

Ref: 2023/(PSIL)BELSKRD2/PSIL/PlanD/RtoC_02

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3) (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

Responses to Comments from Government Departments via Planning Department’s email on 17.10.2023 on the Planning Application No. Y/SK-HC/6 issued on 31.08.2023 (Comments from the Environmental Protection Department were replied on 30.10.2023)

Comments from the Dist Lands Offr/Sai Kung (District Lands Office, Sai Kung) for Lands Department (LandsD) via Planning Department’s email on 17.10.2023; Contact Person: Mr. Raymond LAU (Tel: 2791 7014)		
<u>Comments on Planning Statement</u>		
Item	Comments	Responses
LandsD - PS1	The application site shown edged dotted red at Figure 1.2 in the Planning Statement includes Lot 411 RP in D.D. 210. However, this lot is not included in the Gist of Application and Table 3.6 in the Planning Statement. The applicant should clarify whether Lot 411 RP in D.D. 210 would be included in the application.	Noted. It is clarified that Lot 411 RP in D.D. 210 should be included in the current application (Planning Application No. Y/SK-HC/6). Replacement pages for the application and the Planning Statement have been enclosed this RtoC Table as Attachment 1.
LandsD – PS2	Two strips of Government land within the application site abutting the public road might encroach onto (i) the roadside amenity area to be maintained by Leisure and Cultural Services Department; and (ii) the public road to be maintained and managed by Highways Department and Transport Department, comments from relevant department should be sought.	Noted.
LandsD – PS3	The concerned private lots are old schedule agricultural lots held under Block Government Leases which contain the restriction that no structure is allowed to be erected without the prior approval of the Government. Structure/temporary structures were observed within numerous of the subject private lots. Lease enforcement action had been taken by issuance of warning letter in March 2023 which were forwarded to the Land Registry in early August 2023 as the concerned lot owners failed to purge the breach by deadline. There is also illegal occupation on Government land at the south within the application site.	Noted.

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3) (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

	Land control action would be taken by this office according to case priority. In view of the above, his office has reservation on the planning application.	
Comments from the Commissioner for Transport for Transport Department (TD) via Planning Department’s email on 17.10.2023; Contact Person: Mr. Stephen KO (Tel: 2399 2402)		
<u>Comments on Traffic Impact Assessment (TIA)</u>		
Item	Comments	Responses
TD – TIA1	<u>Section 3.1.3 and Figure 3.3</u> Please include the Pak Wai roundabout in the study.	The Study with Figures are updated with Pak Wai Roundabout and the results showed the proposed site will have no adverse impact to this junction. This has been updated in the Traffic Impact Assessment (Version B) (TIA (Ver. B)) that have been enclosed in this RtoC Table as Attachment 2.
TD – TIA2	<u>Section 3.4.1</u> It is noted that the traffic count survey was carried out in August 2020. Please provide updated traffic count.	The updated traffic count survey was carried out in November 2023 and the findings are adopted in the TIA (Ver. B) that have been enclosed in this RtoC Table as Attachment 2.
TD – TIA3	<u>Section 4.4</u> Please indicate traffic flows generated from planned/committed developments in the vicinity and include in the assessment.	The 2 planned developments within the study area including Application No. A/SK-HC/340 and A/SK-HC/316 are incorporated in the TIA (Ver. B). This has been enclosed in this RtoC Table as Attachment 2.
TD – TIA4	<u>Section 4.5.5 and Table 4.6</u> Please clarify if Section 4.5.5. is the assessment for After Project Completion and why No Construction Traffic is stated in Table 4.6.	Section 4.5.5. is the assessment for After Project Completion. Table 4.6 is rectified to show the updated traffic condition during Design Year. The Assessment of Construction Traffic was elaborated in Section 4.5.1.

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

TD – TIA5	<u>Section 5</u> Please provide the internal layout showing the internal transport facilities, including the parking space and loading/unloading area.	Figure 5.1 is updated in the TIA (Ver. B) to show the internal transport facilities, including the parking space and loading/unloading area. This has been enclosed in this RtoC Table as Attachment 2.
TD – TIA6	<u>Figure 5.1</u> Please provide the swept path for vehicular access to the site.	The Swept Path for vehicular access to the site are shown in new Figure 5.2 in the TIA (Ver. B). This has been enclosed in this RtoC Table as Attachment 2.
TD – TIA7	<u>Figure 5.1</u> Please indicate the footpath and vehicular access for public use in Luk Mei Tsuen Road	Figure 5.1 is updated in the TIA (Ver. B) to indicate the footpath and vehicular access for public use in Luk Mei Tsuen Road. This has been enclosed in this RtoC Table as Attachment 2.
Comments from the Acting Director of Drainage Services for Drainage Services Department (DSD) via Planning Department’s email on 17.10.2023; Contact Person: Mr. Henry YEUNG (Tel: 2300 1343)		
<u>Comments on Sewerage Impact Appraisal (SIA)</u>		
Item	Comments	Responses
DSD – SIA1	The SIA for the subject planning application needs to meet the full satisfaction of Environmental Protection Department (EPD), the planning authority of sewerage infrastructure. DSD’s comments on the captioned SIA submitted by the developer are subject to views and agreement of EPD.	Noted.

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3) (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

DSD – SIA2	Please be reminded that upon connection to the public sewerage network and decommissioning of the proposed on-site sewage treatment plant, the sewerage impact assessment may need to be reviewed and updated or a separate sewerage impact assessment may need to be conducted to assess the potential sewerage impact and/or identify necessary mitigation measures, if required.	Noted.
DSD – SIA3	Please note that the proposed use and design of proposed on-site sewerage treatment plant should be subject to the views and agreement of EPD and any relevant statutory requirements.	Noted.
<u>Comments on Drainage Impact Appraisal (DIA)</u>		
Item	Comments	Responses
DSD – DIA1	<u>Section 3.2, 2nd para. second last line</u> Please rectify the typo error "20211" and also, in some other text, "soakway" should read as "soakaway"?)	Noted. It has been amended accordingly in the Sewerage and Drainage Impact Appraisal (Version B) (SDIA (Ver. B)) that have been enclosed in this RtoC Table as Attachment 3.
DSD – DIA2	<u>Section 3.3</u> Please supplement and demonstrate with the support of hydraulic calculations to show that the existing perimeter U-channel has sufficient capacity for the surface runoff and the proposed development would not cause any adverse drainage impact to the vicinity.	As there has been no significant development in the area, it can be assumed there is a similar catchment area to the previous SDIA in Application No. A/SK-HC/326. Making reference to the previous SDIA, it is observed that the surface runoff from the Catchment and the Site can be handled with the existing drainage system. Given the above, with the additional perimeter U-Channels installed by the Home Affairs Department (HAD) in 2023, there will be even improved the drainage system in the vicinity.

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3) (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

		<p>The said SDIA, has been extracted and included in this RtoC Table as Attachment 4.</p> <p>Furthermore, the area surrounding the application site is not an area identified as a Flooding Blackspots by the Drainage Service Department (DSD).</p> <p>It should also be noted, that the Proposed Development would be provided with its own drainage connection and this would not impact the existing perimeter U-channel.</p>
<p>DSD – DIA3</p>	<p><u>Section 3.4</u></p> <p>At Parcel B, it seems the proposed new manhole and the associated drainage pipes are in conflict with the soakaway as shown in Figures 2.3 and 3.4. Please clarify.</p> <p>Please also supplement and demonstrate with the support of hydraulic calculations to show that the proposed drainage system will not cause adverse effect to the existing stormwater system in Ho Chung North Road since the proposed drainage systems might create additional flow to the existing drainage system.</p> <p>You may note that the existing drainage system is currently exclusive road drains maintained by Highways Department.</p>	<p>Noted. The figures have been amended to avoid the conflict. This has been updated in the SDIA (Ver. B) that have been enclosed in this RtoC Table as Attachment 3.</p> <p>The supplementary supporting hydraulic calculations have been added to SDIA (Ver. B). It is concluded that there will be no serious adverse drainage impact to the existing drainage system after the implementation of the development. The SDIA (Ver. B) have been enclosed in this RtoC Table as Attachment 3.</p> <p>Noted.</p>
<p>DSD – DIA4</p>	<p>Please clarify the maintenance responsibility of the connection pipes between the new manholes and the existing manholes.</p>	<p>The connection pipes between the new manholes and the existing manholes will be maintained by the Applicant.</p>

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

DSD – DIA5	<p><u>Figure 3.2</u></p> <p>Please clarify what is the "Foul Drainage" as shown in the legend.</p> <p>Please be advised that there is no public sewerage system available for connection currently.</p>	<p>It is assumed “Foul Drainage” is equivalent to “Sewerage Drain”. The figure legend has been updated in the SDIA (Ver. B) and enclosed in this RtoC Table as Attachment 3.</p> <p>Noted. And the Proposed Development has its sewerage system.</p>
<p>Comments from the Director of Water Supplies for Water Supplies Department (WSD) via Planning Department’s email on 17.10.2023; Contact Person: Mr. Brandon CHUNG (Tel: 2152 5577)</p>		
<p><u>Comments on Water Supply Appraisal (WSA)</u></p>		
Item	Comments	Responses
WSD – WSA1	<p>The necessary water demand assessment including, but not limited to, the uses of potable, flushing, irrigation and all other necessary uses to be required for the proposed development and the capacity checking of proposed and existing water mains concerned are missing. Thus, we consider the information provided in the Water Supply Appraisal is insufficient. Please critically review and provide the necessary information for our further consideration.</p>	<p>Noted. Information regarding the necessary water demand assessment and the capacity checking of the proposed and existing water mains has been added to supplement the water supply appraisal information in the Water Supply Appraisal (Version B) (WSA (Ver. B)) and have been enclosed in this RtoC Table as Attachment 5.</p> <p>WSA (Ver. B) has concluded that there is no strong adverse impact on the existing water supply system anticipated from the Proposed Development.</p>
<p>Comments from the Chief Town Planner/Urban Design & Landscape (Ch Town Plnr/UD&L) for Urban Design and Landscape Section, Planning Department (UD&L, PlanD) via Planning Department’s email on 17.10.2023; Contact Person: Ms. Amy MAK (Tel: 3565 3940), Mr. Leo LAM (Tel: 3565 3956)</p>		
<p><u>Comments on Visual Impact Assessment (VIA)</u></p>		
Item	Comments	Responses
PlanD – VIA1	<p><u>Para. 7.2.2</u></p> <p>It seems that the proposed development/indicative scheme is being compared to the existing condition instead of the “OZP compliant scheme”. Please rectify to avoid confusion.</p>	<p>Noted. The comparison has been rectified to avoid confusion and the associated pages have been amended accordingly. The replacement pages to the Visual Impact Assessment (Version A) (VIA (Ver. A)) have been enclosed in this RtoC Table as Attachment 6.</p>

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3) (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

PlanD – VIA2	As demonstrated in the photomontages, the proposed development would obstruct part of the open sky view and/or mountain backdrop, reducing the openness for VP1 and VP4. It is therefore not convinced that the visual impact for VP1 and VP4 and the overall visual impact are considered “ <i>Enhanced</i> ”.	In consideration of the obstruct part of the open sky view and/or mountain backdrop which will reduce the openness for VP1 and VP4, the reassessed overall visual impact for VP1 and VP4 will be amended to “ <i>Partly Enhanced/Partly Adverse</i> ”. The replacement pages to the VIA (Ver. A) have been enclosed in this RtoC Table as Attachment 6.
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Comments on Landscape

Item	Comments	Responses
PlanD – LA1	<p>Having reviewed the submitted documents and the Application Form No.12A Appendix, noting ‘Landscape Impact Assessment’ as well as ‘Tree Survey’ were not conducted/submitted in the application. To facilitate TPB’s consideration on the application, please note below our comments from landscape planning perspective:</p> <p><u>Landscape Proposal (Appendix B)</u></p> <p>a) Para. 4.1.2 – Noting the referred Technical Circulars, i.e. DEVB TC(W) No.3/20012 and No. 4/2020, are promulgated for government projects, the Applicant is reminded to refer to relevant PNs specifically for private development regarding site coverage of greenery as well as tree preservation.</p>	<p>Noted.</p> <p>Noted. The referenced guidelines have been updated to Practice Notes for Professional Persons No. 1/2019 (PNPP No. 1/2019) - Processing and Compliance Checking of Landscape Submissions Related to Planning Applications and Joint Practice Note No. 3 (JPN No. 3) - Landscape and Site Coverage of Greenery. The replacement pages to the Landscape Proposal (Version A) (LP (Ver. A) have been enclosed in this RtoC Table as Attachment 7.</p>

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

	<p><u>Tree Survey</u></p> <p>b) Existing trees/vegetation are observed within the application site but no information provided in the submission, please provide a board brush tree survey with information (i.e. size, species, form, health condition and amenity value) and photo records, and their proposed treatments/related mitigation proposal.</p>	<p>With reference to the observation during the site visits on 05.07.2023 and 27.10.2023, there were no mature trees locate on the site. Photos from the latest site visit are enclosed in this RtoC table as Attachment 8.</p> <p>However, the southern periphery of the site is sporadically covered with climbers and weeds and vegetations. As these plants will be in direct conflict with the construction of the Proposed Development, they will be removed.</p>
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Attachment 1

Replacement Pages for Application and Planning Statement

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Demarcation District 210:

- Lot No. 402 (part)
- Lot No. 403 (part)
- Lot No. 404 (part)
- Lot No. 405
- Section A of Lot No. 406
- Remaining Portion of Lot No. 406
- Section A of Lot No. 407
- Remaining Portion of Section B of Lot No. 407
- Remaining Portion of Lot No. 407
- Section A of Lot No. 409 (Part)
- Remaining Portion of Section B of Lot No. 409
- Remaining Portion of Lot No. 409
- Remaining Portion of Lot No. 410
- Remaining Portion of Lot No. 411
- Lot No. 412
- Lot No. 414
- Remaining Portion of Section A of Lot No. 418 (part)
- Remaining Portion of Lot No. 418
- Adjoining Government Land in Demarcation District 210

Demarcation District 244:

- Remaining Portion of Lot No.1860 (part)
- Remaining Portion of Section A of Lot No.1861
- Adjoining Government Land in Demarcation District 244



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For Official Use Only 請勿填寫此欄	Application No. 申請編號	
	Date Received 收到日期	

- The completed form and supporting documents (if any) should be sent to the Secretary, Town Planning Board (the Board), 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong.
申請人須把填妥的申請表格及其他支持申請的文件 (倘有)，送交香港北角渣華道 333 號北角政府合署 15 樓城市規劃委員會(下稱「委員會」)秘書收。
- Please read the “Guidance Notes” carefully before you fill in this form. The document can be downloaded from the Board’s website at <http://www.info.gov.hk/tpb/>. It can also be obtained from the Secretariat of the Board at 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong (Tel: 2231 4810 or 2231 4835), and the Planning Enquiry Counters of the Planning Department (Hotline: 2231 5000) (17/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong and 14/F, Sha Tin Government Offices, 1 Sheung Wo Che Road, Sha Tin, New Territories).
請先細閱《申請須知》的資料單張，然後填寫此表格。該份文件可從委員會的網頁下載 (網址：<http://www.info.gov.hk/tpb/>)，亦可向委員會秘書處 (香港北角渣華道 333 號北角政府合署 15 樓 - 電話：2231 4810 或 2231 4835)及規劃署的規劃資料查詢處(熱線：2231 5000)(香港北角渣華道 333 號北角政府合署 17 樓及新界沙田上禾輦路 1 號沙田政府合署 14 樓)索取。
- This form can be downloaded from the Board's website, and obtained from the Secretariat of the Board and the Planning Enquiry Counters of the Planning Department. The form should be typed or completed in block letters. The processing of the application may be refused if the required information or the required copies are incomplete.
此表格可從委員會的網頁下載，亦可向委員會秘書處及規劃署的規劃資料查詢處索取。申請人須以打印方式或以正楷填寫表格。如果申請人所提交的資料或文件副本不齊全，委員會可拒絕處理有關申請。

1. Name of Applicant 申請人姓名/名稱
(<input type="checkbox"/> Mr. 先生 / <input type="checkbox"/> Mrs. 夫人 / <input type="checkbox"/> Miss 小姐 / <input type="checkbox"/> Ms. 女士 / <input checked="" type="checkbox"/> Company 公司 / <input type="checkbox"/> Organisation 機構)
Bestime Enterprises Limited

2. Name of Authorised Agent (if applicable) 獲授權代理人姓名/名稱 (如適用)
(<input type="checkbox"/> Mr. 先生 / <input type="checkbox"/> Mrs. 夫人 / <input type="checkbox"/> Miss 小姐 / <input type="checkbox"/> Ms. 女士 / <input checked="" type="checkbox"/> Company 公司 / <input type="checkbox"/> Organisation 機構)
Prudential Surveyors International Limited

3. Application Site 申請地點	
(a) Whether the application directly relates to any specific site? 申請是否直接與某地點有關?	Yes 是 <input checked="" type="checkbox"/> No 否 <input type="checkbox"/> (Please proceed to Part 6 請繼續填寫第 6 部分)
(b) Full address/ location/ demarcation district and lot number (if applicable) 詳細地址/地點/丈量約份及地段號碼 (如適用)	Lots Nos. 402 (part), 403 (part), 404 (part), 405, Section A of Lot No. 406, the Remaining Portion of Lot No. 406, Section A of Lot No. 407, the Remaining Portion of Section B of Lot No. 407, the Remaining Portion of Lot no. 407, Section A of Lot No. 409 (part), the Remaining Portion of Section B of Lot No. 409, the Remaining Portion of Lot no. 409, the Remaining Portion of Lot No. 410, the Remaining Portion of Lot No. 411, Lot Nos. 412, 414, the Remaining Portion of Section A of Lot No. 418 (part), the Remaining Portion of Lot No. 418 and adjoining government land in Demarcation District 210; The remaining Portion of Lot No. 1860 (part), the Remaining Portion of Section A of Lot No. 1861 and adjoining government land in Demarcation District 244 at Ho Chung, Sai Kung, New Territories, Hong Kong
(c) Site Area 申請地點面積	<u>3,190</u>sq.m 平方米 <input checked="" type="checkbox"/> About 約

Gist of Application 申請摘要

(Please provide details in both English and Chinese as far as possible. This part will be circulated to relevant consultees, uploaded to the Town Planning Board's Website for browsing and free downloading by the public and available at the Planning Enquiry Counters of the Planning Department for general information.)

(請盡量以英文及中文填寫。此部分將會發送予相關諮詢人士、上載至城市規劃委員會網頁供公眾免費瀏覽及下載及於規劃署規劃資料查詢處供一般參閱。)

Application No. 申請編號	(For Official Use Only) (請勿填寫此欄)		
Location/address 位置/地址	Lots Nos. 402 (part), 403 (part), 404 (part), 405, Section A of Lot No. 406, the Remaining Portion of Lot No. 406, Section A of Lot No. 407, the Remaining Portion of Section B of Lot No. 407, the Remaining Portion of Lot no. 407, Section A of Lot No. 409 (part), the Remaining Portion of Section B of Lot No. 409, the Remaining Portion of Lot no. 409, the Remaining Portion of Lot No. 410, the Remaining Portion of Lot No. 411, Lot Nos. 412, 414, the Remaining Portion of Section A of Lot No. 418 (part), the Remaining Portion of Lot No. 418 and adjoining government land in Demarcation District 210; The remaining Portion of Lot No. 1860 (part), the Remaining Portion of Section A of Lot No. 1861 and adjoining government land in Demarcation District 244 at Ho Chung, Sai Kung, New Territories, Hong Kong		
Site area 地盤面積	3,190	sq. m 平方米	<input checked="" type="checkbox"/> About 約
	(includes Government land of 包括政府土地	606	sq. m 平方米 <input checked="" type="checkbox"/> About 約)
Plan 圖則	Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11		
Zoning 地帶	Residential (Group D) Residential (Group E) Area shown as 'Road'		
Proposed Amendment(s) 擬議修訂	<input checked="" type="checkbox"/> Amend the Covering Notes of the Plan 修訂圖則《註釋》的說明頁 <input checked="" type="checkbox"/> Amend the Notes of the zone applicable to the site 修訂適用於申請地點土地用途地帶的《註釋》 <input checked="" type="checkbox"/> Rezone the application site from <u>Residential (Group D) ("R(D)"), Residential (Group E) ("R(E)"), Area shown as 'Road'</u> to "Residential (Group C)3" ("R(C)3") 把申請地點由_____地帶改劃為_____		
Development Parameters (for indicative purpose only) 發展參數(只作指示用途)			
(i) Gross floor area and/or plot ratio 總樓面面積及/或地積比率		sq.m 平方米	Plot Ratio 地積比率
	Domestic 住用	2,393	<input checked="" type="checkbox"/> About 約 <input type="checkbox"/> Not more than 不多於
	Non-domestic 非住用		<input type="checkbox"/> About 約 <input type="checkbox"/> Not more than 不多於
(ii) No. of block 幢數	Domestic 住用	8	
	Non-domestic 非住用		
	Composite 綜合用途		

Demarcation District 210 held under Block Government Lease

Lot No.
Lot No. 402 (part)
Lot No. 403 (part)
Lot No. 404 (part)
Lot No. 405
Section A of Lot No. 406
Remaining Portion of Lot No. 406
Section A of Lot No. 407
Remaining Portion of Section B of Lot No. 407
Remaining Portion of Lot No. 407
Section A of Lot No. 409 (part)
Remaining Portion of Section B of Lot No. 409
Remaining Portion of Lot No. 409
Remaining Portion of Lot No. 410
Remaining Portion of Lot No. 411
Lot No. 412
Lot No. 414
Remaining Portion of Section A of Lot No. 418 (part)
Remaining Portion of Lot No. 418
Adjoining government land in Demarcation District 210

Table 3.6 Lots in Demarcation District 210

Demarcation District 244 held under Block Government Lease

Lot No.
Remaining Portion of Lot No.1860 (part)
Remaining Portion of Section A of Lot No.1861
Adjoining government land in Demarcation District 244

Table 3.7 Lots in Demarcation District 244

- 3.5.2 For more efficient land utilisation and better configuration, the Applicant will undertake a land exchange process of ‘re-acquired and regrant’ upon approval of this rezoning. It is proposed to re-acquired an area of about 453 sq.m. that were previous allotted to the Government for road works and to regrant an area of about 153 sq.m. [refer to **Figure 3.7**]. Thereinto, parts of the private land (highlighted in pink and purple in Figure 3.7) are currently occupied by Luk Mei Tsuen Road, which the Applicant intends to **grant right of way and to devote it for public use.**

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Attachment 2

Traffic Impact Assessment (Version B)

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Traffic Impact Assessment

For

Amendment of Plan to

Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)”

(“R(E)”) and an area shown as ‘Road’

to “Residential (Group C)3) (“R(C)3”)

on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11

at Various Lots in Demarcation District 210 and Demarcation District 244

and Adjoining Government Land

Ho Chung, Sai Kung, New Territories, Hong Kong

Prepared by: Prudential Surveyors (Hong Kong) Limited

Version: B

Date: November 2023

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1. Introduction

- 1.1.1 This Traffic Impact Assessment (TIA) is prepared as part of the Section 12A Application for the amendment of plan to rezone to “Residential (Group C)3” (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 (the Approved OZP) at various lots in Demarcation District 210 (D.D.210) and Demarcation District 244 (D.D.244) and adjoining government land, at Ho Chung, Sai Kung, New Territories (the Site) with a Site area about 3,190 sq.m. [Figure 1.1]
- 1.1.2 The TIA is required as part of the Section 12A planning application for the Proposed Development for rezone the Subject Site from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) zoned with a maximum site coverage of 25% and a maximum building height of 12m with 3 storeys over one storey of carport PR of 0.75 on the Approved OZP.
- 1.1.3 The owner of the Site has the intention to construct six individual houses with six ancillary car parking spaces of 2.5m X 5m, six accessible visitor parking space of 3.5m X 5m and one light goods vehicles (LGV) loading/unloading bay 3.5m X 7m in Parcel A & B of the Site, and two individual houses with two ancillary car parking spaces of 2.5m X 5m, two accessible visitor parking space of 3.5m X 5m in Parcel C of the Site.
- 1.1.4 This traffic impact assessment (TIA) study is to support the proposed development. This report describes the traffic impact assessment undertaken.

1.2 Study Objectives

- 1.2.1 The objectives of this study can be summarised as follows:
- undertake traffic impact assessment to assess the traffic impact to be induced by the proposed development on the nearby road network in the vicinity of the Subject Site;
 - design and conduct traffic surveys during peak hours in the vicinity of the Subject Site to supplement available information and traffic data;
 - estimate the extra volumes of traffic that will be generated by the proposed development during the peak period (arrivals and departures);
 - estimate the likely changes of circulation patterns and traffic flow in the future road network adjacent to the Subject Site;
 - review the capacity of the critical links of the road networks adjacent to the Subject Site;
 - provide traffic advice on the internal vehicular movements; and
 - advise on the provision of internal parking and loading and unloading spaces based on relevant standards and requirements for residential development.

2. Proposed Development

2.1.1 The proposed development is to erect six individual houses in Parcel A & B of the Site and two individual houses in Parcel C of the Site. The proposed gross floor area (GFA) of the houses are summarised in Table 2.1.

Propose House	Gross Floor Area (GFA) (sqm) (about)
House 1	283
House 2	283
House 3	283
House 4	283
House 5	283
House 6	283
House 7	346
House 8	346
Total	2,390
Average Size	299

Table 2.1 Proposed GFA of Houses

2.1.2 The proposed development would adopt a household size of 4 per house. In this connection, a total population of 32 would be used.

3. Existing Traffic Situation

3.1 Existing Road Network

3.1.1 The Site is located at Ho Chung North Road (former Luk Mei Tsuen Road), which is a Feeder Road with single-two carriageway connecting to Hiram’s Highway to the east.

3.1.2 The connecting section of Hiram’s Highway was a Rural Road improved in 2021 year, from single-two carriageway to dual-two carriageway.

3.1.3 The critical road links and junctions in this study are, from north to south:

- J1 - Hiram’s Highway / Marina Cove North Access
- J2 - Hiram’s Highway / Marina Cove South Access
- L1 - Hiram’s Highway between Ho Chung North Road (former Luk Mei Tsuen Road) and Ho Chung Road
- J3 - Hiram’s Highway / Ho Chung Road
- L2 - Hiram’s Highway between Ho Chung Road and Nam Pin Wai Road
- J4 - Hiram’s Highway / New Hiram’s Highway / Nam Pin Wai Road (Roundabout)

3.1.4 The Area of Influence (AoI) and Study Area are shown in Figure 1.1.

3.2 Public Transport

3.2.1 Public transport services include franchised bus, green minibus (GMB) and public light bus (PLB) in the vicinity are depicted in Figure 3.1 and summarised in Table 3.1.

Franchised Bus		
Route	Destination	Frequency (min)
92	Sai Kung – Diamond Hill Station	12-20
92R	Sai Kung – Star Ferry	20 (Sunday and Holidays only)
96R	Wong Shek Pier – Diamond Hill Station	18-25 (Sunday and Holidays only)
292P	Sai Kung – Kwun Tong	7:30 (Only one departure Monday to Friday)
792M	Sai Kung – Tseung Kwan O Station	15-20
Green Minibus (GMB) Services		
1	Sai Kung – Kowloon Bay	8-20
1A	Sai Kung – San Po Kong	4
1S	Sai Kung – San Po Kong	10-15
2	Sai Kung – Ho Chung	15-30
12	Sai Kung – Po Lam	10-15
101M	Sai Kung – Hang Hau Station	3-5
Public Light Bus (PLB) Services		
--	Sai Kung –Kwun Tong	5-12
--	Sai Kung –Mong Kok	Depart when fully loaded
--	Sai Kung – Causeway Bay	10-15

Table 3.1 Service Provision of Public Transport

3.3 Future Road Network

3.3.1 To support the continued development and population growth in Sai Kung Area, Hiram’s Highway Improvement is divided into two stages. Stage 1 between Clear Water Bay Road and Marina Cove has been completed in 2021. The works include improvement works that would relieve the traffic congestion on the road section near Marina Cove, enhance the safety of the road section and improve the local access to Ho Chung and Luk Mei Tsuen.

3.3.2 Stage 2 is to improve the section of Hiram’s Highway, Po Tung Road and Tai Mong Tsai Road from Marina Cove to the south of Sha Ha. The proposed improvement works will relieve traffic congestion and enhance the safety of the road section at Sai Kung area. The project is currently under review and the commencement date is under review. The location of the improvements for Stage 2 are presented in Figure 3.2.

3.4 Traffic Count Surveys

3.4.1 In order to appraise the actual traffic demand for the proposed development, classified turning movement count surveys are carried out during peak hours, 07:00 to 10:00 and 17:00 to 20:00 on both Friday, 3 November 2023 and Sunday, 5 November 2023 at the key junctions of the study area as presented in Figure 3.3.

3.4.2 The traffic count survey data were recorded in a 15 minutes interval, and to be converted into pcu per hour. The highest hourly traffic volume is adopted as the peak hour traffic flow.

3.4.3 The morning and afternoon peak hours during weekday of the road network have been identified as 08:00 to 09:00 and 17:15 to 18:15 respectively. Meanwhile the peak hour of the weekend was observed to be 16:30 to 17:30. The observed traffic flows in the study area is presented in Figure 3.4.

3.5 Existing Capacity Assessment

Junction Capacity

3.5.1 Based on the observed traffic flows, the performance of the key junctions in the vicinity of the subject site during the morning and evening peak hours were assessed. The results area summarised and presented in Table 3.2 and the detailed calculation sheets are attached in Appendix A.

3.5.2 The Design Flow / Capacity (DFC) ratio is measured in evaluating the performance of a roundabout or priority junction. With reference to Ch4, Vol2, TPDM, a DFC ratio of 0.85 can be considered reasonable.

3.5.3 The performance of a traffic signalised junction is indicated by its reserved capacity (RC). A positive RC indicates that the junction is operating with spare capacity. A negative RC indicates that the junction is overloaded; resulting in traffic queues and longer delay.

Jun No.	Junction Location	Type/ Capacity Index	AM Peak Hour	PM Peak Hour	Weekend Peak Hour
J1	Luk Cheung Road /Hiram’s Highway / Marina Cove North Access	Priority / DFC	0.06	0.04	0.04
J2	Luk Mei Tsuen Road /Hiram’s Highway/ Marina Cove South Access	Signal / RC	156%	168%	159%
J3	Ho Chung Road /Hiram’s Highway	Signal / RC	106%	144%	109%
J4	Nam Pin Wai Road / New Hiram’s Highway / Hiram’s Highway	Roundabout / DFC	0.60	0.52	0.55
J5	Hing Keng Shek Road / Hiram’s Highway	Roundabout / DFC	0.51	0.55	0.49

Notes: RC=reserved capacity; DFC=Design Flow/ Capacity Ratio

Table 3.2 Existing Junction Performance

3.5.4 It can be observed in Table 3.2 that all of the key junctions perform satisfactorily during peak hours with adequate reserved capacities.

Link Capacity

- 3.5.5 Considering the routing of development traffic and construction traffic, link capacity of Sai Kung bound of L1 and L2, and Kowloon bound of L2 are assessed.
- 3.5.6 The result of road link capacity assessment is summarised in Table 3.3. With reference to para 10.6.4.5, Vol6, TPDM, the desirable limit of volume to capacity (V/C) ratio is less than 0.85 for links.

Link No.	Section of Hiram’s Highway	Link Capacity (veh/hr)	Reference Flow		Reference V/C Ratio	
			Daily Peak	Weekend	Daily Peak	Weekend
L1 (Sai Kung Bound)	Between Ho Chung Road and Luk Mei Tsuen Road	2600	1080	940	0.42	0.36
L2 (Sai Kung Bound)	Between Ho Chung Road and Nam Pin Wai Road	2600	1008	1188	0.39	0.46
L2 (Kowloon Bound)	Between Ho Chung Road and Nam Pin Wai Road	2600	1184	1064	0.46	0.41

Notes: Based on TPDM Volume 2 Chapter 2.4 – Design Flow Characteristics, it is assumed 2600 veh/hour for dual two-lane carriageway for one direction of flow.

Table 3.3 Existing Link Performance

- 3.5.7 It can be seen from Table 3.3 that all of the key links are within design capacities.

4. Future Traffic Situation

4.1 2028 Design Year Road Network

- 4.1.1 The anticipated year of completion for the proposed development is 2025. The design year is either 3 years after the completion year or 5 years after the application year, which ever longer. Therefore, Year 2028 is adopted as the design year of this study.

4.2 Traffic Generation

- 4.2.1 The proposed development is intended for eight single-family houses with an average size of 299 sq.m. It is proposed that there will only be 16 parking spaces.
- 4.2.2 The estimated average traffic generation and traffic attraction rate at peak hours are based on the trip rate based on the Transport Planning and Design Manual published by the Transport Department and are summarised in Table 4.1.

Description	AM Peak		PM Peak	
	Generation	Attraction	Generation	Attraction
Trip Rate (pcu/unit/hr)	0.3252	0.2609	0.2835	0.4074
Private Housing: Low-Density / R(C) (pcu/hr) (8 units)	2.6	2.1	2.3	3.3

Note 1: As the Site is used as a single-family house, the commutes would take place once in the morning and once in the afternoon to/from work/school.

Note 2: The pcu of a private car is taken as 1.

Note 3: Morning peak is defined as 8:00 a.m. to 9:00 a.m. whereas afternoon peak is defined as 6:00 p.m. to 7:00 p.m.

Table 4.1 AM/PM Peak Generation and Attraction

4.2.3 As shown in Table 4.1, the proposed development would generate 3(2) pcus and attract 2(3) pcus in the morning (evening) peak hours, which is considered negligible.

4.2.4 The development traffic was re-distributed and assigned onto the existing road network. Figure 4.1 show that resulting assignment of the proposed development traffic.

4.3 Regional Traffic Growth

4.3.1 For the estimation of traffic flows in the design year of 2028, it is proposed to adjust the existing traffic flows to take into account of the natural traffic growth which is related to the increase in car usage.

Annual Traffic Census (ATC)

4.3.2 Reference has been made with uses of 2017 to 2022 (Latest) Annual Traffic Census Reports. The traffic data recorded at counting stations adjacent to the site are shown in Table 4.2.

Station No./Road Name	2017	2018	2019	2020	2021	2022	Growth per Annum
6055/ Hiram’s Highway	24,050	24,450	24,280	23,360	24,460	23,480	-0.48%
5017/ Clear Water Bay Road	26,910	28,450	28,980	28,900	29,100	27,720	0.59%
5466 / Clear Water Bay Road	18,650	18,950	20,240	19,110	20,020	19,140	0.52%
6056/ Sai Sha Road	10,990	11,880	11,800	11,350	11,880	11,520	0.95%
Total Growth per Annum							0.31%

Source: Annual Traffic Census, Transport Department

Table 4.2: Traffic Data from Annual Traffic Census Reports

4.3.3 It is noted from Table 4.2 that +0.31% annual growth is observed from the traffic flow record over the past five years.

Territory Population and Employment Data Matrices (TPEDM)

- 4.3.4 According to the latest 2019-based TPEDM from year 2019 to year 2031 in Southeast New Territories (Other Area) published on the PlanD website. The population growth from the base year 2019 to 2031 is -1.18% as shown in Table 4.3.

Planning Data District	Year 2019	Year 2026	Year 2031	Growth Rate p.a. (%)
Southeast New Territories (Other Area)	68,900	65,800	59,750	-1.18%

Table 4.3 Projected Population by TPEDM, 2019-2031

- 4.3.5 After comparing the historical data and the future planning data, for conservative purpose, an annual growth rate of +1.00% was adopted.

4.4 Reference and Design Flows

- 4.4.1 The anticipated year of completion and estimated year of population intake of the proposed development is 2025. The design year for assessment is 3 years after the completion year, i.e. Year 2028, is adopted as the design year of this study.
- 4.4.2 The growth factor derived in Section 4.3 will be applied to of 2023 observed peak hours traffic flows
- 4.4.3 The traffic generated by 2 planned developments in the study area will also be considered:

Application	GFA (m2)	Average Flat Size (m2)	No. of Houses	AM Generation	AM Attraction	PM Generation	PM Attraction
Rate (pcu/hr/flat)				0.2772	0.1769	0.1635	0.2394
A/SK-HC/271	2421.6	161.4	15	4.2	2.7	2.5	3.6
A/SK-HC/340	9386	195.5	48	13.3	8.5	7.8	11.5

- 4.4.4 The reference and design flows for design year 2028 are calculated from the following formulae:

$$2028 \text{ Reference Flows} = 2023 \text{ Observed Flows} \times (1+1.00\%)^5 + \text{Traffic Flows Generated by Adjacent Planned Developments}$$

$$2028 \text{ Design Flows} = 2028 \text{ Reference Flows} + \text{Proposed Development Traffic}$$

- 4.4.5 Based on the observed traffic flows and pattern of existing and future road network, the 2028 peak hour Reference Flows at the critical junctions are presented in Figure 4.2. Meanwhile, the design Flows are presented in Figure 4.3.

4.5 Capacity Assessment Construction Stage and After Project Completion

Construction Stage Junction Capacity

- 4.5.1 Based on similar projects, it is assumed that the development would generate 3(3) and attract 3(3) no. of construction vehicles (i.e. generate 6(6) and attract 6(6) pcus), in the morning (afternoon) peak hours during weekdays. The project is anticipated to be completed 2025. The reference peak hours traffic flows and design peak hours traffic flows are shown in Figures 4.4 and 4.5 respectively. The results are summarised and presented in Table 4.4 and shown in Figure 4.6.

Jun No.	Junction Location	Type/ Capacity Index	2025					
			Reference			Design		
			AM	PM	Week end	AM	PM	Week end
J1	Luk Cheung Road /Hiram’s Highway / Marina Cove North Access	Priority / DFC	No Construction Traffic					
J2	Luk Mei Tsuen Road /Hiram’s Highway/ Marina Cove South Access	Signal / RC	Construction Traffic Free Flow from Hiram’s Highway Northbound Left Turning to Luk Mei Tsuen Road					
J3	Ho Chung Road /Hiram’s Highway	Signal / RC	102%	139%	N/A	100%	137%	N/A
J4	Nam Pin Wai Road / New Hiram’s Highway / Hiram’s Highway	Roundabout / DFC	0.61	0.53	N/A	0.61	0.53	N/A
J5	Hing Keng Shek Road / Hiram’s Highway	Roundabout / DFC	0.52	0.56	N/A	0.52	0.56	N/A

Notes: RC=reserved capacity; DFC=Design Flow/ Capacity Ratio

Table 4.4 2025 Construction Stage Junction Capacity

4.5.2 According to Table 4.4, the capacity of all the keys junctions would be performing satisfactorily during the peak periods for both the Reference and Design Scenarios.

Construction Stage Link Capability

4.5.3 The link capacity assessment results with reference to the net development are summarised in Table 4.5.

Link No.	Section of Hiram’s Highway	Link Capacity (veh/hr)	Reference Flow		Reference V/C Ratio		Design Flow		Design V/C Ratio	
			Daily Peak	Week end	Daily Peak	Week end	Daily Peak	Week end	Daily Peak	Week end
L1 (Sai Kung Bound)	Between Ho Chung Road and Luk Mei Tsuen Road	2600	1102	N/A	0.42	N/A	1108	N/A	0.43	N/A
L2 (Sai Kung Bound)	Between Ho Chung Road and Nam Pin Wai Road	2600	1208	N/A	0.41	N/A	1214	N/A	0.47	N/A
L2 (Kowloon Bound)	Between Ho Chung Road and Nam Pin Wai Road	2600	1313	N/A	0.50	N/A	1319	N/A	0.51	N/A

Notes: Based on TPDM Volume 2 Chapter 2.4 – Design Flow Characteristics, it is assumed 2600 veh/hour for dual two-lane carriageway for one direction of flow.

Table 4.5 2025 Construction Stage Link Capacity

4.5.4 It can be seen from Table 4.5 that all of the key links perform satisfactorily during the peak hours with adequate reserve capacities.

Future Junction Capacity

4.5.5 The widening of Hiram’s Highway was completed in 2021, the new signalised junction at Ho Chung Road has been assessed. Capacity assessments were carried out for the major junctions in the local network for both the Reference and Design scenarios. The results are summarised and presented in Table 4.6 with detailed calculations sheets attached in Appendix A.

Jun No.	Junction Location	Type/ Capacity Index	2028					
			Reference			Design		
			AM	PM	Week end	AM	PM	Week end
J1	Luk Cheung Road /Hiram’s Highway / Marina Cove North Access	Priority / DFC	0.07	0.04	0.04	0.07	0.04	0.04
J2	Luk Mei Tsuen Road /Hiram’s Highway/ Marina Cove South Access	Signal / RC	141%	153%	144%	141%	153%	144%
J3	Ho Chung Road /Hiram’s Highway	Signal / RC	94%	130%	97%	93%	130%	96%
J4	Nam Pin Wai Road / New Hiram’s Highway / Hiram’s Highway	Roundabout / DFC	0.64	0.55	0.58	0.64	0.55	0.59
J5	Hing Keng Shek Road / Hiram’s Highway	Roundabout / DFC	0.54	0.59	0.51	0.54	0.59	0.51

Notes: RC=reserved capacity; DFC=Design Flow/ Capacity Ratio

Table 4.6 2028 Junction Capacity Assessments

- 4.5.6 According to Table 4.6, the capacity of all the key junctions would be performing satisfactory during the peak periods for both the Reference and Design Scenarios.

Future Link Capacity

- 4.5.7 The road link capacity assessment results with reference to the development traffic are summarised in Table 4.7.

Link No.	Section of Hiram’s Highway	Link Capacity (veh/hr)	Reference Flow		Reference V/C Ratio		Design Flow		Design V/C Ratio	
			Daily Peak	Week end	Daily Peak	Week end	Daily Peak	Week end	Daily Peak	Week end
L1 (Sai Kung Bound)	Between Ho Chung Road and Luk Mei Tsuen Road	2600	1147	999	0.44	0.38	1150	1003	0.44	0.39
L2 (Sai Kung Bound)	Between Ho Chung Road and Nam Pin Wai Road	2600	1256	1129	0.41	0.48	1259	1132	0.48	0.44
L2 (Kowloon Bound)	Between Ho Chung Road and Nam Pin Wai Road	2600	1370	1273	0.53	0.49	1373	1275	0.53	0.49

Notes: Based on TPDM Volume 2 Chapter 2.4 – Design Flow Characteristics, it is assumed 2600 veh/hour for dual two-lane carriageway for one direction of flow.

Table 4.7 2028 Link Capacity

4.5.8 Table 4.7 demonstrates that all of the key links perform satisfactorily during peak hours with adequate reserve capacities after completion of the improvement works.

5. Transport Provision

5.1 Parking and Loading/Unloading Provision

5.1.1 With reference to the proposed plan, 12 car parking spaces (6 ancillary carparking spaces and 6 accessible/visitor parking space) and one LGV loading/unloading bay for the residential development are proposed to serve the needs occupants in Parcel A & B and 4 car parking spaces (2 ancillary carparking spaces and 2 accessible/visitor parking space) are proposed to serve the needs occupants in Parcel C. This is summarised in Table 5.1.

Type of Parking Space/Bay	Provision
<i>Parcel A & B for 6 Houses</i>	
Private Car (2.5m X 5m)	6
Accessible Visitor (3. 5X 5m)	6
Loading/Unloading Bay (3.5 X 7m)	1
<i>Parcel C for 2 Houses</i>	
Private Car (2.5m X 5m)	2
Accessible Visitor (3. 5X 5m)	2

Table 5.1 Provision of Internal Transport

5.2 Hong Kong Planning Standards and Guidelines (HKPSG)

5.2.1 The car parking requirements and loading/unloading provisions for the proposed development in accordance with the HKPSG are listed in Table 5.2.

Development	Facility	HKPSG Standard	Required	Provision
Residential (8 units with avg. size of 299 sqm)	Car Parking	Global Parking Standard (GPS) = 1 Car space per 4-7 flats R1 = 7.0 for avg. flat size over 160 sqm R2 = 1 (outside a 500m radius of rail station) R3 = 1.3 of domestic plot ratio 0.00-1.00	11-19	16
	Loading/Unloading Bay	Minimum of 1 Loading/Unloading 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.	1	1

Table 5.2 HKPSG Requirement and Provision

5.3 Ingress/Egress Points and Internal Manoeuvring

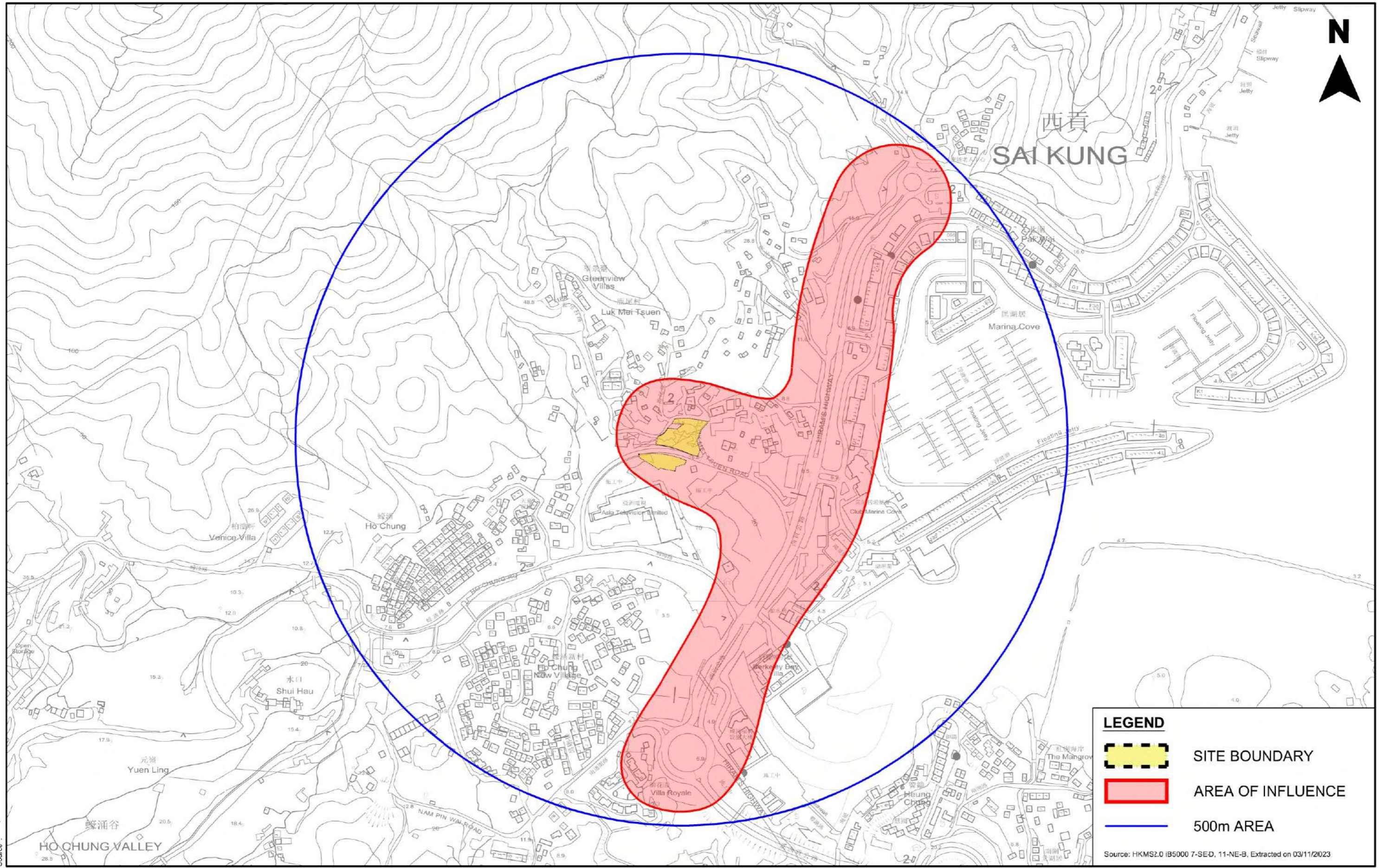
- 5.3.1 The proposed ingress and egress point to all Parcels of the Site will be from Ho Chung North Road. In all Parcels of the Site, adequate maneuvering space is proposed for the maneuvering within the Site for the vehicles such that no vehicle queuing outside the Site would occur as a result of the proposed developments. In addition, there will be no reverse onto/from Ho Chung North Road to the Site. [Figure 5.1]

6. Conclusions




- 6.1.1 The traffic generation from the proposed development (including the construction period) is minimal in nature and will have minimal traffic impact to the surrounding network.
- 6.1.2 The proposed development would provide a total of 16 carparking spaces and 1 loading/unloading bay which fulfills the requirements of HKPSG.
- 6.1.3 The proposed development will provide adequate maneuvering space within all Parcels of the Site. Therefore, no queuing or reversing motion will occur at the street level.
- 6.1.4 As a result, it is concluded that the proposed development would not generate any significant adverse impact to the traffic of the surrounding vicinity of the Site.

Figures

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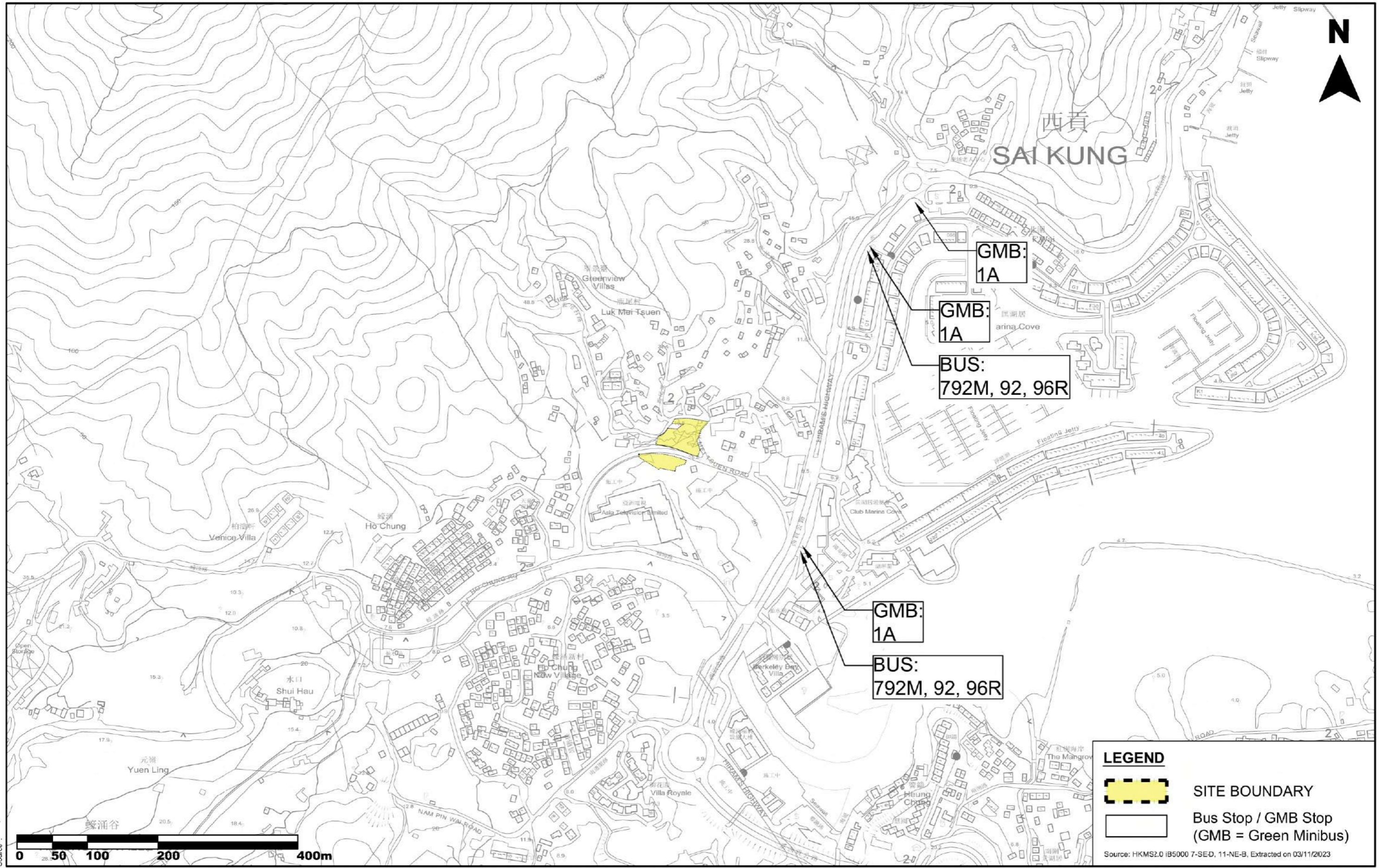
LEGEND

-  SITE BOUNDARY
-  AREA OF INFLUENCE
-  500m AREA

Source: HKMS2.0 IB5000 7-SED, 11-NE-B, Extracted on 03/11/2023

File Name :
Source :

 PRUDENTIAL <small>SURVEYING • LAND ADVISORY • VALUATION</small>	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 6333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title STUDY AREA AND AREA OF INFLUENCE	Drawn HY	Date 03/11/2023	Drawing No. Fig. 1.1
				Checked RT	Approved FW	
Rev	Description	Date	Date	Date	Date	Date




LEGEND

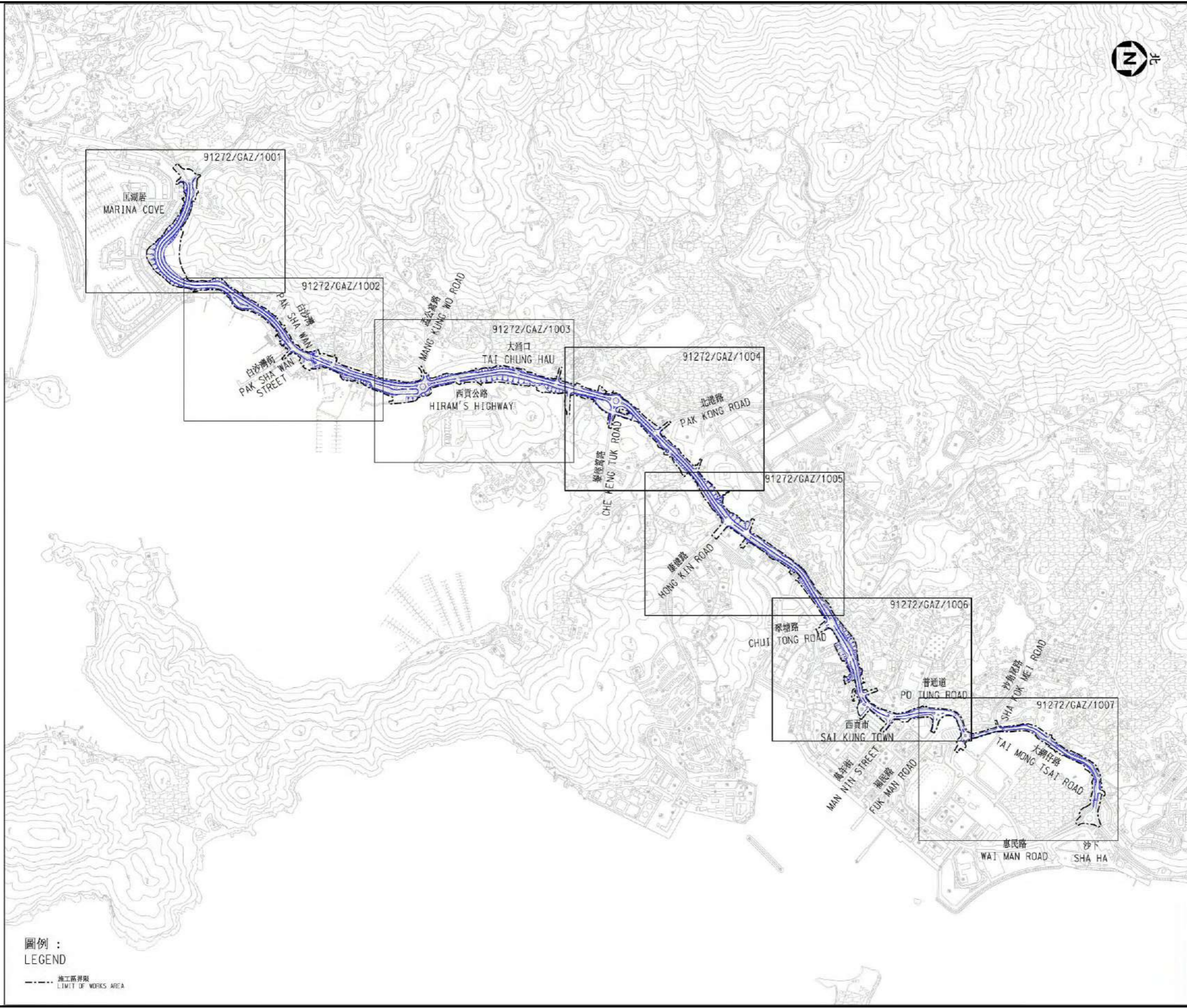
-  SITE BOUNDARY
-  Bus Stop / GMB Stop (GMB = Green Minibus)

Source: HKMS2.0 IB5000 7-SED, 11-NE-B, Extracted on 03/11/2023

File Name :
Source :

 PRUDENTIAL SURVEYING • LAND ADVISORY • VALUATION	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 6333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title LOCATION OF PUBLIC TRANSPORT	Drawn HY	Date 03/11/2023	Drawing No. Fig. 3.1
				Checked RT	Approved FW	
Rev.	Description	Date	Date	Date	Date	Date

File Name :
Source :



註釋 NOTES :

- 除在其他方面指定外，所有量度以米為單位。
ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
- 所有水平均為約數，以米為單位，並在街道主水平基準上。
ALL LEVELS ARE APPROXIMATE VALUES AND IN METRES ABOVE HONG KONG PRINCIPAL DATUM.
- 如有需要，施工區界內部分車道、行人路、中央分隔帶/安全島及美化帶等處或需分期封閉暫時閉路。
SECTIONS OF THE EXISTING CARRIAGEWAYS, FOOTPATHS, CENTRAL MEDIANS/REFUGE ISLANDS AND AMENITY AREAS WITHIN THE LIMIT OF WORKS AREA MAY BE TEMPORARILY CLOSED IN PHASES AS AND WHEN REQUIRED.

圖例 :
LEGEND

--- 施工區界限
LIMIT OF WORKS AREA

工程名稱 PROJECT TITLE
工務計劃項目第6806項
巨瀾居至西貢市之間的西貢公路分隔車道工程
PWP ITEM NO. 6806TH
DUALLING OF HIRAM'S HIGHWAY
FROM MARINA COVE TO SAI KUNG TOWN

圖則名稱 PLAN TITLE
根據《道路(工程、使用及補償)條例》
(第370章)而在憲報公布之圖則
PLAN FOR GAZETTING UNDER ROADS
(WORKS, USE AND COMPENSATION)
ORDINANCE (CHAPTER 370)

圖則編號 PLAN NO.
91272/GAZ/1000

比例 SCALE
1 : 6000 @ A1

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或如圖示
OR AS SHOWN

主要工程管理處
Major Works
Project Management Office

路政署
HIGHWAYS
DEPARTMENT

CAD File: 91272_GAZ_1000.dgn



ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

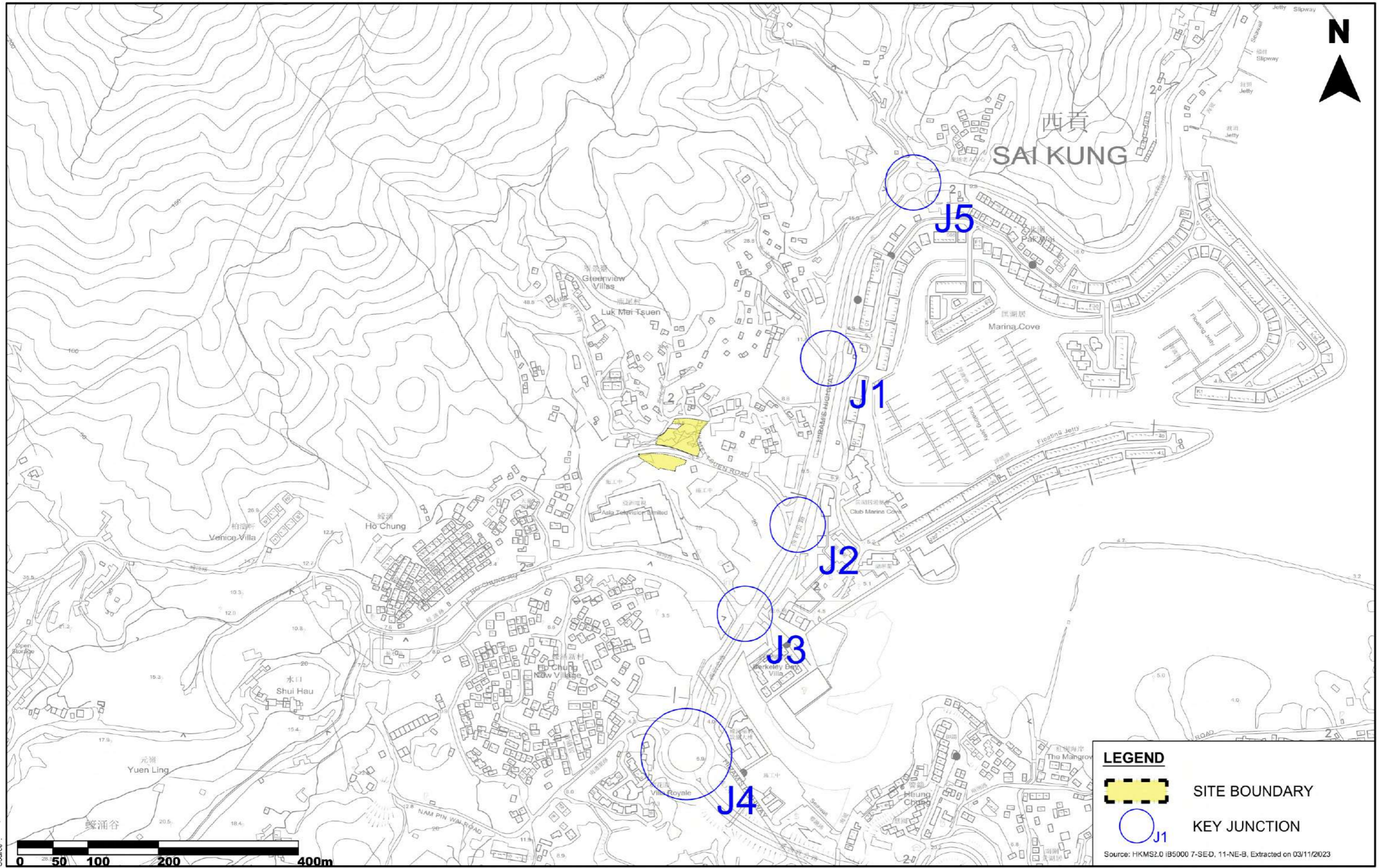
JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)"), "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
Location of Stage 2 of the Hiram's Highway Improvement Project


Rev	Description	Date


Drawn	HY	Date	03/11/2023
Checked	RT	Approved	FW
Scale	1:5000 @ A3		

Drawing No.	Fig. 3.2
Rev.	-



LEGEND

 SITE BOUNDARY

 KEY JUNCTION

Source: HKMS2.0 IB5000 7-SED, 11-NE-B, Extracted on 03/11/2023

File Name :
Source :

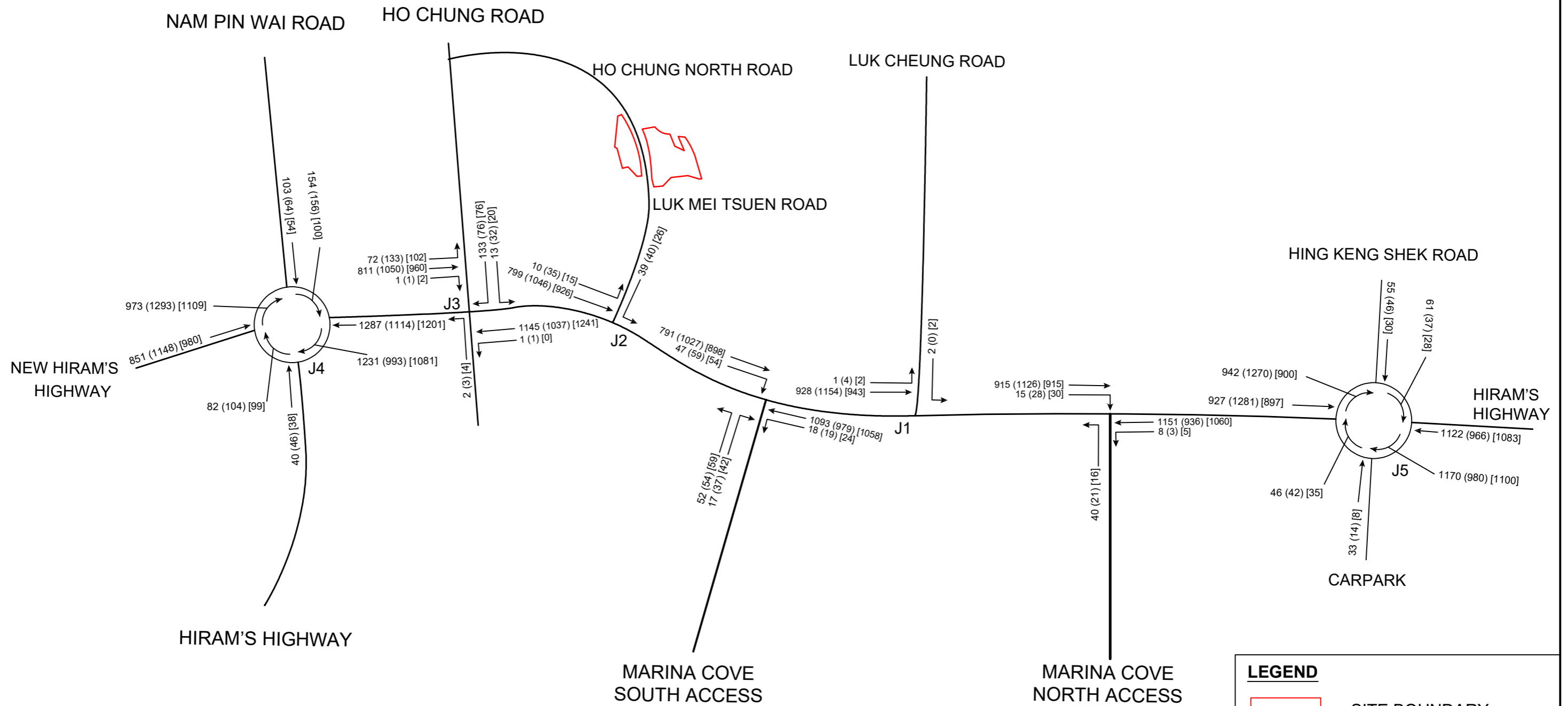
PRUDENTIAL
SURVEYING • LAND ADVISORY • VALUATION

ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 6333
FAX: 2586 6576

JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
KEY JUNCTIONS

Drawn	HY	Date	03/11/2023	Drawing No.	
Checked	RT	Approved	FW	Fig. 3.3	
Scale	1:5000 @ A3			Rev.	-
Rev	Description	Date			



LEGEND

- SITE BOUNDARY
- J1 KEY JUNCTIONS
- XX (XX) [XX] WEEKDAY AM (WEEKDAY PM)
[WEEKEND PM] PEAK HOUR TRAFFIC FLOW IN PCU/HR

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title: 2023 OBSERVED PEAK HOURS TRAFFIC FLOWS		Drawn: HY Checked: RT Date: 03/11/2023 Approved: FW	Drawing No.: Fig. 3.4
	Rev: Description Date	Scale: N.T.S.	Rev: -			

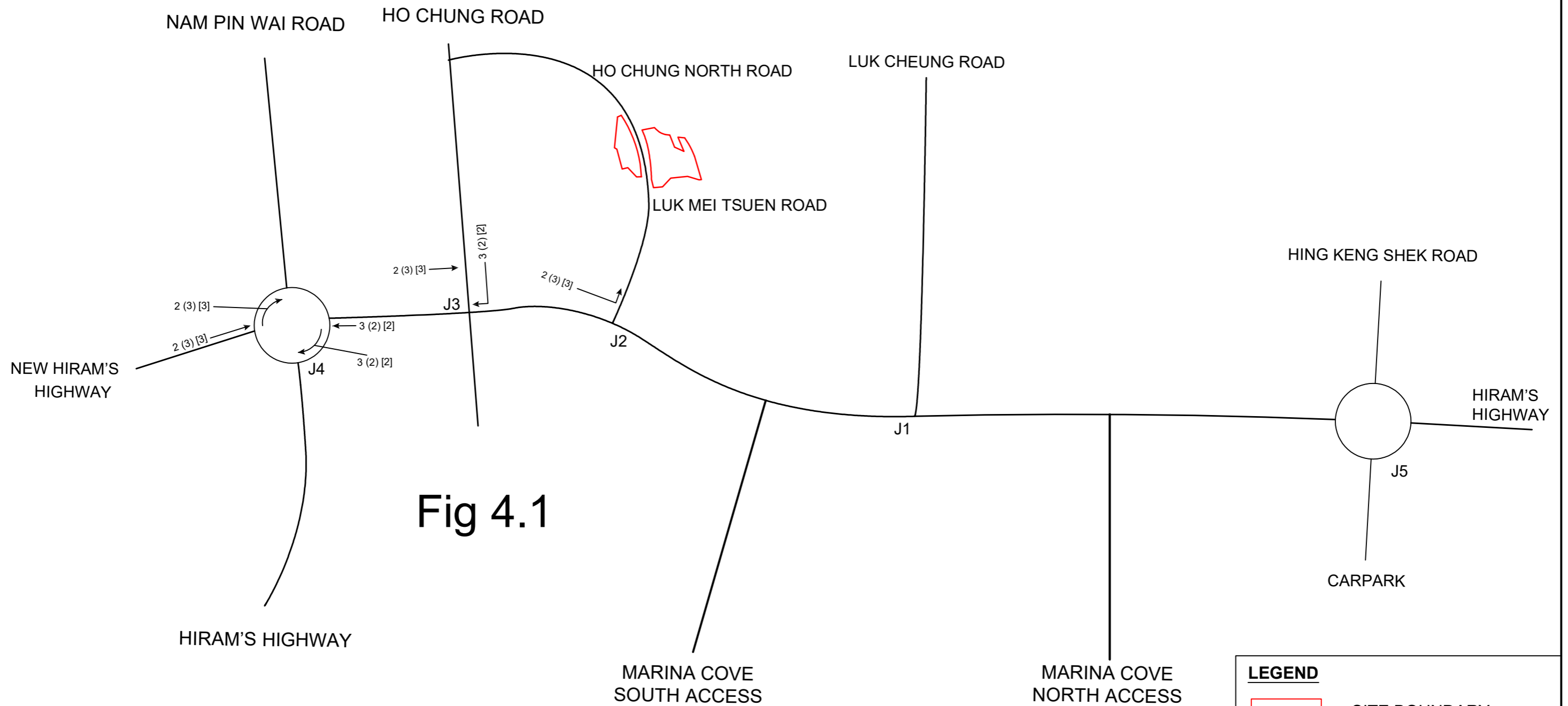


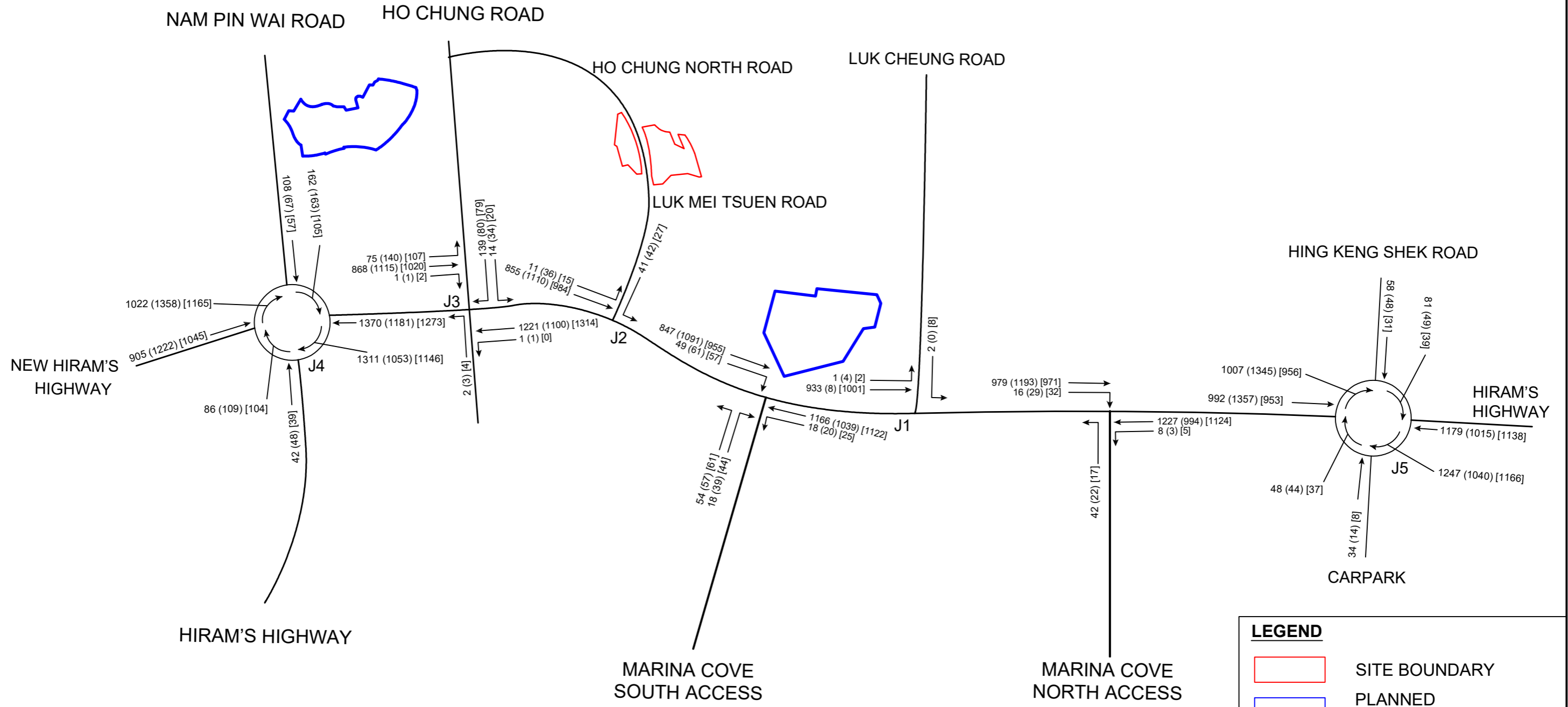


Fig 4.1

LEGEND	
	SITE BOUNDARY
J1	KEY JUNCTIONS
XX (XX) [XX]	WEEKDAY AM (WEEKDAY PM) [WEEKEND PM] PEAK HOUR TRAFFIC FLOW IN PCU/HR

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title 2028 NET PEAK HOURS DEVELOPMENT TRAFFIC FLOWS	Drawn HY	Date 03/11/2023	Drawing No. Fig. 4.1
				Checked RT	Approved FW	
Rev Description Date				Scale N.T.S.	Rev.	-

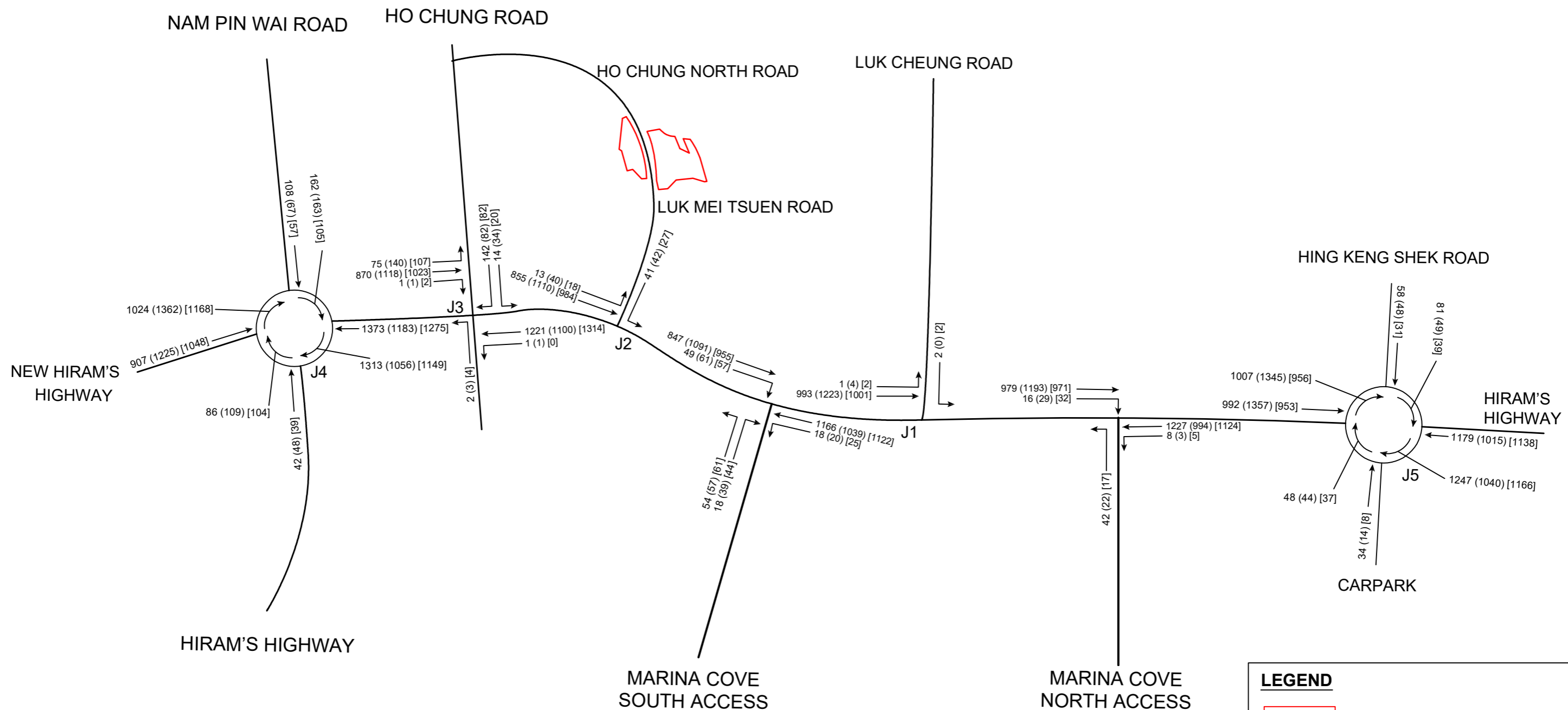


LEGEND

- SITE BOUNDARY
- PLANNED DEVELOPMENTS
- J1** KEY JUNCTIONS
- XX (XX) [XX] WEEKDAY AM (WEEKDAY PM)
[WEEKEND PM] PEAK HOUR
TRAFFIC FLOW IN PCU/HR

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 8576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title 2028 REFERENCE PEAK HOURS TRAFFIC FLOWS			Drawn HY	Date 03/11/2023	Drawing No. Fig. 4.2
			Checked RT	Approved FW	Scale N.T.S.	Rev.	-	

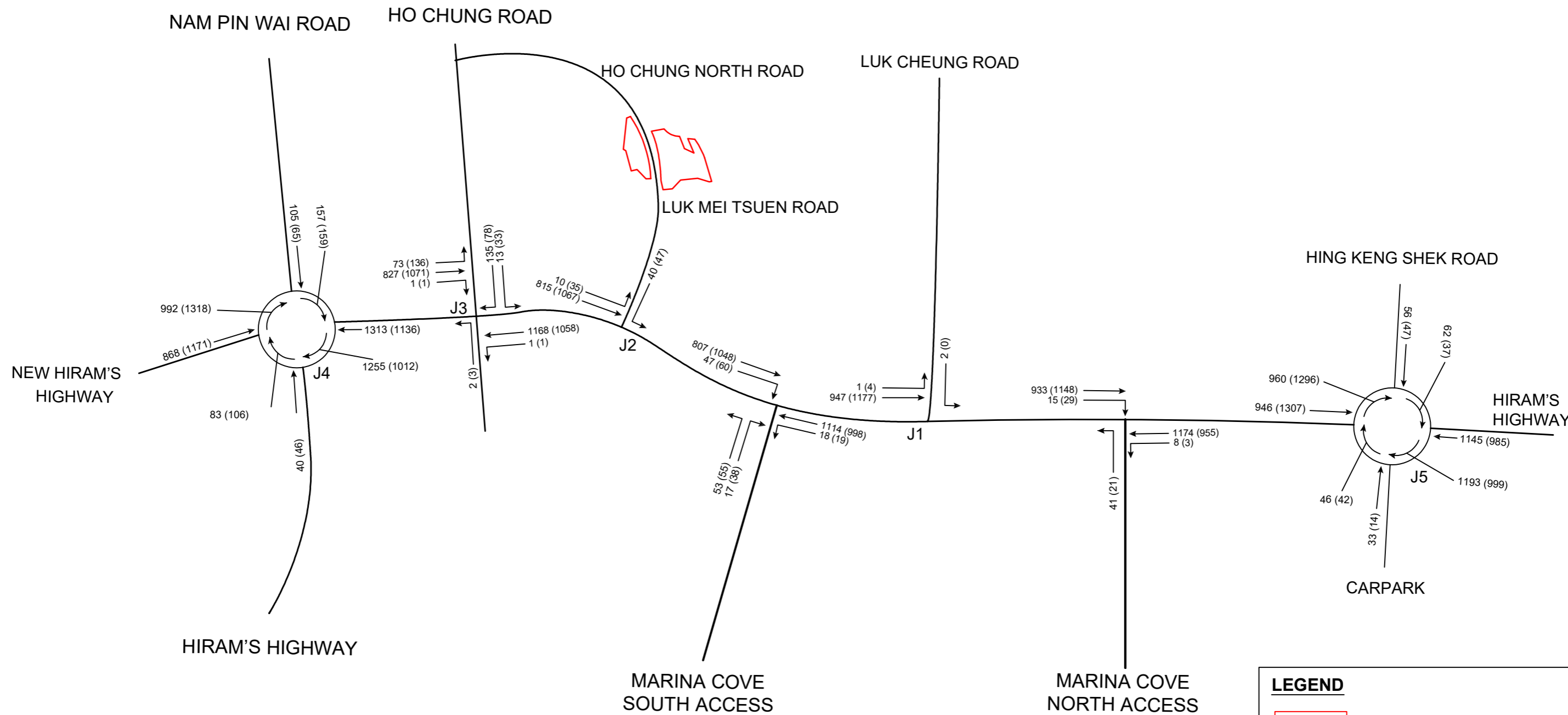


LEGEND

- SITE BOUNDARY
- J1** KEY JUNCTIONS
- XX (XX) [XX] WEEKDAY AM (WEEKDAY PM) [WEEKEND PM] PEAK HOUR TRAFFIC FLOW IN PCU/HR

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Source :

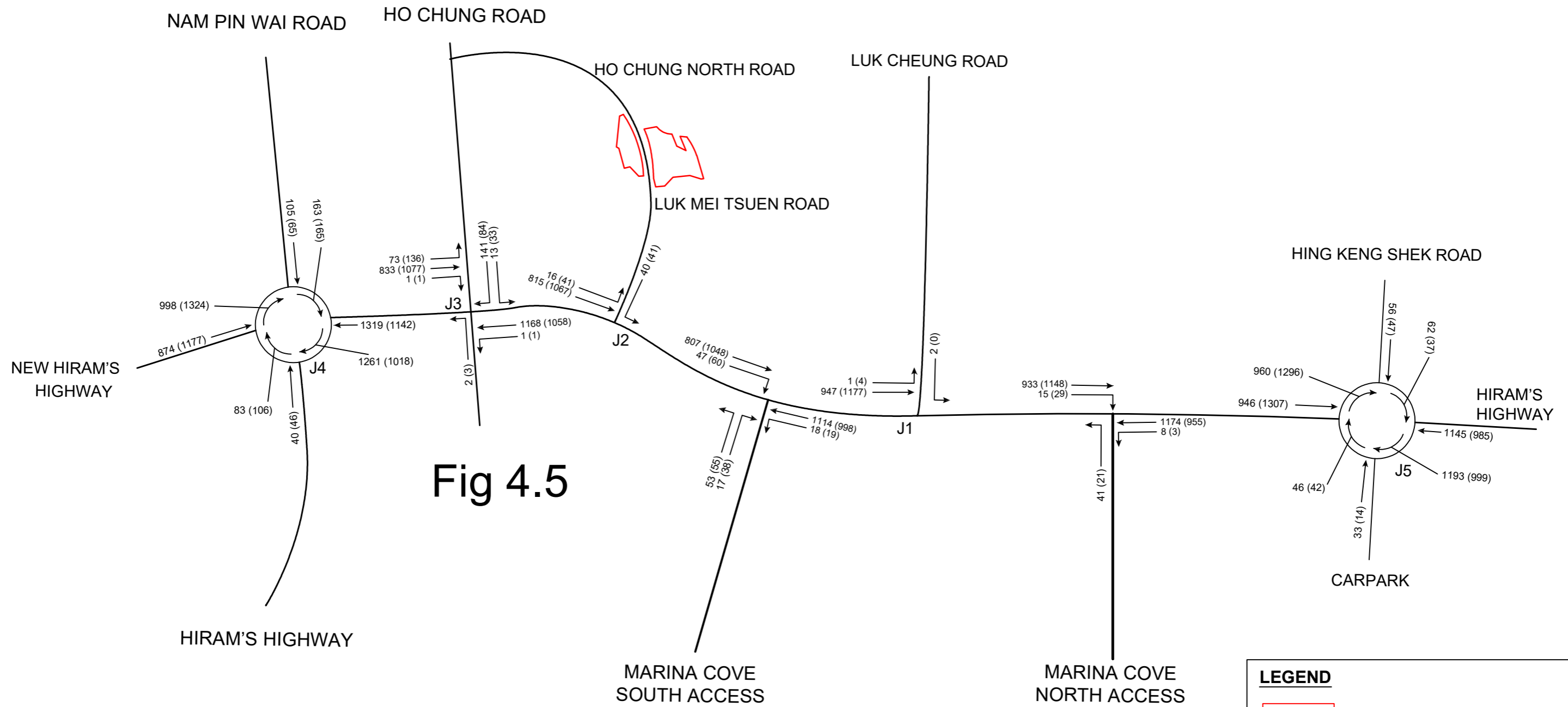
	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 8576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title 2028 DESIGN PEAK HOURS TRAFFIC FLOWS	Drawn HY	Date 03/11/2023	Drawing No. Fig. 4.3
				Checked RT	Approved FW	
Rev	Description	Date	Scale N.T.S.	Rev.	-	




LEGEND	
	SITE BOUNDARY
J1	KEY JUNCTIONS
XX (XX)	WEEKDAY AM (WEEKDAY PM) PEAK HOUR TRAFFIC FLOW IN PCU/HR

File Name :
Source :

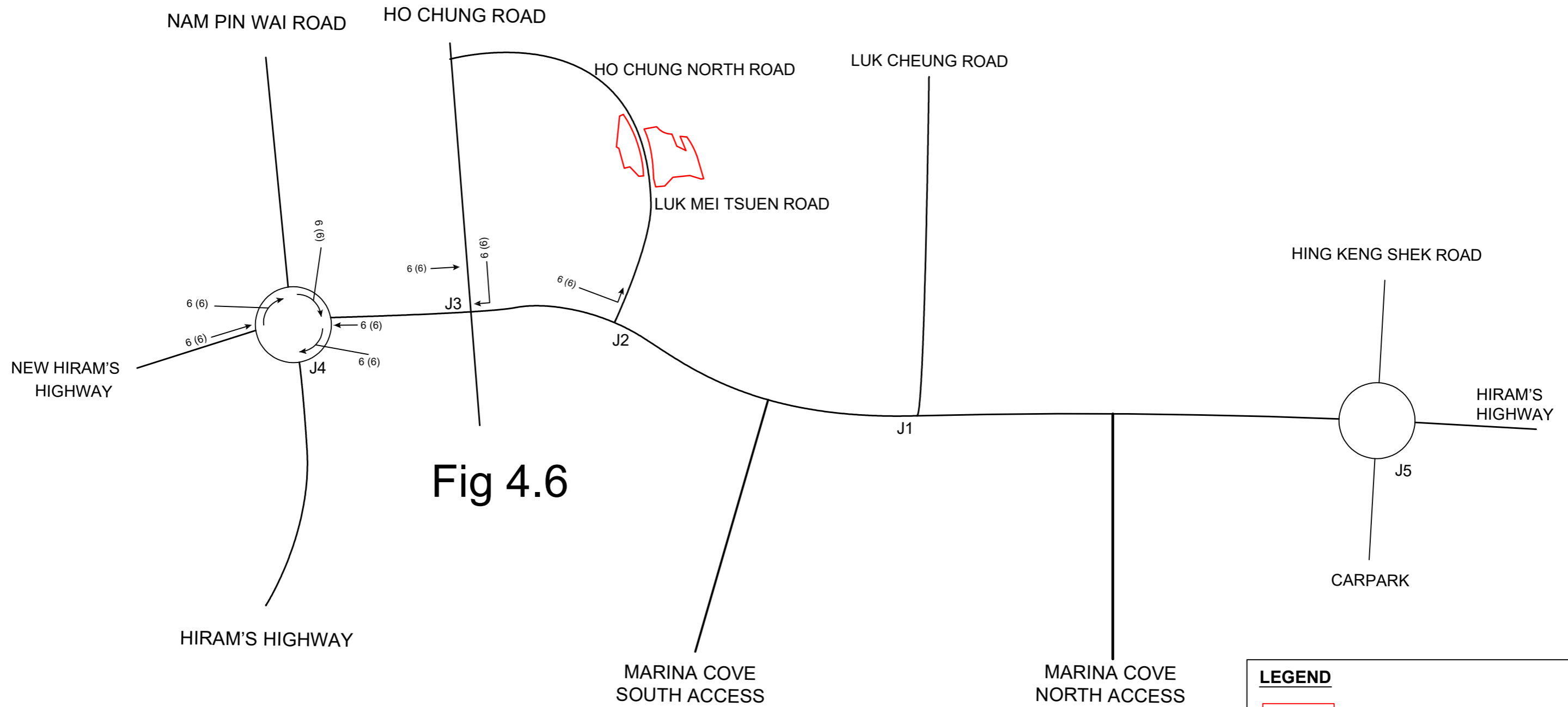
	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 8576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title 2025 REFERENCE PEAK HOURS TRAFFIC FLOWS	Drawn HY	Date 03/11/2023	Drawing No. Fig. 4.4
				Checked RT	Approved FW	
Rev	Description	Date	Scale N.T.S.	Rev.	-	



LEGEND	
	SITE BOUNDARY
J1	KEY JUNCTIONS
XX (XX)	WEEKDAY AM (WEEKDAY PM) PEAK HOUR TRAFFIC FLOW IN PCU/HR

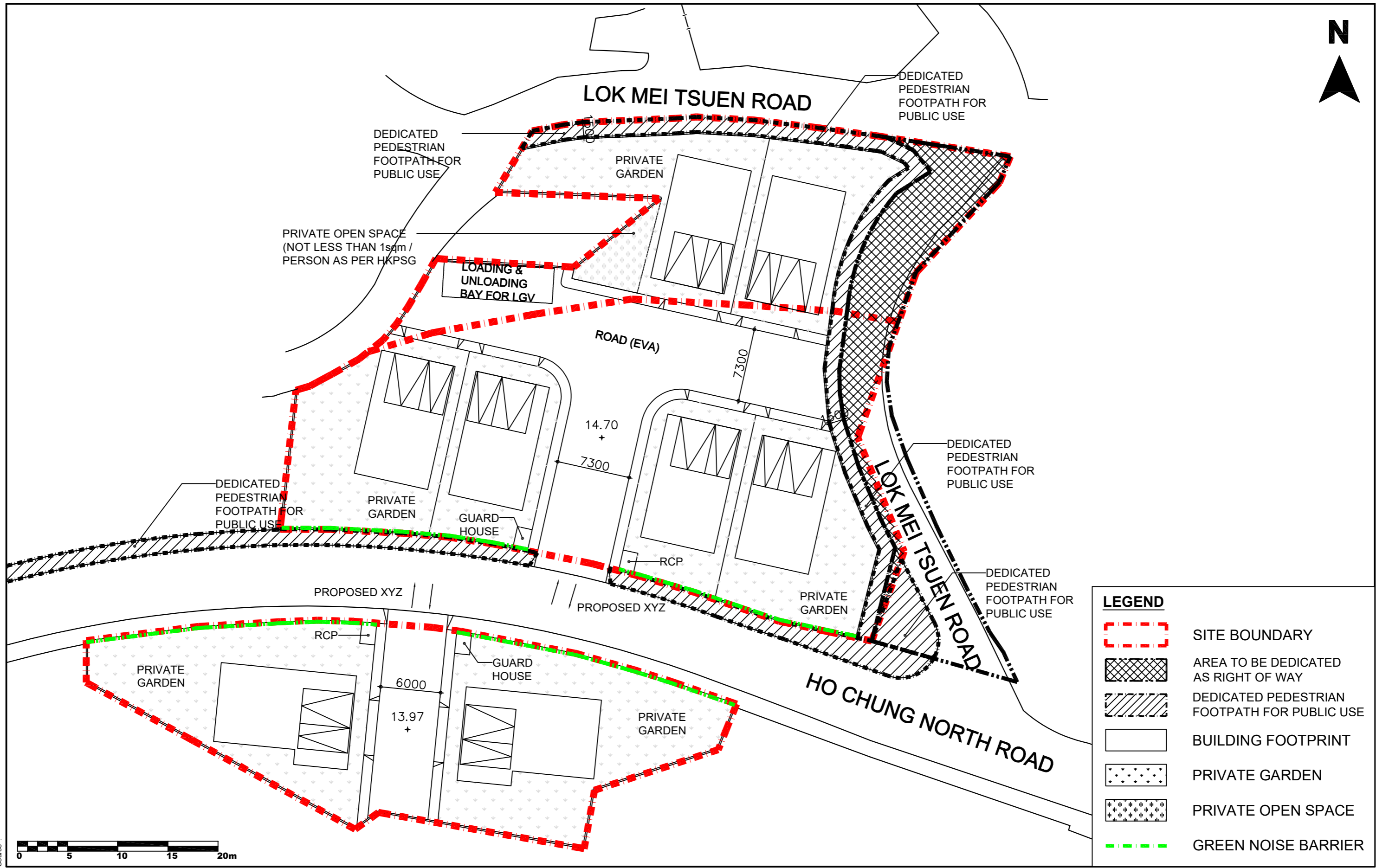
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 PRUDENTIAL <small>SURVEYING • LAND ADVISORY • VALUATION</small>	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 8576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title 2025 DESIGN PEAK HOURS TRAFFIC FLOWS	Drawn HY	Date 03/11/2023	Drawing No. Fig. 4.5
				Checked RT	Approved FW	
Rev	Description	Date	Scale N.T.S.	Rev.	-	



File Name : . . .
Source : . . .

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 8576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title 2025 NET PEAK HOURS CONSTRUCTION TRAFFIC FLOWS	Drawn HY	Date 03/11/2023	Drawing No. Fig. 4.6
	Checked RT	Approved FW	Scale N.T.S.	Rev Description Date	Rev Description Date	Rev.



File Name :
Source :



ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

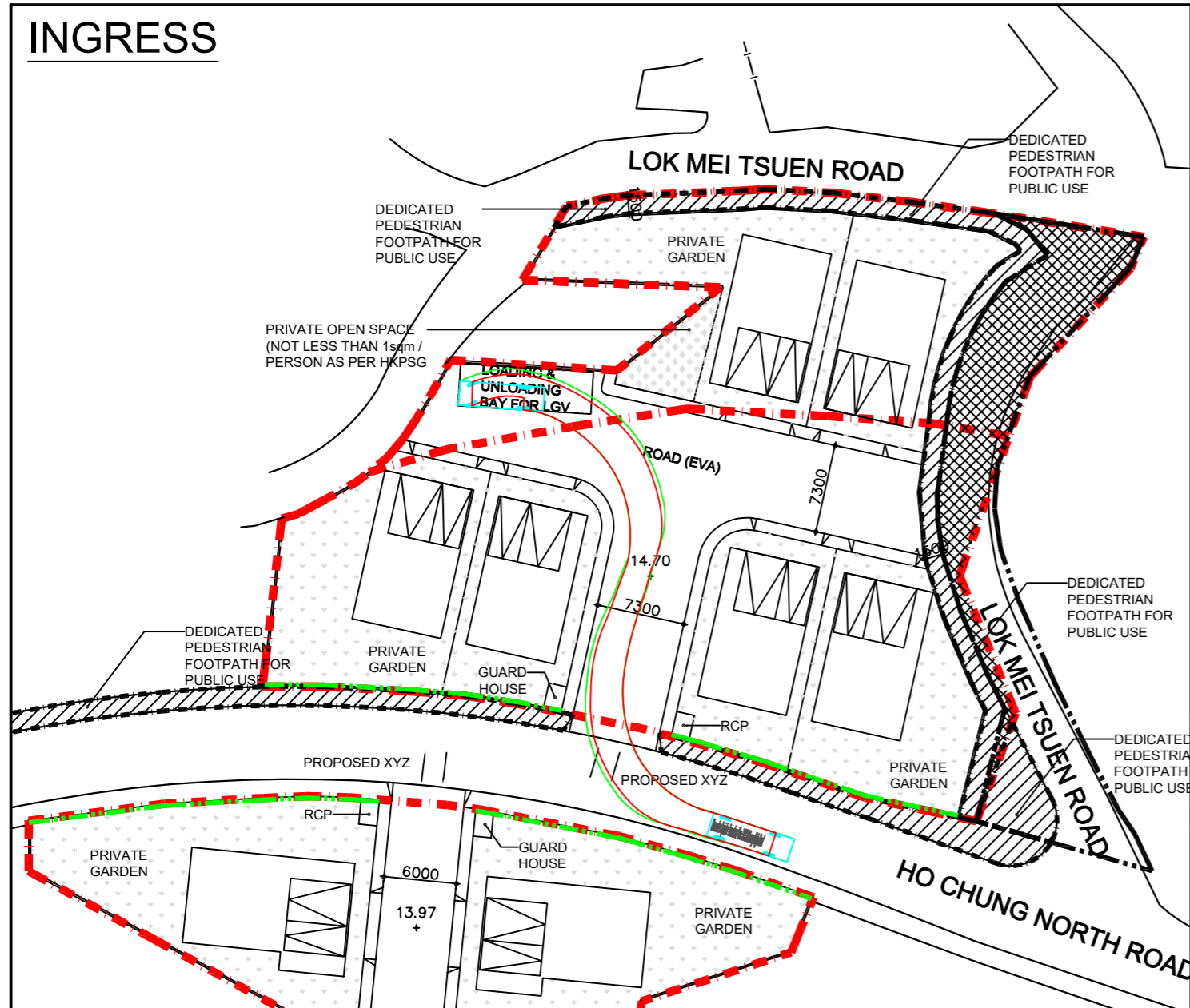
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INTERNAL TRAFFIC LAYOUT

Rev	Description	Date

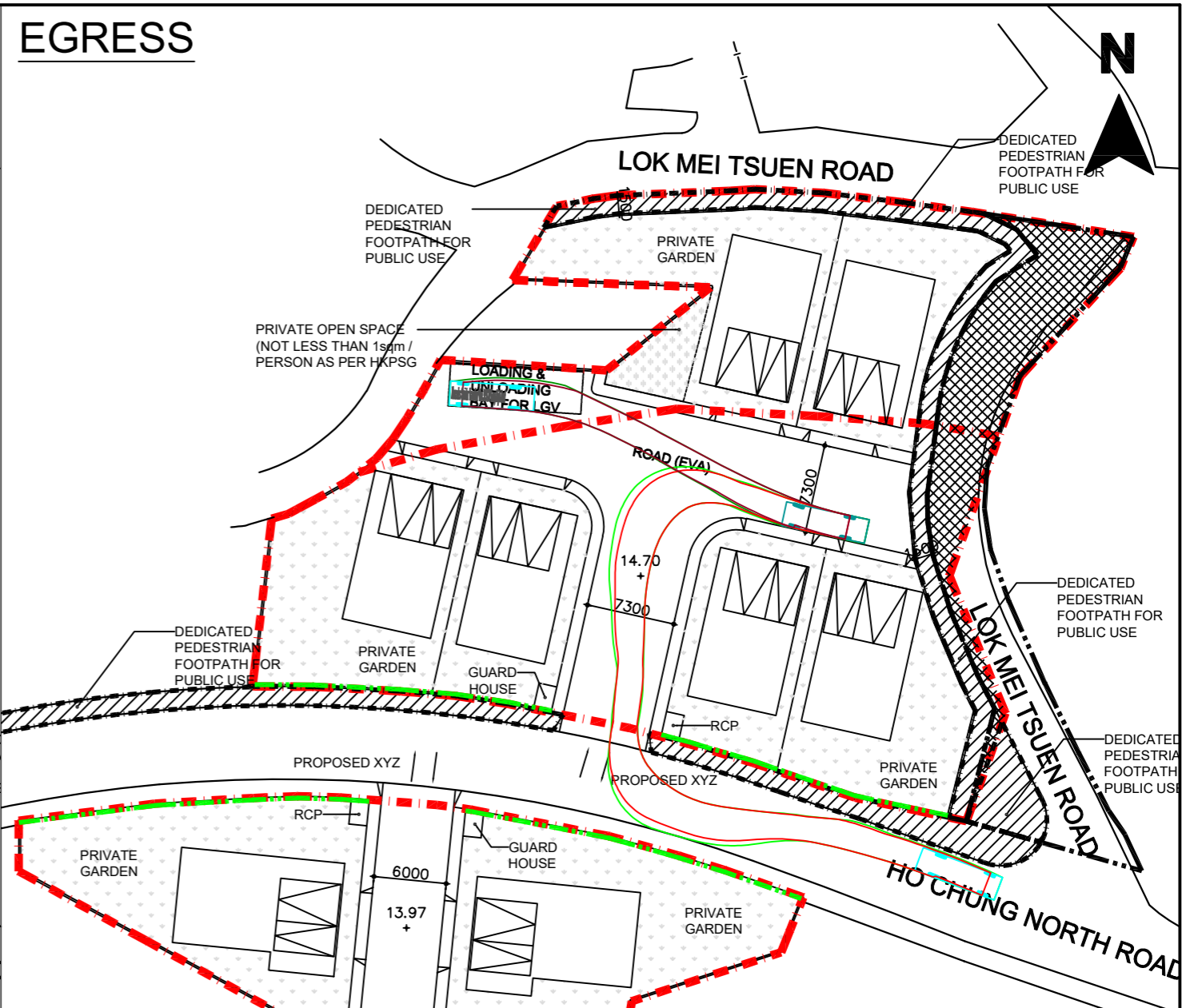
Drawn	HY	Date	03/11/2023
Checked	RT	Approved	FW
Scale	1:350 @ A3		

Drawing No.	Fig. 5.1
Rev.	-

INGRESS

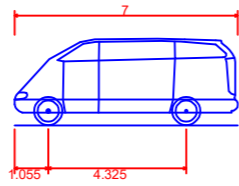


EGRESS



SWEPT PATH LEGEND

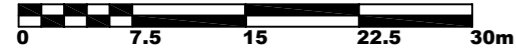
— OUTER MOST PATH
— INNER MOST PATH



Mercedes Sprinter Traveliner Van 315CDI Long High Roof
 Overall Length 7.000m
 Overall Width 1.993m
 Overall Body Height 2.715m
 Min Body Ground Clearance 0.400m
 Track Width 1.993m
 Lock-to-lock time 5.00s
 Wall to Wall Turning Radius 7.800m

LEGEND

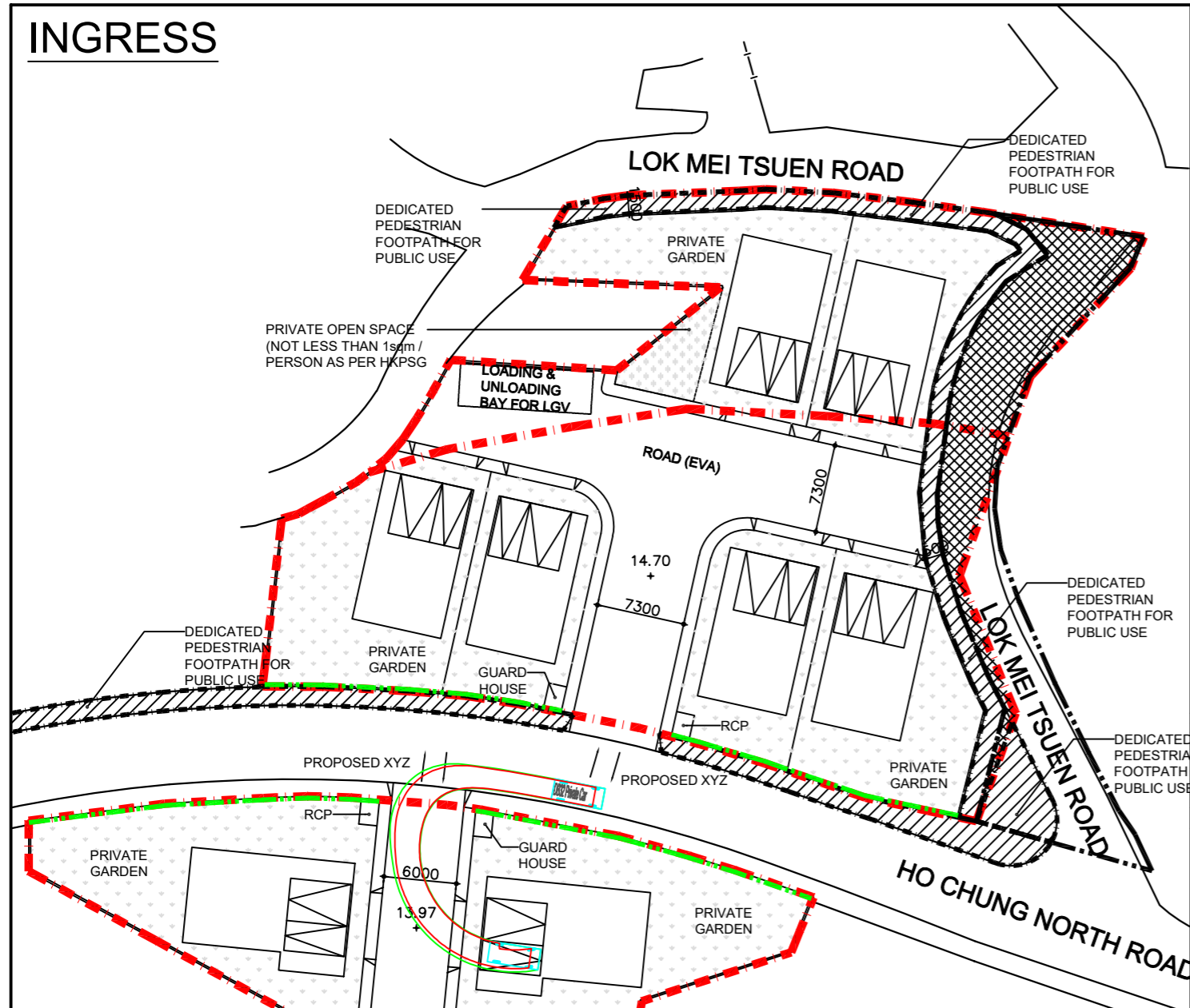
- SITE BOUNDARY
- AREA TO BE DEDICATED AS RIGHT OF WAY
- DEDICATED PEDESTRIAN FOOTPATH FOR PUBLIC USE
- BUILDING FOOTPRINT
- PRIVATE GARDEN
- PRIVATE OPEN SPACE
- GREEN NOISE BARRIER



File Name :
Source :

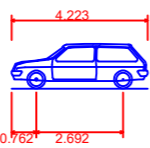
	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title SWEPT PATH ANALYSIS (PARCEL A AND B)					Drawn HY Date 03/11/2023	Drawing No. Fig. 5.2
				Checked RT	Approved FW	Scale 1:500 @ A3	Rev.	-	
				Rev	Description	Date			

INGRESS

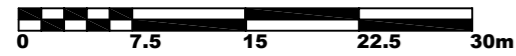


SWEPT PATH LEGEND

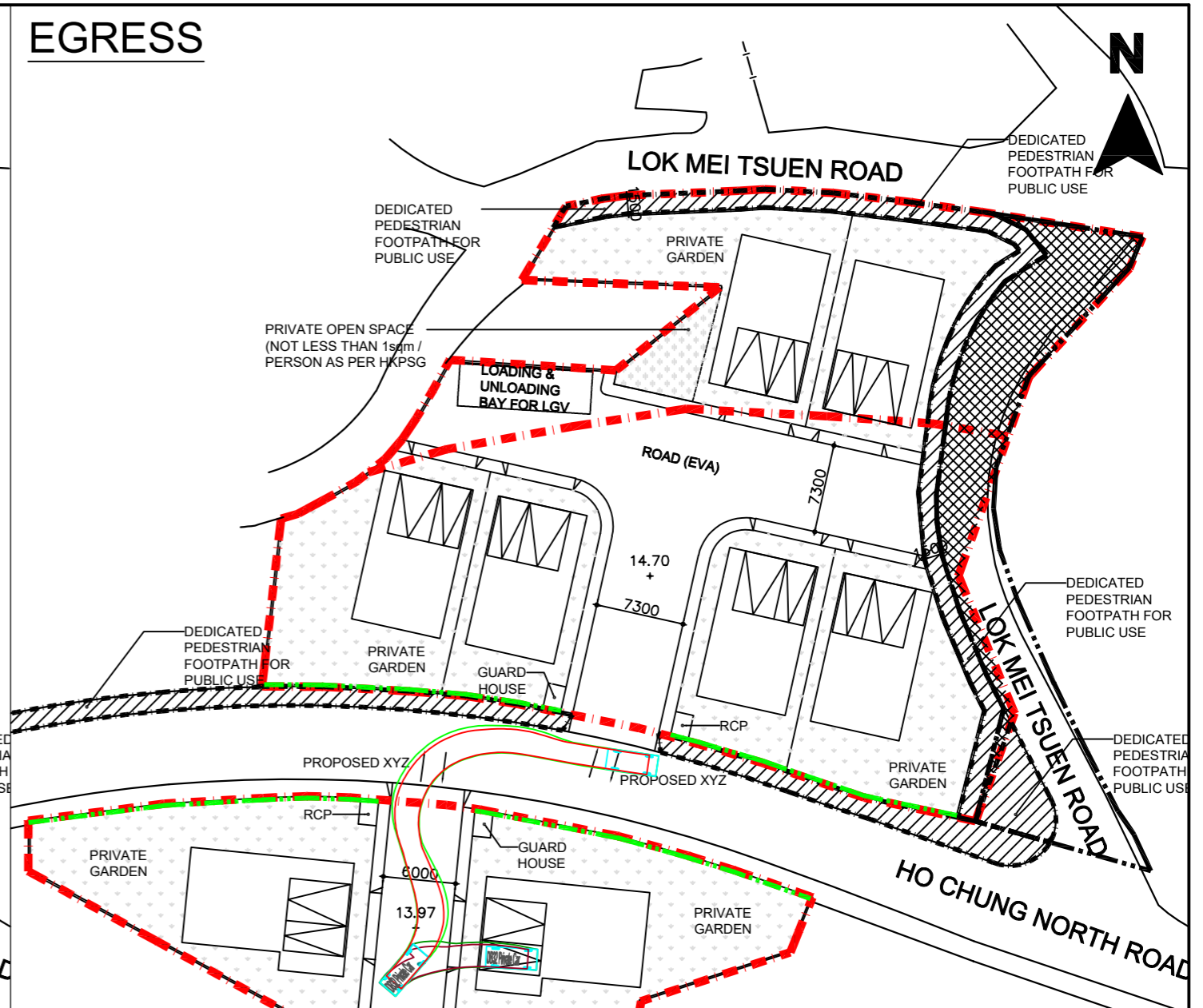
— OUTER MOST PATH
— INNER MOST PATH



DB32 Private Car
 Overall Length 4.223m
 Overall Width 1.715m
 Overall Body Height 1.392m
 Min Body Ground Clearance 0.2333m
 Max Track Width 1.629m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 5.780m



EGRESS



LEGEND

- SITE BOUNDARY
- AREA TO BE DEDICATED AS RIGHT OF WAY
- DEDICATED PEDESTRIAN FOOTPATH FOR PUBLIC USE
- BUILDING FOOTPRINT
- PRIVATE GARDEN
- PRIVATE OPEN SPACE
- GREEN NOISE BARRIER

File Name :
Source :



ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
 244 DES VOEUX ROAD CENTRAL HONG KONG
 TEL: 2507 8333
 FAX: 2598 6576

JOB TITLE:
 Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
 SWEPT PATH ANALYSIS
 (PARCEL C)

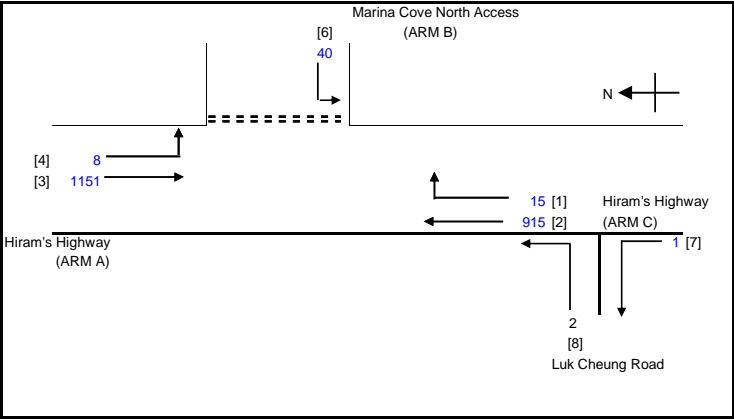
Drawn	HY	Date	03/11/2023	Drawing No.	
Checked	RT	Approved	FW	Fig. 5.3	
Scale	1:500 @ A3			Rev.	-
Rev	Description	Date			

Appendix A

Junction Calculations

Intentionally Blank

PRIORITY JUNCTION CALCULATION		INITIALS	DATE
		2023AM	PROJECT NO.: PREPARED BY:
J1 Hiram's Highway / Marina Cove North Access			FILENAME : CHECKED BY:
2023 Weekday AM Peak		J1-LukCheungRoad-MCN.xls	REVIEWED BY:



NOTES : (GEOMETRIC INPUT DATA)

- W = MAJOR ROAD WIDTH
- W cr = CENTRAL RESERVE WIDTH
- W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
- W b-c = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
- W c-b = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
- Vi b-a = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- Vr b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- Vr c-b = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- D = STREAM-SPECIFIC B-A
- E = STREAM-SPECIFIC B-C
- F = STREAM-SPECIFIC C-B
- Y = (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 22.00 (metres)

W cr = 7 (metres)

q a-b = 8 (pcu/hr)

q a-c = 1151 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 5.00 (metres)

Vr c-b = 100 (metres)

q c-a = 915 (pcu/hr)

q c-b = 15 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = (metres)

W b-c = 4.40 (metres)

Vi b-a = (metres)

Vr b-a = (metres)

Vr b-c = 30 (metres)

q b-a = (pcu/hr)

q b-c = 40 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189

E = 0.9837895

F = 1.1066158

Y = 0.241

THE CAPACITY OF MOVEMENT :

Q b-a = 305

Q b-c = 633 Q b-c (O) = 633

Q c-b = 712

TOTAL FLOW = 2128.5 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY:

DFC b-a = 0.0000

DFC b-c = 0.0632

DFC c-b = 0.0211

CRITICAL DFC = 0.06

PRIORITY JUNCTION CALCULATION

INITIALS DATE

2023PM

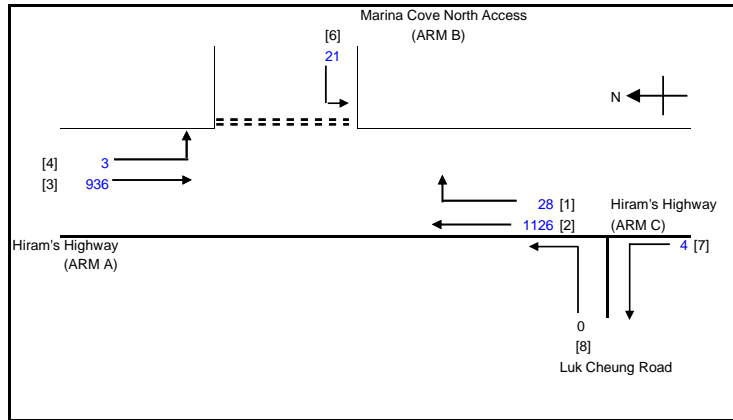
PROJECT NO.: PREPARED BY:

FILENAME : CHECKED BY:

J1-LukCheungRoad-MCN.xls REVIEWED BY:

J1 Hiram's Highway / Marina Cove North Access

2023 Weekday PM Peak



NOTES : (GEOMETRIC INPUT DATA)

- W = MAJOR ROAD WIDTH
- W cr = CENTRAL RESERVE WIDTH
- W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
- W b-c = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
- W c-b = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
- Vi b-a = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- Vr b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- Vr c-b = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- D = STREAM-SPECIFIC B-A
- E = STREAM-SPECIFIC B-C
- F = STREAM-SPECIFIC C-B
- Y = (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)
W = 22.00 (metres)
W cr = 7 (metres)
q a-b = 3 (pcu/hr)
q a-c = 936 (pcu/hr)

MAJOR ROAD (ARM C)
W c-b = 5.00 (metres)
Vr c-b = 100 (metres)
q c-a = 1126 (pcu/hr)
q c-b = 28 (pcu/hr)

MINOR ROAD (ARM B)
W b-a = (metres)
W b-c = 4.40 (metres)
Vi b-a = (metres)
Vr b-a = (metres)
Vr b-c = 30 (metres)
q b-a = (pcu/hr)
q b-c = 21 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
E = 0.9837895
F = 1.1066158
Y = 0.241

THE CAPACITY OF MOVEMENT :

Q b-a = 308
Q b-c = 652 Q b-c (O) = 652
Q c-b = 733

TOTAL FLOW = 2113.5 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY:

DFC b-a = 0.0000
DFC b-c = 0.0322
DFC c-b = 0.0382

CRITICAL DFC = 0.04

PRIORITY JUNCTION CALCULATION

INITIALS DATE

2023Sun

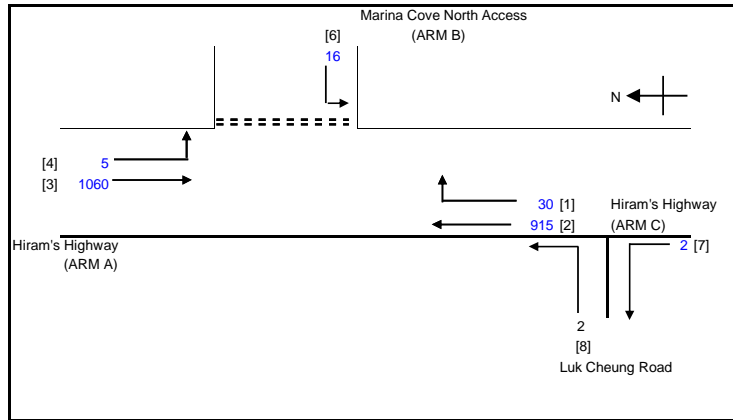
PROJECT NO.: PREPARED BY:

FILENAME : CHECKED BY:

J1-LukCheungRoad-MCN.xls REVIEWED BY:

J1 Hiram's Highway / Marina Cove North Access

2023 Weekend PM Peak



NOTES : (GEOMETRIC INPUT DATA)

- W = MAJOR ROAD WIDTH
- W_{cr} = CENTRAL RESERVE WIDTH
- W_{b-a} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
- W_{b-c} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
- W_{c-b} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
- VI_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- Vr_{b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- Vr_{b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- Vr_{c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- D = STREAM-SPECIFIC B-A
- E = STREAM-SPECIFIC B-C
- F = STREAM-SPECIFIC C-B
- Y = (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 22.00 (metres)
 W_{cr} = 7 (metres)
 q_{a-b} = 5 (pcu/hr)
 q_{a-c} = 1060 (pcu/hr)

MAJOR ROAD (ARM C)

W_{c-b} = 5.00 (metres)
 Vr_{c-b} = 100 (metres)
 q_{c-a} = 914.5 (pcu/hr)
 q_{c-b} = 30 (pcu/hr)

MINOR ROAD (ARM B)

W_{b-a} = (metres)
 W_{b-c} = 4.40 (metres)
 VI_{b-a} = (metres)
 Vr_{b-a} = (metres)
 Vr_{b-c} = 30 (metres)
 q_{b-a} = (pcu/hr)
 q_{b-c} = 16 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
 E = 0.9837895
 F = 1.1066158
 Y = 0.241

THE CAPACITY OF MOVEMENT :

Q_{b-a} = 308
 Q_{b-c} = 641 Q_{b-c} (O) = 641
 Q_{c-b} = 721

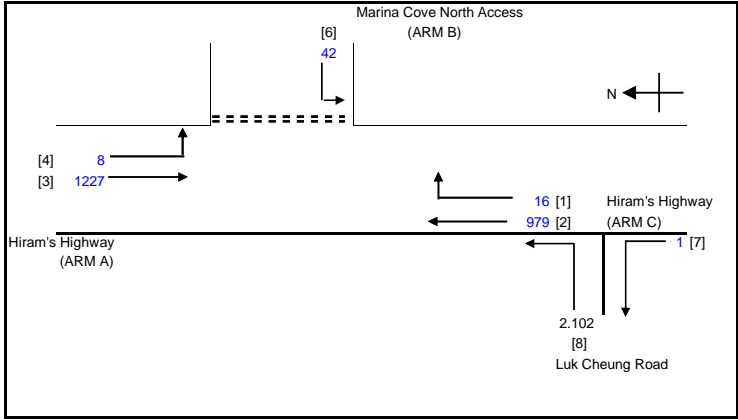
TOTAL FLOW = 2025.5 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY:

DFC_{b-a} = 0.0000
 DFC_{b-c} = 0.0250
 DFC_{c-b} = 0.0416

CRITICAL DFC = 0.04

		PRIORITY JUNCTION CALCULATION		INITIALS	DATE
		2028refAM	PROJECT NO.:	PREPARED BY:	
J1 Hiram's Highway / Marina Cove North Access			FILENAME :	CHECKED BY:	
2028 Reference Scenario Weekday AM Peak			J1-LukCheungRoad-MCN.xls	REVIEWED BY:	



NOTES : (GEOMETRIC INPUT DATA)

- W = MAJOR ROAD WIDTH
- W_{cr} = CENTRAL RESERVE WIDTH
- W_{b-a} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
- W_{b-c} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
- W_{c-b} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
- V_{l b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- V_{r b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- V_{r b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- V_{r c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- D = STREAM-SPECIFIC B-A
- E = STREAM-SPECIFIC B-C
- F = STREAM-SPECIFIC C-B
- Y = (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)
W = 22.00 (metres)
W_{cr} = 7 (metres)
q_{a-b} = 8 (pcu/hr)
q_{a-c} = 1227 (pcu/hr)

MAJOR ROAD (ARM C)
W_{c-b} = 5.00 (metres)
V_{r c-b} = 100 (metres)
q_{c-a} = 979.1 (pcu/hr)
q_{c-b} = 15.77 (pcu/hr)

MINOR ROAD (ARM B)
W_{b-a} = (metres)
W_{b-c} = 4.40 (metres)
V_{l b-a} = (metres)
V_{r b-a} = (metres)
V_{r b-c} = 30 (metres)
q_{b-a} = (pcu/hr)
q_{b-c} = 42 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
E = 0.9837895
F = 1.1066158
Y = 0.241

THE CAPACITY OF MOVEMENT :

Q_{b-a} = 299
Q_{b-c} = 627 Q_{b-c} (O) = 627
Q_{c-b} = 705
TOTAL FLOW = 2272.002092 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY:

DFC_{b-a} = 0.0000
DFC_{b-c} = 0.0671
DFC_{c-b} = 0.0224

CRITICAL DFC = 0.07

PRIORITY JUNCTION CALCULATION

INITIALS DATE

2028refPM

PROJECT NO.: PREPARED BY:

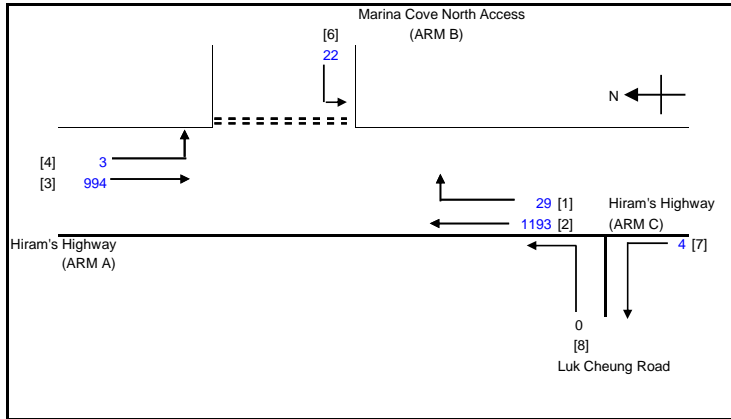
FILENAME : CHECKED BY:

J1 Hiram's Highway / Marina Cove North Access

2028 Reference Scenario Weekday PM Peak

J1-LukCheungRoad-MCN.xls

REVIEWED BY:



NOTES : (GEOMETRIC INPUT DATA)

- W = MAJOR ROAD WIDTH
- W cr = CENTRAL RESERVE WIDTH
- W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
- W b-c = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
- W c-b = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
- Vi b-a = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- Vr b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- Vr c-b = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- D = STREAM-SPECIFIC B-A
- E = STREAM-SPECIFIC B-C
- F = STREAM-SPECIFIC C-B
- Y = (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 22.00 (metres)
 W cr = 7 (metres)
 q a-b = 3 (pcu/hr)
 q a-c = 994 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 5.00 (metres)
 Vr c-b = 100 (metres)
 q c-a = 1193 (pcu/hr)
 q c-b = 29.43 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = (metres)
 W b-c = 4.40 (metres)
 Vi b-a = (metres)
 Vr b-a = (metres)
 Vr b-c = 30 (metres)
 q b-a = (pcu/hr)
 q b-c = 22 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
 E = 0.9837895
 F = 1.1066158
 Y = 0.241

THE CAPACITY OF MOVEMENT :

Q b-a = 303
 Q b-c = 647 Q b-c (O) = 647
 Q c-b = 728

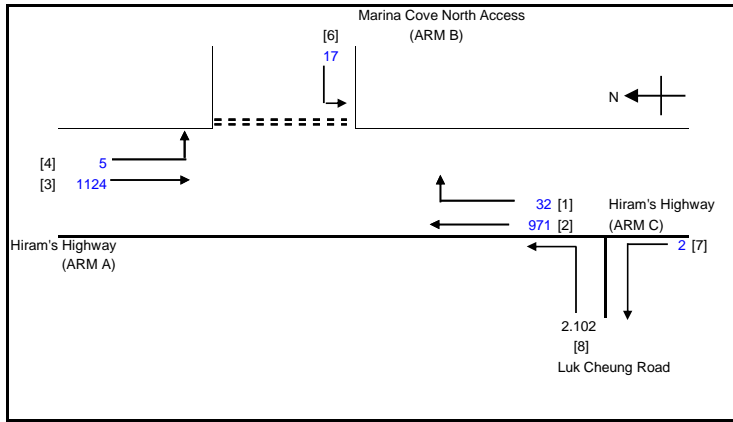
TOTAL FLOW = 2241.910741 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY:

DFC b-a = 0.0000
 DFC b-c = 0.0341
 DFC c-b = 0.0404

CRITICAL DFC = 0.04

PRIORITY JUNCTION CALCULATION			INITIALS	DATE
		2028refSUN	PROJECT NO.:	PREPARED BY:
J1 Hiram's Highway / Marina Cove North Access			FILENAME :	CHECKED BY:
2028 Reference Scenario Weekend PM Peak			J1-LukCheungRoad-MCN.xls	REVIEWED BY:



NOTES : (GEOMETRIC INPUT DATA)

- W = MAJOR ROAD WIDTH
- W_{cr} = CENTRAL RESERVE WIDTH
- W_{b-a} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
- W_{b-c} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
- W_{c-b} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
- V_l b-a = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- V_r b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- V_r b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- V_r c-b = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- D = STREAM-SPECIFIC B-A
- E = STREAM-SPECIFIC B-C
- F = STREAM-SPECIFIC C-B
- Y = (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)
 W = 22.00 (metres)
 W_{cr} = 7 (metres)
 q_{a-b} = 5 (pcu/hr)
 q_{a-c} = 1124 (pcu/hr)

MAJOR ROAD (ARM C)
 W_{c-b} = 5.00 (metres)
 V_r c-b = 100 (metres)
 q_{c-a} = 971.4 (pcu/hr)
 q_{c-b} = 31.53 (pcu/hr)

MINOR ROAD (ARM B)
 W_{b-a} = (metres)
 W_{b-c} = 4.40 (metres)
 V_l b-a = (metres)
 V_r b-a = (metres)
 V_r b-c = 30 (metres)
 q_{b-a} = (pcu/hr)
 q_{b-c} = 17 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
 E = 0.9837895
 F = 1.1066158
 Y = 0.241

THE CAPACITY OF MOVEMENT :

Q_{b-a} = 303
 Q_{b-c} = 636 Q_{b-c} (O) = 636
 Q_{c-b} = 715

 TOTAL FLOW = 2149.421856 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY:

DFC_{b-a} = 0.0000
 DFC_{b-c} = 0.0264
 DFC_{c-b} = 0.0441

CRITICAL DFC = 0.04

PRIORITY JUNCTION CALCULATION

INITIALS DATE

2028desAM

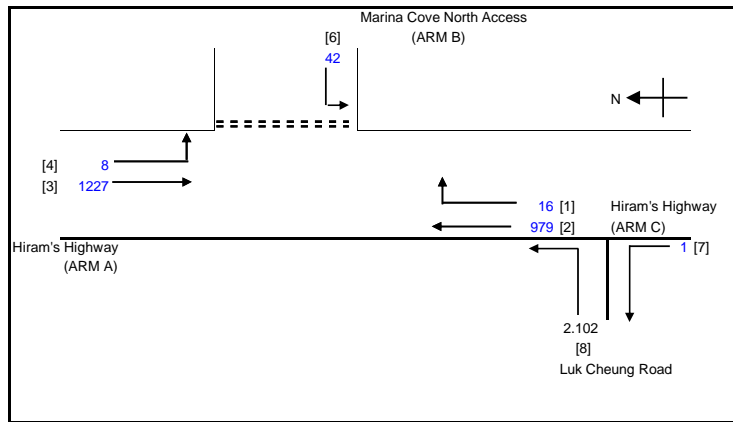
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J1-LukCheungRoad-MCN.xls REVIEWED BY:

J1 Hiram's Highway / Marina Cove North Access

2028 Design Scenario Weekday AM Peak



NOTES : (GEOMETRIC INPUT DATA)

- W = MAJOR ROAD WIDTH
- W_{cr} = CENTRAL RESERVE WIDTH
- W_{b-a} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
- W_{b-c} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
- W_{c-b} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
- Vi_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- Vr_{b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- Vr_{b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- Vr_{c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- D = STREAM-SPECIFIC B-A
- E = STREAM-SPECIFIC B-C
- F = STREAM-SPECIFIC C-B
- Y = (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 22.00 (metres)
 W_{cr} = 7 (metres)
 q_{a-b} = 8 (pcu/hr)
 q_{a-c} = 1227 (pcu/hr)

MAJOR ROAD (ARM C)

W_{c-b} = 5.00 (metres)
 Vr_{c-b} = 100 (metres)
 q_{c-a} = 979.1 (pcu/hr)
 q_{c-b} = 15.77 (pcu/hr)

MINOR ROAD (ARM B)

W_{b-a} = (metres)
 W_{b-c} = 4.40 (metres)
 Vi_{b-a} = (metres)
 Vr_{b-a} = (metres)
 Vr_{b-c} = 30 (metres)
 q_{b-a} = (pcu/hr)
 q_{b-c} = 42 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
 E = 0.9837895
 F = 1.1066158
 Y = 0.241

THE CAPACITY OF MOVEMENT :

Q_{b-a} = 299
 Q_{b-c} = 627 Q_{b-c} (O) = 627
 Q_{c-b} = 705

TOTAL FLOW = 2272.002092 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY:

DFC_{b-a} = 0.0000
 DFC_{b-c} = 0.0671
 DFC_{c-b} = 0.0224

CRITICAL DFC = 0.07

PRIORITY JUNCTION CALCULATION

INITIALS DATE

2028desPM

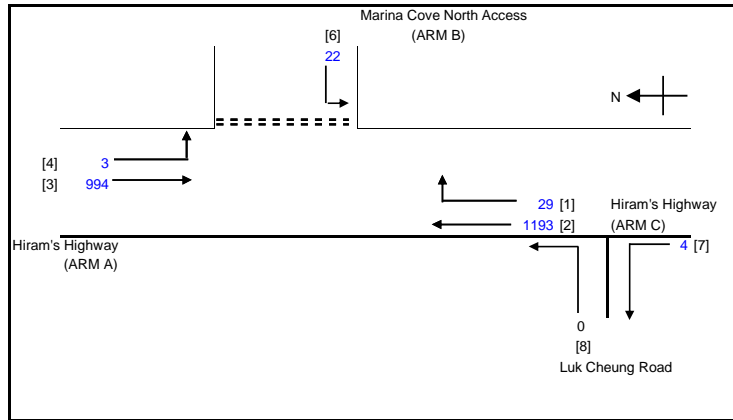
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J1-LukCheungRoad-MCN.xls REVIEWED BY:

J1 Hiram's Highway / Marina Cove North Access

2028 Design Scenario Weekday PM Peak



NOTES : (GEOMETRIC INPUT DATA)

- W = MAJOR ROAD WIDTH
- W_{cr} = CENTRAL RESERVE WIDTH
- W_{b-a} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
- W_{b-c} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
- W_{c-b} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
- Vi_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- Vr_{b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- Vr_{b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- Vr_{c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- D = STREAM-SPECIFIC B-A
- E = STREAM-SPECIFIC B-C
- F = STREAM-SPECIFIC C-B
- Y = (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)
 W = 22.00 (metres)
 W_{cr} = 7 (metres)
 q_{a-b} = 3 (pcu/hr)
 q_{a-c} = 994 (pcu/hr)

MAJOR ROAD (ARM C)
 W_{c-b} = 5.00 (metres)
 Vr_{c-b} = 100 (metres)
 q_{c-a} = 1193 (pcu/hr)
 q_{c-b} = 29.43 (pcu/hr)

MINOR ROAD (ARM B)
 W_{b-a} = (metres)
 W_{b-c} = 4.40 (metres)
 Vi_{b-a} = (metres)
 Vr_{b-a} = (metres)
 Vr_{b-c} = 30 (metres)
 q_{b-a} = (pcu/hr)
 q_{b-c} = 22 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
 E = 0.9837895
 F = 1.1066158
 Y = 0.241

THE CAPACITY OF MOVEMENT :

Q_{b-a} = 303
 Q_{b-c} = 647 Q_{b-c} (O) = 647
 Q_{c-b} = 728

 TOTAL FLOW = 2241.910741 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY:

DFC_{b-a} = 0.0000
 DFC_{b-c} = 0.0341
 DFC_{c-b} = 0.0404

CRITICAL DFC = 0.04

PRIORITY JUNCTION CALCULATION

INITIALS DATE

2028desSUN

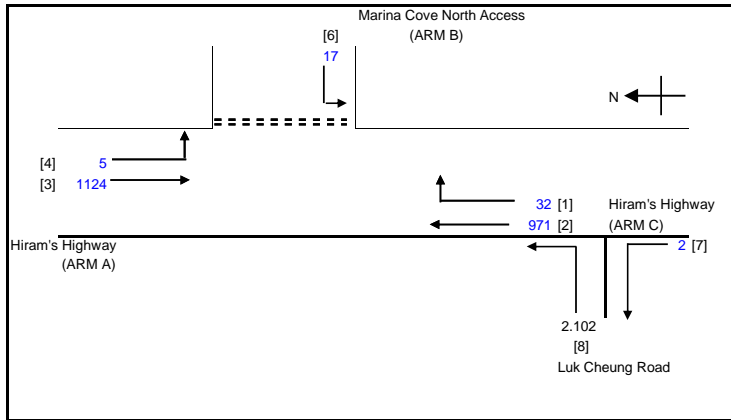
PROJECT NO.: PREPARED BY:

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J1-LukCheungRoad-MCN.xls REVIEWED BY:

J1 Hiram's Highway / Marina Cove North Access

2028 Design Scenario Weekend PM Peak



NOTES : (GEOMETRIC INPUT DATA)

- W = MAJOR ROAD WIDTH
- W_{cr} = CENTRAL RESERVE WIDTH
- W_{b-a} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
- W_{b-c} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
- W_{c-b} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
- VI_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- Vr_{b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- Vr_{b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- Vr_{c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- D = STREAM-SPECIFIC B-A
- E = STREAM-SPECIFIC B-C
- F = STREAM-SPECIFIC C-B
- Y = (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)
W = 22.00 (metres)
W_{cr} = 7 (metres)
q_{a-b} = 5 (pcu/hr)
q_{a-c} = 1124 (pcu/hr)

MAJOR ROAD (ARM C)
W_{c-b} = 5.00 (metres)
Vr_{c-b} = 100 (metres)
q_{c-a} = 971.4 (pcu/hr)
q_{c-b} = 31.53 (pcu/hr)

MINOR ROAD (ARM B)
W_{b-a} = (metres)
W_{b-c} = 4.40 (metres)
VI_{b-a} = (metres)
Vr_{b-a} = (metres)
Vr_{b-c} = 30 (metres)
q_{b-a} = (pcu/hr)
q_{b-c} = 17 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
E = 0.9837895
F = 1.1066158
Y = 0.241

THE CAPACITY OF MOVEMENT :

Q_{b-a} = 303
Q_{b-c} = 636 Q_{b-c} (O) = 636
Q_{c-b} = 715

TOTAL FLOW = 2149.421856 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY:

DFC_{b-a} = 0.0000
DFC_{b-c} = 0.0264
DFC_{c-b} = 0.0441

CRITICAL DFC = 0.04

PRIORITY JUNCTION CALCULATION

INITIALS

DATE

2025refAM

PROJECT NO.:

PREPARED BY:

FILENAME :

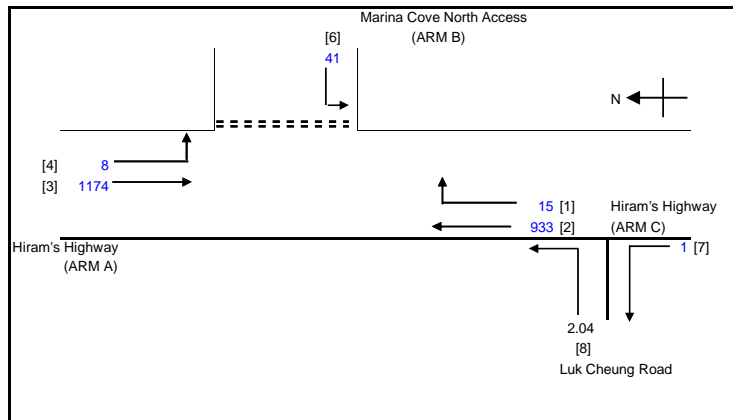
CHECKED BY:

J1-LukCheungRoad-MCN.xls

REVIEWED BY:

J1 Hiram's Highway / Marina Cove North Access

2025 Reference Scenario Weekday AM Peak



NOTES : (GEOMETRIC INPUT DATA)

- W = MAJOR ROAD WIDTH
- W_{cr} = CENTRAL RESERVE WIDTH
- W_{b-a} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
- W_{b-c} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
- W_{c-b} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
- Vi_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- Vr_{b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- Vr_{b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- Vr_{c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- D = STREAM-SPECIFIC B-A
- E = STREAM-SPECIFIC B-C
- F = STREAM-SPECIFIC C-B
- Y = (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)
 W = 22.00 (metres)
 W_{cr} = 7 (metres)
 q_{a-b} = 8 (pcu/hr)
 q_{a-c} = 1174 (pcu/hr)

MAJOR ROAD (ARM C)
 W_{c-b} = 5.00 (metres)
 Vr_{c-b} = 100 (metres)
 q_{c-a} = 933.4 (pcu/hr)
 q_{c-b} = 15.3 (pcu/hr)

MINOR ROAD (ARM B)
 W_{b-a} = (metres)
 W_{b-c} = 4.40 (metres)
 Vi_{b-a} = (metres)
 Vr_{b-a} = (metres)
 Vr_{b-c} = 30 (metres)
 q_{b-a} = (pcu/hr)
 q_{b-c} = 41 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
 E = 0.9837895
 F = 1.1066158
 Y = 0.241

THE CAPACITY OF MOVEMENT :

Q_{b-a} = 303
 Q_{b-c} = 631 Q_{b-c} (O) = 631
 Q_{c-b} = 710

TOTAL FLOW = 2171.28285 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY:

DFC_{b-a} = 0.0000
 DFC_{b-c} = 0.0647
 DFC_{c-b} = 0.0216

CRITICAL DFC = 0.06

PRIORITY JUNCTION CALCULATION

INITIALS DATE

2025refPM

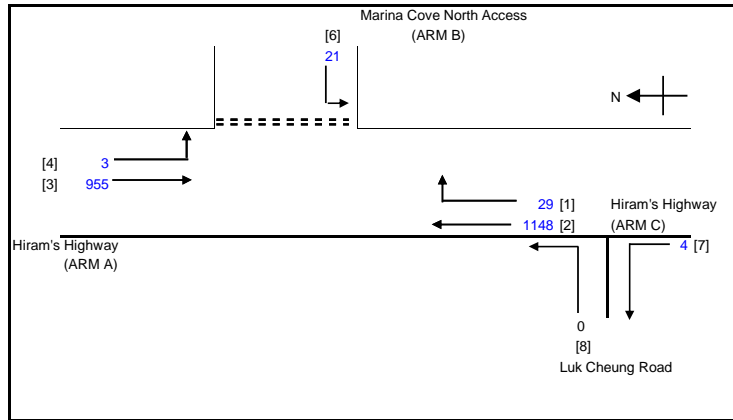
PROJECT NO.: PREPARED BY:

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J1-LukCheungRoad-MCN.xls REVIEWED BY:

J1 Hiram's Highway / Marina Cove North Access

2025 Reference Scenario Weekday PM Peak



NOTES : (GEOMETRIC INPUT DATA)

- W = MAJOR ROAD WIDTH
- W_{cr} = CENTRAL RESERVE WIDTH
- W_{b-a} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
- W_{b-c} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
- W_{c-b} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
- Vi_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- Vr_{b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- Vr_{b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- Vr_{c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- D = STREAM-SPECIFIC B-A
- E = STREAM-SPECIFIC B-C
- F = STREAM-SPECIFIC C-B
- Y = (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)
 W = 22.00 (metres)
 W_{cr} = 7 (metres)
 q_{a-b} = 3 (pcu/hr)
 q_{a-c} = 955 (pcu/hr)

MAJOR ROAD (ARM C)
 W_{c-b} = 5.00 (metres)
 Vr_{c-b} = 100 (metres)
 q_{c-a} = 1148 (pcu/hr)
 q_{c-b} = 28.56 (pcu/hr)

MINOR ROAD (ARM B)
 W_{b-a} = (metres)
 W_{b-c} = 4.40 (metres)
 Vi_{b-a} = (metres)
 Vr_{b-a} = (metres)
 Vr_{b-c} = 30 (metres)
 q_{b-a} = (pcu/hr)
 q_{b-c} = 21 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
 E = 0.9837895
 F = 1.1066158
 Y = 0.241

THE CAPACITY OF MOVEMENT :

Q_{b-a} = 306
 Q_{b-c} = 650 Q_{b-c} (O) = 650
 Q_{c-b} = 731

 TOTAL FLOW = 2155.98135 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY:

DFC_{b-a} = 0.0000
 DFC_{b-c} = 0.0330
 DFC_{c-b} = 0.0391

CRITICAL DFC = 0.04

PRIORITY JUNCTION CALCULATION

INITIALS DATE

2025desAM

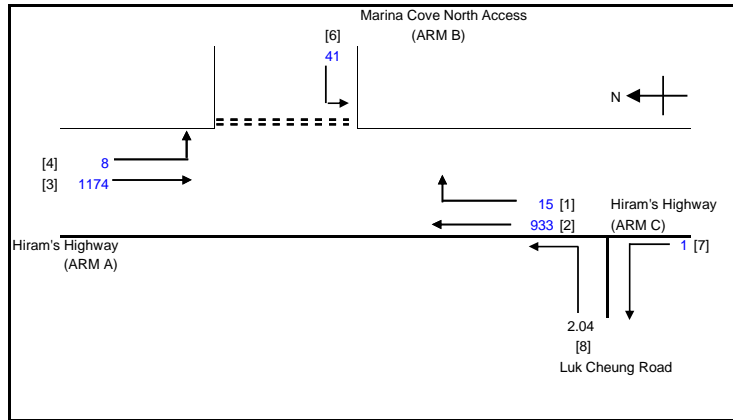
PROJECT NO.: PREPARED BY:

FILENAME : CHECKED BY:

J1-LukCheungRoad-MCN.xls REVIEWED BY:

J1 Hiram's Highway / Marina Cove North Access

2025 Design Scenario Weekday AM Peak



NOTES : (GEOMETRIC INPUT DATA)

- W = MAJOR ROAD WIDTH
- W cr = CENTRAL RESERVE WIDTH
- W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
- W b-c = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
- W c-b = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
- Vi b-a = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- Vr b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- Vr c-b = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- D = STREAM-SPECIFIC B-A
- E = STREAM-SPECIFIC B-C
- F = STREAM-SPECIFIC C-B
- Y = (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 22.00 (metres)
 W cr = 7 (metres)
 q a-b = 8 (pcu/hr)
 q a-c = 1174 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 5.00 (metres)
 Vr c-b = 100 (metres)
 q c-a = 933.4 (pcu/hr)
 q c-b = 15.3 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = (metres)
 W b-c = 4.40 (metres)
 Vi b-a = (metres)
 Vr b-a = (metres)
 Vr b-c = 30 (metres)
 q b-a = (pcu/hr)
 q b-c = 41 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
 E = 0.9837895
 F = 1.1066158
 Y = 0.241

THE CAPACITY OF MOVEMENT :

Q b-a = 303
 Q b-c = 631 Q b-c (O) = 631
 Q c-b = 710

TOTAL FLOW = 2171.28285 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY:

DFC b-a = 0.0000
 DFC b-c = 0.0647
 DFC c-b = 0.0216

CRITICAL DFC = 0.06

PRIORITY JUNCTION CALCULATION

INITIALS DATE

2025desPM

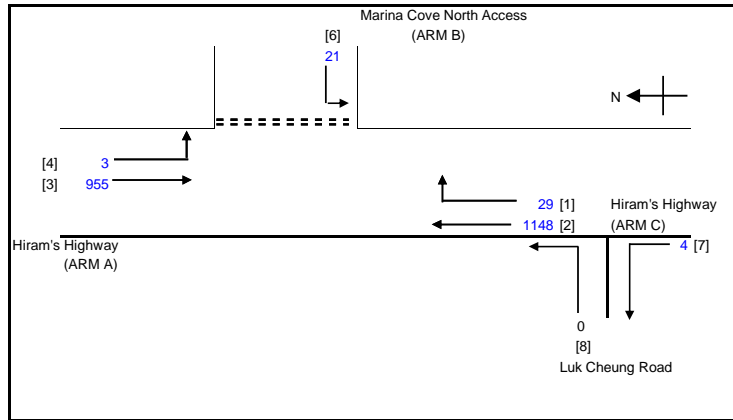
PROJECT NO.: PREPARED BY:

FILENAME : CHECKED BY:

J1-LukCheungRoad-MCN.xls REVIEWED BY:

J1 Hiram's Highway / Marina Cove North Access

2025 Design Scenario Weekday PM Peak



NOTES : (GEOMETRIC INPUT DATA)

- W = MAJOR ROAD WIDTH
- W_{cr} = CENTRAL RESERVE WIDTH
- W_{b-a} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
- W_{b-c} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
- W_{c-b} = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
- Vi_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- Vr_{b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- Vr_{b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- Vr_{c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- D = STREAM-SPECIFIC B-A
- E = STREAM-SPECIFIC B-C
- F = STREAM-SPECIFIC C-B
- Y = (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 22.00 (metres)
 W_{cr} = 7 (metres)
 q_{a-b} = 3 (pcu/hr)
 q_{a-c} = 955 (pcu/hr)

MAJOR ROAD (ARM C)

W_{c-b} = 5.00 (metres)
 Vr_{c-b} = 100 (metres)
 q_{c-a} = 1148 (pcu/hr)
 q_{c-b} = 28.56 (pcu/hr)

MINOR ROAD (ARM B)

W_{b-a} = (metres)
 W_{b-c} = 4.40 (metres)
 Vi_{b-a} = (metres)
 Vr_{b-a} = (metres)
 Vr_{b-c} = 30 (metres)
 q_{b-a} = (pcu/hr)
 q_{b-c} = 21 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
 E = 0.9837895
 F = 1.1066158
 Y = 0.241

THE CAPACITY OF MOVEMENT :

Q_{b-a} = 306
 Q_{b-c} = 650 Q_{b-c} (O) = 650
 Q_{c-b} = 731

TOTAL FLOW = 2155.98135 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY:

DFC_{b-a} = 0.0000
 DFC_{b-c} = 0.0330
 DFC_{c-b} = 0.0391

CRITICAL DFC = 0.04

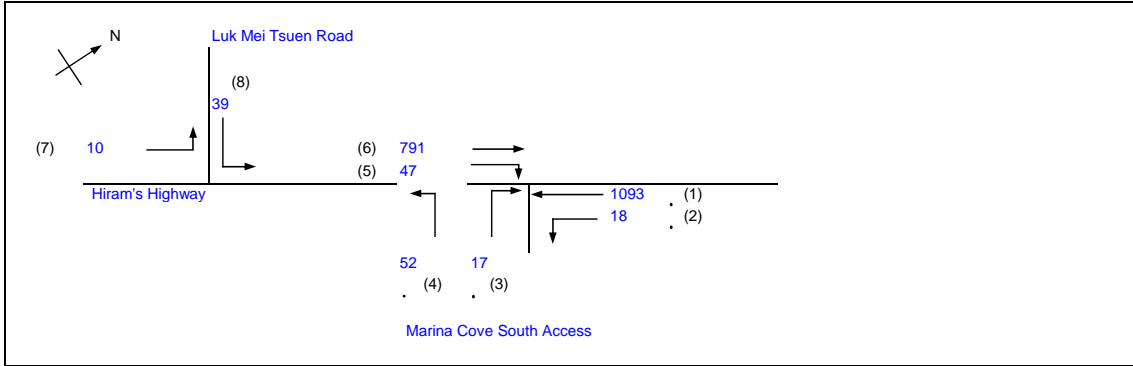
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

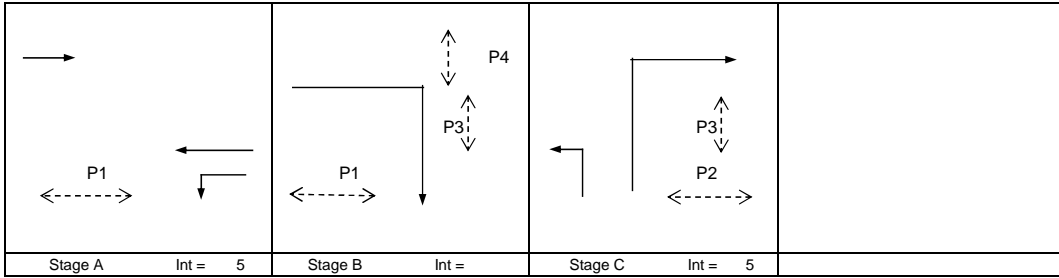
J2 Hiram's Highway / Marina Cove South Access
2023 Weekday AM Peak

2023AM

PROJECT NO.: Prepared By:
FILENAME: Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	120 sec
Sum(y)	Y =	0.298
Loss time	L =	18 sec
Total Flow	=	2016 pcu
Co = (1.5*L+5)/(1-Y)	=	45.6 sec
Cm = L/(1-Y)	=	25.7 sec
Yult	=	0.765
R.C.ult = (Yult-Y)/Y*100%	=	156.4 %
Cp = 0.9*L/(0.9-Y)	=	26.9 sec
Ymax = 1-L/C	=	0.850
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	156 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG
P1	A,B	6	5	5		
P2	C	8	5	5		
P3	B,C	8	5	5		
P4	B	9	5	5		

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030		791	791	0.00	4030			4030	0.196	0.269	8	67	67	0.351	33	13	
←	A	3.80	1	1			N	2135		575	575	0.00	2135			2135	0.269			92	92	0.351	24	5	
↔	A	3.80	1,2	1	10		N	1995	18	517	535	0.03	1985			1985	0.269			92	92	0.351	24	5	
→	B	3.50	5	1	15					47	47	1.00	1914			1914	0.024			8	8	0.351	6	55	
↔	C	3.00	3	1	30					17	17	1.00	1957			1957	0.009			3	3	0.351	0	70	
↔	C	3.00	4	1	20		N	1915	52		52	1.00	1781			1781	0.029	0.029		10	10	0.351	6	53	
↕	B		P4																10						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

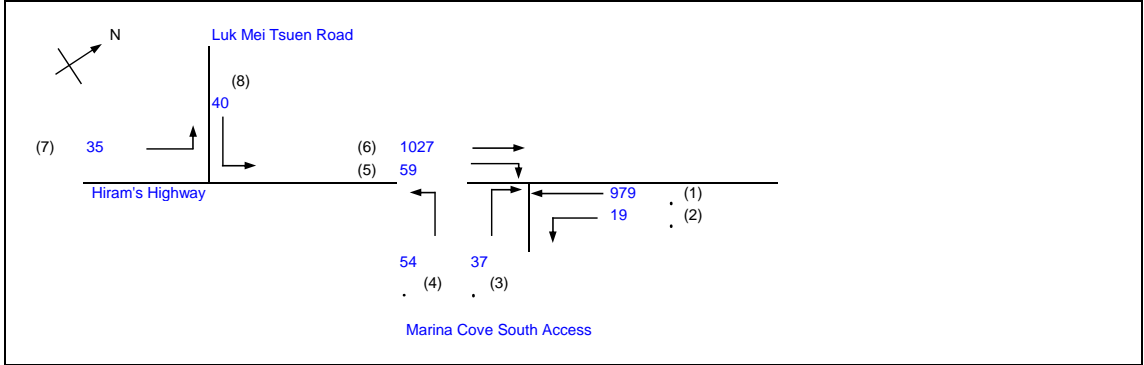
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

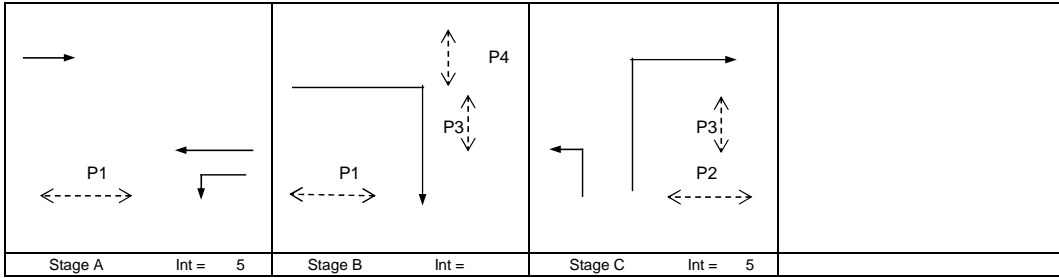
J2 Hiram's Highway / Marina Cove South Access
2023 Weekday PM Peak

2023pm

PROJECT NO.: Prepared By:
FILENAME : Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	120 sec
Sum(y)	Y =	0.285
Loss time	L =	18 sec
Total Flow	=	2174 pcu
Co = (1.5*L+5)/(1-Y)	=	44.8 sec
Cm = L/(1-Y)	=	25.2 sec
Yult	=	0.765
R.C.ult = (Yult-Y)/Y*100%	=	168.3 %
Cp = 0.9*L/(0.9-Y)	=	26.3 sec
Ymax = 1-L/C	=	0.850
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	168 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG
P1	A,B	6	5	5		
P2	C	8	5	5		
P3	B,C	8	5	5		
P4	B	9	5	5		

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030		1027		1027	0.00	4030			0.255	0.255	8	91	91	0.335	24	4	
←	A	3.80	1	1			N	2135		517		517	0.00	2135			0.242			87	87	0.335	24	6	
↔	A	3.80	1,2	1	10		N	1995	19	461		480	0.04	1983			0.242			87	87	0.335	24	6	
→	B	3.50	5	1	15					59		59	1.00	1914			0.031			11	11	0.335	6	51	
↔	C	3.00	3	1	30					37		37	1.00	1957			0.019			7	7	0.335	6	56	
↔	C	3.00	4	1	20		N	1915	54			54	1.00	1781			0.030	0.030		11	11	0.335	6	51	
↕	B		P4																10						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

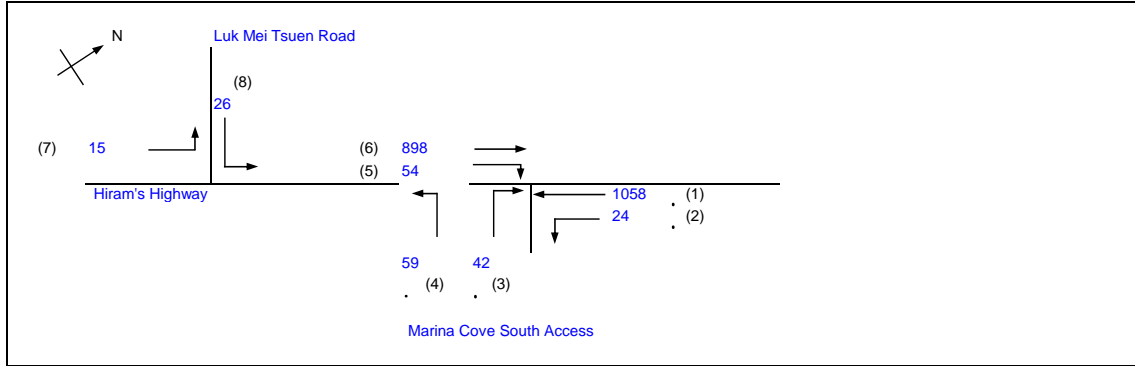
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

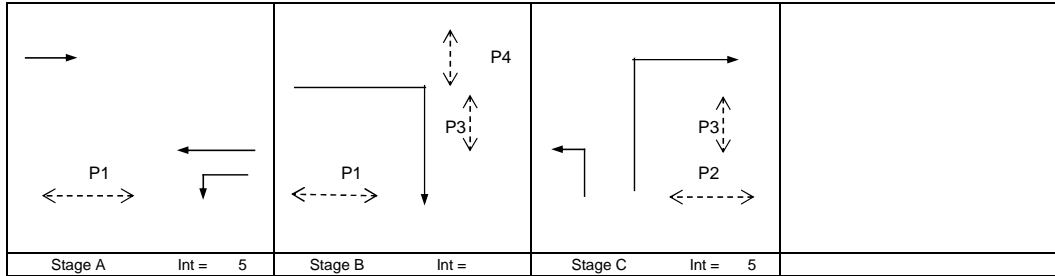
J2 Hiram's Highway / Marina Cove South Access
2023 Weekend PM Peak

2023SUN

PROJECT NO.: Prepared By:
FILENAME: Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	120 sec
Sum(y)	Y =	0.296
Loss time	L =	18 sec
Total Flow	=	2134 pcu
Co = (1.5*L+5)/(1-Y)	=	45.4 sec
Cm = L/(1-Y)	=	25.6 sec
Yult	=	0.765
R.C.ult = (Yult-Y)/Y*100%	=	158.7 %
Cp = 0.9*L/(0.9-Y)	=	26.8 sec
Ymax = 1-L/C	=	0.850
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	159 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG
P1	A,B	6	5	5		
P2	C	8	5	5		
P3	B,C	8	5	5		
P4	B	9	5	5		

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030		898	898	0.00	4030			4030	0.223	0.263	8	77	77	0.348	30	9	
←	A	3.80	1	1			N	2135		561	561	0.00	2135			2135	0.263			91	91	0.348	24	5	
↔	A	3.80	1,2	1	10		N	1995	24	497	521	0.05	1981			1981	0.263			91	91	0.348	24	5	
→	B	3.50	5	1	15			2105		54	54	1.00	1914			1914	0.028		10	10	0.348	6	52		
↔	C	3.00	3	1	30			2055		42	42	1.00	1957			1957	0.021		7	7	0.348	6	56		
↔	C	3.00	4	1	20		N	1915	59	42	59	1.00	1781			1781	0.033	0.033	10	11	11	0.348	6	51	
↕	B		P4																						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

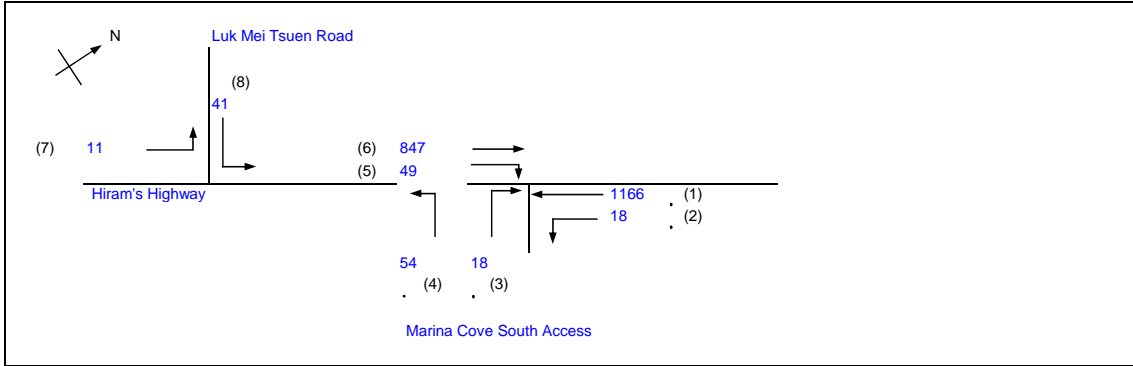
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

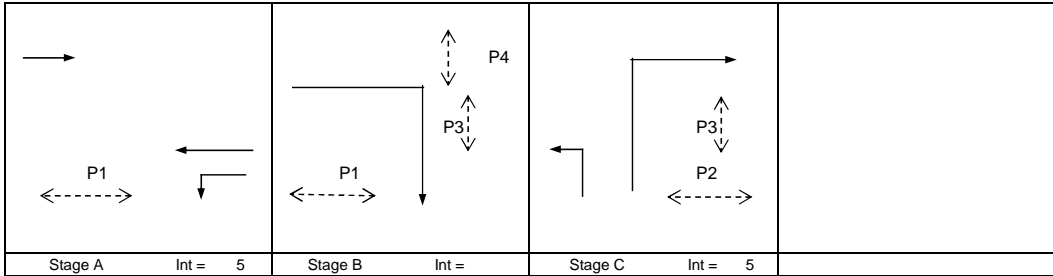
J2 Hiram's Highway / Marina Cove South Access
2028 Reference Scenario Weekday AM Peak

2028refAM

PROJECT NO.: Prepared By:
FILENAME : Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	120 sec
Sum(y)	Y =	0.318
Loss time	L =	18 sec
Total Flow	=	2152 pcu
Co = (1.5*L+5)/(1-Y)	=	46.9 sec
Cm = L/(1-Y)	=	26.4 sec
Yult	=	0.765
R.C.ult = (Yult-Y)/Y*100%	=	140.8 %
Cp = 0.9*L/(0.9-Y)	=	27.8 sec
Ymax = 1-L/C	=	0.850
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	141 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG
P1	A,B	6	5	5		
P2	C	8	5	5		
P3	B,C	8	5	5		
P4	B	9	5	5		

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030		847	847	0.00	4030			4030	0.210	0.287	8	67	67	0.374	36	14	
←	A	3.80	1	1			N	2135		614	614	0.00	2135			2135	0.287			92	92	0.374	24	5	
↔	A	3.80	1,2	1	10		N	1995	18	552	571	0.03	1985			1985	0.287			92	92	0.374	24	5	
↘	B	3.50	5	1	15					49	49	1.00	1914			1914	0.026			8	8	0.374	6	56	
↙	C	3.00	3	1	30					18	18	1.00	1957			1957	0.009			3	3	0.374	0	72	
↕	C	3.00	4	1	20		N	1915	54		54	1.00	1781			1781	0.030	0.030		10	10	0.374	6	54	
↕	B		P4																10						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

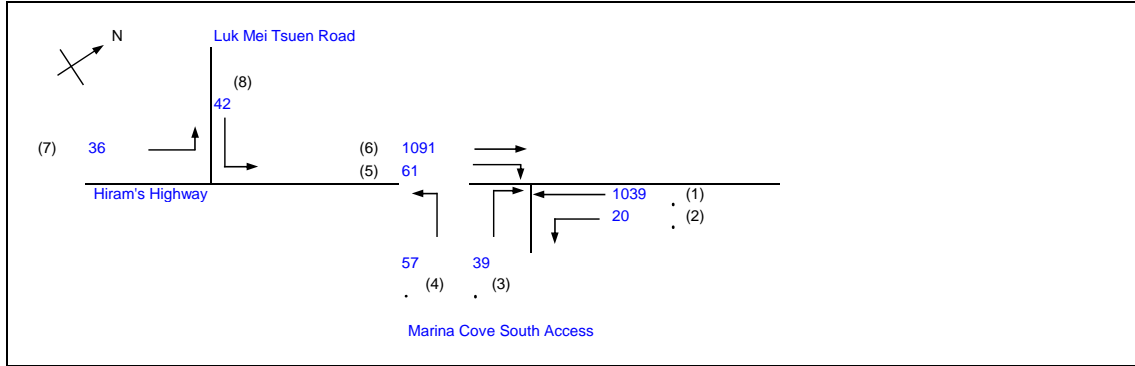
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

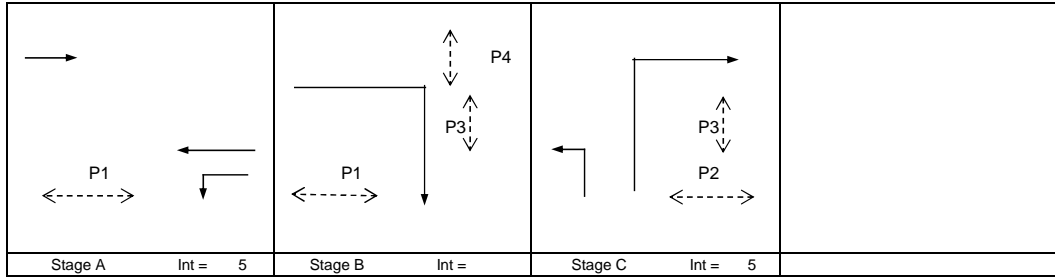
J2 Hiram's Highway / Marina Cove South Access
2028 Reference Scenario Weekday PM Peak

2028refPM

PROJECT NO.: Prepared By:
FILENAME : Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	120 sec
Sum(y)	Y =	0.303
Loss time	L =	18 sec
Total Flow	=	2307 pcu
Co = (1.5*L+5)/(1-Y)	=	45.9 sec
Cm = L/(1-Y)	=	25.8 sec
Yult	=	0.765
R.C.ult = (Yult-Y)/Y*100%	=	152.9 %
Cp = 0.9*L/(0.9-Y)	=	27.1 sec
Ymax = 1-L/C	=	0.850
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	153 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG
P1	A,B	6	5	5		
P2	C	8	5	5		
P3	B,C	8	5	5		
P4	B	9	5	5		

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030		1091	1091	0.00	4030			4030	0.271	0.271	8	91	91	0.356	24	5	
←	A	3.80	1	1			N	2135		549	549	0.00	2135			2135	0.257				87	87	0.356	30	6
↔	A	3.80	1,2	1	10		N	1995	20	490	510	0.04	1983			1983	0.257				87	87	0.356	24	6
→	B	3.50	5	1	15			2105		61	61	1.00	1914			1914	0.032				11	11	0.356	6	51
↔	C	3.00	3	1	30			2055		39	39	1.00	1957			1957	0.020				7	7	0.356	6	57
↔	C	3.00	4	1	20		N	1915	57		57	1.00	1781			1781	0.032	0.032			11	11	0.356	6	52
↕	B		P4																10						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

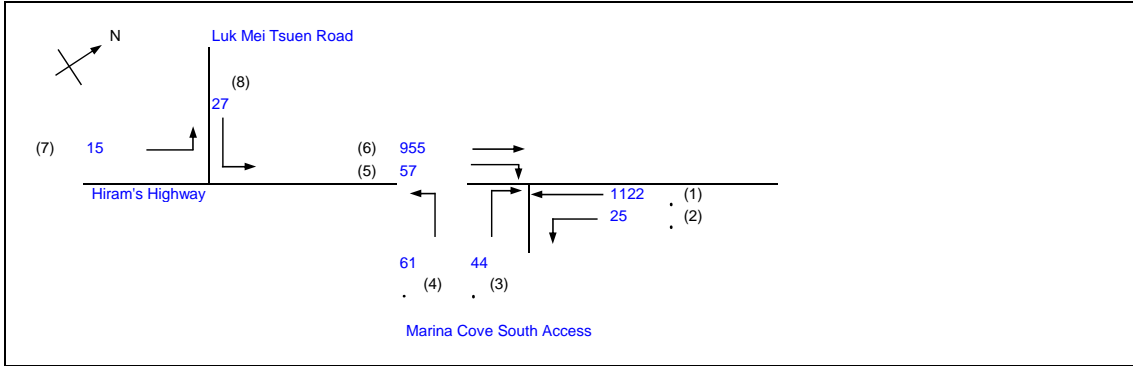
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

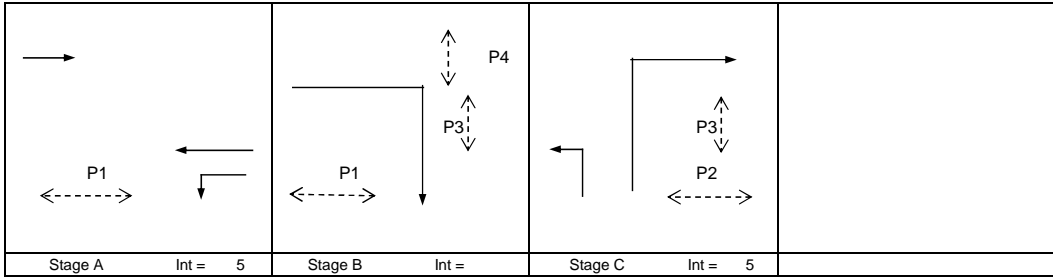
J2 Hiram's Highway / Marina Cove South Access
2028 Reference Scenario Weekend PM Peak

2028refSUN

PROJECT NO.: Prepared By:
FILENAME : Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	120 sec
Sum(y)	Y =	0.313
Loss time	L =	18 sec
Total Flow	=	2265 pcu
Co = (1.5*L+5)/(1-Y)	=	46.6 sec
Cm = L/(1-Y)	=	26.2 sec
Yult	=	0.765
R.C.ult = (Yult-Y)/Y*100%	=	144.2 %
Cp = 0.9*L/(0.9-Y)	=	27.6 sec
Ymax = 1-L/C	=	0.850
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	144 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG
P1	A,B	6	5	5		
P2	C	8	5	5		
P3	B,C	8	5	5		
P4	B	9	5	5		

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030		955	955	0.00	4030			4030	0.237	0.279	8	77	77	0.369	33	9	
←	A	3.80	1	1			N	2135		595	595	0.00	2135			2135	0.279			91	91	0.369	24	5	
↔	A	3.80	1,2	1	10		N	1995	25	527	552	0.05	1981			1981	0.279			91	91	0.369	24	5	
→	B	3.50	5	1	15			2105		57	57	1.00	1914			1914	0.030			10	10	0.369	6	53	
↔	C	3.00	3	1	30			2055		44	44	1.00	1957			1957	0.023			7	7	0.369	6	57	
↔	C	3.00	4	1	20		N	1915	61		61	1.00	1781			1781	0.035	0.035		11	11	0.369	6	52	
↕	B		P4																10						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

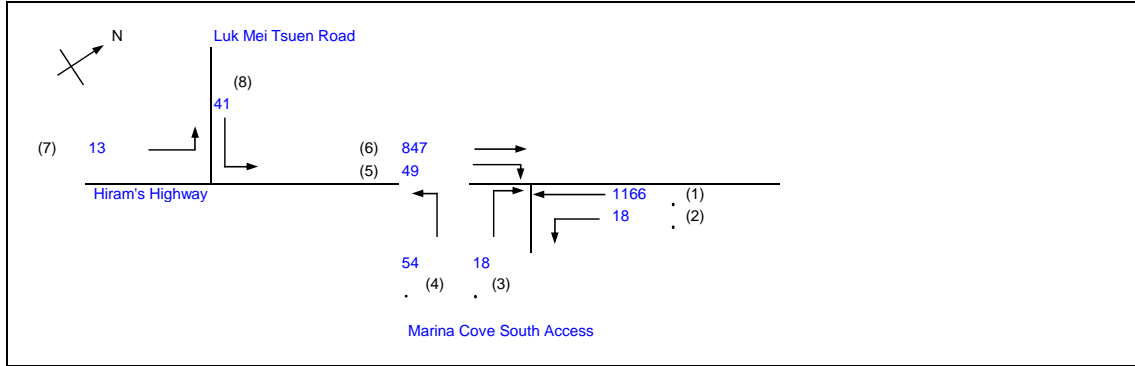
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

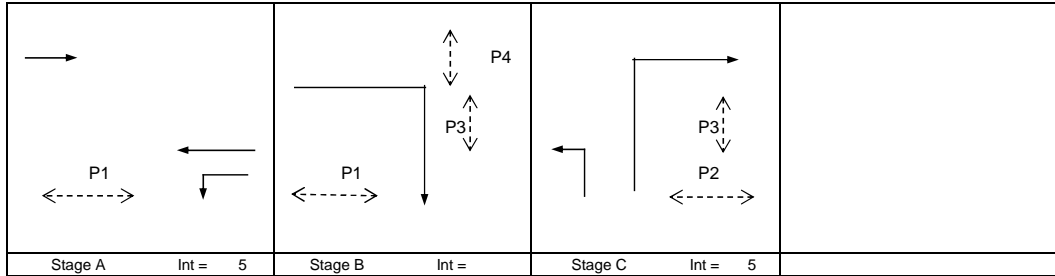
J2 Hiram's Highway / Marina Cove South Access
2028 Design Scenario Weekday AM Peak

2028desAM

PROJECT NO.: Prepared By:
FILENAME : Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	120 sec
Sum(y)	Y =	0.318
Loss time	L =	18 sec
Total Flow	=	2152 pcu
Co = (1.5*L+5)/(1-Y)	=	46.9 sec
Cm = L/(1-Y)	=	26.4 sec
Yult	=	0.765
R.C.ult = (Yult-Y)/Y*100%	=	140.8 %
Cp = 0.9*L/(0.9-Y)	=	27.8 sec
Ymax = 1-L/C	=	0.850
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	141 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG
P1	A,B	6	5	5		
P2	C	8	5	5		
P3	B,C	8	5	5		
P4	B	9	5	5		

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030		847	847	0.00	4030			4030	0.210	0.287	8	67	67	0.374	36	14	
←	A	3.80	1	1			N	2135		614	614	0.00	2135			2135	0.287				92	92	0.374	24	5
↔	A	3.80	1,2	1	10		N	1995	18	552	571	0.03	1985			1985	0.287				92	92	0.374	24	5
→	B	3.50	5	1	15			2105		49	49	1.00	1914			1914	0.026				8	8	0.374	6	56
↔	C	3.00	3	1	30			2055		18	18	1.00	1957			1957	0.009				3	3	0.374	0	72
↔	C	3.00	4	1	20		N	1915	54	18	54	1.00	1781			1781	0.030	0.030			10	10	0.374	6	54
↕	B		P4																10						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

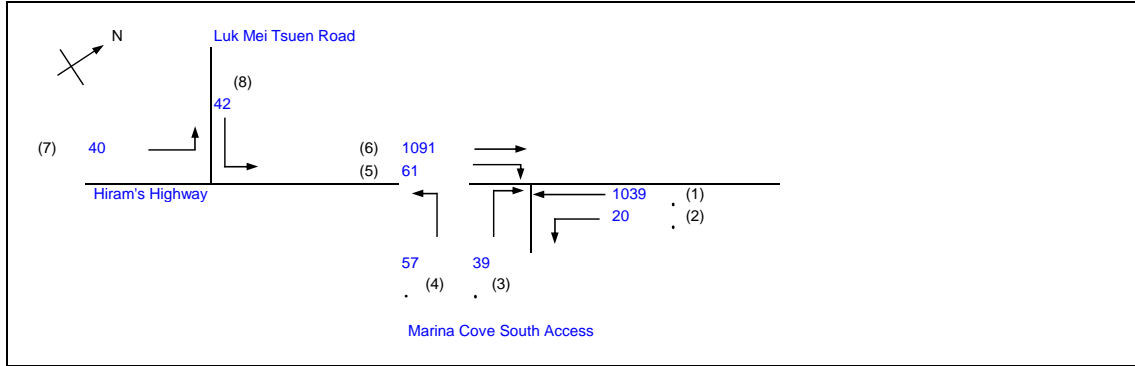
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

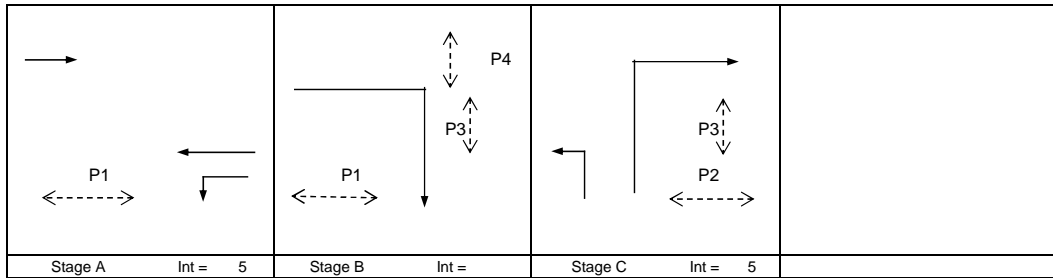
J2 Hiram's Highway / Marina Cove South Access
2028 Design Scenario Weekday PM Peak

2028desPM

PROJECT NO.: Prepared By:
FILENAME: Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	120 sec
Sum(y)	Y =	0.303
Loss time	L =	18 sec
Total Flow	=	2307 pcu
Co = (1.5*L+5)/(1-Y)	=	45.9 sec
Cm = L/(1-Y)	=	25.8 sec
Yult	=	0.765
R.C.ult = (Yult-Y)/Y*100%	=	152.9 %
Cp = 0.9*L/(0.9-Y)	=	27.1 sec
Ymax = 1-L/C	=	0.850
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	153 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG
P1	A,B	6	5	5		
P2	C	8	5	5		
P3	B,C	8	5	5		
P4	B	9	5	5		

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030		1091	1091	0.00	4030			4030	0.271	0.271	8	91	91	0.356	24	5	
←	A	3.80	1	1			N	2135		549	549	0.00	2135			2135	0.257				87	87	0.356	30	6
↔	A	3.80	1,2	1	10		N	1995	20	490	510	0.04	1983			1983	0.257				87	87	0.356	24	6
→	B	3.50	5	1	15			2105		61	61	1.00	1914			1914	0.032			10	11	11	0.356	6	51
↔	C	3.00	3	1	30			2055		39	39	1.00	1957			1957	0.020				7	7	0.356	6	57
↔	C	3.00	4	1	20		N	1915	57	39	57	1.00	1781			1781	0.032	0.032			11	11	0.356	6	52
↕	B		P4																						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

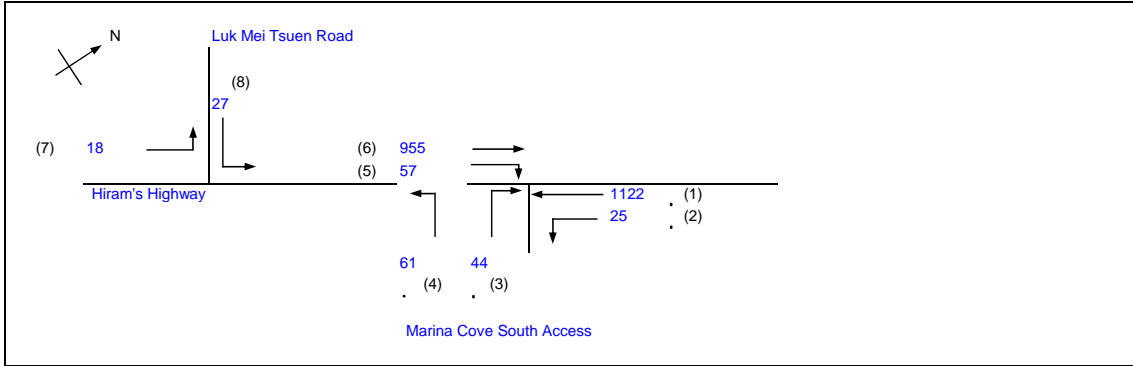
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

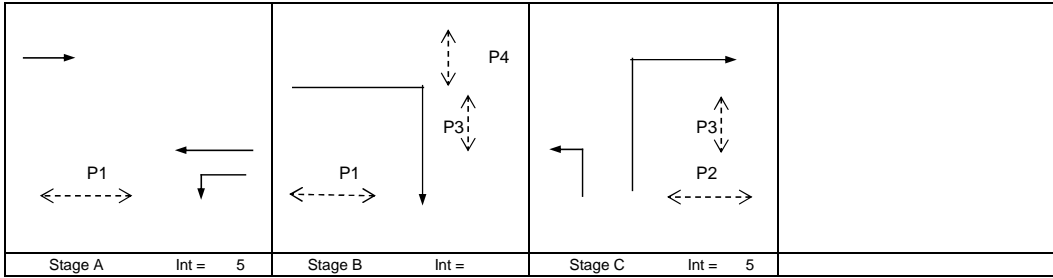
J2 Hiram's Highway / Marina Cove South Access
2028 Design Scenario Weekend PM Peak

2028desSUN

PROJECT NO.: Prepared By:
FILENAME: Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	120 sec
Sum(y)	Y =	0.313
Loss time	L =	18 sec
Total Flow	=	2265 pcu
Co = (1.5*L+5)/(1-Y)	=	46.6 sec
Cm = L/(1-Y)	=	26.2 sec
Yult	=	0.765
R.C.ult = (Yult-Y)/Y*100%	=	144.2 %
Cp = 0.9*L/(0.9-Y)	=	27.6 sec
Ymax = 1-L/C	=	0.850
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	144 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG
P1	A,B	6	5	5		
P2	C	8	5	5		
P3	B,C	8	5	5		
P4	B	9	5	5		

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030		955	955	0.00	4030			4030	0.237	0.279	8	77	77	0.369	33	9	
←	A	3.80	1	1			N	2135		595	595	0.00	2135			2135	0.279			91	91	0.369	24	5	
↔	A	3.80	1,2	1	10		N	1995	25	527	552	0.05	1981			1981	0.279			91	91	0.369	24	5	
→	B	3.50	5	1	15			2105			57	1.00	1914			1914	0.030			10	10	0.369	6	53	
↔	C	3.00	3	1	30			2055			44	1.00	1957			1957	0.023			7	7	0.369	6	57	
↔	C	3.00	4	1	20		N	1915	61		61	1.00	1781			1781	0.035	0.035		11	11	0.369	6	52	
↕	B		P4																10						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

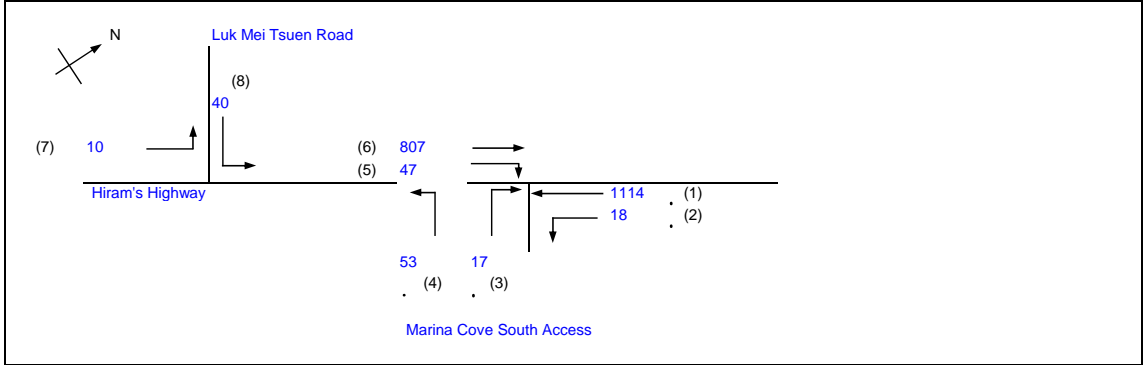
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

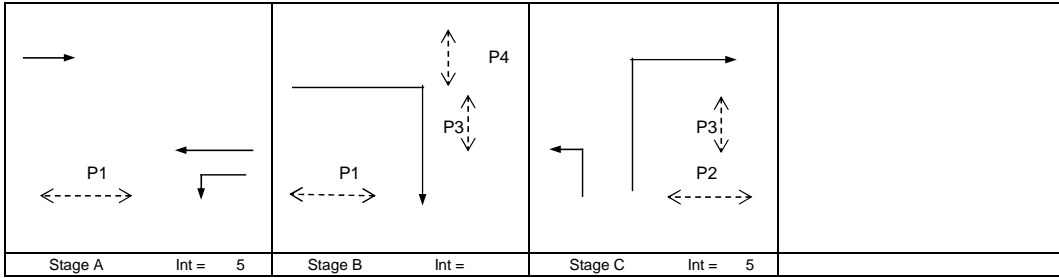
J2 Hiram's Highway / Marina Cove South Access
2025 Reference Scenario Weekday AM Peak

2025refAM

PROJECT NO.: Prepared By:
FILENAME : Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	120 sec
Sum(y)	Y =	0.304
Loss time	L =	18 sec
Total Flow	=	2057 pcu
Co = (1.5*L+5)/(1-Y)	=	46.0 sec
Cm = L/(1-Y)	=	25.9 sec
Yult	=	0.765
R.C.ult = (Yult-Y)/Y*100%	=	151.4 %
Cp = 0.9*L/(0.9-Y)	=	27.2 sec
Ymax = 1-L/C	=	0.850
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	151 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG
P1	A,B	6	5	5		
P2	C	8	5	5		
P3	B,C	8	5	5		
P4	B	9	5	5		

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030		807	807	0.00	4030			4030	0.200	0.275	8	67	67	0.358	33	14	
←	A	3.80	1	1			N	2135		587	587	0.00	2135			2135	0.275			92	92	0.358	24	5	
↔	A	3.80	1,2	1	10		N	1995	18	528	546	0.03	1985			1985	0.275			92	92	0.358	24	5	
→	B	3.50	5	1	15			2105		47	47	1.00	1914			1914	0.025			8	8	0.358	6	55	
↔	C	3.00	3	1	30			2055		17	17	1.00	1957			1957	0.009			3	3	0.358	0	70	
↔	C	3.00	4	1	20		N	1915	53	17	53	1.00	1781			1781	0.029	0.029		10	10	0.358	6	53	
↕	B		P4																10						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

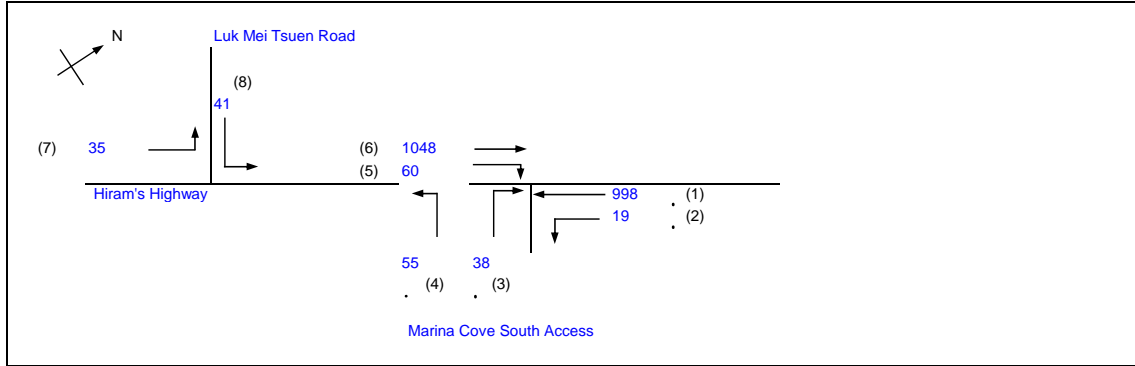
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

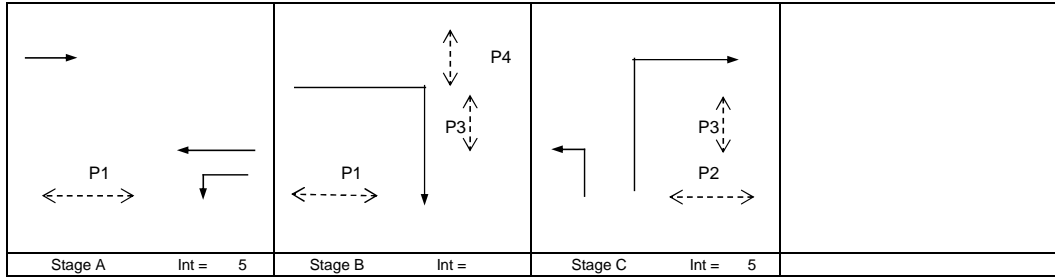
J2 Hiram's Highway / Marina Cove South Access
2025 Reference Scenario Weekday PM Peak

2025refPM

PROJECT NO.: Prepared By:
FILENAME: Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	120 sec
Sum(y)	Y =	0.291
Loss time	L =	18 sec
Total Flow		= 2218 pcu
Co = (1.5*L+5)/(1-Y)		= 45.1 sec
Cm = L/(1-Y)		= 25.4 sec
Yult		= 0.765
R.C.ult = (Yult-Y)/Y*100%		= 163.0 %
Cp = 0.9*L/(0.9-Y)		= 26.6 sec
Ymax = 1-L/C		= 0.850
R.C.(C) = (0.9*Ymax-Y)/Y*100%		= 163 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG
P1	A,B	6	5	5		
P2	C	8	5	5		
P3	B,C	8	5	5		
P4	B	9	5	5		

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030		1048	1048	0.00	4030			4030	0.260	0.260	8	91	91	0.342	24	4	
←	A	3.80	1	1			N	2135		528	528	0.00	2135			2135	0.247			87	87	0.342	24	6	
↔	A	3.80	1,2	1	10		N	1995	19	471	490	0.04	1983			1983	0.247			87	87	0.342	24	6	
↓	B	3.50	5	1	15					60	60	1.00	1914			1914	0.031			11	11	0.342	6	51	
↘	C	3.00	3	1	30					38	38	1.00	1957			1957	0.019			7	7	0.342	6	57	
↙	C	3.00	4	1	20		N	1915	55		55	1.00	1781			1781	0.031	0.031		11	11	0.342	6	51	
↕	B		P4																10						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

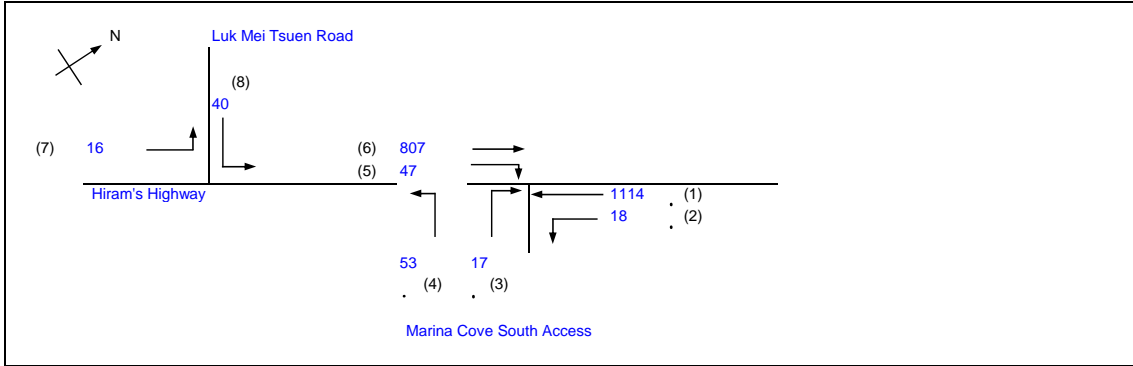
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

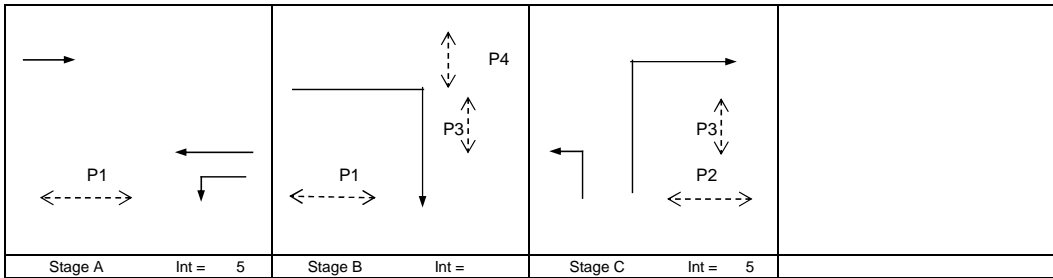
J2 Hiram's Highway / Marina Cove South Access
2025 Design Scenario Weekday AM Peak

2025desAM

PROJECT NO.: Prepared By:
FILENAME : Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	120 sec
Sum(y)	Y =	0.304
Loss time	L =	18 sec
Total Flow	=	2057 pcu
Co = (1.5*L+5)/(1-Y)	=	46.0 sec
Cm = L/(1-Y)	=	25.9 sec
Yult	=	0.765
R.C.ult = (Yult-Y)/Y*100%	=	151.4 %
Cp = 0.9*L/(0.9-Y)	=	27.2 sec
Ymax = 1-L/C	=	0.850
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	151 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG
P1	A,B	6	5	5		
P2	C	8	5	5		
P3	B,C	8	5	5		
P4	B	9	5	5		

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030		807	807	0.00	4030			4030	0.200	0.275	8	67	67	0.358	33	14	
←	A	3.80	1	1			N	2135		587	587	0.00	2135			2135	0.275			92	92	0.358	24	5	
↔	A	3.80	1,2	1	10		N	1995	18	528	546	0.03	1985			1985	0.275			92	92	0.358	24	5	
→	B	3.50	5	1	15			2105		47	47	1.00	1914			1914	0.025			8	8	0.358	6	55	
↔	C	3.00	3	1	30			2055		17	17	1.00	1957			1957	0.009			3	3	0.358	0	70	
↔	C	3.00	4	1	20		N	1915	53	17	53	1.00	1781			1781	0.029	0.029		10	10	0.358	6	53	
↕	B		P4																10						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

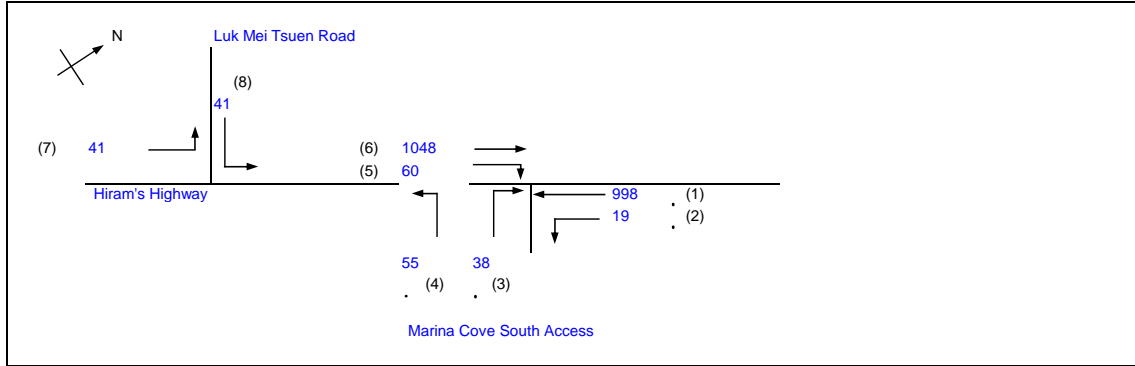
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

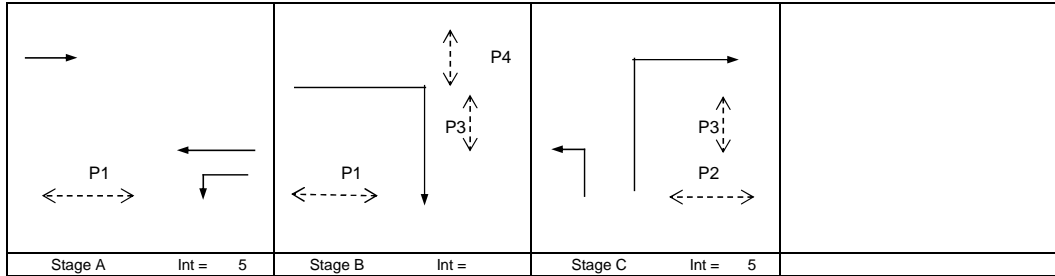
J2 Hiram's Highway / Marina Cove South Access
2025 Design Scenario Weekday PM Peak

2025desPM

PROJECT NO.: Prepared By:
FILENAME: Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	120 sec
Sum(y)	Y =	0.291
Loss time	L =	18 sec
Total Flow		= 2218 pcu
Co = (1.5*L+5)/(1-Y)		= 45.1 sec
Cm = L/(1-Y)		= 25.4 sec
Yult		= 0.765
R.C.ult = (Yult-Y)/Y*100%		= 163.0 %
Cp = 0.9*L/(0.9-Y)		= 26.6 sec
Ymax = 1-L/C		= 0.850
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	163 %

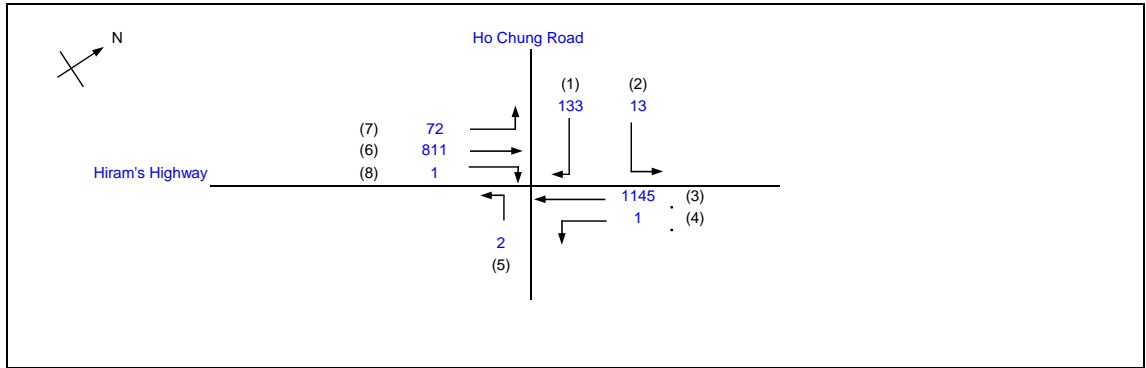


Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG
P1	A,B	6	5	5		
P2	C	8	5	5		
P3	B,C	8	5	5		
P4	B	9	5	5		

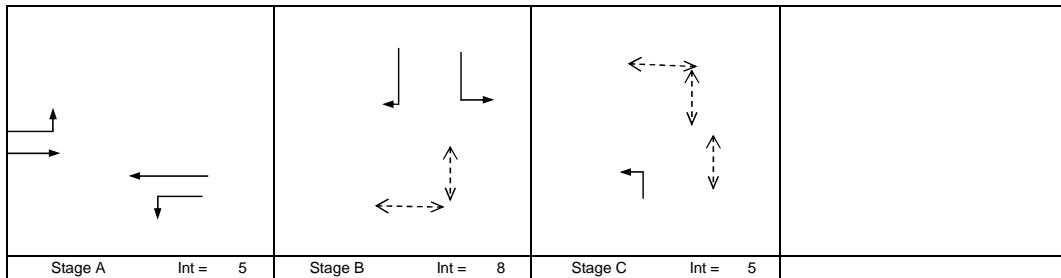
Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030		1048	1048	0.00	4030			4030	0.260	0.260	8	91	91	0.342	24	4	
←	A	3.80	1	1			N	2135		528	528	0.00	2135			2135	0.247			87	87	0.342	24	6	
↔	A	3.80	1,2	1	10		N	1995	19	471	490	0.04	1983			1983	0.247			87	87	0.342	24	6	
→	B	3.50	5	1	15			2105		60	60	1.00	1914			1914	0.031			11	11	0.342	6	51	
↔	C	3.00	3	1	30			2055		38	38	1.00	1957			1957	0.019			7	7	0.342	6	57	
↔	C	3.00	4	1	20		N	1915	55		55	1.00	1781			1781	0.031	0.031	10	11	11	0.342	6	51	
↕	B		P4																						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

		TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
		2023AM		PROJECT NO.:	Prepared By:
J3 Hiram's Highway / Ho Chung Road				FILENAME :	Checked By:
2023 Weekday AM Peak				REFERENCE NO.:	Reviewed By:



		Existing Cycle Time	
No. of stages per cycle	N =	3	
Cycle time	C =	130 sec	
Sum(y)	Y =	0.353	
Loss time	L =	25 sec	
Total Flow	=	2176 pcu	
Co = (1.5*L+5)/(1-Y)	=	65.7 sec	
Cm = L/(1-Y)	=	38.6 sec	
Yult	=	0.713	
R.C.ult = (Yult-Y)/Y*100%	=	101.9 %	
Cp = 0.9*L/(0.9-Y)	=	41.1 sec	
Ymax = 1-L/C	=	0.808	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	106 %	

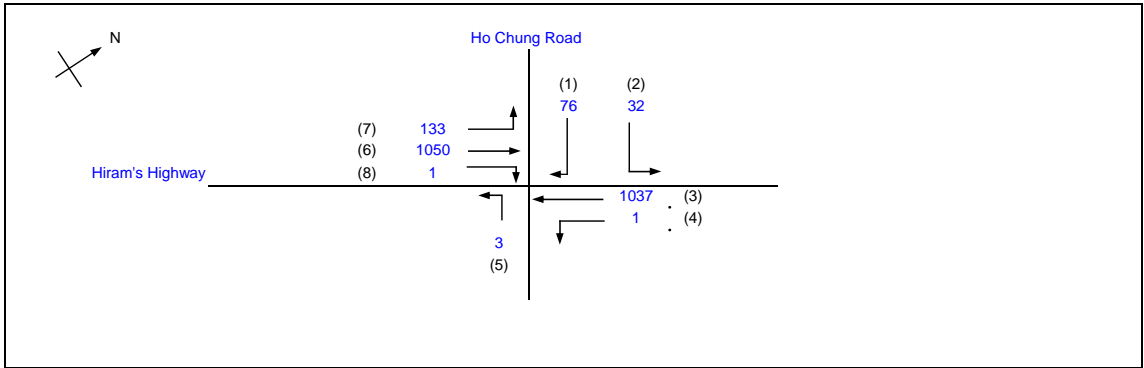


Pedestrian Phase	Stage	Width (m)	Green Time Required (s)			Green Time Provided (s)	
			SG	FG	Delay	SG	FG

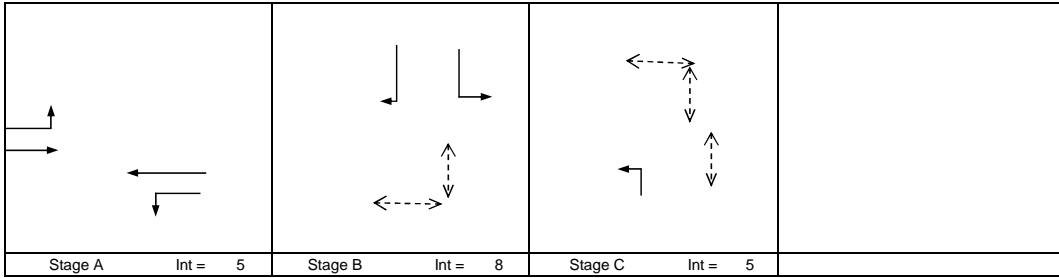
Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	72			72	1.00	1691		-500	1191	0.060	0.284	15	18	17	0.463	12	56
6	A	3.30		2				4170		811		811	0.00	4170			4170	0.194			58	57	0.445	48	24
4,3	A	3.30		1	30		N	1945	1	552		553	0.00	1945			1945	0.284			85	84	0.442	42	11
3	A	3.30		1				2085		593		593	0.00	2085			2085	0.284			85	84	0.442	42	11
2	B	3.30		1	10		N	1945	13			13	1.00	1691		-500	1191	0.011	0.067		3	2	0.631	0	192
1	B	3.30		1	25			2085		133		133	1.00	1967			1967	0.067			20	19	0.460	24	50
5	C	3.30		1	10		N	1945	2			2	1.00	1691			1691	0.001	0.001	10	0	12	0.013	0	48

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

		TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
		2023PM	PROJECT NO.:	Prepared By:	
J3 Hiram's Highway / Ho Chung Road			FILENAME :	Checked By:	
2023 Weekday PM Peak			REFERENCE NO.:	Reviewed By:	



No. of stages per cycle	N =	3
Cycle time	C =	130 sec
Sum(y)	Y =	0.298
Loss time	L =	25 sec
Total Flow	=	2332 pcu
Co = (1.5*L+5)/(1-Y)	=	60.5 sec
Cm = L/(1-Y)	=	35.6 sec
Yult	=	0.713
R.C.ult = (Yult-Y)/Y*100%	=	139.3 %
Cp = 0.9*L/(0.9-Y)	=	37.4 sec
Ymax = 1-L/C	=	0.808
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	144 %

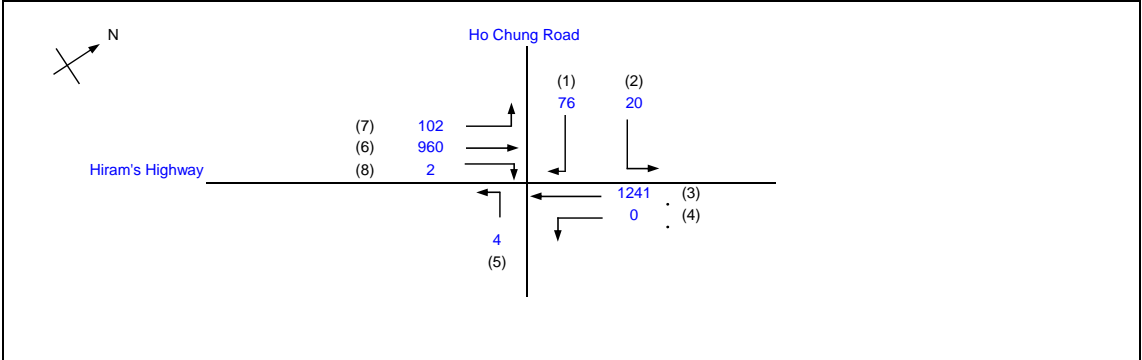


Pedestrian Phase	Stage	Width (m)	Green Time Required (s)			Green Time Provided (s)	
			SG	FG	Delay	SG	FG

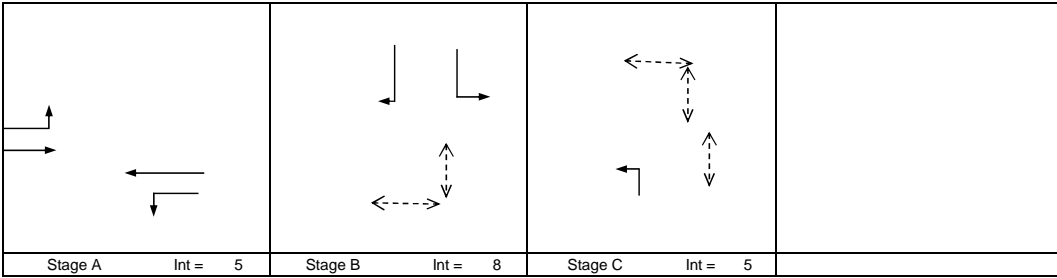
Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	133			133	1.00	1691		-500	1191	0.112	0.258	15	39	38	0.378	18	36
6	A	3.30		2				4170				1050	0.00	4170			4170	0.252			89	88	0.373	36	9
4,3	A	3.30		1	30		N	1945	1	1050		501	0.00	1945			1945	0.258			91	90	0.373	30	8
3	A	3.30		1				2085		537		537	0.00	2085			2085	0.258			91	90	0.373	30	8
2	B	3.30		1	10		N	1945	32			32	1.00	1691		-500	1191	0.027	0.039		9	8	0.412	6	67
1	B	3.30		1	25			2085		76		76	1.00	1967			1967	0.039			14	13	0.398	12	55
5	C	3.30		1	10		N	1945	3			3	1.00	1691			1691	0.001	0.001	10	1	12	0.016	0	48

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

		TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
		2023SUN	PROJECT NO.:	Prepared By:	
J3 Hiram's Highway / Ho Chung Road			FILENAME :	Checked By:	
2023 Weekend PM Peak			REFERENCE NO.:	Reviewed By:	



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	130 sec
Sum(y)	Y =	0.349
Loss time	L =	25 sec
Total Flow	=	2401 pcu
Co = (1.5*L+5)/(1-Y)	=	65.2 sec
Cm = L/(1-Y)	=	38.4 sec
Yult	=	0.713
R.C.ult = (Yult-Y)/Y*100%	=	104.4 %
Cp = 0.9*L/(0.9-Y)	=	40.8 sec
Ymax = 1-L/C	=	0.808
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	109 %

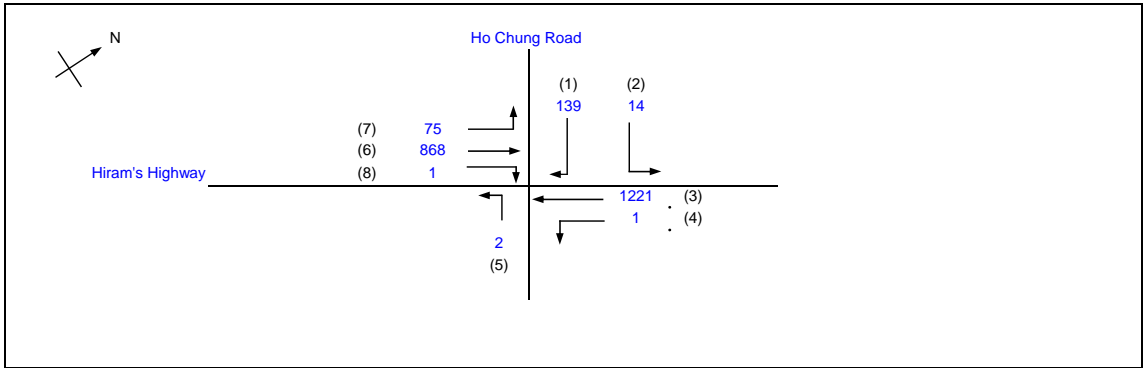


Pedestrian Phase	Stage	Width (m)	Green Time Required (s)			Green Time Provided (s)	
			SG	FG	Delay	SG	FG

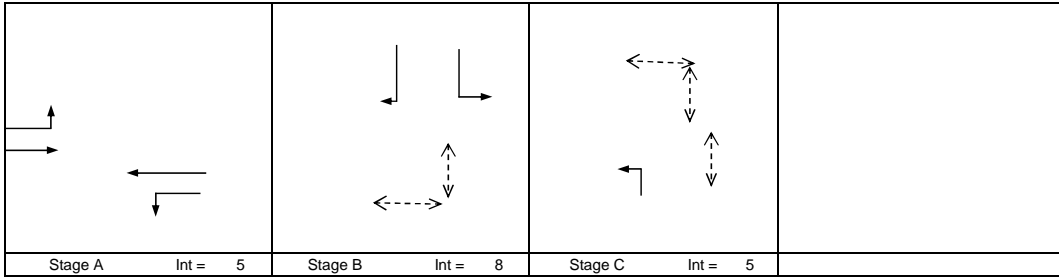
Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	102			102	1.00	1691		-500	1191	0.086	0.308	15	26	25	0.449	12	48
6	A	3.30		2				4170		960	960	0.00	4170			4170	0.230				69	68	0.438	48	18
4,3	A	3.30		1	30		N	1945	0	599	599	0.00	1945			1945	0.308				93	92	0.436	36	8
3	A	3.30		1				2085		642	642	0.00	2085			2085	0.308				93	92	0.436	36	8
2	B	3.30		1	10		N	1945	20		20	1.00	1691		-500	1191	0.016	0.038		5	4	0.541	0	109	
1	B	3.30		1	25			2085		76	76	1.00	1967			1967	0.038				12	11	0.472	12	60
5	C	3.30		1	10		N	1945	4		4	1.00	1691			1691	0.002	0.002	10	1	12	0.026	0	49	

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

		TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
J3 Hiram's Highway / Ho Chung Road		2028refAM		PROJECT NO.:	Prepared By:
2028 Reference Scenario Weekday AM Peak				FILENAME :	Checked By:
				REFERENCE NO.:	Reviewed By:



		Existing Cycle Time	
No. of stages per cycle	N =	3	
Cycle time	C =	130 sec	
Sum(y)	Y =	0.375	
Loss time	L =	25 sec	
Total Flow	=	2320 pcu	
Co = (1.5*L+5)/(1-Y)	=	68.0 sec	
Cm = L/(1-Y)	=	40.0 sec	
Yult	=	0.713	
R.C.ult = (Yult-Y)/Y*100%	=	89.9 %	
Cp = 0.9*L/(0.9-Y)	=	42.9 sec	
Ymax = 1-L/C	=	0.808	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	94 %	

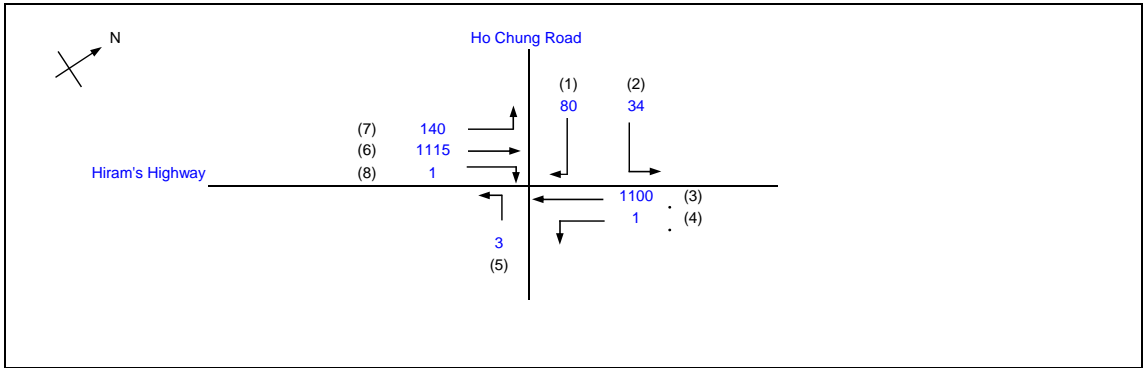


Pedestrian Phase	Stage	Width (m)	Green Time Required (s)			Green Time Provided (s)	
			SG	FG	Delay	SG	FG

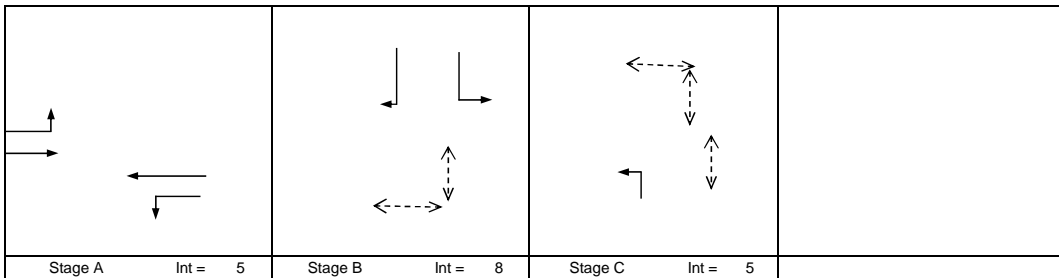
Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	75			75	1.00	1691		-500	1191	0.063	0.303	15	18	17	0.493	12	58
6	A	3.30		2				4170		868		868	0.00	4170			4170	0.208			58	57	0.473	51	24
4,3	A	3.30		1	30		N	1945	1	589		590	0.00	1945			1945	0.303			85	84	0.470	42	12
3	A	3.30		1				2085		632		632	0.00	2085			2085	0.303			85	84	0.470	48	12
2	B	3.30		1	10		N	1945	14			14	1.00	1691		-500	1191	0.011	0.071		3	2	0.675	6	223
1	B	3.30		1	25			2085		139		139	1.00	1967			1967	0.071			20	19	0.489	24	52
5	C	3.30		1	10		N	1945	2			2	1.00	1691			1691	0.001	0.001	10	0	12	0.013	0	48

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

		TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
J3 Hiram's Highway / Ho Chung Road		2028refPM		PROJECT NO.:	Prepared By:
2028 Reference Scenario Weekday PM Peak				FILENAME :	Checked By:
				REFERENCE NO.:	Reviewed By:



		Existing Cycle Time	
No. of stages per cycle	N =	3	
Cycle time	C =	130 sec	
Sum(y)	Y =	0.315	
Loss time	L =	25 sec	
Total Flow	=	2472 pcu	
Co = (1.5*L+5)/(1-Y)	=	62.1 sec	
Cm = L/(1-Y)	=	36.5 sec	
Yult	=	0.713	
R.C.ult = (Yult-Y)/Y*100%	=	125.9 %	
Cp = 0.9*L/(0.9-Y)	=	38.5 sec	
Ymax = 1-L/C	=	0.808	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	130 %	

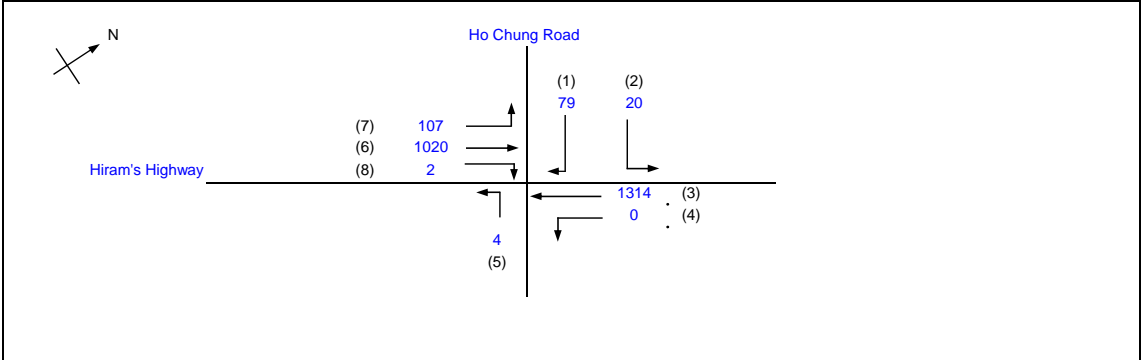


Pedestrian Phase	Stage	Width (m)	Green Time Required (s)			Green Time Provided (s)	
			SG	FG	Delay	SG	FG

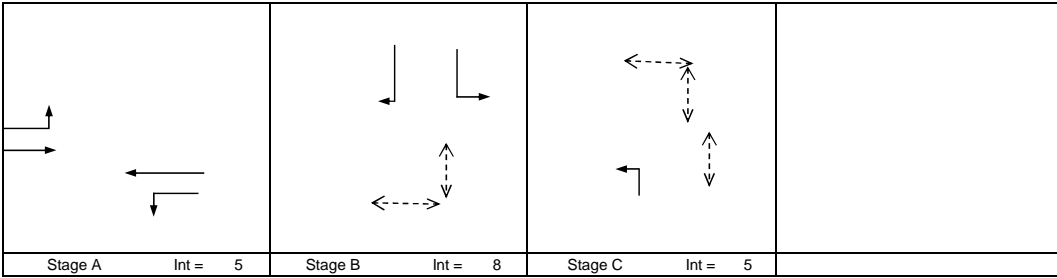
Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	140			140	1.00	1691		-500	1191	0.117	0.273	15	39	38	0.401	18	36
6	A	3.30		2				4170		1115	1115	0.00	4170			4170	0.267				89	88	0.395	39	9
4,3	A	3.30		1	30		N	1945	1	530	531	0.00	1945			1945	0.273				91	90	0.395	30	8
3	A	3.30		1				2085		570	570	0.00	2085			2085	0.273				91	90	0.395	36	8
2	B	3.30		1	10		N	1945	34		34	1.00	1691		-500	1191	0.028	0.041		9	8	0.437	6	69	
1	B	3.30		1	25			2085		80	80	1.00	1967			1967	0.041				14	13	0.422	12	56
5	C	3.30		1	10		N	1945	3		3	1.00	1691			1691	0.002	0.002	10	1	12	0.017	0	48	

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

		TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
J3 Hiram's Highway / Ho Chung Road		2028refSUN		PROJECT NO.:	Prepared By:
2028 Reference Scenario Weekend PM Peak				FILENAME :	Checked By:
				REFERENCE NO.:	Reviewed By:



		Existing Cycle Time	
No. of stages per cycle	N =	3	
Cycle time	C =	130 sec	
Sum(y)	Y =	0.369	
Loss time	L =	25 sec	
Total Flow	=	2545 pcu	
Co = (1.5*L+5)/(1-Y)	=	67.3 sec	
Cm = L/(1-Y)	=	39.6 sec	
Yult	=	0.713	
R.C.ult = (Yult-Y)/Y*100%	=	93.1 %	
Cp = 0.9*L/(0.9-Y)	=	42.4 sec	
Ymax = 1-L/C	=	0.808	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	97 %	

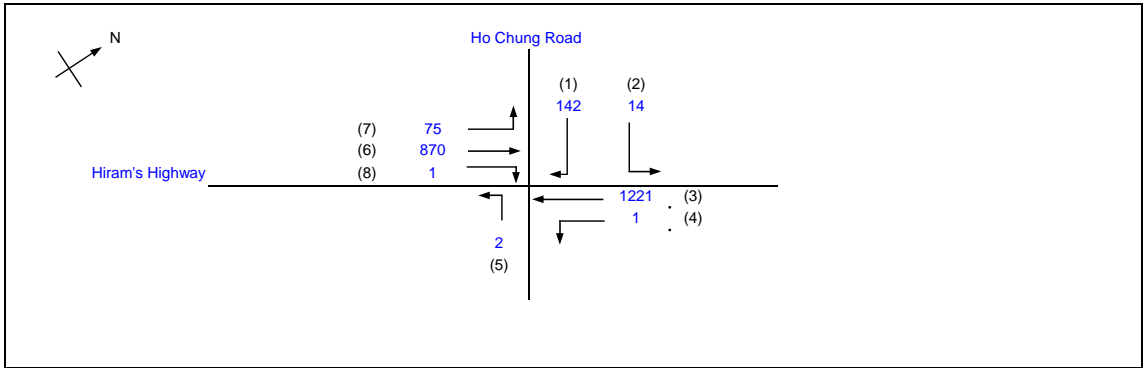


Pedestrian Phase	Stage	Width (m)	Green Time Required (s)			Green Time Provided (s)	
			SG	FG	Delay	SG	FG

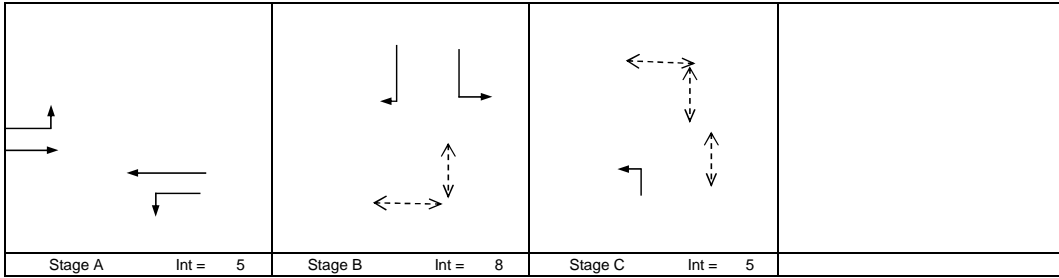
Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	107			107	1.00	1691		-500	1191	0.090	0.326	15	26	25	0.475	18	49
6	A	3.30		2				4170		1020	1020	0.00	4170			4170	0.245				70	69	0.463	51	18
4,3	A	3.30		1	30		N	1945	0	634	634	0.00	1945			1945	0.326				93	92	0.462	36	9
3	A	3.30		1				2085		680	680	0.00	2085			2085	0.326				93	92	0.462	42	8
2	B	3.30		1	10		N	1945	20		20	1.00	1691		-500	1191	0.017	0.040		5	4	0.574	6	117	
1	B	3.30		1	25			2085		79	79	1.00	1967			1967	0.040				11	10	0.500	12	62
5	C	3.30		1	10		N	1945	4		4	1.00	1691			1691	0.002	0.002	10	1	12	0.027	0	49	

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

		TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
J3 Hiram's Highway / Ho Chung Road		2028desAM		PROJECT NO.:	Prepared By:
2028 Design Scenario Weekday AM Peak				FILENAME :	Checked By:
				REFERENCE NO.:	Reviewed By:



		Existing Cycle Time	
No. of stages per cycle	N =	3	
Cycle time	C =	130 sec	
Sum(y)	Y =	0.377	
Loss time	L =	25 sec	
Total Flow	=	2325 pcu	
Co = (1.5*L+5)/(1-Y)	=	68.2 sec	
Cm = L/(1-Y)	=	40.1 sec	
Yult	=	0.713	
R.C.ult = (Yult-Y)/Y*100%	=	89.2 %	
Cp = 0.9*L/(0.9-Y)	=	43.0 sec	
Ymax = 1-L/C	=	0.808	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	93 %	

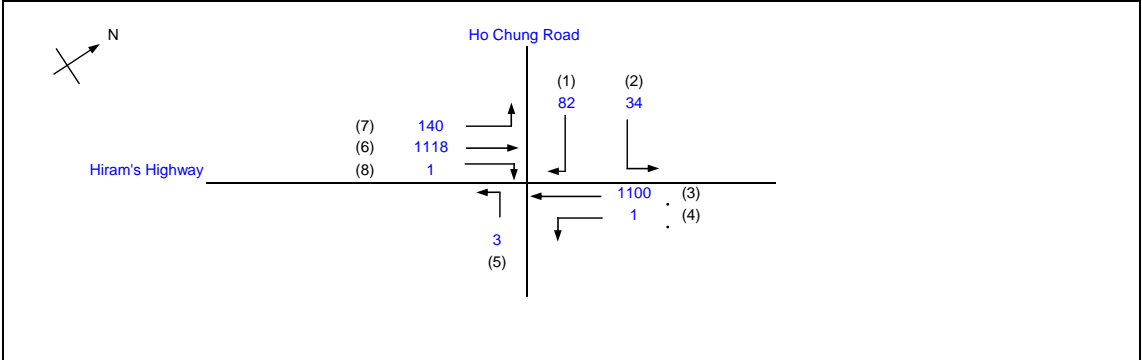


Pedestrian Phase	Stage	Width (m)	Green Time Required (s)			Green Time Provided (s)	
			SG	FG	Delay	SG	FG

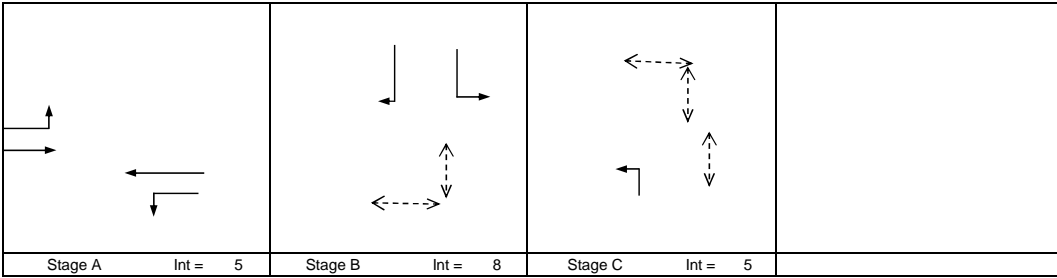
Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	75			75	1.00	1691		-500	1191	0.063	0.303	15	18	17	0.494	12	58
6	A	3.30		2				4170		870		870	0.00	4170			4170	0.209			58	57	0.474	51	24
4,3	A	3.30		1	30		N	1945	1	589		590	0.00	1945			1945	0.303			85	84	0.472	42	12
3	A	3.30		1				2085		632		632	0.00	2085			2085	0.303			85	84	0.472	48	12
2	B	3.30		1	10		N	1945	14			14	1.00	1691		-500	1191	0.011	0.072		3	2	0.678	6	227
1	B	3.30		1	25			2085		142		142	1.00	1967			1967	0.072			20	19	0.491	24	51
5	C	3.30		1	10		N	1945	2			2	1.00	1691			1691	0.001	0.001	10	0	12	0.013	0	48

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

		TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
J3 Hiram's Highway / Ho Chung Road		2028desPM	PROJECT NO.:	Prepared By:	
2028 Design Scenario Weekday PM Peak			FILENAME :	Checked By:	
			REFERENCE NO.:	Reviewed By:	



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	130 sec
Sum(y)	Y =	0.317
Loss time	L =	25 sec
Total Flow	=	2478 pcu
Co = (1.5*L+5)/(1-Y)	=	62.2 sec
Cm = L/(1-Y)	=	36.6 sec
Yult	=	0.713
R.C.ult = (Yult-Y)/Y*100%	=	125.1 %
Cp = 0.9*L/(0.9-Y)	=	38.6 sec
Ymax = 1-L/C	=	0.808
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	130 %

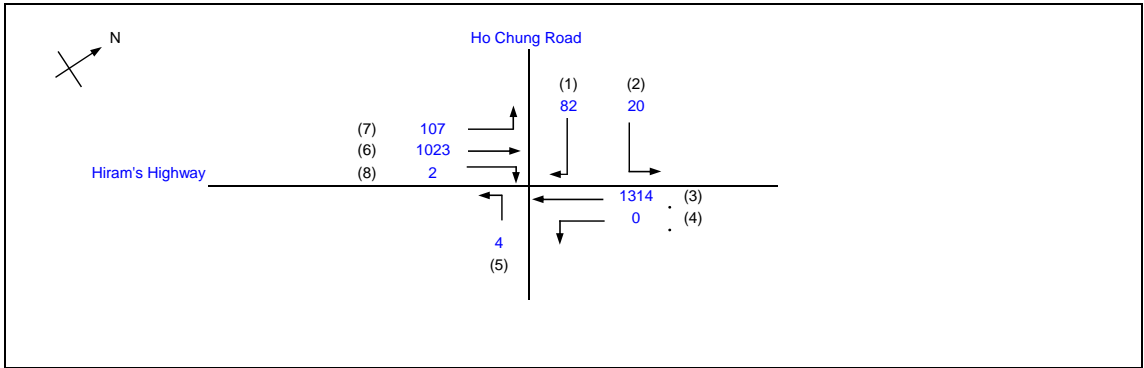


Pedestrian Phase	Stage	Width (m)	Green Time Required (s)			Green Time Provided (s)	
			SG	FG	Delay	SG	FG

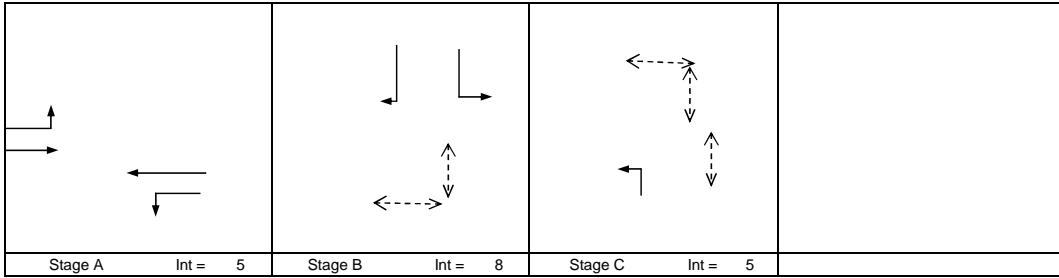
Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	140			140	1.00	1691		-500	1191	0.117	0.273	15	39	38	0.402	18	36
6	A	3.30		2				4170				1118	0.00	4170			4170	0.268			89	88	0.396	39	9
4,3	A	3.30		1	30		N	1945	1	1118		531	0.00	1945			1945	0.273			91	90	0.396	30	9
3	A	3.30		1				2085		570		570	0.00	2085			2085	0.273			91	90	0.396	36	9
2	B	3.30		1	10		N	1945	34			34	1.00	1691		-500	1191	0.028	0.042		9	8	0.439	6	69
1	B	3.30		1	25			2085		82		82	1.00	1967			1967	0.042			14	13	0.422	12	56
5	C	3.30		1	10		N	1945	3			3	1.00	1691			1691	0.002	0.002	10	1	12	0.017	0	48

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

		TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
J3 Hiram's Highway / Ho Chung Road		2028desSUN		PROJECT NO.:	Prepared By:
2028 Design Scenario Weekend PM Peak				FILENAME :	Checked By:
				REFERENCE NO.:	Reviewed By:



		Existing Cycle Time	
No. of stages per cycle	N =	3	
Cycle time	C =	130 sec	
Sum(y)	Y =	0.370	
Loss time	L =	25 sec	
Total Flow	=	2551 pcu	
Co = (1.5*L+5)/(1-Y)	=	67.5 sec	
Cm = L/(1-Y)	=	39.7 sec	
Yult	=	0.713	
R.C.ult = (Yult-Y)/Y*100%	=	92.5 %	
Cp = 0.9*L/(0.9-Y)	=	42.5 sec	
Ymax = 1-L/C	=	0.808	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	96 %	



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)			Green Time Provided (s)	
			SG	FG	Delay	SG	FG

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	107			107	1.00	1691		-500	1191	0.090	0.326	15	26	25	0.477	18	49
6	A	3.30		2				4170		1023	1023	0.00	4170			4170	0.245				70	69	0.465	51	18
4,3	A	3.30		1	30		N	1945	0	634	634	0.00	1945			1945	0.326				93	92	0.463	36	9
3	A	3.30		1				2085		680	680	0.00	2085			2085	0.326				93	92	0.463	42	9
2	B	3.30		1	10		N	1945	20		20	1.00	1691		-500	1191	0.017	0.041		5	4	0.576	6	118	
1	B	3.30		1	25			2085		82	82	1.00	1967			1967	0.041				12	11	0.501	12	61
5	C	3.30		1	10		N	1945	4		4	1.00	1691			1691	0.002	0.002	10	1	12	0.027	0	49	

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

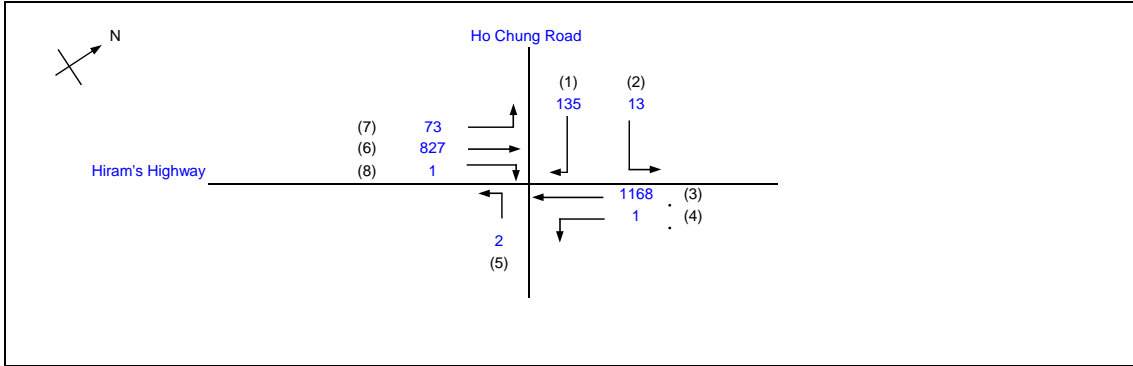
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

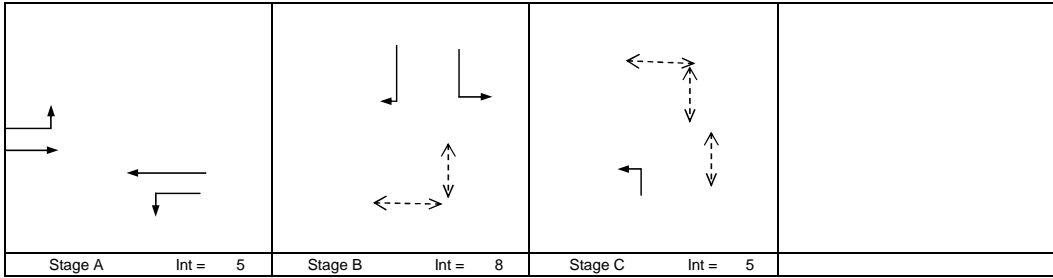
J3 Hiram's Highway / Ho Chung Road
2025 Reference Scenario Weekday AM Peak

2025refAM

PROJECT NO.:
Prepared By:
FILENAME :
Checked By:
REFERENCE NO.:
Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	130 sec
Sum(y)	Y =	0.360
Loss time	L =	25 sec
Total Flow	=	2219 pcu
Co = (1.5*L+5)/(1-Y)	=	66.4 sec
Cm = L/(1-Y)	=	39.1 sec
Yult	=	0.713
R.C.ult = (Yult-Y)/Y*100%	=	97.9 %
Cp = 0.9*L/(0.9-Y)	=	41.7 sec
Ymax = 1-L/C	=	0.808
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	102 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)			Green Time Provided (s)	
			SG	FG	Delay	SG	FG

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	73			73	1.00	1691		-500	1191	0.061	0.290	15	18	17	0.472	12	57
6	A	3.30		2				4170		827		827	0.00	4170			4170	0.198			58	57	0.454	48	24
4,3	A	3.30		1	30		N	1945	1	563		564	0.00	1945			1945	0.290			85	84	0.451	42	12
3	A	3.30		1				2085		605		605	0.00	2085			2085	0.290			85	84	0.451	42	11
2	B	3.30		1	10		N	1945	13			13	1.00	1691		-500	1191	0.011	0.069		3	2	0.644	0	200
1	B	3.30		1	25			2085		135		135	1.00	1967			1967	0.069			20	19	0.469	24	51
5	C	3.30		1	10		N	1945	2			2	1.00	1691			1691	0.001	0.001	10	0	12	0.013	0	48

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

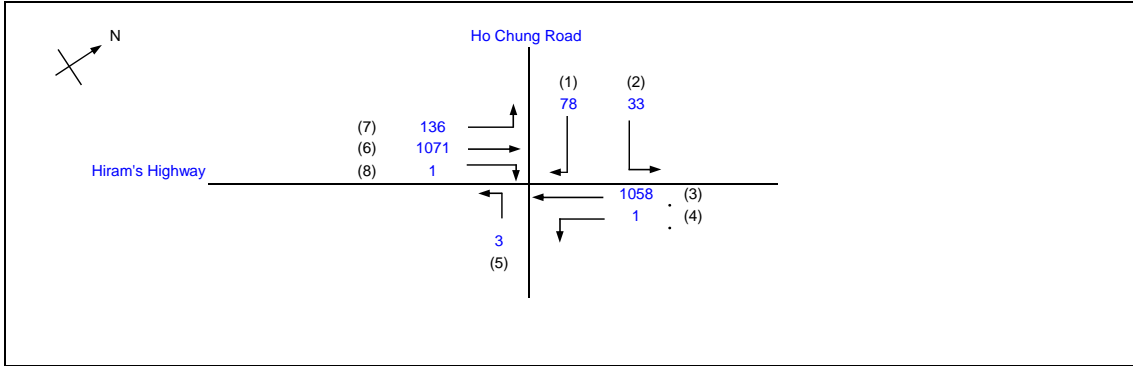
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

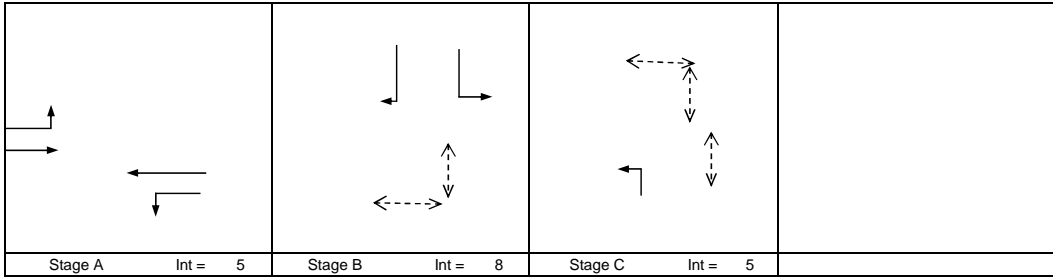
J3 Hiram's Highway / Ho Chung Road
2025 Reference Scenario Weekday PM Peak

2025refPM

PROJECT NO.: Prepared By:
FILENAME: Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	130 sec
Sum(y)	Y =	0.304
Loss time	L =	25 sec
Total Flow	=	2378 pcu
Co = (1.5*L+5)/(1-Y)	=	61.0 sec
Cm = L/(1-Y)	=	35.9 sec
Yult	=	0.713
R.C.ult = (Yult-Y)/Y*100%	=	134.6 %
Cp = 0.9*L/(0.9-Y)	=	37.7 sec
Ymax = 1-L/C	=	0.808
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	139 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)			Green Time Provided (s)	
			SG	FG	Delay	SG	FG

Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)	
									Left pcu/h	Straight pcu/h	Right pcu/h															
7	A	3.30		1	10		N	1945	136			136	1.00	1691		-500	1191	0.114	0.263	15	39	38	0.386	18	36	
6	A	3.30		2			N	4170		1071		1071	0.00	4170			4170	0.257				89	88	0.380	36	9
4,3	A	3.30		1	30		N	1945	1	510		511	0.00	1945			1945	0.263				91	90	0.380	30	8
3	A	3.30		1			N	2085		548		548	0.00	2085			2085	0.263				91	90	0.380	36	8
2	B	3.30		1	10		N	1945	33			33	1.00	1691		-500	1191	0.027	0.039			9	8	0.420	6	68
1	B	3.30		1	25		N	2085		78		78	1.00	1967			1967	0.039				14	13	0.406	12	55
5	C	3.30		1	10		N	1945	3			3	1.00	1691			1691	0.002	0.002	10		1	12	0.016	0	48

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

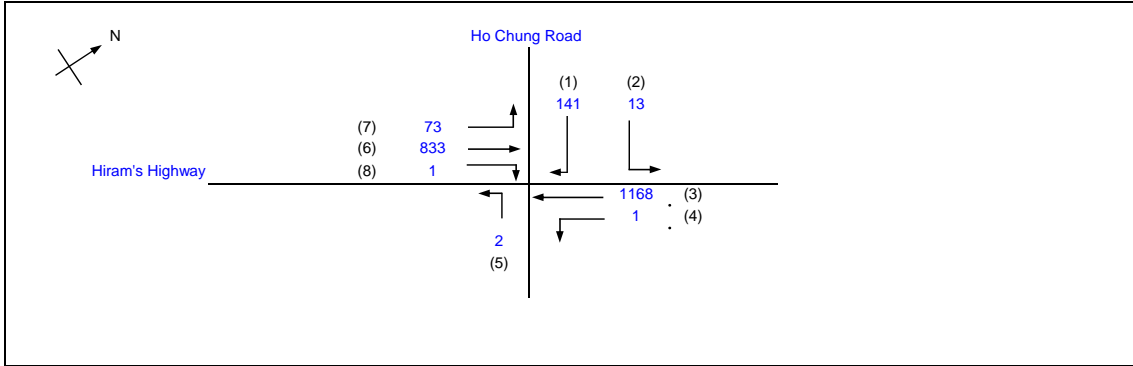
TRAFFIC SIGNAL CALCULATION

INITIALS DATE

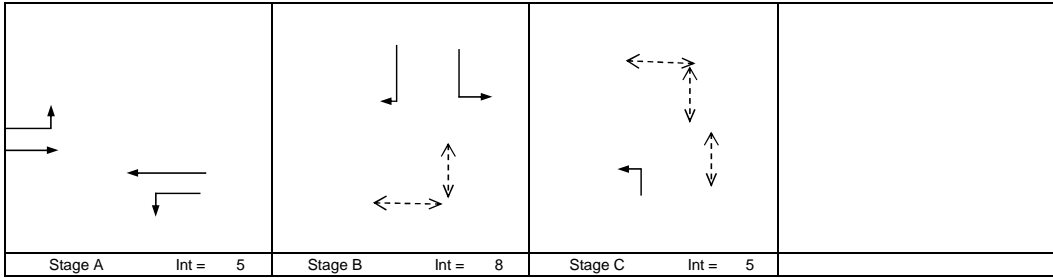
J3 Hiram's Highway / Ho Chung Road
2025 Design Scenario Weekday AM Peak

2025desAM

PROJECT NO.: Prepared By:
FILENAME: Checked By:
REFERENCE NO.: Reviewed By:



		Existing Cycle Time
No. of stages per cycle	N =	3
Cycle time	C =	130 sec
Sum(y)	Y =	0.363
Loss time	L =	25 sec
Total Flow	=	2231 pcu
Co = (1.5*L+5)/(1-Y)	=	66.7 sec
Cm = L/(1-Y)	=	39.3 sec
Yult	=	0.713
R.C.ult = (Yult-Y)/Y*100%	=	96.2 %
Cp = 0.9*L/(0.9-Y)	=	41.9 sec
Ymax = 1-L/C	=	0.808
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	100 %

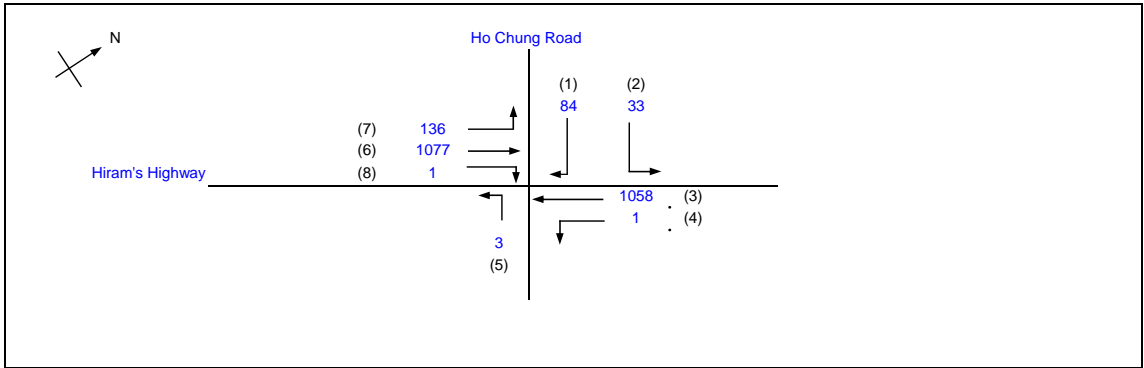


Pedestrian Phase	Stage	Width (m)	Green Time Required (s)			Green Time Provided (s)	
			SG	FG	Delay	SG	FG

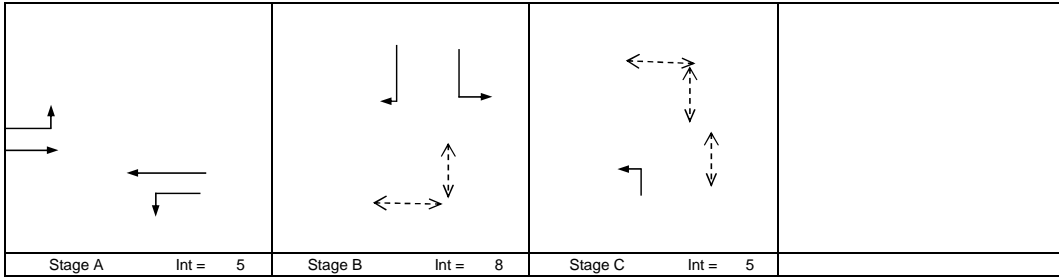
Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total FLOW pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	73			73	1.00	1691		-500	1191	0.061	0.290	15	18	17	0.476	12	57
6	A	3.30		2				4170		833	833	0.00	4170			4170	0.200				58	57	0.457	48	24
4,3	A	3.30		1	30		N	1945	1	563	564	0.00	1945			1945	0.290				84	83	0.455	42	12
3	A	3.30		1				2085		605	605	0.00	2085			2085	0.290				84	83	0.455	42	12
2	B	3.30		1	10		N	1945	13		13	1.00	1691		-500	1191	0.011	0.072		3	2	0.652	0	206	
1	B	3.30		1	25			2085		141	141	1.00	1967			1967	0.072				21	20	0.472	24	50
5	C	3.30		1	10		N	1945	2		2	1.00	1691			1691	0.001	0.001	10	0	12	0.013	0	48	

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

		TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
J3 Hiram's Highway / Ho Chung Road		2025desPM		PROJECT NO.:	Prepared By:
2025 Design Scenario Weekday PM Peak				FILENAME :	Checked By:
				REFERENCE NO.:	Reviewed By:



No. of stages per cycle	N =	3
Cycle time	C =	130 sec
Sum(y)	Y =	0.307
Loss time	L =	25 sec
Total Flow	=	2390 pcu
Co = (1.5*L+5)/(1-Y)	=	61.3 sec
Cm = L/(1-Y)	=	36.1 sec
Yult	=	0.713
R.C.ult = (Yult-Y)/Y*100%	=	132.3 %
Cp = 0.9*L/(0.9-Y)	=	37.9 sec
Ymax = 1-L/C	=	0.808
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	137 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)			Green Time Provided (s)	
			SG	FG	Delay	SG	FG

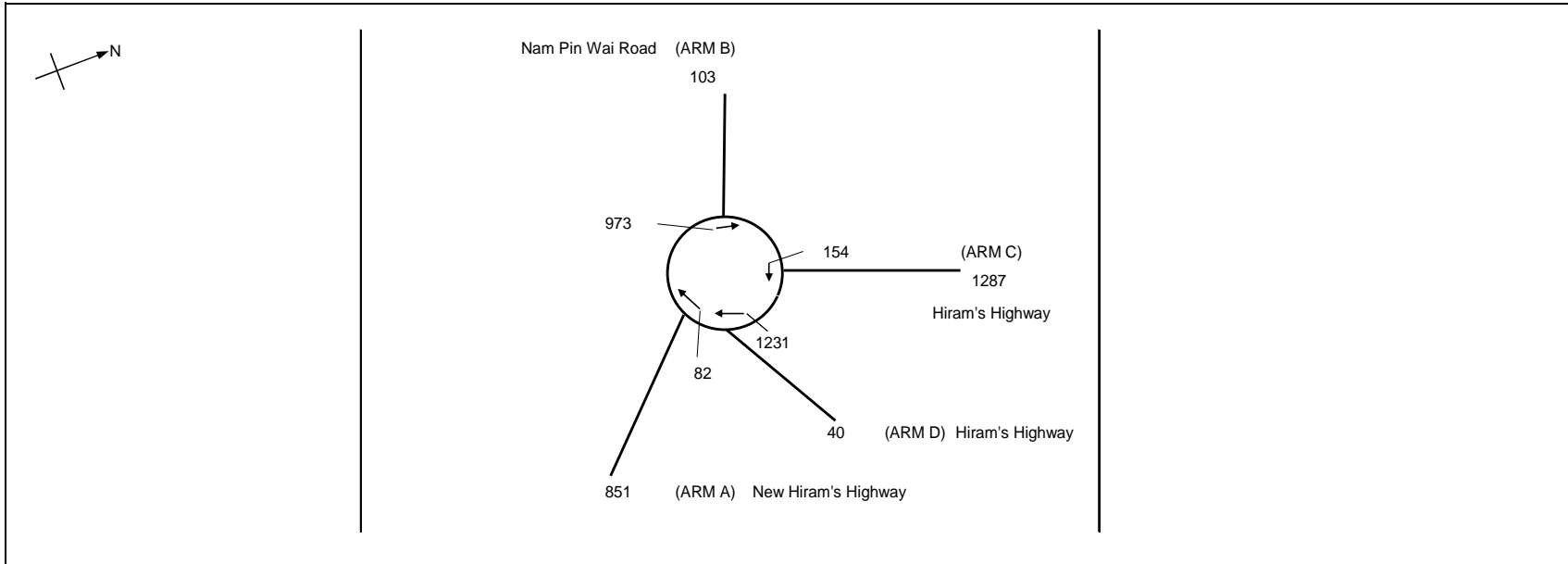
Movement	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	136			136	1.00	1691		-500	1191	0.114	0.263	15	39	38	0.390	18	36
6	A	3.30		2				4170				1077	0.00	4170			4170	0.258			88	87	0.384	36	9
4,3	A	3.30		1	30		N	1945	1	1077		511	0.00	1945			1945	0.263			90	89	0.384	30	9
3	A	3.30		1				2085		548		548	0.00	2085			2085	0.263			90	89	0.384	36	9
2	B	3.30		1	10		N	1945	33			33	1.00	1691		-500	1191	0.027	0.042		9	8	0.425	6	68
1	B	3.30		1	25			2085		84		84	1.00	1967			1967	0.042			15	14	0.408	12	54
5	C	3.30		1	10		N	1945	3			3	1.00	1691			1691	0.002	0.002	10	1	12	0.016	0	48

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

	2023AM	PROJECT NO.:	PREPARED BY:
J4 Hiram's Highway / New Hiram's Highway		FILENAME :	CHECKED BY:
2023 Weekday AM Peak		J4_New-Hiramshighway.xls	REVIEWED BY:



ARM	A	B	C	D	
INPUT PARAMETERS:					
V = Approach half width (m)	7.5	6.0	7.6	3.5	
E = Entry width (m)	8.5	7.0	7.6	6.0	
L = Effective length of flare (m)	13.5	6.0	0.0	6.0	
R = Entry radius (m)	20.0	20.0	22.5	17.0	
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0	
A = Entry angle (degree)	50.0	40.0	40.0	30.0	
Q = Entry flow (pcu/h)	851	103	1287	40	
Qc = Circulating flow across entry (pcu/h)	82	973	154	1231	
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67	
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99	
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57	
M = EXP((D-60)/10)	6	6	6	6	
F = 303*X2	2517	2016	2303	1385	
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07	
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43	
Qe = K(F-Fc*Qc)	2297	1454	2151	848	Total In Sum = 1429 PCU
DFC = Design flow/Capacity = Q/Qe	0.37	0.07	0.60	0.05	DFC of Critical Approach = 0.60

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

J4 Hiram's Highway / New Hiram's Highway
2023 Weekday PM Peak

2023PM

PROJECT NO.:

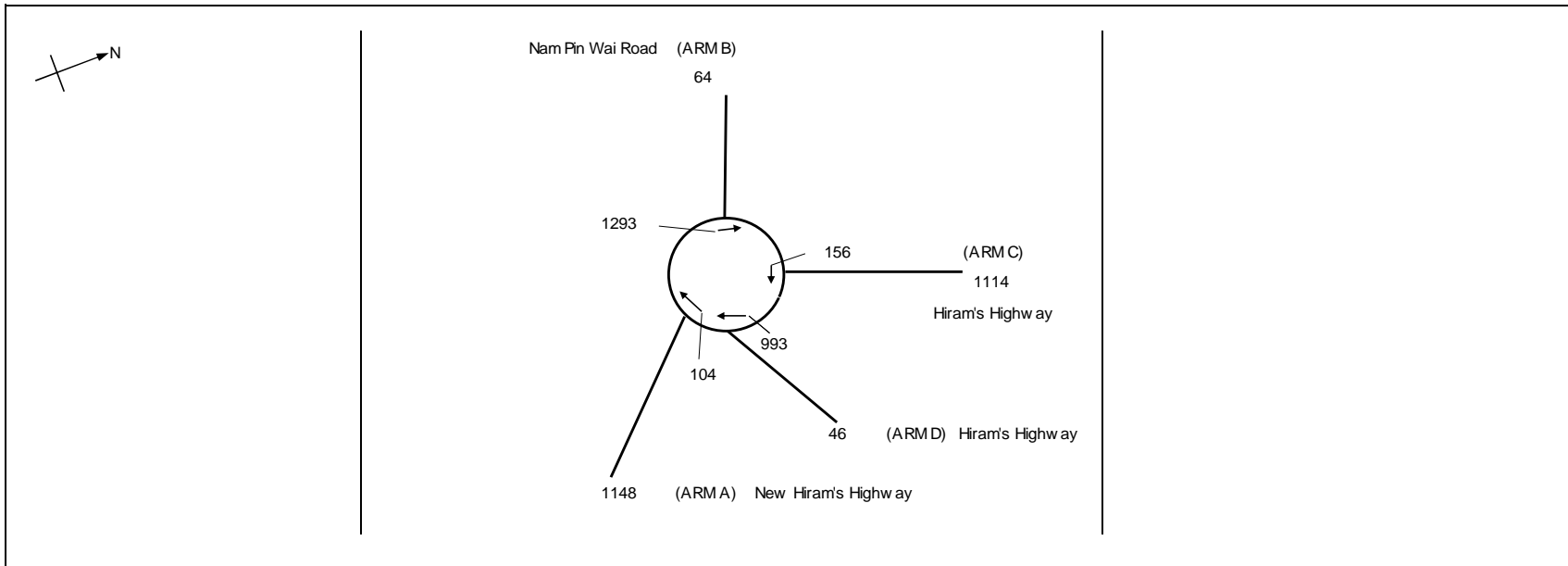
PREPARED BY:

FILENAME :

CHECKED BY:

J4_New-HiramHighway.xls

REVIEWED BY:



ARM	A	B	C	D	
INPUT PARAMETERS:					
V = Approach half width (m)	7.5	6.0	7.6	3.5	
E = Entry width (m)	8.5	7.0	7.6	6.0	
L = Effective length of flare (m)	13.5	6.0	0.0	6.0	
R = Entry radius (m)	20.0	20.0	22.5	17.0	
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0	
A = Entry angle (degree)	50.0	40.0	40.0	30.0	
Q = Entry flow (pcu/h)	1148	64	1114	46	
Qc = Circulating flow across entry (pcu/h)	104	1293	156	993	
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67	
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99	
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57	
M = EXP((D-60)/10)	6	6	6	6	
F = 303*X2	2517	2016	2303	1385	
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07	
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43	
Qe = K(F-Fc*Qc)	2285	1292	2150	950	Total In Sum = 1223 PCU
DFC = Design flow/Capacity = Q/Qe	0.50	0.05	0.52	0.05	DFC of Critical Approach = 0.52

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

J4 Hiram's Highway / New Hiram's Highway
2023 Weekend PM Peak

2023SUN

PROJECT NO.:

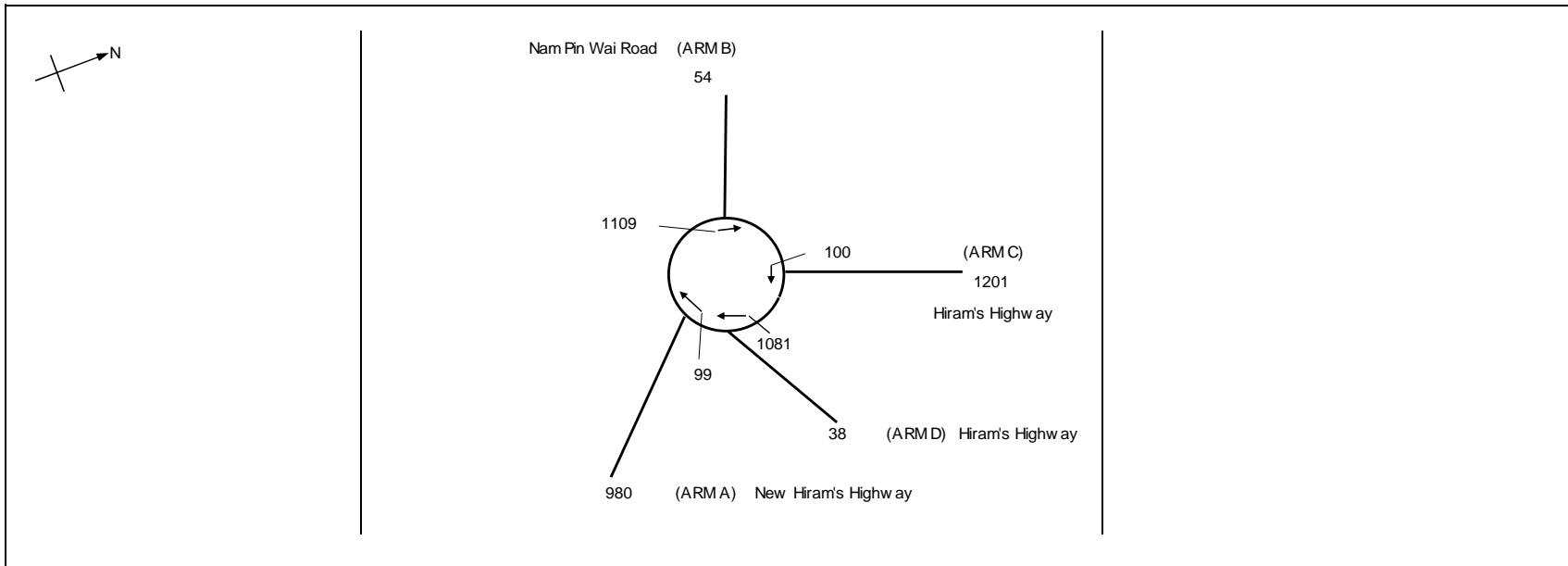
PREPARED BY:

FILENAME :

CHECKED BY:

J4_New-HiramHighway.xls

REVIEWED BY:

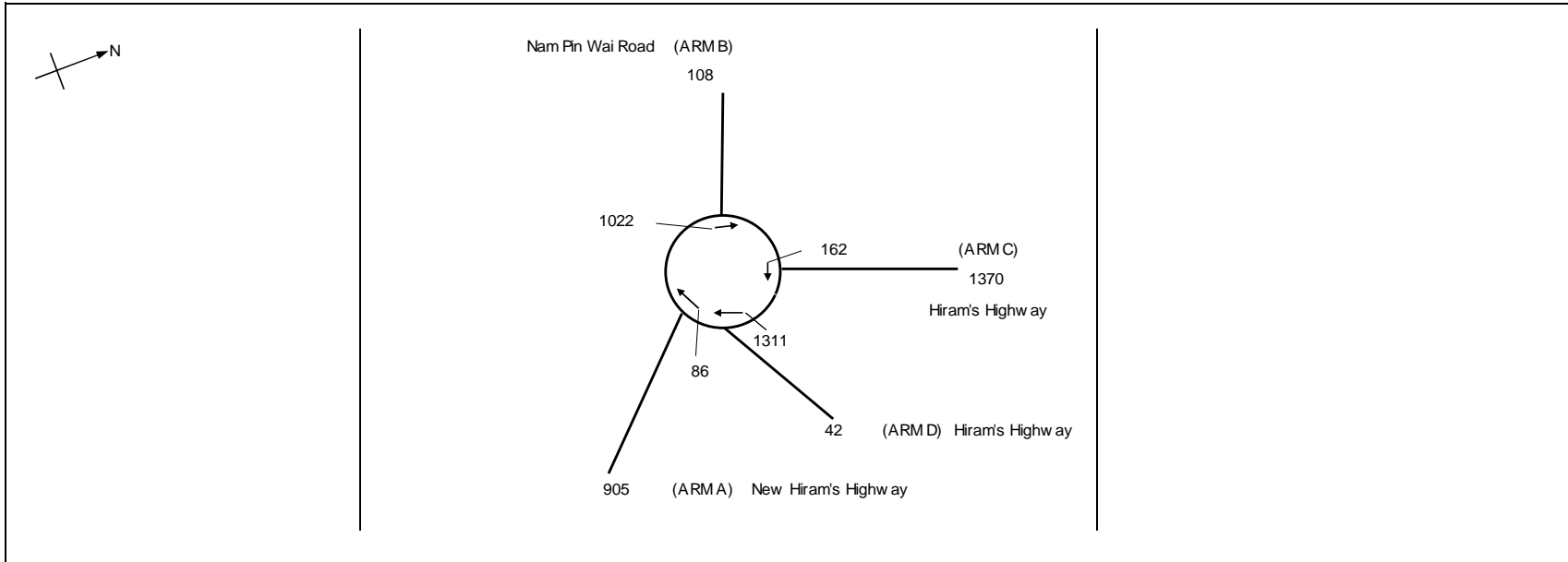


ARM	A	B	C	D	
INPUT PARAMETERS:					
V = Approach half width (m)	7.5	6.0	7.6	3.5	
E = Entry width (m)	8.5	7.0	7.6	6.0	
L = Effective length of flare (m)	13.5	6.0	0.0	6.0	
R = Entry radius (m)	20.0	20.0	22.5	17.0	
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0	
A = Entry angle (degree)	50.0	40.0	40.0	30.0	
Q = Entry flow (pcu/h)	980	54	1201	38	
Qc = Circulating flow across entry (pcu/h)	99	1109	100	1081	
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67	
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99	
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57	
M = EXP((D-60)/10)	6	6	6	6	
F = 303*X2	2517	2016	2303	1385	
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07	
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43	
Qe = K(F-Fc*Qc)	2288	1385	2181	912	Total In Sum = 1293 PCU
DFC = Design flow/Capacity = Q/Qe	0.43	0.04	0.55	0.04	DFC of Critical Approach = 0.55

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

	2028refAM	PROJECT NO.:	PREPARED BY:
J4 Hiram's Highway / New Hiram's Highway		FILENAME :	CHECKED BY:
2028 Reference Scenario Weekday AM Peak		J4_New-Hiram'sHighway.xls	REVIEWED BY:

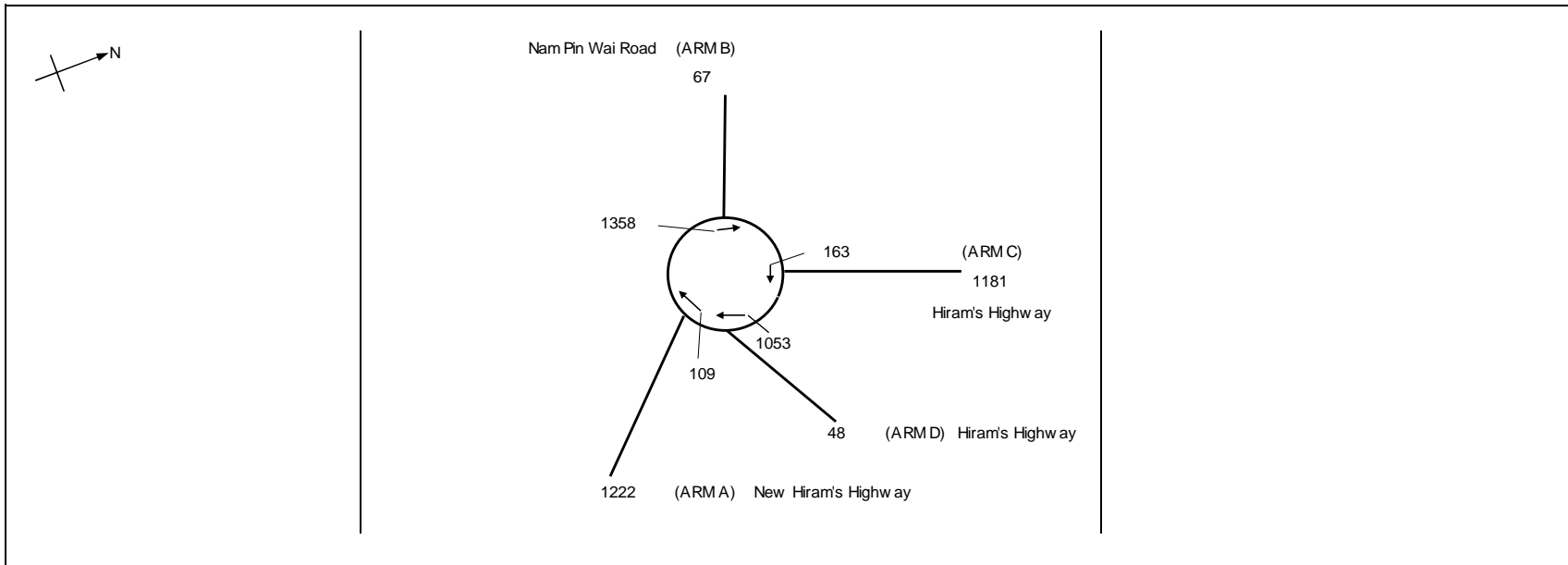


ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	905	108	1370	42		
Qc = Circulating flow across entry (pcu/h)	86	1022	162	1311		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2295	1429	2146	814	Total In Sum =	1519 PCU
DFC = Design flow/Capacity = Q/Qe	0.39	0.08	0.64	0.05	DFC of Critical Approach =	0.64

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

	2028refPM	PROJECT NO.:	PREPARED BY:
J4 Hiram's Highway / New Hiram's Highway		FILENAME :	CHECKED BY:
2028 Reference Scenario Weekday PM Peak		J4_New-Hiram'sHighway.xls	REVIEWED BY:



ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	1222	67	1181	48		
Qc = Circulating flow across entry (pcu/h)	109	1358	163	1053		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2282	1258	2145	924	Total In Sum =	1295 PCU
DFC = Design flow/Capacity = Q/Qe	0.54	0.05	0.55	0.05	DFC of Critical Approach =	0.55

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

J4 Hiram's Highway / New Hiram's Highway
2028 Reference Scenario Weekend PM Peak

2028refSUN

PROJECT NO.:

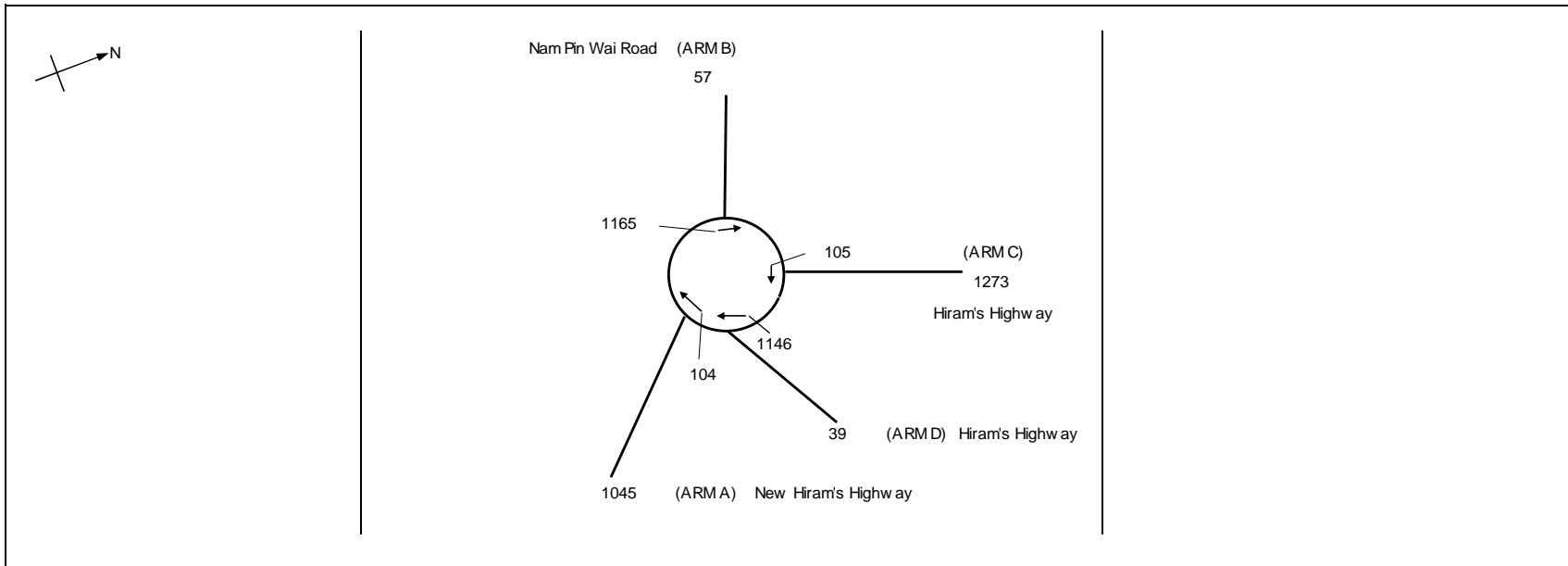
PREPARED BY:

FILENAME :

CHECKED BY:

J4_New-Hiram'sHighway.xls

REVIEWED BY:



ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	1045	57	1273	39		
Qc = Circulating flow across entry (pcu/h)	104	1165	105	1146		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2285	1356	2178	884	Total In Sum =	1369 PCU
DFC = Design flow/Capacity = Q/Qe	0.46	0.04	0.58	0.04	DFC of Critical Approach =	0.58

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

J4 Hiram's Highway / New Hiram's Highway
2028 Design Scenario Weekday AM Peak

2028desAM

PROJECT NO.:

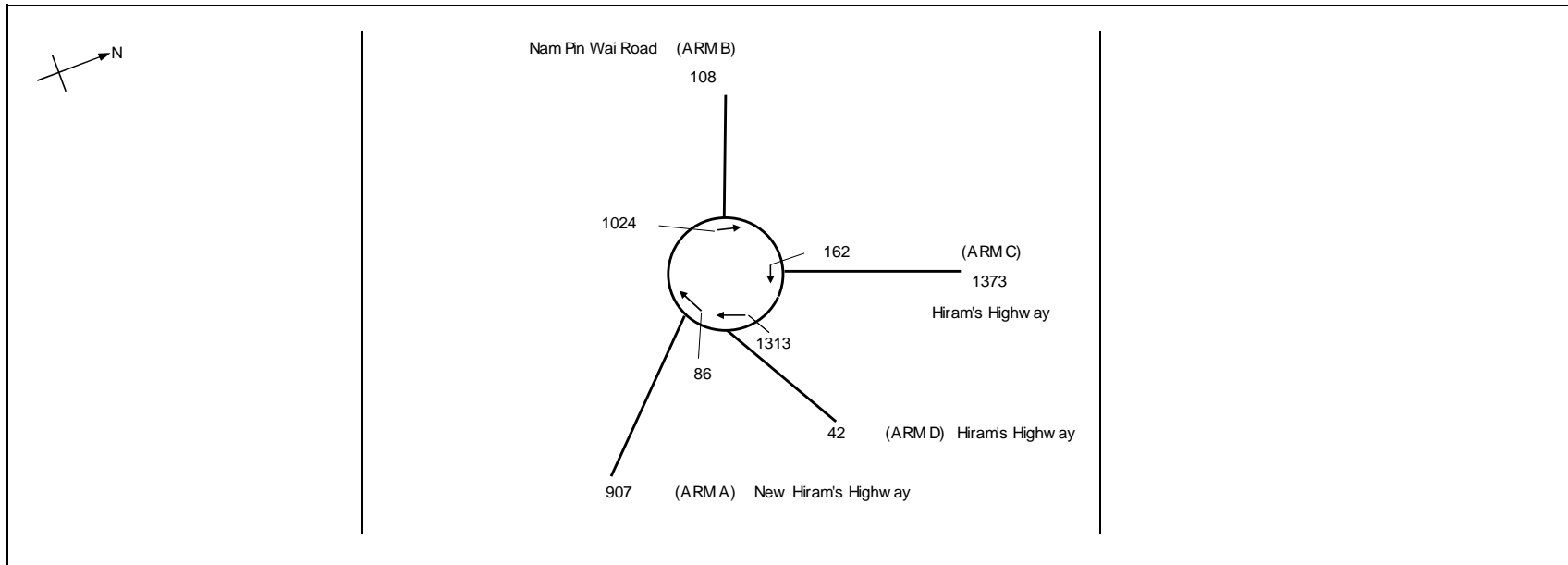
PREPARED BY:

FILENAME :

CHECKED BY:

J4_New-HiramHighway.xls

REVIEWED BY:



ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	907	108	1373	42		
Qc = Circulating flow across entry (pcu/h)	86	1024	162	1313		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2295	1428	2146	813	Total In Sum =	1522 PCU
DFC = Design flow/Capacity = Q/Qe	0.40	0.08	0.64	0.05	DFC of Critical Approach =	0.64

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

J4 Hiram's Highway / New Hiram's Highway
2028 Design Scenario Weekday PM Peak

2028desPM

PROJECT NO.:

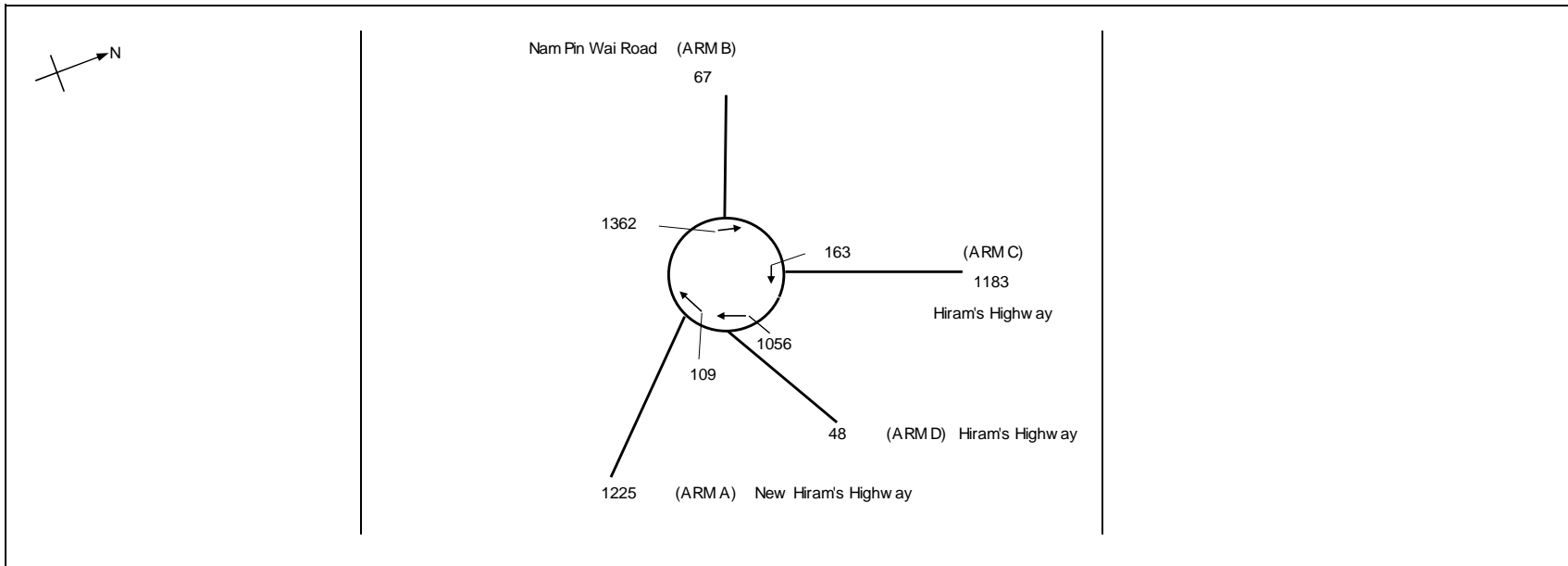
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FILENAME :

CHECKED BY:

J4_New-Hiram'sHighway.xls

REVIEWED BY:



ARM	A	B	C	D	
INPUT PARAMETERS:					
V = Approach half width (m)	7.5	6.0	7.6	3.5	
E = Entry width (m)	8.5	7.0	7.6	6.0	
L = Effective length of flare (m)	13.5	6.0	0.0	6.0	
R = Entry radius (m)	20.0	20.0	22.5	17.0	
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0	
A = Entry angle (degree)	50.0	40.0	40.0	30.0	
Q = Entry flow (pcu/h)	1225	67	1183	48	
Qc = Circulating flow across entry (pcu/h)	109	1362	163	1056	
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67	
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99	
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57	
M = EXP((D-60)/10)	6	6	6	6	
F = 303*X2	2517	2016	2303	1385	
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07	
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43	
Qe = K(F-Fc*Qc)	2282	1257	2145	923	
					Total In Sum = 1297 PCU
DFC = Design flow/Capacity = Q/Qe	0.54	0.05	0.55	0.05	DFC of Critical Approach = 0.55

ROUNDBABOUT CAPACITY ASSESSMENT

INITIALS DATE

J4 Hiram's Highway / New Hiram's Highway
2028 Design Scenario Weekend PM Peak

2028desSUN

PROJECT NO.:

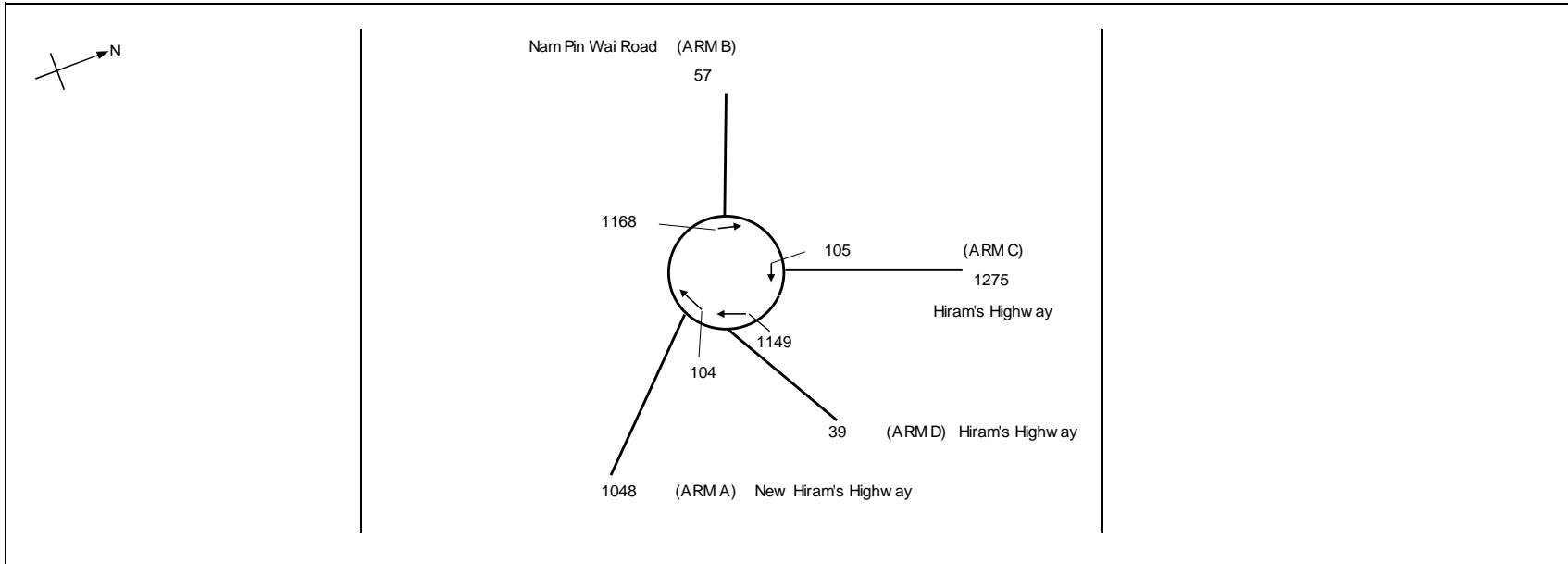
PREPARED BY:

FILENAME :

CHECKED BY:

J4_New-HiramHighway.xls

REVIEWED BY:

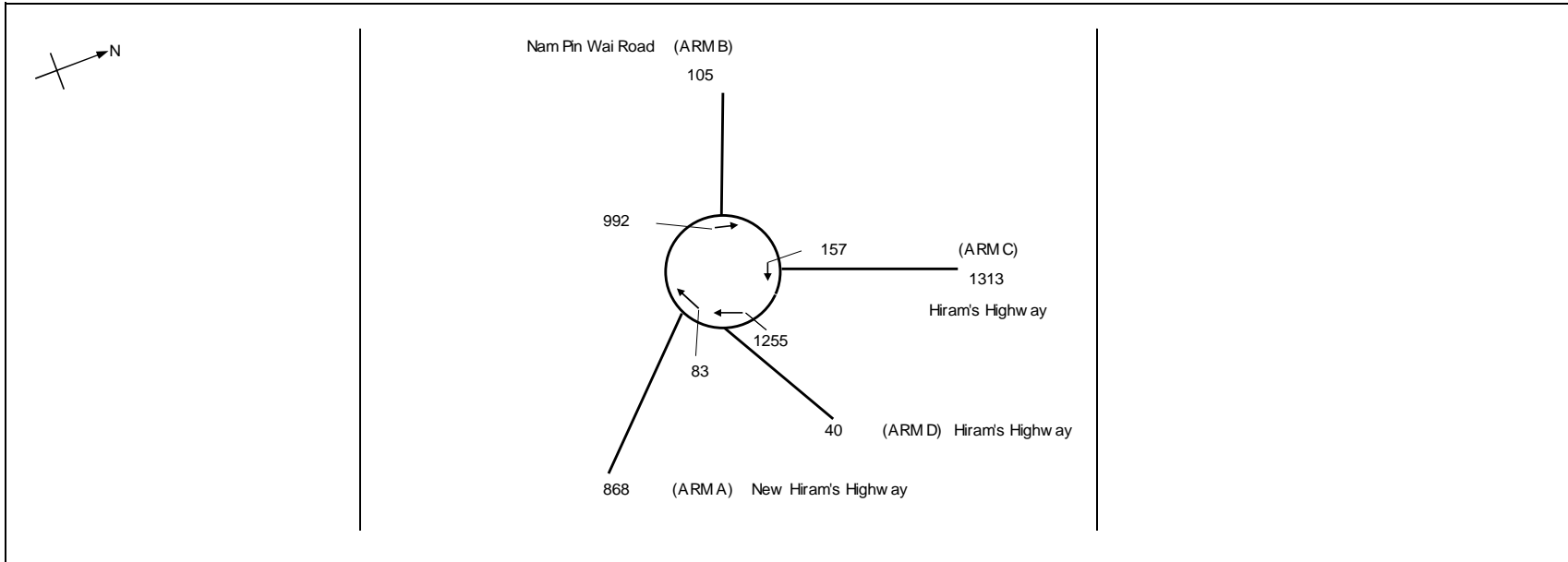


ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	1048	57	1275	39		
Qc = Circulating flow across entry (pcu/h)	104	1168	105	1149		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2285	1355	2178	883	Total In Sum =	1371 PCU
DFC = Design flow/Capacity = Q/Qe	0.46	0.04	0.59	0.04	DFC of Critical Approach =	0.59

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

	2025refAM	PROJECT NO.:	PREPARED BY:
J4 Hiram's Highway / New Hiram's Highway		FILENAME :	CHECKED BY:
2025 Reference Scenario Weekday AM Peak		J4_New-Hiram'sHighway.xls	REVIEWED BY:

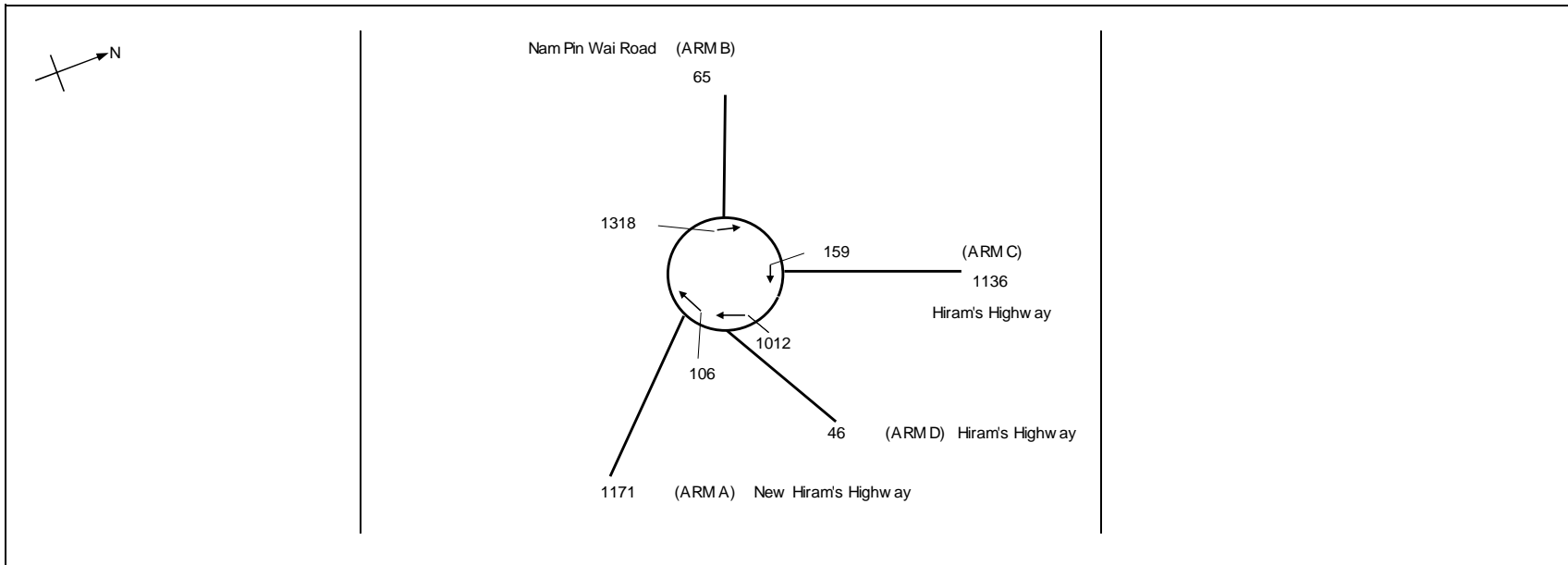


ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	868	105	1313	40		
Qc = Circulating flow across entry (pcu/h)	83	992	157	1255		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2296	1444	2149	837	Total In Sum =	1458 PCU
DFC = Design flow/Capacity = Q/Qe	0.38	0.07	0.61	0.05	DFC of Critical Approach =	0.61

ROUNDBABOUT CAPACITY ASSESSMENT

INITIALS DATE

	2025refPM	PROJECT NO.:	PREPARED BY:
J4 Hiram's Highway / New Hiram's Highway		FILENAME :	CHECKED BY:
2025 Reference Scenario Weekday PM Peak		J4_New-Hiram'sHighway.xls	REVIEWED BY:



ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	1171	65	1136	46		
Qc = Circulating flow across entry (pcu/h)	106	1318	159	1012		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2284	1279	2148	941	Total In Sum =	1247 PCU
DFC = Design flow/Capacity = Q/Qe	0.51	0.05	0.53	0.05	DFC of Critical Approach =	0.53

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

J4 Hiram's Highway / New Hiram's Highway

2025desAM

PROJECT NO.:

PREPARED BY:

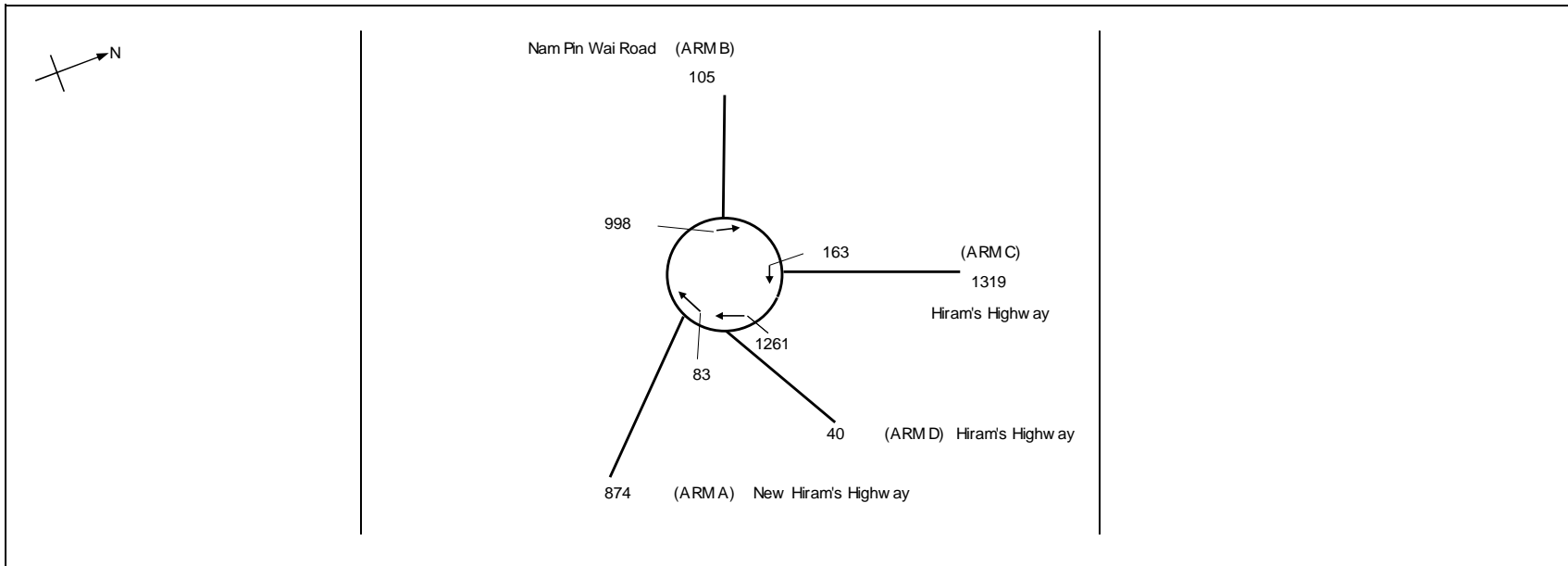
FILENAME :

CHECKED BY:

2025 Design Scenario Weekday AM Peak

J4_New-HiramHighway.xls

REVIEWED BY:



ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	874	105	1319	40		
Qc = Circulating flow across entry (pcu/h)	83	998	163	1261		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2296	1441	2146	835	Total In Sum =	1464 PCU
DFC = Design flow/Capacity = Q/Qe	0.38	0.07	0.61	0.05	DFC of Critical Approach =	0.61

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

J4 Hiram's Highway / New Hiram's Highway
2025 Design Scenario Weekday PM Peak

2025desPM

PROJECT NO.:

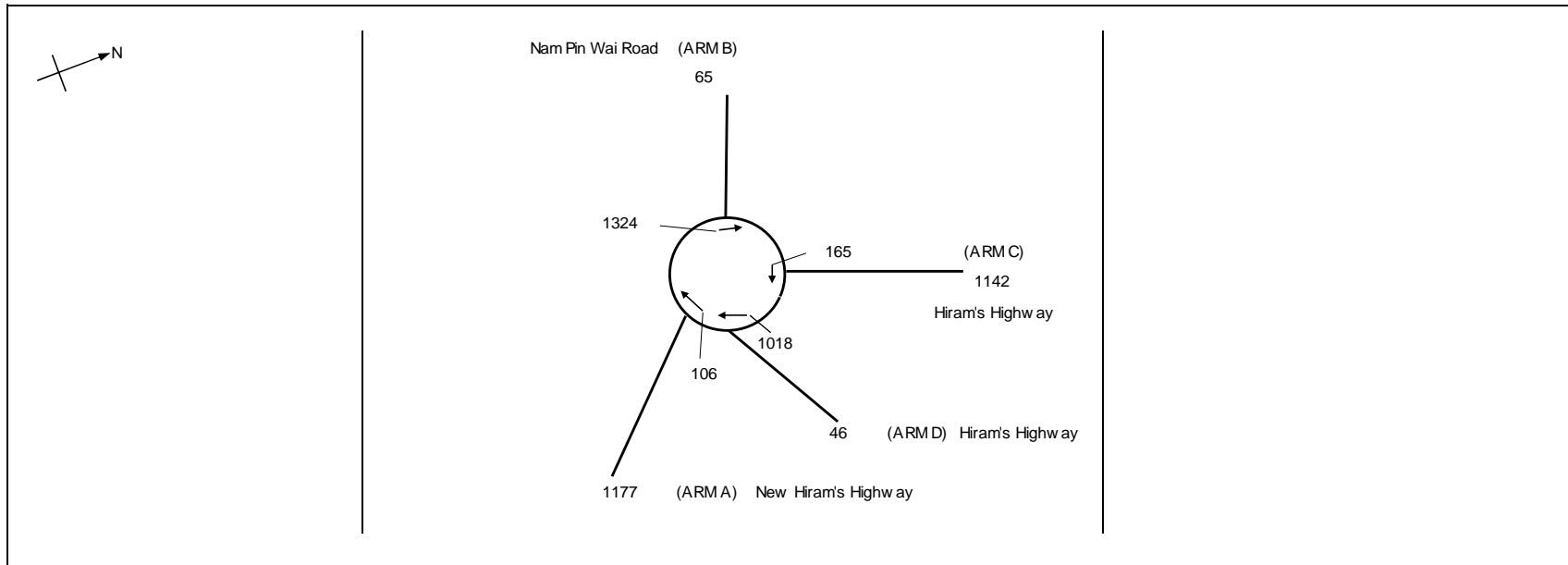
PREPARED BY:

FILENAME :

CHECKED BY:

J4_New-Hiram'sHighway.xls

REVIEWED BY:

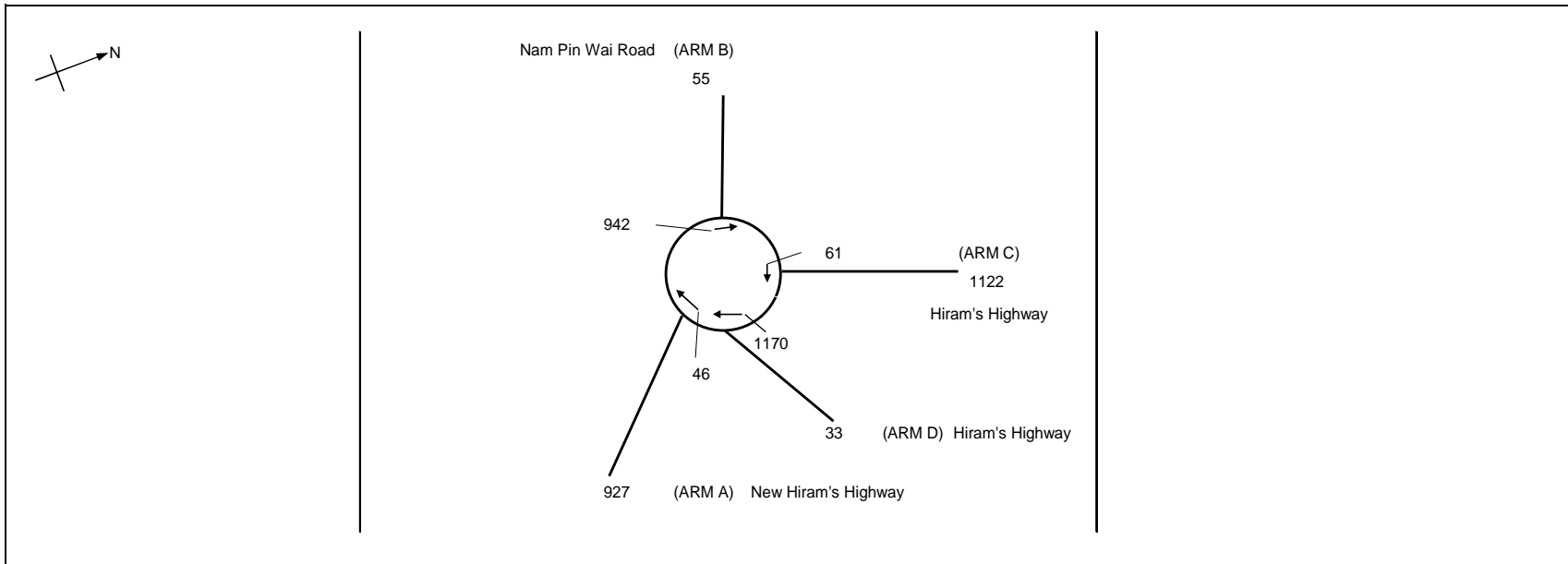


ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	1177	65	1142	46		
Qc = Circulating flow across entry (pcu/h)	106	1324	165	1018		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2284	1276	2145	939	Total In Sum =	1253 PCU
DFC = Design flow/Capacity = Q/Qe	0.52	0.05	0.53	0.05	DFC of Critical Approach =	0.53

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

	2023AM	PROJECT NO.:	PREPARED BY:
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai		FILENAME :	CHECKED BY:
2023 Weekday AM Peak		J5-Hirams-PakWai.xls	REVIEWED BY:



ARM	A	B	C	D	
INPUT PARAMETERS:					
V = Approach half width (m)	7.5	6.0	7.6	3.5	
E = Entry width (m)	8.5	7.0	7.6	6.0	
L = Effective length of flare (m)	13.5	6.0	0.0	6.0	
R = Entry radius (m)	20.0	20.0	22.5	17.0	
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0	
A = Entry angle (degree)	50.0	40.0	40.0	30.0	
Q = Entry flow (pcu/h)	927	55	1122	33	
Qc = Circulating flow across entry (pcu/h)	46	942	61	1170	
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67	
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99	
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57	
M = EXP((D-60)/10)	6	6	6	6	
F = 303*X2	2517	2016	2303	1385	
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07	
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43	
Qe = K(F-Fc*Qc)	2317	1469	2202	874	Total In Sum = 0 PCU
DFC = Design flow/Capacity = Q/Qe	0.40	0.04	0.51	0.04	DFC of Critical Approach = 0.51

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai
2023 Weekday PM Peak

2023PM

PROJECT NO.:

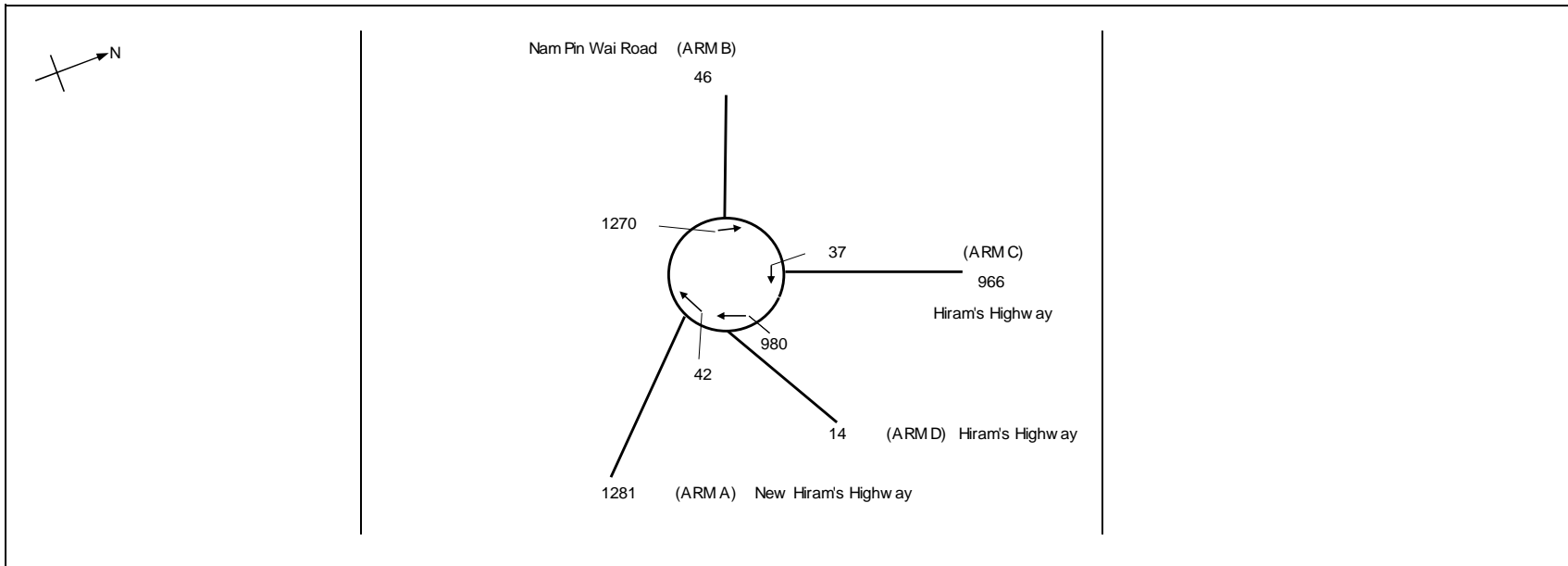
PREPARED BY:

FILENAME :

CHECKED BY:

J5-Hirams-PakWai.xls

REVIEWED BY:



ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	1281	46	966	14		
Qc = Circulating flow across entry (pcu/h)	42	1270	37	980		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2320	1303	2215	955	Total In Sum =	0 PCU
DFC = Design flow/Capacity = Q/Qe	0.55	0.04	0.44	0.01	DFC of Critical Approach =	0.55

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai
2023 Weekend PM Peak

2023SUN

PROJECT NO.:

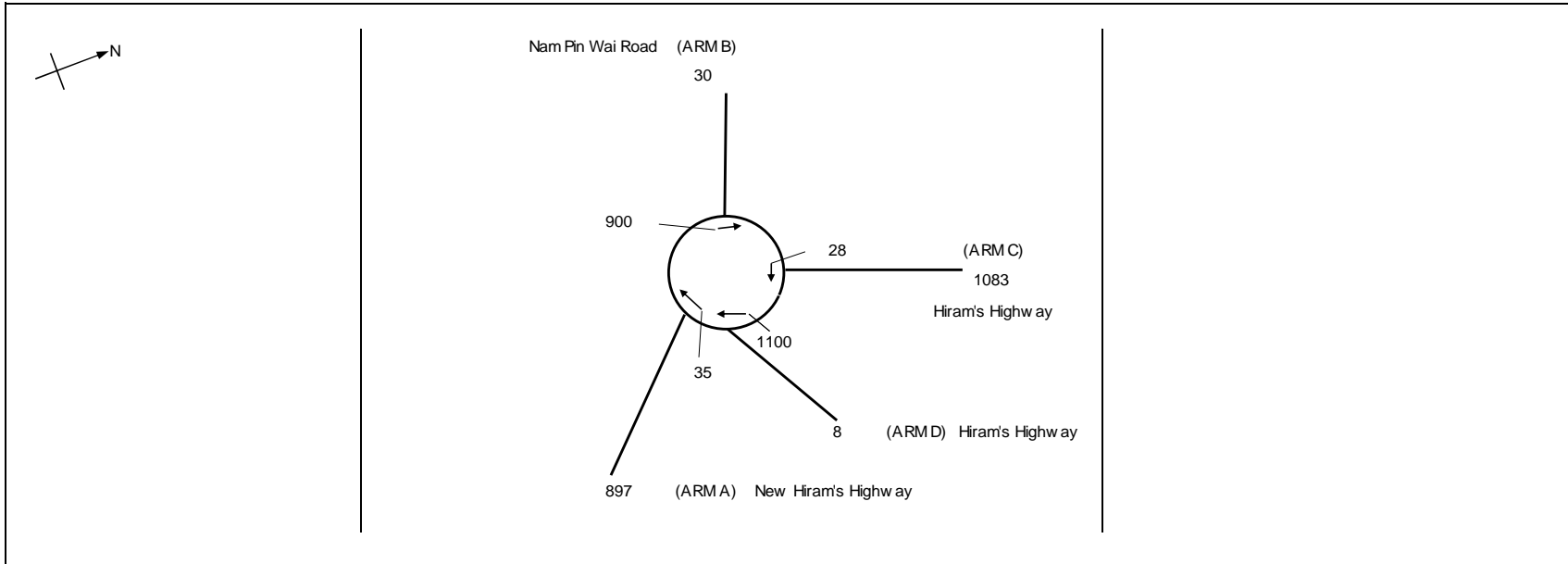
PREPARED BY:

FILENAME :

CHECKED BY:

J5-Hirams-PakWai.xls

REVIEWED BY:

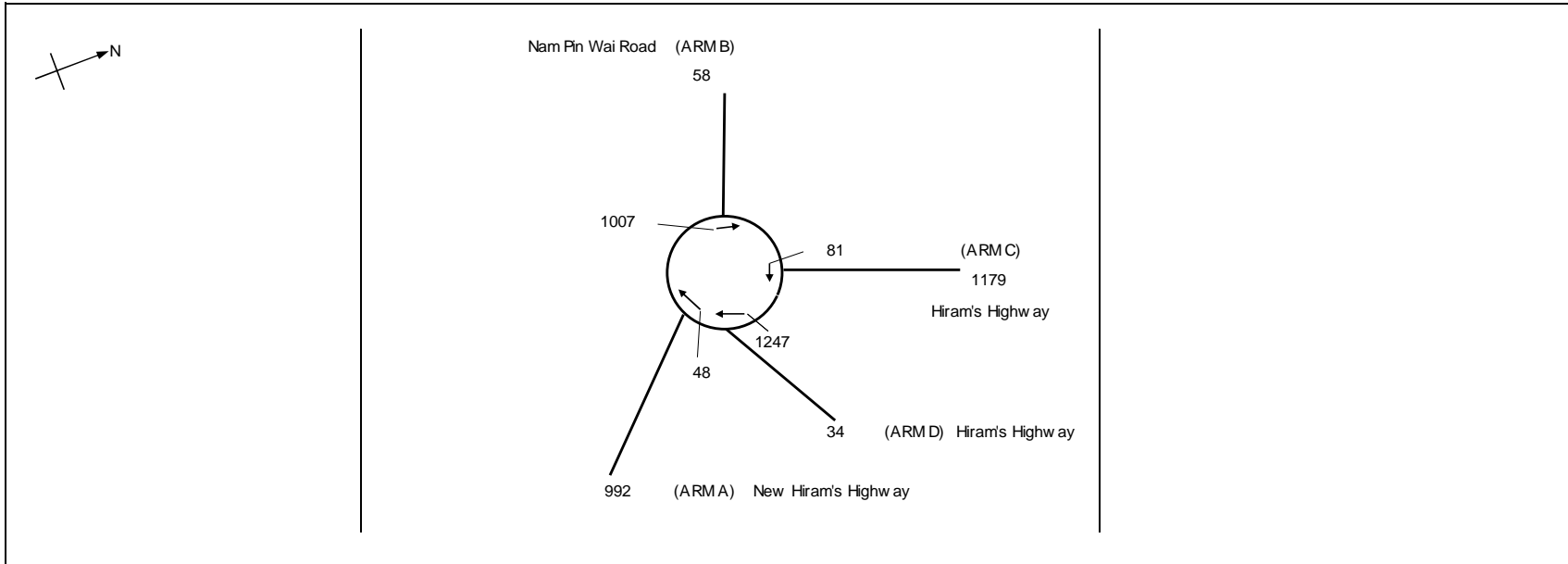


ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	897	30	1083	8		
Qc = Circulating flow across entry (pcu/h)	35	900	28	1100		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2323	1490	2220	904	Total In Sum =	0 PCU
DFC = Design flow/Capacity = Q/Qe	0.39	0.02	0.49	0.01	DFC of Critical Approach =	0.49

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

	2028refAM	PROJECT NO.:	PREPARED BY:
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai		FILENAME :	CHECKED BY:
2028 Reference Scenario Weekday AM Peak		J5-Hirams-PakWai.xls	REVIEWED BY:

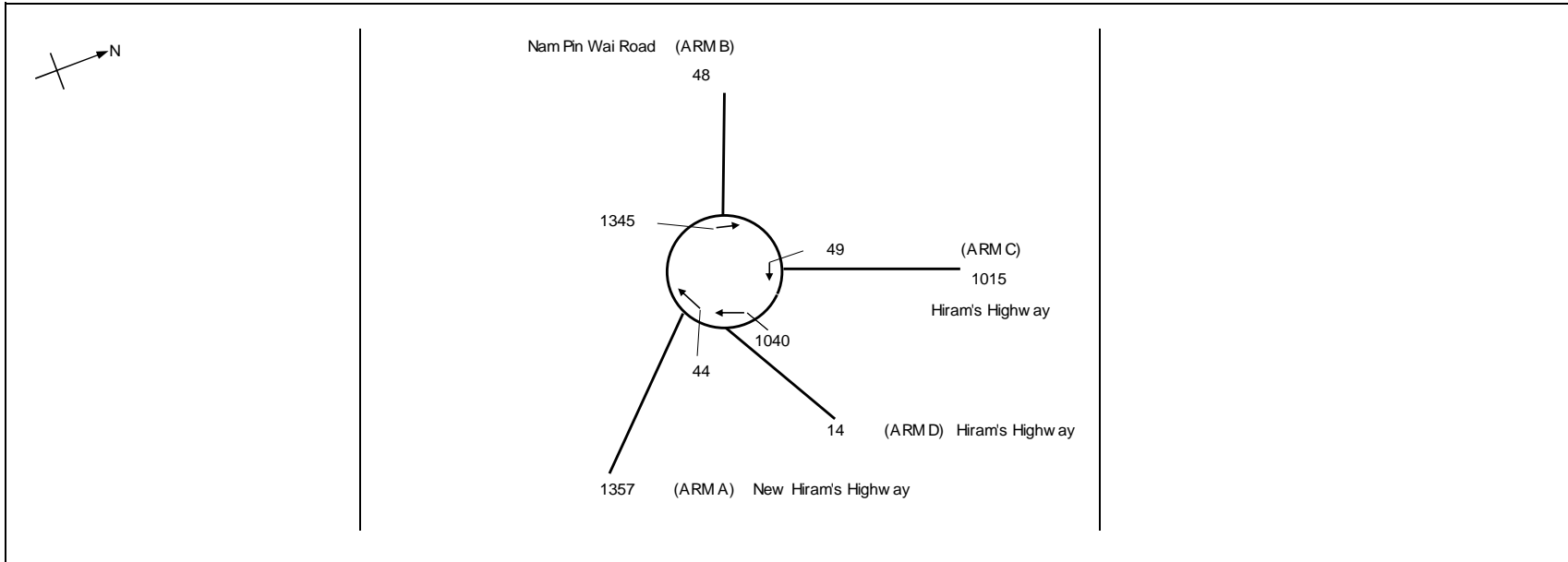


ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	992	58	1179	34		
Qc = Circulating flow across entry (pcu/h)	48	1007	81	1247		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2316	1436	2191	841	Total In Sum =	0 PCU
DFC = Design flow/Capacity = Q/Qe	0.43	0.04	0.54	0.04	DFC of Critical Approach =	0.54

ROUNDBABOUT CAPACITY ASSESSMENT

INITIALS DATE

	2028refPM	PROJECT NO.:	PREPARED BY:
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai		FILENAME :	CHECKED BY:
2028 Reference Scenario Weekday PM Peak		J5-Hirams-PakWai.xls	REVIEWED BY:



ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	1357	48	1015	14		
Qc = Circulating flow across entry (pcu/h)	44	1345	49	1040		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2318	1265	2209	929	Total In Sum =	0 PCU
DFC = Design flow/Capacity = Q/Qe	0.59	0.04	0.46	0.02	DFC of Critical Approach =	0.59

ROUNABOUT CAPACITY ASSESSMENT

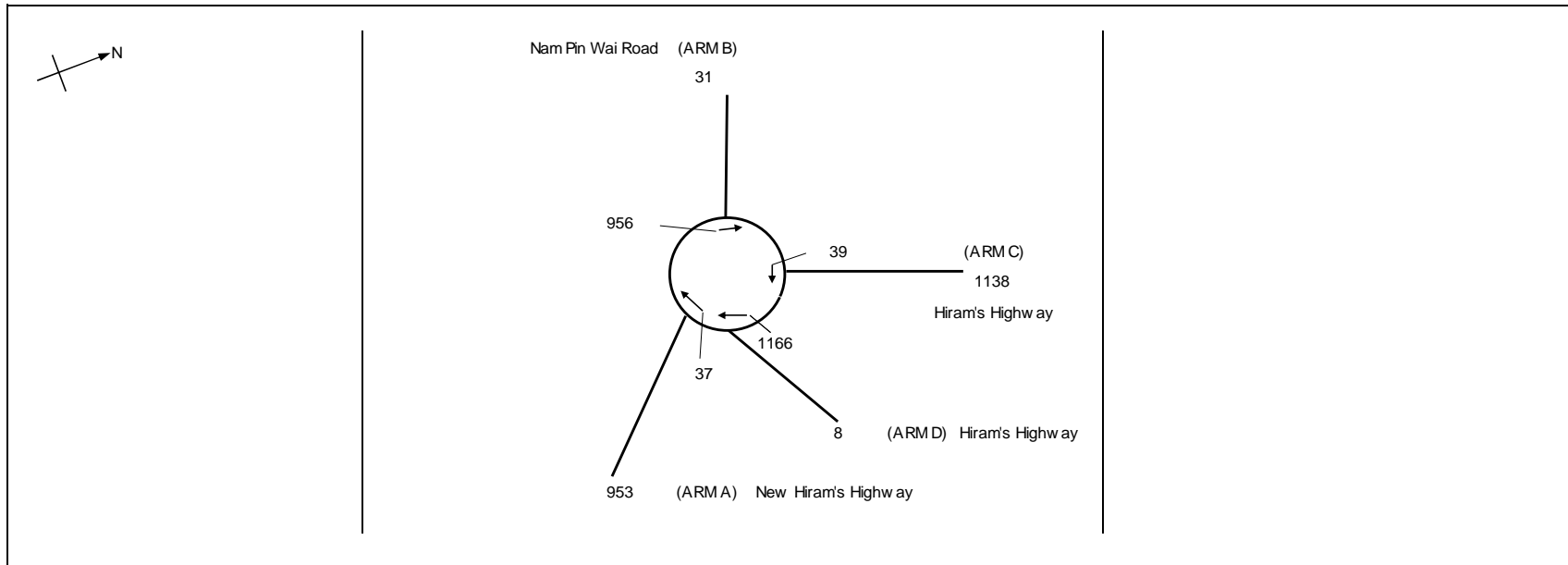
INITIALS DATE

J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai
2028 Reference Scenario Weekend PM Peak

2028refSUN

PROJECT NO.:
FILENAME :
J5-Hirams-PakWai.xls

PREPARED BY:
CHECKED BY:
REVIEWED BY:



ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	953	31	1138	8		
Qc = Circulating flow across entry (pcu/h)	37	956	39	1166		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2322	1462	2214	876	Total In Sum =	0 PCU
DFC = Design flow/Capacity = Q/Qe	0.41	0.02	0.51	0.01	DFC of Critical Approach =	0.51

ROUNDBOUT CAPACITY ASSESSMENT

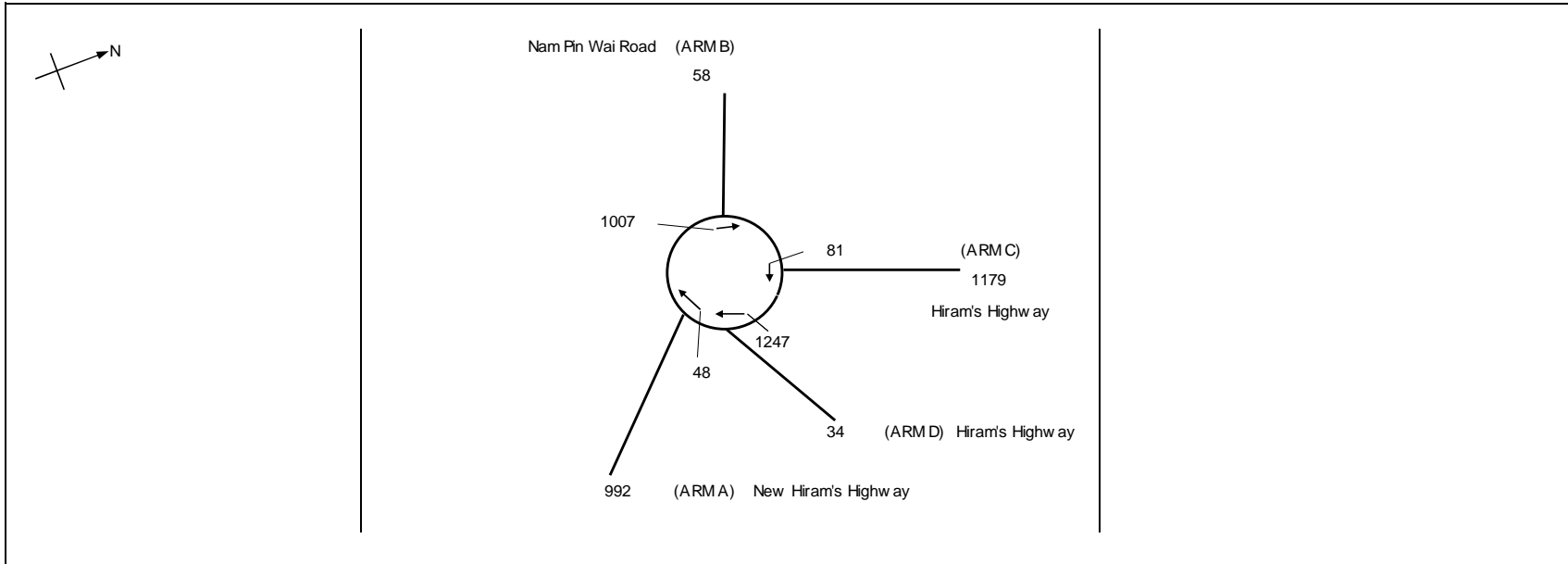
INITIALS DATE

J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai
2028 Design Scenario Weekday AM Peak

2028desAM

PROJECT NO.:
FILENAME :
J5-Hirams-PakWai.xls

PREPARED BY:
CHECKED BY:
REVIEWED BY:

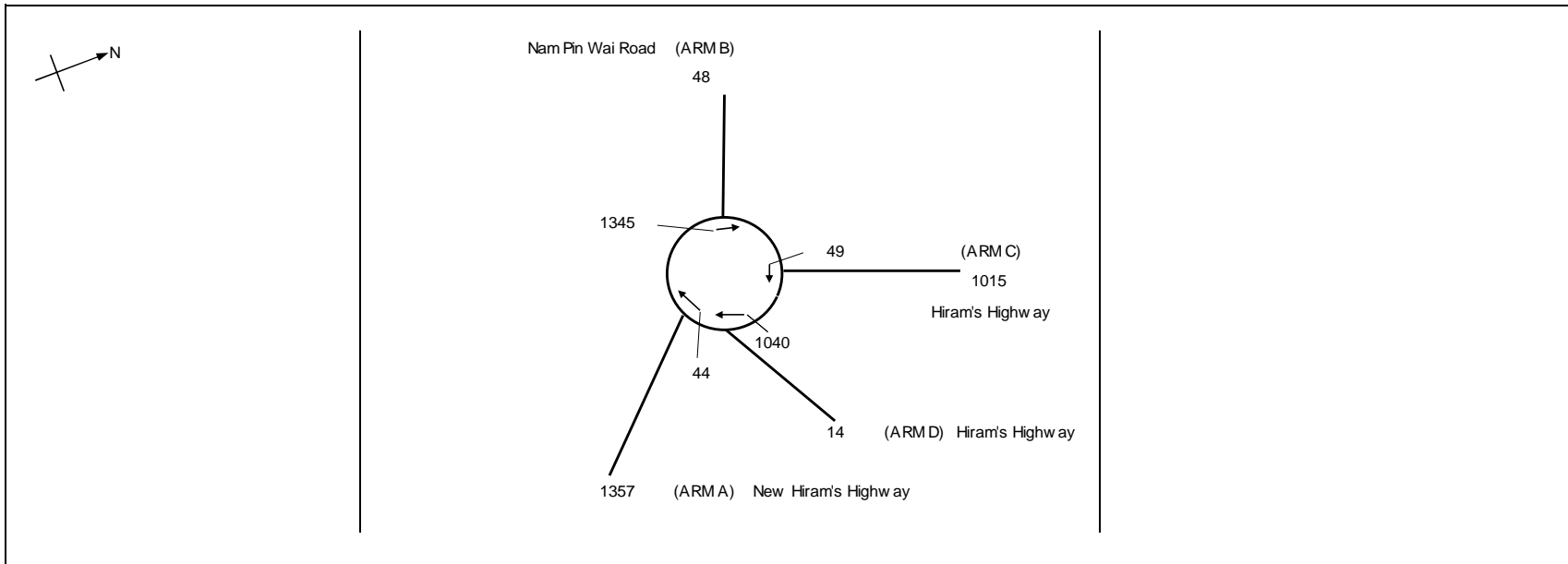


ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	992	58	1179	34		
Qc = Circulating flow across entry (pcu/h)	48	1007	81	1247		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2316	1436	2191	841	Total In Sum =	0 PCU
DFC = Design flow/Capacity = Q/Qe	0.43	0.04	0.54	0.04	DFC of Critical Approach =	0.54

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

	2028desPM	PROJECT NO.:	PREPARED BY:
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai		FILENAME :	CHECKED BY:
2028 Design Scenario Weekday PM Peak		J5-Hirams-PakWai.xls	REVIEWED BY:



ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	1357	48	1015	14		
Qc = Circulating flow across entry (pcu/h)	44	1345	49	1040		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2318	1265	2209	929	Total In Sum =	0 PCU
DFC = Design flow/Capacity = Q/Qe	0.59	0.04	0.46	0.02	DFC of Critical Approach =	0.59

ROUNDBABOUT CAPACITY ASSESSMENT

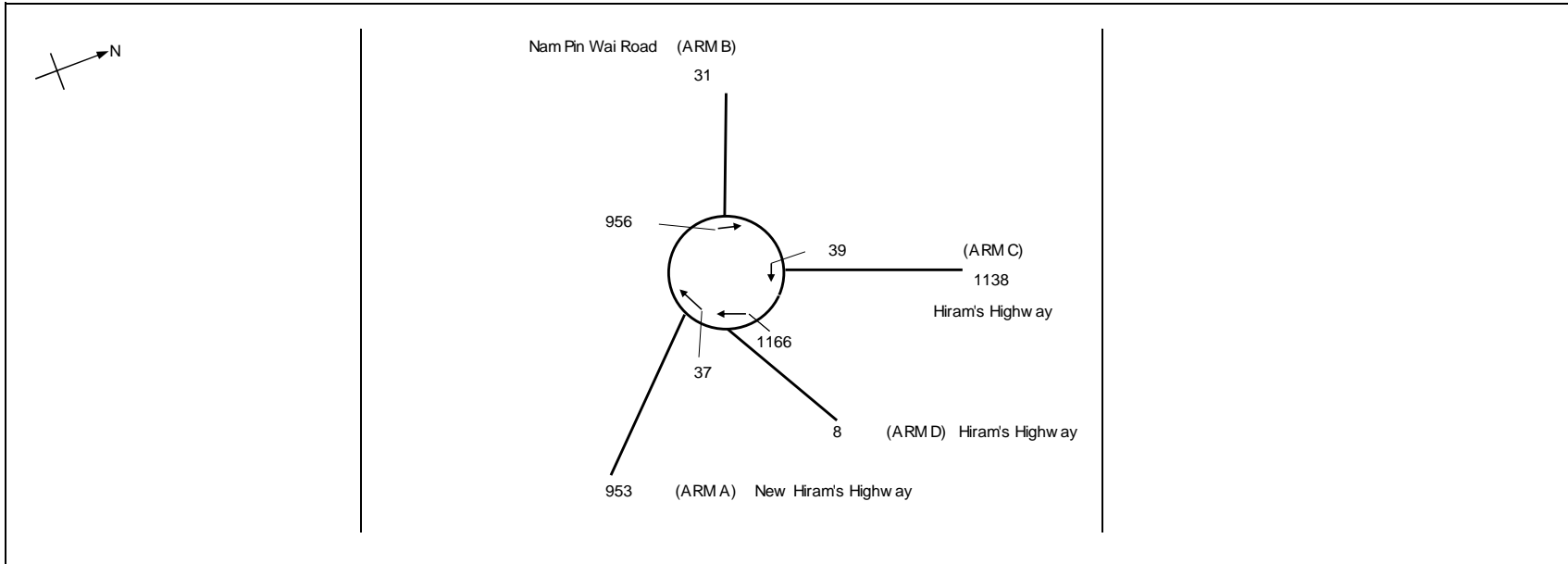
INITIALS DATE

J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai
2028 Design Scenario Weekend PM Peak

2028desSUN

PROJECT NO.:
FILENAME :
J5-Hirams-PakWai.xls

PREPARED BY:
CHECKED BY:
REVIEWED BY:

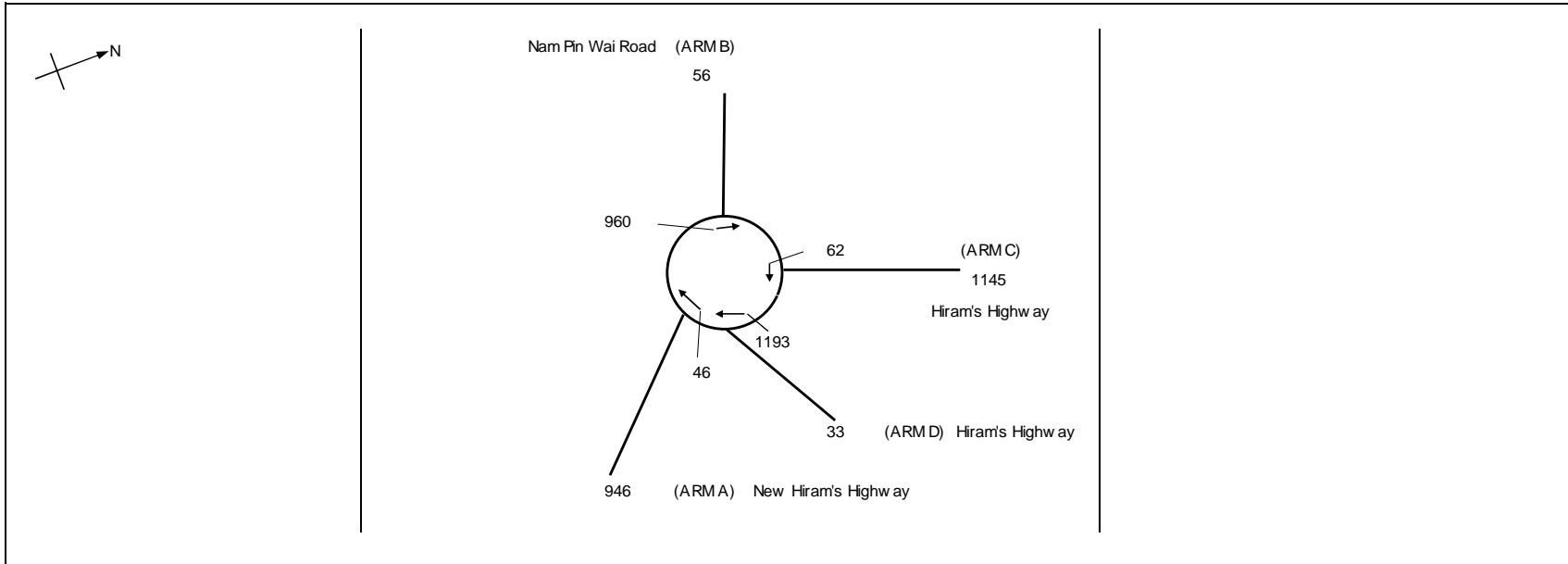


ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	953	31	1138	8		
Qc = Circulating flow across entry (pcu/h)	37	956	39	1166		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2322	1462	2214	876	Total In Sum =	0 PCU
DFC = Design flow/Capacity = Q/Qe	0.41	0.02	0.51	0.01	DFC of Critical Approach =	0.51

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

	2025refAM	PROJECT NO.:	PREPARED BY:
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai		FILENAME :	CHECKED BY:
2025 Reference Scenario Weekday AM Peak		J5-Hirams-PakWai.xls	REVIEWED BY:

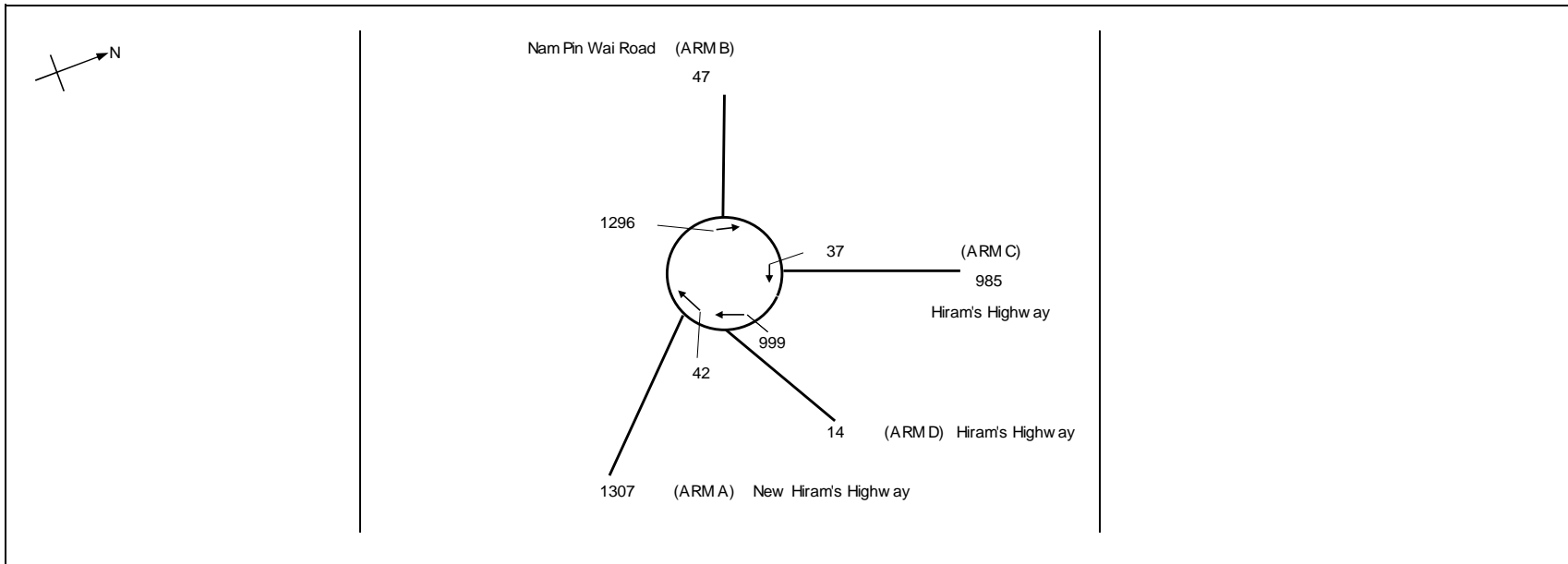


ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	946	56	1145	33		
Qc = Circulating flow across entry (pcu/h)	46	960	62	1193		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2317	1460	2201	864	Total In Sum =	0 PCU
DFC = Design flow/Capacity = Q/Qe	0.41	0.04	0.52	0.04	DFC of Critical Approach =	0.52

ROUNDBOUT CAPACITY ASSESSMENT

INITIALS DATE

	2025refPM	PROJECT NO.:	PREPARED BY:
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai		FILENAME :	CHECKED BY:
2025 Reference Scenario Weekday PM Peak		J5-Hirams-PakWai.xls	REVIEWED BY:



ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	1307	47	985	14		
Qc = Circulating flow across entry (pcu/h)	42	1296	37	999		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2319	1290	2215	947	Total In Sum =	0 PCU
DFC = Design flow/Capacity = Q/Qe	0.56	0.04	0.44	0.01	DFC of Critical Approach =	0.56

ROUNDBOUT CAPACITY ASSESSMENT

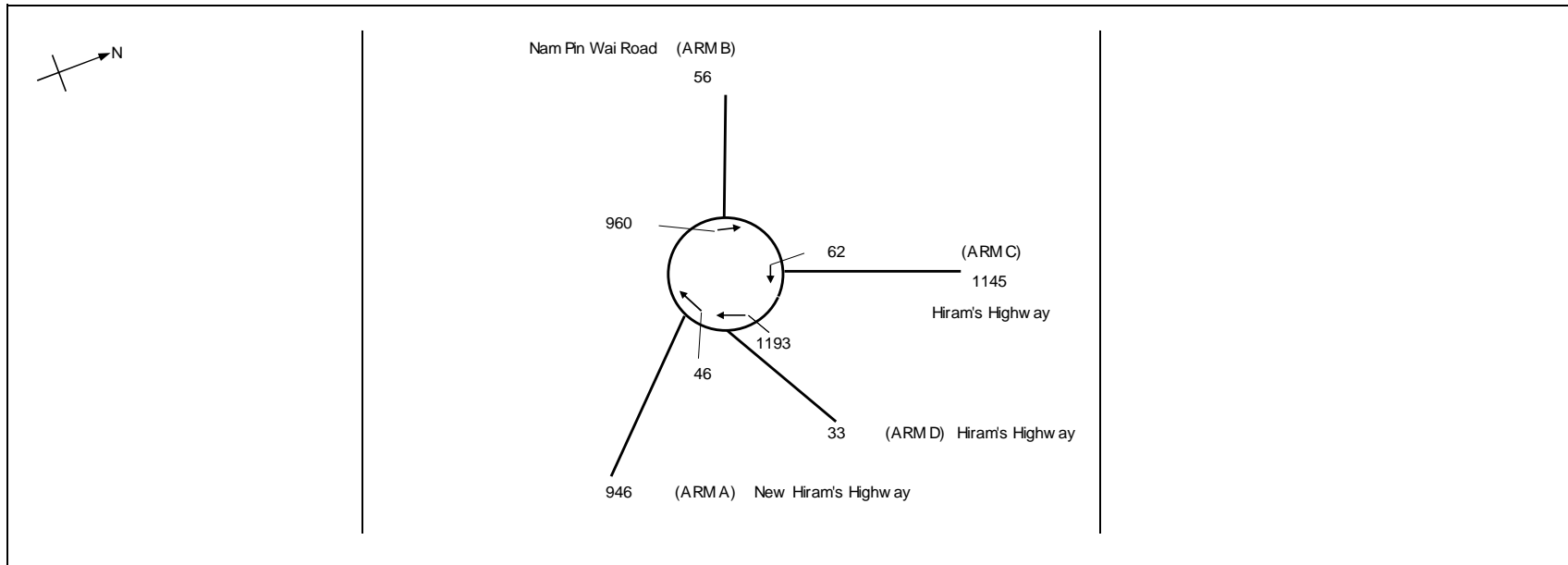
INITIALS DATE

J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai
2025 Design Scenario Weekday AM Peak

2025desAM

PROJECT NO.:
FILENAME :
J5-Hirams-PakWai.xls

PREPARED BY:
CHECKED BY:
REVIEWED BY:



ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	946	56	1145	33		
Qc = Circulating flow across entry (pcu/h)	46	960	62	1193		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2317	1460	2201	864	Total In Sum =	0 PCU
DFC = Design flow/Capacity = Q/Qe	0.41	0.04	0.52	0.04	DFC of Critical Approach =	0.52

ROUNDBOUT CAPACITY ASSESSMENT

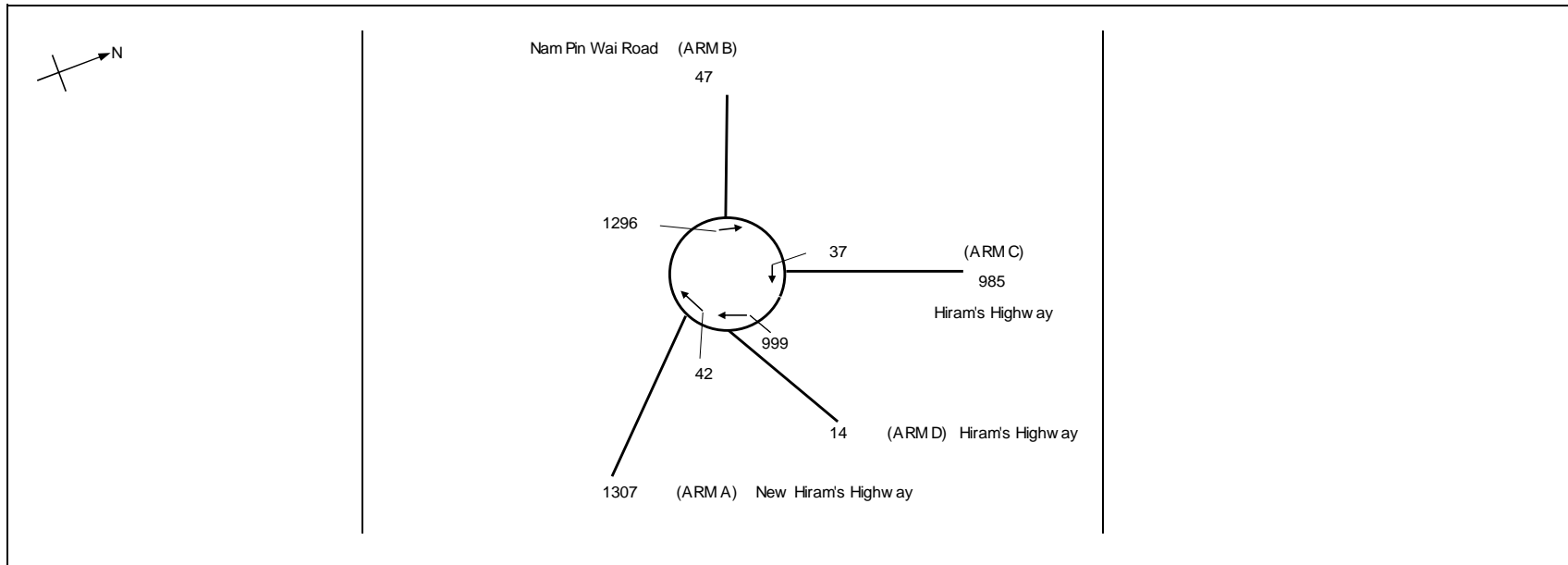
INITIALS DATE

J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai
2025 Design Scenario Weekday PM Peak

2025desPM

PROJECT NO.:
FILENAME :
J5-Hirams-PakWai.xls

PREPARED BY:
CHECKED BY:
REVIEWED BY:



ARM	A	B	C	D		
INPUT PARAMETERS:						
V = Approach half width (m)	7.5	6.0	7.6	3.5		
E = Entry width (m)	8.5	7.0	7.6	6.0		
L = Effective length of flare (m)	13.5	6.0	0.0	6.0		
R = Entry radius (m)	20.0	20.0	22.5	17.0		
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0		
A = Entry angle (degree)	50.0	40.0	40.0	30.0		
Q = Entry flow (pcu/h)	1307	47	985	14		
Qc = Circulating flow across entry (pcu/h)	42	1296	37	999		
OUTPUT PARAMETERS:						
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99		
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57		
M = EXP((D-60)/10)	6	6	6	6		
F = 303*X2	2517	2016	2303	1385		
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07		
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43		
Qe = K(F-Fc*Qc)	2319	1290	2215	947	Total In Sum =	0 PCU
DFC = Design flow/Capacity = Q/Qe	0.56	0.04	0.44	0.01	DFC of Critical Approach =	0.56

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Attachment 3

Sewerage and Drainage Impact Appraisal (Version B)

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Sewerage and Drainage Impact Appraisal

For
Amendment of Plan to
Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)”
 (“R(E)”) and an area shown as ‘Road’
to “Residential (Group C)3” (“R(C)3”
on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11
at Various Lots in Demarcation District 210 and Demarcation District 244
and Adjoining Government land
Ho Chung, Sai Kung, New Territories, Hong Kong

Prepared by: Prudential Surveyors International Limited
Version: **A B**
Date: **August November 2023**

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1. Introduction

1.1 Background

1.1.1 This Sewerage and Drainage Appraisal is to support a planning permission from the Town Planning Board (TPB) under Section 12A of the Town Planning Ordinance (CAP. 131) for a proposed rezone of the Subject Site from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) within various lots within DD210 and DD244 and adjoining government land in Ho Chung, Sai Kung, New Territories. The application Site (**the Site**) is composed of 3 parcels, namely Parcel A, B and C. [refer to **Figure 1.1**]

1.1.2 The owner of the application Site has the intention to construct six individual houses with twelve car parking spaces in Parcels A and B of the Site and two individual house with four car parking spaces in Parcel C of the Site.

1.2 Site and its Surroundings

1.1.3 A site visit was carried out on 6 July 2023. Per the observations from the site visit, it was observed that the Site is situated in rural environs with a mixture of residential, industrial and storage uses with dwellings. [refer to **Figure 1.2**] The details of the surrounding are that:

- to the north of the Site is some 2 and 3-storey rural housing;
- to the east of the Site are some car repair workshops and to the further east are residential blocks of Marina Cove;
- to the south of the Site is the former Production Centre of Asia Television Limited (abandoned); and
- to the west of the Site is Luk Mei Village with a mixture of traditional single-storey village-type developments and modern 3-storey New Territories Exempted Houses (NTEHs).

1.1.4 Apart from residential buildings, there are scattered structures in the vicinity of the Site intended primarily for industrial uses including an unnamed warehouse, a motor repair workshop (Bayview Motors Company), a food factory under Koon Yick Food Manufacturing Company (冠益華記食品廠) (“Koon Yick”).

1.3 Proposed Development

1.1.5 The Proposed Development is to erect six individual houses in Parcel A and B of the Site and two individual houses in Parcel C of the Site. The proposed gross floor area (GFA) of the houses are summarised in Table 1.1

Propose House	Gross Floor Area (GFA) (sqm) (about)
House 1	283.35
House 2	283.35
House 3	283.35
House 4	283.35
House 5	283.35
House 6	283.35
House 7	345.75
House 8	345.75
Total	2,391.6
Average	298.95

Table 1.1 Proposed GFA of Houses

2. Sewerage Impact Appraisal

2.1 Scope of Works

The objective of this Sewerage Impact Appraisal (SIA) is to assess whether the capacity of the sewerage networking is sufficient to cope with the peak sewerage flow arising from the proposed comprehensive residential development.

Existing drainage record plan from the Drainage Services Department (DSD) is shown in **Figure 2.1**.

2.2 Existing Sewerage Facilities

According to the drainage record plan, there is no existing public sewerage network serving the Site. [refer to **Figure 2.1**]. Hence, the Site is an unsewered area at present.

2.3 Proposed Sewerage Treatment

In consideration that the Site is unsewered area, it is necessary to consider the provision of an on-site underground Sewerage Treatment Plant, which will be used for treatment of sewerage generated from the Proposed Development.

The applicant will be responsible for the construction, operation and maintenance of the on-site underground Sewerage Treatment Plant and all inter-connecting sewerage pipework (polyethylene pipes) within the Site. The sewerage collected from each house will be discharged to septic tank and soil **soakway soakaway** pit.

The design, operation and maintenance of the proposed underground Sewerage Treatment Plant are in compliance with EPD’s Practice Note for Professional Person (ProPECC) PN 5/93. It is proposed to construct **four eight** entire underground Sewerage Treatment Plant (involve inlet trap, septic tank, outlet trap, inter-connecting pipes and soil **soakway soakaway** pit) for proposed houses. The proposed capacity of the each septic tank is 15.98 cu.m and it is greater than the estimated daily water consumption of each proposed house. A reference septic tank is illustrated in **Figure 2.2** and the calculation of septic tank are shown in Table 2. For the proposed soil **soakway soakaway** pit, its size should be determined basing on soil absorption rate and therefore it should be determined in detail design stage.

		(mm)
Proposed Septic Tank Capacity	(L-t)x BxD	(5700-150)1600x1800 = 15.98 cu.m
The proposed septic tank System aims to serve one house with 4 Nos. of Person.		
Estimate Ultimate per capita daily water consumption	Design Flow Rate x Peak Factor	0.37 x 6 = 2.22 cu.m/person/day
Required Septic Tank Capacity	Nos of Person Per House x estimated daily water	4 x 2.22 = 8.88 is less Septic Tank Capacity

	consumption	(15.98 cu.m)
Tank to be desludged every 6 months		
The soil soakaway pit to be designed in accordance with PROPECC PN5/93 and its size shall be determined base on absorption capacity of soil and ultimate consumption rate.		

Table 2.1 - Calculation of Septic Tank

In addition, the proposed septic tank would be inspected at least once every 6 months by the applicant. If there is any flooding / overflow from the Septic Tank or foul smell become noticeable, immediate inspection would be carried out. Desludging the Septic Tank when thickness of sludge exceeds 30cm or ¼ of overall water depth or clogging of the septic tank outlet pipe or the soakaway pit or soil is suspected. Last, disposing the sludge would be carried out properly. Sludge removed would be transported by specialist contractors to sewerage treatment works for disposal.

The location of the proposed underground Sewerage Treatment Plant for the Site is illustrated in **Figure 2.3**.

Once the concerned public sewerage system is available in the vicinity, the Septic Tank System will be abandoned and replaced with a pump pit and a connection terminal manhole. All sewerage generated from the Proposed Development will be conveyed to the public sewerage system.

2.4 Assessment Criteria, Methodology and Assumptions

The adopted unit flow factor and global peaking factors will adopt the figures stipulated in the Guidelines for Estimating Sewerage Flows for Sewerage Infrastructure Planning (GESF) (Version 1.0) issued by the Environmental Protection Department (EPD) in March 2005 to estimate the sewerage flow generated from the Proposed Development.

With reference to Table T-1: Unit Flow Factors for Domestic Flows in the GESF (Version 1.0), the unit flow factors for private housing R4 domestic flow is 0.37cu.m/person/day.

2.5 Estimation of Sewerage Flow

The primary source of contaminants arising from the Site will be from bathrooms, toilets and kitchens from residential houses.

Table 2.2 shows the estimated peak sewerage flow for the Proposed Development.

Calculation for Sewerage Flow Generation Rate of the Site			
1a. Total number of units	=	8	units
1b. Total number of residents	=	32	people
1c. Design flow	=	0.37	cu.m/person/day – refer to Private R4 in Table T-1 of GESF
1d. Sewerage generation rate	=	9.25	cu.m/day
1e. Peak factor	=	6	refer to Section 3.3 from EPD’s Guidelines for Design of Small Sewerage Treatment Plant
1f. Estimated total peak flow	=	6 x 9.25 =55.5	cu.m/day
Sewerage to be discharge to Septic Tank			
2a. Number of septic tank proposed for the development	=	8	units
2b. Number of persons served by each septic tank	=	32 / 8 = 4	people
2c. Required capacity of each septic tank	=	4x 0.37 x 6 = 8.88	cu.m/day
2d. Design capacity of each septic tank	=	15.984 > 8.88	cu.m/day – refer to Table 2.1

Table 2.2 - Estimated Sewerage Flow from the Site

As shown in Table 2.2 above, the estimated total peak flow for the Proposed Development is 55.5 cu.m/day and the capacity of each proposed septic tank (15.984 cu.m/day) is greater than required capacity (8.88 cu.m/day).

2.6 Discussion

According to the drainage record plans obtained from DSD, there is no existing public sewerage network serving the Site. Sewerage from the Site is proposed to be discharged to the proposed underground Sewerage Treatment Plant.

The applicant shall take the maintenance responsibility of the septic tank and soil

soakway soakaway pit in order to maintain the operation of the proposed underground Sewerage Treatment Plant.

According to the design of the septic tank for the Proposed Development presented in Table 2 and estimated sewerage generation, it is anticipated that the proposed underground Sewerage Treatment Plants shown in **Figure 2.3** will have sufficient capacity to cater for sewerage generated from the proposed residential development.

2.7 Conclusion

Based on the sewerage generated and the capacity of the septic tank, it is anticipated that there will be no serious adverse sewerage impact to the area after the implementation of the development.

3. Drainage Impact Appraisal

3.1 Scope of Works

The objective of this Drainage Impact Appraisal (DIA) is to assess whether the Proposed Development may cause adverse impacts on drainage and flooding. These impacts will be identified and mitigation measures will be proposed in order to demonstrate that the Proposed Development will not cause an unacceptable increase in the risk of flooding in areas upstream of, adjacent to or downstream of the development.

Existing drainage record plan from the Drainage Services Department (DSD) was attached in **Figure 2.1**.

3.2 Existing and Planned Drainage Facilities

According to the drainage record plan, there is no existing public drainage network serving the Site [refer to **Figure 2.1**].

Upon a site investigation carried out on July 6 2023, a series of unnamed stormwater manholes were located along Ho Chung North Road and Luk Mei Tsuen Road (main road) and a series of U-channels were identified along Luk Mei Tsuen Road of the Parcel B and Parcel C of the Site. According to the information provided by the Contractor of Highways Department's Hiram's Highway Improvement Stage 1 Project [refer to **Figure 3.1A and 3.1B**], there is an existing nominal diameter (DN) 300 storm drain located under Ho Chung North Road and 450-525 storm drains located under Luk Mei Tsuen Road in the vicinity of the Site. The storm drains were completed in February 2021¹. The U-channels identified along Luk Mei Tsuen Road were recently built in 2023.

A drainage layout plan comprising the mentioned drainage information is presented in **Figure 3.2**.

3.3 Drainage Catchment Area

The drainage catchment areas included upstream catchment area and the Site. **Figure 3.3** illustrates the estimated overall upstream catchment area. The catchment area within the Site includes the open area and the roof of the buildings.

¹ Highways Department's web site (2023) Hiram's Highway Improvement Stage 1

The surface runoff discharged from the upstream catchment area would be collected by the existing perimeter U-channel surrounding the Site along Luk Mei Tsuen Road.

3.4 Drainage Calculations for the Proposed Provision of Drainage Facilities

The Rational Method has been adopted for hydraulic analysis and the peak runoff is given by the following expression:

$$Q = 0.278 C i A$$

where

Q = peak runoff in m³/s

C = runoff coefficient

i = rainfall intensity in mm/hr

A = catchment area in km²

The average rainfall intensity (i) is estimated on the basis of the design rainfall duration and 50 years return period according to Chapter 4 and Table 3a of the Stormwater Drainage Manual (fifth edition, Jan The design rainfall duration is taken as the time of concentration (t_c):

$$t_c = 0.14465L / (A^{0.1} H^{0.2})$$

where

A = catchment area (m²)

H = average catchment slope (m/100m)

L = catchment Length (m)

The Site is divided into 3 catchment areas for drainage calculation, in which Parcel A and B are redefined as catchment A1 and A2, while Parcel C is redefined as catchment A3. The catchment area refers to **Figure 3.4**.

Assuming that:

i. The area of Catchment:

A1 = 678.22 m² (0.0006 km²);

A2 = 1265.38 m² (0.0012 km²); and

A3 = 922.58 m² (0.0009 km²).

ii. The catchment is almost paved and therefore the value of runoff coefficient (C) is taken as 0.95.

The time of concentration of catchment A1, A2 and A3 are: 7.8609 mins, 15.5561 mins, and 15.2357 mins respectively. The average rainfall intensity for catchment A1, A2 and A3 would then be 205.5142 mm/hr, 170.3364 mm/hr and 171.3696 mm/hr respectively. Therefore, the total peak runoff from Parcel A and B is 0.0865 m³/s, while the total peak runoff from Parcel C is 0.0407 m³/s.

The detailed design calculations of proposed drainage system are provided in **Figure 3.5**. In accordance with the Chart for the Rapid Design of Channels in "Geotechnical Manual for Slopes", 300mm surface U-channel in 1:100 gradient is considered adequate to dissipate all the stormwater accrued by the Site. The intercepted stormwater will then be discharged to the proposed 300 mm surface U-channel and connect to the existing storm drain outside the Site along Ho Chung North Road.

3.5 Proposed Drainage System

For Parcel A and B of the Site, the surface runoff discharged from the Site will gravitate to lower grounds and be collected by the proposed **perimeter 300mm** U-channel surrounding the Site and the proposed **300mm** U-channel located across the Site. The storm water collected from the U-channel would flow into the **300mm** precast concrete pipes to a proposed new manhole. The new manhole will be connected to the existing unnamed stormwater manhole along Ho Chung North Road.

For Parcel C of the Site, the surface runoff discharged from the Site will be collected by the proposed **perimeter 300mm** U-channel surrounding the Site. The storm water collected from the U-channel would flow into the **300mm** precast concrete pipes to a proposed new manhole. The new manhole will be connected to the existing unnamed stormwater manhole along Ho Chung North Road.

The indicative drainage connection is shown in **Figure 3.4**.

3.6 Discussion

According to the drainage record plans obtained from DSD, there is no existing public drainage network serving the Site. A series of unnamed drainage pipes on Ho Chung North Road are have been built for the Highways Department's Hiram's Highway Improvement Stage 1 Project. These drainage pipes are capable to collect the surface runoff from the Site.

The surface runoff from the Site will be collected by the proposed perimeter U-channel and discharged to the unnamed storm water manholes along Ho Chung Road/Luk Mei Tsuen Road.

The estimated flow rate of surface runoff discharge from the Site to public 300 dia. drainage pipe on Ho Chung North Road is about 0.13m³/s and the public pipe is capable to collect the runoff.

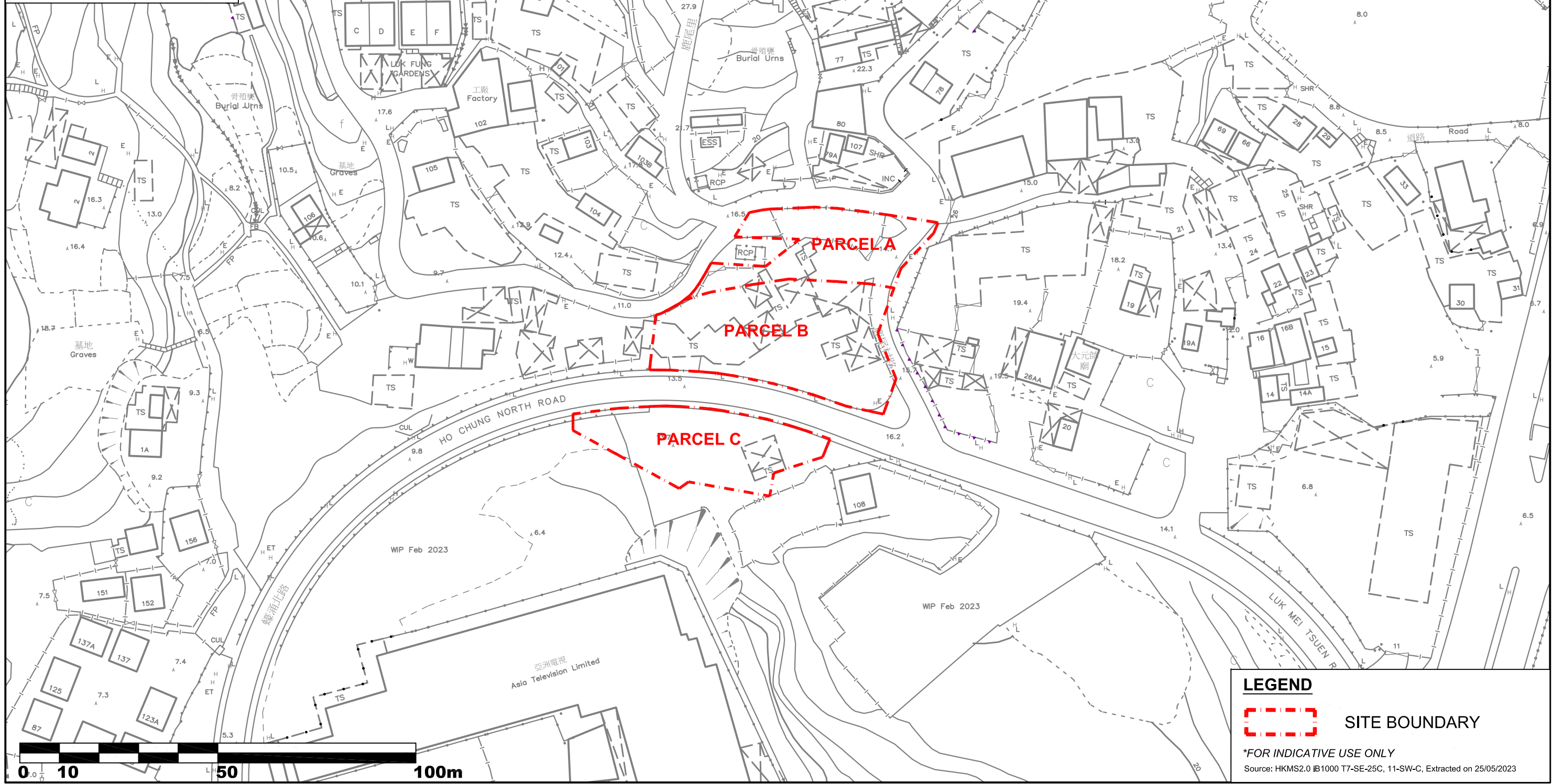
Therefore, the proposed drainage connection is feasible for the Proposed Development.

3.7 Conclusion


Based on the proposed drainage system, It is anticipated that there will be no serious adverse drainage impact to the existing drainage system after the implementation of the development.

Figures

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LEGEND

 SITE BOUNDARY

**FOR INDICATIVE USE ONLY*

Source: HKMS2.0 IB1000 T7-SE-25C, 11-SW-C, Extracted on 25/05/2023

File Name :
Source :

PRUDENTIAL 謝文
SURVEYING · LAND ADVISORY · VALUATION 行

ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
LOCATION PLAN

Drawn	CN	Date	19/07/2023	Drawing No.	
Checked	RT	Approved	RT	Figure 1.1	
Scale	1:1000 @ A3			Rev.	-
Rev	Description	Date			



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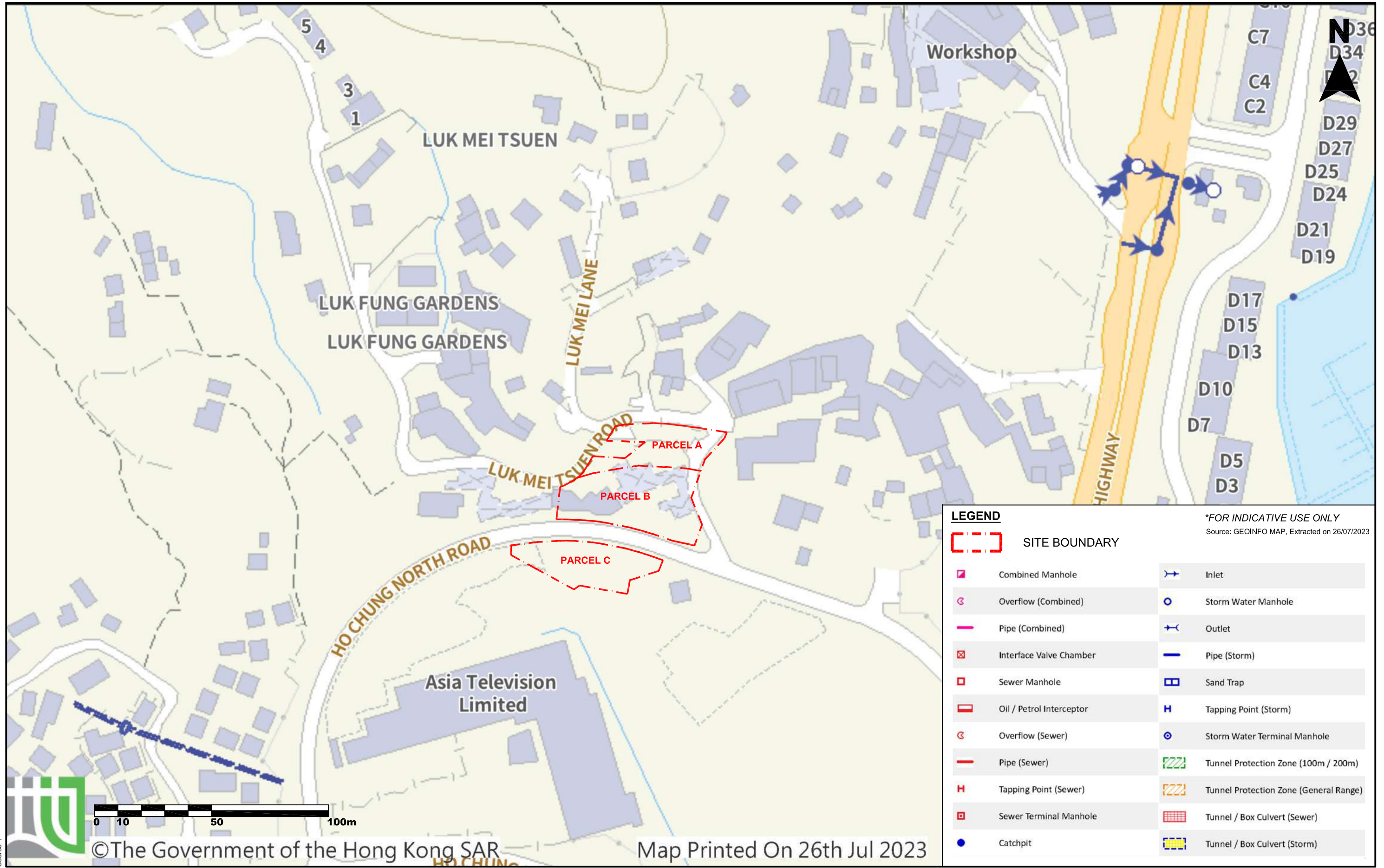
SITE BOUNDARY

PLANNED DEVELOPMENT

Source: HKMS 2.0 Aerial Photo E154298C 6000' (9 Mar 2022)

File Name :
Source :
**For Indicative Use Only*

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title THE SITE AND ITS SURROUNDINGS			Drawn CN Date 08/08/2023	Drawing No. FIGURE 1.2
						Checked RT Approved RT	Scale N.T.S.
				Rev	Description	Date	



LEGEND

	SITE BOUNDARY	<i>*FOR INDICATIVE USE ONLY</i> Source: GEOINFO MAP, Extracted on 26/07/2023	
	Combined Manhole		Inlet
	Overflow (Combined)		Storm Water Manhole
	Pipe (Combined)		Outlet
	Interface Valve Chamber		Pipe (Storm)
	Sewer Manhole		Sand Trap
	Oil / Petrol Interceptor		Tapping Point (Storm)
	Overflow (Sewer)		Storm Water Terminal Manhole
	Pipe (Sewer)		Tunnel Protection Zone (100m / 200m)
	Tapping Point (Sewer)		Tunnel Protection Zone (General Range)
	Sewer Terminal Manhole		Tunnel / Box Culvert (Sewer)
	Catchpit		Tunnel / Box Culvert (Storm)

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Map Printed On 26th Jul 2023



ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

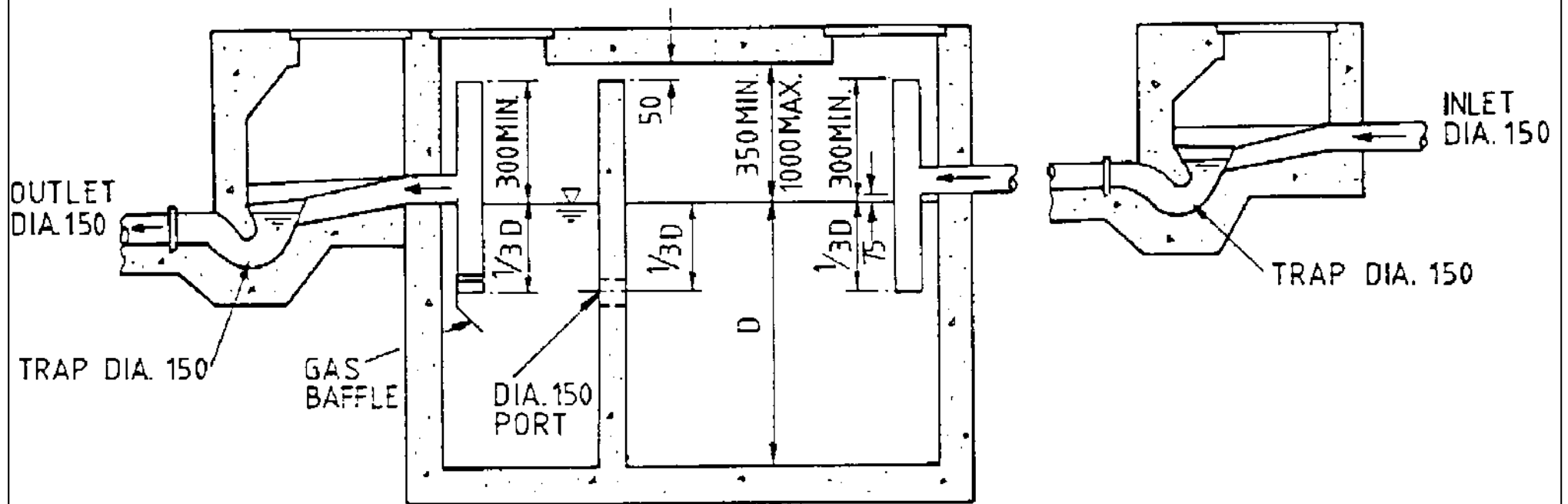
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Drawing Title
EXISTING DSD UTILITY RECORD PLAN

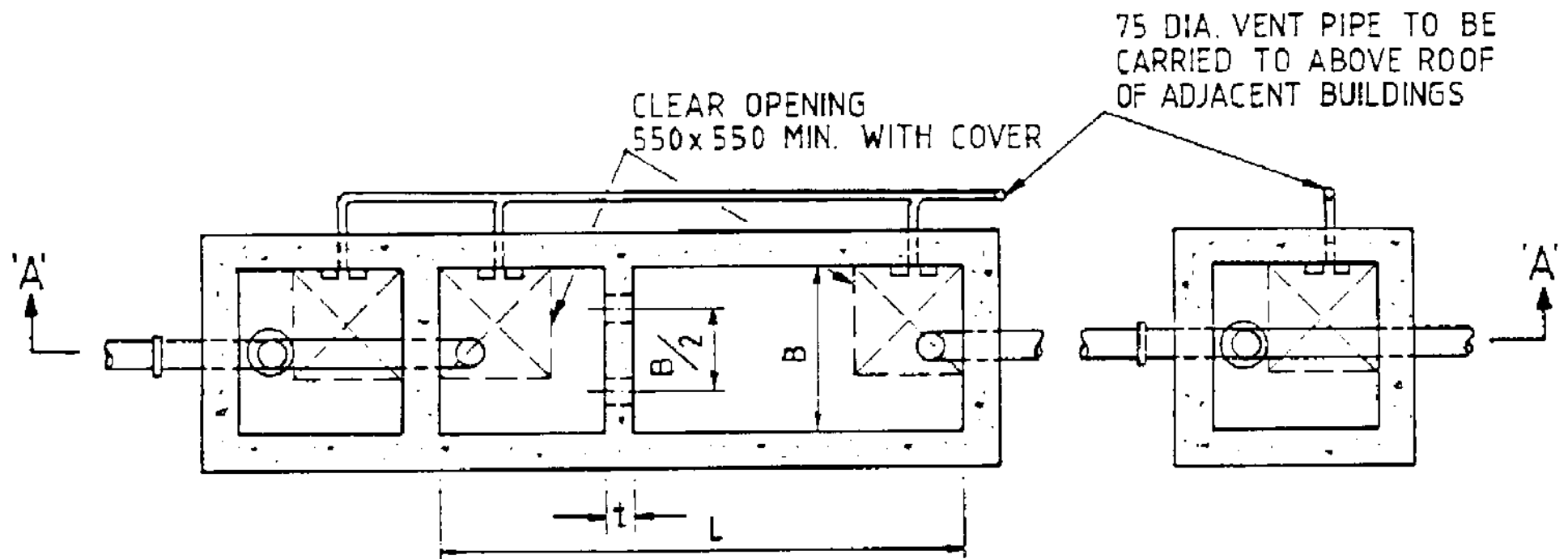
Rev	Description	Date

Drawn	CN	Date	26/07/2023
Checked	RT	Approved	RT
Scale	1:1500 @ A3		

Drawing No.	Figure 2.1
Rev.	-



SECTION A-A



PLAN

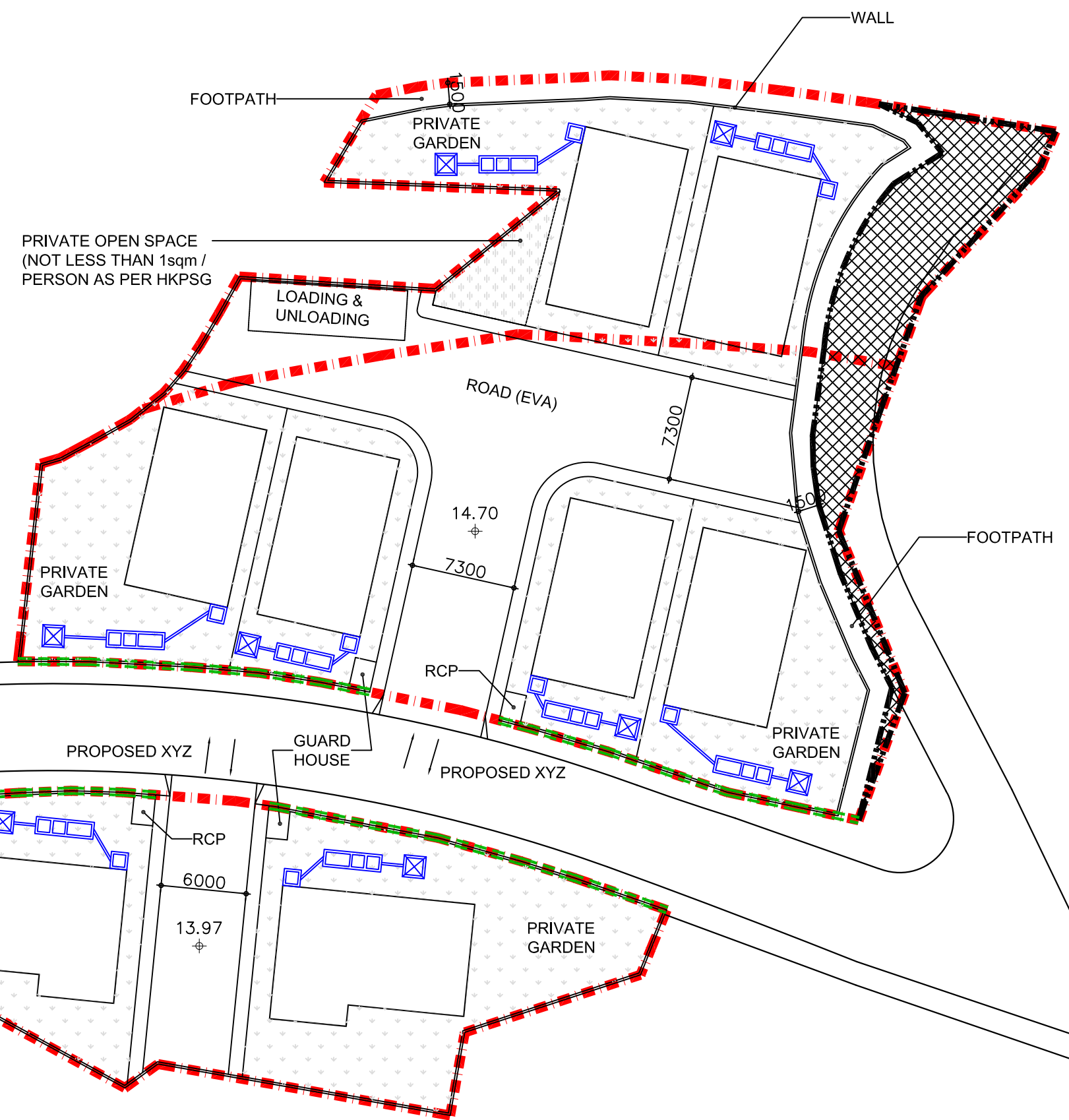
NOTES:-

1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
2. SIZE
 - a. $4B \geq L > 3B$
 - b. $1800 \text{ mm} \geq D > 1200 \text{ mm}$
 - c. RATIO OF VOLUMES OF FIRST AND SECOND CHAMBERS = 2 : 1
3. CAPACITY (SUBJECT TO NOTE 2)
 - a. CAPACITY $C = (L - t) \times B \times D$
 - b. NOT LESS THAN 2.3 m^3 BUT NOT MORE THAN 41 m^3
 - c. NOT LESS THAN QN WHERE N IS THE NUMBER OF PERSONS SERVED AND Q IS THE ESTIMATED ULTIMATE PER CAPITA DAILY WATER CONSUMPTION
 - d. SURFACE WATER MUST NOT BE CONNECTED TO THE TANK
 - e. TANK TO BE DESLUDGED EVERY 6 MONTHS
4. NO OVERFLOW OR BYPASS PIPE IS ALLOWED.
5. PLEASE REFER TO THE BOOKLET "GUIDANCE NOTES ON DISCHARGES FROM VILLAGE HOUSES" PUBLISHED BY EPD FOR FURTHER GUIDELINES ON OPERATION AND MAINTENANCE OF SEPTIC TANK SYSTEM.

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Source: EDP ProPECC PN 5/93 Appendix D

File Name :
Source :

	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C3)" ("R(C3)") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government Land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title		Drawn	Date	Drawing No.		
		REFERENCE SEPTIC TANK		CN	07/08/23			
				Checked	Approved	RT	RT	Fig. 2.2
				Scale	N.T.S.	Rev.	-	
		Rev	Description	Date				

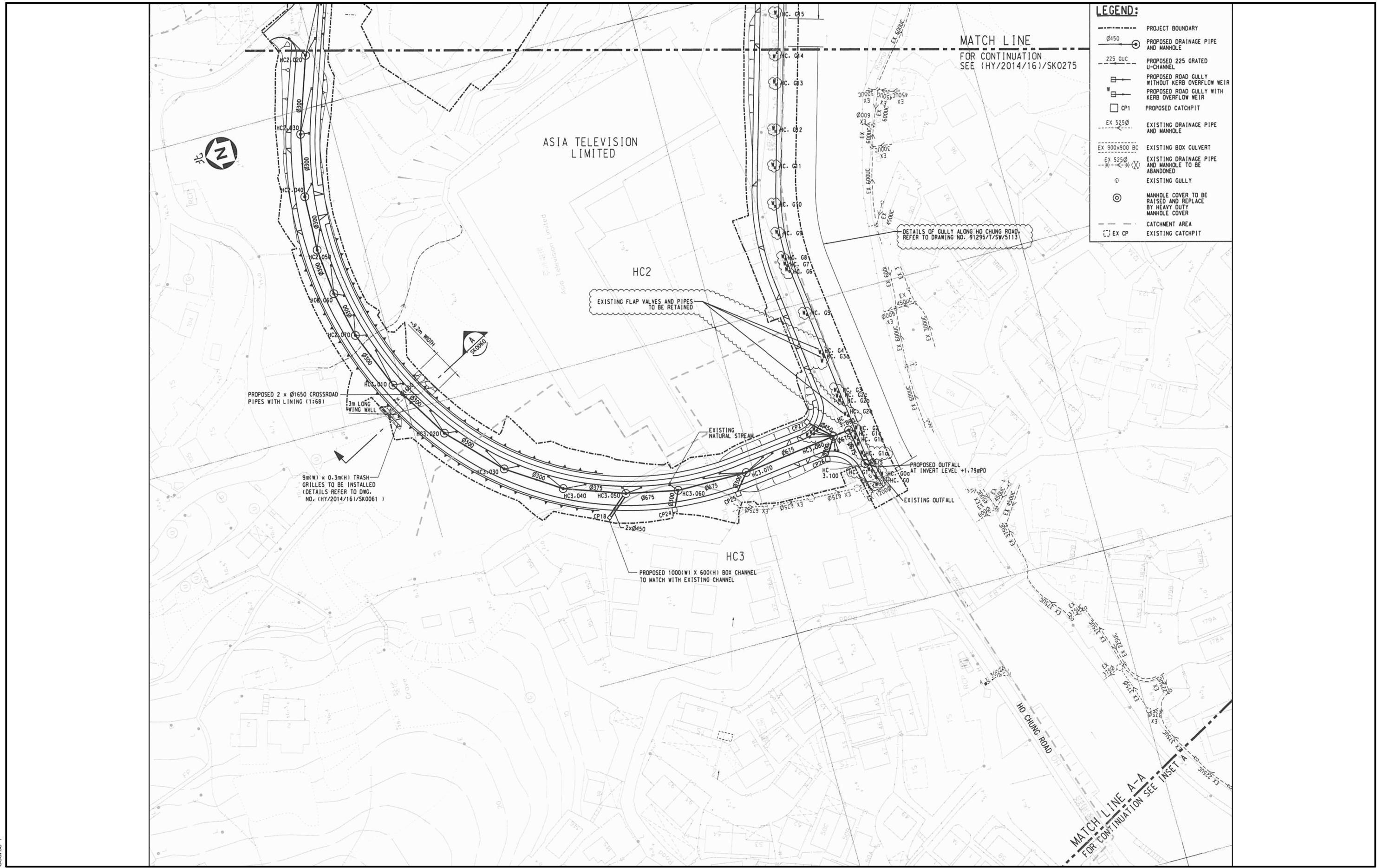


LEGEND

- SITE BOUNDARY
- AREA TO BE DEDICATED AS RIGHT OF WAY
- GREEN NOISE BARRIER
- PRIVATE GARDEN
- BUILDING FOOTPRINT
- PRIVATE OPEN SPACE
- INLET TRAP
- SEPTIC TANK & OUTLET TRAP
- 150 DIA. POLYETHYLENE PIPES
- SOIL SOAKAWAY PIPES (SIZE TO BE DETERMINED IN DETAILED DESIGN)

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title PROPOSED SEWERAGE LAYOUT PLAN	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">1</td> <td style="width: 60%;">Sewerage Layout Update</td> <td style="width: 15%;">16/08/23</td> <td style="width: 10%;">06/11/23</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	1	Sewerage Layout Update	16/08/23	06/11/23													<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">Drawn</td> <td style="width: 15%;">CN</td> <td style="width: 10%;">Date</td> <td style="width: 10%;">06/11/2023</td> </tr> <tr> <td>Checked</td> <td>RT</td> <td>Approved</td> <td>RT</td> </tr> <tr> <td>Scale</td> <td colspan="3">1:350 @ A3</td> </tr> </table>	Drawn	CN	Date	06/11/2023	Checked	RT	Approved	RT	Scale	1:350 @ A3			Drawing No. Figure 2.3 Rev.
	1	Sewerage Layout Update	16/08/23	06/11/23																														
Drawn	CN	Date	06/11/2023																															
Checked	RT	Approved	RT																															
Scale	1:350 @ A3																																	
				1																														



LEGEND:

- PROJECT BOUNDARY
- Ø450 (M) PROPOSED DRAINAGE PIPE AND MANHOLE
- 225 GUC PROPOSED 225 GRATED U-CHANNEL
- PROPOSED ROAD GULLY WITHOUT KERB OVERFLOW WEIR
- PROPOSED ROAD GULLY WITH KERB OVERFLOW WEIR
- CP1 PROPOSED CATCHPIT
- EX 525Ø EXISTING DRAINAGE PIPE AND MANHOLE
- EX 900x900 BC EXISTING BOX CULVERT
- EX 525Ø EXISTING DRAINAGE PIPE AND MANHOLE TO BE ABANDONED
- ⊙ EXISTING GULLY
- ⊙ MANHOLE COVER TO BE RAISED AND REPLACE BY HEAVY DUTY MANHOLE COVER
- CATCHMENT AREA
- EX CP EXISTING CATCHPIT

MATCH LINE
FOR CONTINUATION
SEE (HY/2014/16)/SK0275

DETAILS OF GULLY ALONG HO CHUNG ROAD
REFER TO DRAWING NO. 91295/T/SW/5113

MATCH LINE A-A
FOR CONTINUATION SEE INSET A

File Name :
Source :

PRUDENTIAL
SURVEYING · LAND ADVISORY · VALUATION

ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

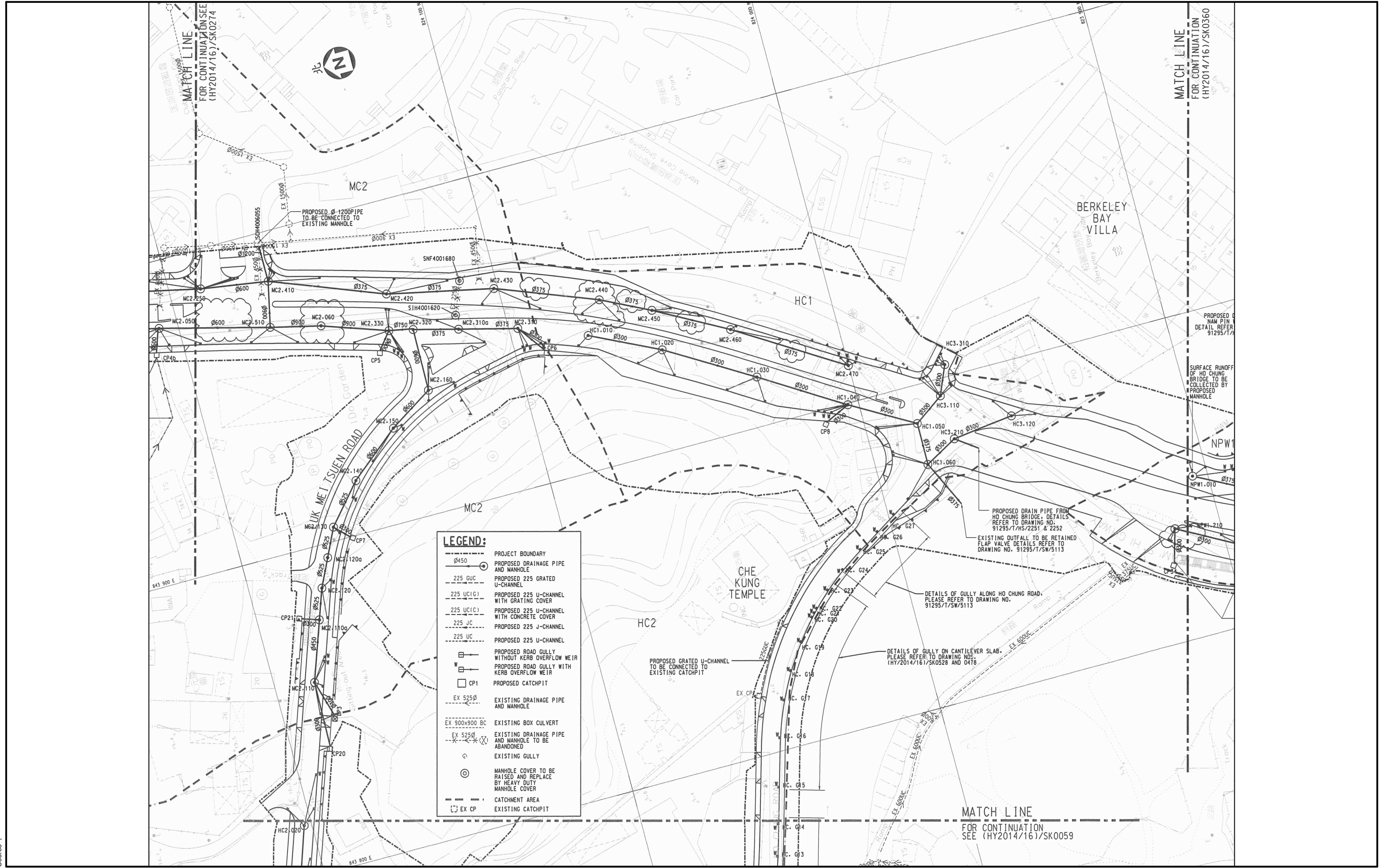
JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
PROPOSED DRAINAGE LAYOUT FROM THE HIRAM'S HIGHWAY IMPROVEMENT STAGE 1 PROJECT

Rev	Description	Date

Drawn	CN	Date	07/08/2023
Checked	RT	Approved	RT
Scale	N.T.S.		

Drawing No.
Fig. 3.1A
Rev. -



File Name :
Source :

PRUDENTIAL
SURVEYING · LAND ADVISORY · VALUATION

ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

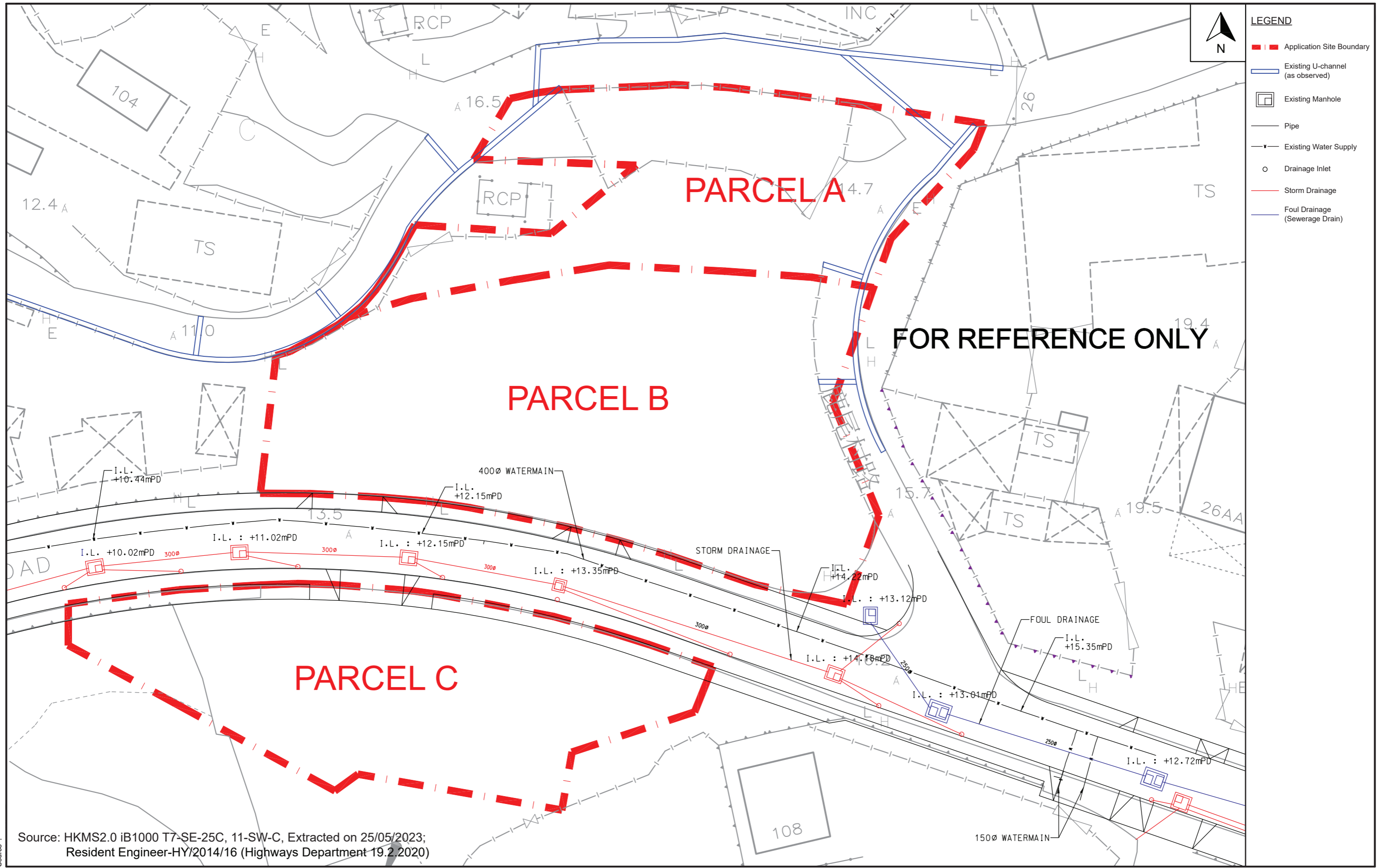
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Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
PROPOSED DRAINAGE LAYOUT FROM THE HIRAM'S HIGHWAY IMPROVEMENT STAGE 1 PROJECT

Drawn	CN	Date	07/08/2023
Checked	RT	Approved	RT
Scale	N.T.S.		

Drawing No.
Fig. 3.1B

Rev. -



Source: HKMS2.0 iB1000 T7-SE-25C, 11-SW-C, Extracted on 25/05/2023;
 Resident Engineer-HY/2014/16 (Highways Department 19.2 2020)

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government Land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title DRAINAGE LAYOUT PLAN	09/08/23	Drawn CN	Date 30/10/2023	Drawing No. Figure 3.2
				30/10/23	Checked RT	Approved RT	
Rev	Description	Date	Scale N.T.S.	Rev.	1		

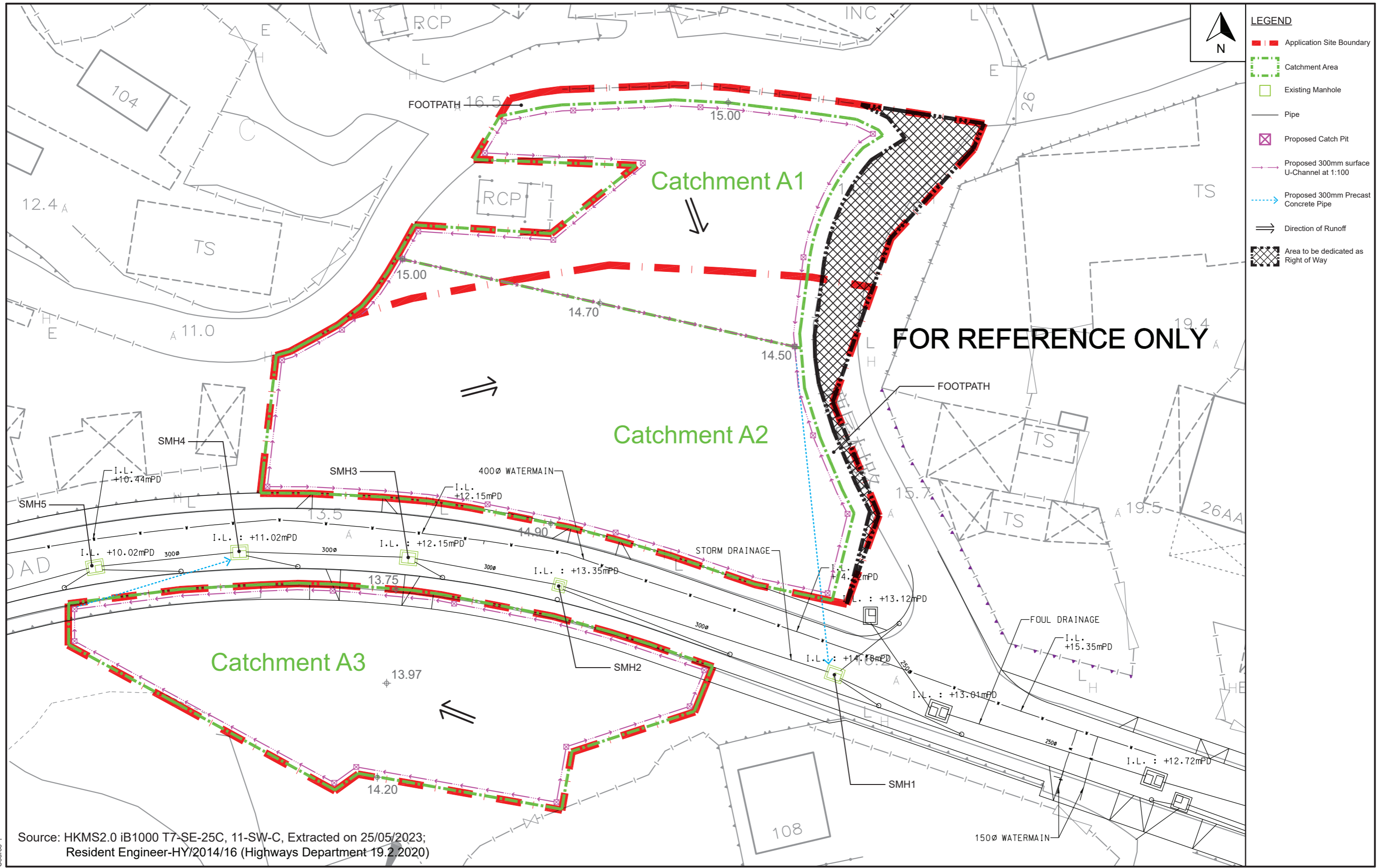


LEGEND

- - - Application Site Boundary
- ➔ Direction of Water Flow
- Upstream Catchment Area
- Catchment Area of the Site
- Existing U-channel (as observed)

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title CATCHMENT AREA PLAN					Drawn CN Date 09/08/2023 Checked RT Approved RT Scale N.T.S.	Drawing No. Figure 3.3 Rev. -				
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Rev	Description	Date											



File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title PROPOSED DRAINAGE CONNECTION		07/08/23	Drawn	CN	Date	06/11/2023	Drawing No.
			1	Drainage Layout Update	06/11/23	Checked	RT	Approved	RT	Figure 3.4
Rev	Description	Date	Scale	N.T.S.		Rev.	1			

Formula Used

Time of Concentration

$$t_c = 0.14465L/(A^{0.1} H^{0.2})$$

Intensity

$$I = \frac{a}{(tc + b)^c}$$

Runoff

$$Q = 0.278 C i A$$

Runoff Calculation after Proposed Development

Runoff Coeff. for Paved Area [C]	Intensity Coeff. (taken from Table 3a of Stormwater Design Manual, 1 in 50 return)					
0.95	a	451.3	b	2.46	c	0.337


Catchment	Area [A] (km ²)	Average Slope [H] (m per 100m)	Longest Path [L] (m)	Time of Conc. [tc] (min.)	Intensity [i] (mm/hr)	Designed Runoff [Q] (m ³ /s)
A1	0.0006	1	25.8804	7.8609	205.5142	0.0326
A2	0.0012	1	54.8909	15.5561	170.3364	0.0540
Total Peak Runoff from Parcel A and Parcel B (m³/s)						0.0865

Catchment	Area [A] (km ²)	Average Slope [H] (m per 100m)	Longest Path [L] (m)	Time of Conc. [tc] (min.)	Intensity [i] (mm/hr)	Designed Runoff [Q] (m ³ /s)
A3	0.0009	1	52.2359	15.2357	171.3696	0.0407
Total Peak Runoff from Parcel C (m³/s)						0.0407
Total Peak Runoff from the Site (m³/s)						0.1273

Drainage Capacity Check after Proposed Development

Section	Catchment	Open Circular Channel Size [D] (mm)	Roughness Factor [n]	Length [L] (m)	I.L. (mPD)		Gradient [S]	Wetted Cross-Sectional Area [A] (m ²)	Wetted Perimeter [P] (m)	Hydraulic Radius R=A/P (m)	Velocity V=R ^{2/3} S ^{1/2} /n (m/s)	Capacity Q=AV (m ³ /s)	OK
					Upstream	Downstream							
SMH1 to SMH2	A1+A2	300	0.015	22	14.18	13.35	0.04	0.07	0.94	0.08	2.30	0.16	OK
SMH4 to SMH5	A3	300	0.015	12.5	11.02	10.02	0.08	0.07	0.94	0.08	3.35	0.24	OK

File Name :
Source :

 PRUDENTIAL <small>SURVEYING AND ADVISORY (HONG KONG)</small>	ADDRESS: 2/F & 3/F TUNG HUP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 8578	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C3)" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government Land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title: Design Calculation of Proposed Drainage System	Drawn: CN Date: 06/11/2023 Checked: RT Approved: FW	Drawing No.: Figure 3.5
	Scale: -		Rev: -	Date: -	
	Description: -		Date: -		
	Description: -		Date: -		

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Attachment 4

Extracted Pages of Sewerage and Drainage Impact Assessment
from Town Planning Application No. A/SK-HC/326

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For channel and pipe capacity check, Manning's formula is adopted:

$$V = \frac{1}{n} R^{0.67} S^{0.5}$$

where V = velocity (m/s)
n = roughness factor,
R = hydraulic mean depth based on a fully wetted cross-section = A/P,
A = wetted cross-sectional area (m²),
P = wetted perimeter (m), and
S = gradient of channel

3.4 Drainage Catchment Area

The drainage catchment areas included upstream catchment area and the Site. **Appendix G** illustrates the estimated overall upstream catchment area. The catchment area within the subject site includes the open area and the roof of the buildings.

3.5 Proposed Drainage System

For the Upper portion, the surface runoff discharged from the site will gravitate to lower grounds and be collected by the proposed perimeter U-channel surrounding the Site and the proposed U-channel located across the Site. The storm water collected from the U-channel would flow into the precast concrete pipes to a proposed new manhole. The new manhole will be connected to the existing unnamed stormwater manhole along Ho Chung North Road.

For the runoff discharged from the northern portion of the site (out of the proposed development) will gravitate to the proposed rock trap. The storm water collected then would flow into the public drainage system via proposed 525mm dia. pipe. Last, the pipe will be connected to an unnamed stormwater manhole along Luk Mei Tsuen Road.

For the Lower Portion, the surface runoff discharged from the site will be collected by the proposed perimeter U-channel surrounding the Site. The storm water collected from the U-channel would flow into the precast concrete pipes to a proposed new manhole. The new manhole will be connected to the existing unnamed stormwater manhole along Ho Chung North Road.

The indicative drainage layout plan and detailed drainage impact assessment calculation refers to **Appendix H** and **Appendix I**.

3.6 Discussion

According to the drainage record plans obtained from DSD, there is no existing public drainage network serving the project site. A series of unnamed drainage pipes on Ho Chung North Road are under construction by Highways Department's Hiram's Highway Improvement Stage 1 Project, which is capable to collect all surface runoff from our project site and catchment area nearby.

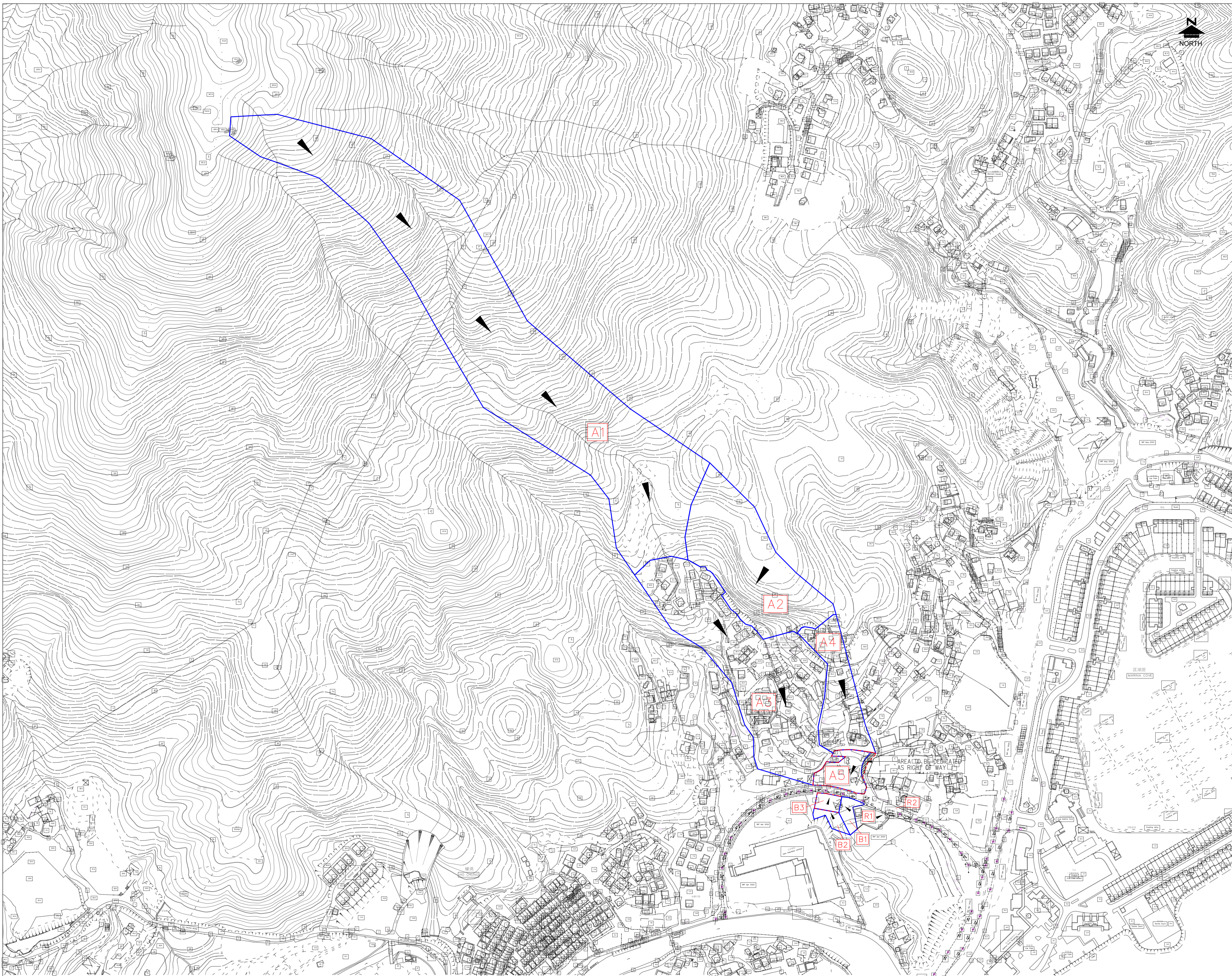
According to the aerial photo and site inspection, the site is paved area and therefore no changes to the catchment areas as well as existing and planned drainage system.

The drainage system constructed by Highways Department's Hiram's Highway Improvement Stage 1 Project is checked and found adequate to collect all surface runoff from the proposed development. The estimated flow rate of surface runoff discharge from the proposed development to public 300 dia. drainage pipe on Ho Chung North Road is about $0.19\text{m}^3/\text{s}$ and the public pipe is capable to collect the runoff.

Therefore, the proposed drainage connection is feasible for the proposed development.

Appendix G
Catchment Plan

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LEGENDS:

A1 CATCHMENT AREA

▲ DIRECTION OF FLOW

SUMMARY OF CATCHMENT

NO.	AREA	CONDITION	DIRECTION OF FLOW
A1	55082m ²	UNPAVED	TO CATCHMENT A3
A2	10325m ²	UNPAVED	TO CATCHMENT A3
A3	18066m ²	PAVED: 13566m ² UNPAVED: 4500m ²	TO PUBLIC DRAINAGE CHANNEL
A4	5303m ²	PAVED	TO PUBLIC DRAINAGE CHANNEL
A5	2113m ²	PAVED	TO PROPOSED DRAINAGE SYSTEM
B1	650m ²	UNPAVED	TO PROPOSED DRAINAGE SYSTEM
B2	530m ²	UNPAVED	TO PROPOSED DRAINAGE SYSTEM
B3	540m ²	PAVED	TO PUBLIC DRAINAGE MANHOLE
R1	800m ²	UNPAVED	TO PUBLIC DRAINAGE MANHOLE
R2	413m ²	PAVED	TO PUBLIC DRAINAGE MANHOLE

REV.	Date	Descriptions	HYN	HYN
			CHK	APD

DRAWING STATUS:

GEOTECHNICAL CONSULTANT:

TROIKA ENGINEERING LIMITED
Consulting Engineers

Flat C, 10th Floor, European Asian Bank Building
749 Nathan Road, Mong Kok, Kowloon
Tel: (852) 2995 0828 Fax: (852) 2720 6990
Email: info@troikahk.net Web: www.troikahk.net

CLIENT:

PROJECT:

PLANNING APPLICATION UNDER SECTION 16 OF TOWN PLANNING ORDINANCE FOR PROPOSED HOUSES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION ON VARIOUS LOTS IN DD 210 AND 244 AND ADJOINING GOVERNMENT LAND, HO CHUNG, SAI KUNG (DRAINAGE IMPACT ASSESSMENT)

TITLE:

CATCHMENT AREA

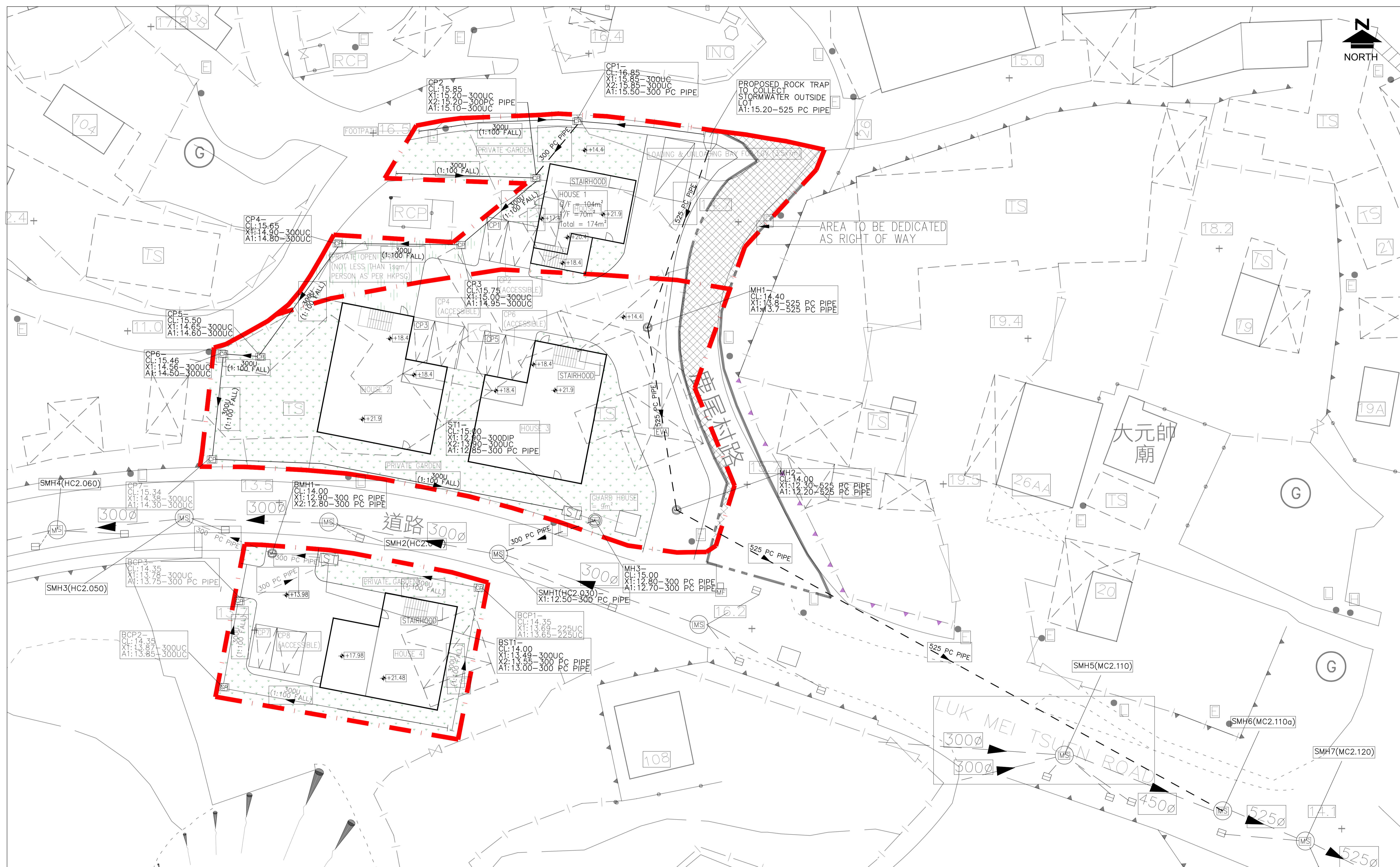
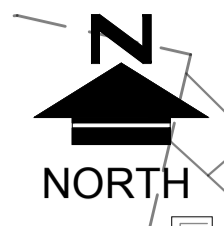
Scale and Size	Checked	Approved
1:2000	HYN	HYN
REV. A1	Design/Drawn HYN/SY	Date 06-12-2020
Job No. J20033	Drawing No. J20033-D2	

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Appendix H

Indicative Drainage Layout Plan

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REV.	Date	Descriptions	HYN	HYN	CLIENT :
CHK	APD				
DRAWING STATUS:					
CONSULTANT :					
TROIKA ENGINEERING LIMITED Consulting Engineers		PROJECT : PLANNING APPLICATION UNDER SECTION 16 OF TOWN PLANNING ORDINANCE FOR PROPOSED HOUSES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION ON VARIOUS LOTS IN DD 210 AND 244 AND ADJOINING GOVERNMENT LAND, HO CHUNG, SAI KUNG (DRAINAGE IMPACT ASSESSMENT)			
Flat C, 10 th Floor, European Asian Bank Building 749 Nathan Road, Mong Kok, Kowloon Tel : (852) 2395 0828 Fax : (852) 2720 6990 Email info@troikahk.net Web : www.troikahk.net		Scale and Size 1:500	Checked HYN	Approved HYN	
REV.	A2	Design/Drawn	HYN/SY	Date	11-05-2021
Job No.	J20033	Drawing No.	J20033-D3		

TITLE					
INDICATIVE DRAINAGE LAYOUT PLAN					
Scale and Size					
1:500					
Checked					
HYN					
Approved					
HYN					
Design/Drawn					
HYN/SY					
Date					
11-05-2021					
Job No.					
J20033					
Drawing No.					
J20033-D3					

LEGENDS:	
	STORMWATER DRAINAGE PIPE (300 DIA.) (UNDER PROJECT-HIRAM'S HIGHWAY IMPROVEMENT STAGE 1)
	PROPOSED U CHANNEL
	STORMWATER MANHOLE (UNDER PROJECT-HIRAM'S HIGHWAY IMPROVEMENT STAGE 1)
	PROPOSED PRECAST CONC. PIPE
	PROPOSED SAND TRAP
	PROPOSED MANHOLE
	PROPOSED ROCK TRAP
	GULLY (UNDER PROJECT-HIRAM'S HIGHWAY IMPROVEMENT STAGE 1)

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Appendix I

Drainage Impact Assessment Calculation

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Catchment Area

Catchment	Area (m2)	Paved Area (m2)	Unpaved Area
A1	55082	0	55082
A2	10325	0	10325
A3	18066	13566	4500
A4	5303	5303	0
R1	800	0	800
R2	413	413	0

Runoff Coeff. For Unpaved Area C	Runoff Coeff. For paved Area C
0.35	0.9

Intensity coeff. (taken from table 3a of stormwater design manual, I in 50 return)			
a	b	c	
451.3	2.46	0.337	

Formula used

Time of concentration

$$t_0 = 0.14465L / (A^{0.1} H^{0.2})$$

Intensity

$$I = \frac{a}{(tc + b)^c}$$

Runoff

$$Q_p = 0.278i \sum_{j=1}^m C_j A_j$$

$$V = \frac{1}{n} R^{0.67} S^{0.5}$$

Manning Formula (pipe or channel velocity)

Runoff Calculation (Upstream)

Catchment	Area	Unpaved Area (m2)	Paved Area (m2)	Average Slope H (m per 100m)	Longest Path L (m)	Inlet time t0 (min)	Time of Conc. tc (min)	Intensity i (mm/hr)	Runoff from Unpaved Area (m3/s)	Runoff from paved Area (m3/s)	Peak Runoff Or (m3/s)
A1	55082	55082	0	25	1500	38.26	38.26	129.41	0.694	0.000	0.694
A2	10325	10325	0	20	250	7.88	7.88	205.37	0.206	0.000	0.206
A3	18066	4500	13566	10	500	17.12	17.12	165.61	0.073	0.562	0.635
A4	5303	0	5303	10	325	12.58	12.58	181.01	0.000	0.240	0.240
A2+A3	28391	14825	13566	13	750	23.30	23.30	151.01	0.218	0.513	0.730
A1+A3	73148	59582	13566	17	2000	53.56	53.56	116.22	0.674	0.394	1.068
A1+A2+A3+A4	88776	74407	14369	14	2400	65.54	65.54	108.87	0.788	0.391	1.180
R1	800	800	0	9	35	1.67	1.67	279.78	0.022	0.000	0.022
R2	413	0	413	3	25	1.59	1.59	281.69	0.000	0.029	0.029

Runoff Calculation after proposed development

Catchment	Area	Unpaved Area (m2)	Paved Area (m2)	Average Slope H (m per 100m)	Longest Path L (m)	Inlet time t0 (min)	Time of Conc. tc (min)	Intensity i (mm/hr)	Runoff from Unpaved Area (m3/s)	Runoff from paved Area (m3/s)	Peak Runoff Or (m3/s)
Rock trap to MHI	88776	74407	14369	14	2421	66.11	66.11	108.57	0.786	0.390	1.176
MHI to MH2	88776	74407	14369	14	2442	66.68	66.68	108.26	0.784	0.389	1.173
SMH5 to SMH6	1213	800	413	9	55	2.52	2.52	262.72	0.020	0.027	0.048
SMH6 to SMH7	89989	75207	14782	14	2515	68.58	68.58	107.28	0.785	0.397	1.182

Drainage Capacity Check

Section	Catchment	Drainage	Diameter D (mm)	US IL (mPd)	DS IL (mPd)	Length L (m)	Gradient (1 in)	Roughness coeff n	Cross Sectional Area A (m2)	Wetted Perimeter P (m)	Hydraulic Radius R (mm)	Velocity v (m/s)	Design Capacity Qc (m3/s)	Utilization (%)
Rock trap to MHI	A1+A2+A3+A4	525 pipe	525	15.5	14.1	21	15	0.012	0.216	1.649	0.1313	5.56	1.202	97.83
MHI to MH2	A1+A2+A3+A4	525 pipe	525	13.7	12.3	21	15	0.012	0.216	1.649	0.1313	5.56	1.202	97.56
SMH5 to SMH6	R1 + R2	450 pipe	450	-	-	18	15	0.012	0.159	1.413	0.1125	5.02	0.797	5.97
SMH6 to SMH7	A1+A2+A3+A4 + R1 + R2	525 pipe	525	-	-	8	15	0.012	0.216	1.649	0.1313	5.56	1.202	98.29

Therefore the upstream runoff can be discharged to government public drainage through proposed 525 pipe.

OK

Catchment Area		Surface Condition before proposed development	Surface Condition after proposed development
Catchment Area (m ²)	2113	paved	paved
A5			

Runoff Coeff. For Unpaved Area C	Runoff Coeff. For paved Area C
0.35	0.9

Intensity coeff. (taken from table 3a of stormwater design manual, 1 in 50 return)		
a	b	c
451.3	2.46	0.337

Formula used

Time of concentration

$$t_0 = 0.14465L / (A^{0.1} H^{0.2})$$

$$t_c = t_0 + t_f$$

Intensity

$$I = \frac{a}{(tc + b)^c}$$

Runoff

$$Q_p = 0.278i \sum_{j=1}^m C_j A_j$$

$$V = \frac{1}{n} R^{0.67} S^{0.5}$$

Manning Formula (pipe or channel velocity)

Runoff Calculation after proposed development

Section	Catchment Area	Unpaved Area (m ²)	Paved Area (m ²)	Average Slope H (m per 100m)	Longest Path L (m)	Inlet time t ₀ (min)	Pipe Length L _j (m)	Flow Velocity V (m/s)	Flow Time t _f (min)	Time of Conc. t _c (min)	Intensity i (mm/hr)	Runoff from Unpaved Area (m ³ /s)	Runoff from paved Area (m ³ /s)	Peak Runoff Q _p (m ³ /s)
CP7 to ST1	A5	0	2113	1	75	5.05	41	1.70	0.401	5.45	224.82	0	0.119	0.119
ST1 to MH3	A5	0	2113	-	-	5.45	1.8	2.47	0.012	5.46	224.71	0	0.119	0.119
MH3 to SMH1	A5	0	2113	-	-	5.46	11	2.00	0.092	5.55	223.84	0	0.118	0.118
SMH1 to SMH2	A5	0	2113	-	-	5.55	18	3.83	0.078	5.63	223.10	0	0.118	0.118

Drainage Capacity Check after proposed development

Section	Catchment Drainage	Diameter D (mm)	US IL (mPd)	DS IL (mPd)	Length L (m)	Gradient (1 in)	Roughness coeff n (mm)	Cross Sectional Area A (m ²)	Wetted Perimeter P (m)	Hydraulic Radius R (mm)	Velocity v (m/s)	Design Capacity Q _c (m ³ /s)	Utilization (%)
to CP1	A5 300UC	300	-	-	41	100	0.013	0.080	0.771	0.1042	1.70	0.137	86.88
ST1 to MH3	A5 300 pipe	300	12.85	12.8	1.8	36	0.012	0.071	0.942	0.0750	2.47	0.175	68.07
MH3 to SMH1	A5 300 pipe	300	12.70	12.5	11	55	0.012	0.071	0.942	0.0750	2.00	0.141	83.82
SMH1 to SMH2	A5 300 pipe	300	-	-	18	15	0.012	0.071	0.942	0.0750	3.83	0.270	43.63

Effect to Public Drainage Pipe due to proposed development

Since the catchment area is paved area before and after proposed development, therefore the runoff increased to public drainage is 0

OK

Catchment Area		Surface Condition before proposed development	Surface Condition after proposed development
Catchment	Area (m ²)		
B1	650	unpaved	unpaved
B2	530	unpaved	unpaved
B3	540	paved	paved
A5	2113	paved	paved

Intensity coeff. (taken from table 3a of stormwater design manual, I in 50 return)			
a	451.3	b	c
		2.46	0.337

Runoff Coeff. For Unpaved Area C		Runoff Coeff. For paved Area C	
	0.35		0.9

Formula used

Time of concentration

Intensity

Runoff

$$t_0 = 0.14465L / (A^{0.1} H^{0.2})$$

$$I = \frac{a}{(tc + b)^c}$$

$$Q_p = 0.278i \sum_{j=1}^m C_j A_j$$

$$V = \frac{1}{n} R^{0.67} S^{0.5}$$

Manning Formula (pipe or channel velocity)

Runoff Calculation after proposed development

Section	Catchment	Area	Unpaved Area (m ²)	Paved Area (m ²)	Average Slope H (m per 100m)	Longest path L (m)	Inlet time t ₀ (min)	Pipe Length L _j (m)	Flow Velocity V (m/s)	Flow Time t _f (min)	Time of Conc. t _c (min)	Intensity i (mm/hr)	Runoff from Unpaved Area (m ³ /s)	Runoff from paved Area (m ³ /s)	Peak Runoff Q _p (m ³ /s)
to BCP1	B1	650	650	0	9	35	1.71	16	1.70	0.157	1.86	275.54	0.017	0.000	0.017
BCP1 to BST1	B3	540	0	540	1	25	1.93	16	1.70	0.157	2.08	270.95	0	0.037	0.037
BCP1 to BST1	B3 + B1	1190	1421	540	-	-	1.86	16	1.70	0.157	2.02	272.25	0.038	0.037	0.074
to BCP2	B2	530	530	0	9	52	2.59	26	1.70	0.255	2.84	257.21	0.013	0.000	0.013
BCP2 to BCP3	B2	530	530	0	-	-	2.84	9	1.70	0.088	2.93	255.79	0.013	0.000	0.013
BCP3 to BST1	B2	530	530	0	-	-	2.93	11	2.00	0.092	3.02	254.34	0.013	0.000	0.013
BST1 to BMH1	B1+B2+B3	1720	1180	540	-	-	2.02	6	1.91	0.052	2.07	271.19	0.031	0.037	0.068
BMH1 to SMH3	B1+B2+B3	1720	1180	540	-	-	2.07	11	2.00	0.092	2.16	269.36	0.03	0.036	0.067
SMH3 to SMH4	B1+B2+B3+A5	3833	1180	2653	-	-	5.63	13	3.83	0.057	5.69	222.58	0.03	0.148	0.173

(taken from previous sheet)

Drainage Capacity Check after proposed development

Section	Catchment	Drainage	Diameter D (mm)	US IL (mPD)	DS IL (mPD)	Length L (m)	Gradient (1 in)	Roughness coeff n	Cross Sectional Area A (m ²)	Wetted Perimeter P (m)	Hydraulic Radius R (mm)	Velocity v (m/s)	Design Capacity Q _c (m ³ /s)	Utilization (%)
to BCP1	B1	300UC	300	-	-	16	100	0.013	0.080	0.771	0.1042	1.70	0.137	12.74
BCP1 to BST1	B3	300UC	300	-	-	16	100	0.013	0.080	0.771	0.1042	1.70	0.137	26.76
BCP1 to BST1	B3 + B1	300UC	300	-	-	16	100	0.013	0.080	0.771	0.1042	1.70	0.137	54.40
to BCP2	B2	300UC	300	-	-	26	100	0.013	0.080	0.771	0.1042	1.70	0.137	9.70
BCP2 to BCP3	B2	300UC	300	-	-	9	100	0.013	0.080	0.771	0.1042	1.70	0.137	9.64
BCP3 to BST1	B2	300DIP	300	13.75	13.55	11	55	0.012	0.071	0.942	0.0750	2.00	0.141	9.29
BST1 to BMH1	B1+B2+B3	300DIP	300	13.00	12.9	6	60	0.012	0.071	0.942	0.0750	1.91	0.135	50.14
BMH1 to SMH3	B1+B2+B3	300DIP	300	12.80	12.6	11	55	0.012	0.071	0.942	0.0750	2.00	0.141	47.68
SMH3 to SMH4	B1+B2+B4+A5	300DIP	300	-	-	-	15	0.012	0.071	0.942	0.0750	3.83	0.270	64.10

OK

Effect to Public Drainage Pipe due to proposed development

Since no catchment area changed before and after proposed development, therefore the runoff increased to public drainage is 0

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Attachment 5

Water Supply Appraisal (Version B)

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Water Supply Appraisal

For

Amendment of Plan to

Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)”

(“R(E)” and an area shown as ‘Road’

to “Residential (Group C)3) (“R(C)3”

on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11

at Various Lots in Demarcation District 210 and Demarcation District 244

and Adjoining Government land

Ho Chung, Sai Kung, New Territories, Hong Kong

Prepared by: Prudential Surveyors International Limited

Version ~~A~~ B

Date: ~~August~~ November 2023

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Figure 3.2	Proposed Water Supply Connection

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Table 3.1	Estimated Fresh Water and Salt Water Demand from the Proposed Development
Table 3.2	Water Supply Estimation

1. Introduction

1.1.1 This Water Supply Appraisal is to support a planning permission from the Town Planning Board (TPB) under Section 12A of the Town Planning Ordinance (CAP. 131) for a proposed rezone of the Subject Site from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) within various lots within DD210 and DD244 and adjoining government land in Ho Chung, Sai Kung, New Territories. The application Site (**the Site**) is composed of 3 parcels, namely Parcel A, B and C. [refer to **Figure 1.1**]

1.1.2 The owner of the application site has the intention to construct six individual houses with twelve car parking spaces in Parcels A and B of the Site and two individual houses with four car parking spaces in Parcel C of the Site.

2. Proposed Development

2.1.1 The proposed development (the Proposed Development) is to erect six individual houses in Parcel A and B of the Site and two individual houses in Parcel C of the Site. The proposed gross floor area (GFA) of the houses are summarised in Table 1.1.

Propose House	Gross Floor Area (GFA) (sqm) (about)
House 1	283.35
House 2	283.35
House 3	283.35
House 4	283.35
House 5	283.35
House 6	283.35
House 7	345.75
House 8	345.75
Total	2,391.6
Average	298.95

Table 1.1 Proposed GFA of Houses

3. Water Supply Appraisal

3.1 Methodology

3.1.1 The waterworks impacts arising from the proposed development are assessed with reference to the following information:

- WSD Departmental Instruction (DI) No. 1309
- EPD Guidelines for Estimating Sewage Flows (GESF) for Sewage Infrastructure Planning No.: EPD/TP 1/05.

3.1.2 The fresh water system is modelled under the following condition:

- Design peak flow of fresh water distribution main = 3 x MDD (Mean Daily Demand)

3.1.3 The salt water system is modelled under the following condition:

- Design peak flow of salt water distribution main (sub-main) = 2 x MDD (Mean Daily Demand)

3.2 Existing Water Supply

3.2.1 According to the utility plan provided by the Highways Department Contractor for the Hiram’s Highway Improvement Stage 1 Project, there is an existing nominal diameter (DN)400 fresh water main located under Luk Mei Tsuen Road/ Ho Chung North Road in the vicinity of the Site. The existing water system is shown in **Figure 2.1**. The fresh water main was completed in February 2021¹.

3.2.2 According to the existing water mains record plan provided by Water Supplies Department, there are existing water mains within the Site and would be affected by the proposed development [refer to **Figure 3.1**].

3.2.3 According to the existing water mains record plan extracted from the Water Services Department (WSD) and **Figure 2.1**, there are no existing salt water mains in the vicinity of the Site [refer to **Figure 3.1**].

3.2.4 Based on the existing water mains record extracted from Water Supplies Department (WSD), the site is not within WSD gathering grounds. [refer to **Figure 3.1**]

3.3 Proposed Water Supply Connection

3.3.1 Estimation for peak fresh water and salt water consumption for the Proposed Development is presented in Table 3.1. As discussed in paragraph 3.2.3, there is no existing salt water mains in the vicinity of the Site and no available flushing water supplies near the Site. Thus, fresh water shall be used for flushing purpose.

Description	Daily Water Demand of Proposed Development (m ³ /day)	Peaking Factor	Peak Demand (m ³ /day)
Fresh Water + Flushing Water	11.84	3	35.52
Total Fresh Water Demand			35.52

Table 3.1 Estimated Fresh Water and Salt Water Demand from the Proposed Development

3.3.2 The water supply to Parcel A and B of the Site could be supplied with a connection to the existing DN400 fresh water main (water supply) that is located along Ho Chung North Road. The water supply to Parcel C of the site could also be connected to this fresh water main. The proposed connections are shown in **Figure 3.2**.

3.3.3 The existing water mains affected by the proposed development would be diverted.

3.3.4 As discussed in paragraph 3.2.2, there are existing fresh water main along Ho Chung North Road. Assuming the fresh water and flushing water for the Site will be sourced

¹ Highways Department’s web site (2023) Hiram's Highway Improvement Stage 1

from that existing fresh water main – 400mm nominal diameter ductile iron pipe (DI400) and velocity is ranging 1-3m/s, the capacity and utilization ratio of each is estimated in Table 3.2:

Description	Peak Demand (m ³ /day)	Total Peak Demand (m ³ /s)	Fresh Water Supply Main Nominal Diameter (mm)	Internal Diameter for Fresh Water Main Pipes (mm)	Assume Velocity (m/s)	Pipe Capacity (m ³ /s)	Utilisation Ratio
Total Fresh Water Demand	35.52	0.0004	400	382	3 (upper limit)	0.3438	0.12%
					1 (lower limit)	0.1146	0.35%

Table 3.2 Water Supply Estimation

3.3.5 As indicated in Table 3.2, the estimated total peak fresh water demand would be about 0.12 – 0.35% of the fresh water main capacity². This means the Proposed Development would take up less than 0.35% of the fresh water capacity which is an insignificant of the total capacity. Therefore, no strong adverse impact on the water supply is anticipated due to the Proposed Development.

4. Conclusion

4.1.1 In general, fresh water supply could be provided to the Site. This could be achieved by connecting the existing fresh water mains located on Ho Chung North Road for the Proposed Development.

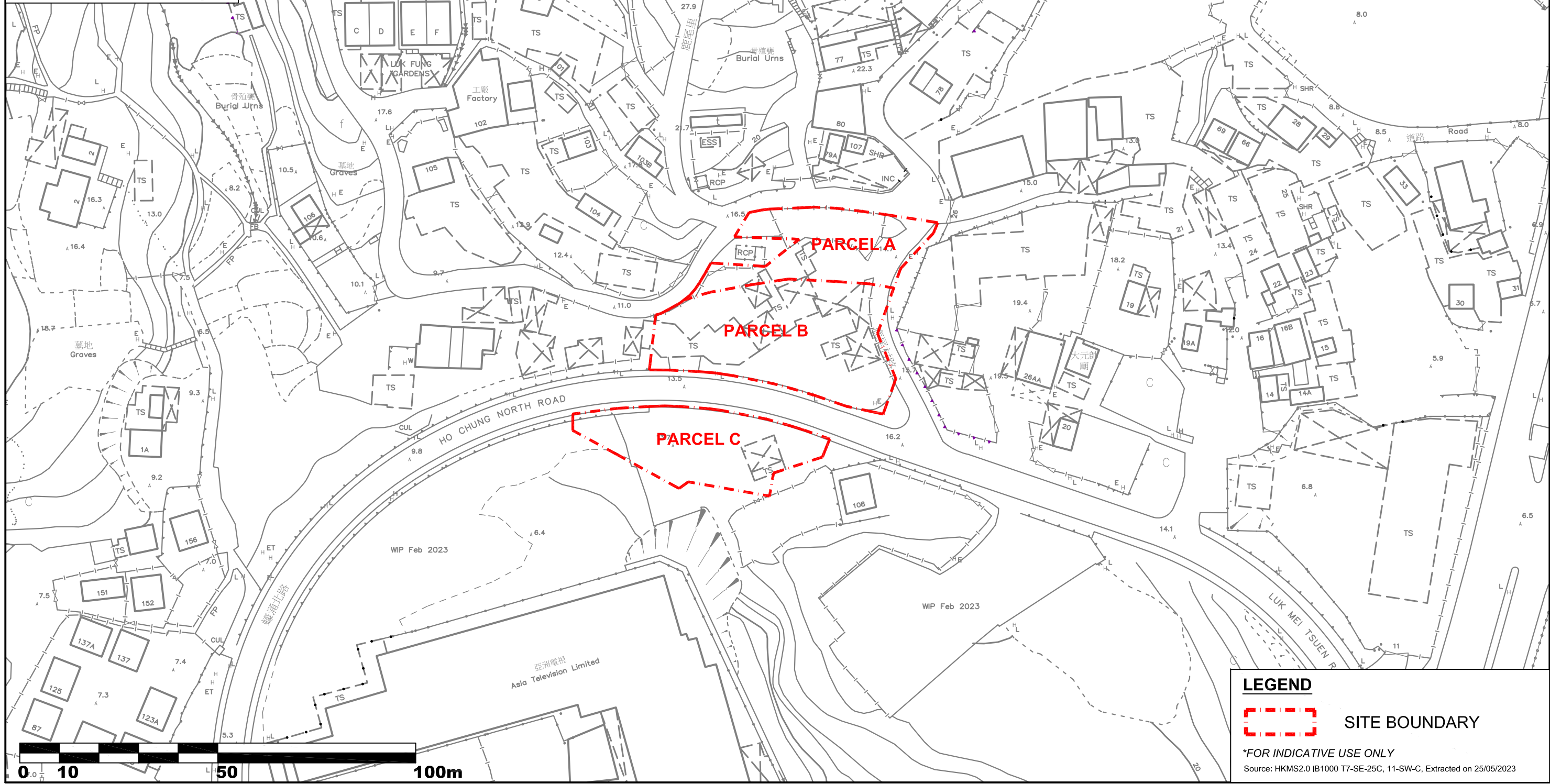
4.1.2 The peak estimated fresh water and flushing water demand from the Proposed Development are about 35.52 m³/day. Since there are no existing salt water mains in the vicinity of the Site, fresh water shall be used for flushing purpose. The total estimated peak fresh water demand is about 0.12 - 0.35% of the fresh water main capacity. The results indicate that the Proposed Development would take up less than 0.35% of the fresh water capacity which is an insignificant of the total capacity. Therefore, no strong adverse impact on the existing water supply system due to the Proposed Development.

² It is noted the water mains of the WSD have been designed with pressure of 15 to 30m for freshwater pipelines. (WSD Performance Pledge 2022/23, <https://www.wsd.gov.hk/en/about-us/performance-targets-and-achievements/index.html>)


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Figures

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LEGEND

 SITE BOUNDARY

**FOR INDICATIVE USE ONLY*

Source: HKMS2.0 IB1000 T7-SE-25C, 11-SW-C, Extracted on 25/05/2023

File Name :
Source :

PRUDENTIAL 謝文
SURVEYING · LAND ADVISORY · VALUATION 行

ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

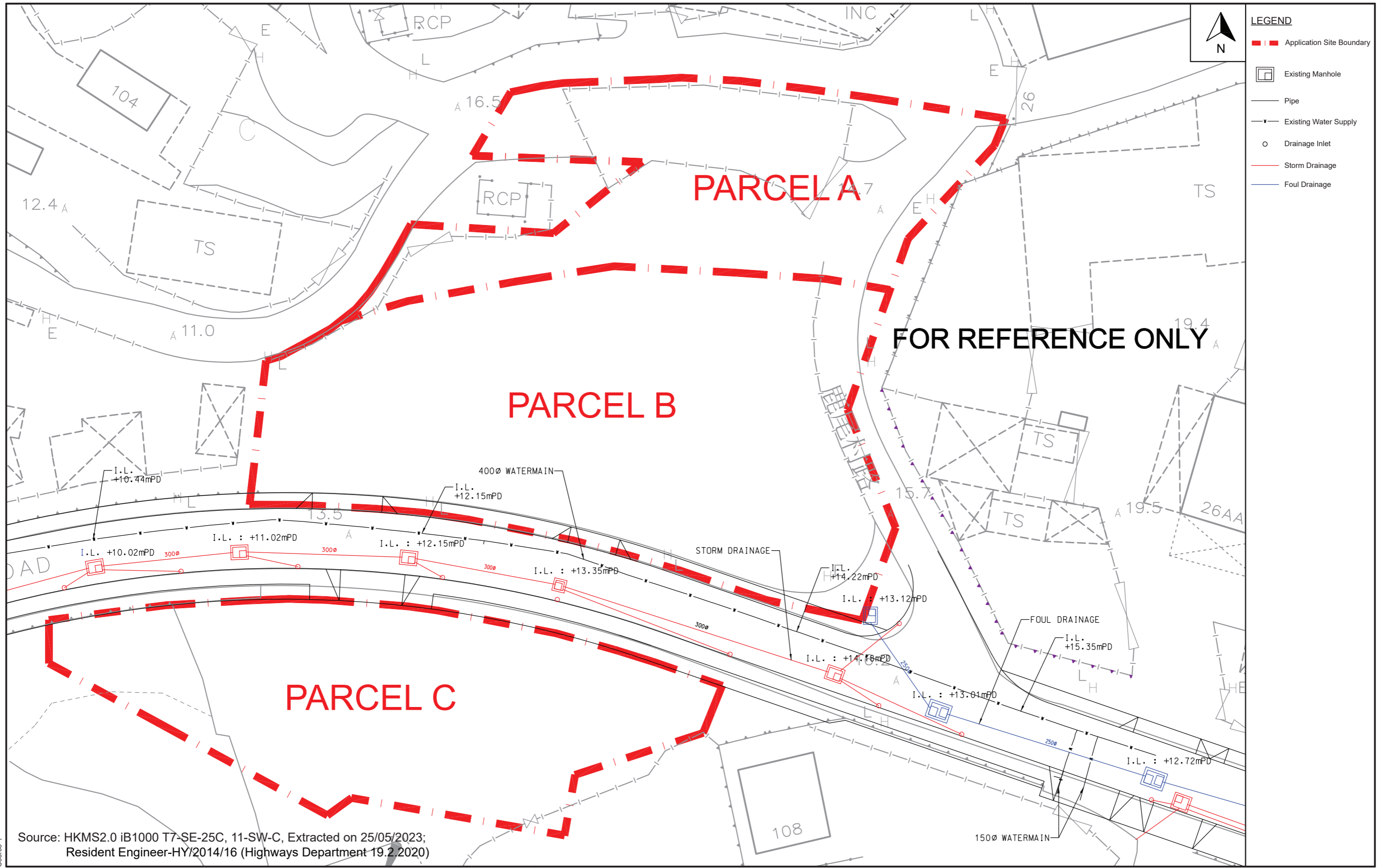
JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
LOCATION PLAN

Rev	Description	Date

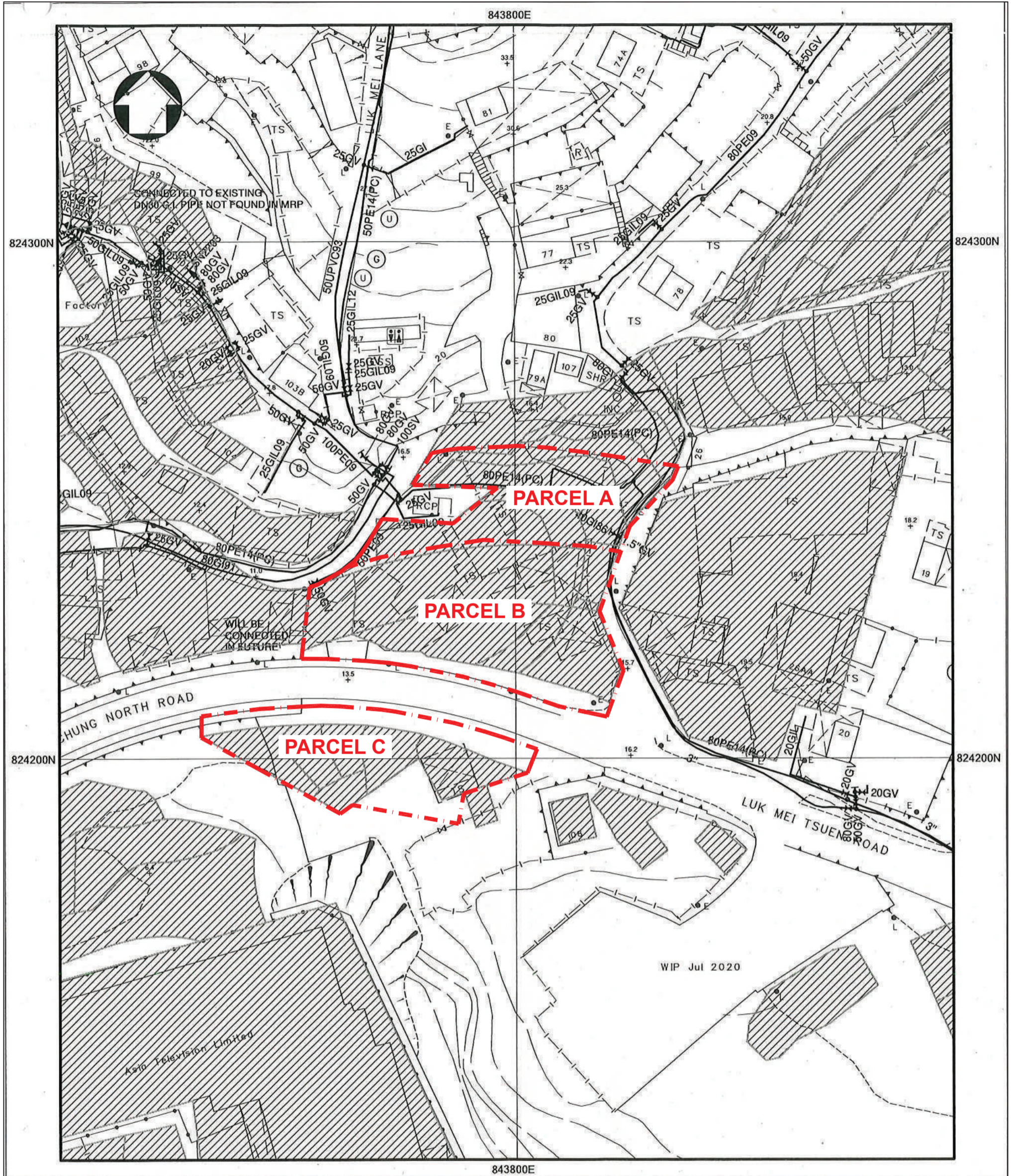
Drawn	CN	Date	19/07/2023
Checked	RT	Approved	RT
Scale	1:1000 @ A3		

Drawing No.	Figure 1.1
Rev.	-



File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title UTILITY PLAN	Drawn CN Date 07/08/2023	Drawing No. Figure 2.1
				Checked RT Approved RT	
				Scale N.T.S.	Rev. -



- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
 2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
 3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY. WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
 4. NO EXISTING SALT WATER MAINS IN THE VICINITY OF THE SITE.
 5. THE SITE IS NOT WITHIN WSD GATHERING GROUNDS.

PRIVATE LOT
BOUNDARY
(FOR REF. ONLY)



LEGEND

 APPLICATION SITE BOUNDARY

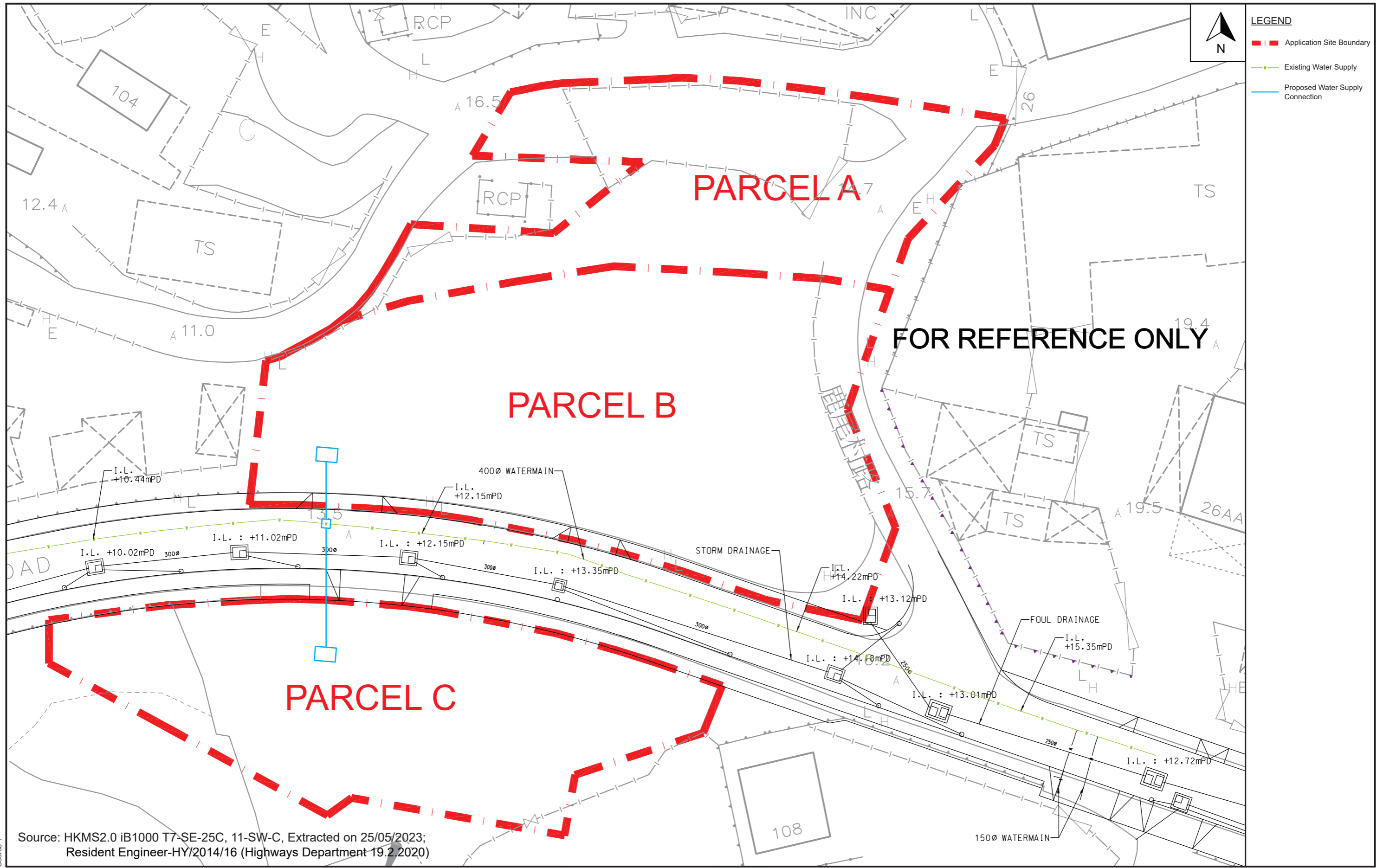
Source: Water Supplies Department W67880/7-SE-25C (11 Jul 2023)



JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government Land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
COPY OF THE FRESH WATER MAINS RECORD PLAN

Drawn	CN	Date	07/08/23	Drawing No.	
Checked	RT	Approved	RT	FIGURE 3.1	
Rev	Description	Date	Scale	Rev.	-



File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title PROPOSED WATER SUPPLY CONNECTION	Drawn CN Date 07/08/2023	Drawing No. Figure 3.2
				Checked RT Approved RT	
				Scale N.T.S.	Rev. -

Attachment 6

Replacement Pages for Visual Impact Assessment

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the mountain backdrop in the background. As illustrated in **Figure 7.1**, a portion of the Proposed Development will be screened off by the existing trees and vegetation. In this connection, the Proposed Development will merge into the existing visual composition with minimal negative effect on the visual balance, compatibility, harmony, unity or contrast. Therefore the visual composition would be **low**.

Visual Obstruction

- 7.2.2 From this VP, VSRs are currently enjoying an open view towards the Site with the mountain backdrop in the background. As demonstrated in **Figure 7.1**, comparing to the **OZP compliant scheme existing condition** affecting the openness of VSR’s views, the Proposed Development with a low building height would not form visual obstruction and therefore the current openness of the sky view and most of the view of the mountain backdrop at this VP will be minimally affected. With proposed landscape and trees, the Proposed Development will alternatively provide positive visual resources to VSRs at this VP. Therefore the visual obstruction would be **low**.

Effect on Public Viewers

- 7.2.3 Due to the close proximity to the Site, VSRs at VP-1 will be inevitably affected, yet in a good way. The existing view of the public viewers from VP-1 consists of a refuse collection point, unorganised space occupied by temporary structures and vehicles, and the abandoned ATV Production Centre. With well-designed layout of buildings, landscape elements, the visual effect on public viewers at this VP brought by the Proposed Development at VP-1 will be **enhanced**.

Effect of Visual Resources

- 7.2.4 The existing refuse collection point, roadside vegetation, and temporary structures in the foreground, the abandoned ATV Production Centre, sky view and mountain backdrop in the background are the major visual resources for VSRs at VP-1. The Proposed Development will inevitably impact the existing visual resources, as temporary structures will be removed. However, the Proposed Development **will not degrade** the condition, visual quality and character of the assessment area, as it would **not partially** block the sky view and mountain backdrop. Alternatively, the Proposed Development will remove and partly screen off some of the existing undesirable visual resources. Therefore the visual resources would be **enhanced partly enhanced/partly adverse**.
- 7.2.5 In summary, with varied design merits, the resultant visual impact of the Proposed Development viewed from VP-1 is assessed to be **enhanced partly enhanced/partly adverse**.

7.3 Viewing Point 2- Crossroad of Luk Mei Tsuen Road and Hiram’s Highway

Visual Composition

- 7.3.1 The existing view comprises the junction of Luk Mei Tsuen Road and Hiram’s Highway, the retaining wall along Hiram’s Highway, a big warehouse of the Kin Hing Group, Limited, the area zoned “GB” with rich vegetation and roadside trees along Luk Mei Tsuen Road in the foreground and, mountain backdrop in the background. It is observed that the Proposed Development is located at a ground level higher than VP-2, and the view towards the Proposed Development is mostly blocked by retaining wall along

Hiram’s Highway and the roadside vegetation. The Proposed Development would therefore have **no impact to the visual composition** at this VP.

Visual Obstruction

- 7.3.2 From VP-2, the view is dominated by junction of Luk Mei Tsuen Road and Hiram’s Highway, the retaining wall along Hiram’s Highway, area zoned “GB” with rich vegetation and roadside vegetation. The Photomontage **Figure 7.2** illustrates that the Proposed Development cannot be seen at this VP, in this connection, the Proposed Development **will not cause** visual obstruction or block the openness of this VP, resulting in **no impact**.

Effect on Public Viewers

- 7.3.3 The Proposed Development with a maximum building height of 12m (+23.70 mPD (Parcel A and B) and +25.97mPD (Parcel C) is located at a ground level higher than this VP, however due to the rich roadside vegetation and existing structures, the Proposed Development will be shielded in a great extent. In this connection, the views of public viewers at this VP will not be affected. Moreover, given the transient nature of this VP, the visual sensitivity of VSRs at this VP would be **low**. The visual change brought about by the Proposed Development therefore would be **negligible**.

Effect of Visual Resources

- 7.3.4 The existing visual resources, such as the sky view, streetscape, and mountain backdrop would not be affected and no change to the quality and character of the assessment area will be caused by the Proposed Development, due to the proposed building heights and topography. This would result in **no impact** to the visual resources.
- 7.3.5 In summary, the visual impact of the Proposed Development viewed from VP-2 is assessed to be **Negligible**.

7.4 Viewing Point 3- Car Park of Che Kung Temple

Visual Composition

- 7.4.1 The existing view of VP-3 comprises the rich vegetation within the area zoned “GB” and open sky view. The proposed maximum building height is 12m (+23.70 mPD (Parcel A and B) and +25.97mPD (Parcel C)), which will be entirely screened off by the existing trees. In this connection, the Proposed Development will not form any new visual element or cause any impact on the existing visual composition as shown in **Figure 7.3**, resulting in **no impact** to the visual composition from this VP.

Visual Obstruction

- 7.4.2 The only visual resources viewing from this VP are the mature trees within the area zoned “GB” and the open sky view. As the Proposed Development is situated to the north of the area zoned “GB”, the presence of the Proposed Development will not result in any visual obstruction to the existing visual resources with no loss of views or visual openness, resulting in **no impact** on the visual obstruction

Effect on Public Viewers

- 7.4.3 The public viewers of this VP are mostly visitors to Che Kung Temple. These public

viewers will continue to enjoy the open sky and rich vegetation as the Proposed Development cannot be seen at this VP. Hence, the visual sensitivity would be low and the visual change caused by the Proposed Development at this VP would be **negligible**.

Effect of Visual Resources

- 7.4.4 The major visual resources for VSRs at this VP are the mature trees within the area zoned “GB” and the open sky view. As stated above, the Proposed Development cannot be seen at this VP. In this connection, the Proposed Development will neither bring any adverse impact to the condition, visual quality and character of the assessment area nor any on-site and off-site visual impact. There will be **no impact** on the visual resources from this VP
- 7.4.5 In summary, the visual impact of the Proposed Development viewed from VP-3 is assessed to be **Negligible**.

7.5 Viewing Point 4- Ho Chung North Road (Main Road)

Visual Composition

- 7.5.1 VP-4 is located to the west of the Site, capturing the partial view of the Site with Ho Chung North Road, some temporary structures, the open-air vehicle park and roadside vegetation in the foreground, and the open sky view as backdrop. The existing visual composition is messy and unpleasant, having all the undermaintained temporary structures and cars weltered together. The Proposed Development however would **enhance** the visual composition by replacing the temporary structures on Site with well-designed permanent housings as well as additional landscape elements. Therefore the visual composition would **be enhanced**. [refer to **Figure 7.4**].

Visual Obstruction

- 7.5.2 From this VP, VSRs are currently facing Ho Chung North Road with some temporary structures, open-air vehicle park and roadside vegetation along both sides of the road in the foreground, and the open sky view as backdrop. No significant visual feature is available at this VP, in particularly in terms of coastline, open sea horizon, scenic areas, valued landscape, special landmark and heritage. As illustrated in **Figure 7.4**, the Proposed Development, **would form no partial visual obstruction and no partial loss of visual openness of VSRs** due to its compatible building heights and mass. This would result in **no impact partly enhanced/partly adverse** to the visual obstruction.

Effect on Public Viewers

- 7.5.3 The effect of the Proposed Development on the public viewers would be **partly enhanced** when viewing from this VP, since the Proposed Development would replace the temporary structures and open-air vehicle park at the Parcel C with well-designed permanent house with landscape. The Proposed Development within the Parcel A and B of the Site would be partly shielded off by the existing and proposed roadside trees and structures. Additionally, with consideration of the transient nature of this VP, where VSRs are mainly pedestrian passers-by and vehicle drivers, the visual sensitivity at this VP will be **low**. The visual change caused by the Proposed Development will be **partly enhanced/partly adverse**.

Effect of Visual Resources

7.5.4 The existing visual resources at VP-4 are Luk Mei Tsuen Road, temporary structures, open-air vehicle park, roadside vegetation and sky view at backdrop. The Proposed Development will replace the existing undesirable visual resources with permanent houses with landscapes which would be more visually appealing. Overall, the condition, quality and character of the assessment area would be **enhanced** as a result of the Proposed Development, as the streetscape would be improved through provision of well-designed buildings, more trees and landscapes.

7.5.5 In summary, the resultant visual impact of the Proposed Development viewed from VP-4 is assessed to be **enhanced**.

8. Conclusion

8.1.1 The Proposed Development for a low-density and low-rise residential development with a rezone of the Subject Site from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)” and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3” Considering that low building height and its surrounding building height profile, the proposed rezone of site is considered reasonable.

8.1.2 Based on the analysis on the appraisal of visual impact on Visual Composition, Visual Obstruction, Effect on Public Views and Effect on Visual Resources, Table 8.1 below presents the overall visual impact caused by the Proposed Development to the VSRs of each VP.

Viewing Point	Distance from the site	Visual Sensitive Receivers	Visual Sensitivity	Visual Impact of the Proposed Development
VP1 The Public Toilet on Luk Mei Lane	Short-range	Users of the Public Toilet, pedestrian passers-by, local residents, and vehicle drivers	Medium	Enhanced Partly Enhanced / Partly Adverse
VP2 Crossroad of Luk Mei Tsuen Road and Hiram’s Highway	Long-range	Pedestrian passers-by, local residents, vehicle drivers, visitors and users of public transport	Low	Negligible
VP3 Car Park of Che Kung Temple	Long-range	Visitors, and local residents visiting Che Kong Temple	Low	Negligible
VP4 Ho Chung North Road (Main Road)	Medium-range	Vehicle drivers, pedestrian passers-by and local residents	Low	Enhanced Partly Enhanced / Partly Adverse

Table 8.1 Summary of Assessment of Visual Impact at the Viewing Points

8.1.3 While the visual change to VSRs at VP-2 and VP-3 are negligible, the visual impact at VP-1 and VP-4 would be enhanced by the Proposed Development. This VIA therefore concludes that overall visual impact of the Proposed Development at the Site to its

surroundings would be **enhanced partly enhanced/partly adverse**. The Proposed Development will have minimal visual effects to VSRs at a few identified key public viewing points in a positive way, as the Proposed Development will remove some of the existing visual obstructions and provide new visual resources through provision of greenery elements.

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Attachment 7

Replacement Pages for Landscape Proposal

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- 3.1.2. The proposed development includes 8 nos. of residential houses with building heights of about 12m. The landscape design concept will adopt a modern style. It will use organic forms and shapes as the main elements in order to soften the hard lines of the built forms. Each house has its private garden with a combination of soft and hard landscapes, creating different gathering, recreational and fitness spaces to enrich daily life of the future residents. Plants with different heights and densities are mainly provided along the boundaries of the Site, strengthening privacy and providing shaded for residents. Proposed trees and greenery would be intermixed with the overall landscape design. [refer to **Figure 3.2**].
- 3.1.3. The topographical condition of the Site has been considered in the overall design. Since, Parcel A and B of the site is convex in shape with southern portion and northern portion higher than the central portion. Following the natural lay of the land, the carport would be located in the central portion (lower part) of the site to maintain a lower overall building height and to allow the Proposed Development to merge with the natural profiling of the surroundings.
- 3.1.4. To enhance the local walkability and accessibility, it is proposed to strategically setback the proposed residential development by 1.5 m along the east and north boundaries of the Parcel A and B to create a footpath for public use.

4. Landscape Design Concepts

4.1. Landscape Design

- 4.1.1. The aim of the landscape proposals is to not only respond to site conditions, building form and function but to also create private gardens for the future residents. The main factors to be taken into consideration are:
- response to the site context, both in terms of landscape character and visual amenity;
 - maximise the opportunities of greening;
 - create soft greenery barriers around the Site to enhance privacy and reduce noise pollution from surroundings; and
 - careful consideration of future maintenance requirements.
- 4.1.2. The detail design of the landscape layout should consider the following relevant guidelines/legislations:
- Hong Kong Planning Standards and Guidelines (HKPSG);
 - Technical Guidelines on Landscape Treatment and Bio-engineering for Man-made Slopes and Retaining Walls (GEO Publications No. 1/2011);
 - Design Manual: Barrier Free Access 2008 (Building Department);
 - ~~DEVB TCW No. 3/2012 — Site Coverage of Greenery for Government Building Projects;~~
 - ~~DEVB TCW No. 4/2020 — Tree Preservation; and~~

- DEVB TCW No. 6/2015- Maintenance of Vegetation and Hard Landscape Features.
- PNPP No. 1/2019 - Processing and Compliance Checking of Landscape Submissions Related to Planning Applications
- JPN No. 3 - Landscape and Site Coverage of Greenery

4.1.3. The principles mentioned below, describe the guidelines applied in formulating the landscape design.

Response to the Surrounding Context and the Overall Character

4.1.4. The landscape design takes the impacts of the Ho Chung North Road and surrounding industrial uses into full consideration. Through providing boundary walls with vertical greenings along the site boundaries, green noise barriers along Ho Chung North Road would be created to minimise the potential air and noise impact of the road and surroundings industrial uses on the proposed development. Also, the landscape design aims to help integrate the proposed development with its surrounding, while enhancing the landscape and visual amenity at the public frontage. The design of the green noise barrier and its landscape treatment are proposed in **Figure 4.1**. At the same time, tall evergreen trees would be planted along the boundaries to ensure privacies of the residents.

4.1.5. With reference to the observation during the site visit on 5th July 2023, there were no mature trees **local located** on the site and upon checking on the Register of Old Valuable Tree records on 27th July 2023 there are no Old and Valuable Trees on the Site.

4.1.6. It is proposed that trees be incorporated into the overall landscape design, while also enhancing the landscape amenity and users’ experience. Reference photos to landscape features and vegetation are provided in **Figure 4.2**.

Minimal Excavation and Filling of Land Works for the Proposed Development

4.1.7. To minimise the disturbance to the land, existing trees and plantations outside the site boundary, the proposed finished levels of the development will vary within the Site which shall comply with the existing ground profiles. This will significantly reduce the amount of excavation and filling of land works that would be required.

Creation of Private Gardens for Recreational and Amenity Purposes

4.1.8. The private gardens serve as the continuation of living space for the residents. A combination of soft and hard landscape elements is proposed for not only aesthetic but also functional purpose, providing open space for residents to enjoy and use for different amenity activities. Moreover, these planting provisions will help softening the hard lines of the built forms.

Planting Design Approach

4.1.9. Overall planting design will be consisted of a mix of practicable, ornamental trees, evergreen hedges, and flowering shrubs. Most trees with different heights are proposed along the boundaries of the Site to enhance the privacy of the Site while other soft landscape measures will be provided to ensure the hard lines of the built form being visually softened and screen off unpleasant structures such as the guard houses and the private refuse collection points (PRCP).

Attachment 8

Site Photos Taken on 27 Oct 2023

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PHOTO A



PHOTO B



PHOTO C

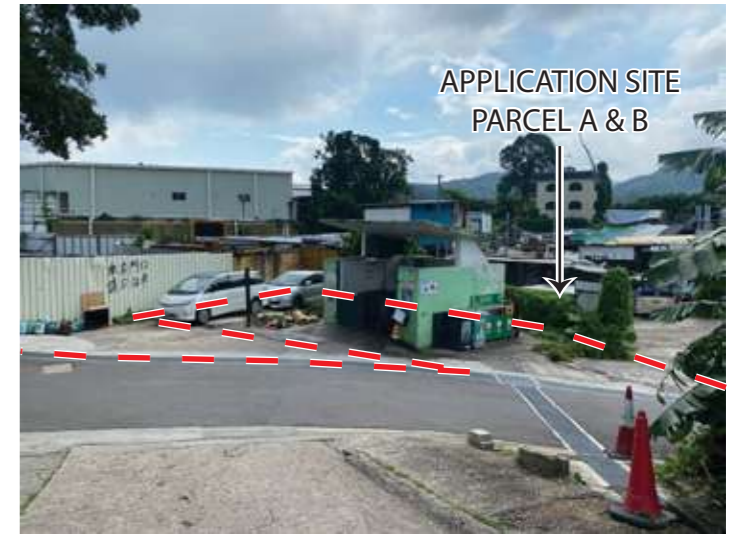


PHOTO D

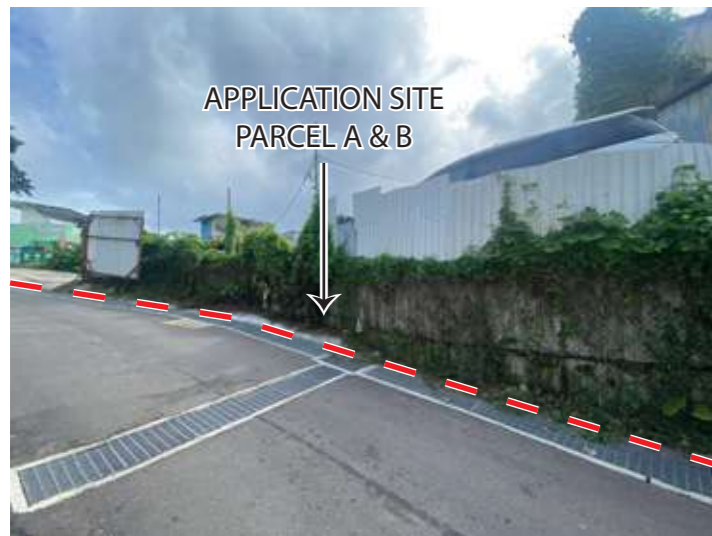


PHOTO E



PHOTO F



PHOTO G

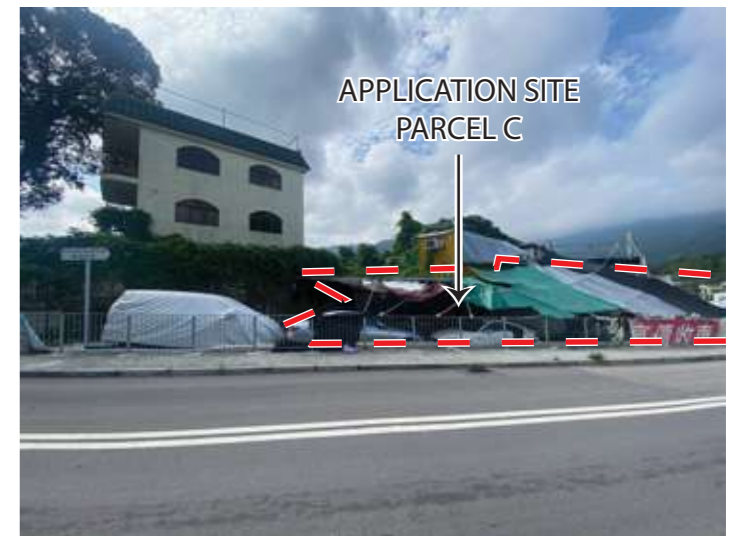


PHOTO I

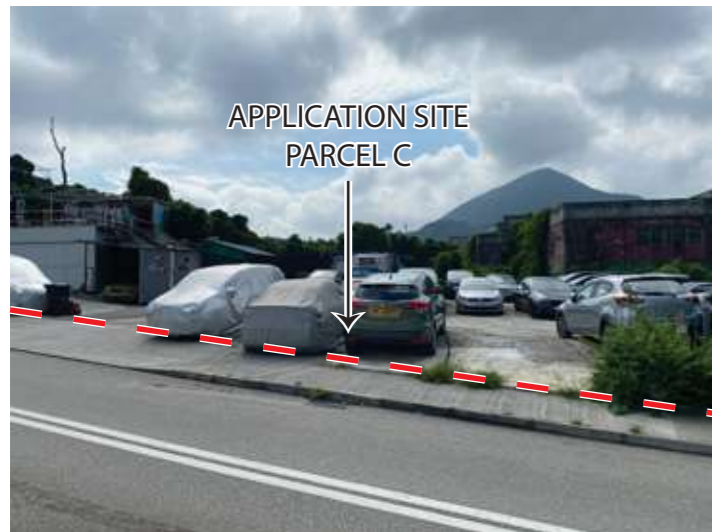
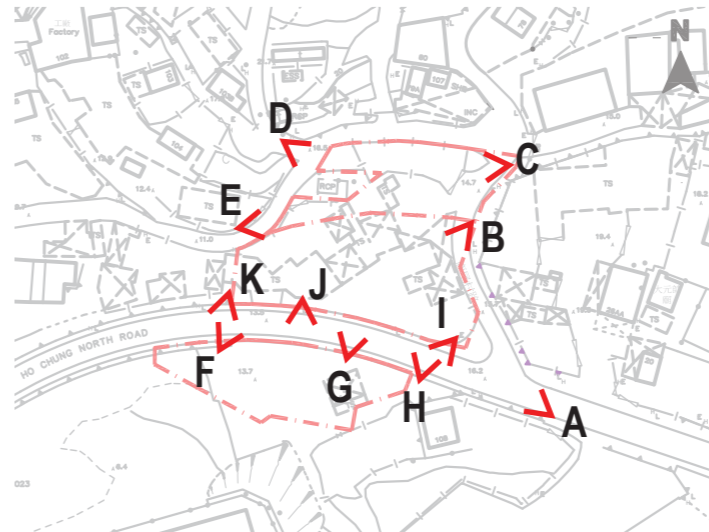


PHOTO J



PHOTO K



LEGEND

*FOR INDICATIVE USE ONLY



SITE BOUNDARY

(Source: Photos Taken on 27 Oct 2023)

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as 'Road' to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title SITE PHOTOS TAKEN ON 27 OCT 2023	Drawn CN	Date 10/11/2023	Drawing No. -
				Checked RT	Approved RT	
Rev	Description	Date	Scale N.T.S.	Rev.	-	

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Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3) (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong (Application No. Y/SK HC/6)

Responses to Comments from Environmental Protection Department via Planning Department’s email on 07.11.2023 on Further Information 01 (FI01) of the Planning Application No. Y/SK-HC/6 issued on 31.10.2023

Comments from the Director of Environmental Protection for Environmental Protection Department (EPD) via Planning Department’s email on 07.11.2023;
Contact Person: Mr. Alan LI (Tel: 2835 1114)

Comments on Air Quality Impact Assessment (AQIA)

Item	Comments	Responses
EPD – AQIA1	<p><u>Air Quality</u></p> <p>1. (Rtc item 1, Figure 3.2, S.3.5.1) - Based on the site layout plan provided, it is noted that a 5m buffer distance between proposed development (Parcel A) and the Luk Mei Tsuen Road could be provided. Please clarify.</p> <p>Besides, please also clarify whether the[re] would be openable window / fresh air intake at the eastern building facade of the proposed houses neighboring the Luk Mei Tsuen Road that shall satisfy the relevant buffer distance requirements under HKPSG.</p>	<p>A provision of a 5m buffer is provided along the Northern and Southern part of Parcel A and B, and along the Northern part of Parcel C.</p> <p>Due to site constraints, the Eastern and Western side of the site would not be able to provide a 5m buffer zone. On these mentioned areas, there will be no openable windows and fresh air intakes.</p> <p>For ease of reference, Figure 3.2 of the Air Quality Impact Appraisal (Version C) (AQIA (Ver. C)) has been amended to indicate the location of the unopenable windows of the proposed houses. The associated figure has been extracted and enclosed in this RtoC Table as Attachment 1.</p>

Comments on Sewerage and Drainage Impact Appraisal (SDIA)

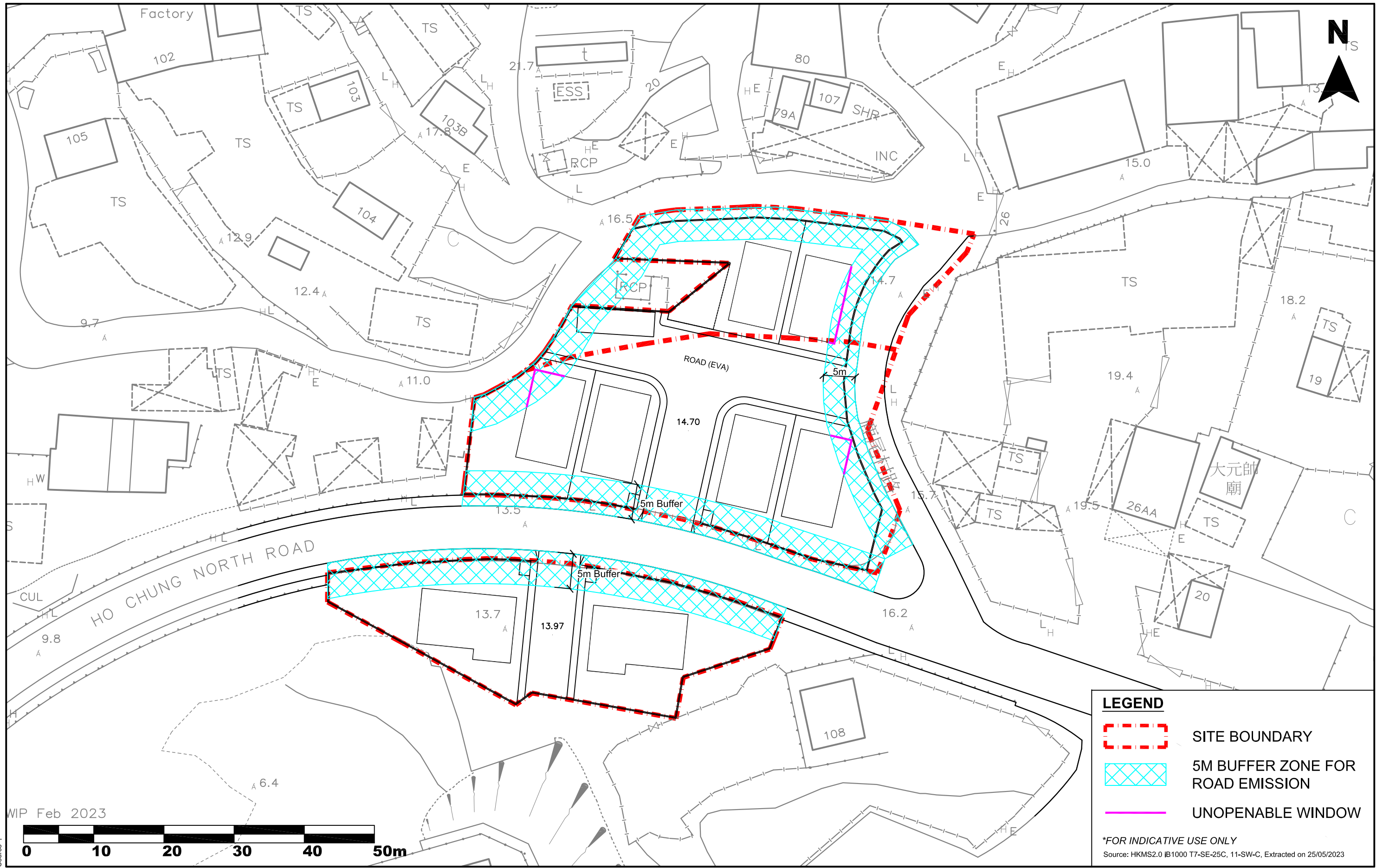
EPD – SDIA1	<p><u>Sewage</u></p> <p>2. (Appendix 3, S.2.3, 3rd para.) - Please clarify the proposed septic tank arrangement as the information presented is inconsistent provided in S.2.5.</p>	<p>It is clarified that there are eight septic tanks and the associated text has been updated in the Sewerage and Drainage Impact Appraisal (Version B) (SDIA (Ver. B)) and the associated page have been extracted and enclosed in this RtoC Table as Attachment 2.</p>
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Attachment 1

Extracted Page from Air Quality Impact Appraisal (Ver. C)

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File Name :
Source :

WIP Feb 2023



LEGEND

-  SITE BOUNDARY
-  5M BUFFER ZONE FOR ROAD EMISSION
- UNOPENABLE WINDOW

*FOR INDICATIVE USE ONLY

Source: HKMS2.0 IB1000 T7-SE-25C, 11-SW-C, Extracted on 25/05/2023

PRUDENTIAL
SURVEYING · LAND ADVISORY · VALUATION

ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
BUFFER ZONE FOR THE PROPOSED DEVELOPMENT

1	Windows Updated	07/08/23	10/11/23
Rev	Description	Date	

Drawn	CN	Date	10/11/2023
Checked	RT	Approved	RT
Scale	1:500 @ A3		

Drawing No.	Figure 3.2
Rev.	1

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Attachment 2

Extracted Page from Sewerage and Drainage Impact Appraisal (Ver. B)

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2. Sewerage Impact Appraisal

2.1 Scope of Works

The objective of this Sewerage Impact Appraisal (SIA) is to assess whether the capacity of the sewerage networking is sufficient to cope with the peak sewerage flow arising from the proposed comprehensive residential development.

Existing drainage record plan from the Drainage Services Department (DSD) is shown in **Figure 2.1**.

2.2 Existing Sewerage Facilities

According to the drainage record plan, there is no existing public sewerage network serving the Site. [refer to **Figure 2.1**]. Hence, the Site is an unsewered area at present.

2.3 Proposed Sewerage Treatment

In consideration that the Site is unsewered area, it is necessary to consider the provision of an on-site underground Sewerage Treatment Plant, which will be used for treatment of sewerage generated from the Proposed Development.

The applicant will be responsible for the construction, operation and maintenance of the on-site underground Sewerage Treatment Plant and all inter-connecting sewerage pipework (polyethylene pipes) within the Site. The sewerage collected from each house will be discharged to septic tank and soil **soakway soakaway** pit.

The design, operation and maintenance of the proposed underground Sewerage Treatment Plant are in compliance with EPD’s Practice Note for Professional Person (ProPECC) PN 5/93. It is proposed to construct **four eight** entire underground Sewerage Treatment Plant (involve inlet trap, septic tank, outlet trap, inter-connecting pipes and soil **soakway soakaway** pit) for proposed houses. The proposed capacity of the each septic tank is 15.98 cu.m and it is greater than the estimated daily water consumption of each proposed house. A reference septic tank is illustrated in **Figure 2.2** and the calculation of septic tank are shown in Table 2. For the proposed soil **soakway soakaway** pit, its size should be determined basing on soil absorption rate and therefore it should be determined in detail design stage.

		(mm)
Proposed Septic Tank Capacity	(L-t)x BxD	(5700-150)1600x1800 = 15.98 cu.m
The proposed septic tank System aims to serve one house with 4 Nos. of Person.		
Estimate Ultimate per capita daily water consumption	Design Flow Rate x Peak Factor	0.37 x 6 = 2.22 cu.m/person/day
Required Septic Tank Capacity	Nos of Person Per House x estimated daily water	4 x 2.22 = 8.88 is less Septic Tank Capacity

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Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

Response to Public Comments received during the period of 08.09.2023 to 29.09.2023 on the Application No. Y/SK-HC/6. There were 7 comments¹ received and the comments are as follows:

Item	Public Comments (PC)	The Applicant’s Responses
PC-1	<p>After discussions with the villagers, the opinions on the application number Y/SK- HC/6 are as follows:</p> <ol style="list-style-type: none"> 1. Increase traffic flow: The roads near the application area mainly connect multiple paths to different residential areas, including Greenview Villas and Luk Fung Gardens. Currently, there is a lot of car traffic in the village, and disputes such as conflicts between people and vehicles, car congestion and parking problems arise from time to time. Furthermore, there are many old people, women and children in the village, which poses a certain risk to their safety. 2. Affect the local scenery: The originally approved four 2-storey detached houses were rezoned to eight 3-storey detached houses, which will create a walled building effect and affecting the view, blocking the villagers' sight and destroying the village's fengshui. 3. According to the published information, the application content and terms that have been approved in 2021, is it reasonable to apply to change the current land use? 	<p>A Traffic Impact Assessment (TIA) has been carried out to assess the potential traffic impact of the Proposed Development. It concludes that the Proposed Development would not cause any significant adverse traffic impact to the vicinity of the Site. Besides, a footpath along Luk Mei Tsuen Road is proposed by the Applicant to improve pedestrian accessibility and safety.</p> <p>A Visual Impact Assessment (VIA) has been carried out to assess the visual impact of the Proposed Development and concludes that the Proposed Development is considered to be fully acceptable in terms of visual impact and will not be incompatible to the surrounding visual context. Instead, it would enhance the visual impact on visual sensitive receivers at certain viewing points.</p> <p>Under Section 12A of Town Planning Ordinance, the application Y/SK-HC/6 for amendment of plan is valid.</p>

¹ The Chinese comments were translated and included.

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3) (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

Item	Public Comments (PC)	The Applicant’s Responses
	<p>4. Regardless of the outcome of this application, the applicant must abide by the principle of opening existing roads used by villagers for access, and shall not close roads and block the rights of villagers to use roads after construction, given that it have been used for more than 60 years.</p> <p>Therefore, objections are filed against the above application.</p>	<p>The existing road will be maintained and a dedicated footpath of 1.5m along the eastern and northern boundaries of Parcels A and B of the Site is proposed to be provided for public use to enhance the walkability and pedestrian accessibility of the surroundings.</p> <p>Noted.</p>
PC-2	<p>I object to this planning application because:</p> <p>1. <u>Lack of sewage and rainwater drainage systems in the village</u></p> <p>Flooding is still a serious problem in the district, and the current public drainage facilities still cannot meet the needs of existing residents. During the rainy seasons, residents in low-lying areas will be severely affected.</p> <p>2. <u>This application will introduce a large amount of vehicle flow</u></p> <p>The increase in the number of residents will also lead to an increase in the number of people and vehicles. In addition, the application site is within the village road, which is a single-lane road with no entry and exit lines. It is also the main route for villagers to enter and exit.</p> <p>In the future, there is also the chances for the developers to close roads to villagers during the construction or upon completion.</p>	<p>A Drainage Impact Appraisal (DIA) has been carried out to assess the potential impacts on drainage from the Proposed Development. It is anticipated that there will be no serious adverse drainage impact to the existing drainage system after the implementation of the Proposed Development.</p> <p>DD</p> <p>A Traffic Impact Assessment (TIA) has been carried out to assess the potential traffic impact of the Proposed Development. It concludes that the Proposed Development would not cause any significant adverse traffic impact to the vicinity of the Site.</p> <p>According to the Planning Statement, the Applicant intends to grant right of way and to devote the private parts (owned by the Applicant) of Luk Mei Tsuen Road for public use.</p>

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

Item	Public Comments (PC)	The Applicant’s Responses
	<p>3. <u>Serious impact on the ecological environment and wild species</u></p> <p>The continuous planning and construction of houses in Sai Kung Ho Chung Village and Luk Mei Tsuen have seriously affected the surrounding ecological environment. At the same time, the mangroves with high ecological value located near Marina Cove will also be involved and affected.</p> <p>4. <u>The scope of planning application involves government land</u></p> <p>The application involves government land and there is also a refuse collection point. The planning application did not explain how to relocate it.</p> <p>I also oppose the approval of government land in the village for residential use.</p> <p>5. <u>Seriously affects the feng shui of the village</u></p> <p>The planning area is close to the three ancient temples, including Che Kung Temple in Ho Chung Village, “大元帥廟” and “聖人公媽廟” in Luk Mei Village, which seriously affects the feng shui of the village.</p>	<p>The Site is currently being occupied by various temporary structures for automobile repair purpose and Parcel C of the Site is being used as an open-air vehicle park. The proliferation of open storage and vehicle repairing activities is not desirable and may cause environmental degradation. The Site will further degrade if no measures or proper-designed development is to take place. The Proposed Development, however, would better utilise the precious land resources by replacing the existing temporary structures with permanent designed houses with quality landscape.</p> <p>No proposal on any relocation of the refuse collection point is included in this Application.</p> <p>The total land re-granted from existing government land is relatively small at 153 sq.m. while the total area to be dedicated as right of way for vehicle is 186 sq.m and total area to be dedicated as right of way for footpath is 136 sq.m. In fact, the proportion of land for the dedicated right of way is about 2 times of the area of the re-granting government land.</p> <p>A Landscape Proposal in support of the Proposed Development has been prepared. The integrated landscape design will foster the blending of the building with the natural landscaping to provide a more naturalistic surrounding and scenery to the Proposed Development. Therefore the landscape of the Proposed Development will enhance the visual/landscape experience of pedestrians.</p>

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

Item	Public Comments (PC)	The Applicant’s Responses
	<p>6. <u>Inappropriate location of planning application notices</u></p> <p>Both Ho Chung Village and Luk Mei Tsuen in Sai Kung have notice boards at the village entrance, but the planning application notice were only hung on the railings next to the garbage bins, which is inappropriate and villagers were not informed.</p>	<p>Noted. The planning application notices locations were selected by and hung by Town Planning Board.</p>
PC-3	<p>Opposing the request to change the zoning plan in Y/SK-HC/6, it is suspected that there is collusion between the government officials and entrepreneurs, which is detrimental to our social harmony.</p>	<p>Noted. The Proposed Development will adhere to the laws of Hong Kong.</p>
PC-4	<p>I am opposed to Y/SK-HC/6 application. This application will greatly affect residents’ access, narrow the roads, increase the number of vehicles, and pose a serious threat to pedestrian safety.</p>	<p>A Traffic Impact Assessment (TIA) has been carried out to assess the potential traffic impact of the Proposed Development. It concludes that the Proposed Development would not cause any significant adverse traffic impact to the vicinity of the Site.</p> <p>The existing road will be maintained and a dedicated footpath of 1.5m along the eastern and northern boundaries of Parcels A and B of the Site is proposed to be provided for public use to enhance the walkability and pedestrian accessibility of the surroundings.</p>
PC-5 (Submitted in duplication)	<p>I strongly object to the applicant of the application No. Y/SK-HC/6 for the revised plan under Section 12A. This month, there was a once-in-five-hundred-year rainstorm. Many houses in the village were flooded, and Ho Chung River were frequently overflows, highlighting the area's insufficient flood drainage capacity. If eight more houses are built, the flooding situation will intensify, and damage other village houses that are over 50 years old, causing potential safety hazards to life and property.</p>	<p>A Drainage Impact Appraisal (DIA) has been carried out to assess the potential impacts on drainage from the Proposed Development. It is anticipated that there will be no serious adverse drainage impact to the existing drainage system after the implementation of the development.</p>

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

Item	Public Comments (PC)	The Applicant’s Responses
PC-6	<p>Object to inclusion of government land as it appears to be a public passage and it should be excluded from site. If not, so then there should be a land swap. Inclusion appears to be intended to dilute the PR.</p> <p>Object to height. Parking should be underground and the height of the villas the same of that of village houses, 8.23mts meters, to retain the rural landscape and reduce impact on the views of the mountains.</p> <p>Layout is appalling waste of land, effectively almost 50% of the site devoted to roads. This greatly reduces the amount of green coverage. Entrance to homes bordering road should be directly from the road, why create additional road surface. Obviously no lessons taken from recent weather events and the folly of cementing over vast tracts of land at the expense of trees and plants.</p> <p>Note that the tree survey does not indicate how many existing trees there are on site, it only refers to "Overall planting design will be consisted of a mix of practicable, ornamental trees, evergreen hedges, and flowering shrubs", indicating zero replacement as ornamental trees are essentially tall shrubs.</p>	<p>The Applicant will undertake a land exchange process of ‘re-acquired and regrant’ upon approval of this rezoning. It is proposed to re-acquired land that were previous allotted to the Government for road works and to regrant land.</p> <p>A Visual Impact Assessment (VIA) has been carried out to assess the visual impact of the Proposed Development and concludes that the Proposed Development is considered to be fully acceptable in terms of visual impact and will not be incompatible to the surrounding visual context. Instead, it would enhance the visual impact on visual sensitive receivers at certain viewing points.</p> <p>The road layout for the Proposed Development is mainly to accommodate for Emergency Vehicular Access (EVA). Despite the above, the Proposed Development will provide greenery area of approximately 854 sq.m, giving a total of greenery ratio of over 20%.</p> <p>With reference to the Landscape Proposal in the Planning Statement, there were no mature trees located on the site. In the Planting Proposal, 35 nos. of new trees will be planted, including 19 nos. of <i>Plumeria obtusa</i>, 11 nos. of <i>Ficus benjamina</i> var. <i>princess</i> and 5 nos. of <i>Ravenala madagascariensis</i> Sonn.</p>

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

Item	Public Comments (PC)	The Applicant’s Responses
PC-7	<p>Regarding the application number (Y/SK-HC/6), the Sai Kung Rural Committee has received opinions from villagers, indicating that the application site is at the high level of Ho Chung North Road, where the current junction of Ho Chung North Road and Ho Chung Road is located. Serious flooding has occurred in this area during rainy days (see pictures 1, 2, and 3 of the flooding situation). There is currently no housing construction work, and flooding has already occurred frequently. Villagers have expressed their concern, and therefore hope that the relevant departments will first solve the flooding problem.</p>	<p>Noted. The said pictures are unclear.</p> <p>A set of perimeter U-channels have been installed to solve the flooding problem by Home Affairs Department (HAD). This set of perimeter U-channels have been completed in 2023.</p> <p>It should also be noted, that the Proposed Development would be provided with its own drainage connection and this would not impact the existing perimeter U-channel.</p> <p>Furthermore, a Drainage Impact Appraisal (DIA) has been carried out to assess the potential impacts on drainage from the Proposed Development. It is anticipated that there will be no serious adverse drainage impact to the existing drainage system after the implementation of the development.</p> <p>Should the issued of area flooding persist, the commenter should take up issue with the relevant departments for follow-up.</p>