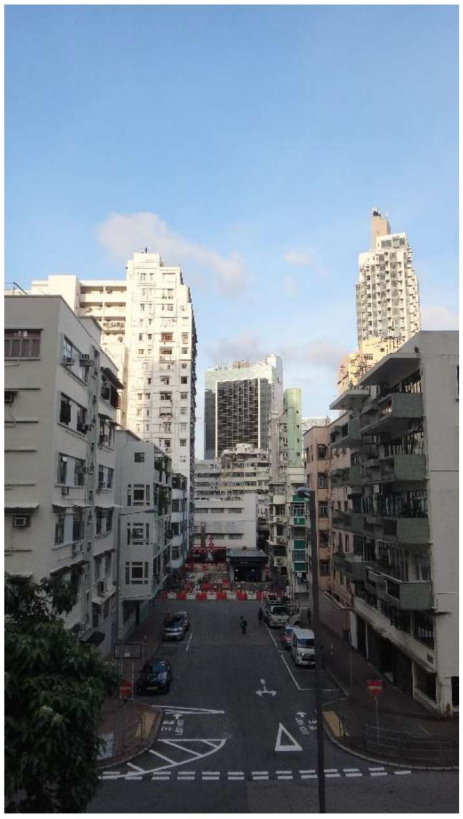
Index Plan



Baseline Scheme (120mPD)



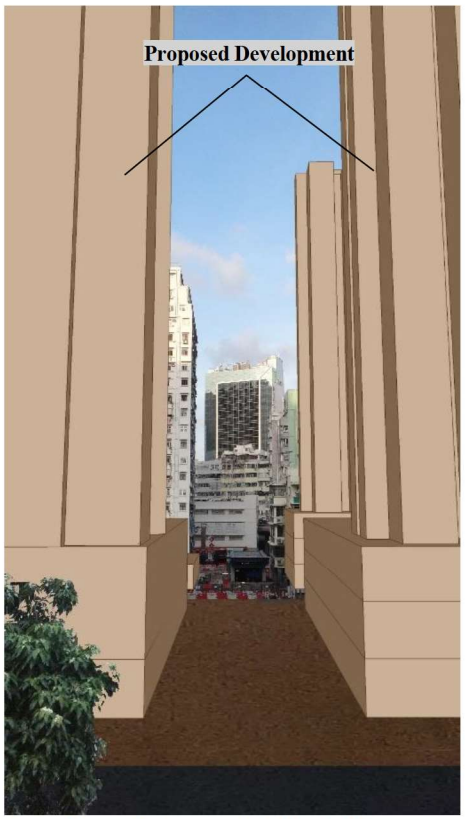
Proposed Scheme (140mPD)



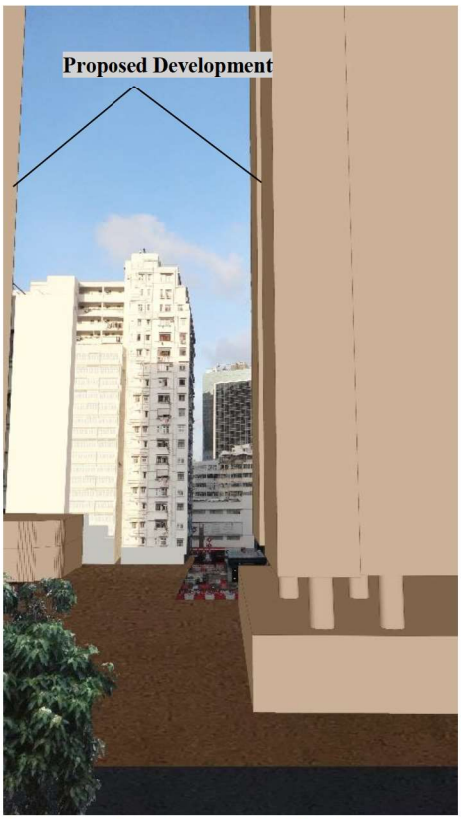
Existing Condition



Index Plan



Baseline Scheme (120mPD)



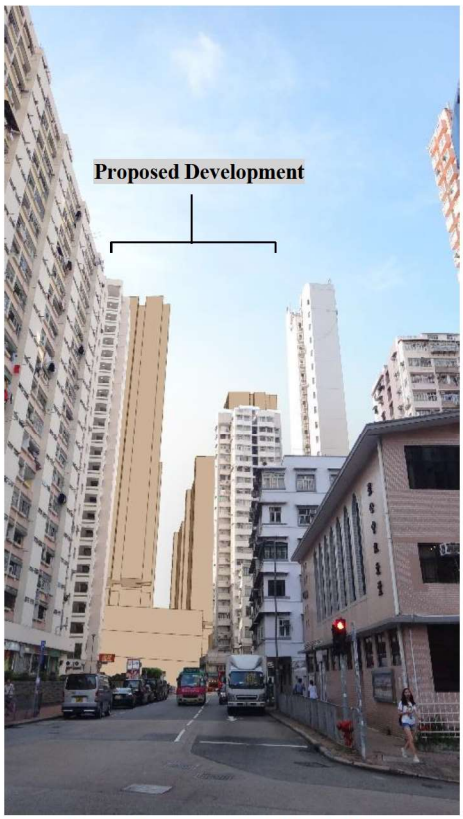
Proposed Scheme (140mPD)



Existing Condition



Index Plan



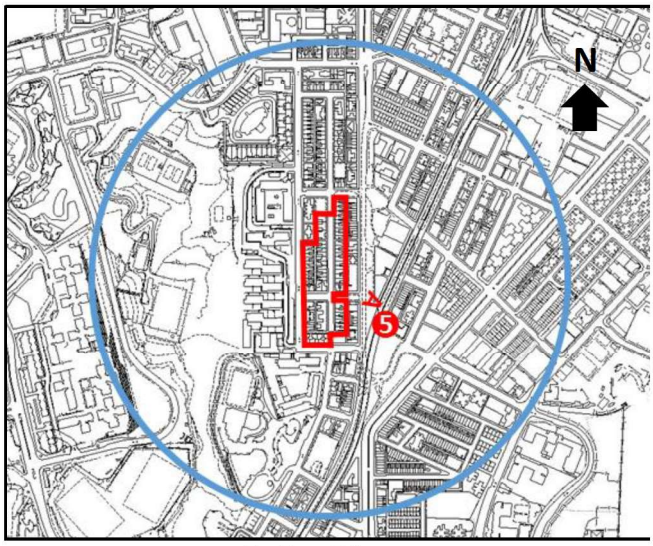
Baseline Scheme (120mPD)



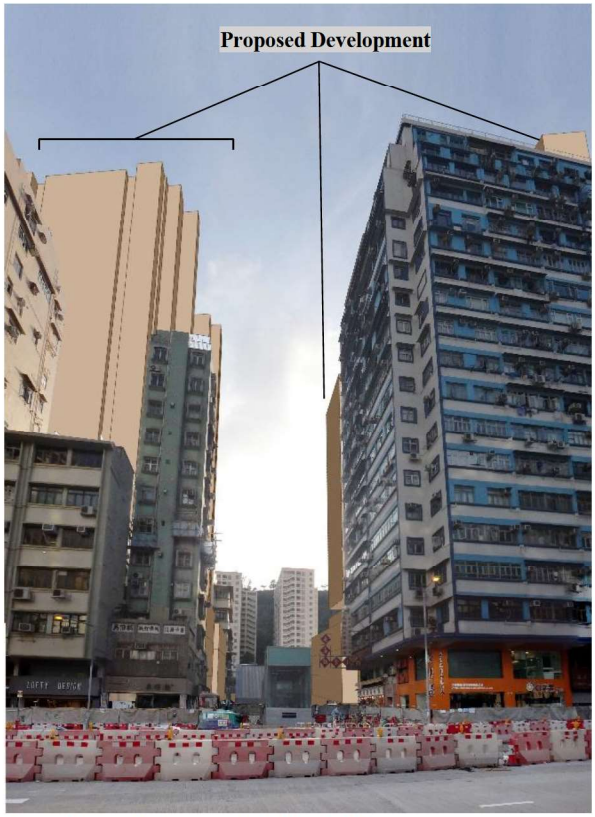
Proposed Scheme (140mPD)



Existing Condition



Index Plan

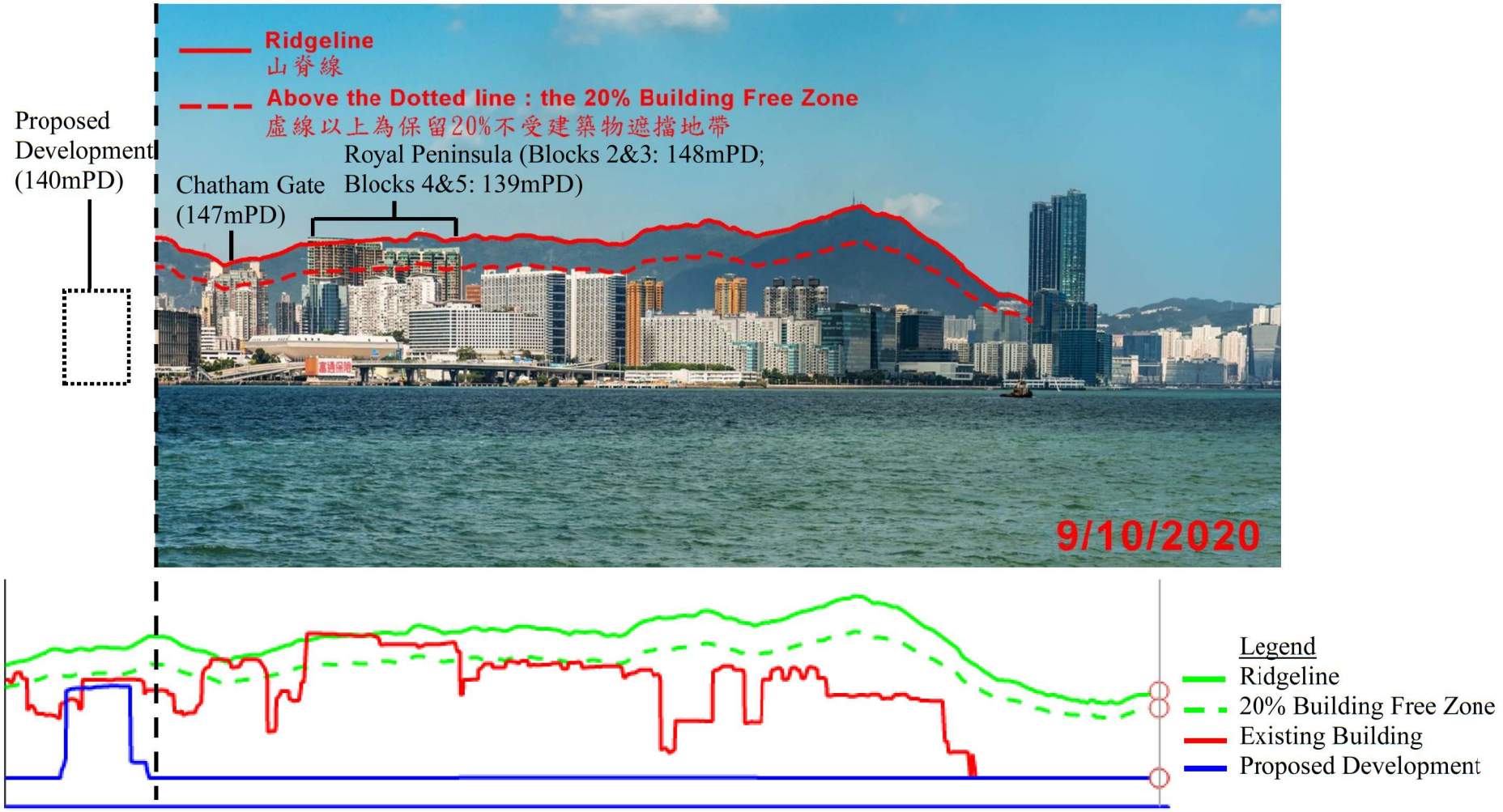


Baseline Scheme (120mPD)



Proposed Scheme (140mPD)

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	VP 5 – Junction of Ma Tau Wai Road and Kiang Su Street	Figure 3.7



(Up) Photo extracted from Strategic Viewing Points Webpage of Planning Department for the Town Planning Board Guidelines for Submission of Visual Impact Assessment to the Town Planning Board (TPB PG-No. 41) https://www.pland.gov.hk/pland_en/info_serv/via/web/vp_eng.html
(Below) Skyline analysis by 3D GIS software system

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	VP 6 – Strategic Viewing Point 5, Hong Kong Convention & Exhibition Centre, (Proposed Scheme with 140mPD)	Figure 3.8

Drainage Impact Assessment (DIA)



Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

Drainage Impact Assessment

Prepared for:

Urban Renewal Authority

Prepared by:
Ramboll Hong Kong Limited

Date:
October 2022

\Reference Number:
R6839_v1.6

RAMBOLL

Prepared by: 

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Appendices

Appendix A Layout Plans
Appendix B Drainage Record Plans
Appendix C Hydraulic Calculations

1. Introduction

1.1 Background

1.1.1 The Urban Renewal Authority (URA) commenced the Kau Pui Lung Road / Chi Kiang Street Development Scheme (the Scheme) (CBS-2:KC) on 22 May 2020, as a development scheme under section 25 of the Urban Renewal Authority Ordinance (URAO). A Drainage Impact Assessment (DIA) is required to be prepared to support the submission of the draft Development Scheme Plan (DSP) of the Scheme to the Town Planning Board (TPB) for consideration.

1.1.2 Ramboll Hong Kong Limited has been commissioned by the URA to conduct this DIA to assess whether the capacity of the existing drainage network serving the site is sufficient to cope with the drainage flow from the proposed redevelopment and existing development in the vicinity.

1.1.3 A draft DSP together with planning proposal and technical assessments were submitted to the TPB at commencement of the Scheme in May 2020. During public consultation, most of the comments and concerns were related to CBS issues, especially on the land matters of the undissolved CBS. The URA, after consultation with different Government Bureaux / Departments, has addressed the related comments and concerns. In this connection, the URA has taken the opportunity to review the draft DSP to respond to the new policy directives of entrusting the URA to provide more Starter Home (SH) units. Opportunity is also sought to enhance the Scheme to achieve wider planning gains to the community.

1.1.4 With the above consideration and changes, a revised Draft DSP, with revised notional design of providing private housing units and about 950 SH units (the "Revised Design 2022") are prepared and its necessary TAs are updated for TPB consideration.

1.2 The Site

1.2.1 The site is bounded by Ma Tau Wai Road to the east, Chi Kiang Street to the south, Kau Pui Lung Road to the west and Lok Shan Road to the north.

1.2.2 The Scheme area remains unchanged as commenced in May 2020 and will be considered as one site to be developed by the URA or its joint venture partner(s) (**Figure 1**). Under the current notional design, the Scheme area will be divided into two sites, i.e. the Northern Site and the Southern Site, for private housing development and provision of SH units respectively. The site boundary between the Northern Site and the Southern Site is indicative and the location of the SH units are subject to change.

1.3 Proposed Development

1.3.1 The subject site covers a Scheme Area of approximately 16,500m^2. Under the revised draft DSP, the existing structure will be demolished for redevelopment. The site will be redeveloped for high-density residential development with the provision of Government, Institution or Community (GIC) facilities, commercial use, and underground public vehicle park.

1.3.2 Under notional layout of the Revised Design 2022, the Northern Site consists of five residential towers providing 1374 residential units, clubhouses (about 3,435m^2), retail (about 8,587m^2) and community facilities (about 500m^2). The Southern Site consists of two residential towers

providing 950 residential units, clubhouses (about 2,755m^2), retail (about 6,888m^2) and community facilities (about 2,000m^2). A block plan of the notional layout is provided in **Appendix A**.

1.3.3 The population intake year for the proposed development is planned to be in year 2033.

1.4 Objectives

1.4.1 To address the above changes in the draft DSP, it is considered necessary to update the DIA to support the re-submission to TPB for consideration. In this DIA, apart from the proposed development parameters, internal boundary between the sites and the types of housing, the calculation assumption, methodology, catchment area adopted in the last DIA (ref. no.: R6839_v1.5 dated February 2022) remain unchanged.

2. Drainage Impact Assessment

2.1 Existing Drainage System

2.1.1 Based on the currently available Drainage Record Plans (from Lands Department's GeoInfo Map), there are stormwater drains and manholes within and around the Subject Site (see **Appendix B** and **Figure 2**). The Subject Site is currently fully paved, mainly comprising medium-rise domestic buildings.

2.1.2 According to the Drainage Services Department (DSD) website, there are no flooding blackspots in the vicinity of the Subject Site.

2.2 Assessment and Design Criteria

2.2.1 As the catchment areas are all fairly small, the Rational Method (as set out in Section 7.5.2 of Drainage Services Department's Stormwater Drainage Manual, "the SDM") has been used for the calculation of runoff. Times of concentration have been calculated from the topography of the various catchment areas.

2.2.2 The existing Site has been assumed to be effectively fully paved, i.e. a runoff coefficient, C of 1.0 has been adopted. The upstream catchment areas to the west of the Site comprise steep vegetated slopes and a value of C=0.35 has been adopted for these areas. The future development will comprise hard paving (C=1.0) and some flat landscaping (C=0.15).

2.2.3 The Site drains to urban drainage branch systems and a 50 years design return period has therefore been adopted, as set out in Table 10 of the SDM.

2.2.4 In accordance with Section 6.8 of the SDM, allowances have been included in the runoff calculations for potential increased rainfall intensities to mid 21st century and to end 21st century, with the runoff at end 21st century adopted for design purposes. The Site and surrounding areas are not tidally affected, so no consideration has been given to potential future sea level rises.

2.2.5 The Colebrook-White Equation has been used for the calculation of pipe capacities, with pipe roughness values taken from Table 14 of the SDM.

2.3 Discussion

2.3.1 The existing drainage facilities within the Subject Site(s) will be replaced by new facilities, to suit the detailed layouts of the proposed developments. Based on the layouts of the surrounding existing drainage systems, the drainage for the Northern Site will be connected to manhole SMH4114280 on Kiang Su Street, while the drainage for the Southern Site will be connected to manhole SMH4029273 on Chi Kiang Street, with ultimate discharge to the main drains along Ma Tau Wai Road.

2.3.2 As both the existing and future conditions will involve effectively full paving, there will be no change to the expected runoff from the Subject Site(s) and therefore no adverse impact on the existing drainage systems. Also, the areas will drain to the same existing main drainage routes, so there will be little overall impact on the drainage regimes as a result of the proposed development.

2.3.3 Although the proposed redevelopment itself will not result in any adverse drainage impacts, URA will consider the provision of blue-green drainage infrastructure (e.g. porous paving and on-site storage), in accordance with the DSD's Stormwater Drainage Manual (SDM, Section 3.2.2) in the subsequent detailed design stage to reduce the quantity and improve the quality of site runoff as far as practicable.

2.3.4 Overall, no unacceptable adverse drainage impacts are expected as a result of the proposed development and a detailed DIA is considered unnecessary.

2.4 Arrangement of New Drainage Pipes for the Adjacent Developments

2.4.1 According to the Drainage Record Plans included in **Appendix B**, some existing drainage pipes serving adjacent developments run through the Subject Site and it will therefore be necessary to rearrange some of these drainage systems to suit the proposed development at the Site.

2.4.2 For the adjacent buildings: Morning Joy Building, City 151 and 80 Maidstone Road, it is proposed to simply reconstruct the existing drainage in the rear access alleyway to run northwards towards Lok Shan Road, with a new connection drain (and manholes) on Lok Shan Road to connect to the existing manholes SMH4114290 (B1) (**Figure 3**).

2.4.3 For the adjacent buildings (Lok Man Sun Chuen Blocks A to E and Kei To Primary School), new drainage pipes (and manholes) are proposed to connect to existing manholes SMH4029171 (P1) and SMH4029270 (D1) on Kau Pui Lung Road.

2.4.4 Based on the drainage layout shown in **Figure 4a** and the hydraulic assessment included in **Tables 3a-4d of Appendix C**, it is proposed to construct a new 750mm diameter drain between Manhole P1 and D1 and adjust the invert levels of Manholes P1 to P3. Furthermore, it is proposed to upgrade the existing drains between Manholes D1 and D6 (along Chi Kiang Street) from (existing) 525mm diameter to 750mm diameter. The exact dimensions and alignments of the new drainage facilities will be subject to detailed design stage.

2.4.5 The designs of the new drainage facilities will take due consideration of the potential future increases in rainfall intensity as a result of climate change, as set out in Section 6.8 of the DSD's SDM and as calculated in **Appendix C**. The overall catchment areas are shown in **Figure 5**.

2.4.6 It is proposed to upgrade the drains along Lok Shan Road, between Manholes SMH4114290 (B1) and SMH4114294 (B4), from 750mm diameter to 900mm diameter (refer to **Figure 4b** and **Tables 5a-6d of Appendix C**). It is also proposed to reconstruct the drains (and manholes) from SMH4028832 (A1) to SMH4110924 (A6) to flow in the opposite direction to existing, with an increased diameter of 450mm, and to provide a new connection from SMH4110924 (A6) to SMH4114290 (B1), with at least one new intermediate manhole (NM1) in Lok Shan Road. The exact dimensions and alignments of the new drainage facilities will be subject to detailed design stage.

2.4.7 All new drainage infrastructure within the Site Boundary will be maintained by URA, or its joint venture partner(s), or its assignee. All new drainage infrastructure outside the Site Boundary will be handed over to DSD for maintenance.

Table 1 Summary of proposed upgrading of existing pipes and proposed new pipes

Segment	Manhole No.	Manhole No.	Existing pipe size (mm)	Proposed pipe size (mm)	Remarks
Kau Pui Lung Road / Chi Kiang Street					
P3-P2	SMH4029168	SMH4029170	450	450	Invert levels adjustment
P2-P1	SMH4029170	SMH4029171	450	450	Invert levels adjustment
P1-D1	SMH4029171	SMH4029270	-	750	New drain
D1-D2	SMH4029270	SMH4029271	525	750	Pipe upgrading
D2-D3	SMH4029271	SMH4029272	525	750	Pipe upgrading
D3-D4	SMH4029272	SMH4029273	525	750	Pipe upgrading
D4-D5	SMH4029273	SMH4029274	525	750	Pipe upgrading
D5-D6	SMH4029274	SMH4029177	525	750	Pipe upgrading
Lok Shan Road / Ma Tau Wai Road					
A1-A2	SMH4028832	SMH4028831	300	450	Pipe upgrading
A2-A3	SMH4028831	SMH4028830	300	450	Pipe upgrading
A3-A4	SMH4028830	SMH4028829	300	450	Pipe upgrading
A4-A5	SMH4028829	SMH4028828	225	450	Pipe upgrading
A5-A6	SMH4028828	SMH4110924	225	450	Pipe upgrading
A6-NM1	SMH4110924	New Manhole	-	450	New drain
NM1-B1	New Manhole	SMH4114290	-	450	New drain
B1-B2	SMH4114290	SMH4114291	750	900	Pipe upgrading
B2-B3	SMH4114291	SMH4114292	750	900	Pipe upgrading
B3-B4	SMH4114292	SMH4114294	750	900	Pipe upgrading

3. Overall Conclusion

3.1.1 Drainage assessments were conducted for the redevelopment at Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC) in To Kwa Wan.

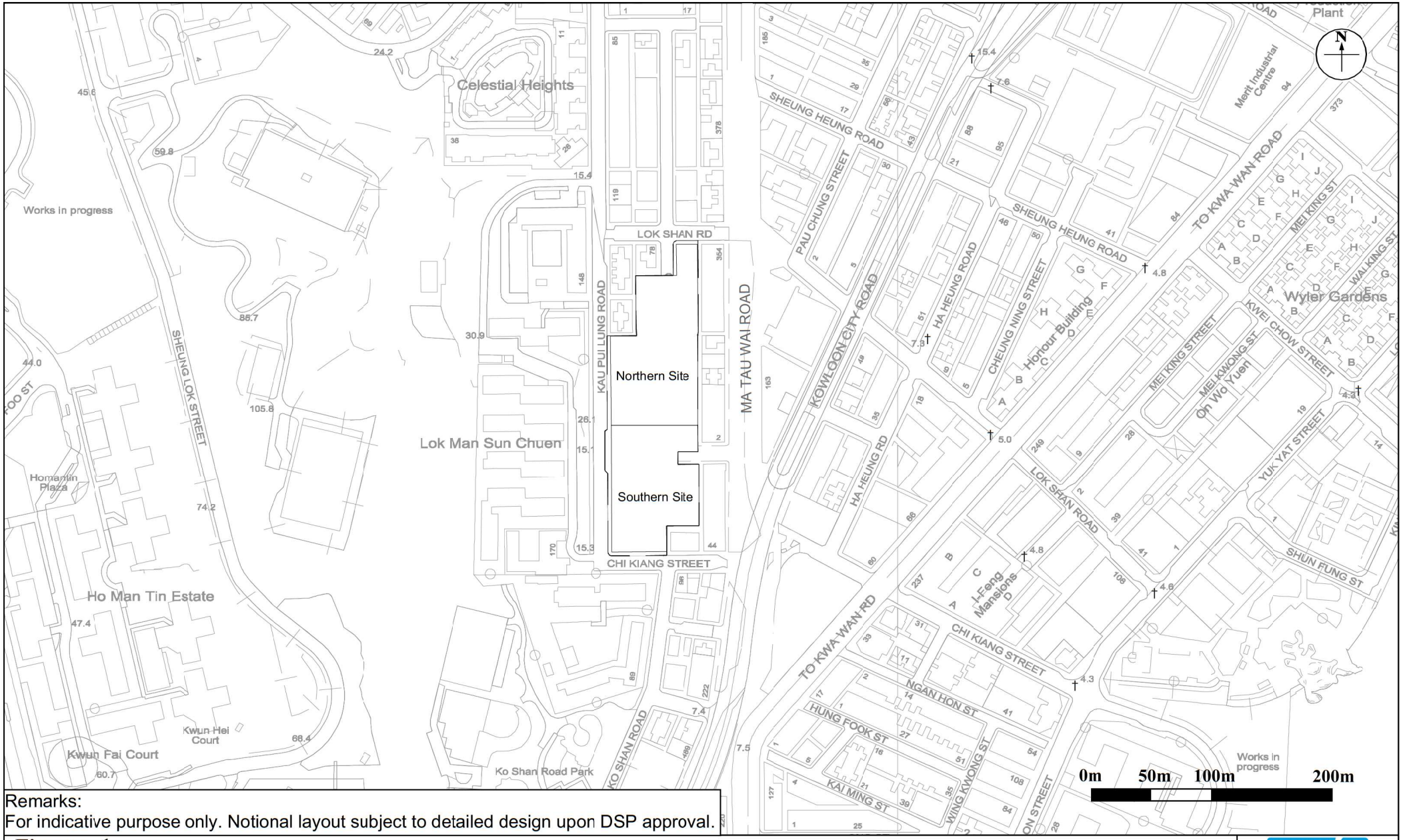
3.1.2 It is anticipated that the proposed development would not affect the main drainage paths or lead to unacceptable adverse drainage impacts.

3.1.3 It is intended to re-arrange drainage pipes for some existing buildings in the vicinity. Based on the assessment result, it is proposed to construct a new drainage pipe with diameter of 750mm and upgrade 7 existing drainage pipes along Kau Pui Lung Road / Chi Kiang Road. For the drainage system around Lok Shan Road / Ma Tau Wai Road, it is proposed to construct a new manhole (NM1) and 2 new drains with diameter of 450mm and upgrade 8 existing drainage pipes. The exact dimension and alignment of the proposed new drainage pipes will be determined in the detailed design stage.

3.1.4 To facilitate the proposed drainage diversion plan, it is proposed to re-arrange, reconstruct and revert the existing drainage flow direction for the drainage system located at the rear access alleyway (e.g. City 151, Morning Joy Building and 80 Maidstone Road). As revealed in the assessment result, 2 nos. of existing 225mm drain and 3 nos. of existing 300mm drain will be upgraded to 450mm drain, 3 nos. of existing 750mm drain will be upgraded to 900mm drain, 2 nos. of 450mm drain and one new manhole (NM1) will be constructed and to be connected to the existing manholes SMH4114290 (B1) at Lok Shan Road. For drainage system at Kau Pui Lung Road/ Chi Kiang Street, it is proposed to replace two new 450mm drains, install 1 new 750mm drain and upgrading 5 nos. of existing 525mm drain to 750mm drain. The exact dimension and alignment of the proposed new drainage pipe will be determined in detail design stage.

3.1.5 This DIA confirms the feasibility of the proposed development, with no unacceptable adverse drainage impact anticipated.

FIGURES



Remarks:
For indicative purpose only. Notional layout subject to detailed design upon DSP approval.

Figure: 1

Title: Location of the Subject Site and Its Environs

Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

RAMBOLL

Drawn by:	KW
Checked by:	TC
Rev.:	2.0
Date:	Sep 2022

Q:\Projects\URACBS02EI00\04 Deliverables\01 EA Report\01 Figures\v2.0\Fig 1 Subject Site.dwg

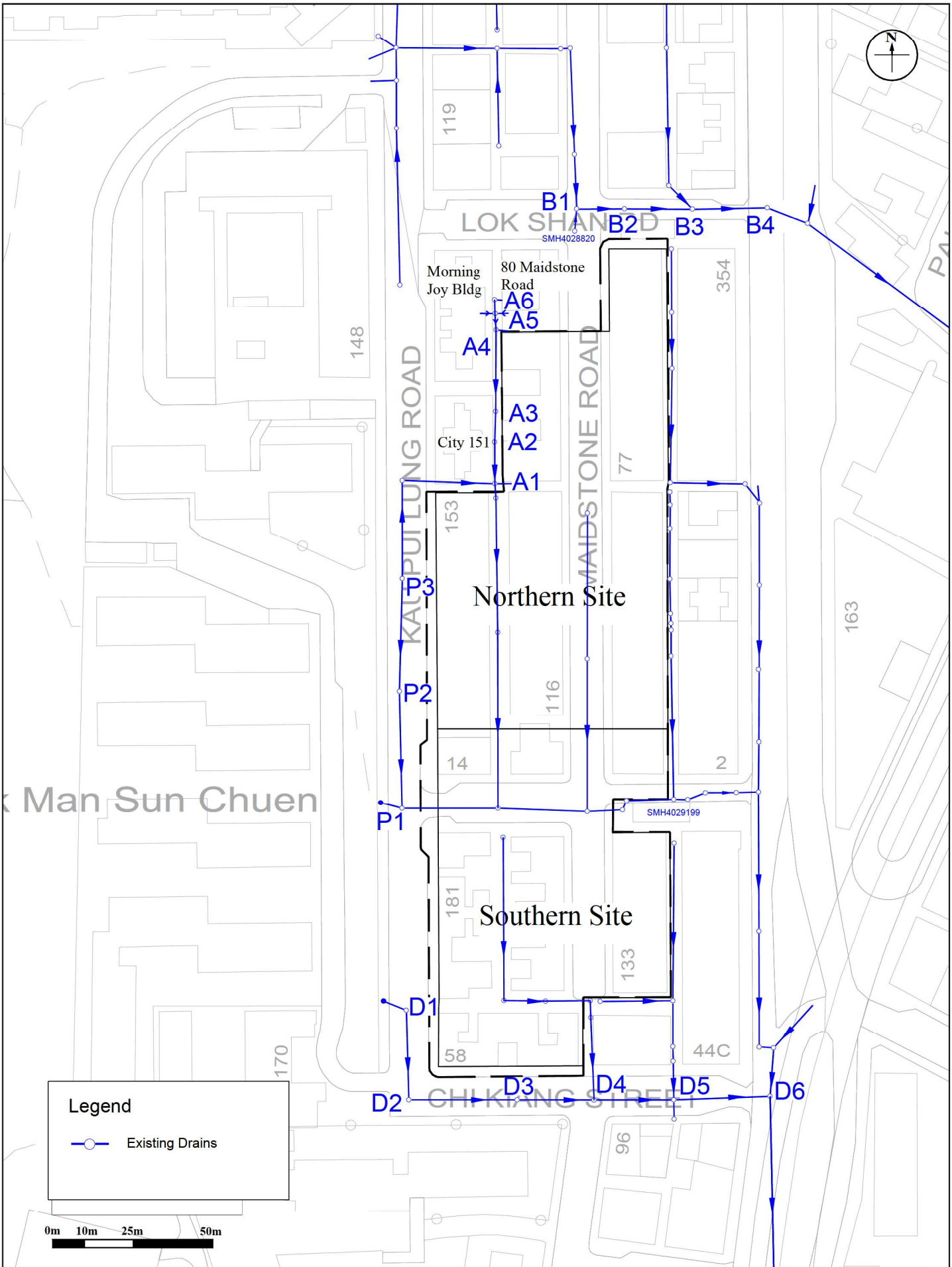


Figure: 2	RAMBOLL
Title: Existing drainage system in the vicinity of the Project Sites	Drawn by: LL
	Checked by: TC
Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Rev.: 1.6
	Date: Aug 2022

Q:\Projects\URACBS02EI00\04 Deliverables\04 DIA Report\v1.6\Figure 2 Existing drains.dwg

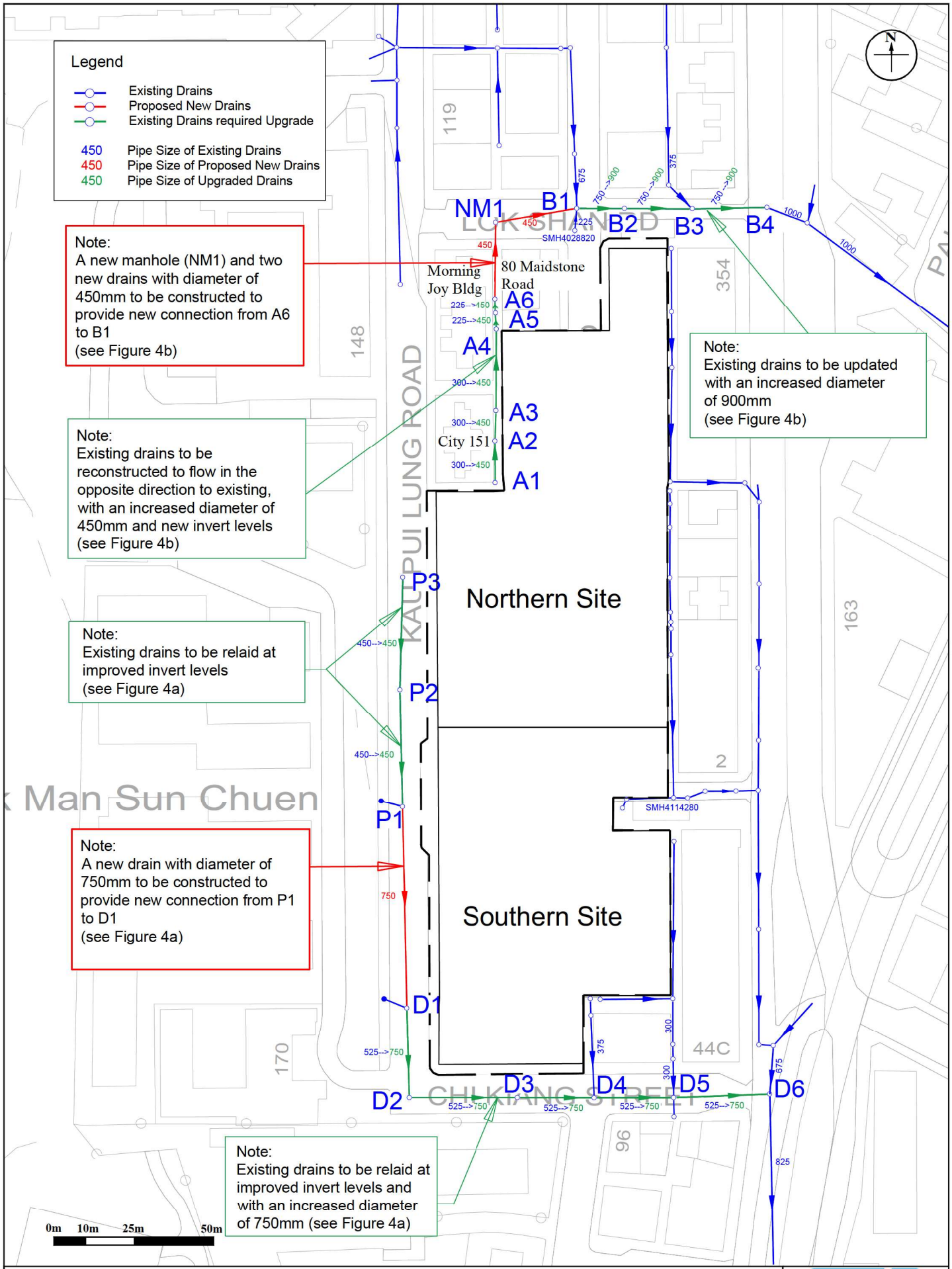


Figure: 3	RAMBOLL
Title: Proposed drainage system in the vicinity of the Project Sites	Drawn by: KW
	Checked by: TC
Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Rev.: 1.6
	Date: Aug 2022

Q:\Projects\URACBS02EI00\04 Deliverables\04 DIA Report\v1.6\Figure 3 proposed drains.dwg

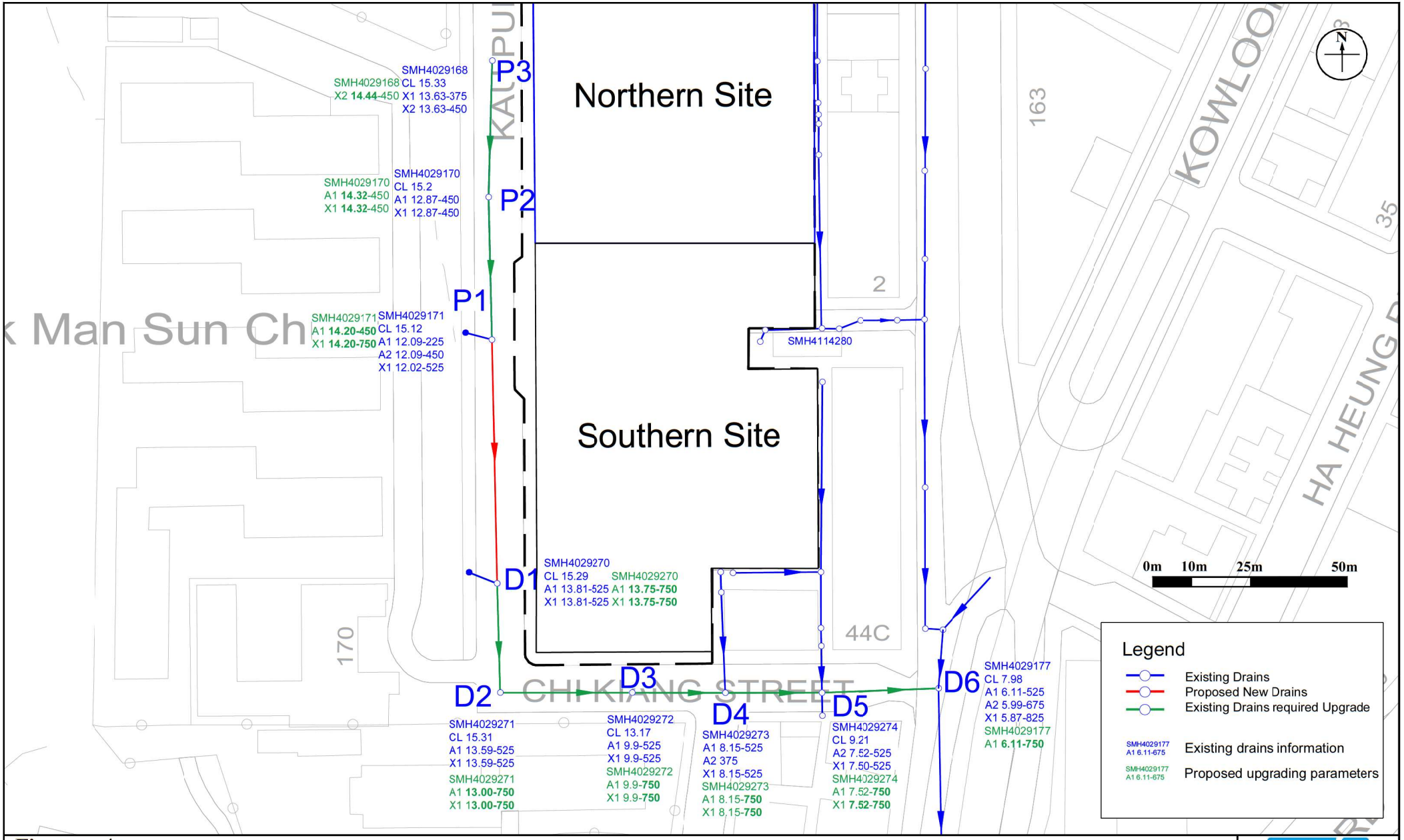


Figure: 4a	RAMBOLL
Title: Proposed Drainage Diversion and the Upgrade of the Drainage System (with details)	Drawn by: LL Checked by: TC
Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Rev.: 1.6 Date: Sep 2022

Q:\Projects\URACBS02EI00\04 Deliverables\04 DIA Report\v1.6\Figure 4 Proposed draiange diversion.dwg

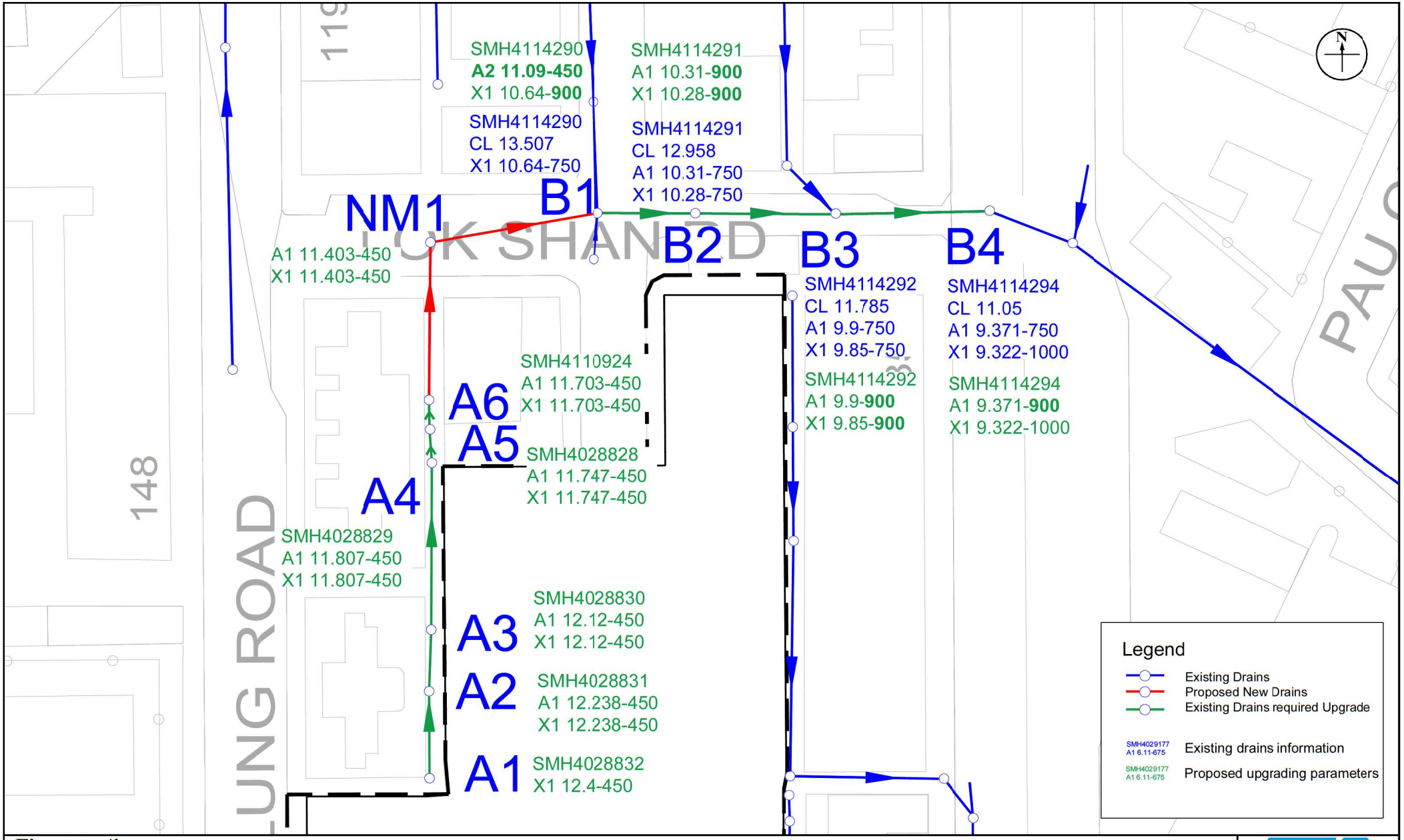


Figure: 4b		RAMBOLL
Title: Proposed Drainage Diversion and the Upgrade of the Drainage System (with details)		Drawn by: LL
		Checked by: TC
Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)		Rev.: 1.5
		Date: Feb 2022

Q:\Projects\URACBS02EI00\04 Deliverables\04 DIA Report\v1.5\Figure 4 Proposed draiange diversion.dwg

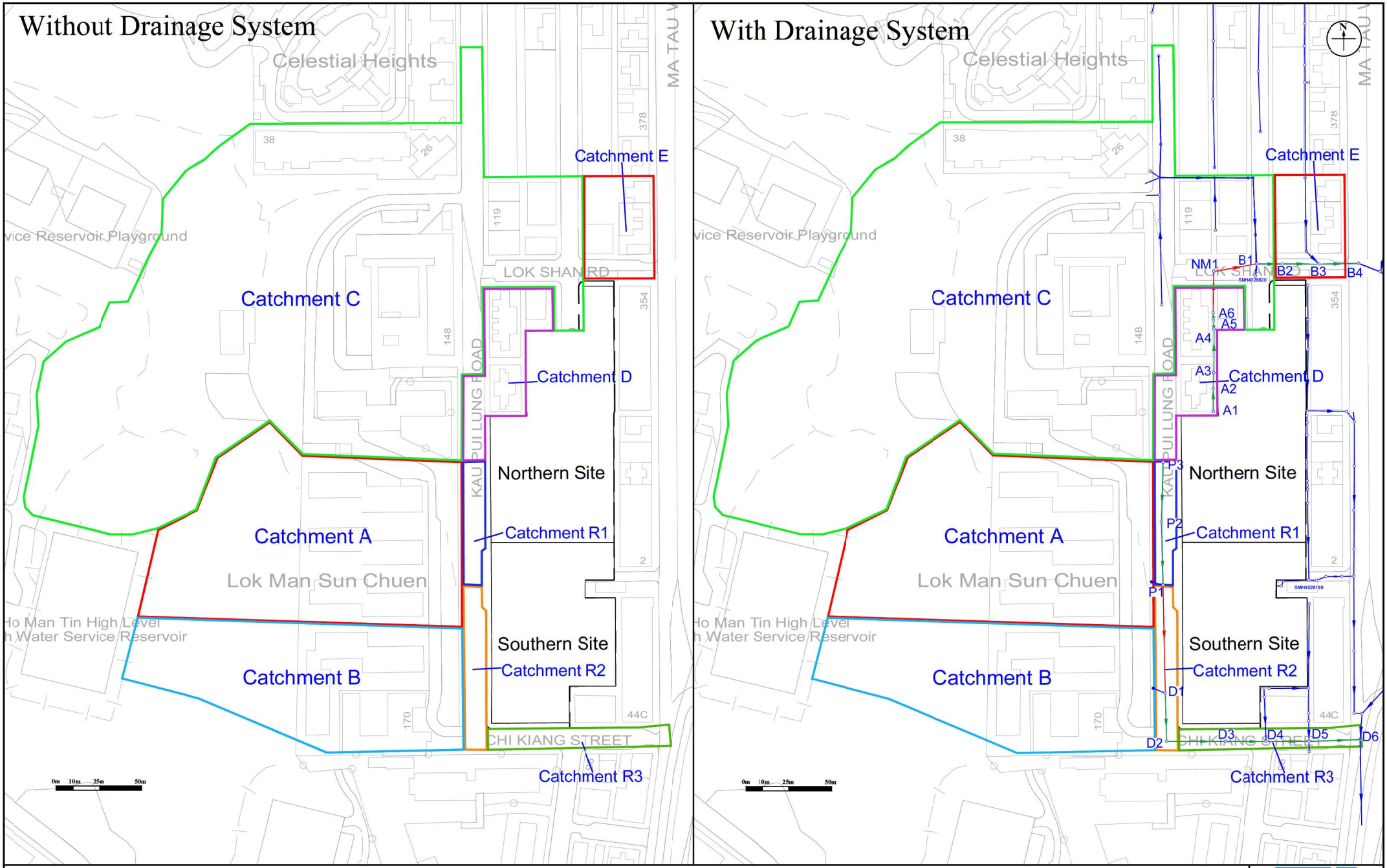
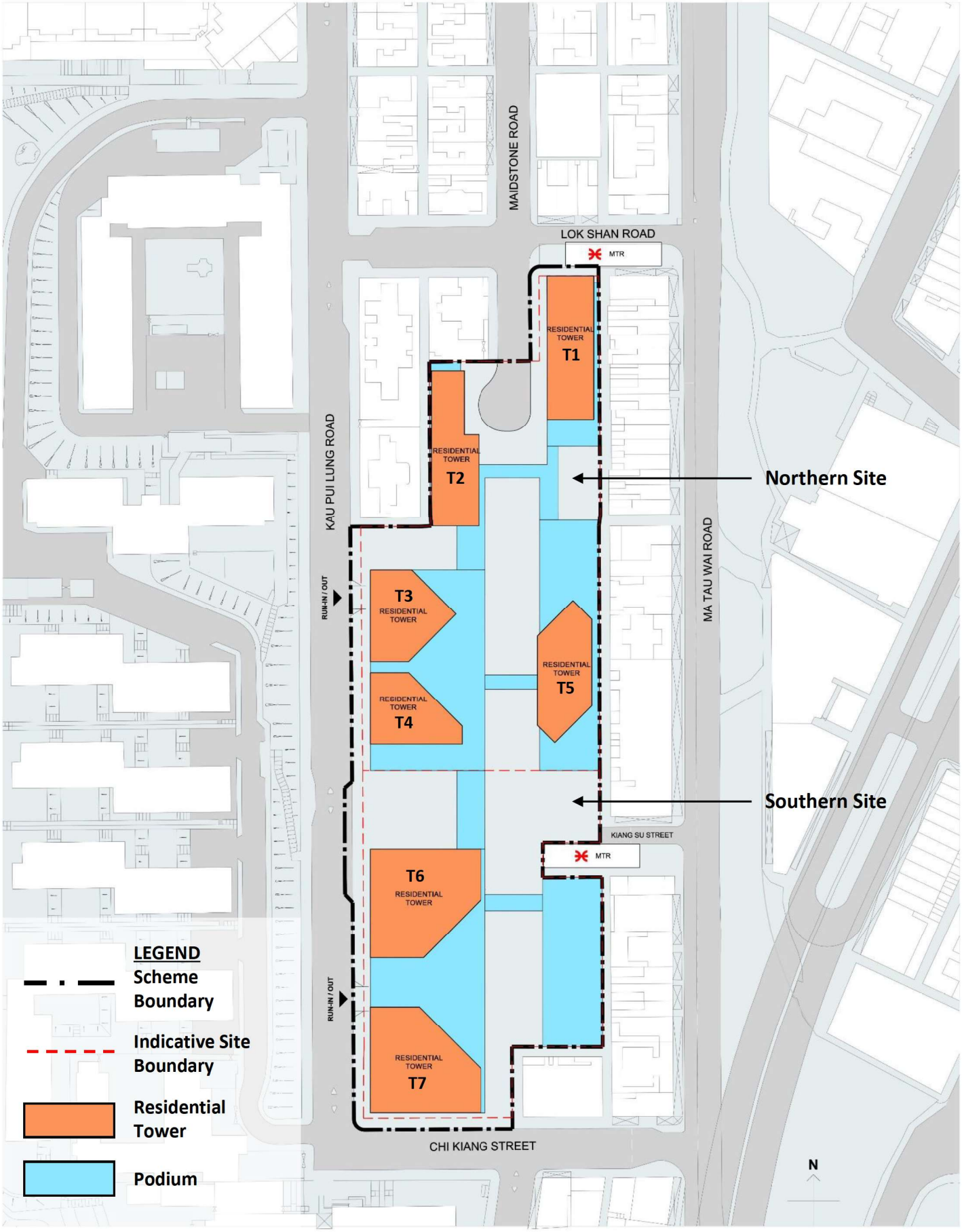


Figure: 5	RAMBOLL
Title: Catchment Area	Drawn by: KW
	Checked by: TC
Project: Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Rev.: 1.6
	Date: Aug 2022

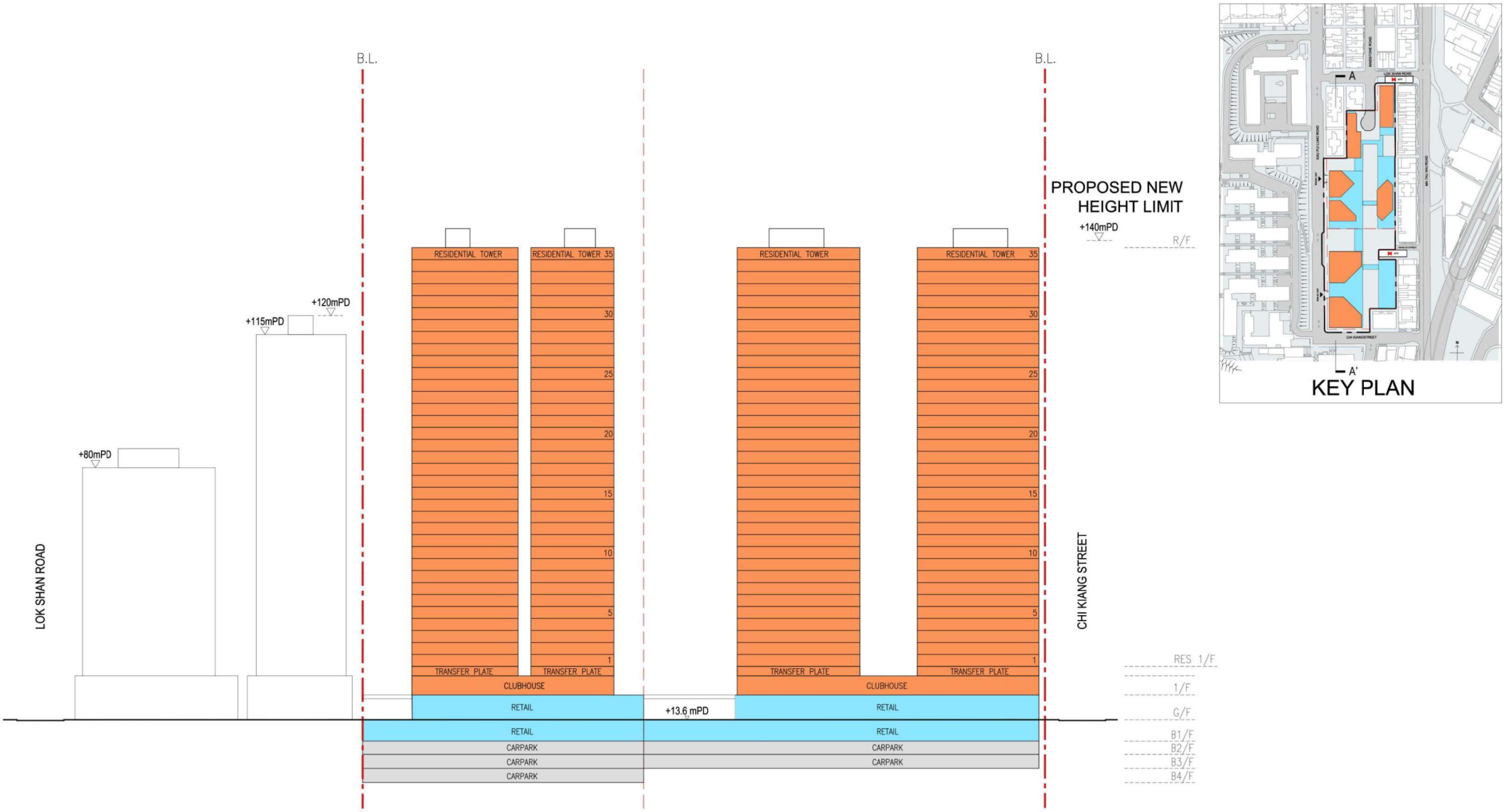
Q:\Projects\URACBS02EI00\04 Deliverables\04 DIA Report\v1.6\Figure 5 Catchment Area_2.dwg

APPENDIX A:
LAYOUT PLANS



(Remarks: For indicative purpose only. Notional layout subject to detailed design upon DSP approval.)

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)	Notional Design – Indicative Block Plan	**Figure 1.1**



(Remarks: For indicative purpose only. Notional layout subject to detailed design upon DSP approval.)

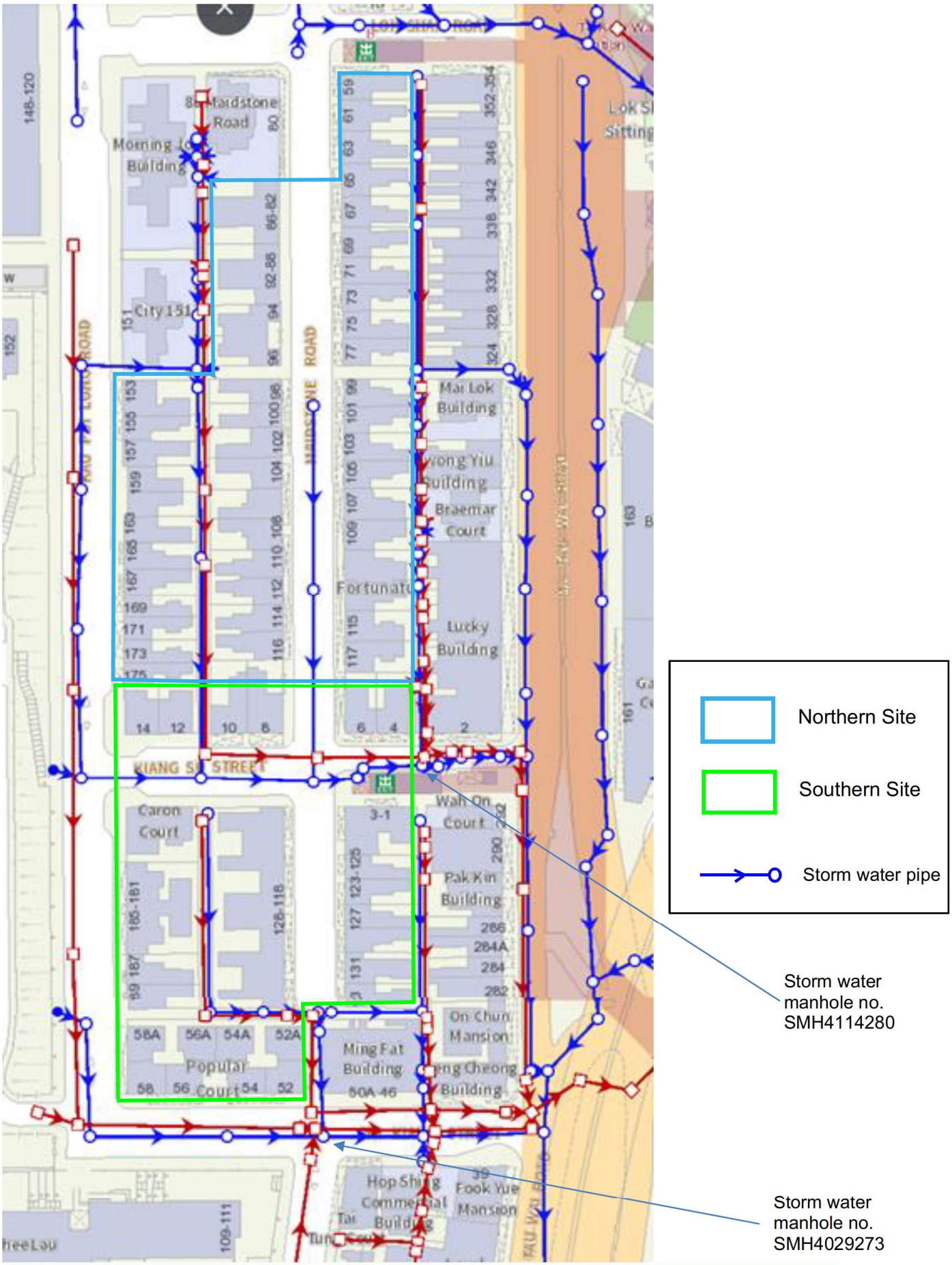
URBAN RENEWAL AUTHORITY 市區重建局

URA Kau Pui Lung Road / Chi Kiang Street Development Scheme (CBS-2:KC)

Notional Design – Schematic Section AA'

Figure 1.2

APPENDIX B:
DRAINAGE RECORD PLANS


Northern Site
Southern Site
Storm water pipe
Storm water manhole no. SMH4114280
Storm water manhole no. SMH4029273
Madstone Road
Morning Joy Building
City 151
Mai Lok Building
Wong Yiu Building
Braemar Court
Lucky Building
Caron Court
Popular Court
Wah On Court
Pak Kin Building
On Chun Mansion
Ming Fat Building
Hop Shing Commercial Building
Fook Yue Mansion
KIANG SU STREET

RAMBOLL

APPENDIX C:
HYDRAULIC CALCULATIONS

Kau Pui Lung Road/ Chi Kiang Street Development Scheme (CBS-2:KC)
Table 1 - Proposed Catchment Areas and Run-off (1 in 50 year)

$$Q_p = 0.278\ C\ i\ A$$

where Q_p = peak runoff in m^3/s
C = runoff coefficient (dimensionless)
i = rainfall intensity in mm/hr
A = catchment area in km^2

Surface Characteristics	*Runoff coefficient, C**
Asphalt	0.70 - 0.95
Concrete	0.80 - 0.95
Brick	0.70 - 0.85
Grassland (heavy soil**)	
Flat	0.13 - 0.25
Steep	0.25 - 0.35
Grassland (sandy soil)	
Flat	0.05 - 0.15
Steep	0.15 - 0.20

1 in 50 year (according to Table 3 of DSD Manual)
a= 451.3
b= 2.46
c= 0.337

Increases from SDM
10.4% 13.8%

Notes:
Existing Site comprises concrete paving, C = 1; Steep Grassland, C = 0.35
Future Site Development will include Paved Areas, C = 1, with Soft Landscaping, C = 0.15
Catchments are small, so Rational Method is appropriate

Catchment		Area	Levels (mPD)		Fall	Overland, L	Fall, H	Overland t_c	t_0	Total t_f[1]	Total t_c[2]	Intensity	Weighted Runoff Coefficient	Run-off	Run-off Mid-21st Century	Run-off End-21st Century
		(m^2)	Upstream	Downstream	(m)	(m)	(m/100m)	(min)	(min)	(min)	(min)	(mm/h)		(m^3/s)	(m^3/s)	(m^3/s)
Existing Catchments involve drainage diversion	Catchment A Lok Man Sun Chuen (46% unpaved)	16,897	103.0	26.1	76.9	184	41.8	4.8	4.8	0.5	5.3	227	0.70	0.75	0.82	0.85
	Catchment B Lok Man Sun Chuen (41% unpaved)	12,048	103.0	15.3	87.7	232.0	37.8	6.3	6.3	0.5	6.8	213	0.73	0.52	0.58	0.60
	Catchment R1 Fully Paved Road	925	15.3	15.2	0.2	73.8	0.2	7.1	7.1	0.5	7.6	207	0.94	0.05	0.05	0.06
	Catchment R2 Fully Paved Road	1,285	15.5	15.3	0.2	97.8	0.2	9.5	9.5	0.5	10.0	193	0.94	0.06	0.07	0.07
	Catchment R3 Fully Paved Road	1,232	15.3	8.0	7.3	106.3	6.9	5.1	5.1	0.5	5.6	223	0.94	0.07	0.08	0.08
	Sub-total	**32,387**												**1.45**	1.61	1.66
Discharge to SMH4028820	Catchment C (Existing)[See Remark 1] Lok Man Sun Chuen (50% unpaved)	49,573	103.0	15.4	87.6	370	23.7	9.6	9.6	1.0	10.7	190	0.68	1.76	1.95	2.01
	Catchment C+E (Existing) Lok Man Sun Chuen (47% unpaved)	52,021	103.0	15.4	87.6	370	23.7	9.6	9.6	1.5	11.1	187	0.69	1.88	2.08	2.14
	Catchment D (Proposed)[See Remark 2] Fully Paved	2,786	-	-	-	-	-	-	-	-	3.0	255	1.00	0.20	0.22	0.22
	Catchment C+D (Proposed) Lok Man Sun Chuen (o/a 47% unpaved)	52,359	103.0	15.4	87.6	370	23.7	9.6	9.6	1.0	10.6	190	0.69	1.92	2.12	2.18
	Catchment C+D+E (Proposed) Lok Man Sun Chuen (o/a 45% unpaved)	54,807	103.0	15.4	87.6	370	23.7	9.5	9.5	1.5	11.0	188	0.71	2.02	2.23	2.30

Remarks:
1. Assumed Time of Concertration through stream flow. Velocity of 2m/s assumed for pipe flow in Catchment C
2. Nominal 3 minutes t_c adopted for Catchment D, with drains over a length of approximately 160m

Kau Pui Lung Road/ Chi Kiang Street Development Scheme (CBS-2:KC)
Hydraulic Calculations of Existing and Proposed Drainage System

Table 2a - 1 in 50 year Runoff of Existing Catchments (m/s^3)

	Catchment A	Catchment B	Catchment R1	Catchment R2	Catchment R3	Catchment C	Catchment C+E	Catchment D	Catchment C+D	Catchment C+D+E
Runoff	0.75	0.52	0.05	0.06	0.07	1.76	1.88	0.20	1.92	2.02
Mid-21st C	0.82	0.58	0.05	0.07	0.08	1.95	2.08	0.22	2.12	2.23
End-21st C	0.85	0.60	0.06	0.07	0.08	2.01	2.14	0.22	2.18	2.30

Table 3a - Hydraulic Capacities for Existing Drainage System (Kau Pui Lung Road/Chi Kiang Street)

Segment	Manhole Reference	Manhole Reference	Type of Channel	Pipe Dia.	Pipe Length	Invert Level 1	Invert Level 2	g	k_s	s	Gradient	v	V	Area	Q	Q_{silt}^3
				mm	m	mPD	mPD	m/s^2	m		1 in	m^2/s	m/s	m^2	m^3/s	m^3/s
D1-D2	SMH4029270	SMH4029271	Circular	525	28.1	13.81	13.59	9.81	0.0003	0.008	128	0.000001	2.14	0.22	0.46	0.42
D2-D3	SMH4029271	SMH4029272	Circular	525	34.1	13.59	9.90	9.81	0.0003	0.108	9	0.000001	8.02	0.22	1.74	1.65
D3-D4	SMH4029272	SMH4029273	Circular	525	24.0	9.90	8.15	9.81	0.0003	0.073	14	0.000001	6.58	0.22	1.42	1.35
D4-D5	SMH4029273	SMH4029274	Circular	525	24.9	8.15	7.52	9.81	0.0003	0.025	40	0.000001	3.86	0.22	0.84	0.75
D5-D6	SMH4029274	SMH4029177	Circular	525	30.1	7.50	6.11	9.81	0.0003	0.046	22	0.000001	5.23	0.22	1.13	1.08

Table 3b - Hydraulic Capacities for Proposed Drainage System (Kau Pui Lung Road)/Chi Kiang Street)

Segment	Manhole Reference	Manhole Reference	Type of Channel	Pipe Dia.	Pipe Length	Invert Level 1	Invert Level 2	g	k_s	s	Gradient	v	V	Area	Q	Q_{silt}^3
				mm	m	mPD	mPD	m/s^2	m		1 in	m^2/s	m/s	m^2	m^3/s	m^3/s
P3-P2	SMH4029168	SMH4029170	Circular	450	35.2	14.44	14.32	9.81	0.0003	0.003	300	0.000001	1.26	0.16	0.20	0.18
P2-P1	SMH4029170	SMH4029171	Circular	450	36.8	14.32	14.20	9.81	0.0003	0.003	300	0.000001	1.26	0.16	0.20	0.18
P1-D1	SMH4029171	SMH4029270	Circular	**750**	63.0	14.20	**13.75**	9.81	0.0003	0.007	140	0.000001	2.55	0.44	1.12	1.01
D1-D2	SMH4029270	SMH4029271	Circular	**750**	28.1	**13.75**	**13.00**	9.81	0.0003	0.027	37	0.000001	4.94	0.44	2.18	1.97
D2-D3	SMH4029271	SMH4029272	Circular	**750**	34.1	**13.00**	9.90	9.81	0.0003	0.091	11	0.000001	9.15	0.44	4.04	3.84
D3-D4	SMH4029272	SMH4029273	Circular	**750**	24.0	9.90	8.15	9.81	0.0003	0.073	14	0.000001	8.19	0.44	3.62	3.44
D4-D5	SMH4029273	SMH4029274	Circular	**750**	24.9	8.15	7.52	9.81	0.0003	0.025	40	0.000001	4.81	0.44	2.13	1.91
D5-D6	SMH4029274	SMH4029177	Circular	**750**	30.1	**7.52**	6.11	9.81	0.0003	0.047	21	0.000001	6.56	0.44	2.90	2.75

Table 4a - Comparison of Runoff from Existing Catchments and Hydraulic Capacities of Existing Drains (Kau Pui Lung Road/Chi Kiang Street)

Segment	Manhole Reference	Manhole Reference	Pipe Dia. mm	Q_{silt}[1] m^3/s	Catchment Involved	Runoff m^3/s	Occupancy	Sufficient Capacity?
D1-D2	SMH4029270	SMH4029271	525	0.42	A-B-R1-R2	1.38	332.0%	NO
D2-D3	SMH4029271	SMH4029272	525	1.65	A-B-R1-R2	1.38	83.9%	YES
D3-D4	SMH4029272	SMH4029273	525	1.35	A-B-R1-R2-R3	1.45	107.6%	NO
D4-D5	SMH4029273	SMH4029274	525	0.75	A-B-R1-R2-R3	1.45	193.3%	NO
D5-D6	SMH4029274	SMH4029177	525	1.08	A-B-R1-R2-R3	1.45	135.3%	NO

Table 4b - Comparison of Runoff from Proposed Catchments and Hydraulic Capacities of Proposed Drainage System (Kau Pui Lung Road/Chi Kiang Street)

Segment	Manhole Reference	Manhole Reference	Pipe Dia. mm	Q_{silt}[1] m^3/s	Catchment Involved	Runoff m^3/s	Occupancy	Sufficient Capacity?
P3-P2	SMH4029168	SMH4029170	450	0.18	R1	0.05	27.6%	YES
P2-P1	SMH4029170	SMH4029171	450	0.18	R1	0.05	27.6%	YES
P1-D1	SMH4029171	SMH4029270	750	1.01	A-R1-R2	0.86	85.0%	YES
D1-D2	SMH4029270	SMH4029271	750	1.97	A-B-R1-R2	1.38	70.4%	YES
D2-D3	SMH4029271	SMH4029272	750	3.84	A-B-R1-R2	1.38	36.0%	YES
D3-D4	SMH4029272	SMH4029273	750	3.44	A-B-R1-R2-R3	1.45	42.3%	YES
D4-D5	SMH4029273	SMH4029274	750	1.91	A-B-R1-R2-R3	1.45	76.0%	YES
D5-D6	SMH4029274	SMH4029177	750	2.75	A-B-R1-R2-R3	1.45	52.8%	YES

Table 4c - Comparison of Runoff from Proposed Catchments and Hydraulic Capcities of Proposed Drainage System (Kau Pui Lung Road/Chi Kiang Street) - Mid-21st Century

Segment	Manhole Reference	Manhole Reference	Pipe Dia. mm	Q_{silt}[1] m^3/s	Catchment Involved	Runoff m^3/s	Occupancy	Sufficient Capacity?
P3-P2	SMH4029168	SMH4029170	450	0.18	R1	0.05	30.5%	YES
P2-P1	SMH4029170	SMH4029171	450	0.18	R1	0.05	30.5%	YES
P1-D1	SMH4029171	SMH4029270	750	1.01	A-R1-R2	0.95	93.8%	YES
D1-D2	SMH4029270	SMH4029271	750	1.97	A-B-R1-R2	1.53	77.7%	YES
D2-D3	SMH4029271	SMH4029272	750	3.84	A-B-R1-R2	1.53	39.8%	YES
D3-D4	SMH4029272	SMH4029273	750	3.44	A-B-R1-R2-R3	1.61	46.7%	YES
D4-D5	SMH4029273	SMH4029274	750	1.91	A-B-R1-R2-R3	1.61	83.9%	YES
D5-D6	SMH4029274	SMH4029177	750	2.75	A-B-R1-R2-R3	1.61	58.3%	YES

Table 4d - Comparison of Runoff from Proposed Catchments and Hydraulic Capcities of Proposed Drainage System (Kau Pui Lung Road/Chi Kiang Street) - End-21st Century

Segment	Manhole Reference	Manhole Reference	Pipe Dia. mm	Q_{silt}[1] m^3/s	Catchment Involved	Runoff m^3/s	Occupancy	Sufficient Capacity?
P3-P2	SMH4029168	SMH4029170	450	0.18	R1	0.05	31.4%	YES
P2-P1	SMH4029170	SMH4029171	450	0.18	R1	0.05	31.4%	YES
P1-D1	SMH4029171	SMH4029270	750	1.01	A-R1-R2	0.98	96.7%	YES
D1-D2	SMH4029270	SMH4029271	750	1.97	A-B-R1-R2	1.57	80.1%	YES
D2-D3	SMH4029271	SMH4029272	750	3.84	A-B-R1-R2	1.57	41.0%	YES
D3-D4	SMH4029272	SMH4029273	750	3.44	A-B-R1-R2-R3	1.66	48.2%	YES
D4-D5	SMH4029273	SMH4029274	750	1.91	A-B-R1-R2-R3	1.66	86.5%	YES
D5-D6	SMH4029274	SMH4029177	750	2.75	A-B-R1-R2-R3	1.66	60.1%	YES

Table 5a - Hydraulic Capacities for Existing Drainage System (Lok Shan Road/Ma Tau Wai Road)

Segment	Manhole Reference	Manhole Reference	Type of Channel	Pipe Dia.	Pipe Length	Invert Level 1	Invert Level 2	g	k_s	s	Gradient	v	V	Area	Q	Q_{silt}^3
				mm	m	mPD	mPD	m/s^2	m		1 in	m^2/s	m/s	m^2	m^3/s	m^3/s
SMH4028820-B1	SMH4028820	SMH4114290	Circular	225	5.3	11.728	11.238	9.81	0.0003	0.092	11	0.000001	4.37	0.04	0.17	0.17
B1-B2	SMH4114290	SMH4114291	Circular	750	13.6	10.640	10.310	9.81	0.0003	0.024	41	0.000001	4.71	0.44	2.08	1.87
B2-B3	SMH4114291	SMH4114292	Circular	750	19.8	10.280	9.900	9.81	0.0003	0.019	52	0.000001	4.19	0.44	1.85	1.67
B3-B4	SMH4114292	SMH4114294	Circular	750	22.0	9.850	9.371	9.81	0.0003	0.022	46	0.000001	4.46	0.44	1.97	1.77

Table 5b - Hydraulic Capacities for Proposed Drainage System (Lok Shan Road)/Ma Tau Wai Road)

Segment	Manhole Reference	Manhole Reference	Type of Channel	Pipe Dia.	Pipe Length	Invert Level 1	Invert Level 2	g	k_s	s	Gradient	v	V	Area	Q	Q_{silt}^3
				mm	m	mPD	mPD	m/s^2	m		1 in	m^2/s	m/s	m^2	m^3/s	m^3/s
A1-A2	SMH4028832	SMH4028831	Circular	**450**	13.1	12.4	12.238	9.81	0.0003	0.012	81	0.000001	2.45	0.16	0.39	0.35
A2-A3	SMH4028831	SMH4028830	Circular	**450**	9.6	12.238	12.120	9.81	0.0003	0.012	81	0.000001	2.45	0.16	0.39	0.35
A3-A4	SMH4028830	SMH4028829	Circular	**450**	25.4	12.120	11.807	9.81	0.0003	0.012	81	0.000001	2.45	0.16	0.39	0.35
A4-A5	SMH4028829	SMH4028828	Circular	**450**	4.8	11.807	11.747	9.81	0.0003	0.012	81	0.000001	2.45	0.16	0.39	0.35
A5-A6	SMH4028828	SMH4110924	Circular	**450**	3.6	11.747	11.703	9.81	0.0003	0.012	81	0.000001	2.45	0.16	0.39	0.35
A6-NM1	SMH4110924	New Manhole	Circular	**450**	24.3	11.703	11.403	9.81	0.0003	0.012	81	0.000001	2.45	0.16	0.39	0.35
NM1-B1	New Manhole	SMH4114290	Circular	**450**	25.4	11.403	11.090	9.81	0.0003	0.012	81	0.000001	2.45	0.16	0.39	0.35
B1-B2	SMH4114290	SMH4114291	Circular	**900**	13.6	10.640	10.310	9.81	0.0003	0.024	41	0.000001	5.27	0.64	3.35	3.02
B2-B3	SMH4114291	SMH4114292	Circular	**900**	19.8	10.280	9.900	9.81	0.0003	0.019	52	0.000001	4.68	0.64	2.98	2.68
B3-B4	SMH4114292	SMH4114294	Circular	**900**	22.0	9.850	9.371	9.81	0.0003	0.022	46	0.000001	4.99	0.64	3.17	2.86

Table 6a - Comparison of Runoff from Existing Catchments and Hydraulic Capacities of Existing Drains (Lok Shan Road/Ma Tau Wai Road)

Segment	Manhole Reference	Manhole Reference	Pipe Dia. mm	Q_{silt}[1] m^3/s	Catchment Involved	Runoff m^3/s	Occupancy	Sufficient Capacity?
NM1-B1	New Manhole	SMH4114290	225	0.17	Minor Local	0.00	0.0%	YES
B1-B2	SMH4114290	SMH4114291	750	1.87	C	1.76	94.1%	YES
B2-B3	SMH4114291	SMH4114292	750	1.67	C	1.76	105.9%	NO
B3-B4	SMH4114292	SMH4114294	750	1.77	C+E	1.88	106.1%	NO

Table 6b - Comparison of Runoff from Proposed Catchments and Hydraulic Capacities of Proposed Drainage System (Lok Shan Road/Ma Tau Wai Road)

Segment	Manhole Reference	Manhole Reference	Pipe Dia. mm	Q_{silt}[1] m^3/s	Catchment Involved	Runoff m^3/s	Occupancy	Sufficient Capacity?	
NM1-B1	New Manhole	SMH4114290	450	0.35	D	0.20	56.4%	YES	Proposed Upstream Drains have the same capacity
B1-B2	SMH4114290	SMH4114291	900	3.02	C+D	1.92	63.6%	YES	
B2-B3	SMH4114291	SMH4114292	900	2.68	C+D	1.92	71.6%	YES	
B3-B4	SMH4114292	SMH4114294	900	2.86	C+D+E	2.02	70.8%	YES	

Table 6c - Comparison of Runoff from Proposed Catchments and Hydraulic Capcities of Proposed Drainage System (Lok Shan Road/Ma Tau Wai Road) - Mid-21st Century

Segment	Manhole Reference	Manhole Reference	Pipe Dia. mm	Q_{silt}[1] m^3/s	Catchment Involved	Runoff m^3/s	Occupancy	Sufficient Capacity?	
NM1-B1	New Manhole	SMH4114290	450	0.35	D	0.22	62.2%	YES	Proposed Upstream Drains have the same capacity
B1-B2	SMH4114290	SMH4114291	900	3.02	C+D	2.12	70.2%	YES	
B2-B3	SMH4114291	SMH4114292	900	2.68	C+D	2.12	79.0%	YES	
B3-B4	SMH4114292	SMH4114294	900	2.86	C+D+E	2.23	78.2%	YES	

Table 6d - Comparison of Runoff from Proposed Catchments and Hydraulic Capcities of Proposed Drainage System (Lok Shan Road/Ma Tau Wai Road) - End-21st Century

Segment	Manhole Reference	Manhole Reference	Pipe Dia. mm	Q_{silt}[1] m^3/s	Catchment Involved	Runoff m^3/s	Occupancy	Sufficient Capacity?	
NM1-B1	New Manhole	SMH4114290	450	0.35	D	0.22	64.1%	YES	Proposed Upstream Drains have the same capacity
B1-B2	SMH4114290	SMH4114291	900	3.02	C+D	2.18	72.4%	YES	
B2-B3	SMH4114291	SMH4114292	900	2.68	C+D	2.18	81.4%	YES	
B3-B4	SMH4114292	SMH4114294	900	2.86	C+D+E	2.30	80.6%	YES	

Table 6e - Summary of Flow Rates as a Result of Proposed Drainage Diversion (Lok Shan Road/Ma Tau Wai Road)

Segment	Manhole Reference	Manhole Reference	Flow Rate (m^3/s)						Remarks
			Without Diversion		With Diversion		Increases		
			Existing	End 21st C	Existing	End 21st C	Existing	End 21st C	
NM1-B1	New Manhole	SMH4114290	0.00	0.00	0.20	0.22	0.20	0.22	Existing drains to be upgraded to accommodate flow to End 21st Century
B1-B2	SMH4114290	SMH4114291	1.76	2.01	1.92	2.18	0.16	0.18	
B2-B3	SMH4114291	SMH4114292	1.76	2.01	1.92	2.18	0.16	0.18	
B3-B4	SMH4114292	SMH4114294	1.88	2.14	2.02	2.30	0.14	0.16	

Remarks:

1. Cross Section Area of U-channel: (D^2 x PI) / 4 / 2 + (H x D) / 2
2. Cross Section Area of Circular Pipe: D^2 x PI / 4
3. Qsilt: 10% reduction in capacity for gradients not greater than 1 in 25; 5% reduction in flow for gradients greater than 1 in 25

Comparison Tables of
Water Supply Impact Assessment
(WSIA)

KAU PUI LUNG ROAD / CHI KIANG STREET DEVELOPMENT SCHEME (CBS-2:KC)

COMPARISON TABLES OF
WATER SUPPLY IMPACT ASSESSMENT

1. Introduction

1.1 Background

1.1.1 The Urban Renewal Authority (URA) commenced the Kau Pui Lung Road / Chi Kiang Street Development Scheme (the Scheme) (CBS-2:KC) on 22 May 2020, as a development scheme under section 25 of the Urban Renewal Authority Ordinance (URAO). A Water Supply Impact Assessment (WSIA) is required to be prepared to support the submission of the draft Development Scheme Plan (DSP) of the Scheme to the Town Planning Board (TPB) for consideration.

1.1.2 A draft DSP together with planning proposal and technical assessments were submitted to the TPB at commencement of the Scheme in May 2020. During public consultation, most of the comments and concerns were related to CBS issues, especially on the land matters of the undissolved CBS. The URA, after consultation with different Government Bureaux / Departments, has addressed the related comments and concerns. In this connection, the URA has taken the opportunity to review the draft DSP to respond to the new policy directives of entrusting the URA to provide more Starter Home (SH) units. Opportunity is also sought to enhance the Scheme to achieve wider planning gains to the community.

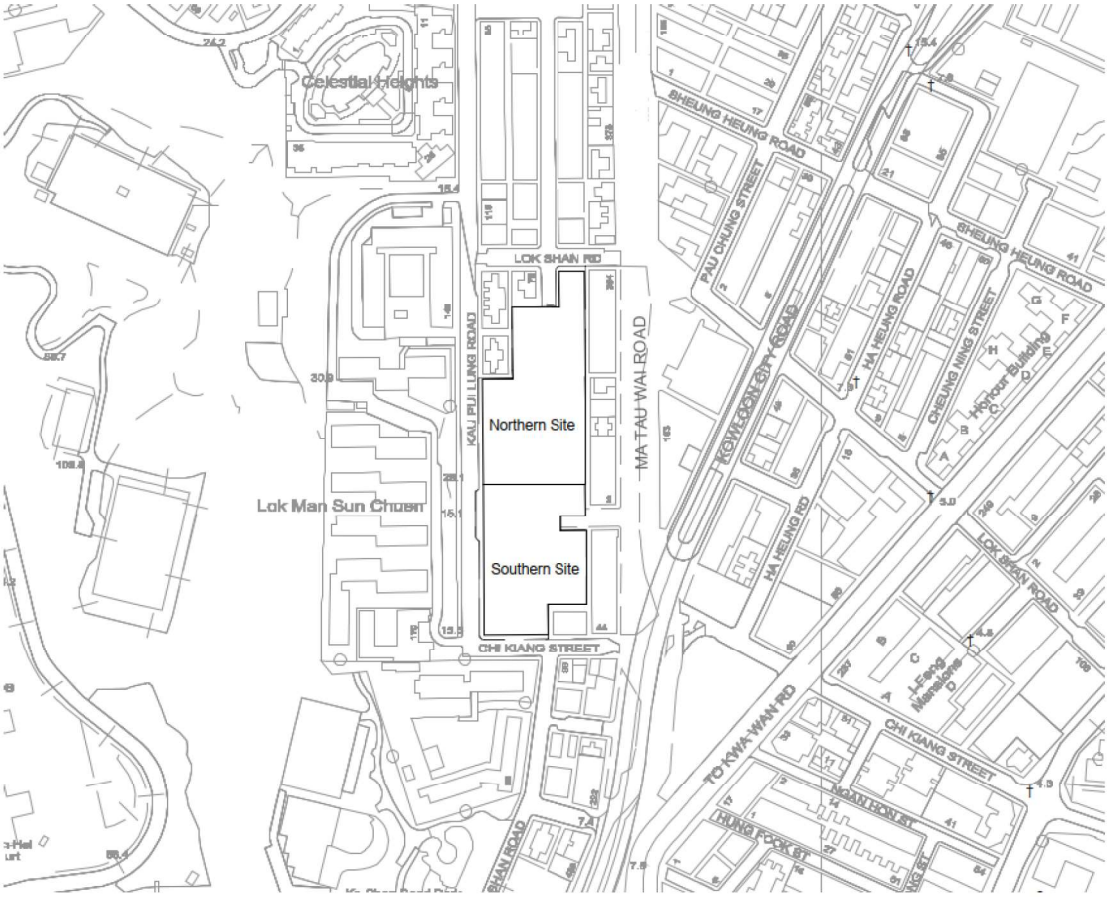
1.1.3 With the above consideration and changes, a revised Draft DSP, with revised notional design of providing private housing units and about 950 SH units (the "Revised Design 2022") are prepared and its necessary TAs are updated for TPB consideration.

1.2 The Site

1.2.1 The site is bounded by Ma Tau Wai Road to the east, Chi Kiang Street to the south, Kau Pui Lung Road to the west and Lok Shan Road to the north.

1.2.2 The Scheme area remains unchanged as commenced in May 2020 and will be considered as one site to be developed by the URA or its joint venture partner(s) (**Figure 1**). Under the current notional design, the Scheme area will be divided into two sites, i.e. the Northern Site and the Southern Site, for private housing development and provision of SH units respectively. The site boundary between the Northern Site and the Southern Site is indicative and the location of the SH units are subject to change.

Figure 1: Site Location



1.3 Proposed Development

1.3.1 The site covers a Scheme Area of approximately 16,500m^2. Under the revised draft DSP, the existing structure will be demolished for redevelopment. The site will be redeveloped for high-density residential development with the provision of Government, Institution or Community (GIC) facilities, commercial use, and underground public vehicle park.

1.3.2 The population intake year for the proposed development is planned to be in year 2033.

1.4 Objective

1.4.1 To address the above changes in the draft DSP, it is considered necessary to update the WSIA to support the re-submission to TPB for consideration.

1.5 Comparison

1.5.1 A WSIA report (ref. no.: R6940_v1.2 dated August 2020) based on the "Original Design 2020" was submitted to the TPB in September 2020 in the responses-to-comments stage and then approved by the Water Supplies Department in October 2020.

1.5.2 Below tables show the difference of the estimated daily freshwater and saltwater demand between "Original Design 2020" and "Revised Design 2022".

	Original Design 2020			Revised Design 2022		
	URA Site	PH Site	Total	Northern Site	Southern Site	Total
No of Residential	4340	2688	7028	3847	2660	6507
Community Facilities (G/IC) (in ha)	0.05	0.18	0.23	0.05	0.2	0.25
Daily Fresh water Demand (m3/day)	1453.91	712.36	**2166.27**	1288.82	704.94	**1993.76**
Daily Salt water Demand (m3/day)	303.80	188.17	**491.97**	269.31	186.21	**455.52**

1.6 Conclusion

1.6.1 Given the total daily freshwater and saltwater demand of the Project from the latest design is less than that from the approval WSIA. It is concluded that previously approved WSIA (R6940_v1.2 dated August 2020) is still valid and represented a worst-case scenario study, further update of report is not required.

Comparison Tables of Quantitative Risk Assessment (QRA)

KAU PUI LUNG ROAD / CHI KIANG STREET DEVELOPMENT SCHEME (CBS-2:KC)

COMPARISON TABLES OF QUANTITATIVE RISK ASSESSMENT

1. Introduction

1.1 Background

1.1.1 The Urban Renewal Authority (URA) commenced the Kau Pui Lung Road / Chi Kiang Street Development Scheme (the Scheme) (CBS-2:KC) on 22 May 2020, as a development scheme under section 25 of the Urban Renewal Authority Ordinance (URAO). A Quantitative Risk Assessment (QRA) is required to be prepared to support the submission of the draft Development Scheme Plan (DSP) of the Scheme to the Town Planning Board (TPB) for consideration.

1.1.2 A draft DSP together with planning proposal and technical assessments were submitted to the TPB at commencement of the Scheme in May 2020. During public consultation, most of the comments and concerns were related to CBS issues, especially on the land matters of the undissolved CBS. The URA, after consultation with different Government Bureaux / Departments, has addressed the related comments and concerns. In this connection, the URA has taken the opportunity to review the draft DSP to respond to the new policy directives of entrusting the URA to provide more Starter Home (SH) units. Opportunity is also sought to enhance the Scheme to achieve wider planning gains to the community.

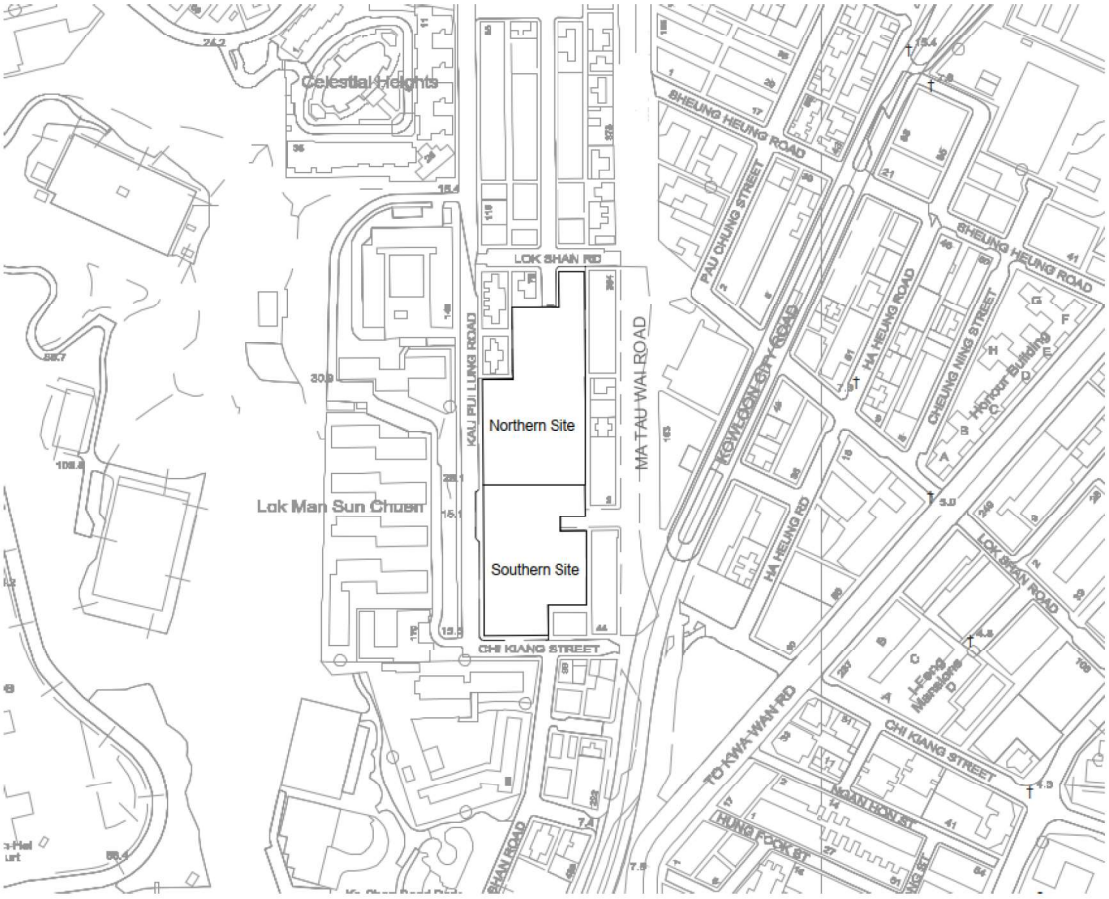
1.1.3 With the above consideration and changes, a revised Draft DSP, with revised notional design of providing private housing units and about 950 SH units (the "Revised Design 2022") are prepared and its necessary TAs are updated for TPB consideration.

1.2 The Site

1.2.1 The site is bounded by Ma Tau Wai Road to the east, Chi Kiang Street to the south, Kau Pui Lung Road to the west and Lok Shan Road to the north.

1.2.2 The Scheme area remains unchanged as commenced in May 2020 and will be considered as one site to be developed by the URA or its joint venture partner(s) (**Figure 1**). Under the current notional design, the Scheme area will be divided into two sites, i.e. the Northern Site and the Southern Site, for private housing development and provision of SH units respectively. The site boundary between the Northern Site and the Southern Site is indicative and the location of the SH units are subject to change.

Figure 1: Site Location



1.3 Proposed Development

1.3.1 The site covers a Scheme Area of approximately 16,500m^2. Under the revised draft DSP, the existing structure will be demolished for redevelopment. The site will be redeveloped for high-density residential development with the provision of Government, Institution or Community (GIC) facilities, commercial use, and underground public vehicle park.

1.3.2 The population intake year for the proposed development is planned to be in year 2033.

1.4 Objective

1.4.1 To address the above changes in the draft DSP, it is considered necessary to update the QRA to support the re-submission to TPB for consideration.

1.5 Comparison

1.5.1 A QRA report (R7533_v1.0 dated July 2020) based on the "Original Design 2020" was submitted to the TPB in July 2020 in the responses-to-comments stage and then approved by the Electrical and Mechanical Services Department in October 2020.

1.5.2 Below tables show the difference of the population data between "Original Design 2020)" and "Revised Design 2022".

1.5.3 Person-per-Flat (PPF) of 2.3 is assumed for the area, which has made reference to HKPSG. Nevertheless, to conduct as a sensitivity test scenario, a PPF 2.6 (= PPF of 2.3 +13%) is adopted in the assessment for population calculation of residential units and for scenario testing purpose.

Table 1: Population data for the "Original Design 2020" (extracted from Table 2, ID PD01 and PD02 of the approved QRA report (R7533_v1.0 dated July 2020))

	Population	Remark
URA Site		
Residential	4608	1541 units. Assume average household size of 2.6 plus 15% contingency
Clubhouse	300	129 workers estimated in SIA for the Scheme. Assume worker to customer ratio in 1:1. Rounded up to nearest 50.
Retail	700	348 workers estimated in SIA for the Scheme. Assume worker to customer ratio in 1:1. Rounded up to nearest 50.
Community Facilities	60	17 workers estimated in SIA for the Scheme. Assume worker to visitor ratio in 1:2. Rounded up to nearest 50.
PH Site		
Residential	2841	950 units. Assume average household size of 2.6 plus 15% contingency
Clubhouse	-	-
Retail	70	34 workers estimated in SIA for the Scheme. Assume worker to customer ratio in 1:1. Rounded up to nearest 10.
Community Facilities	180	59 workers estimated in SIA for the Scheme. Assume worker to customer ratio in 1:1. Rounded up to nearest 10.
Total	**8759**	

Table 2: Population data for the "Revised Design 2022"

	Population	Remark
Northern Site		
Residential	3573	1374 units. Assume average household size of 2.6
Clubhouse	300	129 workers estimated in SIA for the Scheme. Assume worker to customer ratio in 1:1. Rounded up to nearest 50.
Retail	700	348 workers estimated in SIA for the Scheme. Assume worker to customer ratio in 1:1. Rounded up to nearest 50.
Community Facilities	60	17 workers estimated in SIA for the Scheme. Assume worker to visitor ratio in 1:2. Rounded up to nearest 50.
Southern Site		
Residential	2470	950 units. Assume average household size of 2.6
Clubhouse	200	99 workers estimated in SIA for the Scheme. Assume worker to customer ratio in 1:1. Rounded up to nearest 50.
Retail	540	267 workers estimated in SIA for the Scheme. Assume worker to customer ratio in 1:1. Rounded up to nearest 10.
Community Facilities	200	66 workers estimated in SIA for the Scheme. Assume worker to visitor ratio in 1:2. Rounded up to nearest 10.
Total	**8043**	

Table 3: Population comparison of Two Designs

Use	Population			
	Original Design 2020		Revised Design 2022	
	URA Site	PH Site	Northern Site	Southern Site
Residential	4608	2841	3573	2470
Clubhouse	300	-	300	200
Retail	700	70	700	540
Community Facilities	60	180	60	200
Total	**8759**		**8043**	

1.6 Conclusion

1.6.1 Given the total population of the Project from the latest design (8043) is less than that from the approval QRA (8759). It is concluded that previously approved QRA (R7533_v1.0 dated July 2020) is still valid and represented a worst-case scenario study, further update of report is not required.